

**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**  
Interim Final 2/5/99  
**RCRA Corrective Action**  
**Environmental Indicator (EI) RCRIS code (CA750)**  
**Migration of Contaminated Groundwater Under Control**

**Facility Name: Chemtrade Solutions LLC**  
**Facility Address: 6300 Philadelphia Pike, Claymont, Delaware**  
**Facility EPA ID #: DED154576698**

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, 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 #8 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 "Migration of Contaminated Groundwater Under Control" EI**

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "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 "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

**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. Is **groundwater** known or reasonably suspected to be “**contaminated**”<sup>1</sup> above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

- If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.
- If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”
- If unknown - skip to #8 and enter “IN” status code.

**Rationale and Reference(s):**

The Honeywell Delaware Valley Works Facility, also known as the former General Chemical Facility, (Facility or DVW Facility) was a chemical manufacturing plant located along the Delaware-Pennsylvania border between Claymont, Delaware and Marcus Hook, Pennsylvania. The Facility consists of approximately one hundred acres divided by Philadelphia Pike (U.S. Route 13). The portion north of Philadelphia Pike is referred to as the “North Plant,” and the portion south of Philadelphia Pike, historically known as the “South Plant,” is further divided into northern and southern parcels. This EI is related to groundwater associated with the South Plant South Parcel (SPSP) only.

The Facility began operations in 1913. Over its history, the DVW Facility manufactured various chemical products including pesticides (dichlorodiphenyltrichloroethane [DDT] and dichlorodiphenyldichloroethane [DDD], collectively referred to as DDx), organic and inorganic acids, and specialty chemicals including boron trifluoride (BF<sub>3</sub>), a reaction catalyst used in a variety of process applications, and fluorosulfonic acid (FSA). Solid Waste Management Unit (SWMU) 9 is a former settling pond that encompasses 14.56 acres and is situated on the Delaware River. SWMU 9 was created by infilling marsh area and the near shore area of the Delaware River. Beginning in 1966, it was used for storage and dewatering of alum mud sludge. Alum mud was placed within containment berms and bulkheads, and water entrained in the mud was allowed to decant into the Delaware River. This practice continued into the 1980s, with air photos from 1982 and 1987 showing that SWMU 9 had reached its current configuration.

The following phases of groundwater investigation have been conducted at the South Plant which included investigations at the SPSP and SWMU 9:

- 2003 Phase I RFI;
- 2007 Phase II RFI;
- 2010 Pathway and Offshore Sediment Investigations; and
- 2016 Supplemental Pathway Investigation.

The 2003 Phase I RFI included sampling of 32 shallow groundwater monitoring wells (15 existing and 17 new) located in both the North and South Plants. The results of the initial phase of RFI groundwater characterization were documented in the “*Summary of Presentation Items, General Chemical Corporation, Delaware Valley Works Facility, Claymont, Delaware, November 11, 2003*”. Based upon review of the Phase I RFI results, a subsequent groundwater sampling effort was conducted under the 2007 Phase II RFI.

In 2010, a pathway investigation was conducted to assess the potential impacts of arsenic in groundwater on adjacent Delaware River water quality. To further assess possible cross-media migration of arsenic from soils to groundwater, and subsequently to the Delaware River, calculations (originally developed in 2004) were updated to assess concentrations of dissolved arsenic in monitoring wells. Based on the designated uses for the Delaware River, which are listed as primary contact recreation, secondary contact recreation, and fish, aquatic life, and wildlife under Title 7 Delaware Administrative Code 7401 § 3, the water quality criteria for protection of human health (fish and water ingestion) are not applicable because the designated uses for the Delaware River do not include use as a public water supply source. Accordingly, the relevant water quality standard for arsenic is the Saltwater Continuous Chronic Criterion of 36 µg/L (found in Title 7 Delaware Administrative Code 7401 § 4.5.9.3, Table 1). Based on this cross-media assessment, it was estimated that concentrations of dissolved arsenic migrating to the Delaware River from the diffuse discharge of groundwater from

beneath the South Plant will result in concentrations of arsenic in surface water that are two orders of magnitude below the relevant water quality standard of 36 µg/L.

During a 2010 offshore sediment investigation, groundwater samples were also collected from the monitoring wells along the Delaware River and analyzed for DDX, lead, and arsenic (dissolved and total). DDX concentrations were non-detect in all but one monitoring well, well MW-17; concentrations of 0.0165 micrograms per liter (µg/L) were observed in well MW-17. The total arsenic range in monitoring wells located on SWMU 9 was 9.9 µg/L to 9,690 µg/L. The dissolved arsenic range in monitoring wells located on SWMU 9 was non-detect to 5,070 µg/L. The total lead range in monitoring wells located on SWMU 9 was 4.4 µg/L to 56.4 µg/L. The dissolved lead range in monitoring wells located on SWMU 9 was non-detect to 1.2 µg/L.

The 2016 Additional Investigation included the installation of one groundwater monitoring well at SWMU 9. Groundwater samples were collected for arsenic speciation analysis and slug tests were performed to evaluate hydraulic conductivity at the Site.

The presence of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in groundwater at the South Plant appears to be localized and limited in extent. While certain VOCs and SVOCs were detected at concentrations exceeding corresponding Maximum Contaminant Levels (MCLs) or the EPA Region 3 Tap Water Risk-Based Concentrations (RBCs) in limited locations, VOCs and SVOCs (to the extent detected) were generally found at low concentrations. Chlorinated VOCs appear to be locally limited to the extreme northwest corner of the South Plant North Parcel near monitoring well MW-106. DDX compounds were present at three scattered locations and generally detected at concentrations of less than 1 microgram per liter (µg/L). Benzene hexachloride (BHC) compounds were locally present at six locations investigated; however, BHC compounds generally were present at only trace levels (less than 1 µg/L).

Dissolved arsenic, cadmium, chromium, copper, lead, nickel, thallium, vanadium, and zinc were detected at concentrations exceeding their respective MCLs in groundwater in the South Plant. With the exception of dissolved arsenic, all of the detected compounds exceeding screening levels were found to be localized and limited in extent. Dissolved arsenic was found in groundwater beneath several areas of the South Plant, including in groundwater near the Delaware River at the southern boundary of the South Plant.

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 appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

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3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?
- If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”<sup>2</sup>.
  - If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”<sup>2</sup>) – skip to #8 and enter “NO” status code, after providing an explanation.
  - If unknown - skip to #8 and enter “IN” status code.

**Rationale and Reference(s):**

Groundwater impacts due to dissolved VOCs, SVOCs, metals, and pesticides are present over portions of the Site. However, the RFI findings indicate that, with the exception of arsenic, the impact is not migrating off-Site; therefore, a Site-wide institutional control of a deed restriction and a uniform environmental covenant is recommended to:

- Limit future use of the property to non-residential;
- Require Site access controls;
- Require implementation of a formal OM&M plan; and
- Prohibit use of groundwater.

Groundwater impacts will be monitored long-term to verify that conditions are stable and to confirm that there are no unacceptable risks.

Exposure pathways are not complete due to the installation of a low permeability cap at the SPSP, including the compliance with a Cap Maintenance Plan and a Materials Management Plan, along with other land and groundwater use restrictions.

Based on a cross-media assessment, it was estimated that concentrations of dissolved arsenic migrating to the Delaware River from the diffuse discharge of groundwater from beneath the South Plant will result in concentrations of arsenic in surface water that are two orders of magnitude below the relevant water quality standard of 36 µg/L. Arsenic-impacted groundwater that has contaminated sediments in the Delaware River will be addressed through a sediment capping remedy.

<sup>2</sup> “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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4. Does “contaminated” groundwater **discharge** into **surface water** bodies?

- If yes - continue after identifying potentially affected surface water bodies.
- If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.
- If unknown - skip to #8 and enter “IN” status code.

**Rationale and Reference(s):**

The DVW plant is located upgradient of the Delaware River discharge boundary. The Delaware River, which is tidally influenced, flows from north to south forming the southern boundary of the property. Storm water from the DVW Facility is discharged into storm sewers that ultimately discharge to an on-site sluiceway. The sluiceway extends approximately 1,800 feet south through the South Plant and along the western perimeter of SWMU 9 to its outfall in the Delaware River.

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5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration<sup>3</sup> of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?
- If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting:  
1) the maximum known or reasonably suspected concentration<sub>3</sub> of key contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and  
2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.
- If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting:  
1) the maximum known or reasonably suspected concentration<sub>3</sub> of each contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and  
2) for any contaminants discharging into surface water in concentration<sub>3</sub> greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.
- If unknown - enter “IN” status code in #8.

**Rationale and Reference(s):**

A supplemental pathway investigation was conducted in 2016 to evaluate groundwater impacts and potential nearshore discharge in the southern portion of the Site. The purpose of the sampling and analysis was to collect data to assess the fate of arsenic in groundwater potentially discharging from the Site to the nearshore sediments of the Delaware River.

Results of the sampling for groundwater, porewater, and surface water were reported as follows:

- Dissolved arsenic concentrations in the sampled wells ranged from 1.15 to 154,000 µg/L. Total (unfiltered) arsenic concentrations were overall in reasonable agreement with dissolved concentrations in the sampled wells, indicating arsenic in groundwater is present in the dissolved phase. The highest groundwater dissolved arsenic concentrations were detected in monitoring wells immediately upgradient of the cove, including MW-108R, MW-119, and MW-120. Dissolved arsenic concentrations in groundwater within SWMU-9 (MW-16, MW-17, and MW-122) were generally low (less than 27 µg/L) and characterized by a greater proportion of As(V).
- Porewater dissolved arsenic concentrations ranged from 40 to 417,000 µg/L and were generally highest in the cove sampling locations. Arsenic in porewater consists predominantly of As(III), which typically accounts for more than 80% of the dissolved arsenic in any given sample, with minor to trace amounts of As(V). Methyl methacrylate and dimethylacetamide were not detected in porewater. At three of the four in-water sampling locations in the cove (DVW-16-01, -03, and -08), deep porewater dissolved arsenic concentrations were higher than concentrations in collocated shallow porewater. In one instance (DVW-16-03), the deep porewater dissolved arsenic concentration (417,000 µg/L) was also substantially greater than the highest upgradient groundwater concentration (154,000 µg/L). The 417,000 µg/L measurement may be due to arsenic deposition from above, but otherwise these results are consistent with the contribution of arsenic to sediments from groundwater discharge at these locations. The lower concentrations in shallow porewater compared to the deeper samples at most locations in the cove indicate dissolved arsenic is attenuated within the sediment. In contrast, at most of the porewater sampling locations offshore of SWMU-9 (DVW-16-04, DVW-16-05, DVW-16-06, DVW-16-07, DVW-16-08, DVW-16-09, and DVW-16-10), dissolved arsenic concentrations were much greater than those detected in the upland SWMU-9 wells. Deep porewater dissolved arsenic concentrations were also lower, by up to one to two

orders of magnitude, than those observed in the cove. Arsenic speciation in shallow porewater in this area was generally more than 90% As(III). The elevated porewater arsenic concentrations compared to upland groundwater and the predominance of reduced As(III) indicate porewater arsenic concentrations are influenced by the presence of arsenic in the local sediments and local redox conditions rather than by migration of upland groundwater.

- Total arsenic concentrations in surface water ranged between 3.45 and 19.5 µg/L, and dissolved arsenic concentrations ranged between 1.67 and 5.98 µg/L. All surface water concentrations were below the chronic water quality standard of 36 µg/L.
- Groundwater discharge as a source of elevated arsenic to sediments is limited to the nearshore in the cove area adjacent to the SPSP south of the sluiceway discharge. Elsewhere across the South Plant, and especially offshore of SWMU-9, arsenic concentrations in sediment and porewater reflect depositional patterns of particulates that entered the water column from surface sources or transport from the sluiceway.

<sup>3</sup> As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented<sup>4</sup>)?

- If yes - continue after either:
- 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater;
  - OR
  - 2) providing or referencing an interim-assessment<sup>5</sup>, appropriate to the potential for impact that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.
- If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.
- If unknown - skip to 8 and enter “IN” status code.

**Rationale and Reference(s):**

The EPA’s proposed remedy for SWMU 9 is to install and maintain a cover system (soil cap with marker fabric above the alum mud) that controls, minimizes, or eliminates post remedial action escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, to the extent necessary to protect human health and the environment. The cap shall be designed and constructed to prevent infiltration to mitigate potential cross-media migration (soil to groundwater) of COCs. The cap shall be functionally equivalent to the performance standards documented in 40 CFR Section 265.310.

The proposed shoreline (cove and SWMU 9) and nearshore sediment remedy consists of a multi-layer capping system consisting of an isolation layer, filter layer, and armor layer. A total of 12.4 acres of nearshore sediments would be capped including an approximately 10.2-acre on-site area and an approximately 2.2-acre off-site area (i.e., the supplemental study area). This off-site portion of the cap may extend east of the DVW Facility property adjacent to the Sunoco property. Additionally, approximately 1.8 acres of shoreline fronting the South Plant and SWMU 9 will be regraded, capped, and armored. The sediment cap will generally consist of a base isolation layer of sand overlying the existing sediment surface. An intermediate gravel filter layer has been designated for certain cap types, depending on the size of the overlying erosion protection armor stone for a given area where the cap is to be placed. The erosion protection armor layer varies across the cap types, depending upon the modeled erosive forces for certain areas and inclinations of the sediment surface. In areas where dissolved arsenic has the potential to migrate up through the cap, the capping systems will include a chemical isolation layer (e.g., zero valent iron amendment). It is currently estimated that the shoreline cap will be approximately 30 to 39-inches thick in the cove area and 33- to 42-inches for SMWU 9. It is currently estimated that the nearshore sediment cap thickness may range from approximately 18 to 66 inches thick, depending on the armor layer requirements.

These limits of impacted sediments were defined by delineation of COC concentrations to the established site-specific risk-based remediation goals and limits of the shallow nearshore environment. Arsenic and DDx have been delineated in the western and eastern portions of the study area, and to the limits of nearshore area defined by the pierhead line. This



delineated area consists of the shoreline banks of the cove area and the SWMU 9 parcel, which are separated by the Facility sluiceway and discharge conveyance.

The EPA is proposing the following land and groundwater use restrictions be implemented:

- The SPSP and SWMU 9 shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to EPA, in consultation with the Delaware Department of Natural Resources & Environmental Control (DNREC), that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the EPA, in consultation with DNREC, provides prior written approval for such use.
- All monitoring, maintenance and inspections of the SWMU 9 engineered cover system shall be conducted in compliance with an EPA/DNREC approved Cap Maintenance Plan.
- Groundwater at the Facility shall not be used for any purpose other than the operation, maintenance, and monitoring activities required by the EPA, unless it is demonstrated to the 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 the EPA provides prior written approval for such use.
- No new wells shall be installed on Facility property unless it is demonstrated to the EPA that such wells are necessary to implement the final remedy and the EPA provides prior written approval to install such wells.

<sup>4</sup> Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

<sup>5</sup> The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”
- If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations, which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”
  - If no - enter “NO” status code in #8.
  - If unknown - enter “IN” status code in #8.

**Rationale and Reference(s):**

Site-Wide Long-Term Monitoring will be conducted for the SPSP groundwater, including collecting periodic groundwater samples from the associated groundwater monitoring wells. The monitoring well array, sampling frequency, and analytical parameters will be provided to the EPA in an OM&M Plan.

A long-term monitoring and maintenance program for the shoreline and nearshore sediment cap will be developed to provide for the assessment of the integrity of the cap over time and provide for repairs as necessary.


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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

- YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the (insert facility and EPA ID #, located at (insert address)). Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
- NO - Unacceptable migration of contaminated groundwater is observed or expected.
- IN - More information is needed to make a determination.

Completed by \_\_\_\_\_  
Christine Kimak  
RCRA Project Manager

Date 04/22/2024

Supervisor  \_\_\_\_\_  
Moshood Oduwole  
RCRA Corrective Action West Section Chief  
EPA Region III

Date 04/22/2024

Locations where References may be found:

US EPA Region III  
Land, Chemicals and Redevelopment Division  
1600 JFK Boulevard  
Philadelphia, PA 19103

Virginia Department of Environmental Quality  
Office of Remediation Programs  
629 East Main Street  
Richmond, VA 23219

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