DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

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

Facility Name:	**Hamilton Precision Metals, Inc.**
Facility Address:	**1780 Rohrerstown Road Lancaster, PA 17604**
Facility EPA ID #:	**PAD000800698**

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).

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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)?

	Yes	No	?	Rationale/Key Contaminants
Groundwater		X		Constituent concentrations do not exceed EPA MCLs
Air (indoors)[2]		X		VOCs concs. in subsurface and groundwater are negligible
Surface Soil (e.g., <2 ft)		X		Constituent concentrations do not exceed residential stds.
Surface Water		X		No discharge to nearby surface water body
Sediment		X		No discharge to nearby sediment areas
Subsurf. Soil (e.g., >2 ft)		X		Constituent levels do not exceed residential standards
Air (outdoors)		X		Facility is operating under an approved state permit

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.

____ 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): The Hamilton Precision Metals, Inc. (HPM) facility produces specialty strip and foil metal rolled to customer specifications for high-technology industries such as computers, telecommunications, surveillance, electronics, business machines, automotives, aircrafts, land/surface/submarine vessels, and spacecraft. In 2007, HPM was acquired by Ametek, Inc. (Ametek), a global manufacturer of electronic instruments and electromechanical devices. The HPM continues to operate the Facility as a subsidiary company under Ametek.

[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.

The Facility occupies approximately 15 acres of land situated within the limits of East Hempfield Township, west of the city of Lancaster. The property is bordered on the south and east by light industrial facilities and to the north by farms. The west side borders two large warehouses. One residential property is located directly north of the facility, and four residential properties are located across Rohrerstown Road, east of the facility. The Borough of East Petersburg is located approximately 0.4 miles northeast of the facility.

Wastes generated from the Facility's operations consist of mainly acidic wastes from the metal pickling process. The acidic wastes are neutralized, filtered, and separated. The accumulated sludge is disposed offsite. The neutralized wastewater is discharge to the local sanitary sewer system. Until 2000, trichloroethylene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) were used in the vapor degreasing operations. The Facility has since switched to an aqueous degreaser. Prior to the change, TCE and 1,1,1-TCA solvent wastes were disposed offsite at a regulatory approved facility.

As part of Ametek's due diligence to purchase the Hamilton Precision Metals facility a Phase I Environmental Site Assessment (May 2007), and a Phase II Site Investigation (SI) (June 2007) was conducted by Environmental Resources Management (ERM) on behalf of Ametek. Based on the findings of environmental site assessment the Phase II SI concentrated on seven Areas of Concern (AOCs). The seven AOCs consisted of the Mill Oil Above Ground Storage Tanks (ASTs), the former TCA/TCE Cleaning Operations, the Drum Storage Area, the former UST Area, the former Septic System Leach Field, the Railroad Spur and the Pickling Room. The investigation evaluated soil and shallow groundwater. Soil samples were collected using both a hand auger and direct push technology (DPT). Several temporary well points (TWPs) consisting of ¾ inch screened PVC pipe were installed to assess the shallow groundwater. In addition to the onsite groundwater investigation, five residential groundwater wells in the vicinity of the Facility were sampled for organic and inorganic constituents. The following evaluations are based on the results and assessment from Ametek's 2007 Phase I and II investigations conducted by ERM and the 2012 PADEP/EPA offsite groundwater sampling. (2007 Phase I Environmental Site Assessment Report, 2007 Phase II Site Investigation Report, 2012 Environmental Indicator Inspection Report 2012)

Groundwater:
The presence of low concentrations of volatile, semi-volatile organic compounds (VOCs & SVOCs) and metals were detected in groundwater. The highest concentrations of VOCs in the groundwater were detected within the Former UST Area and adjacent to a sump within the area of the Former Mill Oil ASTs. The constituents of concern and the respective levels detected in these areas were acetone (12 µg/L), chloromethane (0.91 µg/L); 1,1,1-TCA (5.4 µg/L); TCE (4.4 µg/L); and toluene (0.29 µg/L). None of the confirmed onsite and offsite groundwater results for VOCs, SVOCs and metals exceeded the PADEP Residential Groundwater Medium-Specific Concentrations (MSCs) or EPA Maximum Concentration Limits (MCLs).

Surface Soil: Surface soil samples were collected and analyzed for VOCs, SVOCs, polychlorinated biphenyls (PCBs), and metals. PCBs were not detected. VOCs, SVOCs, and metals detected levels were below PADEP Residential Direct Contact MSCs and Residential Soil-to-Groundwater MSCs for used aquifers. Furthermore, the levels of constituents detected in soil meet EPA allowable risk range for direct contact for residential land use.

Subsurface Soil: Subsurface soil samples were collected corresponding to the perceived depths of the potential release locations and analyzed for an appropriate list of constituents. None of the detected constituents in the soil samples at the AOCs investigated at the facility exceeded the Residential Direct Contact MSCs or the Residential Soil-to-Groundwater MSCs. Furthermore, the levels of constituents detected in soil meet EPA allowable risk range for direct contact for residential land use.

Outdoor Air: Air emissions consisted of particulates, acid vapors and solvent vapors. The facility is currently operating under a State only operating permit (SOOP) that was renewed on April 16, 2009. No violations have been reported.

Indoor Air:
The soil borings indicated at least five feet of soil is present between the source and potential receptor. Therefore, the PADEP Act 2 vapor intrusion guidance (specifically, Land Recycling Program Technical Guidance Manual – Section IV.A.4, Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard) derived values can be used to screen the detected VOCs in soil collected from greater than 5 feet below ground surface (bgs) for potential impact to indoor air.

None of the detected constituents in the surface and subsurface soil samples exceeds the Residential Direct Contact MSCs or Residential Soil to Groundwater MSCs for used aquifers. The constituents detected at depths greater than 5 feet bgs were less than the corresponding indoor air criteria. Based on the low concentrations of VOCs detected in the subsurface soil and groundwater, vapor intrusion attributable to soil and groundwater is not a potential concern.

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							
Air (indoors)							
Soil (surface, e.g., <2 ft.							
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft.							
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).

_____ 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):

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.

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):

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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 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 **Hamilton Precision Metals, Inc.** facility, EPA ID # **PAD000800698**, located at **1780 Rohrerstown Road Lancaster, PA 17604** 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 6/27/12

(print) KHAI M. DAO

(title) EPA PROJECT MANAGER

Supervisor (signature) _____ Date 6-25-12

(print) PAUL GOTTHOLD

(title) ASSOCIATE DIR, OFFICE OF PA REM

(EPA Region or State) EPA R3

Locations where References may be found:

USEPA Region III
Land and Chemicals Division
1650 Arch Street
Philadelphia, PA 19103

PADEP
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110

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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.