

**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:** Maryland Environmental Services Hawkins Point Controlled Hazardous Substance Landfill  
**Facility Address:** 5501 Quarantine Road, Baltimore, MD 21226  
**Facility EPA ID #:** MDD 000 731 356

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**

The Maryland Environmental Services (MES) Hawkins Point Controlled Hazardous Substance (CHS) Landfill is located within the Curtis Bay Industrial Area adjacent to Thomas Cove, near the southern Baltimore City limits, at the Francis Scott Key Bridge. The Hawkins Point Landfill is owned by the Maryland Port Administration (MPA), has a total area of 67 acres, and is permitted by the MDE and the EPA. MES is the landfill permittee. The MPA obtained the 67-acre site in 1958 and developed it as a landfill for chrome-ore processing residue (COPR) from the former AlliedSignal, Inc. Baltimore Works Plant. In 1979, MES began operating the Hawkins Point Landfill for the MPA. The Hawkins Point property is divided into six areas; Areas 1, 2, 3, 4, 5, and 6, as described below:

**Area 1** - Area 1 is located outside of the fenced area of the Hawkins Point facility. There are no known wastes in Area 1. This area is the MPA's property, but is leased to EASTALCO Aluminum Company.

**Area 2 and Area 3** - From 1975 to 1979, COPR materials were disposed of in three clay-lined cells located in Areas 2 and 3. Areas 2 and 3 contain COPR cells, constructed by MPA, are managed by MES. Leachate generated from Areas 2 and 3 is managed by a leachate collection system constructed in the late 1970s and rehabilitated in 2002. The collected leachate is conveyed to an in-ground wet well and an aboveground storage tank respectively before being transported off-site by tanker truck for disposal at a permitted facility.

**Area 4** - Area 4 contained two temporary leachate holding lagoons during construction of Area 5. These temporary lagoons were lined basins used for storage of surface water collected during landfill construction. They were removed when landfill construction was completed in 1993. Area 4 has also been identified as a location where a "paint sludge" material was reportedly observed in a June 27, 1985 Assessment of Continuing Releases Report. This sludge storage area pre-dates landfill closure and there is no documentation indicating the status of the paint sludge. SWMU No. 4 is shown in Photograph 5 in Appendix A at the time of the 2010 RCRA Site Visit.

**Area 5** - Area 5 was used for the disposal of COPR and demolition debris from Allied Signal, Inc. (now Honeywell). Area 5 is comprised of 10 waste cells (numbered 1-3, and 5-11, there is no cell 4) containing COPR and chromium contaminated soil, trash, construction debris from demolition of the former Allied Signal Corporation, Baltimore Works Plant. MES operated Area 5 while it was active, from approximately 1980 to 1994.

In January 1983, MES began accepting COPR from the Baltimore Works facility owned by Allied Signal. In 1985, the Baltimore Works facility closed. As part of closure, portions of the Baltimore Works facility were dismantled, and yielded chromium contaminated debris consisting of structural beams, concrete, brick, asbestos, soil (up until May 8, 1980) and other chrome contaminated debris which was disposed in Area 5 until 1993. An estimated 451,450 tons of COPR and demolition materials were disposed of in Area 5.

**Area 6** - Area 6 is located outside of the fenced area of the Hawkins Point facility, but within the property boundaries. It was previously leased to the Cosmin Corporation, and this area is not currently being used. Area 6 was used for short-term storage of containerized ferrous sulfate by MES before being transported to other facilities. Additionally, a small-scale, limited duration pilot test for solid waste treatment was performed in Area 6 circa 1996. The pilot testing was performed within a contained area which was removed following the completion of the pilot testing activities.

In January 2004, MES requested that the NPDES Permit for Hawkins Point Landfill be discontinued because on-site leachate treatment had been discontinued. The MDE granted that request. Since that time, collected leachate has been stored in an aboveground storage tank and then transported to an off-site permitted disposal facility by a licensed waste hauler. The NPDES permit was replaced by a general discharge permit in 2004. The facility operates under Controlled Hazardous Substance (CHS) Permit A-264. The surrounding land use is primarily zoned for heavy industrial use. Some limited undeveloped parkland does exist as indicated. There are no residences within 1,000 feet of the facility boundary.

An April 2009 Operations and Maintenance (O&M) inspection indicated the facility is being operated and maintained in an acceptable manner which included groundwater sampling and other such activities.

#### **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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater		X		No evidence of releases to groundwater. Site and surrounding area are served by public water.
Air (indoors) <sup>2</sup>		X		No evidence of complaints or violations.
Surface Soil (e.g., <2 ft)		X		Two documented releases were cleaned up. The entire site is a capped landfill. No waste is handled or managed above ground.
Surface Water		X		No evidence of releases to surface water was found in files reviewed.
Sediment		X		No evidence of releases to sediment was found in files reviewed.
Subsurf. Soil (e.g., >2 ft)		X		Two documented releases were cleaned up. The entire site is a capped landfill. No waste is handled or managed above ground.
Air (outdoors)		X		No evidence of complaints or violations.

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):

**Groundwater** - Ten monitoring wells are sampled twice per year in the southern part of the facility. These wells are used to monitor the potential presence of constituents specified in the CHS permit in groundwater in Areas 2, and 3. These wells were rehabilitated approximately three years ago. According to facility representatives and review of the quarterly sampling reports, there have been no groundwater monitoring violations of the CHS permit. The only analytes detected have been due to naturally occurring contaminants. Seven monitoring wells are sampled quarterly (in quadruplicate) in Area 5. In 2008, statistical analysis yielded a result of a Statistically Significant Increase (SSI) in well 2d. Subsequent review of the result concluded that this SSI was an anomaly.

**Indoor and Outdoor Air** - The surrounding land is primarily zoned for heavy industrial use. Some limited undeveloped parkland exists nearby. There are no residences or recreational areas within 1,000 feet of the facility boundary. There are no known reported air releases or air concerns at the property. There are no exposure pathways for air releases or potential releases that pertain to air media because the site is a capped landfill that does not accept any waste or other such material.

**Surface/Subsurface Soil** - The site is surrounded by a 6-foot high barbed wire chain-link security fence. A total of 5 access gates are in place with one serving as the main entrance. The entire site is a capped landfill. No waste is handled or managed above ground. Two documented releases were cleaned up.

**Sediment/Surface Water** - Thomas Cove borders the property on the east. Surface water in the Hawkins Point area generally flows easterly, and discharge into Thomas Cove, on the western bank of the Patapsco River. Surface water flows are controlled primarily by channelization, ditches, and drainage piping as a result of development of the area. When the NPDES permit was discontinued, a general discharge permit was issued. The site operates under a general permit for three stormwater discharge points. No documentation was found indicating exceedances of permit requirements or releases to surface water.

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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)

<b><u>“Contaminated” Media</u></b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <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):

<sup>3</sup> 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):

<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):

