DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

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

Current Human Exposures Under Control

JUN 0 2 2003

Facility Name: __Deltech Corporation_____
Facility Address: __11911 Scenic_Hwy.,__Baton_Rouge,__La.__70807_____
Facility EPA ID #: __LAD008188583_____

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			See comments below.
Air (indoors)[2]		X		
Surface Soil (e.g., <2 ft	X			See comments below.
Surface Water		X		
Sediment		X		
Subsurf. Soil (e.g., >2 ft)	X			See comments below.
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.

__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): Groundwater contamination is located in three areas – Production Area (Process Area), Tank Fields (Air Sparge Area) and the Waste Management Units (Tar Ponds Area). The contamination is in the different water bearing zones – The First (0'-38' below ground surface (BGS)), Second (38' to 65' BGS) and Third (100'-143' BGS) Permeable Zones. Contamination exists in varying degrees in all three zones. The groundwater contamination in the Air Sparge Area extends off-site. The primary constituents are: benzene, 1,1 – dichloroethane, ethylbenzene, toluene, styrene, diethylbenzene, methylene chloride, xylene and trichlorofluoromethane. Numerous monitor and recovery wells are located throughout the facility to monitor and recover groundwater contamination in all three zones. See Tables 1, 2, 4, 5, 7 and 8 and Figures 1, 1-2, 3-3, 2, 3, 4, 5, 3-6, 3-7, 4-3 and 4-2 in Appendix A.

Surface Soil: Soil contamination exists in the Process and Tar Ponds areas. Large amounts of contaminated soil have been removed but residual contamination still exists. The reported constituents in the soil are: 4,6 – Dinitro-o-Cresol, 4 – methylstyrene, acetone, benzene, diethylbenzene, divinylbenzene, methylene chloride, naphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, phenathrene and styrene. See Figures 3-1, 3-2, 3-5, 3-8, 4-1, 4 – 4 and 4-5 in Appendix B.

Subsurface Soil: Soil contamination exists in the Process and Tar Ponds areas. The reported constituents in the soil are: 4,6 – Dinitro-o-Cresol, 4 – methylstyrene, acetone, benzene, diethylbenzene, divinylbenzene, methylene chloride, naphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, phenathrene and styrene. See Figures 3-1, 3-2, 3-5, 3-8, 4-1, 4 – 4 and 4-5 in Appendix B.

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.

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	_No	_No	_No	_No			_No
Air (indoors)	_na	na_	_na				
Soil (surface, e.g., <2 ft)	_No	_No	_No	_No	_No	_No	_No
Surface Water	_na	__na			_na	_na	__na
Sediment	_na	_na			_na	_na	_na
Soil (subsurface e.g., >2 ft)				_No			_No
Air (outdoors)	_na	_na	_na	_na	_na		

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.

__X__ 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):
Groundwater: The contaminated groundwater at the facility is not used as potable water. Based on potentiometric maps for all three permeable zones the direction of groundwater flow is to the west-southwest and there are no drinking water wells in those directions. The Parish of East Baton Rouge Devil's Swamp Landfill and ERGON properties are due south of the facility and the Baton Rouge Barge Canal is to the west. Access to all properties is controlled.

Indoor Air: No indoor structures are in close proximity to the contaminated areas.

Surface Soil: Exposed affected soil areas were excavated and backfilled with clean fill materials. This documentation is maintained in the facility and DEQ files.

Surface Water: All surface water runoff must past through the permitted LPDES outfall. With the exception of the small amount of groundwater contamination that has migrated off-site to the adjacent ERGON property, all other groundwater contamination is within the facility perimeter and is not discharging into the Baton Rouge Barge Canal. The off-site contamination is within the ERGON property boundaries which have access control and which is a vacant lot.

Sediment: Due to the surface of the facility being covered by either concrete, asphalt or aggregate, the facility does not generate sediment.

Subsurface Soil: The extent of the affected subsurface soils is known. Work practice procedures are used to limit worker exposure should excavation in the affected areas be necessary.

Outdoor Air: Routine air monitoring is conducted throughout the facility as part of standard practice for obtaining work authorizations. Monitoring is also performed throughout work or in response to incidents which may result in air releases.

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[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.

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

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 _Deltech Corporation____ _____ facility, EPA ID #_**LAD008188583**_____, located at 11911 Scenic Hwy., Baton Rouge, La. 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 _03/28/02____
(print) Dennis Piper
(title) Geologist 3

Supervisor (signature) _____ Date 4/17/02
(print)
(title) Geologist Supervisor
(~~EPA Region or~~ State) LA DEQ
EPA Region 6 Larry Brady 4/21/04
6PD-M

Locations where References may be found:

September 18, 2001 Semiannual Ground Water Monitoring Report – March 2001
June 6, 2000 Risk Evaluation Work Plan
March 25, 2002 Third Permeable Zone Geological Report Comments

Contact telephone and e-mail numbers

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(phone #)_(225) 765-2674_____
(e-mail)_dennis_p@deq.state.la.us_____

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.

APPENDIX A
AVAILABLE UPON REQUEST