

**SEVENTH FIVE-YEAR REVIEW REPORT FOR
A.L. TAYLOR (VALLEY OF THE DRUMS) SUPERFUND SITE
BROOKS, BULLITT COUNTY, KENTUCKY**



September 2023

Prepared by

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LIST OF ABBREVIATIONS AND ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CD	Consent Degree
CFR	Code of Federal Regulations
COC	Contaminant of Concern
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
IC	Institutional Control
KDEP	Kentucky Department for Environmental Protection
MCL	Maximum Contaminant Level
µg/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
N/A	Not Applicable
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PCB	Polychlorinated Biphenyls
PAH	Poly Aromatic Hydrocarbons
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
RSL	Regional Screening Level
SSC	Superfund State Contract
SVOC	Semi Volatile Organic Compounds
TBC	To Be Considered
TCLP	Toxicity Characteristic Leaching Procedure
VOC	Volatile Organic Compounds
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii) and considering EPA policy.

This is the seventh FYR for the A. L. Taylor Superfund site (the Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances or pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE). The Site consists of one operable unit (OU-1) which addresses soil and groundwater contamination at the Site. This FYR Report addresses the entire Site.

The EPA remedial project manager (RPM) Yvonne Jones led the FYR. Participants included the EPA community involvement coordinator (CIC) Angela Miller, and the Kentucky Department for Environmental Protection (KDEP) project manager Larry Tackett. The review began on 5/2/2022.

Site Background

The A.L. Taylor site is a 23-acre site located on Letts Road, directly off Highway 1020, in Brooks, Bullitt County, Kentucky just south of the Jefferson County line (Figure 1). The Site has 17 acres of wooded, grassy areas and a 6-acre capped landfill enclosed by a security fence. Woods border the Site to the north and west. Several private rural residences and a golf course are located to the south and east of the Site. Wilson Creek is a small stream which runs along the eastern edge of the Site and flows northward into Pond Creek. Pond Creek eventually drains into the Salt River just before the Salt River's confluence with the Ohio River. The groundwater is not used as a potable supply and there is no plume or indication of a plume beneath any inhabitable structures. No projected land use changes were identified during this FYR. There are no immediate plans for the redevelopment of the Site.

The owner operated an unpermitted waste disposal and drum storage facility at the Site from 1967 until 1977. The exposed drums and hazardous materials buried at the Site leached contaminants into soil and groundwater. Surface water runoff carried the contamination towards Wilson Creek. KDEP became involved in 1975, when several complaints were received regarding multicolored chemical spills and an oily sheen in Wilson Creek. In 1979, the EPA responded to a surface water pollution emergency and began initial cleanup of the Site. During the emergency response actions, the EPA constructed a temporary runoff collection and treatment system and removed the drums from the Site. However, contaminated soils were left on site which needed a remedial action. The EPA conducted a remedial investigation/feasibility study (RI/FS) and placed the Site on National Priorities List (NPL). The remedial measures for the Site included installation of a clay cap, a perimeter drainage system, groundwater monitoring wells and a security fence. The Site was deleted from the NPL in 1996. The Site is currently not in use, but KDEP performs routine operation and maintenance (O&M).

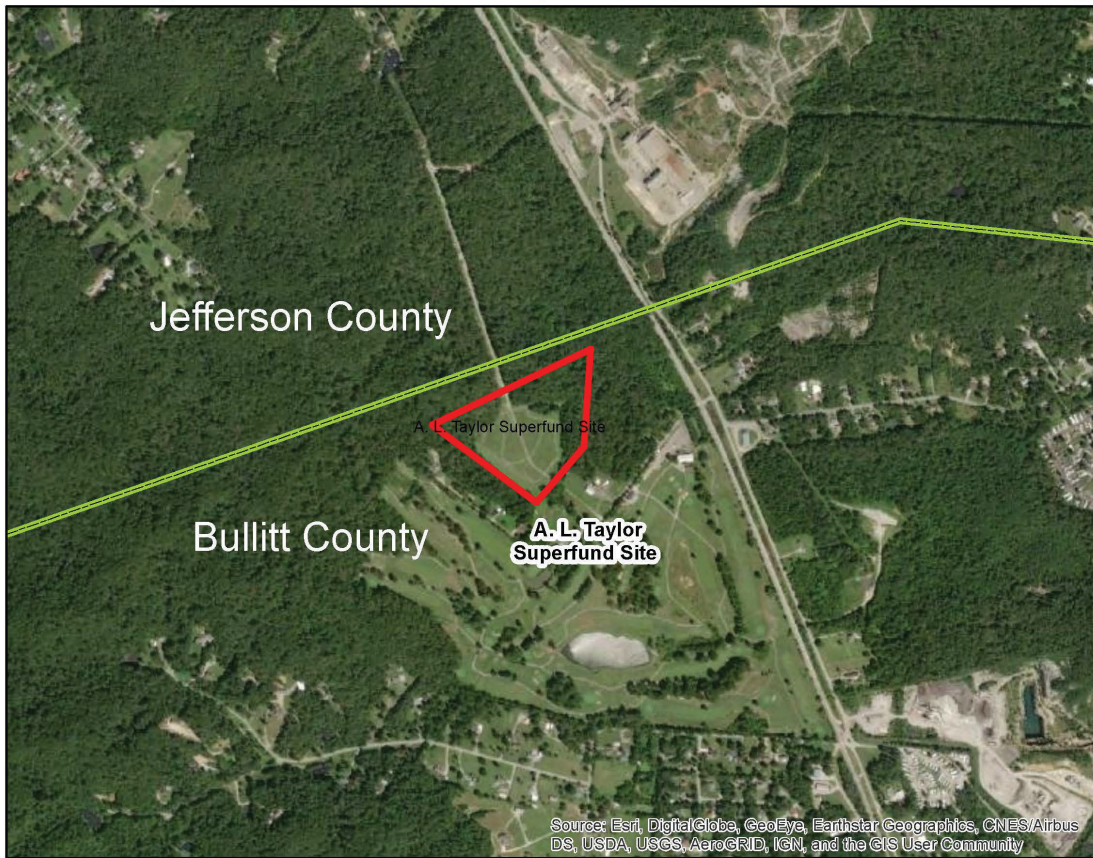
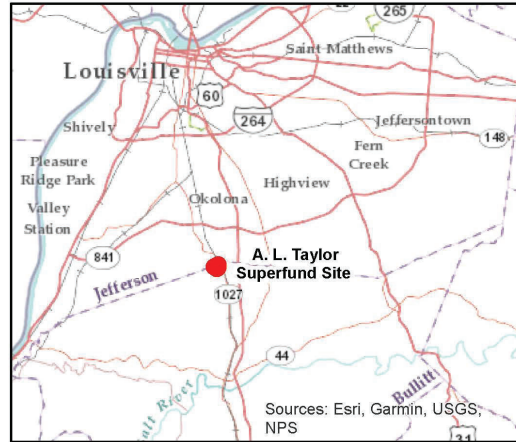
Appendix A includes documents reviewed as part of this FYR. Appendix B includes the EPA’s site status information. Appendix C provides the Site’s chronology of events.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: A. L. Taylor (Valley of the Drums)		
EPA ID: KYD980500961		
Region: 4	State: Kentucky	City/County: Brooks/Bullitt County
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? No	Has the Site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Yvonne Jones		
Author affiliation: EPA with support provided by KDEP		
Review period: 5/2/2022 - 8/30/2023		
Date of site inspection: 10/27/2022		
Type of review: Statutory		
Review number: 7		
Triggering action date: 9/26/2018		
Due date (five years after triggering action date): 9/26/2023		

Figure 1: Site Vicinity Map

A. L. Taylor Superfund Site Brooks, Bullitt County, Kentucky



Date: July 1, 2022

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

KDEP discovered the Site as early as 1967 when fire burning for a week at the Site was reported. The State identified the Site as a waste disposal site and informed the owner, Mr. Taylor that he could operate an approved sanitary landfill at the Site with proper permits. Mr. Taylor never applied for any permits and continued receiving and disposing waste illegally at the Site. The paint and coating industries of the Louisville area were the primary waste generators using the Site. Solvent waste from drums was dumped into excavated pits and burned off. The wastes were buried in trenches and thousands of drums were stored on the ground surface during later years of operation. These activities had greatly disturbed the surface features of the Site and resulted in substantial pollution of groundwater, surface water, soils and sediment. The Site caught the attention of KDEP again in 1975. This was the first time state officials documented releases of hazardous substances from the Site into nearby Wilson Creek. From 1979 till 1981, the EPA and KDEP conducted emergency removal actions to prevent further releases of oil and hazardous substances. However, a site inspection in 1981 revealed that deteriorating and leaking drums were still discharging contaminants into Wilson Creek. In 1982, erosion at the Site partially exposed a buried drum which indicated that contamination still existed in surface soils.

Between 1979 and 1984, numerous investigations were carried out and analytical data was collected to determine the extent of contamination. Over the course of these investigations, 140 contaminants were identified. The 1984 Feasibility Study Addendum and Endangerment Assessment identified the contaminants found most often and in highest concentrations. These contaminants included: xylene, phthalates, toluene, alkyl benzenes, methyl ethyl ketone, methylene chloride, acetone, anthracene, vinyl chloride, trans-1,2 dichloroethylene, fluoranthene and aliphatic acids. Polychlorinated Biphenyls (PCBs) were found in low concentrations in surface soils and sediments in Wilson Creek. Several metals, including barium, lead, zinc, copper, strontium, magnesium and chromium were detected in soils, surface water and groundwater in concentrations exceeding natural background levels for groundwater but were below National Drinking Water Standards.

The 1984 Feasibility Study Addendum and Endangerment Assessment also discussed human health risk scenarios and evaluated groundwater and surface water as potential routes of exposure to hazardous substances released from the Site. However, neither type of water source appeared to be a likely route of exposure to populations located downstream of surface water routes or downgradient of groundwater movement from the Site. There was little potential for exposure to contaminants in groundwater because most nearby properties were connected to the public water supply. Additionally, the aquifer produced low yields of poor water quality. Surface water, like groundwater was not considered a potential exposure route because it was not a source of drinking water for populations downstream of Wilson Creek. Recreational use of the streams leading from the Site was not documented. However, it was believed to be low or infrequent above the Ohio-Salt river confluence. Another factor limiting future human exposure risks was the limited population growth projected in the vicinity of the Site. Topographic features of the area surrounding the Site made it largely unsuitable for development. The principal environmental impact from the Site was considered to be the discharge of contaminated surface water runoff to Wilson Creek and subsequently downstream. However, the greatest risk of adverse health effects was present for persons entering the Site because of the ease of access to the Site and the high levels of organic chemicals and metals remaining in surface soil, runoff water and in burial

pits. Therefore, an effective remedial plan was warranted to mitigate potential adverse impacts on human health, welfare and environment.

Response Actions

At the request of KDEP, the EPA began the first emergency response action for the Site in 1979. Under the authority of Section 311 of the Clean Water Act, EPA prevented further releases of pollutants into nearby Wilson Creek by constructing interceptor trenches and a temporary water treatment system, securing leaking drums and segregating and organizing drums on site. Approximately 17,000 drums were reportedly stored on the ground surface at the Site. In 1980, KDEP contacted six responsible parties who identified and removed approximately 30 percent of the drums. In 1981, during a site inspection, it was discovered that the remaining drums were deteriorating and leaking contaminants. The EPA responded again under the emergency provisions of CERCLA. The existing treatment system was upgraded and the remaining 4,200 drums were removed. However, substantial amounts of waste remained buried on site. The EPA added the Site to the Superfund Program's NPL in 1983. In April 1986, the United States filed a cost recovery action pursuant to section 107 of CERCLA, Section 311 of the Clean Water Act and Section 7003 of the Resource Conservation and Recovery Act (RCRA) for emergency and other response costs incurred at the Site since 1979. Between 1981 and 1986, a RI/FS was conducted to evaluate the possible remedial alternatives for the Site. The RI/FS phase included site sampling, hydrogeologic studies, human risk assessment, remedial design, cost analysis etc. During this period, public meetings were held to discuss remedial alternatives. The alternatives were compared using evaluation criteria of reliability, implementability, RCRA conformance, environmental concern, and safety and O&M efforts. Following the RI/FS, EPA issued a Record of Decision (ROD) for the Site in 1986.

The remedial alternatives evaluated at the Site represented source control measures. The objectives of the remedial action broadly covered all routes of release, but focused on areas displaying the greatest potential for adverse effects on human health and the environment. The remedial action objectives (RAOs) discussed in the ROD include:

- The air quality will be protected by the control of emissions of particulate matter and toxic gases.
- The recreational users and biota of downstream surface waters will be protected from leachate and contaminated runoff.
- Groundwater contributions to surface water will be protected by reducing aquifer recharge.
- Local populations will be protected from direct contact with contaminated soils.

The ROD selected the onsite containment alternative as the final remedy for the Site. The selected remedy included:

- Removal of ponded water from the Site.
- Securing pond sediments, sludge and materials from low-lying areas beneath the cap.
- Installing final cap cover for containment of waste materials.
- Constructing a surface water drainage diversion to route surface water around the cap area and accommodate a 25-year/24-hour storm.
- Implementing a performance-monitoring program on Wilson Creek (the only potential receptor of chemical migration) to evaluate the effectiveness of the clay cap in mitigating surface contaminant migration.

- Monitoring groundwater quality using eight newly installed nested wells placed along the creek valley at four locations, to monitor both the shallow and the deeper groundwaters. In addition, these wells would provide an early warning of any contaminant migration toward Wilson Creek via groundwater.
- Following the completion of the remedial construction, securing the Site with the installation of a six-foot-high chain link fence with appropriate gates.
- Conducting regular inspection and maintenance program for a period of 30 years following completion of remedial construction.
- The cover would consist of a 30-inch thick layer of clay to attain a permeability of 1×10^{-7} cm/sec. followed by an 18-inch layer of material with a permeability between 10^{-3} and 10^{-5} cm/sec. A 6-inch layer of topsoil would be placed as final cover and vegetated with cover plants having root systems that would stabilize the topsoil and loam against erosion without penetrating the clay material of the cap.

The ROD did not discuss institutional controls (ICs) as part of the remedy. The ROD listed the contaminants found most often and in highest concentrations at the Site but did not specify any contaminants of concern (COCs) or any cleanup levels associated with the COCs. However, monitoring of groundwater and surface water was required. Air quality monitoring also occurred until the cap was placed over the landfill. No airborne contaminants were detected during monitoring. The 1986 Performance Monitoring plan and final O&M plan developed in May 1988 and revised in November 1989 provides details regarding the groundwater and surface water monitoring at the Site. For the first three years after remedy implementation, groundwater sampling was to occur quarterly. Between the years 4 and 30, the groundwater was to be sampled annually. Following the 2018 FYR sampling was limited to biennial.

The ROD also required a performance monitoring program for Wilson Creek. The monitoring program functions to ensure the effectiveness of the cap in mitigating the migration of contaminants into Wilson Creek. The monitoring plan requires two surface water samples from Wilson Creek following the same sampling schedule as the groundwater. If there is not sufficient surface water available for analysis, sediment samples are required instead. Sampling should occur upstream of any runoff or shallow seepage from the landfill and downstream of any area providing surface runoff to Wilson Creek. The final O&M plan presented a list of contaminants, including Volatile Organic Compounds (VOCs), other organic compounds and PCBs, for analysis during groundwater and surface water monitoring. Monitoring includes these contaminants because the RI/FS initially identified these compounds as high priority pollutants. Table 1 lists these contaminants.

Table 1: Parameters for Groundwater and Surface Water Monitoring

Volatile Organic Compounds (VOCs)	Other Organic Compounds	Polychlorinated Biphenyls (PCBs)
Chloroethane	Naphthalene	PCB- 1242
1, 1-dichloroethane	Phthalates	PCB - 1248
1, 1-dichloroethylene	Anthracene	PCB – 1254
Toluene	3, 3-dichlorobenzidine	PCB - 1260
Ethylbenzene	Fluorene	
Benzene	Hexachlorobenzene	
1, 1, 1-trichloroethane	Phenanthrene	
Vinyl Chloride	Pentachlorophenol	
Xylene	Phenol	

Volatile Organic Compounds (VOCs)	Other Organic Compounds	Polychlorinated Biphenyls (PCBs)
Trichloroethylene	Isophorone	
Tetrachloroethylene	Acenaphthene	
1, 2-trans-dichloroethulene	Pyrene	

Status of Implementation

Remedial design for the Site began in May 1986 and focused on designing components for the onsite containment remedy. The active contaminant migration pathway at the Site was determined to be by surface water runoff coming into contact with contaminated soils. A landfill cap was proposed as a method of containing waste materials and preventing contact between surface water and waste. Remedial action activities began at the Site on April 20, 1987. Remedial measures included installation of a clay cap, a perimeter drainage system, groundwater monitoring wells and security fence. Activities prior to the installation of the cap included clearing the vegetation and structures from the Site and draining the contents of a runoff control pond built by the EPA in 1981 during the initial emergency response actions. Pond sediments were stabilized and the pond was refilled with water. Areas with suspected buried waste which were outside of the intended cap were excavated and any waste found was reburied in the cap area. Site borrow material was used in all depressions and low spots to prepare the Site for capping. The cap consisted of an impervious layer with a minimum of 36 inches of clay, an 18- inch pervious drainage layer (gravel), and a 12- inch topsoil layer with grass vegetative cover. Perimeter surface diversion ditches were constructed around the cap primarily to reduce erosion of the cap by runoff. The ditches were lined with riprap, seeded with a mixture of grasses and mulched with straw. Two culverts were installed at the northern and southern ends of the Site under the main access road. Construction of the cap and drainage ditches was completed in July 1987. A six-foot high chain link security fence with appropriate gates was installed outside the cap area in an effort to limit unauthorized entry onto the Site. The security fence encloses approximately six acres of the Site. The remaining 17 acres is a wooded and grassy area. Twelve groundwater monitoring wells were placed around the landfill to detect movement if any, of contaminants migrating offsite towards Wilson Creek.

Reseeding and regrading was performed around the cap in the fall of 1988 due to erosion problems. Larger drainage ditches and culverts were constructed to withstand a 25-year/24-hour rainfall. Remedial construction was officially completed in March 1989 and a close out report was published on August 10, 1990.

The EPA performed O&M activities from September 1988 through February 1990. In July 1989, the EPA and KDEP signed the Superfund State Contract (SSC) for O&M activities. The contract stated that KDEP would perform the Site's O&M activities and identified the specific responsibilities of both agencies. The EPA and site PRPs signed a Consent Decree (CD) in October 1991. In the CD, the PRPs agreed to repay costs incurred by the EPA during the initial response actions to clean up the Site. The PRPs also agreed to provide funding to perform monitoring and O&M activities at the Site. The Superfund State Contract required that the EPA provide KDEP with this funding from the PRPs to conduct O&M activities as needed. However, the contract required that KDEP provide all necessary personnel, equipment and services to carry out required O&M activities. In May 1996, the EPA deleted the Site from the NPL. This deletion does not preclude future action under Superfund.

As a matter of the EPA's policy, a review of the Site has been conducted at least every five years after the initiation of the remedial action at the Site to ensure that the remedy remains protective of human

health and the environment. The First FYR report was published in 1992 and subsequent FYRs have been published since.

During a site inspection in 2007, the EPA found drum carcasses and hardened paint sludge resembling rocks at various locations near Wilson Creek. The investigations of the paint sludge began in 2010 continuing into 2011 which included identifying the areas containing paint waste, soil and sediment sampling and waste characterization. The paint waste was found to be non-hazardous and was cleaned up in March 2017 by KDEP.

An updated SSC and O&M plan was signed in November of 2020.

Institutional Controls

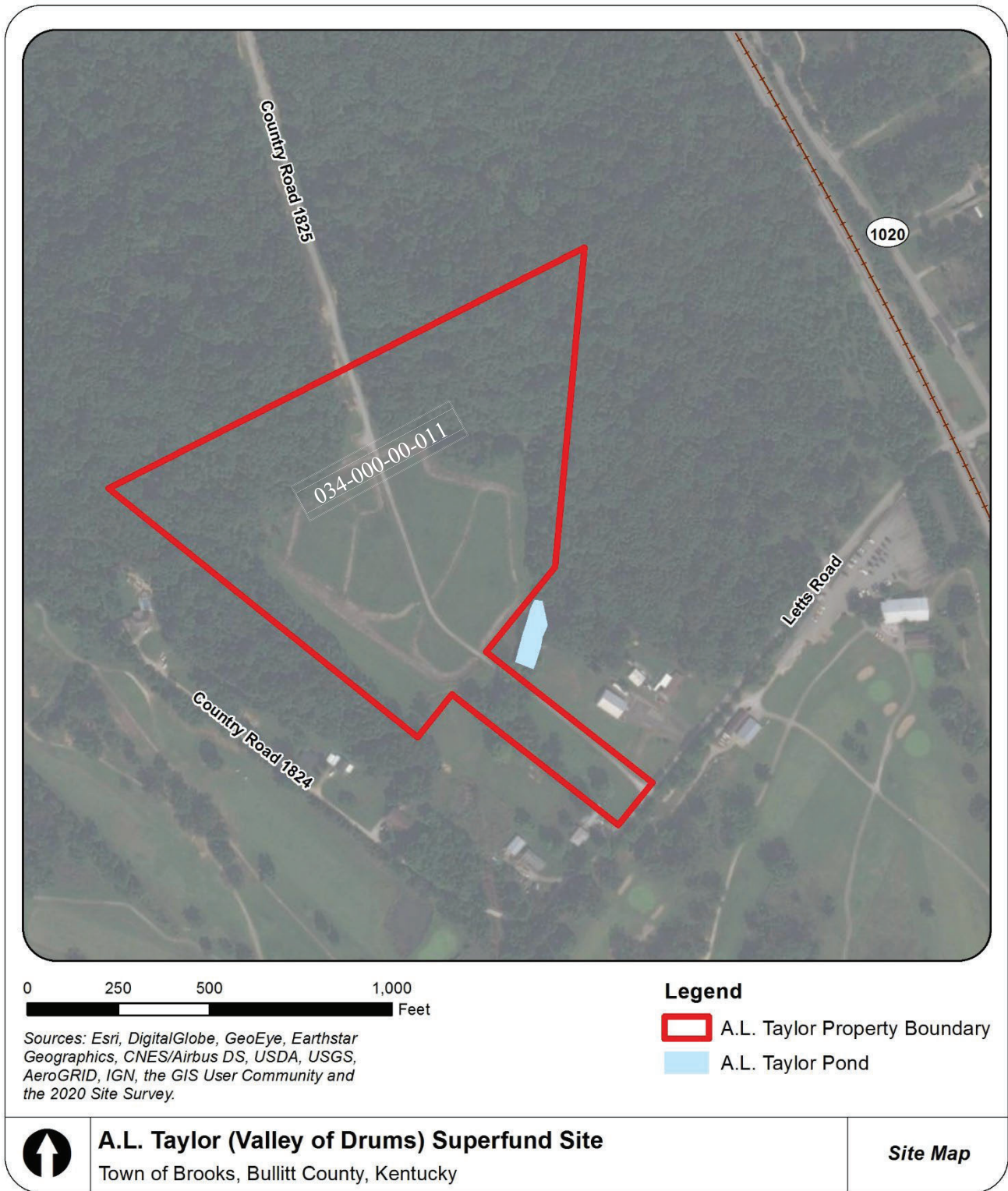
The ROD did not call for ICs. There are no restrictions in place to protect the integrity of the remedy and prevent exposure to contaminated groundwater at the Site. According to the ROD, groundwater is not a source of drinking water near the Site because the aquifers produce low yields of poor quality. The residences and businesses near the Site obtain their drinking water from the public water supply. Options for ICs restricting groundwater and land use at the Site need to be evaluated to ensure that future use will remain protective of human health and the environment.

Table 2 lists the potential ICs associated with the Site. Figure 2 shows the area of interest.

Table 2: Summary of Planned Institutional Controls (ICs)

Medium that Does Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date
Soil	Yes	No	034-000-00-011	Restrict inappropriate land use	N/A
Groundwater	Yes	No	034-000-00-011	Restrict use of groundwater	N/A

Figure 2: Institutional Controls Map



Systems Operations/Operation & Maintenance (O&M)

The Site's final O&M plan was developed in May 1988 and revised in November 1989. The plan was updated again in November 2020 in conjunction with the renewal of the SSC. There are no active remedial treatment systems installed at the Site. Primary O&M activities currently being conducted are:

- Performing periodic field observations throughout each year.
- Observing the topsoil and grass cover regularly identifying potential erosional areas.
- Conducting regular observations including topographic surveys for settlement of the cover and the landfill.
- Inspecting the cap and surrounding area for leachate seepage.
- Ensuring adequate growth of grass cover to prevent erosion.
- Performing regular observations for areas with ponded water.
- Regularly mowing the cover and areas adjacent to the riprap slopes, monitoring wells, access roads, ash seepage barrier and security fences.
- Inspecting and maintaining the perimeter drainage system including control of vegetation in the ditch to ensure proper functioning.
- Checking if monitoring wells, security fence, access road are maintained properly.
- Sampling and analysis of groundwater from the monitoring wells to check water quality.
- Sampling and analysis of surface water upstream and downstream of any areas contributing to Wilson Creek.

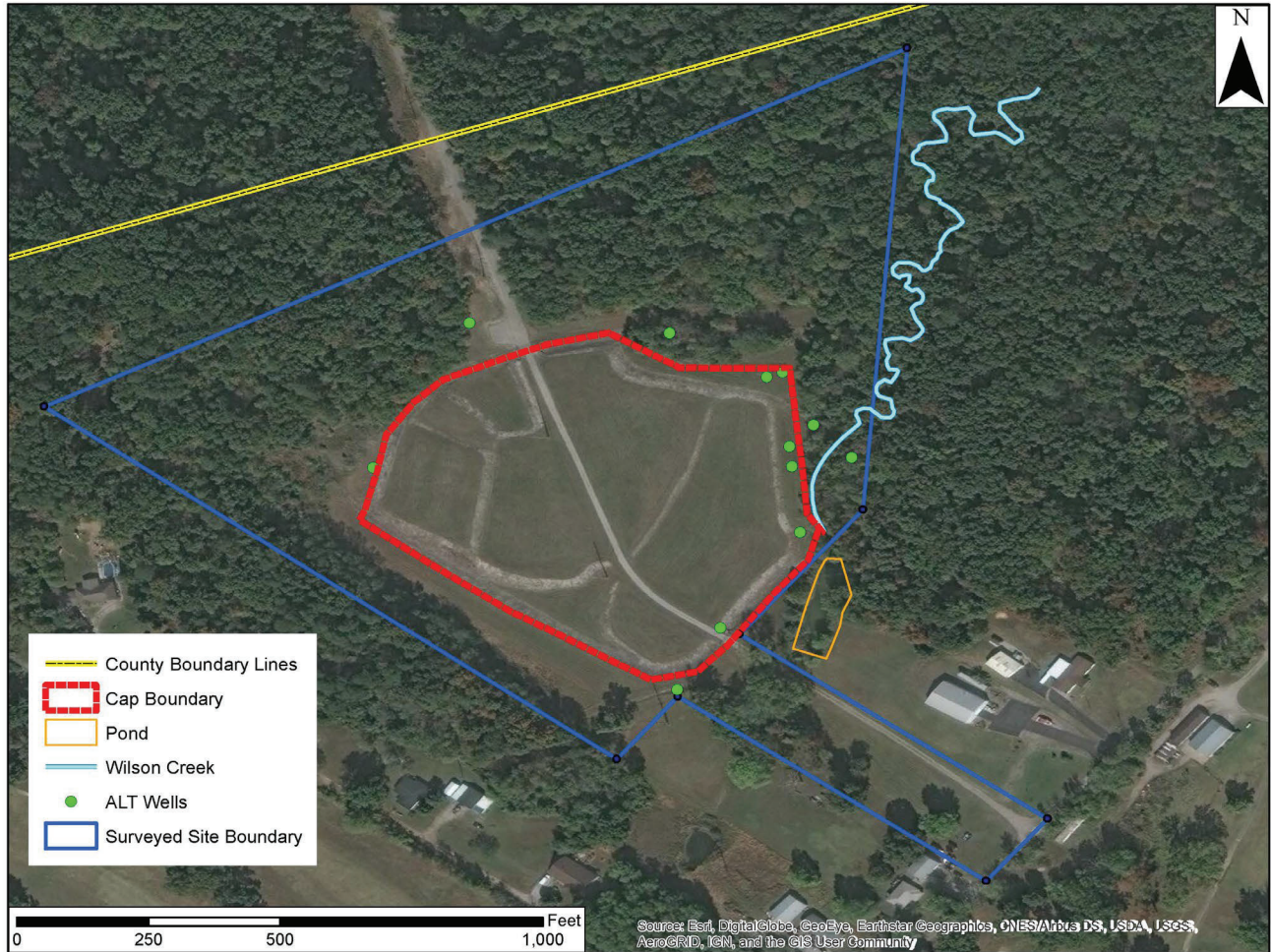
KDEP preforms the O&M activities at the Site. Records of the O&M activities are documented and reported to the EPA annually. Maintenance of the cap and surrounding grassy areas was performed by an outside contractor through winter 2019. KDEP began preforming the upkeep in spring of 2020. Maintenance includes mowing, fence repair, applying herbicide to the fence and drop-down channels, and removal of any fallen trees. KDEP representatives in conjunction with the periodic field observations preform a survey of Wilson Creek at least once a year to note any contaminants leaving the Site or in Wilson Creek.

During the fall 2020 mowing activities, monitoring well ALT-8 was damaged and had to be repaired. The repairs were performed by a private contractor and included removing the damaged above ground components and retrofitting the well into a flush mount configuration.

In May 2018, EPA and KDEP completed a title search of the Site's property and surrounding properties in preparation of implementing ICs on the Site. KDEP completed a survey of the Site's property boundary in March 2020. The survey was completed to verify the ownership of a pond located adjacent to the capped area and to prepare for implementation of the ICs. Figure 3 shows the surveyed perimeter of the property, the adjacent pond, and Site details.

Figure 3: Site Survey 2020

A.L. Taylor Property Boundary 2020



Disclaimer: This map and any boundary lines within the map are approximate and subject to change.

Annual groundwater sampling activities were reduced to biennial after the 2018 FYR. KDEP collected samples in October 2019. All twelve groundwater monitoring wells were purged and sampled using low flow sampling methodology. Surface water and sediment samples were collected at Wilson Creek during the sampling event. Due to the inclusive results of the sediment samples taken at Wilson Creek, a second set of samples were collected in January 2020. The October 2019 samples were sent to Microbac Laboratories, Inc. and the January 2020 samples were sent to the Kentucky State Lab. No other sampling events took place during the current FYR period.

Table 3 presents the annual O&M costs incurred during the current FYR period. These costs represent the total O&M funds used during a calendar year. The higher costs in 2018 and 2020 are associated with the property boundary survey of the Site, title search and the sampling events that took place during those years in addition to the routine O&M activities.

Table 3: O&M Costs Over the FYR Period

Date Range	Total Cost
2018	\$28,286.07
2019	\$14,279.87
2020	\$48,331.24
2021	\$16,890.50
2022	\$7,100.00

III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determinations and statements from the previous FYR as well as the recommendations from the previous FYR and the status of those recommendations.

Table 4: Protectiveness Determinations/Statements from the 2018 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
Sitewide	Short-term Protective	The remedy at the Site currently protects human health and the environment in the short term due to regular O&M and the landfill cap being in good condition. However, for the remedy to be protective in the long term, the following actions should be taken: implement measures to avoid ponding near the southeastern portion of the Site and improve drainage towards Wilson Creek; conduct additional investigation of Wilson Creek to determine source of PCBs; modify the decision document to include ICs, and implement ICs to restrict groundwater and land use at the Site.

Table 5: Status of Recommendations from the 2018 FYR Report

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
Sitewide	The ponding of water in the southeastern portion of the cap has reached problematic levels. It was noted that the area became flooded during heavy rains. The drainage ditch does not have enough riprap to manage the runoff.	Implement proper measures to address ponding.	Ongoing	KDEP has routinely conducted O&M activities since the last FYR. During these activities no ponding was observed. Plans to mitigate the ponding issue are under discussion between EPA and KDEP.	N/A

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
Sitewide	The dried paint waste and drum carcasses along the banks of Wilson Creek were cleaned up in January 2017, but the sediment samples collected in December 2017 showed that PCBs continue to exist in the creek.	Investigate the source of PCB contamination in Wilson Creek	Ongoing	The 2019 sampling event showed elevated levels of contaminants in the sediment of Wilson Creek. Further investigation is needed.	N/A
Sitewide	Institutional controls restricting groundwater and land use were not required by the ROD but are necessary to ensure the Site remains protective.	Modify the decision document to include ICs and implement institutional controls for groundwater and land use restrictions.	Ongoing	EPA and KDEP are under discussion to establish ICs on the Site.	N/A

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

The EPA issued an online news release on October 19, 2022, to announce that the FYR was underway. The news release is available online at <https://www.epa.gov/newsreleases/epa-review-cleanups-45-southeast-superfund-sites> and a copy is included in Appendix D. No one contacted the EPA or KDEP as a result of the advertisement. The results of the review and the completed FYR Report will be made available on the EPA’s site profile page: <https://www.epa.gov/superfund/al-taylor-valley-of-drums>.

Data Review

As per the requirements in the ROD, groundwater, surface water and/or sediments are monitored routinely. KDEP collected groundwater, surface water and sediment samples in October 2019. Due to the results of the sediment samples a second round of sediment samples were collected in January 2020. The sampling data was reviewed to determine if a pattern or trends of exceedances within certain media exist. The ROD did not establish any COCs, or any cleanup levels associated with the COCs such as Applicable or Relevant and Appropriate Requirements (ARARs). Therefore, To Be Considered (TBCs) criteria was used to compare the results. The ARARs review can be found in Appendix G. Data tables from KDEP’s sampling events are presented and summarized below. Data tables from KDEP’s sampling events are presented and summarized below.

Groundwater

Groundwater samples were collected from existing monitoring wells, ALT-1 through ALT-12 in October 2019. The October 2019 data was compared to the data collected in December 2017. Figure 3

includes the monitoring well locations. The samples were analyzed for metals, VOCs, Semi-volatile Organic Compounds (SVOCs), Pesticides and PCBs.

Figure 4: Monitoring Well Sampling Locations



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

The 2019 results were compared to the Maximum Contaminant Levels (MCLs). In the absence of MCLs, comparison was made with tap water Regional Screening Levels (RSLs). Chemical concentrations above the RSL would not automatically trigger a response action; however, exceeding a RSL suggests further evaluation of the potential risks by site contaminants may be appropriate. The analysis of the groundwater data from the sampling events indicates SVOCs, PCBs and pesticides were not detected in any of the events. Among metals, barium was detected in most wells but was below the MCL of 2,000 µg/L. Chromium was detected in a few wells but in trace amounts. No metals exceeded their MCLs. Arsenic did exceed the RSL of 0.052 micrograms per liter (µg/L), in wells ALT-1, ALT-6, and ALT-10 during the 2019 sampling event. The concentrations detected in ALT-1, ALT-6, and ALT-10 were 6.5 µg/L, 6.9 µg/L, and 5.4 µg/L respectively. The MCL for Arsenic is 10 µg/L. The VOC, cis-1,2-dichloroethene was detected in well ALT- 6 at 120 µg/L. The MCL for cis-1,2-dichloroethene is 70 µg/L. The VOC, 1,1-dichloroethane was detected in well ALT- 9 at 9.5 µg/L. The RSL for 1,1-dichloroethane is 2.8 µg/L.

Comparing the 2017 and the 2019 sampling data, certain contaminants see a slight increase in concentrations while others see a decrease. Most of the contaminants see little or no change between sampling events. Calcium, magnesium, and cis-1,2-dichloroethene see the largest changes. See Tables 6 and 7 for groundwater sampling results.

Surface Water

Two surface water samples were collected in Wilson Creek, one downstream and one upstream during the sampling event in October 2019. Sampling Point 1 was located upstream, and Sampling Point 2 was located downstream. Only metals were detected in surface water, but the concentrations were well below the regulatory limits. The only exception being arsenic in sampling point 1 which was detected at 0.500 µg/L. The RSL is 0.052 µg/L. The MCL is 10 µg/L. See Table 8 for surface water sampling results.

Sediment

KDEP collected two sediment samples at the same location where surface water samples were collected in Wilson Creek in 2019. The results were compared to the most recent regional screening levels for residential and industrial soils and Region 4 Ecological Screening Values for Sediments. The contaminants detected were metals, polycyclic aromatic hydrocarbons (PAHs), and PCBs. During 2019, metals were detected in all sediment samples, barium and zinc were above the ecological screening values, and present in both samples. The chromium concentration of 80 mg/kg exceeded the ecological screening value of 43.4 mg/kg in one sample. Bis (2-ethylhexyl) phthalate, fluoranthene, and pyrene were detected in the downstream sample, but the estimated values were lower than the ecological screening values.

In 2019, the Aroclor 1254 concentration of 13 mg/kg exceeded the screening levels for both residential (0.24 mg/kg) and industrial (0.97 mg/kg) soil. Aroclor 1260 was present but below all screening levels. Due to the Aroclor 1254 2019 results, an additional sampling event was performed in 2020. The Aroclor 1254 concentration of 1.12 mg/kg slightly exceeded the screening levels for both residential (0.24 mg/kg) and industrial (0.97 mg/kg) soil. KDEP discussed this issue with EPA personnel, and it was determined the levels did not warrant sediment removal, but long-term monitoring should continue. See Table 9 for sediment sampling results.

Table 6: Summary of Detected Constituents in Groundwater Monitoring Wells ALT 1-ALT 6

Constituent	RSL	MCL	ALT-1		ALT-2		ALT-3		ALT-4		ALT-5		ALT-6	
			2017	2019	2017	2019	2017	2019	2017	2019	2017	2019	2017	2019
Metals														
Arsenic	0.052	10	<10	6.7	<1	<5	<5	<5	<5	<5	<0.9	<5	<10	6.9
Barium	3,800	2,000	14	12	29	20	32	56	<5	<10	8.4	<10	21	18
Calcium	NA	NA	340,000	320,000	120,000	370,000	130,000	150,000	110,000	81,000	290,000	330,000	180,000	110,000
Chromium	NA	100	<5	<10	<5	<10	19	<10	24	18	11	12	<5	<10
Lead	NA	15	<5	<0.010	<5	<0.010	<5	<0.010	<5	<0.010	<5	<0.010	<5	<0.010
Magnesium	NA	NA	820,000	730,000	75,000	390,000	88,000	100,000	150,000	120,000	340,000	360,000	240,000	180,000
Selenium	100	50	<25	<0.050	<25	<0.050	<25	<0.050	<25	<0.050	<25	<0.050	<25	<0.050
Strontium	12,000	NA	9,400	11,000	820	4,400	1,200	1,200	1,100	810	2,900	3,500	3,500	2,600
Zinc	6,000	NA	<5	<50	<5	<50	20	<50	<5	<50	<5	<50	<5	<50
Volatile Organic Compounds (VOCs)														
1,1-Dichloroethane	2.8	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cis-1,2-Dichloroethene	36	70	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	30	120
<p>Notes: All values are in micrograms per liter (µg/L) RSL= USEPA Regional Screening Level (RSL) - Resident Tapwater Table dated May 2022 MCL = Maximum Contaminant Level for drinking water dated May 2022 NA = Not available Bold indicates RSL exceedance Bold indicates MCL exceedance</p>														

Table 7: Summary of Detected Constituents in Groundwater Monitoring Wells ALT 7- ALT 12

Constituent	RSL	MCL	ALT-7		ALT-8		ALT-9		ALT-10		ALT-11		ALT-12	
			2017	2019	2017	2019	2017	2019	2017	2019	2017	2019	2017	2019
Metals														
Arsenic	0.052	10	2.4 J	<5	<1	<5	<5	<5	<10	5.4	<10	<5	<10	<5
Barium	3,800	2,000	12	14	38	34	11	15	23	22	12	23	38	41
Calcium	NA	NA	69,000	48,000	97,000	110,000	390,000	380,000	180,000	180,000	340,000	250,000	93,000	110,000
Chromium	NA	100	<5	11	<5	<10	<5	<10	<5	<10	<5	<10	7.8	<10
Lead	NA	15	<5	<0.010	<5	<0.010	<5	<0.010	<5	<0.010	<5	<0.010	<5	<0.010
Magnesium	NA	NA	54,000	54,000	73,000	88,000	470,000	430,000	250,000	290,000	390,000	330,000	53,000	60,000
Selenium	100	50	<25	<0.050	<25	<0.050	<25	<0.050	<25	<0.050	<25	<0.050	<25	<0.050
Strontium	12,000	NA	4,000	3,800	560	810	3,400	3,300	5,700	5,800	6,300	4,800	1,900	2,500
Zinc	6,000	NA	<5	<50	6	<50	<5	<50	<5	<50	<5	<50	<5	<50
Volatile Organic Compounds (VOCs)														
1,1-Dichloroethane	2.8	NA	<5	<5	<5	<5	9.5	9.2	<5	<5	<5	<5	<5	<5
Cis-1,2-Dichloroethene	36	70	<5	<5	<5	<5	7.9	9	<5	<5	<5	<5	<5	<5
<p>Notes: All values are in micrograms per liter (µg/L) RSL= USEPA Regional Screening Level (RSL) - Resident Tapwater Table dated May 2022 MCL = Maximum Contaminant Level for drinking water dated May 2022 NA = Not available Bold indicates RSL exceedance Bold indicates MCL exceedance</p>														

Table 8: Summary of Detected Constituents in Surface Water Samples

Constituent	RSL	MCL	Sampling Point 1		Sampling Point 2	
			2017	2019	2017	2019
Metals						
Arsenic	0.052	10	NT	0.500J	NT	U
Barium	3,800	2,000	35	22.8	26	22
Calcium	NA	NA	26,000	22,400	24,000	32,700
Chromium	NA	100	NT	0.94	NT	0.56
Magnesium	NA	NA	13,000	11,300	11,000	18,500
Strontium	12,000	NA	93	NA	79	NA
Zinc	6,000	NA	32	16.5	16	9.05
Volatile Organic Compounds (VOCs)						
1,1-Dichloroethane	2.8	NA	NT	U	U	U
Cis-1,2-Dichloroethene	36	70	NT	U	U	U
<p>Notes: All values are in micrograms per liter (µg/L) RSL= EPA Regional Screening Level (RSL) - Resident Tapwater Table dated May 2022 MCL = Maximum Contaminant Level for drinking water dated May 2022 NA = Not available NT = Not tested U = Analyte Not Detected Bold indicates RSL exceedance Bold indicates MCL exceedance</p>						

Table 9: Summary of Detected Constituents in Sediment Samples

Constituent	Residential Soil Level ¹	Industrial Soil Level ¹	Ecological Screening Values ²	Sampling Point 1			Sampling Point 2		
				2017	2019	2020	2017	2019	2020
Metals									
Barium	15,000	220,000	20 ³	1.7	24	60.3	29	35	52.5
Cadmium	71	100	1 ³	NT	<0.77	0.135J	NT	1.6	U
Calcium	NA	NA	NA	33*	330	NA	700	1000	NA
Chromium	NA	NA	43.4 ³	0.31	8.2	20.6	10	80	22.1
Copper	3,100	47,000	31.6 ³	0.41	3.7	24.7	9	56	25.8
Lead	400	800	35.8 ³	0.72	3.5	26.7	8.3	32	26.2
Magnesium	NA	NA	NA	65*	1,700	NA	2,100	1,800	NA
Strontium	47,000	70,000	NA	0.27	3.1	NA	<6.9	6.5	NA
Zinc	23,000	350,000	121 ³	3.5*	38	112	51	81	172
Polyaromatic Hydrocarbons (PAHs)									
Benzo(b)fluoranthene	1.1	21	0.979 ⁵	0.058	<0.050	U	<0.05	<0.049	U
Bis(2-ethylhexyl) phthalate	39	160	0.1824	0.36	<0.33	U	<0.33	<0.32	U
Fluoranthene	2,400	30,000	0.707 ⁵	0.058	<0.33	U	<0.05	<0.32	U
Pyrene	1,800	23,000	0.697 ⁵	0.057	<0.050	U	<0.05	<0.32	U
Polychlorinated Biphenyls (PCBs)									
Aroclor 1254	0.24	0.97	NA	NT	<0.0021	U	NT	13	1.12
Aroclor 1260	0.24	0.99	NA	0.67	0.039	U	<0.033	<1.6	U
<p>Notes: All values are in milligram per kilogram (mg/kg) NA = Not available NT = Not tested U = Analyte Not Detected J = Lab Qualifier (estimate value) 1 = EPA Regional Screening Levels (Residential and Industrial Soil Levels) dated May 2022 2 = EPA Region 4 Ecological Risk Assessment (ERA) Supplemental Guidance dated March 2018 3 = EPA Region 4 ERA Supplemental Guidance - Sediment Screening Non-Narcotic Modes of Action dated March 2018 (Table 2a) 4 = EPA Region 4 ERA Supplemental Guidance - Sediment Screening Narcotic Modes of Action dated March 2018 (Table 2b) 5 = EPA Region 4 ERA Supplemental Guidance - Sediment Screening Values for PAHs dated March 2018 (Table 2c) * = The laboratory gave M3 qualifier for these results because high bias was identified for these chemicals Bold indicates Industrial Soil Level exceedance <u>Bold</u> indicates Residential Soil Level exceedance <i>Italics</i> indicates Ecological Screening Value exceedance</p>									

Site Inspection

KDEP performed the FYR site inspection on October 27, 2022. In attendance were Larry Tackett, Christoph Uhlenbruch, KDEP; Cimara Dunn, and Samantha Satterly, Louisville Parks – Jeffersonville Memorial Forest. The purpose of the inspection was to assess the protectiveness of the remedy. The site inspection checklist and photos are presented in Appendix E and F, respectively.

Site inspection participants met for a health and safety briefing and introduction to the Site provided by Larry Tackett. Site participants began the inspection at the entrance of the Site and drove through the site opening to the back entrance. The gates were locked and appeared to be in good condition. The landfill is secured by a locked chain-link security fence topped with barbed wire. The security fence was in good condition.

Participants then walked around the cap observing any issues with the cap and associated features. No issues were observed. The wells were also observed; all were locked and in good working order. The well was retrofitted into a flush mount well. The well was opened and appeared to be in working order.

The participants finished the site inspection by walking around the perimeter of the security fence and investigating along Wilson Creek. The creek was not flowing due to lack of precipitation and no waste was observed in the creek.

Recurring O&M activities included mowing of the Site, applying pesticides to the security fence and riprap areas, clearing fallen tree limbs from the security fence, periodic site inspections, and periodic sampling events. The last two sampling events took place in October of 2019, with a follow up sampling event in January 2020.

KDEP completed a survey of the Site's property boundary in March 2020. The survey was completed to verify the ownership of a pond located adjacent to the capped area and to prepare for implementation of the ICs.

On June 22, 2022, KDEP's Larry Tackett and Trevor Clemons, visited the designated site repository, Ridgway Memorial Library, located at 127 North Walnut Street, Shepherdsville, Kentucky 40165. The repository did not include the 2018 FYR Report. However, the 2018 FYR Report is available online at <https://semspub.epa.gov/work/04/11111974.pdf>

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

The review of the O&M Plan, decision document, sampling results and the results of the site inspection indicate the remedy is functioning as intended. Since the last FYR, KDEP has conducted regular site inspection and monitoring of the landfill cap. The landfill cap is in good condition and functioning as intended. The cap is effectively holding the contaminants in place and preventing contact between surface water and the waste.

The security fence has limited the public access to the cap but the rest of the Site remains accessible. The groundwater at or near the Site is not used for potable purposes; human health and environment are

protected in the short term. However, more stringent requirements such as institutional controls are needed to restrict groundwater and land use activities at the Site. Although the remedy in the ROD did not call for ICs, they should be implemented to ensure that the Site remains protective in the long term.

Historical sampling results indicates that the contaminants in groundwater have been degrading slowly over the years. PCBs were found in Wilson Creek since the beginning of site investigations. It was established that surface water runoff that occurred during historical site disposal activities was carrying the contaminants towards Wilson Creek. After landfill cap construction, contamination in Wilson Creek was reduced significantly. However, the levels of PCBs in the Creek remain elevated. Dried paint waste and drum carcasses were found in Wilson Creek in 2007. PCBs were found to be a component of the paint waste samples. It was assumed that the paint waste could be a potential source of PCB contamination in the Creek. The waste was cleaned up in January 2017, but the sediment samples collected during sampling events in December 2017 and October 2019 indicated that PCBs are still present above the regional screening levels in Wilson Creek.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection still valid?

Question B Summary:

The groundwater and surface water were evaluated as the potential routes of exposure to hazardous substances from the Site in the 1984 Feasibility study addendum and endangerment assessment. The major exposure pathway was runoff of contaminated surface water into Wilson Creek. The landfill cap and public water supply for nearby residents have significantly reduced the direct exposure to surface water runoff and groundwater respectively in the vicinity of the Site. However, in the absence of groundwater and land use restrictions, the risk of contamination is not completely eliminated. There have been no changes in site conditions that would suggest new exposure pathways.

The ROD did not establish any COCs, or any cleanup levels associated with the COCs. However, the ROD provided the list of contaminants detected at highest concentrations or above background levels at the Site during 1980s. The 1989 revised Final O&M plan established a list of contaminants including VOCs, other organic compounds and PCBs for analysis during groundwater and surface water monitoring. There are not any new or additional contaminant sources at the Site. ARARs were not defined for the Site in the ROD. Therefore, contaminant concentrations in groundwater monitoring wells and surface waters of Wilson Creek are compared to the current Federal Drinking Water standards (MCLs) and, in the absence of MCLs, to EPA RSLs for Tap Water. Sediment samples are compared to RSLs for Residential and Industrial Soils and the Region 4 Ecological Screening levels for Sediments.

The comparison of surface water samples to regulatory standards since the previous FYR and current FYR period indicate that surface water samples in Wilson Creek did not have any exceedances since 2007 which proves that the remedy has been effective in preventing migration of contaminants by runoff. Groundwater contamination has been persistent during the last 10 years and still shows some metals and VOCs slightly above regulatory limits. Groundwater is not used as a drinking water source in the vicinity of the Site. Similarly, sediment samples continue to show slightly elevated concentrations for PCB constituents Aroclor 1254 and 1260 and long-term monitoring should continue.

The RAOs in place at the time of remedy selection and described in the decision document remain valid. The remedy continues to work towards meeting RAOs. The objective of preventing direct contact or

ingestion of contaminated soils and groundwater is achieved by a well maintained and secured landfill cap. Periodic groundwater monitoring sampling serves to indicate groundwater contaminant concentrations in the landfill and provides an early warning of potential releases to surface water in the Wilson Creek.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

Question C Summary:

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations				
OU(s) without Issues/Recommendations Identified in the FYR:				
None				

OU(s): Sitewide	Issue Category: Changed Site Conditions			
	Issue: Historic ponding of water in the southeastern portion of the cap has not been remedied since the last FYR. It was noted that the area became flooded during heavy rains. Ponding of water has not been observed since the last FYR, but still remains a concern.			
	Recommendation: Implement proper measures to address ponding concerns.			
Affect Current Protectiveness	Affect Future Protectiveness	Implementing Party	Oversight Party	Milestone Date
No	Yes	EPA/State	EPA/State	06/01/2025

OU(s): Sitewide	Issue Category: Institutional Controls			
	Issue: Institutional controls restricting groundwater and land use were not required by the ROD but are necessary to ensure the Site remains protective.			
	Recommendation: Modify the decision document to include ICs and implement ICs to restrict groundwater and land use at the Site.			
Affect Current Protectiveness	Affect Future Protectiveness	Implementing Party	Oversight Party	Milestone Date
No	Yes	EPA/State	EPA/State	12/30/2024

OU(s): Sitewide	Issue Category: Monitoring			
	Issue: The dried paint waste and drum carcasses along the banks of Wilson Creek were cleaned up in January 2017, but the sediment samples collected in October 2019 showed that PCBs continue to exist in the creek.			

	Recommendation: Conduct additional investigation of Wilson Creek to determine the source of PCBs.			
Affect Current Protectiveness	Affect Future Protectiveness	Implementing Party	Oversight Party	Milestone Date
No	Yes	EPA/State	EPA/State	12/01/2027

OTHER FINDINGS

No additional recommendations were identified during the FYR.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement
<p><i>Protectiveness Determination:</i> Short-term Protective</p>
<p><i>Protectiveness Statement:</i> The remedy at the Site currently protects human health and the environment in the short term due to regular O&M and the landfill cap being in good condition. However, for the remedy to be protective in the long term, the following actions need to be taken: implement measures to avoid ponding near the southeastern portion of the Site and improve drainage towards Wilson Creek; conduct additional investigation of Wilson Creek to determine the source of PCBs; modify the decision document to include ICs and implement ICs to restrict groundwater and land use at the Site.</p>

VIII. NEXT REVIEW

The next FYR Report for the A. L. Taylor Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Record of Decision. A.L. Taylor (Valley of Drums). EPA ID; KYD980500961. OU 01. Brooks, KY. Prepared by EPA. June 18, 1986.

First Five-Year Review Report: A.L. Taylor Site, Brooks, Kentucky. Prepared by Resource Applications, Inc. for EPA Region 4, June 1992.

Second Five-Year Review Report: A. L. Taylor (Valley of the Drums) Site, Brooks, Kentucky. Prepared by Roy F. Weston, Inc. for EPA Region 4, November 1997.

Third Five-Year Review Report: A.L. Taylor (Valley of Drums) Superfund Site, Brooks, Kentucky. Prepared by US Army Corps of Engineers, Louisville District for EPA Region 4, February 2003.

Fourth Five-Year Review Report: A.L. Taylor (Valley of Drums) Superfund Site, Brooks, Kentucky. Prepared by E2 Inc. for EPA Region 4, May 2008.

Fifth Five-Year Review Report: A. L. Taylor (Valley of Drums) Superfund Site, Brooks, Kentucky. Prepared by EPA. September 2013.

Sixth Five-Year Review Report: A. L. Taylor (Valley of Drums) Superfund Site, Brooks, Kentucky. Prepared by EPA. September 2018.

Consent Decree Agreement. Civil Action No. C86-0310-L (A). United States of America, Plaintiff v. Nell Taylor (individually and as the executrix of the Estate of Arthur L. Taylor); et al. Defendants. October 30, 1991.

Feasibility Study Addendum and Endangerment Assessment. Final Report. A.L. Taylor Site, Brooks, Kentucky. September 1984. Prepared by Metcalf& Eddy, Inc. Prepared for the U.S. Environmental Protection Agency.

Hydrologic Investigation. A.L. Taylor Site, Bullitt County, Kentucky. May 1984. Prepared by Geosciences Research Associates, Inc. Prepared for the U.S. EPA.

Final Design Report. A.L. Taylor Hazardous Waste Disposal Site. September 1983. Prepared by Tenech Environmental Engineers, Inc. Prepared for the U.S. EPA.

Performance Monitoring Plan. A.L. Taylor Site, Bullitt County, Kentucky. October 1986. Prepared by Ebasco Services Incorporated (EBASCO). Prepared for the U.S. EPA.

Final Operation and Maintenance Plan. A.L. Taylor Site, Bullitt County, Kentucky. November 2020. Prepared by KDEP. Prepared for the U.S. EPA.

Superfund Site Close Out Report. A.L. Taylor "Valley of the Drums" Superfund Site, Shepherdsville, Kentucky. August 10, 1990.

Superfund State Contract for Operations and Maintenance Activities at A.L. Taylor,

Commonwealth of Kentucky and the U.S. Environmental Protection Agency, Region IV.
Prepared by the EPA and KDEP. November 2020.

2017 O&M Annual Report. Prepared by KDEP. Prepared for the U.S. EPA. April 9, 2018.

2018 O&M Annual Report. Prepared by KDEP. Prepared for the U.S. EPA. April 2, 2019.

2019 O&M Annual Report. Prepared by KDEP. Prepared for the U.S. EPA. March 25, 2020.

2020 O&M Annual Report. Prepared by KDEP. Prepared for the U.S. EPA. February 2, 2021.

2021 O&M Annual Report. Prepared by KDEP. Prepared for the U.S. EPA. January 13, 2022.

A. L. Taylor Boundary Survey. Prepared by Classickle CSI Inc. Prepared for KDEP. March 2020.

A. L. Taylor Site Title Search. Prepares by KDEP. Prepared for the U.S. EPA. May, 2018.

APPENDIX B – CURRENT SITE STATUS

Environmental Indicators

- *Current human exposures at the Site are under control.*
- *Current groundwater migration is under control.*

Are Necessary Institutional Controls in Place?

All Some None

The ROD does not require institutional controls. However, institutional controls restricting groundwater and land use at the Site are needed to ensure that future use of the Site will remain protective of human health and the environment.

Has EPA Designated the Site as Sitewide Ready for Anticipated Use?

Yes No

Has the Site Been Put into Reuse?

Yes No

APPENDIX C – SITE CHRONOLOGY

Table C-1: Site Chronology

Event	Date
Fire lasting over a week occurred at the Site	November 1967
KDEP responded to reports of fire and identified the Site as a waste disposal site for the first time	December 1967
KDEP first documented release of hazardous substances	1975
EPA responded to releases of oil and hazardous substances at the Site and began emergency response actions	January 1979
Potentially Responsible Parties (PRPs) performed voluntary cleanup actions	1980
EPA conducted site investigation and began another emergency removal actions	1981
EPA completed all emergency response and removal actions	1981
EPA began the Site's remedial investigation/feasibility study (RI/FS).	September 30, 1981
EPA proposed the Site for listing on the National Priorities List (NPL)	December 30, 1982
EPA finalized the Site on the NPL	September 8, 1983
EPA began the Site's remedial design	May 30, 1986
EPA completed the Site's Remedial Investigation /FS EPA signed the Site's Record of Decision (ROD)	June 18, 1986
EPA began remedial action	April 20, 1987
EPA completed remedial design	September 30, 1987
EPA and KDEP signed a Superfund State Contract for O&M activities	July 19, 1989
Site achieved EPA Construction Complete designation EPA issued the Site's Close-Out Report	August 10, 1990
EPA and PRPs signed Consent Decree (CD)	October 30, 1991
EPA signed first FYR	July 16, 1992
EPA issued notice of intent to delete the Site from the NPL	March 8, 1996
EPA deleted the Site from the NPL	May 17, 1996
EPA signed second FYR	March 6, 1998
EPA signed third FYR	March 28, 2003
EPA discovered hardened paint sludge and drum carcasses in Wilson Creek	December 2007
EPA signed fourth FYR	June 26, 2008
EPA approved KDEP's use of O&M funds for further investigations of Wilson Creek	July 2009
KDEP began investigations of Wilson Creek	2010
EPA signed fifth FYR	September 26, 2013
KDEP completed investigations of Wilson Creek and cleaned up paint waste and drum carcasses	March 2017
EPA signed fifth FYR	September 26, 2018
Site Title Search	May 2018
Site Boundary Survey	March 2020
EPA and KDEP renewed the SSC and updated the O&M Plan	November 2020

APPENDIX D – PRESS NOTICE



EPA to Review Cleanups at 45 Southeast Superfund Sites

Contact Information: region4press@epa.gov, 404-562-8400

ATLANTA (Oct. 19, 2022) – Today, the U.S. Environmental Protection Agency (EPA) announced that comprehensive reviews will be conducted of completed cleanup work at 45 National Priority List (NPL) Superfund sites in the Southeast.

The sites, located in Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee, will undergo a legally required Five-Year Review to ensure that previous remediation efforts at the sites continue to protect public health and the environment.

"The Southeast Region will benefit tremendously from the full restoration of Superfund sites, which can become valuable parts of the community landscape," **said EPA Region 4 Administrator Daniel Blackmon**. "The Five-Year Review evaluations ensure that remedies put in place to protect public health remain effective over time." The Superfund Sites where EPA will conduct Five-Year Reviews in 2022 are listed below. The web links provide detailed information on site status as well as past assessment and cleanup activity. Once the Five-Year Review is complete, its findings will be posted in a final report at <https://www.epa.gov/superfund/search-superfund-five-year-reviews>.

Alabama

Alabama Army Ammunition Plant <https://www.epa.gov/superfund/alabama-army-ammunition-plant>
Alabama Plating Company, Inc. <https://www.epa.gov/superfund/alabama-plating-co>
Mowbray Engineering Co. <https://www.epa.gov/superfund/mowbray-engineering>
US NASA Marshall Space Flight Center
US Army/NASA Redstone Arsenal <https://www.epa.gov/superfund/redstone-arsenal>

Florida

ALARIC Area GW Plume <https://www.epa.gov/superfund/alaric-area-groundwater-plume>
Beulah Landfill <https://www.epa.gov/superfund/beulah-landfill>
Chevron Chemical Co. (Ortho Division) <https://www.epa.gov/superfund/chevron-chemical-company>
Florida Petroleum Reprocessors <https://www.epa.gov/superfund/florida-petroleum-reprocessors>
Miami Drum Services <https://www.epa.gov/superfund/miami-drum-services>
Pensacola Naval Air Station <https://www.epa.gov/superfund/naval-air-station-pensacola>
Raleigh Street Dump <https://www.epa.gov/superfund/raleigh-street-dump>
Taylor Road Landfill <https://www.epa.gov/superfund/taylor-road-landfill>
Tower Chemical Co. <https://www.epa.gov/superfund/tower-chemical-company>

Georgia

Alternate Energy Resources Inc. <https://www.epa.gov/superfund/alternate-energy-resources>
Peach Orchard & Nutrition Co. Rd PCE Groundwater Plume Site <https://www.epa.gov/superfund/peach-orchard-road-pce-plume>
Powersville Site <https://www.epa.gov/superfund/powersville-site>
T.H. Agriculture & Nutrition Co (Albany Plant) <https://www.epa.gov/superfund/t-h-agriculture>

Kentucky

A.L. Taylor (Valley of the Drums) <https://www.epa.gov/superfund/al-taylor-valley-of-drums>

Brantley Landfill <https://www.epa.gov/superfund/brantley-landfill>

Distler Brickyard <https://www.epa.gov/superfund/distler-brickyard>

Distler Farm <https://www.epa.gov/superfund> <https://www.epa.gov/superfund/lee-lane-landfill/distler-farm>

Lee's Lane Landfill <https://www.epa.gov/superfund/lee-lane-landfill>

National Electric Coil Co./Cooper Industries <https://www.epa.gov/superfund/national-electric-coil-cooper-industries>

Tri City Disposal Co. <https://www.epa.gov/superfund/tri-city-disposal>

North Carolina

ABC One Hour Cleaners <https://www.epa.gov/superfund/abc-one-hour-cleaners>

Aberdeen Pesticide Dumps <https://www.epa.gov/superfund/aberdien-contaminated-groundwater>

Benfield Industries, Inc. <https://www.epa.gov/superfund/benfield-industries>

Cherry Point Marine Corps Air Station <https://www.epa.gov/superfund/cherry-point-marine-corps>

CTS of Ashville, Inc. <https://www.epa.gov/superfund/cts-millsgap>

GEIGY Chemical Corp (Aberdeen Plant) <https://www.epa.gov/superfund/ciba-geigy-corporation>

Gurley Pesticide Burial <https://www.epa.gov/superfund/gurley-pesticide-burial>

North Carolina State University (Lot 86, Farm Unit #1) <https://www.epa.gov/superfund/north-carolina-state-university>

Sigmon's Septic Tank Service <https://www.epa.gov/superfund/sigmon-septic-tank>

South Carolina

Admiral Home Appliances <https://www.epa.gov/superfund/admiral-home-appliances>

Beaunit Corp (Circular Knit & Dyeing Plant) <https://www.epa.gov/superfund/beaunit>

Carolawn Inc. <https://www.epa.gov/superfund/carolawn>

Elmore Waste Disposal <https://www.epa.gov/superfund/elmore-waste-disposal>

International Minerals and Chemicals (IMC) <https://www.epa.gov/superfund/imc>

Kalama Specialty Chemicals <https://www.epa.gov/superfund/kalama-specialty-chemicals>

Koppers Company, Inc. (Charleston Plant) <https://www.epa.gov/superfund/koppers-charleston-plant>

Savannah River Site (USDOE) <https://www.epa.gov/superfund/savannah-river-site>

SCRDI Bluff Road <https://www.epa.gov/superfund/scr-di-bluff-road>

Tennessee

Mallory Capacitor Co. <https://www.epa.gov/superfund/mallory-capacitor>

Memphis Defense Depot (DLA) <https://www.epa.gov/superfund/memphis-defense-depot>

Background

Throughout the process of designing and constructing a cleanup at a hazardous waste site, EPA's primary goal is to make sure the remedy will be protective of public health and the environment. At many sites, where the remedy has been constructed, EPA continues to ensure it remains protective by requiring reviews of cleanups every five years. It is important for EPA to regularly check on these sites to ensure the remedy is working properly. These reviews identify issues (if any) that may affect the protectiveness of the completed remedy and, if necessary, recommend action(s) necessary to address them.

There are many phases of the Superfund cleanup process including considering future use and redevelopment at sites and conducting post cleanup monitoring of sites. EPA must ensure the remedy is protective of public health and the environment and any redevelopment will uphold the protectiveness of the remedy into the future.

The Superfund program, a federal program established by Congress in 1980, investigates and cleans up the most complex, uncontrolled or abandoned hazardous waste sites in the country and endeavors to facilitate activities to return them to productive use. In total, there are more than 280 Superfund sites across the Southeast.

More information:

EPA's Superfund program: <https://www.epa.gov/superfund>

EPA.GOV



10.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____				
IV. O&M COSTS				
1.	O&M Organization			
	<input checked="" type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for state		
	<input type="checkbox"/> PRP in-house	<input type="checkbox"/> Contractor for PRP		
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility		
	<input type="checkbox"/> _____			
2.	O&M Cost Records			
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date		
	<input checked="" type="checkbox"/> Funding mechanism/agreement in place	<input type="checkbox"/> Unavailable		
	Original O&M cost estimate: <u>\$998,837 for a 30 year period.</u> <input type="checkbox"/> Breakdown attached			
	Total annual cost by year for review period if available			
	From: <u>01/01/2018</u>	To: <u>12/31/2018</u>	<u>\$28,286.07</u>	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	
	From: <u>01/01/2019</u>	To: <u>12/31/2019</u>	<u>\$14,279.87</u>	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	
	From: <u>01/01/2020</u>	To: <u>12/31/2020</u>	<u>\$48,331.24</u>	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	
	From: <u>01/01/2021</u>	To: <u>12/31/2021</u>	<u>\$16,890.5</u>	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	
	From: <u>01/01/2022</u>	To: <u>12/31/2022</u>	<u>\$XXXXX</u>	<input type="checkbox"/> Breakdown attached
	Date	Date	Total cost	
3.	Unanticipated or Unusually High O&M Costs during Review Period			
	Describe costs and reasons: In 2018, title search for the Site and sampling was conducted. In 2020, property boundary survey and sampling was conducted. There activities were in addition to regular O&M resulting in higher costs.			
V. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A				
A. Fencing				
1.	Fencing Damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured	<input type="checkbox"/> N/A
Remarks:				
B. Other Access Restrictions				
1.	Signs and Other Security Measures	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A	
Remarks:				
C. Institutional Controls (ICs)				

1.	Implementation and Enforcement*	
	Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Type of monitoring (e.g., self-reporting, drive by): _____	
	Frequency: _____	
	Responsible party/agency: _____	
	Contact _____	_____
	Name	Title
		Date
		Phone no.
	Reporting is up to date	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Reports are verified by the lead agency	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Violations have been reported	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Other problems or suggestions: <input type="checkbox"/> Report attached	
2.	Adequacy	<input type="checkbox"/> ICs are adequate <input type="checkbox"/> ICs are inadequate <input checked="" type="checkbox"/> N/A
	Remarks:	
D. General		
1.	Vandalism/Trespassing	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No vandalism evident
	Remarks:	
2.	Land Use Changes On Site	<input checked="" type="checkbox"/> N/A
	Remarks:	
3.	Land Use Changes Off Site	<input checked="" type="checkbox"/> N/A
	Remarks:	
VI. GENERAL SITE CONDITIONS		
A. Roads	<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1.	Roads Damaged	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
	Remarks: _____	
B. Other Site Conditions		
	Remarks: _____	
VII. LANDFILL COVERS		
<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
A. Landfill Surface		
1.	Settlement (low spots)	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Settlement not evident
	Arial extent: _____	Depth: _____
	Remarks: _____	
2.	Cracks	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Cracking not evident
	Lengths: _____	Widths: _____
		Depths: _____

Remarks: _____		
3.	Erosion Aerial extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Erosion not evident Depth: _____
4.	Holes Aerial extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Holes not evident Depth: _____
5.	Vegetative Cover <input type="checkbox"/> No signs of stress Remarks: _____	<input type="checkbox"/> Grass <input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram) <input checked="" type="checkbox"/> Cover properly established
6.	Alternative Cover (e.g., armored rock, concrete) Remarks: _____	<input checked="" type="checkbox"/> N/A
7.	Bulges Aerial extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Bulges not evident Height: _____
8.	Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks: _____	<input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Location shown on site map Aerial extent: _____ <input type="checkbox"/> Location shown on site map Aerial extent: _____ <input type="checkbox"/> Location shown on site map Aerial extent: _____ <input type="checkbox"/> Location shown on site map Aerial extent: _____
9.	Slope Instability <input checked="" type="checkbox"/> No evidence of slope instability Aerial extent: _____ Remarks: _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map
B. Benches <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	Flows Bypass Bench Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay
2.	Bench Breached Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay
3.	Bench Overtopped Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay
C. Letdown Channels <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side		

slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)			
1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement
	Arial extent: _____		Depth: _____
	Remarks: _____		
2.	Material Degradation	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation
	Material type: _____		Arial extent: _____
	Remarks: _____		
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion
	Arial extent: _____		Depth: _____
	Remarks: _____		
4.	Undercutting	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting
	Arial extent: _____		Depth: _____
	Remarks: _____		
5.	Obstructions	Type: _____	<input checked="" type="checkbox"/> No obstructions
	<input type="checkbox"/> Location shown on site map	Arial extent: _____	
	Size: _____		
	Remarks: _____		
6.	Excessive Vegetative Growth	Type: _____	
	<input type="checkbox"/> No evidence of excessive growth		
	<input checked="" type="checkbox"/> Vegetation in channels does not obstruct flow		
	<input type="checkbox"/> Location shown on site map	Arial extent: _____	
	Remarks: _____		
D. Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Vents	<input type="checkbox"/> Active	<input type="checkbox"/> Passive
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
	Remarks: _____		
2.	Gas Monitoring Probes	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
	<input type="checkbox"/> Evidence of leakage at penetration		
	Remarks: _____		
3.	Monitoring Wells (within surface area of landfill)		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A
	Remarks: _____		

4.	Extraction Wells Leachate	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
		<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input checked="" type="checkbox"/> N/A	
Remarks: _____					
5.	Settlement Monuments	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed	<input checked="" type="checkbox"/> N/A	
Remarks: _____					
E. Gas Collection and Treatment		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A		
1.	Gas Treatment Facilities	<input type="checkbox"/> Flaring	<input type="checkbox"/> Thermal destruction	<input type="checkbox"/> Collection for reuse	
		<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance		
Remarks: _____					
2.	Gas Collection Wells, Manifolds and Piping	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance		
Remarks: _____					
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> N/A	
Remarks: _____					
F. Cover Drainage Layer		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A		
1.	Outlet Pipes Inspected	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A		
Remarks: _____					
2.	Outlet Rock Inspected	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A		
Remarks: _____					
G. Detention/Sedimentation Ponds		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A		
1.	Siltation	Area extent: _____	Depth: _____	<input type="checkbox"/> N/A	
	<input type="checkbox"/> Siltation not evident				
Remarks: _____					
2.	Erosion	Area extent: _____	Depth: _____		
	<input type="checkbox"/> Erosion not evident				
Remarks: _____					
3.	Outlet Works	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A		
Remarks: _____					
4.	Dam	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A		
Remarks: _____					
H. Retaining Walls		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A		
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident		
Horizontal displacement: _____		Vertical displacement: _____			

Rotational displacement: _____	
Remarks: _____	
2. Degradation	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Degradation not evident
Remarks: _____	
I. Perimeter Ditches/Off-Site Discharge <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. Siltation	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Siltation not evident
Area extent: _____	Depth: _____
Remarks: _____	
2. Vegetative Growth	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Vegetation does not impede flow	
Area extent: _____	Type: _____
Remarks: <u>Light vegetative growth but does not impede flow.</u>	
3. Erosion	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Erosion not evident
Area extent: _____	Depth: _____
Remarks: _____	
4. Discharge Structure	<input type="checkbox"/> Functioning <input checked="" type="checkbox"/> N/A
Remarks: _____	
VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1. Settlement	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident
Area extent: _____	Depth: _____
Remarks: _____	
2. Performance Monitoring	Type of monitoring: _____
<input type="checkbox"/> Performance not monitored	
Frequency: _____	<input type="checkbox"/> Evidence of breaching
Head differential: _____	
Remarks: _____	
IX. GROUND WATER/SURFACE WATER REMEDIES <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
A. Ground Water Extraction Wells, Pumps and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1. Pumps, Wellhead Plumbing and Electrical	
<input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A	
Remarks: _____	
2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances	
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance	
Remarks: _____	

<p>3. Spare Parts and Equipment</p> <p><input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided</p> <p>Remarks: _____</p>
<p>B. Surface Water Collection Structures, Pumps and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A</p>
<p>1. Collection Structures, Pumps and Electrical</p> <p><input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance</p> <p>Remarks: _____</p>
<p>2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances</p> <p><input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance</p> <p>Remarks: _____</p>
<p>3. Spare Parts and Equipment</p> <p><input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided</p> <p>Remarks: _____</p>
<p>C. Treatment System <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A</p>
<p>1. Treatment Train (check components that apply)</p> <p><input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation*</p> <p><input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> In-situ chemical oxidation*</p> <p><input type="checkbox"/> Filters: _____ <input type="checkbox"/> Monitored natural attenuation*</p> <p><input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____</p> <p><input type="checkbox"/> Others: _____</p> <p><input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance</p> <p><input type="checkbox"/> Sampling ports properly marked and functional</p> <p><input type="checkbox"/> Sampling/maintenance log displayed and up to date</p> <p><input type="checkbox"/> Equipment properly identified</p> <p><input type="checkbox"/> Quantity of ground water treated annually: _____</p> <p><input type="checkbox"/> Quantity of surface water treated annually: _____</p> <p>Remarks: _____</p>
<p>2. Electrical Enclosures and Panels (properly rated and functional)</p> <p><input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance</p> <p>Remarks: _____</p>
<p>3. Tanks, Vaults, Storage Vessels</p> <p><input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance</p> <p>Remarks: _____</p>
<p>4. Discharge Structure and Appurtenances</p>

<input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance			
Remarks: _____			
5. Treatment Building(s)			
<input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair			
<input type="checkbox"/> Chemicals and equipment properly stored			
Remarks: _____			
6. Monitoring Wells (pump and treatment remedy)			
<input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition			
<input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A			
Remarks: _____			
D. Monitoring Data*			
1. Monitoring Data			
<input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality			
2. Monitoring Data Suggests:			
<input type="checkbox"/> Ground water plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining			
E. Monitored Natural Attenuation*			
1. Monitoring Wells (natural attenuation remedy)			
<input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition			
<input checked="" type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A			
Remarks: _____			
X. OTHER REMEDIES			
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.			
XI. OVERALL OBSERVATIONS			
A. Implementation of the Remedy			
Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>Objectives of the remedy are to prevent direct exposure of landfill waste and leachate, prevent infiltration of water into the landfill, and limit potential migration of hazardous materials to streams or groundwater. Direct contact as well as migration of contaminants from the capped area is prevented. Security fence, groundwater monitoring wells and perimeter drainage ditches should be maintained. The remedy is effective and functioning as designed.</u>			
B. Adequacy of O&M			
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>Site inspection observations indicate that O&M procedures are being performed in accordance with the</u>			

<p><u>requirements of the O&M plan and in a timely manner.</u></p>
<p>C. Early Indicators of Potential Remedy Problems</p> <p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><u>The higher costs in 2018 and 2020 are associated with the property boundary survey of the Site, title search and the sampling events that took place those years in addition to the routine O&M activities. None of these charges suggest that the protectiveness of the remedy may be compromised.</u></p>
<p>D. Opportunities for Optimization</p> <p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.</p> <p><u>Institutional Controls need to be put in place and the Contaminant of Concern list needs to be updated.</u></p>

Site Inspection Participants:

Larry Tackett, KDEP

Christoph Uhlenbruch, KDEP

Cimara Dunn, Louisville Parks – Jeffersonville Memorial Forest

Samantha Satterly, Louisville Parks – Jeffersonville Memorial Forest

APPENDIX F – PHOTOGRAPHS FROM SITE INSPECTION VISIT



Looking north into the Site.



Looking west towards the entrance gate, along perimeter fence.



Looking north west into the Site.



Looking east from the back gate along the perimeter fence.



Looking west from the back gate along the perimeter fence.



Looking north from the back gate along utility access road.



Capped area, looking south along utility access road.



Capped area, looking south east.



Riprap channel to the east of the back gate, looking east.



Riprap channel to the west of the back gate, looking west.



Wilson Creek downstream of the Site. No visible contamination.



Wilson Creek adjacent to the Site. No visible contamination.



ATL-8 was damaged during mowing in 2020 and was revamped into a flush mount configuration.



ATL-11 located outside the security fence to the east of the capped area.

APPENDIX G – APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs) REVIEW

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain “a degree of cleanup of hazardous substance, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment.” The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate.

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location or other circumstance found at a CERCLA site.

Relevant and appropriate requirements are those standards that, while not "applicable," address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards more stringent than federal requirements may be applicable or relevant and appropriate.

To-be-considered (TBC) criteria are non-promulgated advisories and guidance that are not legally binding but should be considered in determining the necessary remedial action. For example, TBCs may be particularly useful in determining health-based levels where no ARARs exist or in developing the-appropriate method for conducting a remedial action. The TBCs are evaluated to determine if the selected remedy established in the ROD remains protective.

ARARs were not defined for the Site in the June 1986 ROD because the Superfund Amendments and Reauthorization Act (SARA) was enacted in September 1986, and pre-SARA RODs were not required to identify ARARs within the remedy selection discussions. In addition, the 1986 ROD did not establish specific COCs nor any action levels associated with those COCs, such as Safe Drinking Water Act Maximum Contaminant Levels (MCLs). Therefore, changes in these standards cannot be evaluated at this time.