ORIGINAL

FOURTH FIVE-YEAR REVIEW REPORT FOR COKER'S SANITATION SERVICE LANDFILLS SUPERFUND SITE KENT COUNTY, DELAWARE

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5/19/2014
Date

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LIST OF ABBREVIATONS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
COC	Contaminant of Concern
DNREC	Delaware Department of Natural Resources and Environmental Control
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
GMUC	Ground Water Migration under Control
GPRA	Government Performance and Results Act
HEPR	Human Exposure Controlled and Protective Remedy in Place
IC	Institutional Control
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objective
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SWRAU	Sitewide Ready for Anticipated Use

EXECUTIVE SUMMARY

Introduction

The Coker's Sanitation Service Landfills Superfund Site (the Site) in Cheswold, Delaware, consists of two landfills located approximately one-half mile apart on opposite sides of Lynnbury Woods Road/County Route 152. Landfill No. 1 occupies about ten acres on the north side of Route 152, and Landfill No. 2 occupies about fifteen acres on the south side of Route 152. Both landfills were used for the disposal of process sludge generated during the manufacture of latex rubber. The Site was proposed for inclusion on the National Priorities List (NPL) on April 10, 1985, and added to the NPL on July 22, 1987.

EPA selected a final remedy for the Site in 1990. For both landfills, the final remedy has been implemented and includes cover material for waste buried at the Site, fencing to prevent human access to the landfills, institutional controls to prevent any disturbance or land use that would increase potential human exposure to the buried waste and monitoring to ensure that constituents of the waste are not migrating to groundwater or surface water at levels of concern. In addition, cover material should be maintained at Landfill No. 1 to eliminate exposure to any leachate seeps and Landfill No. 2 should be graded with backfill as needed to address any subsidence due to uneven settling of waste.

Based on monitoring and other available information, the Site was deleted from the National Priorities List on August 2, 2011.

The triggering action for this Five-Year Review (FYR) was the signing of the previous FYR on May 22, 2009.

Remedial Action Objectives

Reduce the potential for human exposure to wastes buried at the Site and reduce any risk to within EPA guidelines.

Technical Assessment

The remedy is performing as intended. Waste at Landfill No. 1 and Landfill No. 2 is covered as needed. Both landfills are secured with fencing, protected by institutional controls which prohibit activities which would increase the potential for human exposure to waste constituents of concern and being maintained as needed to prevent human exposure to waste constituents. No leachate seeps have been observed at Landfill No.1 and no subsidence has been observed at Landfill No. 2 during recent Site visits. Monitoring since remedy implementation indicates contaminants associated with the waste at the Site are not migrating to groundwater or surface water at levels of potential concern.

Conclusion

The remedy is protective of human health and the environment. Potential exposures of concern are being eliminated by implementation of the selected remedy.

Government Performance and Results Act (GPRA) Measure Review

As part of this FYR, the GPRA Measures have also been reviewed. The GPRA Measures and their status are provided as follows:

Environmental Indicators
Human Health: Human Exposure Controlled and Protective Remedy in Place (HEPR)
Ground Water Migration: Ground Water Migration under Control (GMUC)

Sitewide Ready for Anticipated Use (SWRAU)
The Site achieved the SWRAU Measure on May 29, 2009.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: COKER'S SANITATION SERVICE LANDFILLS		
EPA ID: DED980704860		
Region: 3	**State:** DE	**City/County:** Cheswold/Kent County

SITE STATUS	
NPL Status: Deleted	
Multiple OUs? No	**Has the site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: EPA **If "Other Federal Agency" selected above, enter Agency name:** Click here to enter text.
Author name: Darius Ostrauskas, EPA, with additional support provided by Skeo Solutions
Author affiliation: EPA Region 3
Review period: 11/01/2013 – 5/22/2014
Date of site inspection: 12/19/2013
Type of review: Statutory
Review number: 4
Triggering action date: 5/22/2009
Due date *(five years after triggering action date)*: 5/22/2014

FIVE-YEAR REVIEW SUMMARY FORM (CONTINUED)

Issues/Recommendations

OU(s) without Issues/Recommendations Identified in the Five-Year Review:
Click here to enter text.

Issues and Recommendations Identified in the Five-Year Review:

OU(s): 1	Issue Category: Operations and Maintenance			
	Issue: O&M Plan should be updated to ensure future protectiveness.			
	Recommendation: Update O&M Plan to ensure future protectiveness.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA	9/30/2014

Protectiveness Statement(s)

Operable Unit:	*Protectiveness Determination:*	*Addendum Due Date (if applicable):*
Click here to enter text.	Protective	Click here to enter date.

Protectiveness Statement:

The remedy is protective of human health and the environment. Potential exposures have been eliminated through placement and maintenance of cover material, fencing and institutional controls. In addition, monitoring is being conducted periodically to help ensure continued protectiveness.

Fourth Five-Year Review Report
for
Coker's Sanitation Service Landfills Superfund Site

1.0 Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. FYR reports document FYR methods, findings and conclusions. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Environmental Protection Agency (EPA) prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 121 states:

> If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The EPA interpreted this requirement further in the NCP, 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

Skeo Solutions, an EPA Region 3 contractor, has provided support to EPA in the preparation of this FYR for the Coker's Sanitation Service Landfills Superfund site (the Site) in Cheswold, Kent County, Delaware. EPA is the lead agency for developing and implementing the remedy for the potentially responsible party (PRP)-financed cleanup at the Site. Delaware Department of Natural Resources and Environmental Control (DNREC), as the support agency representing the State of Delaware, has reviewed supporting documentation and provided input to EPA during the FYR process.

This is the fourth FYR for the Site. The triggering action for this statutory review is the third FYR. The FYR is required because hazardous substances, pollutants or contaminants remain at

the Site above levels that allow for unlimited use and unrestricted exposure. The Site consists of one operable unit (OU).

2.0 Site Chronology

Table 1 lists the dates of important events for the Site.

Table 1: Chronology of Site Events

Event	Date
PRPs operated Landfill No. 1 at the Site	1969-1977
PRPs operated Landfill No. 2 at the Site	1976-1980
EPA discovers contamination in groundwater and leachate	December 1, 1979
EPA added the Site to the National Priorities List (NPL)	July 22, 1987
Three PRPs signed an Administrative Order on Consent to conduct the Remedial Investigation/Feasibility Study (RI/FS)	December 30, 1987
PRPs completed RI/FS	September 28, 1990
EPA signed the Record of Decision (ROD)	September 28, 1990
EPA and six PRPs entered into a Consent Decree for implementation of the Remedial Design/Remedial Action (RD/RA)	April 8, 1992
PRPs completed remedial design	April 12, 1993
PRPs completed remedial action	September 29, 1993
EPA completed the first FYR	January 6, 1999
EPA completed the second FYR	May 25, 2004
Institutional controls implemented for Landfill No. 1	April 18, 2005
Institutional controls implemented for Landfill No. 2	November 26, 2008
EPA issued Final Close Out Report	February 19, 2009
EPA completed the third FYR	May 22, 2009
EPA deleted the Site from the NPL	August 2, 2011
PRP performed groundwater and surface water monitoring	February 22-23, 2014

3.0 Background

3.1 Physical Characteristics

The Site is located in Kent County, Delaware near Cheswold, approximately six miles northwest of the City of Dover (Figure 1). The Site consists of two landfills located approximately one-half mile apart on opposite sides of Lynnbury Woods Road/County Route 152. Both landfills were used for the disposal of process sludge generated during the manufacture of latex rubber.

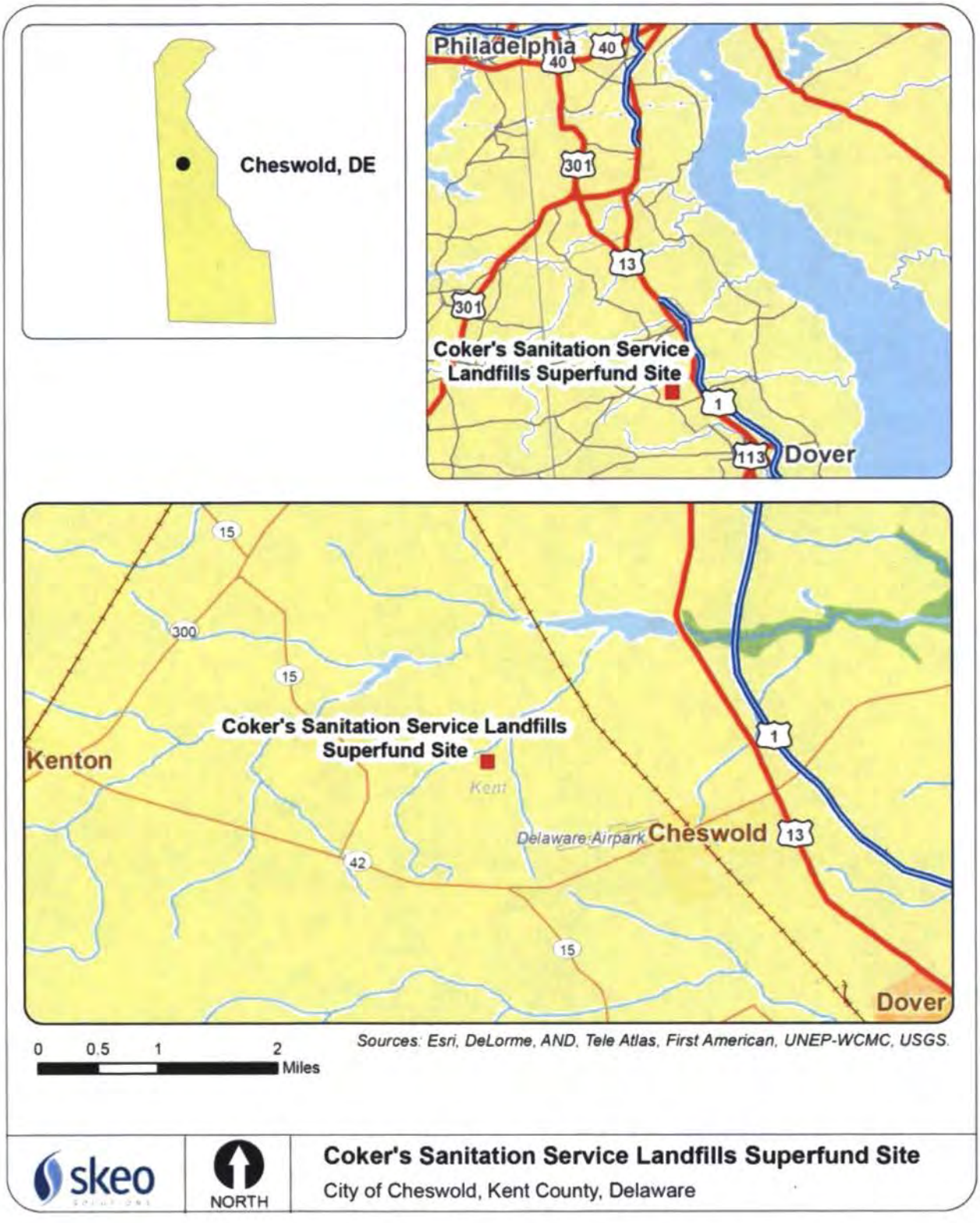
Landfill No. 1, about ten acres in size on the north side of Route 152, and Landfill No. 2, about 15 acres in size on the south side of Route 152, are both part of larger, heavily wooded parcels of land (Table 2, Figure 2). Properties adjacent to the landfills are primarily agricultural or residential. Landfill No. 1 is bordered on the north by a forested wetland and the Willis Branch of the Leipsic River. Landfill No. 2 is bordered by agricultural lands on the east and west.

Table 2: Property Parcels that Landfill No. 1 and Lanfill No. 2

Parcel ID	Parcel Address	Parcel Acres
3-00-03700-01-0900-00001	Lynnbury Woods Rd	142.32
3-00-04600-01-0300-00001	Moorton Rd	9.85

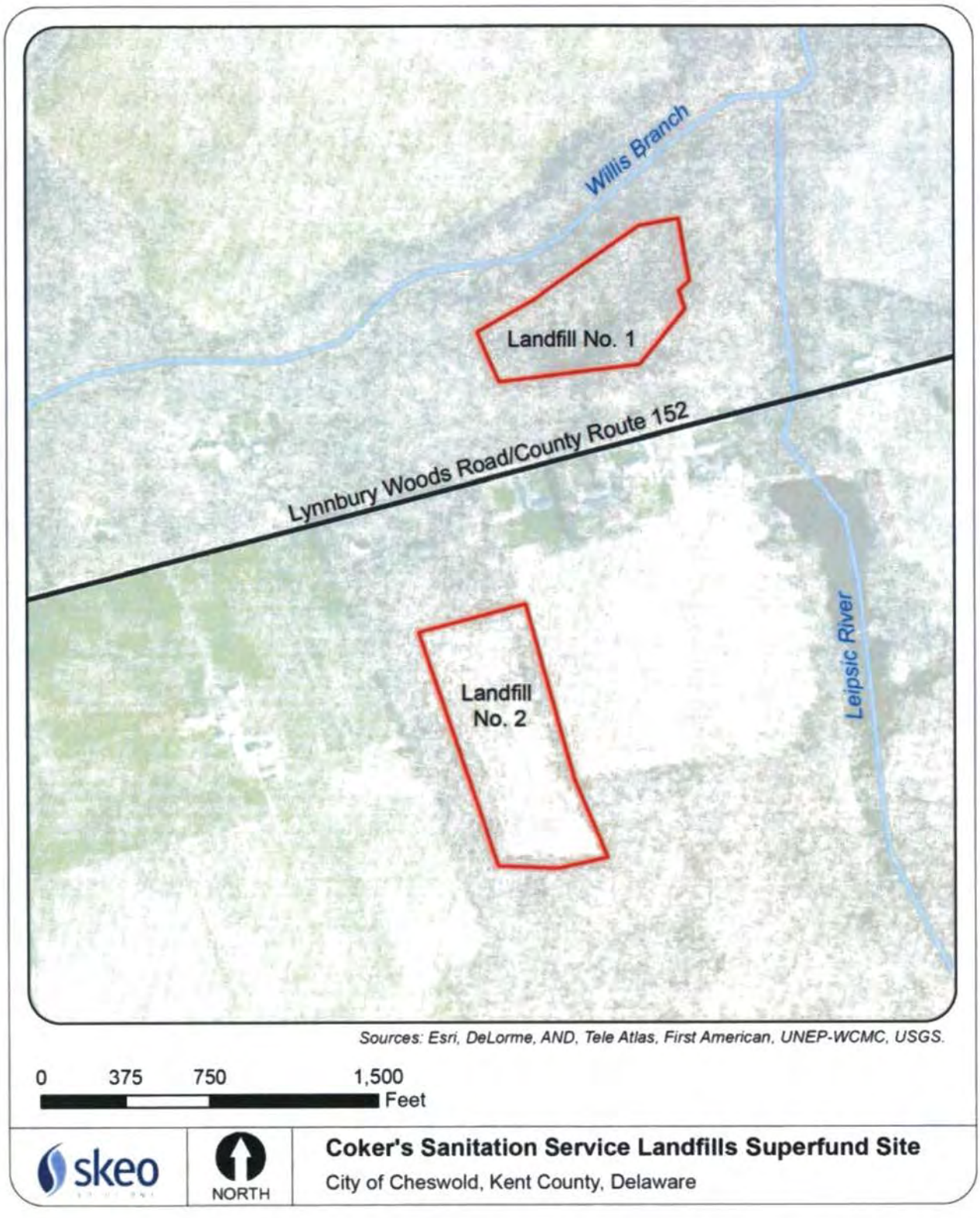
The Site overlies two aquifers, the Columbia Aquifer and the Cheswold Aquifer. The Columbia Aquifer directly underlies both Landfill No. 1 and Landfill No. 2, and discharges north-northeast toward the Willis Branch in the vicinity of the Site. The Columbia and Cheswold Aquifers are separated by several feet of clay containing sand and silt.

Figure 1: Site Location Map



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 EPA's response actions at the Site.

Figure 2: Detailed Site Map



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 EPA's response actions at the Site.

3.2 Land and Resource Use

The properties adjacent to both landfills are primarily used for agricultural or light residential development. Both landfills have been fenced off and are covered with vegetation. There are no known development plans for the Site or for properties immediately adjacent to the Site.

The Cheswold Aquifer is the primary source of potable water in the Dover area, while the shallow Columbia Aquifer is not generally used for domestic purposes due to indigenous high levels of iron and manganese. Use of groundwater under and in the vicinity of the Site has been designated as a Delaware Ground Water Management Zone, restricting its use.

3.3 History of Contamination

Both landfills received process sludge generated during the manufacturing of latex rubber. Landfill No. 1 began operating in 1969 under a permit issued by the Delaware Water and Air Resources Commission and closed in 1977. Approximately 45,000 cubic yards of solid waste was disposed in unlined trenches. Upon closure, the trenches were backfilled with local soil.

Landfill No. 2, which was also permitted by the State, was active from 1976 to 1980. Landfill No. 2 also received approximately 45,000 cubic yards of waste, which was disposed of in lined trenches with a leachate collection system. The permit required leachate collection and treatment, installation of groundwater monitoring wells, regularly scheduled site inspections and periodic groundwater and leachate monitoring. When Landfill No. 2 closed in 1980, the trenches were capped with two feet of native soil. As the waste in the trenches settled and stopped producing collectable quantities of the leachate, leachate collection system was phased out in the early 1980s.

3.4 Initial Response

In response to conditions at the Site, EPA conducted an initial Site investigation in 1980, which included sampling of groundwater and leachate at Landfill No. 2. During this and a subsequent Site investigation in 1983, several contaminants were detected at elevated concentrations in groundwater and leachate samples. The Site was proposed for inclusion on the National Priorities List (NPL) on April 10, 1985, and added to the NPL on July 22, 1987.

In April 1986, EPA issued letters to several PRPs to notify them of their potential liability for Site response actions and invite them to conduct the Remedial Investigation/ Feasibility Study (RI/FS). Three PRPs signed an agreement with EPA on December 30, 1987, in the form of an Administrative Order on Consent, to conduct the RI/FS. The parties agreed, under a separate order, to remove drums containing latex waste found on-site during the RI.

3.5 Basis for Taking Action

During the RI/FS, waste, leachate, soil, air, groundwater, surface water and sediment were investigated. Waste and leachate contained elevated levels of styrene, ethylbenzene and phenolic compounds. The waste at Landfill No.l and Landfill No.2 and leachate within a subsurface collection system at Landfill No.2 were determined to present a threat to human health and the

environment. Groundwater was found to contain only trace levels of waste constituents and was not determined to present a threat to human health or the environment.

The risk assessment contained in the RI found the cancer risks associated with no action at both landfills were at or above EPA's guideline of $1x10^{-4}$. The Hazard Index score for a child at Landfill No. 1 was 3.26, which exceeds EPA's guideline of 1.0. The Hazard Index scores for adults and children at Landfill No. 2 were 48 and 156, respectively, also above EPA's guidelines. The overall risks quantified in the risk assessment were primarily based on potential exposure to waste containing the following contaminants of concern (COCs):

- Benzene
- Chloroform
- Ethylbenzene
- Styrene
- Cresol
- Dibutyl Pthalate
- Phenol
- Cadmium
- Manganese

4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial action are protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(e)(9)(iii) of the NCP.

4.1 Remedy Selection

EPA issued a Record of Decision (ROD) for the Site on September 28, 1990. Under the ROD, the remedial action objective was to reduce the potential for human exposure to waste at the Site and to reduce risk to within EPA guidelines.

The selected remedy reduces the potential for future human exposure to waste remaining at the Site. After implementation of the selected remedy, cancer risks would be below $1x10^{-6}$ and Hazard Index scores would be reduced to below 1.0 at both landfills. The primary components of the selected remedy include:

- Land use restrictions placed on both landfill properties.
- Enclosure by chain-link security fence and locked gate of the entire waste disposal areas of both landfills and appropriate warning signs placed along the fences to restrict access of unauthorized persons and equipment onto the landfills.
- Placement of cover material along the northern slope of Landfill No. 1 to eliminate exposure to leachate seeps.

- Backfilling to grade and seeding of areas of Landfill No. 2 that had subsided due to uneven settling of waste.
- Sealing of leachate collection wells at Landfill No. 2 with grout to reduce the potential for direct contact with leachate.
- Initial semi-annual sampling of groundwater at both landfills.
- Semi-annual inspections of the landfills.
- Monitoring of Willis Branch surface water at the same time as groundwater monitoring for a period of no less than five years.

4.2 Remedy Implementation

On April 8, 1992, the State, EPA and six PRPs entered into a Consent Decree for implementation of the Remedial Design/Remedial Action for both landfills. The following is a summary of the activities that have been conducted at the Site pursuant to the selected remedy in the ROD and the Consent Decree.

Remedial Construction Activities at Landfill No. 1
The perimeter of Landfill No. 1 was cleared of vegetation so that the security fence could be installed. Mulch was placed along the northern slope next to the landfill to cover leachate seeps, and the existing soil cover was graded to conform with existing drainage patterns. Upon installation of the security fence, cleared areas were seeded and warning signs were posted around the landfill perimeter.

Remedial Construction Activities at Landfill No. 2
The perimeter of Landfill No. 2 was also cleared of all vegetation. The vertical sections of the leachate collection wells were plugged with bentonite and filled to the existing ground surface with grout. Following sealing, the portions of the pipes that were above the ground surface were removed, and the landfill surface re-graded.

The subsided areas of Landfill No. 2, as well as other portions of the landfill surface, were covered with soil and graded as needed to promote surface drainage. Following re-grading, the landfill surface and other disturbed areas were seeded and mulched to prevent erosion. Upon installation of the security fence, warning signs were placed around the landfill perimeter.

Long Term Monitoring
A long-term monitoring plan for the Site was developed as part of the Remedial Design (see Part C - Sampling and Analysis Plan) and included monitoring of groundwater, surface water and sediment. The objective of the plan was to detect potential changes in Site conditions which could potentially increase risks to human health and the environment. The plan included "trigger levels" for contaminant levels in groundwater and surface water. If the monitoring detected contaminant concentrations above trigger levels, additional monitoring and/or remedial measures should be considered. The contaminants with trigger levels were determined based on sampling conducted after the RI/FS and during the development of the remedial design. Based on this updated sampling data, the contaminants determined to require trigger levels differed from the contaminants of concern identified by the RI/FS.

Monitoring at Landfill No. 1 currently includes sampling of both groundwater and surface water. Trigger levels for surface water have been established at Landfill No. 1 because of the proximity of Willis Branch. These trigger levels are designed to protect aquatic life and consider available aquatic toxicity test data for Site-related species. Monitoring of groundwater at Landfill No.1 is also being conducted primarily for protection of aquatic life as there are no users of groundwater hydraulically downgradient of Landfill No.1. The trigger levels for Landfill No.1 are identified in Table 3.

Monitoring at Landfill No. 2 is limited to groundwater as there is no surface water in the vicinity. The trigger levels for groundwater consider that groundwater hydraulically downgradient landfill is used for domestic water supply purposes. The trigger levels for Landfill No. 2 are also listed in Table 3.

Table 3: Trigger Levels for Groundwater and Surface Water at Landfill No.1 and No.2

COC	Landfill No. 1 (µg/L)	Landfill No. 2 (µg/L)
Groundwater		
Styrene	2,500	100
Ethylbenzene	3,200	700
1,2,3-trichloropropane	-	5
Phenolics	-	22,999
Antimony	-	6
Surface Water		
Styrene	1,250	-
Ethylbenzene	1,600	-
Xylenes	615	-

Monitoring, Sampling and Inspecting

Three (3) groundwater wells at Landfill No. 1 and four (4) wells at Landfill No. 2 have been monitored since the construction of the remedy. Groundwater was sampled semi-annually in 1993 and 1994, and then annually through 1998. During this period, all groundwater sampling results for the COCs of interest were below trigger levels as well as maximum contaminant levels (MCLs). In addition, no COCs were detected in the surface water monitoring during this same period and no other contaminants were detected at levels of potential concern. In the first FYR in 1999, EPA determined that monitoring at the Site could be discontinued. However, the Final Close Out Report issued in 2009 indicated that monitoring should resume at a frequency of at least once every five years. Monitoring conducted in 2009 found that all COCs of interest were again below their trigger levels and MCLs.

EPA signed the Final Close Out Report on February 19, 2009, which documented completion of all response actions, other than operation, maintenance and FYRs.

On April 29, 2011, EPA published the final Notice of Deletion of the Site from the NPL. The Site was officially deleted from the NPL on August 2, 2011.

Land Use Restrictions
Institutional controls were implemented by recording an Environmental Protection Easement and Declaration of Restrictive Covenants for Landfill No. 1 in 2005 and for Landfill No. 2 in 2008. The covenants prohibit activities that could disturb the landfill surfaces or underlying waste or otherwise increase the risk of exposure to the waste.

4.3 Operation and Maintenance (O&M)

Per the current Operations and Maintenance Plan (O&M Plan) dated March 22, 1993, the landfills should be inspected annually to ensure the continued performance of the remedial action. The O&M Plan also requires that mowing be conducted at each landfill at least annually to ensure maintenance of the remedy, e.g., to provide for diverse cover growth, to prevent damage to fencing, etc. The landfills have reportedly been inspected annually during mowing activities and there is no information to suggest that the landfills are not being properly maintained. However, since the last five year review, no reporting has been provided to EPA regarding the results of the annual inspections and any resultant maintenance activies. A review of the O&M Plan has found that there is no explicit requirement that the results of the annual inspections be reported to EPA. In this case, the O&M plan should be revised to explicitly include this requirement. Consideration should also be given to including current monitoring requirements in the O&M plan.

5.0 Progress Since the Last Five-Year Review

The protectiveness statement from the 2009 FYR for the Site stated the following:

"*The remedy at the Site currently protects human health and the environment. The chain link security fences around the waste disposal areas of both landfills restrict access to the Site and reduce the potential for exposure to Site contaminants. The soil cover on the landfills prevents direct contact with the waste, minimizes migration of contaminants to the groundwater, and reduces the generation of leachate. There is no evidence of erosion or a breach of the soil cover on either landfill. The closure of the leachate collection wells at Landfill No.2 has reduced the potential for direct contact with leachate. Thus, there is no known evidence of current exposure to the waste or Site contaminants and the remedy is considered protective in the short-term. In the long term, the remedy is protective because the deed restrictions (institutional controls) required by the ROD, which restrict the use of the land, have been implemented by the use of Environmental Easements. The institutional controls ensure long-term protectiveness by prohibiting any type of activity that could disturb the landfill surfaces or the underlying waste at each landfill, or in any way increase the risk of exposure to Site contaminants, including, but not limited to, any soil-disturbing activities at the Site.*"

The 2009 FYR included two issues and recommendations. This report summarizes each recommendation and its current status below.

Table 4: Progress on Recommendations from the 2009 FYR

Section	Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.1	Repair the fence.	PRP	November 2009	Completed	11/30/2009
5.2	Monitor for volatile organic compounds, semivolatile organic compounds and metals.	PRP	November 2009	Completed	02/19/2009

5.1 Repair the Fence

Fencing at the Site was repaired as needed by November 30, 2009.

5.2 Monitor for VOCs, SVOCs and Metals

Per the Final Close Out Report in 2009, monitoring at the Site should be performed every five years. Monitoring was conducted on February 2, 2009 and was most recently conducted on February 22-23, 2014.

6.0 Five-Year Review Process

6.1 Administrative Components

EPA Region 3 initiated the most recent FYR in November 2013. The EPA remedial project manager (RPM) Darius Ostrauskas led the EPA site review team, which also included: Community Involvement Coordinator Carrie Deitzel, Hydrogeologist Herminio Concepcion, Toxicologist Dawn Ioven and Biological Technical Assistance Group members Bruce Pluta and Katie Matta. Contractor support was provided to EPA by Skeo Solutions. The FYR consisted of the following activities:

- Document review.
- Data collection and review.
- Site inspection.
- Local interviews.
- FYR Report development and review.

6.2 Community Involvement

On March 16, 2014, EPA published a public notice in the *Delaware State News* newspaper announcing the performance of a FYR for the Site, providing contact information and inviting community participation. The press notice is available in Appendix B. No one contacted EPA as a result of the notice.

A final copy of this FYR Report will be placed in the designated Site repository upon completion.

6.3 Document Review

This FYR included a review of relevant Site-related documents. Appendix A provides a complete list of the documents reviewed.

ARARs Review

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substances, 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.

Remedial actions are required to comply with the chemical-specific ARARs identified in the ROD. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed. The ROD indicated the contamination found at the Site did not exceed any established chemical-specific ARARs.

Institutional Control Review

Skeo Solutions staff conducted research at the Kent County Public Records Office and found the deed information and associated property restrictions pertaining to the Site listed in Tables 5 and 6.

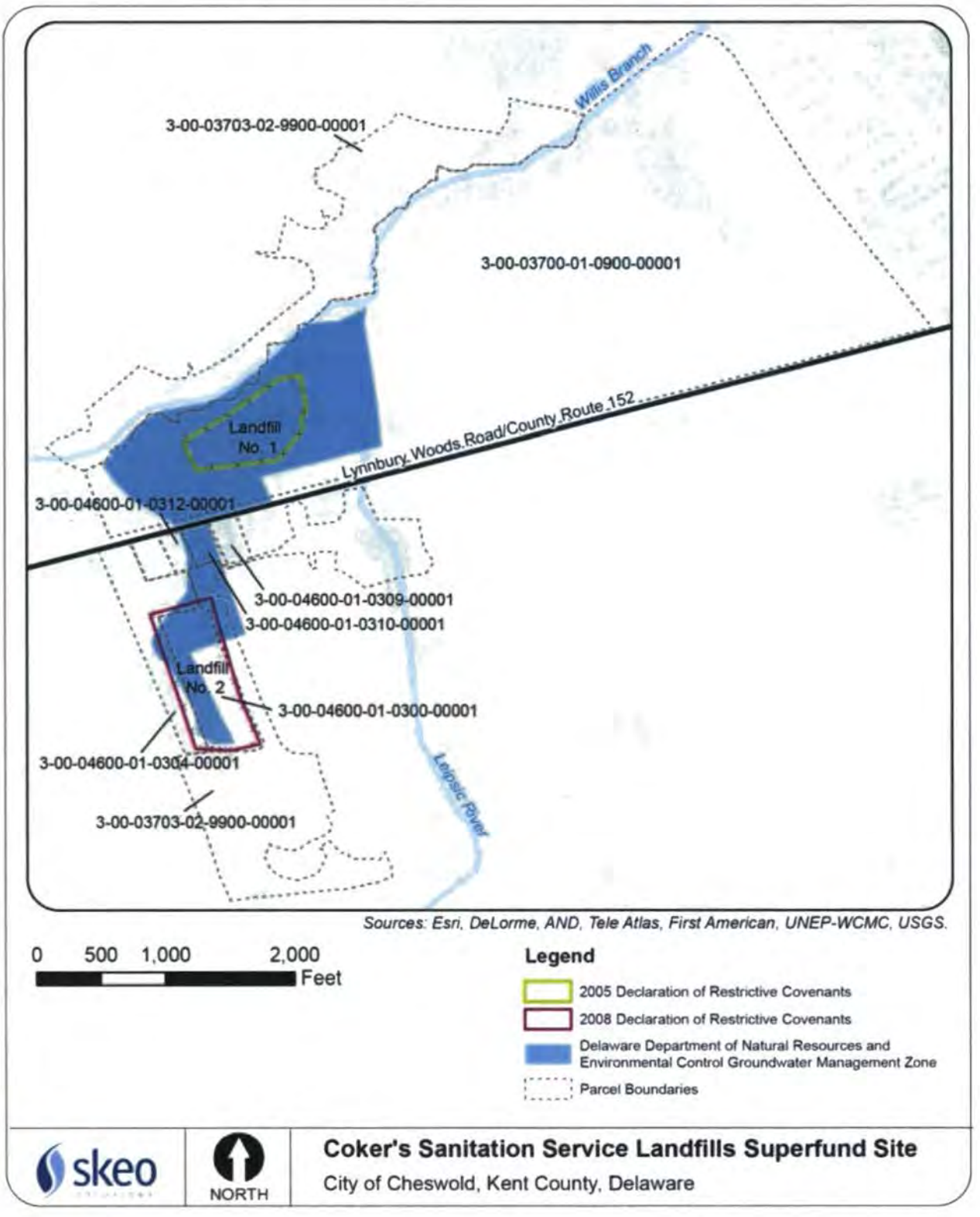
Table 5: Deed Documents from Kent County Public Records

Date	Type of Document	Description	Book #	Page #
4/18/2005	Easement and Restrictive Covenant	Environmental Protection Easement and Declaration of Restrictive Covenants placed on Landfill No. 1	D703	088
11/26/2008	Easement and Restrictive Covenant	Environmental Protection Easement and Declaration of Restrictive Covenants placed on Landfill No. 2	RE4732	306

Table 6: Institutional Control (IC) Summary

Media	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Instrument in Place
Waste at Landfill No.1	Yes	Yes	3-00-03700-01-0900-00001	Prohibit activities that could disturb the landfill surface or underlying waste or otherwise increase risk of exposure to the waste.	Environmental Protection Easement and Declaration of Restrictive Covenants
Waste at Landfill No.2	Yes	Yes	3-00-04600-01-0300-00001	Prohibit activities that could disturb the landfill surface or underlying waste or otherwise increase risk of exposure to the waste.	Environmental Protection Easement and Declaration of Restrictive Covenants

Figure 3: Institutional Control Base Map



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 EPA's response actions at the Site..

6.4 Data Review

Monitoring/sampling of groundwater, surface water and sediment at the Site was most recently conducted at the Site on February 22, 2014. Laboratory analytical results for this sampling event indicate that Site COCs with trigger levels were not detected in any of the collected samples. Antimony, a COC identified during the RI/FS, was detected in samples but at concentrations within background levels. No other COCs identified by the RI/FS were detected. These data indicate that COCs within waste at the Site are not migrating to groundwater or surface water. Trace levels of trichloroethylene, 1,2- dichloroethene and cis-1,2-dichloroethene were detected in a monitoring well at Landfill No. 1. In each case, the detected levels were below the MCLs for these compounds. Based on available information, these compounds do not appear to be associated with the Site.

6.5 Site Inspection

EPA conducted the site inspection on December 19, 2013. In attendance were Darius Ostrauskas, the EPA RPM; Steve Johnson, DNREC; Scott Miller, PRP contractor; and Ryan Burdge and Johnny Zimmerman-Ward, Skeo Solutions. For photographs taken during the Site inspection, see Appendix C.

Site inspection participants walked along the perimeter of each landfill and inspected the fenceline and located the groundwater monitoring wells. In the case of each landfill, the fence was in good condition and there was no evidence of a need for repair. No waste material was observed to be exposed at the ground surface at either landfill, indicating the cover material over the landfilled waste was adequate. There were no active seeps observed at Landfill No. 1 and there was no evidence of settling of cover material or a need to place additional cover over Landfill No. 2. All monitoring wells were secured.

The signs posted on the fences at each landfill were observed to include an outdated phone number for EPA (see Appendix C). The signs should be modified to include a current phone number for EPA.

6.6 Interviews

EPA Community Involvement Coordinator Carrie Deitzel contacted the Town of Cheswold to inquire regarding any recent developments related to Landfill No. 1 or Landfill No. 2 at the Site. Neither the Mayor's office nor the police department were aware of any calls regarding either Landfill No. 1 or Landfill No. 2 or of any reported cases of trespassing, vandalism or maintenance issues. In addition, the Mayor's office was not aware of any plans to develop property which includes Landfill No. 1 or Landfill No. 2 or of immediately adjacent properties.

7.0 Technical Assessment

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

Yes, the remedy is functioning as intended. The two landfills each have adequate cover material, are secured with fencing, and protected by institutional controls that prohibit activities that would disturb the waste material of concern or cover material. Historic surface and groundwater monitoring results are below MCLs and trigger levels identified in the Remedial Design which are protective of human health and the environment. Monitoring is currently being conducted every five years in conjunction with FYRs.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of remedy selection still valid?

Although some exposure assumptions and toxicity data have changed since the Baseline Risk Assessment was performed for this Site, the remedy identified in the ROD is still protective.

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

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

7.4 Technical Assessment Summary

The remedy is performing as intended. Potential for human exposure to wastes remaining at the Site has been reduced as planned. The landfills have adequate cover material, are secured with fencing and are protected by institutional controls that prohibit activities that could disturb the landfill surface or the underlying waste. Historic surface and groundwater monitoring results are below site-specific trigger levels which are protective of human health and the environment. Potential exposures have been eliminated through the addition of soil/mulch cover material, fencing and institutional controls.

8.0 Issues

Table 7 summarizes the current site issues.

Table 7: Current Site Issues

Issue	Affects Current Protectiveness?	Affects Future Protectiveness?
O&M Plan should be updated to ensure future protectiveness.	No	Yes

9.0 Recommendations and Follow-up Actions

Table 8 provides recommendations to address the current site issues.

Table 8: Recommendations to Address Current Site Issues

Issue	Recommendation / Follow-Up Action	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness?	
					Current	Future
O&M plan should be updated to ensure future protectiveness.	Update O&M Plan to ensure future protectiveness.	PRP	EPA	9/30/14	No	Yes

10.0 Protectiveness Statements

The remedy is protective of human health and the environment. Potential exposures have been eliminated through covers, fencing and institutional controls. In addition, monitoring is being conducted periodically to help ensure continued protectiveness.

11.0 Next Review

The next FYR will be due within five years of the signature/approval date of this FYR.

Appendix A: List of Documents Reviewed

Environmental Protective Easement and Declaration of Restrictive Covenants, dated February 24, 2005; recorded April 18, 2005.

Environmental Protective Easement and Declaration of Restrictive Covenants, dated September 24, 2008; recorded November 26, 2008.

EPA Superfund Fact Sheet, Coker's Sanitation Service Landfills, EPA ID: DED980704860, December 2012.

EPA Superfund Record of Decision, Coker's Sanitation Service Landfills, EPA ID: DED980704860, OU 01, Cheswold, DE, September 28, 1990.

Feasibility Study, Coker's Sanitation Service Landfills, Cheswold, DE, September 28, 1990.

Five-Year Review Report, Coker's Sanitation Service Landfills, Cheswold, DE, January 6, 1999.

Groundwater Management Zone Map, Delaware Department of Natural Resources and Environmental Control, 2009.

NPL: Deletion of the Coker's Sanitation Service Landfills Site from the NPL [40 C.F.R. Part 300, Appendix B], 76 Fed. Reg. 32081, Published June 30, 2011; Deletion Effective August 2, 2011.

NPL: Federal Register Notice of Placement of the Coker's Sanitation Service Landfills Site on the NPL [40 C.F.R. Part 300, Appendix B], 52 Fed. Reg. 27620, July 22, 1987.

Preliminary Health Assessment, Coker's Sanitation Service Landfills, Office of Health Assessments ATSDR, November 18, 1988.

Second Five-Year Review Report, Coker's Sanitation Service Landfills, Cheswold, DE, May 25, 2004.

Third Five-Year Review Report, Coker's Sanitation Service Landfills, Cheswold, DE, May 22, 2009.

February 2014 Monitoring Report, Coker's Sanitation Service Landfills, Clean Sites Environmental Services, May 9, 2014.

Appendix B: Press Notice

U.S. Environmental Protection Agency Reviews Cleanup at Coker's Landfills Superfund Site

The U.S. Environmental Protection Agency (EPA) is conducting a fourth Five-Year Review of the Coker's Sanitation Service Landfills Superfund Site located in Cheswold, Kent County. This review seeks to confirm that the cleanup conducted at the site, which included placement of cover material and fencing, deed restrictions, and monitoring of groundwater and surface water, continues to be protective of public health and the environment. EPA's last formal review of the site in 2009 confirmed that the remedy in place continues to be fully protective of public health. In 2011, EPA deleted the site from the National Priorities List of the nation's hazardous sites. A summary of these activities and evaluation of the long-term protectiveness of the remedy will be included in the upcoming Five-Year Review report.

What is an EPA Five-Year Review?

EPA inspects sites regularly to ensure that cleanups conducted remain fully protective of human health and the environment. These reviews, required by federal law when contaminants remain on site, include:

- Inspection of the site and cleanup technologies;
- Review of monitoring and operating data, and maintenance records; and
- Determination if any new regulatory requirements have been established since EPA's original cleanup decision was finalized.

When will the Five-Year Review Report be available?

The Five-Year Review report will be available at **http://epa.gov/5yr** by May 2014.

For more information

The site Administrative Record (AR), which includes EPA decision documents, is available at **www.epa.gov/arweb**. You may also review the AR and other site information at:

Clayton Post Office
Railroad Ave., Clayton, DE 19938
OR
EPA Region 3 Public Reading Room
Attn: Paul Van Reed (3HS42)
1650 Arch Street, 6th floor
Philadelphia, PA 19103
Phone: (215) 814-3157 (Please call to make an appt.)

You may also contact

If you have any concerns or information about a change in current site conditions, contact:

Carrie Deitzel
EPA Community Involvement Coordinator
Phone: (215) 814-5525 or (800) 553-2509
Email: deitzel.carrie@epa.gov
OR
Darius Ostrauskas
EPA Remedial Project Manager
Phone: (215) 814-3360
Email: ostrauskas.darius@epa.gov

For more site information: http://go.usa.gov/Bs6C

Appendix C: Photographs from Site Inspection Visit

Locked entrance to Landfill No. 2.

Landfill No. 2.

Fence repair at Landfill No. 2.

Monitoring well at Landfill No. 2.

Locked entrance to Landfill No. 1.


Standing water outside of Landfill No. 1 fence.