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:	Dort Highway Land
Facility Address:	Affronting Dort Highway, Grand Blanc, Michigan 48439
Facility EPA ID #:	MID 005 356 944

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 (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			Se, As, Pb, & Ag exceed the Groundwater Surface Water Interface (GSI) or drinking water criteria
Air (indoors)[2]		X		No Volatilization to Indoor Air Inhalation criteria & RBSLs exceedances
Surface Soil (e.g., <2 ft)	X			Mercury, selenium, fluoranthene, phenanthrene exceeded GSI criteria
Surface Water		X		No exceedances in storm water samples
Sediment		X		N/A Due to site stabilization and existing sedimentation control structures
Subsurf. Soil (e.g., >2 ft)	X			Selenium, fluoranthene, naphthalene, phenanthrene exceeded GSI criteria
Air (outdoors)		X		No exceedances of Infinite Source VSIC & RBSLs

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 ach "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: Groundwater samples indicate Groundwater Surface Water Interface (GSI) criteria exceedances and slight drinking water exceedances.

Air (indoors): No exceedances of Volatilization to Indoor Air Inhalation criteria & RBSLs (for soil or groundwater).

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[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.

Surface Soil: Mercury, selenium, fluoranthene, phenanthrene exceeded GSI criteria.

Surface Water: No GSI criteria exceedances in storm water samples. Furthermore, it is unlikely, given the distance from the site to the nearest surface water body (Gibson Drain), that storm water from the site would impact Gibson Drain above the GSI criteria.

Sediment: The site does not contain any surface water body and consists of 20 acres of vegetated soil. Site stabilization (including additional topsoil cover and establishing a vegetative cover), and existing sedimentation control structures at the site will result in de minimis amount of soil/sediments migrating from the site.

Subsurface Soil: Selenium, fluoranthene, naphthalene, phenanthrene exceeded GSI criteria.

Air (outdoor): No exceedances of Infinite Source Volatile Soil Inhalation criteria (VSIC) & RBSLs (for soil or groundwater).

NOTE: This EI determination and the attached tables and figures include sampling information representing the current site conditions, which reflects the soil removal and interim remedial measures (IRMs) that have already been completed to remediate the site. In 2009, approximately three to four feet of soil was excavated across the site, removing most of the contaminated soil. In 2011 and 2012, an additional 3,000 tons of soil was excavated from the site where a hotspot of soil contamination remained.

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	NO	NO		NO			NO
~~Air (indoors)~~							
Soil (surface, e.g., <2 ft)	NO	NO		NO	NO	NO	NO
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface e.g., >2 ft)	NO	NO		NO	NO	NO	NO
~~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

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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):

The site is currently 20 acres of unused, vacant land formerly associated with the adjacent GM site. It is enclosed with a fence and its only access is through a gate that is part of GM's site security. The current exceedances in soil and groundwater do not present a human health risk because the concentrations that remain are primarily above the MDEQ Groundwater/Surface Water Interface criteria (GSI). Soil contamination does not pose an unacceptable human health risk through direct contact such as ingestion, inhalation, or dermal contact. The exceedances of the GSI criteria do not represent a complete exposure pathway because the site is not hydrologically connected to any surface water body. Gibson Drain is the closest surface water body and although it receives some surface water run-off, the site has been covered with clean top soil and vegetated as to stabilize the soil.

The 2012 groundwater sampling confirmed that the remaining SVOCs in the soil are not leaching to the groundwater. There are discreet groundwater wells where certain metals exceed the GSI and the drinking water criteria, but there is no evidence of a site-wide groundwater plume at this time. Further, the groundwater concentrations are very low (just above the drinking water criteria). Arsenic was detected in three wells; however, the concentrations are within the range of what has been demonstrated to be local and regional background. Groundwater is not currently being used as a source of drinking water, nor will it be in the future.

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 RACER Trust - Dort Highway facility, EPA ID # MID 005 356 944, located in Grand Blanc, MI 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) Michelle Kaysen Date 10/25/12
(print) MICHELLE KAYSEN
(title) ENVIRONMENTAL SCIENTIST

Supervisor (signature) Tammy Moore Date 10/25/12
(print) TAMMY MOORE
(title) Supervisory Environmental Scientist
(EPA Region or State) Region 5

Locations where References may be found: Rsendor

Attached tables and figures.

Contact telephone and e-mail numbers

(name) _____
(phone #) _____
(e-mail) _____

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.