

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA725)



RDMS DocID 00100108

Current Human Exposures Under Control

RCRA RECORDS CENTER
FACILITY Bass Plating
I.D. NO. CTD001145671
FILE LOC. R-13
OTHER _____

Facility Name: Bass Plating Company
Facility Address: 82 Old Windsor Road, Bloomfield, CT 06002
Facility EPA ID #: CTD001145671

- 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"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>	Levels of Nickel, Cadmium and Zinc in groundwater are elevated, above EPA MCLs.
Air (indoors) ²	<u> </u>	<u> x </u>	<u> </u>	See note below
Surface Soil (e.g., <2 ft)	<u> x </u>	<u> </u>	<u> </u>	Soon to begin Remedial work (Closure of RCRA Units, under CTDEP's oversight) will render Soils less than 2 feet with lower levels of contamination and inaccessible. See note below.
Surface Water	<u> </u>	<u> x </u>	<u> </u>	Hydraulic groundwater control installed in 2002 prevents groundwater from discharging into nearby Mill Brook/Barber Pond. Facility discharges are regulated via a NPDES permit.
Sediment	<u> </u>	<u> x </u>	<u> </u>	Sediments are not believed to be impacted
Subsurface. Soil(e.g., >2 ft)	<u> x </u>	<u> </u>	<u> </u>	Deep soils may contain contaminants that may have migrated from the upper aquifer.
Air (outdoors)	<u> </u>	<u> x </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.

 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): Indoor Air at the facility is not affected by the migration of volatile chemicals into the building, nor does vapor intrusion seem to be a pathway of concern. However, facility's operations (i.e., metal plating) should be taken into consideration when evaluating an occupational scenario. The conditions outlined under Surface Water substantiate the belief that Sediments in nearby Mill Brook/Barber Pond have not been impacted. Surface Soils have shown cadmium levels ranging from 2.4 mg/kg (below CTRSRs' Residential Direct Exposure Criteria) to 1,000 mg/kg (exactly the level established in the CTRSRs' Industrial/Commercial Direct Exposure Criteria). However, soils less than 2 feet deep will be soon remediated via the closure of former RCRA units. Once finished, remedial work should render surface soils cleaner and inaccessible (via a fence, cap, institutional control or a combination of these). Currently, some of the area is inaccessible and partially covered with grass and/or pavement. References: 2001 Annual Summary Report RCRA Groundwater Monitoring Program, Previous Current Human Exposures Under Control Indicator (May 19, 1999) and Discussions with Dave Ringquist-CTDEP and Carissa Madonna-CTDPH.

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)

<u>"Contaminated" Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	_N_	_N_	_N_	_Y_	N	N	N
Air (indoors)	___	___	___	___	___	___	___
Soil (surface, e.g., <2 ft)	___	___	___	___	___	___	___
Surface Water	___	___	___	___	___	___	___
Sediment	___	___	___	___	___	___	___
Soil (subsurface e.g., >2 ft)	N	N	___	_Y_	Y	N	N
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): It is very unlikely that construction workers may come in contact with soil at depths greater than 2 feet during RCRA closure work (slated to begin this fall). Due to lack of fences around the property, a trespasser's scenario is also possible. The site, however, does not have any attractions that may entice nearby residents (there are only 2 houses nearby) to trespass property lines. The exposure of Construction workers to groundwater is expected to be minimal during remedial work. Discussions with CTDPH officials revealed that the Metropolitan District Commission supplies the area's drinking water. Their database showed no community wells in the area. Pending RCRA closure work will minimize human exposures at the site as well as site's impact on groundwater.

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)?

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

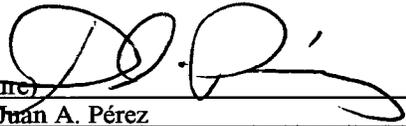
Rationale and Reference(s): Groundwater: Exposures are not expected to be significant, only for the unlikely event of having workers exposed if digging/excavation during remedial work reaches the uppermost levels of the aquifer. If they occur, exposures are expected to be short term and neither the magnitude nor combination of magnitude and contaminant concentrations are expected to result in greater than acceptable risks. Please refer to Rationale/References under #3 - Complete Pathways.

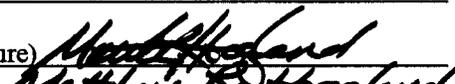
⁴ If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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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):

- 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 Bass Plating facility, EPA ID # **CTD001145671**, located at Bloomfield, CT 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)  Date September 19, 2003
(print) Juan A. Pérez
(title) Environmental Scientist

Supervisor (signature)  Date 9/25/03
(print) Matthew R. Rutledge
(title) Section Chief
(EPA Region or State) Reg. I

Locations where References may be found:

EPA New England Office, Boston, MA
CT DEP Office, Hartford, CT

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.