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:	B & B Transfer of Monroe County
Facility Address:	(appx. 570 East) Dillman Road, Bloomington, Indiana 47401
Facility EPA ID #:	IND 112 661 020

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 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 programs 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).

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		No affected groundwater
Air (indoors)[2]		X		No affected indoor air
Surface Soil (e.g., <2 ft)		X		Lead in soil remediated to IDEM Industrial/Commercial RISC levels, per 2001 Settlement Agreement
Surface Water		X		No affected surface water
Sediment		X		No affected sediment
Subsurf. Soil (e.g., >2 ft)		X		Lead in soil remediated to IDEM Industrial/Commercial RISC levels, per 2001 Settlement Agreement
Air (outdoors)		X		No affected outdoor air, hazardous wastes removed 2006-2008 and closure certification issued July 2010

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.

_____ 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 site contains more than 30 acres of land, and was previously an Indiana Limestone quarry until approximately 1960. The subject property was purchased from Indiana Limestone in the early 1980's by the family of the current owner, Mr. Ted. Benckart. The land has been vacant since that time.

In March 1989, IDEM inspected the site in response to a complaint regarding the potential disposal of hazardous waste (foundry sand and aluminum shavings) from a nearby property (Reclamation Contractors of Indiana-RCI) that was undergoing decommissioning. An open dump area (construction material and waste soil piles) was identified on-site adjacent to a quarry pit which received drainage from the referenced waste disposal areas. Samples were collected in March and June 1989 by IDEM from the soil piles, solid materials in drums and tubs onsite, and sediment / surface water from an on-site pond.

Analytical testing and process knowledge of the waste material remaining at RCI resulted in a hazardous waste classification for cadmium and lead. Since the waste materials transported to the B & B Transfer site were found to be identical to the materials remaining at the RCI site, the materials at the B & B Transfer property were also classified as hazardous waste, and the site was designated as a treatment, storage and disposal facility, subject to RCRA Corrective Action. Levels of lead and cadmium were

subsequently found at levels below the concentrations that define a hazardous waste during testing of the materials at the B & B Transfer site.

Initial soil testing at B & B Transfer in 2001 by Earth Tech led to their conclusion that no remediation was required, because the results did not indicate the presence of TCLP-hazardous levels of lead or cadmium on the B & B site. However, IDEM issued a Notice of Deficiency in response to Earth Tech's proposal, and instructed the owner to conduct removal actions. In March 2008, B & B's new contractor (Kermida) submitted a proposed scope of work to IDEM for closure of the site in conformance with an August 2006 Settlement Agreement, Release and Agreed Order between IDEM and B & B Transfer. The Settlement specified that lead was the only contaminant of concern requiring remediation, based on the analysis of prior samples from the B & B site. IDEM approved Kermida's proposed scope of work in May 2008.

As outlined in the August 20, 2008, Closure Certification Report by Kermida, remediation activities were initiated at the site in 2006, included the removal of several waste containers (drums and tubs), and 929 tons of waste pile material. A subsurface investigation completed after the initial removal of the waste piles revealed that additional total lead impacts were still present in the shallow site soils, and an additional 142 tons of lead-impacted soil was subsequently removed from the site. Analytical results from samples collected following the final phase of cleanup revealed that total lead concentrations ranging from 130 parts per million (ppm) to 230 ppm remained onsite at five locations, and a total lead concentration of 300 ppm remained on site at one additional location. Given that lead remained at levels above the IDEM residential risk-based standard, IDEM determined it was appropriate to close the site under the industrial risk based standard (RISC default closure level of 230 ppm total lead) and required B & B Transfer to execute an environmental restrictive covenant in October 2008 for approximately 2 acres of the >30acre site. The environmental restrictive covenant was signed on May 18, 2010 and returned to IDEM on June 10, 2010. IDEM issued a Closure Certification in July 2010, as confirmation that the covenant was complete and cleanup had met the prescribed objectives.

Key References:

1) Rudy Fields, Earth Tech, "RCRA Closure Plan", October 25, 2001.
2) Monroe County Circuit Court, "Settlement Agreement, Cause No. 53C03-9809-MI-1270", September 6, 2001.
3) Jeff Workman, IDEM, "Closure Plan, Notice of Deficiency", November 27, 2001.
4) Robert Hoverman, Kermida Environmental Inc., "Proposed Closure Work Scope", March 31, 2008.
5) Victor Windle, IDEM, "Proposed Closure Work Scope (Response)", May 9, 2008.
6) Robert Hoverman, Kermida Environmental Inc., "Closure Certification Report", August 20, 2008.
7) Victor Windle, IDEM, "Closure Certification Report (Response)", October 24, 2008.
8) Michael Chambers, Taft Stettinius & Hollister LLP, "Environmental Restrictive Covenant for B & B Transfer", June 10, 2010.
9) Jeffrey Sewell, IDEM, "Closure Certification of Waste Piles", July 15, 2010.

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 Alevels" (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.

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	Trespassers	Recreation	Food[3]
Groundwater							
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. 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).

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):

[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"**[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)

[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 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)

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 B & B Transfer of Monroe County facility, EPA ID # (IND 112 661 020), located at Dillman Road in Bloomington, Indiana 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 12/27/11

(print) Joseph C. Kelly, P.G.

(title) Physical Scientist

Supervisor: (signature) _____ Date 12/27/11

(print) Hak Cho

(title) Section Chief

(EPA Region / State) LCD/RRB, CA1 Region 5

Locations where References may be found:

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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.