

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: *AMAX Metals Recovery, Inc.*
Facility Address: 3697 English Turn Road, Braithwaite, LA 70040
Facility EPA ID #: LAD 058472721 (AI# 16817)

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?

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).

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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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>X</u>	<u> </u>	<u> </u>	Metals and VOCs (see below) _____
Air (indoors) ²	<u> </u>	<u>X</u>	<u> </u>	_____
Surface Soil (e.g., <2 ft)	<u>X</u>	<u> </u>	<u> </u>	Metals and VOCs (see below) _____
Surface Water	<u> </u>	<u>X</u>	<u> </u>	_____
Sediment	<u> </u>	<u>X</u>	<u> </u>	_____
Subsurf. Soil (e.g., >2 ft)	<u>X</u>	<u> </u>	<u> </u>	Metals and VOCs (see below) _____
Air (outdoors)	<u> </u>	<u>X</u>	<u> </u>	_____

_____ 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):

Metals:

Seven of the metal concentrations in soil and groundwater samples were found to be above the screening standards for the Risk Evaluation Corrective Action Program (RECAP). Amax Metals will collect additional data in order to completely delineate the extent of soil and groundwater contamination. Additional information can be found in the Site Investigation Plan dated January 28, 2000 and Site Investigation Report dated April 2003 and submitted to the Department by Waldemar S. Nelson and Company on behalf of Amax Metals.

VOCs and Semi-volatiles:

Sixteen volatile organic compounds have been identified in several of the SWMUs at the AMAX site that were above the screening standards for the Risk Evaluation Corrective Action Program (RECAP). Additional information can be found in the Site Investigation Plan dated January 28, 2000 and Site Investigation Report dated April 2003 and submitted to the Department by Waldemar S. Nelson and Company on behalf of Amax Metals.

Under their Solid Waste Permit, Amax maintains a groundwater monitoring system which consists of 4 groundwater monitoring wells (one upgradient and three downgradient). (See Figure 1,2, and 3). As of today the downgradient wells have not detected concentrations above background levels of any of the constituents of concern. (See groundwater monitoring reports attached as Appendix A).

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.

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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)

<u>"Contaminated" Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	N	N	N	N	N	N	N
Air (indoors)							
Soil (surface, e.g., <2 ft)	N	N	N	N	N	N	N
Surface Water							
Sediment	N	N			N	N	N
Soil (subsurface e.g., >2 ft)	N	N		N			N
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.

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):

Most of the subsurface geology beneath the SWMUs where the Site Investigation took place, appears to be made-up of red to gray clay to silty-clay from 0 to 10 feet below ground surface (BGS). Most of the collected samples during the Site Investigation that had concentrations above the RECAP Screening Standards were collected below 10 feet BGS. See attached Figures, Tables, and Appendixes.

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

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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 be (and attach appropriate supporting documentation as well as a map of the facility):

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 Amax Metals facility, EPA ID # 058472721, located at 3697 English Turn Road, Braithwaite, Louisiana under current 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) MEAS Date 6/30/03
(print) Estuardo Silva
(title) Geologist

Supervisor (signature) Narendra M. Desai Date 6/30/03
(print) Narendra M. Desai
(title) Geological Manager
(EPA Region or State) _____

EPA Locations where References may be found: Louisiana 6PDM 4/7/04

Amax Metals.

Baton Rouge-LDEQ-Groundwater, Solid Waste, and Hazardous Waste File Room.

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.

**ATTACHMENTS
AVAILABLE UPON REQUEST**

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