

## DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

### RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA725) Current Human Exposures Under Control

**Facility Name:** Capitol Products Corporation  
**Facility Address:** 6034 Carlisle Pike (Route 11) Mechanicsburg, PA 17055  
**Facility EPA ID #:** PAD 003004405

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 #8 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).

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**

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	X			Chlorinated hydrocarbon contamination
Air (indoors) <sup>2</sup>		X		Professional judgment
Surface Soil (e.g., <2 ft)		X		No record of contamination
Surface Water		X		No record of contamination
Sediment		X		No record of contamination
Subsurf. Soil (e.g., >2 ft)		X		Releases were addressed and remediated
Air (outdoors)		X		No record of contamination

- 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):**

**Groundwater:**

A consent order and agreement (COA) was established between PADEP, Capitol, and Olympic Realty & Development Corporation on January 27, 1995. The document stated contamination exists and remediation activities will meet PADEP Cleanup Standards without threat of further groundwater contamination. The Remediation Work Plan provided for the excavation, bioremediation, and off-site disposal (as necessary) of contaminated soils. The work plan also included monitoring of groundwater and the implementation of remediation in the event monitoring results demonstrate that groundwater quality does not show a decreasing trend in VOC concentrations. The document prohibits use of the groundwater for potable use. An exhibit to the COA is the Remediation Work Plan. The Remediation Work Plan describes the remediation activities that have taken place at the facility and identified the remediation obligations by Capitol under the COA. The COA is recorded in the Cumberland County Recorder of Deeds and is transferable to subsequent property owners.

Over the course of the monitoring program, benzene, 1,1-dichloroethene (DCE), tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride have been detected above their respective MCLs. The monitoring program is ongoing.

**Air (indoors):**

The vapor intrusion pathway was evaluated under current land use conditions (i.e., VOCs present in groundwater adjacent to the current building) using the available site data and following guidance documents: USEPA 2002 OSWER Draft

Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) and PADEP Act 2 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. It should be noted that the USEPA 2002 guidance is not generally recommended for use in evaluating settings that are primarily occupational. Therefore, in order to complete an evaluation of current indoor air exposures the PADEP Act 2 vapor intrusion guidance was consulted.

Available monitoring well installation details indicate that the depth to bedrock ranges from 5 feet to 33 feet among the six monitoring wells. These monitoring wells are located to the north and south of the Home Depot building. Additionally, information obtained from the July 7, 1995 Investigation of Soil Beneath the Floor Report showed depth to bedrock ranging from 5 feet to 25 feet during post-excavation confirmation soil sampling from beneath the floor of the former Capitol site. However, no information was available indicating the soil type or locations from which the soil samples were collected. As such, adequate information was not available to extrapolate the vertical distance of the foundation of the Home Depot building to bedrock or determine soil type. In addition, the depth of the foundation of the Home Depot is not known. Therefore, since the available information indicates there may be less than five feet between bedrock and the foundation of the Home Depot and soil characteristics are unknown, the Johnson & Ettinger (J&E) PADEP default screening levels were not used to screen the detected VOCs for potential impact to indoor air.

However, it should be noted that the Home Depot is a large warehouse-style building likely equipped with a ventilation system that provides adequate ventilation, as current operations would be expected to include the use of products containing VOCs. Additionally, work-place exposures would be addressed under OSHA, and non-worker (e.g., individuals shopping at the store) exposures would be minimal. Therefore, based on this rationale, it is concluded that vapor intrusion attributable to groundwater associated with the former Capitol facility is not a potential concern assuming a nonresidential exposure scenario. However, it should be noted that any change in the future use of the building or groundwater analytical information may initiate the need to reevaluate the indoor air pathway.

#### **Subsurface Soil:**

On September 9, 1994, SAIC sent Capitol a summary of completed chromium concrete abatement activities. Chromium staining was the result of leakage from aluminum painting and cleaning booths. Capitol later notified PADEP of plans to remove and dispose chromium-impacted soil and piping beneath the slab.

On September 28, 1994, Capitol sent correspondence to PADEP summarizing conclusions from a recent meeting. PADEP agreed to consider abandoning the in-house well. Remedial action criteria on the chromium contaminated soil beneath the concrete included 1,000 mg/kg total chromium screening standard, confirmation sampling using X-ray fluorescence, and confirmation sampling by laboratory testing for 10% of the samples. For TPH, the field screening standard was agreed to be 500 mg/kg. The plan was submitted to PADEP on October 17, 1994.

Capitol submitted the Investigation of Soil Beneath the Floor - Volumes I & II to PADEP on July 7, 1995 noting the concrete slab was removed in June 1994 and investigative and post-excavation confirmation soil samples were collected. Soils with more than 500 mg/kg of TPH were excavated. Soils containing TPH concentrations greater than the 500 mg/kg soil standard remained at the soil/bedrock interface after the conclusion of remedial activities. All chromium-contaminated soil was believed to be excavated. All post-excavation samples indicated that all impacted soil was removed, treated, and/or disposed with no further excavation necessary.

#### **Footnotes:**

<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.

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**

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**

Potential **Human Receptors** (Under Current Conditions)

<b>“Contaminated” Media</b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater	No	No	No	No	No	No	No
Air (indoors)							
Soil (surface, e.g., <2 ft)							
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)							
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.

- 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):

A COA was established between PADEP and Capitol and Olympic Realty & Development Corporation on January 27, 1995. The document stated contamination exists and remediation activities will meet PADEP Cleanup Standards without threat of further groundwater contamination. The Remediation Work Plan provided for the excavation, bioremediation, and off-site disposal (as necessary) of contaminated soils. The work plan also included monitoring of groundwater and the implementation of remediation in the event monitoring results demonstrate that groundwater quality does not show a decreasing trend in VOC concentrations. The document prohibits use of the groundwater for potable use. An exhibit to the COA is the Remediation Work Plan. The Remediation Work Plan describes the remediation activities that have taken place

at the facility and identified the remediation obligations by Capitol under the COA. The COA is recorded in the Cumberland County Recorder of Deeds and is transferable to subsequent property owners.

An increasing trend has not been established from the semi-annual groundwater monitoring. Therefore, monitoring has continued at the facility. By 1997, the monitoring frequency was reduced from quarterly to semi-annually following a long-term decline in contaminant levels.

Additionally, potable water is supplied by two public water companies (Mechanicsburg Water Company and Pennsylvania American Water Company) within three miles of the site. The entire system is interconnected with the Dauphin County Water Company

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

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**

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):

<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.

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRIS code (CA725)**

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):

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**

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 (attach appropriate supporting documentation as well as a map of the facility).

- 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 **Capitol Products Corporation** facility facility, EPA ID # **PAD 03004405**, located at **6034 Carlisle Pike (Route 11) Mechanicsburg, PA 17055** under current and reasonably expected conditions. This determination will be re-evaluated when the Agency 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) [Signature] Date 4/6/10  
(print) Kevin Bilash  
(title) RCRA Project Manager

Supervisor (signature) [Signature] Date 4-7-10  
(print) Paul Gathhold  
(title) Assoc Dir, LCD, R3  
(EPA Region or State) EPA

Locations where References may be found:

USEPA Region III  
Land and Chemicals Division  
1650 Arch Street  
Philadelphia, PA 19103

PADEP  
South Central Regional Office  
909 Elmerton Avenue  
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