DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA750) Migration of Contaminated Groundwater Under Control

Facility Name: Facility Address: Facility EPA ID #:		International Metals Reclamation Company		
		245 Portersville Road Ellwood City, PA 16117		
		PAD 087 561 015		
1.	groundwater m	le relevant/significant information on known and reasonably suspected releases to the ledia, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units ulated 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.		
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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 "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "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 "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

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.	Is groundwater known or reasonably suspected to be "contaminated" above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility		
		If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.	
	X	If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."	
		If unknown - skip to #8 and enter "IN" status code.	

Rationale and Reference(s):

As part of the closure of the Emergency Wastewater Lagoon, the International Metal Reclamation Company (Inmetco) installed three groundwater monitoring wells; one upgradient and two downgradient of the lagoon. After 18 quarters of groundwater monitoring, the Pennsylvania Department of Environmental Protection determined that based on low levels of historical groundwater data, groundwater monitoring was no longer necessary. The lagoon was designated clean-closed by PADEP.

There is no evidence to suspect that groundwater is contaminated by the Facility based their on present and past operations/practices. (El Inspection Report, May 2002)

Footnotes:

"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 appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3.	Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater" as defined by the monitoring locations designated at the time of this determination)?		
		If yes - continue, after presenting or referencing the physical evidence (e.g., groundwate sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination" ²).	
		If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination" ²) - skip to #8 and enter "NO" status code, after providing an explanation.	
		If unknown - skip to #8 and enter "IN" status code.	
	Rationale and R	Reference(s):	

² "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4.	Does "contamina	Does "contaminated" groundwater discharge into surface water bodies?			
		If yes - continue after identifying potentially affected surface water bodies.			
		If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.			
		If unknown - skip to #8 and enter "IN" status code.			
	Rationale and R	Reference(s):			

5.	maximum conce appropriate grou discharging cont	of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the entration of each contaminant discharging into surface water is less than 10 times their indwater "level," and there are no other conditions (e.g., the nature, and number, of taminants, or environmental setting), which significantly increase the potential for pacts to surface water, sediments, or eco-systems at these concentrations)?
		If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration ³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and it there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.
		If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration ³ of <u>each</u> contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations ³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.
	-	If unknown - enter "IN" status code in #8.
	Rationale and I	Reference(s):

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6.	acceptable" (i.e., r	Can the discharge of "contaminated" groundwater into surface water be shown to be " currently acceptable" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented ⁴)?				
	ti s d iii (r a iii d u v	f yes - continue after either: 1) identifying the Final Remedy decision incorporating hese conditions, or other site-specific criteria (developed for the protection of the site's urface water, sediments, and eco-systems), and referencing supporting documentation lemonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment, ⁵ appropriate to the potential for in the opinion of a trained specialists, including ecologist) adequately protective of ecciving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic urveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.				
	a	f no - (the discharge of "contaminated" groundwater can not be shown to be "currently acceptable") - skip to #8 and enter "NO" status code, after documenting the currently anacceptable impacts to the surface water body, sediments, and/or eco-systems.				
	I	f unknown - skip to 8 and enter "IN" status code.				

Rationale and Reference(s):

- ⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.
- ⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7.	Will groundwater monitoring / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"				
		If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."			
		If no - enter "NO" status code in #8.			
	-	If unknown - enter "IN" status code in #8.			
	Rationale and R	deference(s):			

8.	Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control
	EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI
	determination below (attach appropriate supporting documentation as well as a map of the facility).

X_{\perp}	YE - Yes, "Migration of Contaminated Groundwater Under Control" has been			
	verified. Based on a review of the information contained in this EI			
	determination, it has been determined that the "Migration of Contaminated			
	Groundwater" is "Under Control" at the International Metals Reclamation			
	Company facility, EPA ID # PAD 087 561 015, located at 245 Portersville			
	Road Ellwood City, PA 16117. Specifically, this determination indicates that			
	the migration of "contaminated" groundwater is under control, and that			
	monitoring will be conducted to confirm that contaminated groundwater			
	remains within the "existing area of contaminated groundwater" This			
	determination will be re-evaluated when the Agency becomes aware of			
	significant changes at the facility.			

NO - Unacceptable migration of contaminated groundwater is observed or expected.

IN - More information is needed to make a determination.

Completed by

(signature)
(print)
(title)

RCRA Project Manager

Date 10/17/02

Supervisor

(signature)

(print)

(title)

Branch Chief, RCRA Corrective
Action, PA Operations

(EPA Region or State)

Region III

Date 10/17/02

Locations where References may be found:

PADEP

Waste Management Program

230 Chestnut Street Meadville, PA 16335 US EPA

Region III

Waste and Chemical Mgmt. Division

1650 Arch Street

Philadelphia, PA 19103

Contact telephone and e-mail numbers:

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(e-mail)	dao.khai@epa.gov	toth.sigma@state.pa.us

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

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

Facility Name:	International Metals Reclamation Company			
Facility Address:	245 Portersville Road Ellwood City, PA 16117			
Facility EPA ID #:	PAD 087 561 015			
groundwater,	ble relevant/significant information on known and reasonably suspected releases to soil, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in ination?			
<u>X</u>	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.			
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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).

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

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "contaminated" 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		No record of contamination. PADEP ceased
				groundwater monitoring based on historical data.
Air (indoors) ²		X		No current record of contamination.
Surface Soil (e.g., <2 ft)		X		No current record of contamination.
Surface Water		X		No current record of contamination.
Sediment		X		No current record of contamination.
Subsurf. Soil (e.g., >2 ft)		Χ.		No current record of contamination.
Air (outdoors)		X		Emission control devices installed.

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.
alaning (Palania	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:

As part of the closure of the Emergency Wastewater Lagoon, the International Metal Reclamation Company (Inmetco) installed three groundwater monitoring wells; one upgradient and two downgradient of the lagoon. After 18 quarters of groundwater monitoring, the Pennsylvania Department of Environmental Protection determined that based on low levels of historical groundwater data, groundwater monitoring was no longer necessary. The lagoon was designated clean-closed by PADEP.

There is no evidence to suspect that groundwater is contaminated by the Facility based on their present and past operations/practices. (El Inspection Report, May 2002)

Surface Water and Sediment:

The Connoquenessing Creek is closest surface water body and is located approximately 1000 feet north of the facility. The Facility does not discharge waste or pre-treated wastewater to the Creek. There is no evidence of contaminated groundwater from the facility that discharges to the Creek. Therefore, there is no evidence to suspect that surface water and sediment at the Creek are contaminated by the Facility based on their present and past operations/practices. (El Inspection Report, May 2002)

Surface and Subsurface Soil:

In the past the contaminated soil from a 1980 No. 2 Fuel Oil spill was excavated and the area backfilled with clean soil. Presently, there is no evidence to suspect that contaminated surface and subsurface soils that may pose a human health risk or contamination to groundwater are present at the Facility. (El Inspection Report, May 2002)

Current Human Exposures Under Control Environmental Indicator (EI) RCRIS code (CA725) Page 3

Air (Indoor and Outdoor):

Installed emission control devices, which include baghouses and a wet venturi scrubber, eliminate the potential of outdoor air emissions. There are no records or evidence to suggest that indoor air quality problems exist onsite. (El Inspection Report, May 2002)

Footnotes:

"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.

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

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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)

Groundwater	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
A to Charles and							
Air (indoors)			A1-2				
Soil (surface, e.g., <2 ft)			-				
Surface Water				•	4230		***********
Sediment							
Soil (subsurface e.g., >2 ft)							
Air (outdoors)							
Instructions for Summa	ry Exposur	e Pathway	Evaluation 2	Table:			
1. Strike-out s "contaminated	" as identif	ied in #2 at	pove.				
2. enter "yes" Receptor comb		-	completene	ss" under eac	n "Contaminat	ed" Media I	Human
Note: In order to focus Media - Human Recept combinations may not badded as necessary.	or combina	tions (Path	ways) do no	t have check	spaces ("")	. While these	
Media - Human Recept combinations may not be added as necessary. If no skip to in-plate each of the combinations in the combination of the combin	or combina be probable (pathways a to #6, and el ce, whether	in most sit are not com ater "YE" s a natural or ed medium	ways) do no uations they aplete for an status code, a man-made,	t have check of may be possing y contaminate after explaining preventing a	spaces ("")	things and sho otor combination encing conditions issure pathway	uld be on) - on(s) from
Media - Human Recept combinations may not be added as necessary. If no skip to in-plate each of analyst. If yes	or combina be probable (pathways a o #6, and elece, whether contaminate ze major pa	in most sit are not com nter "YE" so natural or ed medium thways).	ways) do no uations they aplete for an status code, man-made, (e.g., use op	of have check of may be possible y contaminate after explaining preventing a potional Pathway	spaces ("") ble in some se ed media-recep ng and/or refer complete expo ny Evaluation ' "Media - Hur	the these of the things and show the combination of	uld be on) - on(s) from

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

Current Human Exposures Under Control Environmental Indicator (EI) RCRIS code (CA725) Page 5

4.	"significant" (i greater in magni acceptable "leve (perhaps even th	res from any of the complete pathways identified in #3 be reasonably expected to be i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) tude (intensity, frequency and/or duration) than assumed in the derivation of the ls" (used to identify the "contamination"); or 2) the combination of exposure magnitude ough low) and contaminant concentrations (which may be substantially above the ls") 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 F	Reference(s):
	4 If there is any o	nuestion on whether the identified exposures are "significant" (i.e., potentially

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) Page 6

***************************************	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

(CA725), and o	opriate RCRIS status codes for the Cobtain Supervisor (or appropriate Maropriate supporting documentation as	nager) signature and	d date on the EI determination below
<u>X</u>	Company facility, EPA ID # PAD Ellwood City, PA 16117 under cu	ed in this EI Determeder Control" at the 0 087 561 015, local prent and reasonab	nination, "Current Human e International Metals Reclamation ated at 245 Portersville Road
	NO - "Current Human Exposures	" are NOT "Under	Control."
	IN - More information is needed	l to make a determi	ination.
Completed by	(signature) Con W	(2)=0	Date 10/17/02
Supervisor	(signature) (print) (title) Branch Chief, RCRA Action, PA Operation	A Corrective	Date 10/17/02
	(EPA Region or State) Region I	[I	•
Locations whe	re References may be found:		
	PADEP Waste Management Program 230 Chestnut Street Meadville, PA 16335	US EPA Region III Waste and Che 1650 Arch Stre Philadelphia, I	

Contact telephone and e-mail numbers:

	EPA Contact	PADEP Contact
(name)	Khai M. Dao	Sigma Toth
(phone #)	(215) 814-5467	814-332-6843
(e-mail)	dao.khai@epa.gov	toth.sigma@state.pa.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.