

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** Kelly Springfield Tire  
**Facility Address:** 800 Kelly Road, Cumberland, Maryland  
**Facility EPA ID #:** MDD003060217

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	x			Minor contamination with benzene, lead, and manganese.
Air (indoors) <sup>2</sup>		x		
Surface Soil (e.g., <2 ft)	x			PAHs and arsenic
Surface Water		x		
Sediment		x		
Subsurf. Soil (e.g., >2 ft)	x			PAHs and arsenic
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 supporting 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): The Kelly Springfield site was formerly occupied by Kelly Springfield Tire Company and consists of an approximately 83-acre parcel. Currently, the Board of County Commissioner (BCC) of Allegany County and the Allegany Department of Public Health Works use several of the buildings**

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.

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for nonmanufacturing purposes. Kelly Springfield operated a tire manufacturing plant at the site from 1921 to 1987. The major structures at the facility consisted of manufacturing buildings, tire assembly and curing facilities, office buildings, testing laboratories, and warehouses. The manufacturing and processing facilities are no longer used. As part of a County sponsored redevelopment program, many of the former manufacturing buildings have been demolished. Some existing buildings have been refurbished for reuse and several new companies have purchased parcels of the former facility and erected new buildings and started new businesses. Several acres of land remain to be redeveloped. The Kelly Springfield Tire Company site had been identified as a high priority site in Region III during the National Corrective Action Prioritization System (NCAPS) program's site ranking effort. As a result of the high priority site ranking, the Kelly Springfield site required an assessment by EPA Region III. EPA Region III developed a sampling plan to collect environmental data to assess what risks to human health and/or the environment may have resulted from past operations at the Kelly Springfield facility. The initial Region III sampling plan was designed as a screening effort to identify whether on-site soils, sediments, and/or groundwater had been impacted. The sampling included the collection of soils, sediment, and groundwater from areas most likely to have been impacted based on historical information of Kelly Springfield manufacturing operations. EPA III conducted a screening round of field sampling activities during the week of July 8, 2002. During this sampling event 34 soil samples, five sediment samples, and eight groundwater samples were collected. Analytical results from this initial sampling event revealed no site-related contaminants of concern in the sediment samples. Groundwater results from the initial sampling event identified only one organic contaminant, benzene at 14 ug/l, at a concentration slightly above its drinking water limit (5ug/l). This sample was collected from a geoprobe location in the general vicinity where several underground storage tanks had been located during the operational days of Kelly Springfield. The sample location was greater than 300 feet within the property boundary, which is located near the Potomac River. Manganese (up to 7030 ug/l) was found in filtered ground water samples above the tap water RBC of 730 ug/l. During the initial groundwater sampling effort geoprobe techniques were used to collect the groundwater samples. Unfortunately, clay zones were encountered and adequate water quantity could not be retrieved at all locations using the geoprobe. Because groundwater samples could not be obtained from a particular down gradient section of the site perimeter, a decision was made to return and install some shallow wells so that the data gaps located on the eastern side of the facility could be completed. Region III collected six additional groundwater samples from the site, including samples from two new monitoring wells located on the eastern perimeter during the week of June 23, 2003. The analytical results from that sampling event revealed only manganese and lead, above their RBCs. The inorganic results for the June 2003 sampling effort were for total (unfiltered) metals. Lead was found at 21.1 ug/l and 32 ug/l in monitoring wells numbers five and six respectively. A bench mark of 15 ug/l of lead has been established by the EPA for water supply companies. Manganese was found up to 14,900 ug/l during the June 2003 sampling event. This manganese concentration was biased high based on the data validation report. The next highest unfiltered manganese result for this sampling was 8780 ug/l. However, the on-site groundwater is not used for potable purposes and therefore, these levels should pose no threat to human health based on current use conditions. Furthermore, site-adjacent sediment samples collected from the Potomac River during the July 2002 sampling event were at or below the background sample concentration for manganese and lead. This data would appear to indicate that the slightly elevated inorganic concentrations found in on-site monitoring wells is not having an impact on the Potomac River. No organic compounds were identified at concentrations above their respective maximum contaminant level (MCL) or risk based concentrations during the June, 2003 sampling event. Benzene, which was identified in the general vicinity of the former underground storage tank (UST) area at 14 ug/l during the July 2002 sampling effort was not identified in the groundwater collected from down gradient perimeter monitoring wells during either round of sampling conducted by EPA. Therefore, it appears that the benzene concentrations identified in the UST area are localized and not migrating from the site at the elevated concentrations. This reduction in

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benzene concentration could occur by natural attenuation as the groundwater moves through the soil.

Soil samples collected from the Kelly Springfield site during the July 2002 screening sampling event revealed only one metal, arsenic (up to 141mg/kg) above its respective RBC. Organic constituents of concern identified in the screening sampling event included polynuclear aromatic hydrocarbons (PAH) and polychlorinated hydrocarbons. The soil results were screened for potential risks for exposures to industrial workers and construction workers at the former Kelly Springfield Tire site. Concentrations of organic constituents in soil samples resulted in an excess cancer risk that falls within the acceptable EPA range of  $10^{-4}$  to  $10^{-6}$ . However, because some constituents were above their respective RBCs, additional soil samples were collected during the June 2003 sampling event to better characterize the site. An additional 50 soil samples (excluding duplicates) were collected during the June 2003 sampling event. A risk evaluation was completed based on the analytical results of this sampling effort. The human receptors considered in the risk evaluation are industrial and construction workers. Analytical results indicate that total risks to industrial workers are  $1E-05$  for the majority of the undeveloped property (approximately 15 acres) in the north central portion of the site and for a less than one acre area in the southern portion of the site, that was the location of a former incinerator. Another undeveloped area approximately one acre in size, located in the southeastern portion of the site, had a calculated risk of  $3E-05$  for the industrial worker. Total risks to construction workers, based on soil samples from two to ten feet, were calculated to be less than or equal to  $1E-05$ , with risks at one-third of the sampling locations below  $1E-06$ . Overall the risk results indicate that contamination in soil at the Kelly Springfield site does not present significant risks to human receptors given the current and reasonable use of the site for industrial purposes.

**References:**

**Trip Report - Kelly Springfield Tire Company Site, Cumberland, Maryland**

**Prepared by Tetra Tech EMI, December, 27, 2002.**

**Trip Report Phase II For the Kelly Springfield Tire Company Site, Cumberland, Maryland**

**Prepared by Tetra Tech EMI, September 29, 2003**

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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

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

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

\_\_\_ 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): **See # 2 above.**

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

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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)?

  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): **See # 2 above.**

<sup>4</sup> If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”)

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consult a human health Risk Assessment specialist with appropriate education, training and experience.

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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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**SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**