




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

**SUBJECT:** Eastman Specialties Corporation  
10380 Worton Road Chestertown, MD 21620  
EPA ID: MDD001890060

**DATE:** 01/05/2020

Long-term Stewardship Assessment

**FROM:** John Hopkins, Project Manager (3LD10) 

**TO:** Long Term Stewardship File for Eastman Specialties Corporation  
RCRA Corrective Action Branch 1 (3LD10)

**Remedy Review Summary:**

EPA's Final Decision and Response to Comments (FDRTC) dated May 17, 2017 requires Eastman Specialties Corporation, located at 10380 Worton Road Chestertown, MD, to implement the final remedy selected in the FDRTC which includes groundwater monitored natural attenuation and Institutional Controls (ICs). Eastman implemented ICs via an Uniform Environmental Covenants Act (UECA) environmental covenant recorded by the Circuit Court Clerk's Office of Kent County on 12/21/2018. The covenant implements groundwater use and residential land use restrictions as well as restrictions on new groundwater well installation and earth-moving activities. The covenant also requires that Eastman comply with the EPA-approved groundwater monitoring plan until groundwater standards have been attained for both bis (2-ethylhexyl) phthalate (BEHP) and toluene. EPA has determined that the property is in compliance with EPA's remedy decision/covenant restrictions. The property is ready for anticipated reuse.

**Document Review:**

The most recent satellite aerial image of the facility 2020 (Google Maps 2020) shows that property use has not changed since the FDRTC or recording of the environmental covenant. Materials management areas #1 and #2 contain approximately 2.88 acres and 3.06 acres respectively. The recent satellite aerial image does not show evidence of disturbance or earth-moving activities within either materials management areas.

As required by the monitored natural attenuation component of the final remedy, the current groundwater monitoring plan coincides with the facility's National Pollutant Discharge Elimination System (NPDES) permit groundwater sampling network and sampling frequency. Currently, fifteen monitoring wells are sampled on a semi-annual basis. Groundwater monitoring results are screened against the EPA Maximum Contaminant Levels (MCLs) for BEHP at 6 µg/L and toluene at 1000 µg/L. Groundwater at the site generally flows west south west (WSW) to east north east (ENE). Historical groundwater monitoring results show that BEHP and toluene contamination is limited in the vertical dimension by the upper confining unit. Monitoring wells at the facility are screened across the upper unconfined, surficial aquifer or the upper confined aquifer, known as the Monmoth Formation. Since January 2018, two monitoring wells (MW-12 and MW-19) have had MCL exceedances of BEHP, while one monitoring well (MW-12) has had MCL exceedances of toluene. Data from these well/constituent pairs from were analyzed using EPA's groundwater statistics tool. Results suggest that BEHP and toluene concentrations in



groundwater at MW-12 and MW-19 are stable with no trend. As a result, EPA has determined that the frequency of groundwater sampling is appropriate and shall continue in conjunction with the facility's National Pollutant Discharge Elimination System (NPDES) permit groundwater sampling requirements.

**Background:**

Eastman currently manufactures specialty esters, which are used as plasticizers used in building and construction, medical and consumer goods, at the Facility. Eastman's manufacturing processes consist of reacting benzoic acid, maleic anhydride or 2-ethylhexanoic acid with alcohols or glycols in the presence of a catalyst. Lehigh Chemical Company began operating at the Site in 1959. Monomeric and polymeric plasticizers used in colorants and coatings synthetic lubricating oils and greases, and synthetic lubricants were manufactured at the facility until 1998. Wastewater treatment was conducted in a series of five earthen impoundments until 1997. Currently, process wastewater is discharged to an onsite wastewater treatment system (WWTS), which includes physical separation, equalization, and biological treatment prior to surface water discharge.

The Facility consists of approximately 30 acres at the geographic coordinates 39° 15'46.0" North 76°05' 18.0" West, which is a relatively rural area. See Figure I for a USGS topographic quadrangle map for Betterton, Maryland which includes Chestertown. The Facility property is bounded by railroad tracks along the Facility's west property line. A wholesale petroleum supply store borders the Facility to the south and residential homes lie immediately to the north. Farmland lies directly to the east and west of the Facility property.

**Documents Reviewed:**

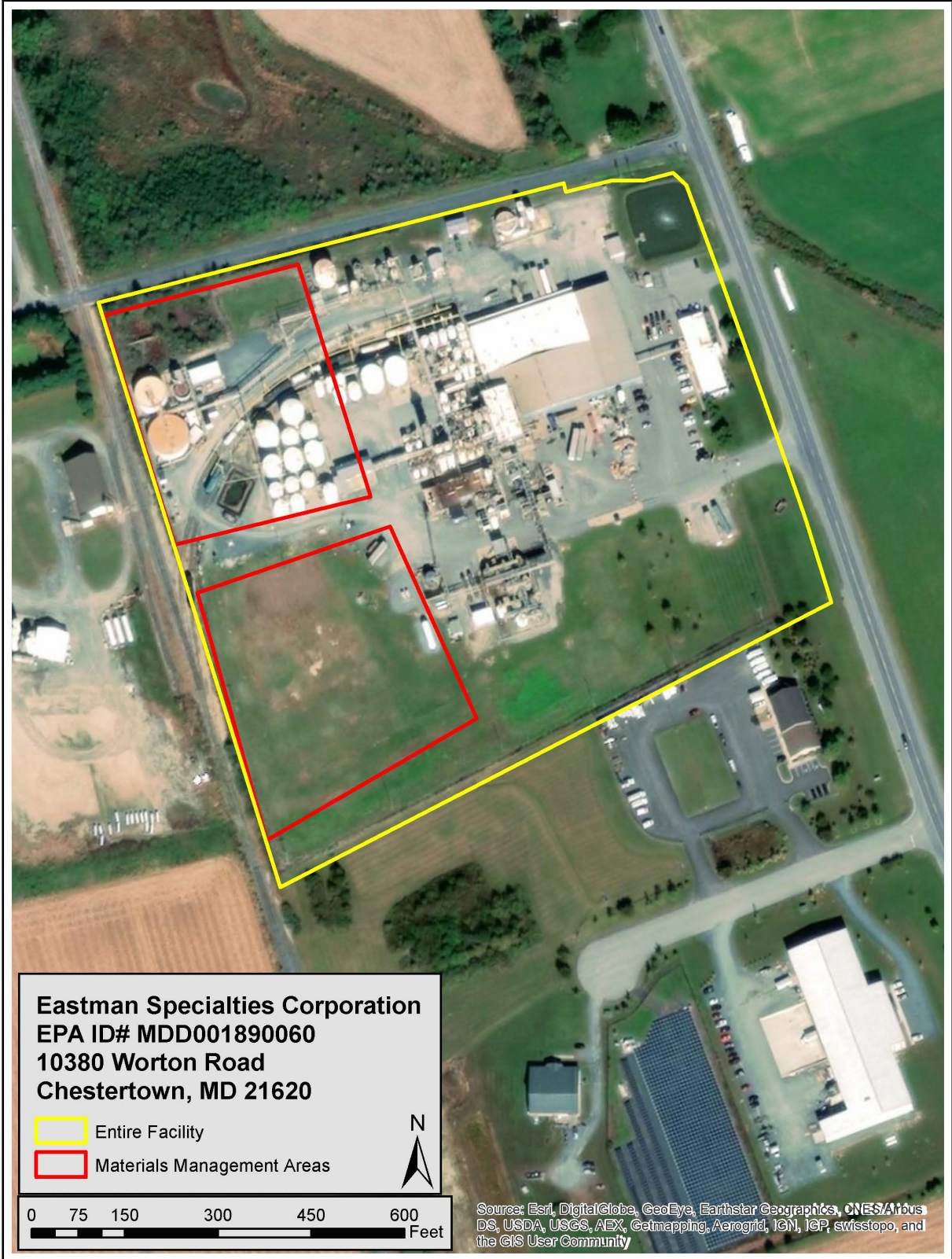
EPA Facility Fact Sheet, which includes: Statement of Basis dated April 13, 2017  
FDRTC dated May 17, 2017  
Environmental Covenant dated December 21, 2018  
Geospatial PDF Site Map

Materials Management Plan, EarthCon Consultants, Inc., dated June 11, 2018  
Semi-Annual Groundwater Sampling data from January 2018 through July 2020.

Satellite Imagery of Eastman Specialties facility in Chestertown, Maryland. Imagery ©2020 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data 2020. Accessed via Google Maps on 22 Dec. 2020







Institutional Control/Engineering Control  
 Corrective Action Remedy Summary

| Facility Name                                    | Eastman Specialties Corporation         |    |  |   |
|--|---|----|--|---|
| Address  | 10380 Worton Road Chestertown, MD 21620 |    |  |   |
| EPA ID Number                                    | MDD001890060                            |    |  |   |
| Are there restrictions or controls that address: | Yes                                     | No | Area(s)  | Description of restrictions, controls and mechanism   |
| Groundwater Use                                  | X                                       |    | Entire Facility  | With the exception of any groundwater monitoring activities, use of groundwater from the upper unconfined and upper confined aquifers beneath the Property is prohibited  |
| Residential Use                                  | X                                       |    | Entire Facility  | Use of the Property shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the Final Remedy and EPA provides prior written approval for such use.   |
| Excavation                                       | X                                       |    | Materials Management Restricted Area #1<br>Materials Management Restricted Area #2 | All earth moving activities, including excavation, drilling and construction activities in known contaminated areas at the Property, where any contaminants remain in soils above applicable EPA Region III's Screening Levels for Industrial Soils or remain in groundwater above applicable MCLs or, if no MCL exists for a contaminant, the applicable Region III's Tap Water RSL, shall be conducted in accordance with the EPA-approved Materials Management Plan, dated May 2018. |
| Vapor Intrusion                                  |   | X  |  |   |
| Capped Area(s)                                   |   | X  |  |   |
| Other Engineering Controls                       |   | X  |  |   |
| Other Restrictions                               | X                                       |    | Entire Facility  | No new wells shall be installed on the Property in the shallow overburden aquifer unless it is demonstrated to EPA in consultation with MDE, that such wells are necessary to implement the final remedy selected by EPA in the May 15, 2017 Final Decision and Response to Comments and EPA provides written approval to install such wells.   |

| <b><u>Activity and Use Limitation Review Questions:</u></b>  | <b><u>Yes</u></b> | <b><u>No</u></b> | <b><u>If Yes, Explain</u></b> |
|--|-------------------|------------------|-------------------------------|
| • With the exception of any groundwater monitoring activities, is groundwater from the upper unconfined and/or upper confined aquifers beneath the Eastman Specialties property used for any purpose?      |                   | No               |                               |
| • Have any new wells been installed on the Eastman Specialties property?   |                   | No               |                               |
| • Is the Eastman Specialties property used for residential purposes?   |                   | No               |                               |
| • Have there been recent earth moving activities, including excavation, drilling and construction activities or future plans for such within Materials Management Area #1 or Materials Management Area #2? |                   | No               |                               |

\* Compliance with Activity and Use Limitations confirmed with Eastman Specialties via e-mail on January 4, 2020.

Groundwater Statistics Tool: BEHP at MW-12

**Groundwater Statistics Tool**

Site & Summary Statistics for Nonparametric Data Sets with Normal Residuals

**General Information**

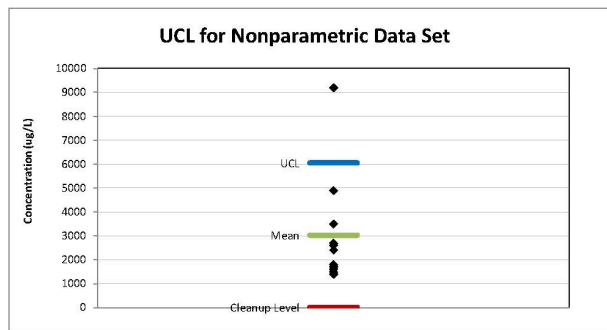
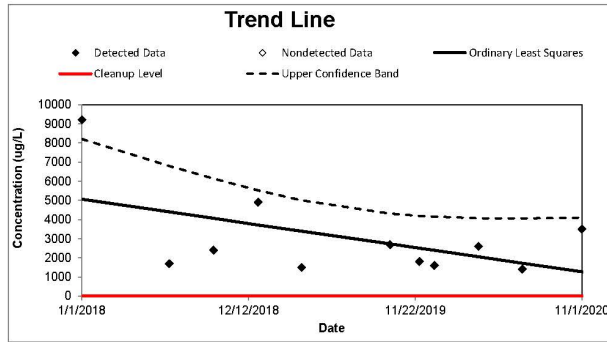
|                                 |                     |
|---------------------------------|---------------------|
| Analyst                         | JH                  |
| Date of Evaluation              | 12/22/2020          |
| Site Name                       | Eastman Specialties |
| Operable Unit                   | 0                   |
| Type of Evaluation              | Remediation         |
| Well Name/Number                | MW-12               |
| Chemical of Concern             | BEHP                |
| Concentration Units             | ug/L                |
| Cleanup Level                   | 6                   |
| Source of Cleanup Level         | MCL                 |
| Confidence Level                | 95%                 |
| Risk of False Outlier Rejection | 1%                  |
| Number of Results               | 11                  |
| Outliers present?               | Yes                 |
| Number of Non-Detects           | 0                   |

**Trend Analysis**

|  |                        |
|--|------------------------|
| Trend Type   | Normal                 |
| Method   | Ordinary Least Squares |
| Is the Upper Confidence Band above the cleanup level?        | Yes                    |
| Slope  | -3.66                  |
| Intercept  | 163000                 |
| R <sup>2</sup>   | 0.2885                 |
| Test Result  | No trend               |
| When concentration is predicted to achieve the cleanup level | 10/13/2021             |
| When concentration is predicted to exceed the cleanup level  | NA                     |

**UCL Analysis**

|  |               |
|--|---------------|
| Distribution Type                              | Nonparametric |
| Test   | Chebyshev UCL |
| Mean   | 3030          |
| 95% UCL  | 6050          |
| Is the 95% UCL greater than the cleanup level? | Yes           |



[Previous Step: Trend Screen](#)
[Previous Step: UCL Screen](#)
[Restart: Data Input Screen](#)

Groundwater Statistics Tool: BEHP at MW-19

**Groundwater Statistics Tool**

Site & Summary Statistics for Nonparametric Data Sets with Normal Residuals

**General Information**

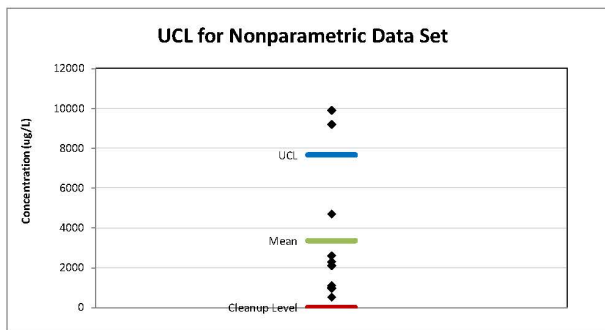
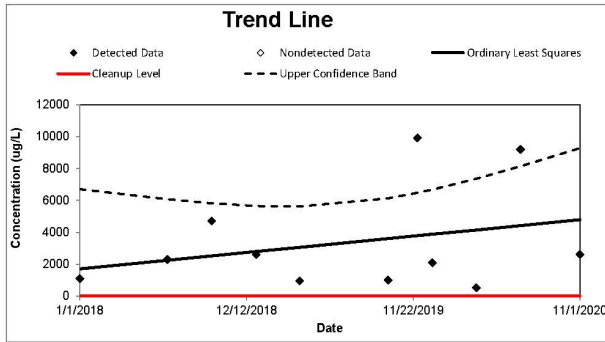
|                                 |                     |
|---------------------------------|---------------------|
| Analyst                         | JH                  |
| Date of Evaluation              | 12/22/2020          |
| Site Name                       | Eastman Specialties |
| Operable Unit                   | 0                   |
| Type of Evaluation              | Remediation         |
| Well Name/Number                | MW-19               |
| Chemical of Concern             | BEHP                |
| Concentration Units             | ug/L                |
| Cleanup Level                   | 6                   |
| Source of Cleanup Level         | MCL                 |
| Confidence Level                | 95%                 |
| Risk of False Outlier Rejection | 1%                  |
| Number of Results               | 11                  |
| Outliers present?               | No                  |
| Number of Non-Detects           | 0                   |

**Trend Analysis**

|  |                        |
|--|------------------------|
| Trend Type   | Normal                 |
| Method   | Ordinary Least Squares |
| Is the Upper Confidence Band above the cleanup level?        | Yes                    |
| Slope  | 2.97                   |
| Intercept  | -126000                |
| R <sup>2</sup>   | 0.0875                 |
| Test Result  | No trend               |
| When concentration is predicted to achieve the cleanup level | NA                     |
| When concentration is predicted to exceed the cleanup level  | NA                     |

**UCL Analysis**

|  |               |
|--|---------------|
| Distribution Type                              | Nonparametric |
| Test   | Chebyshev UCL |
| Mean   | 3360          |
| 95% UCL  | 7660          |
| Is the 95% UCL greater than the cleanup level? | Yes           |



[Previous Step: Trend Screen](#)
[Previous Step: UCL Screen](#)
[Restart: Data Input Screen](#)

# Groundwater Statistics Tool: Toluene at MW-12

## Groundwater Statistics Tool

Site & Summary Statistics for Nonparametric Data Sets with Normal Residuals

### General Information

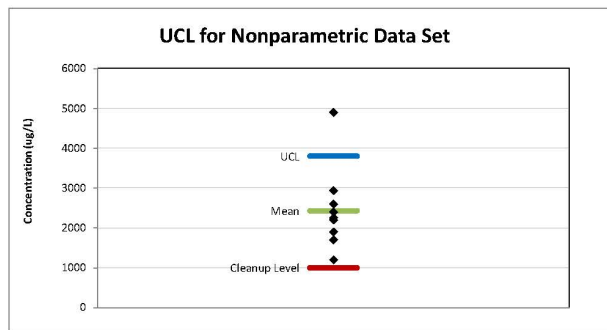
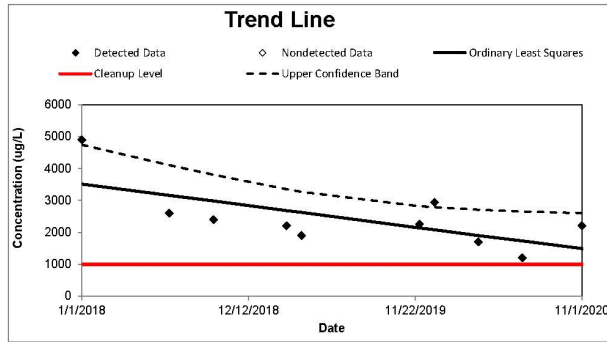
|                                 |                     |
|---------------------------------|---------------------|
| Analyst                         | JH                  |
| Date of Evaluation              | 12/22/2020          |
| Site Name                       | Eastman Specialties |
| Operable Unit                   | 0                   |
| Type of Evaluation              | Remediation         |
| Well Name/Number                | MW-12               |
| Chemical of Concern             | Toluene             |
| Concentration Units             | ug/L                |
| Cleanup Level                   | 1000                |
| Source of Cleanup Level         | MCL                 |
| Confidence Level                | 95%                 |
| Risk of False Outlier Rejection | 1%                  |
| Number of Results               | 10                  |
| Outliers present?               | Yes                 |
| Number of Non-Detects           | 0                   |

### Trend Analysis

|  |                        |
|--|------------------------|
| Trend Type   | Normal                 |
| Method   | Ordinary Least Squares |
| Is the Upper Confidence Band above the cleanup level?        | Yes                    |
| Slope  | -1.96                  |
| Intercept  | 87800                  |
| R <sup>2</sup>   | 0.4468                 |
| Test Result  | Decreasing             |
| When concentration is predicted to achieve the cleanup level | 7/7/2021               |
| When concentration is predicted to exceed the cleanup level  | NA                     |

### UCL Analysis

|  |               |
|--|---------------|
| Distribution Type                              | Nonparametric |
| Test   | Chebyshev UCL |
| Mean   | 2430          |
| 95% UCL  | 3800          |
| Is the 95% UCL greater than the cleanup level? | Yes           |



[Previous Step: Trend Screen](#)
[Previous Step: UCL Screen](#)
[Restart: Data Input Screen](#)