

## DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

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

Facility Name: **Former AMP, Inc.**  
Facility Address: **North Street, I-83 Loganville, PA 17342**  
Facility EPA ID #: **PAD 041511874**

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”<sup>1</sup> 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	?	<u>Rationale/Key Contaminants</u>
Groundwater		X		Current levels do not pose an exposure risk
Air (indoors) <sup>2</sup>		X		No record of contamination.
Surface Soil (e.g., <2 ft)		X		Current levels do not exceed residential stds.
Surface Water		X		No record of contamination.
Sediment		X		No record of contamination.
Subsurf. Soil (e.g., >2 ft)		X		Current levels do not exceed residential stds.
Air (outdoors)		X		No record of contamination.

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):**

There are currently two independent businesses with two separate EPA ID #s operating at the former AMP Inc. (AMP) site. The EPA ID # PAD 041511874 was originally assigned to the entire AMP site, which consisted of mainly two manufacturing buildings; Buildings 52 and 143. Because the operations in Building 143 accumulated limited hazardous wastes, AMP obtained a separate EPA ID # PAR 000007369 in 1995 to designate the operations in Building 143 as a Conditionally Exempt Small Quantity Generator (CESQG) that generates 100 kilograms or less of hazardous wastes per month, or 1 kilogram or less of acutely hazardous waste per month. The original EPA ID # PAD 041511874 presently applies only to Building 52 and the property associated with this building.

<sup>1</sup> “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).

<sup>2</sup> 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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In 1999, Tyco Electronics Corporation (TEC) acquired AMP. In 2001-2002, TEC subdivided the property in two parcels and sold each parcel separately. The portion of the property that consists of Building 52 was sold to Cox Media and Dominion Enterprises who transformed the former manufacturing building into its current status as a media printing facility. The facility prints magazines such as AutoTrader.

The other half of the former AMP site that consists of Building 143 was sold to Komax Corporation who manufactures machines that solders solar panels. Current operations at this facility consist mainly of machine building assembly and a small machine shop. (July 2012 Former AMP, Inc. EI Inspection Report)

**Groundwater:**

Three monitoring wells on Building 52's property and two monitoring wells on Building 143's property were installed by AMP as part of a baseline assessment. The five monitoring wells and the plant well were sampled periodically from 1995 to 2001 for volatile organic compounds (VOCs) and heavy metals. Levels of heavy metals detected in groundwater were below the maximum contaminant levels (MCLs). Occasionally levels of VOCs were detected slightly above MCLs in the downgradient wells and the former plant well. A summary of the groundwater results for the constituents of concern are tabulated below. The groundwater results are measured in ug/L. ND and NA are designated as "non-detect" and "not available", respectively.

**Well MW-1**

Date	1,1,1-TCA	1,1,-DCE	TCE	PCE
3/3/95	ND	ND	ND	ND
9/29/95	ND	ND	ND	ND
12/13/96	ND	ND	ND	ND
12/9/97	NS	NS	NS	NS
MCLs	200	7	5	5

**Well MW-2**

Date	1,1,1-TCA	1,1,-DCE	TCE	PCE
3/3/95	ND	ND	ND	ND
9/29/95	ND	ND	ND	ND
12/13/96	ND	ND	ND	ND
12/9/97	ND	ND	ND	ND
MCLs	200	7	5	5

**Well MW-3**

Date	1,1,1-TCA	1,1,-DCE	TCE	PCE
3/3/95	ND	ND	ND	ND
9/29/95	ND	ND	ND	ND

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12/13/96	ND	ND	ND	ND
12/9/97	ND	ND	ND	ND
MCLs	200	7	5	5

**Well MW-4**

Date	1,1,1-TCA	1,1,-DCE	TCE	PCE
3/3/95	ND	ND	ND	ND
9/29/95	6.3	4.5	ND	5.2
2/20/96	5.4	4.8	ND	5.7
4/24/96	5.3	3.7	ND	5.9
8/26/96	5.8	5.8	ND	6.8
11/13/96	2.1	1.9	ND	2.4
12/9/97	3	ND	ND	6
12/13/01	ND	ND	ND	ND
MCLs	200	7	5	5

**Well MW-5**

Date	1,1,1-TCA	1,1,-DCE	TCE	PCE
3/3/95	ND	6	5	8
9/29/95	20	19	2.8	16
12/9/97	ND	ND	ND	ND
12/13/01	ND	ND	ND	ND
MCLs	200	7	5	5

**Plant Well**

Date	1,1,1-TCA	1,1,-DCE	TCE	PCE
3/1/89	13	6.5	3.7	4.3
3/3/95	ND	6	5	8
9/29/95	20	19	2.8	16
12/12/96	NA	5	ND	5.8
12/9/97	13	12	2	17

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MCLs	200	7	5	5
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Monitoring Wells (MWs) 1, and 2 are located upgradient. These upgradient wells have never detected VOCs levels above MCLs. MWs-4 and 5 are located downgradient. Historically, low levels of PCE and 1,1-DCE were detected slightly above MCLs in the MWs 4, 5, and the former plant well. The levels of PCE detected in MWs 4 and 5 have been in the range from non-detects to 16 ug/L. 1,1-DCE was once detected at 19 ug/L in MW-5, which is above the MCL of 7 ug/L. Over the years the levels detected in MWs 4 and 5 have decreased. The most recent groundwater data indicate that VOC levels detected in all five monitoring wells are below the MCLs.

Given the slightly elevated levels of 1,1,-DCE and PCE in the plant well and the significant difference in well depths of the plant well and the downgradient wells, the detected constituents in the plant well may potentially pose a human health exposure concern for residential wells located downgradient of the Site. The plant well has not been sampled since 1997. It has since been abandoned and is no longer available for sampling. In July 2012, PADEP and EPA conducted a groundwater sampling of the available downgradient residential wells to determine if historic levels of 1,1,-DCE and PCE in the plant well may pose an environmental and human health concern. Only one residence consented to the groundwater sampling. The residence is located downgradient of the Site. Two sample locations, which included the groundwater well and the water spring, were procured from the property. The results of the offsite sampling were non-detects for VOCs. The results confirmed that past detections of slightly elevated 1,1-DCE and PCE concentrations in the plant well have not impacted the surrounding environment. It's been 15 years since the plant well was sampled. Given the fact that there is no contamination source that can contribute to the groundwater impact, the low levels of 1,1-DCE and PCE that were detected in the plant well have most likely decreased over the years through the process of natural attenuation. Remnants of 1,1-DCE and PCE that may still be present in the plant well do not adversely impact the environment as confirmed by the offsite sampling results. The Site no longer uses groundwater and is currently connected to public water. (July 2012 Former AMP, Inc. EI Inspection Report)

**Surface Water:**

The Facility has never operated under an NPDES permit. There have been no known/documented releases to surface water from the Facility's operations. There is no reason to suspect that surface water has been impacted by the Facility. (July 2012 Former AMP, Inc. EI Inspection Report)

**Sediment:**

There have been no known/documented releases to sediment from the Facility's operations. There is no reason to suspect that sediment has been impacted by the Facility. (July 2012 Former AMP, Inc. EI Inspection Report)

**Soil:**

Soil samples were analyzed for total petroleum hydrocarbons (TPH), VOCs, semi-volatile organic compounds (SVOCs) and metals. Soil samples results indicated low concentrations of TPH in all samples ranging from 3.7 to 16.7 mg/kg. The concentrations were below the PADEP interim Level 2 soil standard (PADEP Interim Cleanup Standards for Contaminated Soils, December 1993) of 500 mg/kg. PCE was detected in one boring located beneath Building 52 at a concentration of 29 ug/kg. None of the detected constituents in the soil samples exceeded PADEP Residential Direct Contact Medium Specific Concentrations (MSCs) or Residential Soil to Groundwater MSCs for used aquifers. (July 2012 Former AMP, Inc. EI Inspection Report)

**Outdoor Air:**

The Facility did not operate under an air emissions permit. There is no reason to suspect that outdoor air has been substantially impacted by the Facility's operations. (July 2012 Former AMP, Inc. EI Inspection Report)

**Indoor Air:**

Available soil boring and monitoring well construction details, as well as analytical data from the 1995 Baseline Assessment (BA) investigation and subsequent groundwater sampling events were used to assess the potential for indoor

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vapor intrusion. All monitoring wells and soil sample locations were within 100 feet of the former AMP operations buildings.

A review of the soil boring logs indicated that there is at least five feet of soil between the potential source and receptor for most of the site. However, there are some areas at the site where the depth of the topsoil is less than 5 feet. Regardless, none of the detected constituents in the surface and subsurface soils exceeded PADEP Residential Direct Contact MSCs or Residential Soil to Groundwater MSCs for used aquifers. Based on these results, VOC levels detected in surface and subsurface soils do not pose a potential concern for indoor air vapor intrusion.

Relative to the five monitoring wells, MWs 1, 2, and 3 are located upgradient to the groundwater flow. These three upgradient wells have never detected VOCs levels above MCLs. Historically, low levels of PCE and 1,1-DCE were detected slightly above MCLs in the downgradient monitoring wells and the former supply well. MWs-4 and 5 are located downgradient of the site and have occasionally detected PCE levels slightly above the MCL of 7 ug/L. The levels of PCE detected in MWs 4 and 5 have been non-detects to 16 ug/L. 1,1-DCE was once detected at 19 ug/L in MW-5, which is above the MCL of 7 ug/L. Over the years the levels detected in MWs 4 and 5 have decreased. Currently, the levels of VOCs detected in all five monitoring wells are below MCLs and do not pose a potential concern for indoor vapor intrusion.

The plant well, which is located in the center of the site, has a well depth of 117 feet. Historically the levels of PCE and 1,1-DCE have occasionally detected levels slightly above MCLs. The concentration range detected in the plant well for PCE and 1,1-DCE have been between 5-19 ug/L and 4-17 ug/L, respectively. All other detected levels of constituents of concern have been below MCLs. The range of concentrations detected for PCE and 1,1-DCE in the plant well are within EPA allowable risk range and do not pose a potential concern for indoor vapor intrusion.

Based on the low concentrations of VOCs detected in the surface and subsurface soils and groundwater, potential vapor intrusion attributable to soil and groundwater is not a concern. (July 2012 Former AMP, Inc. EI Inspection Report)

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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

Contaminated Media	Potential <u>Human Receptors</u> (Under Current Conditions)						
	<u>Residents</u>	<u>Workers</u>	<u>Day-Care</u>	<u>Construction</u>	<u>Trespassers</u>	<u>Recreation</u>	<u>Food</u> <sup>3</sup>
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.

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**<sup>4</sup> (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):**

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<sup>4</sup> 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.

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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):

**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 Former AMP, Inc. facility, EPA ID # PAD 041511874 located at North Street, I-83 Loganville, PA 17342 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 7/30/12

(print) KHAI M. DAO

(title) EPA PROJECT MANAGER

Supervisor (signature)  Date 7-30-12

(print) Paul Gotthold

(title) Associate Director, LCD

(EPA Region or State) EPA Reg 3

Locations where References may be found:

USEPA Region III  
Waste and Chemical Mgmt. Division  
1650 Arch Street  
Philadelphia, PA 19103

PADEP  
South Central 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.**