DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/4/99

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

Current Human Exposures Under Control

Facility Name: **_____Lamina, Incorporated_____**
Facility Address: **_____3650 South Derenzy Road, Bellaire, Michigan 49615____**
Facility EPA ID #: **_____MID 006 017 966_____**

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 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).

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_	___	___	**_cyanide, copper, TCE, PCE_____**
Air (indoors)[2]	___	_X_	___	_____
Surface Soil (e.g., <2 ft)	___	_X_	___	_____
Surface Water	___	_X_	___	_____
Sediment	___	_X_	___	_____
Subsurf. Soil (e.g., >2 ft)	___	_X_	___	_____
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.

_____ 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):__Ground water samples have been collected on a quarterly basis at this site since 1979 pursuant to a post-closure groundwater monitoring plan submitted to and approved by the Michigan Department of Environmental Quality (MDEQ). The samples are analyzed for the presence of copper, cyanide, VOCs, chromium, iron, nickel, zinc, cadmium, lead, and pH. The constituents consistently detected above background levels were cyanide, copper, and TCE. PCE was also detected recently in wells on the north and west side of the site The concentrations of cyanide, copper, TCE and PCE found in the ground water samples collected at the site meet the 1998 MDEQ Part 201 generic industrial cleanup criteria for indoor inhalation and direct contact, but exceed the Michigan health-based drinking water (dw) criteria based on ingestion. (cyanide- dw criteria = 200 ug/L, highest conc. detected = 7,400 ug/L) (copper-dw criteria = 1,000 ug/L, highest conc. detected = 8,400 ug/L) (TCE- dw criteria = 5 ug/L, highest conc. detected = 1,700 ug/L) (PCE dw criteria = 5 ug/L highest conc. detected = 6.9 ug/L). The source of these contaminants was determined to be a landfill located on the southern portion of the site and a pit on the northern portion which were used by the facility for disposal of various industrial wastes. The wastes and contaminated soils associated with these areas were removed in 1998 as part of an interim measure under the current 3008(h) RCRA corrective action consent order (Docket V-W-023-94).
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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 CO Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above contaminated groundwater than previously believed. While this is a rapidly developing field current evidence (1/99) suggest that indoor air in structures located above (and adjacent to) contaminated groundwater should not be assumed to be acceptable without physical evidence.

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	Res.	Worker	Const.	Tresp.	Recreat.	Food[3]
Groundwater	no__	no_	no_			no_
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):__There are two 41-foot deep production wells on site which provide drinking water for workers at the facility. The water from these wells has been sampled since 1978 for cyanide,

VOCs, SVOCs, metals, pesticides and herbicides. The concentration of copper exceeded the Michigan industrial health-based drinking-water standard of 1,000 ug/L in only one of 13 sampling events (on January 16, 1979). This same standard for the concentration of lead (4 ug/L) was exceeded once in 1997. Concentrations of cyanide, VOCs, SVOCs, pesticides and herbicides have not been detected above this drinking-water standard. Computer modeling of the capture zone for these wells indicate that water being drawn into these wells is from Blaire Lake located to the west of the facility rather than from the impacted ground water in the southeast portion of the site.

[3] Indirect Pathway/Receptor

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

4 Can the **exposures** from 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):

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[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 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 **Lamina, Incorporated** facility, **EPA ID # MID 006 017 966**, located at **3650 South Derenzy Road in Bellaire, Michigan** 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 _____
(print) Michael Cunningham_____
(title) Environmental Scientist_____

Supervisor (signature)_____ Date _____
(print) Joseph M. Boyle_____
(title) Chief, Enforcement and Compliance Assurance Branch
(EPA Region or State) Region 5_____

Locations where References may be found:

___U.S. EPA, Records Center 77 West Jackson Blvd. Chicago, Illinois 60604 _
_____
_____
_____
_____

Contact telephone and e-mail numbers

(name) Michael Cunningham_____
(phone #) (312) 886-4464_____
(e-mail) cunningham.michael@epa.gov

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.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/4/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: **_____Lamina, Incorporated_____**
Facility Address: **_____3650 South Derenzy Road, Bellaire, Michigan 49615____**
Facility EPA ID #: **_____MID 006 017 966 _____**

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 #8 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 is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing 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 stabilizing the 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).

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):__Ground water samples have been collected on a quarterly basis at this site since 1979 pursuant to a post-closure groundwater monitoring plan submitted to and approved by the Michigan Department of Environmental Quality (MDEQ). The samples are analyzed for the presence of copper, cyanide, VOCs, chromium, iron, nickel, zinc, cadmium, lead, and pH. The constituents consistently detected above background levels were cyanide, copper, and TCE. PCE was also detected recently in wells on the north and west side of the site The concentrations of cyanide, copper, TCE and PCE found in the ground water samples collected at the site meet the 1998 MDEQ Part 201 generic industrial cleanup criteria for indoor inhalation and direct contact, but exceed the Michigan health-based drinking water (dw) criteria based on ingestion. (cyanide- dw criteria = 200 ug/L, highest conc. detected = 7,400 ug/L) (copper-dw criteria = 1,000 ug/L, highest conc. detected = 8,400 ug/L) (TCE-dw criteria = 5 ug/L, highest conc. detected = 1,700 ug/L) (PCE dw criteria = 5 ug/L highest conc. detected = 6.9 ug/L). The source of these contaminants was determined to be a landfill located on the southern portion of the site and a pit on the northern portion which were used by the facility for disposal of various industrial wastes. The wastes and contaminated soils associated with these areas were removed in 1998 as part of an interim measure under the current 3008(h) RCRA corrective action consent order (Docket V-W-023-94).

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).

3. Is 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)?

__X__ 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): ___The vertical movement of groundwater within the upper aquifer is limited by an underlying 70-foot-thick sequence of interbedded clay and sand units ranging from 25 to 43 feet below ground level. Analysis of the vertical gradients with respect to horizontal hydraulic gradients reveals that horizontal flow is the dominant groundwater flow component at locations away from the Cedar River. In contrast, the upward vertical gradients adjacent to the Cedar River range from 0.04 to 0.06 foot/foot. Groundwater moves in a southwest direction south of the Lamina facility. The wetland and Cedar River south of the Lamina facility act as a discharge zone to groundwater flow. During the spring and summer seasons the groundwater table may reach the surface in the wetland area. When the groundwater level drops below the base of the intermittent stream during the fall and winter months surface flow does not occur. Static water level data was gathered and used in a flow modeling program called FLOTRANS (Guiguer et al., 1994) to evaluate the groundwater capture potential of the Cedar River. This evaluation revealed that all groundwater that vents toward the Cedar River is captured and no underflow occurs. (See RFI Report).

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[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.

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):____Contaminated groundwater discharges to the wetland, intermittent stream, and Cedar River south of the Lamina facility.

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5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] 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)?

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_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] 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 suspected to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

__**X**__ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] 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 concentrations[3] 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): No was selected for two reasons: (1) The maximum concentration of cyanide was greater than 10 times the Michigan 201 residential health-based drinking water level. Sampling conducted since 1997 indicate that groundwater venting to the wetland and Cedar River contain cyanide up to 2,300 ug/L and copper up to 5,300 ug/L. The Michigan 201 residential health-based drinking water criterion for cyanide and copper in groundwater are 200 ug/L and 1,000 ug/L, respectively (MDEQ, 1998). (2) The environmental setting is another condition which increases the potential for unacceptable impacts. The environmental setting at risk here is the wetland eco-system. U.S. EPA has established ecologic data quality levels (EDQLs) to help identify concentration levels in surface water which may pose an unacceptable risk to an eco-system. The U.S. EPA EDQLs for cyanide and copper in surface water are 4.96 ug/L and 2.14 ug/L, respectively (U.S. EPA, 1996). However, there is no indication that these concentrations are increasing. Other metals and volatile organic compounds were not detected above the EDQLs or health-based drinking water standards in wells adjacent to the Cedar River.

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

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 implemented[4])?

__X__ 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] with documentation demonstrating that 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 include: surface water body size, flow, use/classification/habitats and contaminant loading limits, 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): An ecological risk assessment was conducted on the wetland area by Great Lakes Environmental Center in 1997 as part of the RFI. This assessment concluded that the contaminated groundwater venting to the intermittent stream and Cedar River is not currently causing an adverse effect on surface water quality due to the high dilution ratio of groundwater to surface water and the less toxic form of copper (precipitated copper) and cyanide (iron-complexed cyanide) present in the groundwater. (See RFI Report).

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[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.

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): The corrective measure proposed by Lamina includes continued quarterly sampling of fifteen groundwater monitoring wells along the intermittent stream and Cedar River in order to verify that the source of contamination to groundwater was removed and that concentration levels decrease over time. (See Corrective Measures Study Plan (Dragun, 1999).

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

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 **Lamina, Incorporated** facility , EPA ID # **MID 006 017 966** , located at **3650 South Derenzy Road in Bellaire, Michigan**. 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)_____ Date _____
(print) Michael Cunningham
(title) Environmental Scientist

Supervisor (signature)_____ Date _____
(print) Joseph M. Boyle

(title) Chief, Enforcement and Compliance Assurance Branch
(EPA Region or State) Region 5

Locations where References may be found:

__U.S. EPA, Records Center 77 West Jackson Blvd. Chicago, Illinois 60604
_____
_____
_____
_____

Contact telephone and e-mail numbers

(name)_Michael Cunningham_____
(phone #)__(312) 886-4464_____
(e-mail)__cunningham.michael@epa.gov_____