



RDMS DocID 00100115

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

RCRA RECORDS CENTER
FACILITY Gilbert & Bennett Mfg Corp
NO. CTD001162775
FILE LOC. R-13
OTHER _____

Facility Name: Georgetown Land Development Company formerly known as the Gilbert & Bennett Manufacturing Facility
Facility Address: 1 North Main Street, Georgetown, Connecticut
Facility EPA ID #: CTD001162775

- 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"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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>X</u>	<u> </u>	<u> </u>	<u>Zinc, Cadmium, ETPH, Benzo(a)anthracene ⁽¹⁾</u>
Air (indoors) ²	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
Surface Soil (e.g., <2 ft)	<u>X</u>	<u> </u>	<u> </u>	<u>Arsenic, antimony, cadmium, copper, lead, zinc, PAHs, TPH, ⁽²⁾</u>
Surface Water	<u> </u>	<u>X</u>	<u> </u>	<u>Surface water has not displayed contaminants in excess of GA GWPC (a conservative screening number based on likely exposure).</u>
Sediment	<u>X</u>	<u> </u>	<u> </u>	<u>Lead, antimony, arsenic, PAHs, TPH ⁽³⁾</u>
Subsurf. Soil (e.g., >2 ft)	<u>X</u>	<u> </u>	<u> </u>	<u>Arsenic, antimony, cadmium, copper, lead, zinc, PAHs, TPH, Xylenes ⁽⁴⁾</u>
Air (outdoors)	<u> </u>	<u>X</u>	<u> </u>	<u> </u>

_____ 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):

- (1) Determined from groundwater collection and analysis performed April 2003. Groundwater exceeded applicable CTDEP GA Groundwater Protection Criteria.
- (2) Soil sampling and laboratory analysis performed in 1998 as part of facility-wide investigation performed by Conestoga Rovers.
- (3) Sediment sampling and laboratory analysis performed in 1998 as part of facility-wide investigation performed by Conestoga Rovers.
- (4) Soil sampling and laboratory analysis performed in 1998 as part of facility-wide investigation performed by Conestoga Rovers.

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 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.

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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)

“Contaminated” Media	Residents	Workers	Day-Care	Construction (#2)	Trespassers	Recreation	Food ³
Groundwater (#1)	Yes	Yes	No	No	No	No	No
Soil (surface, e.g., <2 ft)	No	No	No	No	No	No	No
Sediment (#3)	Yes	No	No	No	Yes	Yes	No
Soil (subsurface e.g., >2 ft)	No	No	No	No	No	No	No

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): Please note that there are no food operations, no day care, no recreation activities, and limited risk of trespassers (the facility is fenced and gated) on site.

#1 The manufacturing area of the Gilbert & Bennett (G&B) facility property and the area surrounding the former is classified GA which is defined as having designated uses as follows: “Existing private and potential public or private supplies of water suitable for drinking without treatment; baseflow for hydraulically-connected surface water bodies.”

#2 There are no current pathways relating to construction activities on-site at this time. The contaminated soil that has been detected is located under paved parking and yard areas, and concrete slabs associated with buildings. There is no exposed contaminated soil on-site. During the proposed construction activities in the future, a site health and safety plan will be implemented to eliminate any significant human exposure to soils.

#3 Lead, antimony, arsenic, PAHs and TPH have been detected in the river sediments and/or the G&B pond area at levels in excess of the CTDEP Residential Direct Exposure Criteria. Very limited potential for residential, trespasser and recreational exposure to sediments exist within the Norwalk River and the

³ 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”⁴ (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): Groundwater - The facility workers are aware that the well water on-site should not be consumed. Bottled water is provided for all on-site workers, lessees and POTW operators. Although there is the potential for a pathway between the groundwater contamination detected on site and the private wells located off-site, the existence of a complete pathway has not been demonstrated. Extensive sampling of private wells in the vicinity of the site has taken place. Based on conversations with Jeff Wilcox and Doug Zimmerman of the CTDEP, there have been no unacceptable levels of contaminants detected in the private wells surrounding the facility and no response activities have been required. Please refer to the data contained in the CTDEP files.

Sediments - The residential DEC screening criteria used to determine the level of contamination are overly protective for the expected exposure scenarios. Although residential properties abut the pond on the north side of the facility, a trespasser and recreational exposure are the most representative of activities in the area. Prolonged exposure to contaminated sediments in the pond area adjacent to the site is not reasonable as recreation consists of only limited boating, not swimming or wading. Within the vicinity of the manufacturing area, access to the Norwalk River sediments is limited due to gates and fencing of the facility itself. Access is further limited by the nearly vertical banks of the river that are lined with steel sheet pilings and concrete four to six feet in height in most areas. South of the manufacturing area (south of Main Street and Route 107 beyond the facility fencing), the river bottom is rocky and cobbly with limited exposed sediments.

Footnotes:

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.

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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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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 Gilbert & Bennett Manufacturing facility, EPA ID #CTD001162775, located at 1 North Main Street, Georgetown, Connecticut 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) Carolyn Casey Date 9/2/03
(print) Carolyn Casey
(title) RCRA Facility Manager
(EPA Region or State) EPA New England

Supervisor (signature) Matthew R. Hoagland Date 9/8/03
(print) Matthew R. Hoagland
(title) Section Chief, RCRA Corrective Action
(EPA Region or State) EPA New England

Locations where References may be found:

The references used in this submission can be found at the U.S. EPA Records Center located at 1 Congress Street Boston MA, at the Connecticut Department of Environmental Protection located at 79 Elm Street Hartford CT, and at the Georgetown Land Development Company offices located at 1 North Main Street, Georgetown, Connecticut. The most current private well sampling data is located at the Connecticut Department of Environmental Protection at the address provided above.

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.