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:	Delbar Products Incorporated
Facility Address:	601 West Spruce Street
Facility EPA ID #:	PAD002378149

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		Volatile Organic Compounds (VOCs) found in groundwater at concentrations below the Maximum Contaminant Levels (MCLs), EPA Region 3 Tap Water Risk Based Concentrations (RBCs), or PADEP Medium Specific Concentrations (MSCs)(RCRA Facility Investigation Report, Delbar Products Incorporated, December 5, 2005).
Air (indoors)[2]		x		VOCs found in soil vapor samples at concentrations below the Act 2 Non-residential Air MSCs of the Pennsylvania Land Recycling and Environmental Remediation (RCRA Facility Investigation Report, Delbar products Incorporated, December 5, 2005).
Surface Soil (e.g., <2 ft)		x		VOCs including methyl acetate, methyl ethyl ketone (MEK), bromomethane, tetrachloroethylene (PCE), and trichloroethylene (TCE) found in the concrete chip samples at concentrations below the EPA Region 3 residential soil direct contact RBCs (RCRA Facility Investigation Report, Delbar products Incorporated, December 5, 2005).
Surface Water		x		Wastewater discharge to a creek is monitored by NPDES permit
Sediment		x		No documentation of releases
Subsurf. Soil (e.g., >2 ft)		x		RCRA metals found in subsurface soil samples at concentrations below the PADEP's Land recycling statewide health standard, EPA's typical clean up level, and/or the EPA Region 3 residential soil direct contact RBCs
Air (outdoors)		x		Air emission is monitored by a permit.

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):

Background : Delbar manufactures mirrors for use by the automotive industry. In the past, the Delbar manufacturing process has involved stamping, pressing, and painting metal tubes and sheets to produce mirror mounts. The mirror mounts were packaged and shipped to Delbar's Telford plant where the final product is assembled. Delbar no longer operates the painting process at the Perkasie plant and the assembling line has been

moved from the Telford plant to the Perkasie location.

On September 28, 2001, EPA and Delbar entered into an Administrative Order on Consent (AOC) pursuant to Section 7003 of the Resource Conservation and Recovery Acts of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Section 6973. As required by the AOC, Delbar submitted a RCRA Facility Investigation (RFI) Workplan. On April 26, 2004, EPA approved Delbar's RFI workplan. The facility performed a RCRA Facility Investigation (RFI) in accordance with the approved RFI workplan. On November 14, 2005, EPA approved the facility's RFI and Corrective Measures Study (CMI) reports.

Groundwater: Groundwater samples were collected and analyzed in accordance with the approved RFI workplan. The RCRA metals including arsenic, barium, cadmium, chromium, and lead were detected in shallow and bedrock groundwater samples at concentrations as high as 0.01 mg/l, 0.32 mg/l, 0.0018 mg/l, 0.078 mg/l, and 0.009 mg/l, respectively. The MCLs for arsenic, barium, cadmium, and chromium are 0.010 mg/l, 2 mg/l, 0.005 mg/l, and 0.1 mg/l, respectively. The action level for lead is 0.015 mg/l. The detected concentrations of RCRA metals are below the respective federal MCLs or action level.

VOCs were detected in the shallow groundwater and bedrock groundwater samples. VOCs detected in shallow groundwater include 1,1-Dichloroethane (1,1-DCA) at concentration as high as 5.5 ug/l, 1,2-dichlorobenzene at concentration as high as 1.5 ug/l, 1,4(p)-dichlorobenzene at concentration as high as 0.74 ug/l, acetone at concentration as high as 3.2 ug/l, benzene at concentration as high as 1.4 ug/l, chloroethane at concentration as high as 2.8 ug/l, cis-1,2-dichloroethene (cis-1,2-DCE) at concentration as high as 2.3 ug/l, cyclohexane at concentration as high as 1.2 ug/l, ethylbenzene at concentration as high as 450 ug/l, isoproprylbenzene at concentration as high as 32 ug/l, methylcyclohexane at concentration as high as 4.2 ug/l, tetrachloroethene (PCE) at concentration as high as 0.3 ug/l, toluene at concentration as high as 3.5 ug/l, total xylenes at concentration as high as 1400 ug/l, trans-1,2-dichloroethene (trans-1,2-DCE) at concentration as high as 0.9 ug/l, and trichloroethene (TCE) at concentration as high as 1.2 ug/l. VOCs detected in the bedrock groundwater include 1,1,1-trichloroethane (1,1,1-TCA) at concentration as high as 7.6 ug/l, 1,1-DCA at concentration as high as 4.1 ug/l, 1,1–dichloroethene (1,1-DCE) at concentration as high as 4 ug/l, 1,4-dichlorobenzene at concentration as high as 0.4 ug/l, chloroethane at concentration as high as 1.2 ug/l, chloroform at concentration as high as 0.41 ug/l, cis-1,2-DCE at concentration as high as 28 ug/l, PCE at concentration as high as 33 ug/l, trans-1,2-DCE at concentration as high as 0.49 ug/l, and TCE at concentration as high as 3900 ug/l.

The MCLs for 1,1,1-TCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, 1,4-dichlorobenzene, 1,2-dichlorobenzene, benzene, ethylbenzene, PCE, toluene, total xylenes, and TCE are 200 ug/l, 7 ug/l, 70 ug/l, 100 ug/l, 75 ug/l, 600 ug/l, 5 ug/l, 700 ug/l, 5 ug/l, 1000 ug/l, 10000 ug/l, and 5 ug/l, respectively. The EPA Region 3 Tap Water RBCs for 1,1-DCA, acetone, chloroethane, chloroform, cychlohexane, and methylcyclohexane are 900 ug/l, 5500 ug/l, 3.6 ug/l, 0.15 ug/l, 12000 ug/l, and 6300 ug/l, respectively. Since the MCL and EPA Region 3 Tap Water RBC for isoproprylbenzene are not available, the PADEP Act 2 used aquifer MSC of 1100 ug/l is used.

The concentrations of VOCs detected in shallow groundwater are below the MCLs, EPA Region 3 Tap Water RBCs or PADEP used aquifer MSCs.

Of the VOCs detected in bedrock groundwater, PCE and TCE were detected at concentrations above the MCLs . The groundwater investigation at Delbar facility performed by Delbar and EPA Region 3 revealed that the contamination of TCE and PCE in bedrock groundwater underneath Delbar is not caused by releases from Delbar facility, however, by upgradient sources. (RCRA Facility Investigation Report, Delbar products Incorporated, December 5, 2005).

Surface Water: Delbar discharges its wastewater in accordance with its NPDES permit, Permit # PA0055751 (RCRA

Facility Investigation Report, Delbar products Incorporated, December 5, 2005).

Delbar collected surface water samples from a creek that flows along the eastern boundary of the Delbar property, in accordance with the approved RFI Workplan. RCRA metal including barium was detected in surface water samples at concentration as high as 0.075 mg/l, below the MCL of 2 mg/l.

VOCs detected in surface water samples included cis-1,2-Dichloroethene (1,2-DCE), PCE and TCE. 1,2-DCE and PCE were detected at concentrations as high as 11 ug/l and 2.5 ug/l, below the MCLs of 70 ug/l and 5 ug/l, respectively. TCE was detected at concentration as high as 45 ug/l, above the MCL of 5 ug/l. Investigation performed by Delbar in accordance with the approved RFI workplan reveals that the contamination of TCE in the creek is not caused by releases from Delbar facility, however, by upgradient sources (RCRA Facility Investigation Report, Delbar products Incorporated, December 5, 2005)

Air (indoors) : VOCs were detected in the soil vapor samples at concentrations below the Act 2 Non-residential Air MSCs of the Pennsylvania Land Recycling and Environmental Remediation. The facility is currently used for industrial purpose, the detected levels are therefore protective. (RCRA Facility Investigation Report, Delbar products Incorporated, December 5, 2005)

Surface soil: Five VOCs including methyl acetate, methyl ethyl ketone (MEK), bromomethane, PCE, and TCE were detected in the concrete chip samples at concentrations as high as 0.710 mg/kg, 0.250 mg/kg, 0.740 mg/kg, 0.270 mg/kg, and 0.570 mg/kg, respectively, below the EPA Region 3 residential soil direct contact RBCs of 7.8×10^4 mg/kg, 4.7×10^4 mg/kg, 1.1×10^2 mg/kg, 1.2 mg/kg, and 1.6 mg/kg, respectively. (RCRA Facility Investigation Report, Delbar products Incorporated, December 5, 2005).

Subsurface Soil: Seven RCRA metals including arsenic, barium, cadmium, chromium, lead, mercury, and silver were detected in the subsurface soil samples at concentrations as high as 7.6 mg/kg, 264 mg/kg, 0.83 mg/kg, 516 mg/kg, 157 mg/kg, 0.025 mg/kg, and 3.9 mg/kg, respectively.

PADEP's Land recycling statewide health standard for arsenic in residential soil is 12 mg/kg. EPA typically sets residential level of arsenic at 20 mg/kg. The detected concentrations of arsenic are below the PADEP's Land recycling statewide health standard and EPA's typical clean up level.

The EPA Region 3 residential soil direct contact RBCs for barium is 16000mg/kg, for cadmium is 39 mg/kg, for methyl mercury is 7.8 mg/kg, and for silver is 390 mg/kg. The detected concentrations of barium, cadmium, mercury, and silver are below the respective RBCs.

The EPA Region 3 industrial soil direct contact RBC for chromium VI is 3100 mg/kg, . The property is currently used for industrial purpose, the detected concentration of chromium is below the EPA Region 3 industrial soil direct contact RBC, and therefore is protective.

EPA typically sets residential clean up level of lead at 400 mg/kg. The detected concentration of lead is below the EPA typical clean up standard, therefore is protective.

Sediment - No documentation of releases

Air (outdoors) - Outdoor air emission is in accordance with the Title V Permit (Permit Number 09-323-001)

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.

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 Delbar Products Incorporated facility, EPA ID # PAD002378149_, located at 601 West Spruce Street, Perkasie, PA 18944 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 _____ Date _____
Tran Tran
RCRA Project Manager

Supervisor _____ Date _____
Paul Gotthold
Chief, PA Operations Branch
EPA Region 3

Locations where References may be found:

US EPA Region III
1650 Arch Street
Philadelphia, PA 19103

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.