

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Kelly Springfield Tire Company
Facility Address: 400 Kelly Road, Cumberland, Maryland
Facility EPA ID #: MDD003060217

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, 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 "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "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 "Migration of Contaminated Groundwater Under Control" EI pertains **ONLY** to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

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).

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 2

2. Is **groundwater** known or reasonably suspected to be “**contaminated**”¹ above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

- X If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.
- If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”
- If unknown - skip to #8 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 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 would require 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 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. 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 monitoring 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 two metals, lead and manganese above their established benchmarks. Lead was found at 21.1 ug/l and 32 ug/l in monitoring wells numbers five and six respectively. An action level of 15 ug/l of lead has been established by the EPA for water supply companies. Manganese concentrations exceeded the risk based concentration (RBC) of 730 ug/l in four of the wells with a high of 14,900 ug/l in monitoring well number 6. However, the on-site groundwater is not used for potable purposes and therefore, these levels should pose no threat to human health under current conditions. Furthermore, the groundwater results represent total metals for the monitoring well sample locations. Dissolved metals, which are more representative of concentrations of mobile dissolved metals, for these locations would be expected to be less. Additionally, site-adjacent sediment

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 3

samples collected from the Potomac River during the July 2002 sampling event were at or below the background sample concentration for lead and manganese. This data would appear to indicate that the elevated lead and manganese concentrations found in on-site monitoring wells are not having an impact on the Potomac River. No organic compounds were identified at concentrations above their respective maximum contaminant level (MCL) or RBC 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 downgradient 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 benzene concentration could occur by natural attenuation as the groundwater moves through the soil.

Reference: Trip Report - Kelly Springfield Tire Company Site, Prepared for EPA by Tetra Tech EM, Inc.,
December 30, 2002.
Data Validation Reports, from Frederick Foreman, Region III ESAT RPO, to William
Wentworth,
Regional Project Manager, August 18 -20, 2003.

Footnotes:

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 appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 4

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”² as defined by the monitoring locations designated at the time of this determination)?

- If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”².
- If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”²) - skip to #8 and enter “NO” status code, after providing an explanation.
- If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): See Rationale and References for number 2 above.

² “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 5

4. Does “contaminated” groundwater **discharge** into **surface water** bodies?

 X If yes - continue after identifying potentially affected surface water bodies.

 If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.

 If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): Groundwater from the site would discharge into the site-adjacent Potomac River.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 6

5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

 X If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

 If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

 If unknown - enter “IN” status code in #8.

Rationale and Reference(s): See comments in Rationale and References for number 2.

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 7

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR

2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter “IN” status code.

Rationale and Reference(s):

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 8

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”

 X If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”

 If no - enter “NO” status code in #8.

 If unknown - enter “IN” status code in #8.

Rationale and Reference(s): Based on the data obtained during the July 2002 and June 2003 EPA sampling events, additional groundwater sampling may not be required. There are six monitoring wells at the site that can be re-sampled if EPA determines that re-sampling is necessary.

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 9

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), 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).

- X YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Kelly Springfield Tire Site facility, EPA ID # **MDD003060217**, located at 400 Kelly Road, Cumberland, Maryland. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
- NO - Unacceptable migration of contaminated groundwater is observed or expected.
- IN - More information is needed to make a determination.

Completed by (signature) _____ /s/ _____ Date 9/15/03
 (print) Bill Wentworth
 (title) Remedial Project Manager

Supervisor (signature) _____ /s/ _____ Date 9/15/03
 (print) Robert Greaves
 (title) Chief, General Operations Section
 (EPA Region or State) Region III

Locations where References may be found:

EPA Region III RCRA File Room
1650 Arch Street
Philadelphia, Pa. 19103

Contact telephone and e-mail numbers:

(name) Bill Wentworth
(phone #) 215-814-3184
(e-mail) wentworth.william@epa.gov

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 10