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:	Wheeling Pittsburgh Steel Corporation
Facility Address:	Route 2, Follansbee, Wv 26037
Facility EPA ID #:	WVD004319539

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			
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.

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.

GROUNDWATER: On site groundwater was confirmed to be contaminated based on sampling and analysis (April 15, 2005 bi-monthly report)

SURFACE SOIL (e.g., <2ft): On site surface soil was confirmed to be contaminated based on sampling and analysis (April 15, 2005 bi-monthly report)

SURFACE WATER: On site surface water was confirmed to be contaminated based on sampling and analysis (December 8, 2004 bi-monthly report)

SEDIMENT: Sediment was confirmed to be contaminated based on sampling and analysis (December 8, 2004 bi-monthly report)

SUBSURFACE SOIL (e.g., >2ft): On site subsurface soil was confirmed to be contaminated based on sampling and analysis (April 15, 2005 bi-monthly report)

AIR (Indoor and Outdoor): Indoor air was confirmed to not be contaminated based on evaluating the potential for volatile organic chemicals present in shallow groundwater to migrate upward into worker-occupied buildings within 100 feet of groundwater contamination. This was accomplished by identifying wells or geoprobe samples placed in shallow or perched groundwater with volatile contamination above vapor screening values that were adjusted to consider OSHA Permissible Exposure Limit (PEL) requirements for indoor air. A single geoprobe sample revealed a benzene concentration above the PEL-adjusted indoor air screening level. The contamination reported in this sample appears limited in scope, because surrounding monitoring well/geoprobe samples revealed significantly lower benzene concentrations. This sample location is not within 100 feet of any worker-occupied buildings, therefore it was concluded that human exposures are under control relative to indoor air. Outdoor air is not expected to be contaminated above risk-based levels as a result of fugitive dust emissions.

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	___	___		No			
Air (indoors)							
Soil (surface, e.g., <2 ft)	No	Yes		No	No	___	
Surface Water	___	No		No	No	___	
Sediment	___	No			No	___	
Soil (subsurface e.g., >2 ft)				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 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).

X 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.

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

Rationale and Reference(s):

GROUNDWATER

Residents: Residential communities are located hydraulically upgradient from the facility, There are 3 public water supply locations downgradient from the facility. The city of Follansbee obtains potable water from a well located approximately 300 feet south (downstream) of the facility. Hooverson Heights obtains water from the Ohio River, through an intake located adjacent to the Follansbee well. The village of Mingo Junction obtains water from the Mingo Junction well.

Workers: There are no water supply wells located on the facility which are used for drinking water. Therefore this is not a complete pathway.

Construction: Excavation is necessary to possibly expose construction workers to shallow groundwater and this excavation must occur at locations where shallow groundwater is impacted by constituents that can be absorbed dermally. Wheeling Pitt Steel has an internal policy related to excavations. Construction workers are protected from exposure by Facility safety procedures which require protective clothing at levels to protect workers in areas of contamination.

SURFACE SOIL:

Residents: Residents do not have access to the Site and therefore they do not have direct access with surface soil. This pathway is not complete.

Workers: Worker exposure to surface soil is reasonably expected to occur because there are currently no institutional controls that eliminate worker contact with surface soil. Therefore this is a complete exposure pathway.

Construction: Wheeling Pitt Steel has an internal policy related to excavations. Construction workers are protected from exposure by Facility safety procedures which require protective clothing at levels to protect workers in areas of contamination.

Trepassers: Trespassers are prevented from entering the Facility by entree gates, cameras and routine foot patrol of the Facility. Fences have also been installed at remote locations with cameras that are watched at the guard station. Additionally the hillside location is vegetated, and are controls which include signs and monthly supervision to insure that trespassing doesn't occur.

SURFACE WATER:

Workers: Workers contact with surface water is limited, therefore this pathway is reasonably estimated to not be complete.

Construction: Wheeling Pitt Steel has an internal policy related to excavations. Construction workers are protected from exposure by Facility safety procedures which require protective clothing at levels to protect workers in areas of contamination.

SEDIMENT:

Workers: Workers contact with sediment is limited, therefore this pathway is reasonably estimated to not be complete.

SUBSURFACE SOIL:

Residents: Residents do not have access to the Site and therefore they do not have direct access with subsurface soil. This pathway is not complete.

Construction: Wheeling Pitt Steel has an internal policy related to excavations. Construction workers are

protected from exposure by Facility safety procedures which require protective clothing at levels to protect workers in areas of contamination.

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)?

X 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):

Surface Soil/Workers: Based on analytical data found in the December 8, 2004 bi-monthly report, worker exposure to surface soil is not expected to pose unacceptable risks. This was determined by comparing analytical surface soil data to adjusted risk-based screening concentrations for industrial soil. The risk-based screening concentrations were adjusted to more accurately account for actual current land use worker activities as well as exposure frequency and duration. In addition, the presence of vegetation, asphalt, slag, etc., which would reduce contact with soil, as well as protective clothing worn by workers in certain areas of the Site were considered. The data screening indicates that potential worker exposure to surface soil is not unacceptable (i.e., not significant).

[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 Wheeling Pittsburgh Steel Corporation facility, EPA ID # WVD004319539, located at Follansbee, West Virginia 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)	/s/	Date 9/22/05
	(print)	Estena A. McGhee	
	(title)	Remedial Project Manager	
Supervisor	(signature)	/s/	Date 9/22/05
	(print)	Bob Greaves	
	(title)	Chief, RCRA Operations Branch, WCMD Division	
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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.