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:	Childers Products
Facility Address:	2061 Hartel Street, Levittown, PA 19057
Facility EPA ID #:	PAD064361926

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?

X 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 Controls" 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"[1] 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)?

	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			Meets Site-Specific Standards (SSS) but exceeds MCLs
Air (indoors)[2]		X		
Surface Soil (e.g., <2 ft)		X		
Surface Water		X		
Sediment		X		
Subsurface Soil (e.g., >2 ft)		X		
Air (outdoors)		X		

_____ If no (for all media) – skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient support documentation demonstrating that these "levels" are not exceeded.

X 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
Although groundwater contamination historically met site-specific standards (SSS) developed during remedial activities at this facility under Pennsylvania's Act 2 program resulting in relief of liability in 1998 and recent sampling of the one remaining on-site well continues to meet SSS, groundwater beneath the facility remains contaminated above EPA MCLs.

[1] "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).

[2] 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.

Contaminant	MCL	MW-3 sampling, 8/2020	Act 2 SSS (1998)
Benzene	5	ND	36
1,1-DCA	2.8*	**540**	2900
1,1-DCE	7	ND	1000
cis-1,2-DCE	70	ND	110
Ethylbenzene	700	**16,000**	750,000
Methylene chloride	5	ND	17,000
PCE	5	ND	210
1,1,1-TCA	200	**220J**	9300
TCE	5	ND	340
Toluene	1000	990	21,000
Xylenes	10,000	**122,000**	4,600,000

All results in ug/L
ND – not detected
Bold – MCL exceedance
* – Tap Water RSL provided, as contaminant does not have an MCL
J – estimated value

Indoor Air

Although some contaminant concentrations in groundwater and sub-slab soil gas from sampling performed in August and September 2020 exceed EPA's commercial Vapor Intrusion Screening Levels (VISLs), indoor air sampling performed in November and December 2020 did not exceed commercial VISLs.

Soils (Surface and Subsurface)

There have been no known releases to facility surface soils (0 to 2 feet below grade). All soil samples from identified areas of concern at the facility that were investigated in 2020 met resident soil RSLs; however, a closed-in-place 4000-gallon UST that had historically impacted both soil and groundwater remains beneath the facility building.

Surface Water and Sediment

There is no documentation indicating that direct or diffuse releases from the facility have impacted surface waters or sediment in the vicinity of the former Childers facility.

Outdoor Air

As discussed in detail in Section 2.3.2 of the EI Report, Childers Products maintained an air permit for their emission sources when the Facility was in operation, and there were minimal violations of these permit requirements. Based on general compliance of the air permit during the Facility's operating period and because there are currently no active emission sources associated with the Site, it is presumed that there are no outdoor air issues as a result of the former Childers facility.

References:

Environmental Indicator Inspection Report for the former Childers Products Facility, prepared by URS, November 2007
Limited Phase II Environmental Investigation Report, 2061 Hartel Street, prepared by Environmental Consulting Inc., November 2020
Limited Indoor Air Sampling and Analysis Activities, 2061 Hartel Street, prepared by Environmental Consulting Inc., January 2021

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)

"Contaminated Media"	**Residents**	**Workers**	**Daycare**	**Construction**	**Trespassers**	**Recreation**	**Food**[3]
Groundwater	No	No	No	Yes	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. Strikeout 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.
X	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):

Construction workers could be potentially exposed to contaminated groundwater during intrusive operations.

Reference:
Environmental Indicator Inspection Report for the former Childers Products Facility, prepared by URS, November 2007

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

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"** (i.e., potentially[4] " unacceptable" levels) 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)?

X	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):

Any intrusive operations within the limited area of groundwater impact beneath the facility are expected to be infrequent and/or of short duration. Additionally, any construction worker exposures during intrusive operations are expected to be controlled through proper protective equipment and work/safety procedures.

References:
Final Report of Site Investigations, Remedial Activities and Risk Assessment, Childers Products, prepared by Environmental Resources Management, November 1998
Environmental Indicator Inspection Report for the former Childers Products Facility, prepared by URS, November 2007

[4] 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.

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 a "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 a "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):

No rationale warranted.

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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.

____ NO – "Current Human Exposures" are NOT "Under Control."

____ IN – More information is needed to make a determination.

Completed by: /Griff E. Miller/ Date 1/29/21

Griff Miller

Remedial Project Manager

Supervisor: /Alizabeth Olhasso/ Date 2/24/2021

Alizabeth Olhasso

Acting Chief, Corrective Action Branch #2

EPA Region III

Locations where References may be found:

A list of all reference documents is appended to the EI Report. Copies of the reference documents can be found at USEPA's Region III office in Philadelphia or PADEP's Southeast Regional office in Norristown, PA.

Contact telephone and e-mail numbers:

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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.