

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: Universal Friction Products, Inc.(fka Raymark Industries, Inc.)
Facility Address: 123 East Stiegel Street, Manheim, PA 17545
Facility EPA ID #: PAD003015328

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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	X			PADEP groundwater monitoring data (lead, sulfates)
Air (indoors) ²		X		no significant volatile contamination in groundwater
Surface Soil (e.g., <2 ft)		X		characterization data (Act 2)
Surface Water		X		characterization data (Act 2)
Sediment		X		characterization data (Act 2)
Subsurf. Soil (e.g., >2 ft)	X			waste disposal areas (lead, zinc, asbestos, sulfates)
Air (outdoors)		X		no surface contamination

_____ 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):

Rationale:

Site Background

Historically, this site was part of the Raybestos-Manhattan Inc. plant operations that manufactured friction product material including automotive brake linings, clutch facings and other specialized friction products from 1908 until 1997.

There were seven Solid Waste Management Units (SWMUs) on the site determined to have possibly impacted the environment. These units areas include: two hazardous waste landfills, several drum storage areas, and several Asbestos/Lead Slurry Transfer stations. Additionally, there were numerous Areas of Concern scattered across the site, where industrial activities and plant operations may have impacted soils and/or groundwater.

Five of the seven SWMUs and all of the Areas of Concern on the site have been investigated for releases and impacts to the environment under the Pennsylvania Land Recycling Program (Act 2). The other two SWMUs, the Lower Mill Landfill and the Raymark Industries Landfill, were used for disposal of asbestos and lead wastes. The investigation and continued monitoring of these disposal areas are being managed by the Hazardous Sites Cleanup Act (HSCA) and the Waste Management programs of PADEP, respectively.

Plant operations divided the site into two sections, the Upper Mill Facility and the Lower Mill Facility. For ease of understanding, the site characterization uses the same site section designations.

Ownership

In 1998, Raymark notified PADEP that Raymark Industries filed for Chapter 11 bankruptcy. In December 2000, the Raymark property was purchased by Phoenix Group II, LLC, who planned to clean-up the site and re-develop it for industrial use. A Consent Order and Agreement was signed by Phoenix Group and PADEP on January 25th, 2001. Through this Consent Order, Phoenix Group agreed to implement the post-closure plan for the RCRA-regulated landfill and achieve an Act 2 standard, or combination of standards, for most of the remainder of the property. Final Reports under the Act 2 Program were submitted to PADEP in early 2003 for the Lower Mill and Upper Mill Facilities. PADEP approved the Report on the Lower Mill Facility on April 11, 2003, and on the Upper

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Mill Facility on August 7, 2003.

Upper Mill Facility

Site characterization and remediation began in May 2000. This involved underground storage tank closures as well as soil and groundwater investigations. Surface soil samples showed no contamination above health-based standards. The subsurface soil investigation showed a few hot spots of lead, asbestos and VOC contamination, however, these were widely scattered across the Upper Mill Facility: near a former underground tank, near Bldg 38, and near the Hostetter Road entrance. All other subsurface soil samples indicated no constituents above health-based standards.

A network of seven groundwater monitoring wells installed across the Upper Mill Facility were sampled for eight consecutive quarters, from 2000-2002. The samples were analyzed for VOCs, PAHs, and heavy metals. Only three samples slightly exceeded the standards set by EPA for drinking water quality; two in 2000 for cadmium, and one in 2002 for lead. All other results were below the drinking water quality standards.

The Final Report under the Act 2 Program was submitted to PADEP in early 2003 and was approved on August 7, 2003. The Raymark Industries Landfill is not included in the Act 2 characterization performed at the Upper Mill Facility. Capping and continued groundwater monitoring are managed under PADEP's Waste Management Program. Therefore, the Release of Liability granted by PADEP's Act 2 Program for the Upper Mill Facility does not include the Raymark Landfill.

Raymark Industries Landfill (aka Upper Mill Landfill)

The RCRA-regulated landfill is an unlined earthen landfill with few engineering controls. It operated from 1972 until 1989, and received and estimated 9,663 tons of asbestos and lead wastes each year. Some stormwater run-off controls and a 1-inch asphalt cover over part of the disposal area were added after 1977 to help reduce the environmental impact of the landfill. Groundwater contamination, attributable to the landfill was found in 1983. Subsequently, the groundwater was monitored for lead, sulfate and bicarbonate - groundwater quality parameters that were used as indicators of the impact of the landfill on groundwater.

Through a Consent Order and Agreement Phoenix Group (the new owner) implemented the post-closure plan for the landfill, with PADEP Waste Management Program oversight. The landfill was certified closed by PADEP on December 20, 2000. Periodic groundwater monitoring continues under the oversight of PADEP's Waste Management Program. The groundwater monitoring well network, consisting of eight wells, has shown a few sporadic hits of lead in one well, slightly exceeding the drinking water quality standard.

The sulfate level at the Landfill has shown small but fairly consistent exceedances in four wells. Sulfate is used as an indicator parameter and does not have a health-based standard. EPA has developed a secondary standard, which is based on aesthetic criteria, such as taste and smell, rather than health risks. Therefore, the elevated sulfate levels are not a health concern.

Lower Mill Facility

Site characterization and remediation began in May 2000. This involved underground storage tank closures as well as soil and groundwater investigations. Surface soil samples showed no contamination above health-based standards. The subsurface soil investigation showed two area with elevated levels of methylene chloride and one of acetone. All other subsurface soil samples indicated no constituents above health-based standards.

A network of seven groundwater monitoring wells installed across the Lower Mill Facility were sampled for eight consecutive quarters, from 2000-2002. The samples were analyzed for VOCs, PAHs, and heavy metals. Benzene and MTBE were detected at one well in 2000 at a level slightly above the drinking water quality standard. Another

well had elevated levels of benzene in 2002, PCE in 2000 and 2001, and TCE in 2001 and 2002. In 2000, one well slightly exceeded standards for cadmium. Another well in 2002 showed an elevated lead level.

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The surface water investigation, comparing upstream and downstream samples, showed that there is no contamination being released from the facility to either Doe Run Creek or Chiques Creek.

The Final Report under the Act 2 Program was submitted to PADEP in early 2003 and was approved on April 11, 2003. The Lower Mill Landfill is not included in the Act 2 characterization performed at the Lower Mill Facility. Capping and groundwater monitoring are managed under PADEP's HSCA Program. Therefore, the Release of Liability granted by PADEP's Act 2 Program for the Lower Mill Facility does not include the Lower Mill Landfill.

Former Hazardous Waste Landfill (aka Lower Mill Landfill)

The Lower Mill Landfill consists of lagoons that received soil-like scrubber sludge from the mill dust collectors. The lagoon accepted lead and asbestos waste from 1962 to 1973. At various times the material that accumulated in the lagoons was excavated, loaded onto railroad cars and taken to lead smelters for recycling. It is estimated that 700,000 cubic feet of hazardous waste was disposed of in this landfill.

In 2000, a characterization of the landfill was performed using ground-penetrating radar and test pits, as well as groundwater and surface water sampling. The results of the investigation show that the landfill materials extended onto adjacent Norfolk-Southern property. In addition, the groundwater and surface water investigation showed that no significant contamination has migrated from the landfill. Only slightly elevated levels of lead were found at one of the three groundwater wells.

In 2002, it was decided that the PA HSCA program would close the Lower Mill Landfill with a cap and stream erosion control. To date, excavation of the area of the landfill which extends into Norfolk Southern's railroad right-of-way has been completed. The material was placed on the existing landfill surface. The landfill has been capped with clay and contoured. Topsoil covering and seeding will take place in April 2005. The Doe Run Creek bank will be stabilized in May 2005, to prevent erosion which would compromise the landfill cap. The three groundwater wells will be sampled yearly to monitor water quality. The cap will be periodically inspected and maintained.

References:

Groundwater Monitoring Data for Raymark Landfill (Upper Mill) - PADEP Waste Management Program 1983-2004 Remedial Investigation Final Report for Upper Mill Area - PADEP Act 2 Program (2003), prepared by RT Environmental Services, Inc.
Remedial Investigation Final Report for Lower Mill Area - PADEP Act 2 Program (2003), prepared by RT Environmental Services, Inc.
Raymark Industries Lower Mill Landfill Summary Report, July 2001, prepared by RT Environmental Services, Inc.
Preliminary Assessment Report- Raymark Industries, Inc., July 15, 1987, prepared by GCA for EPA

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

Rationale:

Phoenix Group is using a combination of deed restrictions and engineering controls to eliminate exposure pathways to subsurface soils. Asphalt pavement, and slab on-grade building footprints are the primary engineered pathway elimination methods to be used. Inspections of the engineering controls will be conducted on a quarterly basis, with maintenance to be performed as soon as possible. The deed will contain restrictions for excavation and construction at the site, including prohibitions of activities at the landfills on the Upper and Lower Mill Facilities.

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Sampling has shown that contaminated groundwater is not leaving the site, therefore there is no exposure to the surrounding home and businesses. The deed restrictions will prohibit potable wells at the site, therefore eliminating exposure to the on-site groundwater.

References:

See References for Question 2.

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”**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.

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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):

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 Universal Friction Products, Inc. facility, EPA ID # PAD003015328, located at 123 Stiegel Street, Manheim, PA 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 4/4/05
(print) Linda A. Matyskiela 04/01/05
(title) Project Manager

Supervisor (signature) _____ /s/ _____ Date 4/4/05
(print) Paul Gotthold, Chief
(title) PA Operations Branch
(EPA Region or State) EPA Region III

Locations where References may be found:

RCRA Files:
Waste and Chemicals Management Division
1650 Arch Street
Philadelphia, PA 19103
215-814-3420

Act 2 Characterization Data:
PADEP South Central Regional Office
Environmental Clean-up Program
909 Elmerton Ave.
Harrisburg, PA 17110
717-705-4860

Contact telephone and e-mail numbers:

(name) Linda Matyskiela
(phone #) 215-814-3420
(e-mail) matyskiela.linda@epa.gov

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.

