Long-Term Stewardship Assessment Report

Chester County Solid Waste Authority Lanchester Landfill

EPA ID #: PAD980550545

Narvon, Pennsylvania 19344

Assessment Date: May 18, 2022

Introduction: Long-term stewardship (LTS) refers to the activities necessary to ensure that engineering controls (ECs) are maintained and that institutional controls (ICs) continue to be enforced. The purpose of the EPA Region 3 LTS program is to periodically assess the efficacy of the implemented remedies (i.e, ECs and ICs) and to update the community on the status of the RCRA Corrective Action facilities. The assessment is conducted in twofold, which consists of a record review and a field inspection, to ensure that the remedies are implemented and maintained in accordance to the final decision.

Site Background: The Chester County Solid Waste Authority Lanchester Landfill (CCSWA) is located at 7224 Division Highway in Narvon, Pennsylvania, Caernarvon Township, Lancaster County, Pennsylvania (Facility). The Facility property consists of approximately 630 acres, including 160 acres of landfills and is located at the border of Lancaster County and Chester County. The Facility is bordered by wooded and agricultural property, along with limited commercial and residential property.

The following three landfills, comprising approximately 160 acres collectively, are located at the Facility: the Mountain Top landfill, Stabilized Waste landfill and Municipal landfill. As a result of past operations at the Facility, groundwater at the Facility became contaminated with volatile organic compounds (VOCs) and metals at concentrations exceeding applicable maximum contaminant levels (MCLs) codified at 40 C.F.R. Part 141 and promulgated pursuant to the Safe Drinking Water Act, 42 U.S. C. §§300f et seq.

The Municipal landfill currently operates under Pennsylvania Department of Environmental Protection (PADEP) Municipal Solid Waste Operating Permit No. 100944 and accepts municipal solid waste. Closure of the sub-areas that are filled to capacity occurred in four phases from 1992 through 2008. The closure activities include interim covers for areas that are or will be overfilled, final covers (synthetic liner and soil) for completed areas, drainage layers and gas management systems.

Current Site Status: On December 22, 2010, EPA issued the Final Decision and Response to Comments (FDRTC). The final remedy determination is Corrective Action Complete with Controls. Controls include operation and maintenance and monitoring actions for the landfill caps and groundwater monitoring system; and compliance with and maintenance of institutional controls.

The final remedy detailed in the FDRTC is implemented through a Hazardous Waste Facility Post-Closure Permit between EPA and CCSWA dated December 22, 2010 (EPA Permit). The EPA Permit incorporates all provisions of the Facility's RCRA Post-Closure Permit No. PAD980550545 and the Municipal Solid Waste Operating Permit No. 100944, both issued by PADEP (DEP Permits). A portion of the facility remains under continued use as a municipal landfill.

Long-term Stewardship Site Visit: On May 18, 2022, EPA conducted a long-term stewardship site visit with Chester County Solid Waste Authority to discuss and assess the status of the implemented remedies at the site.

The attendees were:

Name	Organization	Role	Email Address
Todd Richardson	EPA Region 3	Long Term Stewardship Coordinator	richardson.todd@epa.gov
John Hopkins	EPA Region 3	Long-Term Stewardship Coordinator	hopkins.john@epa.gov
Teresa Devine	Chester County Solid Waste Authority	Compliance Officer	tdevine@chestercswa.org
Robert Watts	Chester County Solid Waste Authority	Executive Director	bwatts@chestercswa.org

Institutional Controls (ICs) Status:

EPA Permit: The EPA Permit is the method for implementing institutional and engineering controls required as a condition of the Statement of Basis and Final Decision. The following ICs apply to the CCSWA Lanchester Landfill facility, shown on **Figure 1**:

Land Use Restriction: The Facility shall not be used for residential purposes unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment and EPA provides prior written approval for such use. There were no residential structures observed at the time of the visit.

Groundwater Use Restriction: The groundwater from the Facility shall not be used for any purpose other than to conduct the operation and maintenance and monitoring activities required by Pennsylvania Department of Environmental Protection (PADEP) and to implement EPA's selected remedy, unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and EPA provides written approval for such use. CCSWA is currently in compliance with the above use restriction.

Engineering Controls (ECs) Status:

Mountain Top and Stabilized Waste Landfill Caps: CCSWA has maintained the integrity and effectiveness of the landfill caps by mowing approximately twice per year. In addition to mowing, sheep (shown in Picture 8) are used to assist in the maintenance of the approximate 9-acre Stabilized

Waste Landfill (IU Site) cap. In 1989, CCSWA completed construction of a composite cap, consisting of a synthetic liner and soil over the IU Site. In 1991, CCSWA completed construction of a cap over the Mountain Top landfill. An additional composite cap, consisting of a synthetic liner and soil, was constructed over the flat areas of this landfill and a clay cap was constructed over the steep slope areas. The construction also included the installation of surface water/runoff channels, a passive gas management system, and a leachate collection system

The IU Site is currently being maintained and monitored under a RCRA post-closure permit, Permit No. PAD 980 550 545. While the Mountain Top landfill is not operating under a permit, because of its proximity to the Municipal landfill, groundwater monitoring, inspection and maintenance obligations are required by Municipal Solid Waste Operating Permit No. 100944. No plants with deeply penetrating root systems or signs of significant erosion were observed at either of the capped landfills. Surface water berms and swales were in good condition with no signs of ponding. A solar panel array was recently installed on Mountain Top landfill (Picture 9).

Leachate Collection System: The original area of the Municipal landfill was constructed beginning in 1984 with a single asphalt liner. All areas constructed after 1988 have a double liner and leachate collection system. One leachate sampling is collected quarterly at each of twelve leachate monitoring points. These points include the leachate storage tank and from primary leachate collection systems in Manhole #6, Expansion B Cells 1, 2, 3 and 4, Municipal Overflow Units 1 and 2, the Area D Expansions Cells 1, 2 and 3, ant the Area E Expansion Cell 1. Quarterly samples are also collected at the three sump locations; The Churchtown Road Pump Station, The Railroad Cut Collection system and the Mountain Top landfill sump EW-1. Areas with leachate collection also have detection zone monitoring to identify when leachate contamination may occur. Approximately every 90 days, leachate collected by the leachate collection system is transferred to a tanker truck and disposed of at a RCRA permitted disposal facility. At the time this assessment was conducted, facility representatives reported that an estimated 500 -700 gallons of leachate accumulates during a 90day period. CCSWA continues to operate the leachate collection as intended.

Groundwater Monitoring: The Facility's RCRA Post-Closure Permit and Municipal Solid Waste Operating Permit collectively impose operation and maintenance and groundwater monitoring requirements on the entire Facility. As part of its post-closure care and operating requirements, embodied in the permits, CCSWA conducts quarterly groundwater monitoring to assess releases from the three landfills and maintains the integrity and protectiveness of the landfill caps. Results of quarterly groundwater monitoring are reported annually.

Data is screening with applicable 25 PA Code Chapter 250 groundwater quality standards. The monitoring network for each landfill consists of the following number of groundwater wells: eleven (11) at the Former Mountain Top landfill, eight (8) at the IU Site, three (3) at the Lanchester Municipal landfill, five (5) at the Municipal landfill Overfill unit, six (6) at the Expansion Area B 1, 2, 3, and 4 Cells, four (4) at the Expansion Area D Cells and four (4) at the Expansion Area E Cells.

Results of the latest 2021 Water Quality Monitoring Report suggests that contaminant concentrations in groundwater are consistent with historical trends. Primary contaminants of concern include mercury, chromium, arsenic, benzene. As of 2021, constituents with an increasing trend at various monitoring

wells include calcium, chloride, manganese, nitrogen, potassium, sodium and sulfate. CCSWA will continue to conduct quarterly groundwater sampling events and recommend changes to the monitoring plan as necessary.

Financial Assurance: Financial assurance is required in the form of a collateral bond approved by PADEP. A financial assurance evaluation, which includes a review of site operation, maintenance and sampling costs, is completed annually by CCSWA.

Reporting Requirements/Compliance: All reporting requirements of the DEP Permits have been met. CCSWA submits annual Water Quality Monitoring Plan reports the last of which was received in June 2022. CCSWA also submits annual cap inspect reports the last of which was received May 15, 2022.

Mapping: The EPA facility website map is accurate and includes the 630-acre CCSWA Lanchester property. A downloadable geospatial PDF map is available on EPA's corrective action facility webpage under the "Reports, Documents and Photographs" section, found here.

Conclusions and Recommendations: No EC/IC deficiencies were identified. Some minor areas of erosion were observed on the cover of the Stabilized Waste Landfill. Erosion control measures were being implemented in various areas as shown in Pictures 2 and 3. Continue to monitor and repair areas of erosion as needed. EPA has determined that the remedy institutional and engineering controls have been fully implemented.

Attachments:

Figure 1: Aerial Map of Chester County Solid Waste Authority Lanchester Landfill

Picture 1: From top of Stabilized Waste Landfill facing south

Picture 2: Western area of Stabilized Waste Landfill- erosion control measures in drainage ditch

Picture 3: Top of Stablized Waste Landfill facing north towards Municipal Landfill Areas – area of minor erosion repair

Picture 4: Top of Mountain Top Landfill facing southwest – passive ventilation system

Picture 5: Top of Mountain Top Landfill northern boundary – passive ventilation system

Picture 6: Monitoring Well IUW-20

Picture 7: Monitoring Well IUW-19

Picture 8: Sheep used in conjunction with mowing to maintain vegetative landfill covers

Picture 9: Solar panels on Mountain Top Landfill

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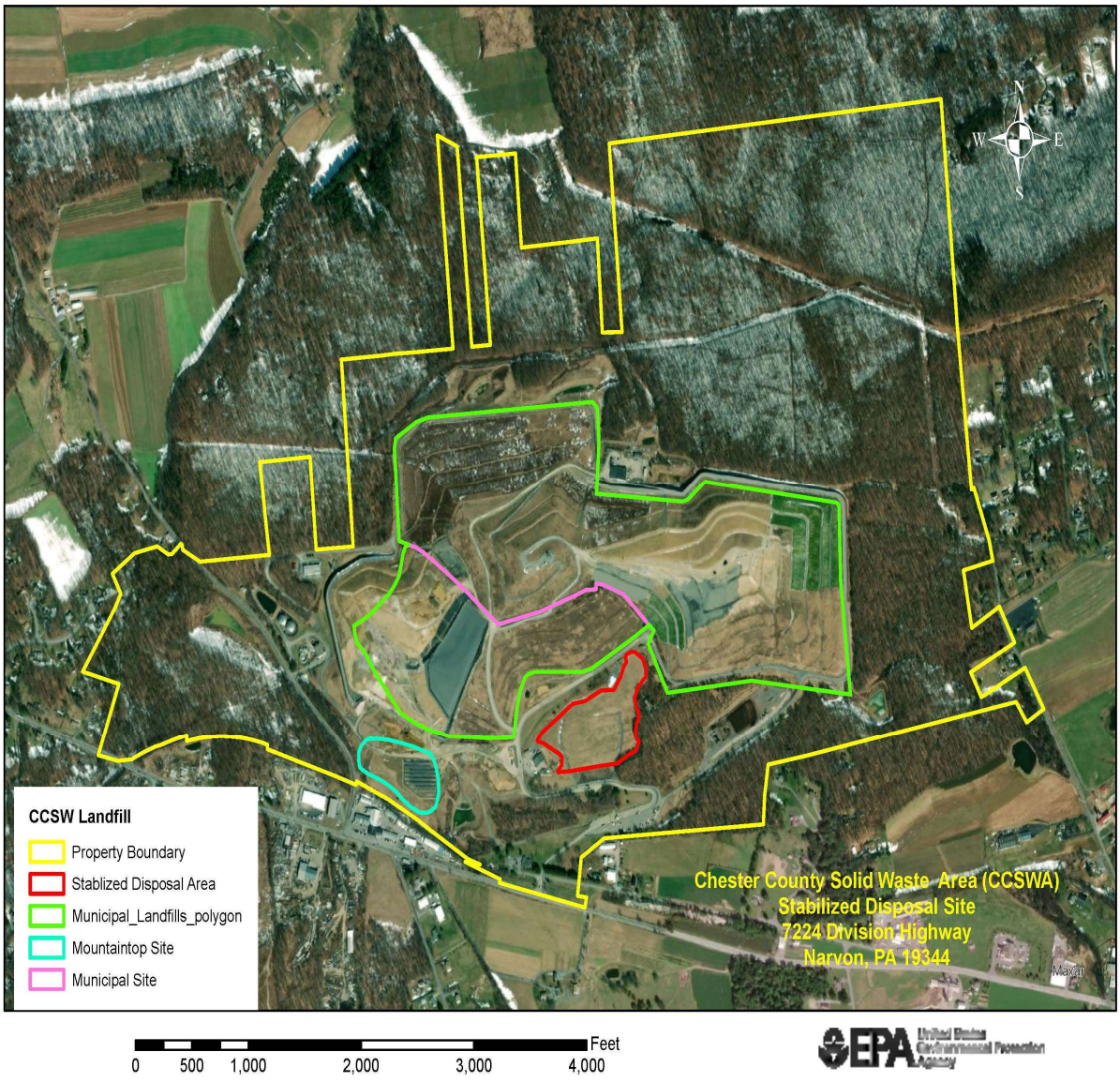

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