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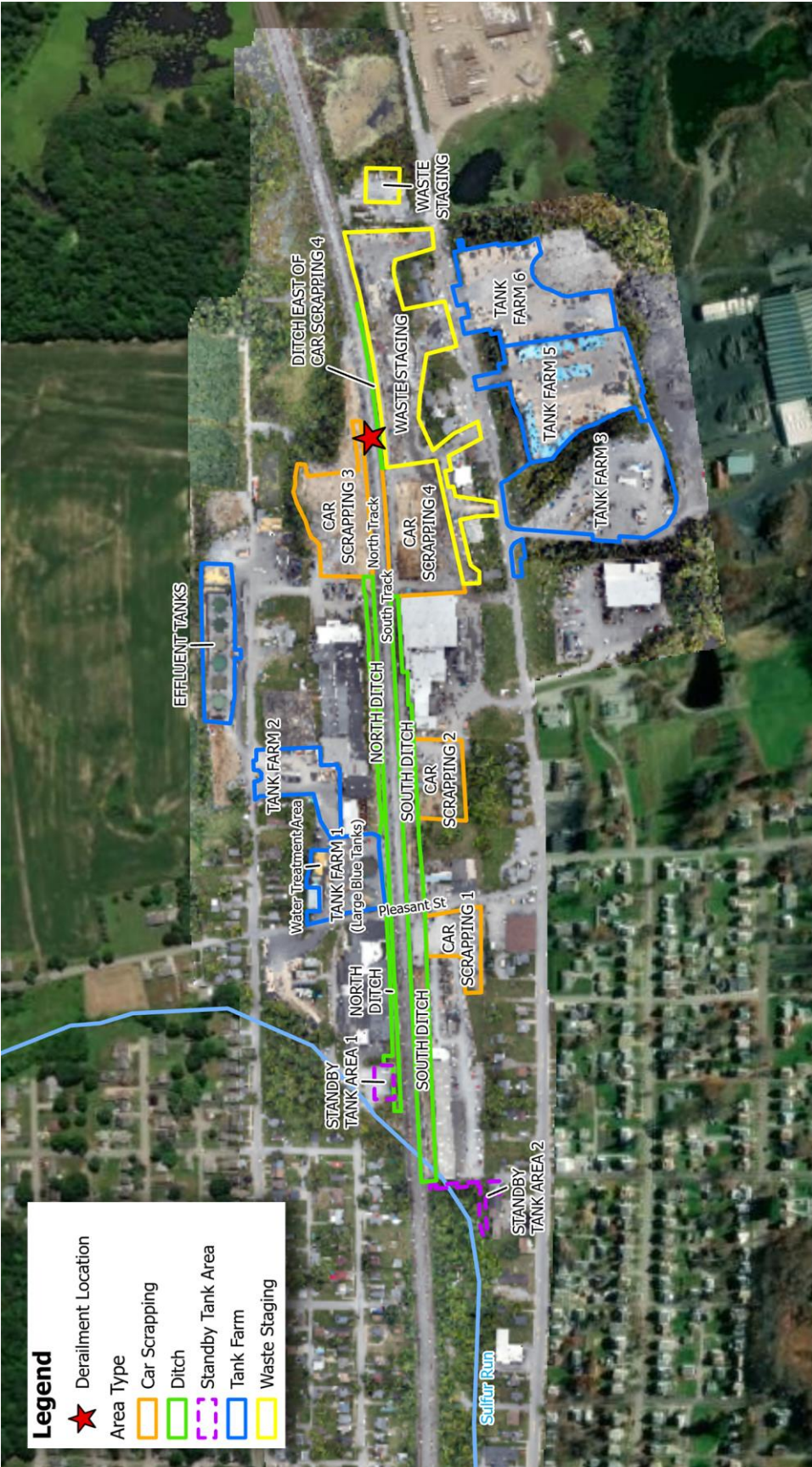


2nd Update to EPA Report Submitted Pursuant to Section 2(b) of Executive Order 14108

***Executive Order 14108 on Ensuring the People of East
Palestine Are Protected Now and in the Future¹***

February 20, 2024

¹ See 88 FR 66265 (9/26/23).



East Palestine, Ohio, Train Derailment Response
Site Overview Map

Executive Summary

Since February 2023, EPA has been directing and overseeing the extensive cleanup activities conducted by Norfolk Southern Railway Co. after a train derailed in East Palestine, Ohio, releasing hazardous substances and oil, causing a massive fire, and leading to the temporary evacuation of thousands of residents.

This is the second update — and the third report overall — submitted pursuant to section 2(b) of Executive Order 14108 (*Executive Order on Ensuring the People of East Palestine Are Protected Now and in the Future*). It provides updates on activities and developments since EPA submitted the second report on December 20, 2023. Highlights include:

- Demobilization of the “trailer city” in Columbiana, which had been the base of operations for the Unified Command, was completed on December 22, 2023, and Unified Command workspaces were consolidated into the EPA’s forward operations base in East Palestine and the Welcome Center in downtown East Palestine.
- Site operations were paused during the holiday week (except for essential wastewater management) and resumed after the New Year.
- On January 8, 2024, Norfolk Southern submitted its workplan to address remaining oil contamination in stream sediments, as required by EPA’s October 18, 2023, Clean Water Act Section 311 administrative order.
- With sampling results indicating that contaminated soil had been successfully removed from Car Scrapping Area #4, north of Taggart Street, Norfolk Southern began backfilling Car Scrapping Area #4 with new stone and gravel.
- The onsite wastewater treatment plant, which had been offline for winterization and other operational adjustments, resumed operations on January 17, 2024.
- In response to increased interest from the public, the press, and media as the 1-year anniversary of the Norfolk Southern train derailment approached, EPA intensified its public and community engagement efforts.
- As announced in early December, Norfolk Southern’s temporary relocation assistance for East Palestine residents concluded on February 9, 2024.
- The final site-wide confirmation soil sampling effort — a final doublecheck to ensure that the cleanup has been fully successful and that no contamination has spread due to cleanup activities — is now more than 1/3 complete. The site-wide confirmation soil sampling will continue through mid-2024.

The status of air, soil, surface water, groundwater, and drinking water has not changed significantly since the last report in December. Air monitoring and sampling still occur as necessary during all derailment-related cleanup activities at the specific location of that work. Overall, more than 115 million air monitoring data points, and more than 45,000 samples across all media (air, water, and soil) have been collected. Since the evacuation order was lifted on February 8, 2023, no air monitoring readings or analytical results for the contaminants of concern (vinyl chloride, n-butyl acrylate, and over 70 additional

monitored chemicals) have been found above action levels established for the site. This data collection continues, and ongoing scientific reviews show that residents of East Palestine are not at risk from impacted surface water, soil, or air from the derailment.

As reported in October 2023, almost no CERCLA² hazardous substances have been detected in water in surface streams since mid-May 2023. In October 2023, EPA issued a Clean Water Act administrative order related to the discharge of oil and Clean Water Act hazardous substances requiring sheen and sediment characterization. Analysis of samples from the sheen and sediment characterization has been completed, and EPA and Ohio EPA are reviewing and guiding development of Norfolk Southern's workplan to address contamination in stream sediments. Drinking water samples have consistently shown no impacts from the derailment and continue to meet drinking water safety standards.

Communication with the surrounding communities and with state and local leaders continues to be a priority for EPA — particularly with the increased interest from the public and media as the 1-year anniversary of the derailment approached. Representatives from Ohio EPA, the Village of East Palestine, and Columbiana County are active participants in the Unified Command for the cleanup. In addition, Ohio EPA is actively involved with assisting with oversight of the cleanup, primarily with groundwater, potable water, streams, and final soil sampling efforts. EPA's Welcome Center in downtown East Palestine remains open and available to answer questions from residents by appointment. Residents can still call the information line or send an email to talk to a representative during business hours. The Agency updates its website on cleanup progress several times each week; hosts recurring community stakeholder meetings; and keeps the community informed through the regular print newsletter, now published on a monthly basis. EPA remains committed to the people of East Palestine, to the successful completion of the cleanup, and to the revitalization of the community.



Figure 1. President Joe Biden visited East Palestine on February 16, 2024, to view the site of the derailment and to discuss how the Administration is continuing to hold the railroad accountable and to support the community.

² CERCLA is the Comprehensive Environmental Response, Compensation, and Liability Act, the law which authorizes EPA to respond to releases or threatened releases of hazardous substances into the environment. Learn more at <https://www.epa.gov/superfund/superfund-cercla-overview>

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Introduction

On September 20, 2023, President Joseph Biden issued Executive Order 14108 (*Executive Order on Ensuring the People of East Palestine Are Protected Now and in the Future*). The order directed EPA to provide a report to the President within 30 days on the cleanup efforts on Norfolk Southern’s compliance with the CERCLA unilateral administrative order to address the imminent and substantial endangerment caused by the company’s derailment, and on the status of air, soil, and water monitoring. EPA was also directed to provide the President with an updated report every 60 days until all cleanup, assessment, and monitoring work required by EPA’s order has been completed. EPA submitted the first report pursuant to the executive order on October 20, 2023, and a 90-day update on December 20, 2023. This report is the second update in the series and the third report submitted overall.

Status of Cleanup Efforts

Cleanup efforts began almost immediately after the end of initial response and have been ongoing ever since. EPA’s CERCLA unilateral administrative order required Norfolk Southern to submit a comprehensive *Removal Work Plan*, which it did on March 6, 2023. The removal work plan included 13 separate work plans, addressing a wide variety of different aspects of the cleanup, including a plan for health and safety of cleanup site workers, a site security plan, and plans for sampling of air, surface water, groundwater, and soil. The work plan for the cleanup of the derailment site itself is detailed in the *Main Line Soil Removal Work Plan (Appendix D)*. As the cleanup has progressed, additional work plans

have been added to the *Removal Work Plan*. EPA (with input and assistance from the Unified Command) has approved all but one work plan (*Community Impact Mitigation Plan*), and all approved work plans have been implemented or are currently being implemented. In mid-October, EPA issued a Clean Water Act administrative order to Norfolk Southern requiring the company to remove sediments in culverted areas of Sulphur Run, and to further delineate, characterize, and, as necessary, remove oil and CWA hazardous substances from the sediments in Leslie and Sulphur Runs.

With excavation of contaminated soil and removal of stockpiled contaminated soil complete, the focus of cleanup efforts has shifted to cleaning up contaminated sediments from culverted areas and to the delineation, characterization, and removal of contamination from sediments in Leslie and Sulphur Runs. As of February 2024, cleanup in four of five culverts has been completed, as has the sheen sampling effort along area waterways. On January 8, 2024, Norfolk Southern submitted its draft work plan for addressing contaminated sediment in Leslie and Sulphur Runs (creeks). EPA and Ohio EPA have been reviewing the draft workplan and guiding its finalization.

Other key cleanup activities remain ongoing. The final site-wide confirmation soil sampling effort — a final doublecheck to ensure that the cleanup has been fully successful and that no contamination has spread due to cleanup activities — is now more than 1/3 complete, and will continue through mid-2024. In mid-January, Norfolk Southern began backfilling Car Scrapping Area #4 with new stone and gravel, with an average of 100 trucks per day bringing clean fill to the worksite.

Actions currently being performed by the company under EPA direction include:

- Temporary storage, transportation, and disposal of hazardous wastewater from the site.
- Temporary storage and treatment of hazardous wastewater via an on-site treatment system along with off-site disposal of that treated non-hazardous wastewater.
- Delineating groundwater contamination through continued groundwater well sampling.
- Monitoring drinking water through sampling of private and public water supplies, and the sampling of sentinel monitoring wells.
- Delineating surface water contamination and system recovery through continued sampling of the tributary system to the Ohio River.
- Community and worker air monitoring, sampling, and analysis at derailment-related work zones.
- Coordination regarding community concerns including conducting public outreach events.
- Cleanout of sediment from the remaining culvert on Sulphur Run pursuant to the administrative order under Section 311(c) of the CWA.

As of February 20, 2024, more than 176,000 tons of contaminated soil and more than 50 million gallons of contaminated liquid have been shipped offsite for disposal. To date, EPA and Norfolk Southern have collected more than 28,000 air samples, more than 200 sediment samples, and more than 5,300 soil samples. The EPA's state and local partners³, along with Norfolk Southern, have collected more than 300

³ Ohio EPA, Columbiana County Health Department, and the Pennsylvania Department of Environmental Protection

monitoring-well samples, 3,700 surface water samples, and more than 1,100 private well samples; and they have conducted 43 rounds (more than 250 samples) of drinking water sampling from the public well supply. Available data continue to show that no contaminants of concern have been detected at levels of concern in the air in the affected communities at sustained levels since the evacuation order was lifted on February 8, 2023. Almost no contaminants⁴ related to the derailment have been detected at levels of concern in water in surface streams since early May. Raw water and treated municipal drinking water show no detection of contaminants associated with the derailment. To date, sampling indicates that residential groundwater wells have not been affected by chemicals associated with the derailment.

Status of Progress of Individual CERCLA Work Plans

Health and Safety Plan (Appendix A)

No significant update. The health and safety of the responders continue to be a focus of Unified Command, and OSHA continues to provide support. To date there have been no major reportable OSHA or Federal Railroad Administration incidents.

Site Security Plan (Appendix B)

No significant update. Traffic on East Taggart Street remains open to non-derailment-related traffic during daytime and evening hours with appropriate safety measures in place. Once backfilling of Car Scrapping Area #4 is complete, truck traffic will decrease.

Air Sampling and Analysis Plan (Appendix C)

No significant update. With the conclusion of Appendix D work (*Main Line Soil Removal*) on October 29, 2023, equipment that was no longer needed to monitor air quality around the excavation site was demobilized. Air monitoring and sampling still occur as necessary during all derailment-related cleanup activities at the specific location of that work.

Main Line Soil Removal Work Plan (Appendix D)

No significant update. The *Main Line Soil Removal Work Plan (Appendix D)* describes plans and procedures for excavation and soil sampling in the track areas and other areas directly affected by the derailment, and was a major focus of the cleanup efforts. Excavation work under the *Main Line Soil Removal Work Plan (Appendix D)* was completed on October 29, 2023. Excavation work was conducted along a cleanup area more than 3,000 linear feet — more than ½ mile — in length. After contaminated soils were excavated, confirmation sampling was conducted and excavated areas were backfilled. As previously noted, more than 176,000 tons of contaminated soil from the derailment area have been excavated and transported off-site for disposal under this plan. Restoration of the areas alongside the tracks where contaminated soil was excavated is now complete.

Characterization Work Plan for Derailment Area Soil (Appendix E)

The *Characterization Work Plan for Derailment Area Soil* — also referred to in this report as the sitewide soil confirmation sampling effort — is the final comprehensive soil sampling effort of the derailment site,

⁴ While almost no contamination related to the derailment has been detected in the water column of the surface waters, oil and CWA hazardous substances have been detected in the sheen and sediments.

adjacent support areas, and other locations in the Village of East Palestine, and is intended to ensure that the cleanup has been fully successful and as a double-check to ensure that contamination has not spread because of response activities. Work under this plan began on September 11, 2023. To date, more than 44 percent of the areas to be sampled have been completed with EPA oversight. Work under the *Characterization Work Plan for Derailment Area Soil (Appendix E)* is expected to be mostly complete by March 2024, but some of the work will extend into August 2024.

Phase I — Preliminary Residential/Commercial/Agricultural Soil Sampling Plan (Appendix F)

No significant update. As noted in previous EPA reports, work under this plan is complete. The sampling effort was completed on April 14, 2023, and a report summarizing findings was provided to the public on October 2, 2023.

Surface Water Sampling and Analysis Plan (Appendix G)

No significant update. The original *Surface Water Sampling and Analysis Plan (Appendix G)* was approved on June 29, 2023, and data and reports generated for work conducted under this plan have been reviewed by EPA and Ohio EPA. To date, 3,717 surface water samples have been collected. Preliminary results indicated that the sheening produced on the surface waters is a result of oil compounds remaining in the sediments. As noted above, EPA issued a Clean Water Act administrative order on October 18, 2023, which requires Norfolk Southern to further evaluate the sheen produced on the surface water.

Sediment Characterization Work Plan (Appendix H)

No significant update. The original *Sediment Characterization Work Plan (Appendix H)* was approved on July 12, 2023. More than 50 sediment samples were collected under this plan. Data and reports generated for work conducted under this plan have been reviewed by EPA and Ohio EPA. Preliminary results indicated that the contamination remaining in the sediments was oil compounds which produce sheen on the surface water when disturbed. As noted above, EPA issued a Clean Water Act administrative order on October 18, 2023, which required Norfolk Southern to further evaluate the sediments in Leslie Run and Sulphur Run and to provide a separate work plan on how to address the remaining contamination related to oil and CWA hazardous substances in the sediments.

Groundwater Characterization Work Plan (Appendix I)

Norfolk Southern has installed and sampled twenty-three shallow and 8 deep groundwater monitoring wells. Ohio EPA and EPA are evaluating the data generated from these wells to determine if any derailment-related chemicals have contaminated the groundwater in the vicinity of the site. To date, wells have been sampled 44 times between March 2023 and January 2024 and are sampled weekly. Low-level polycyclic aromatic hydrocarbons (PAH) have been detected, and the Agencies are evaluating results along with site soil data. PAH are ubiquitous compounds in the environment and associated naturally with coal (which is present in the area and at the site) and with anthropogenic burning of fossil fuels. They are also constituents of petroleum products. Approximately two railcars of oil were spilled during the derailment.

Potable Water Sampling Work Plan (Appendix J)

No significant update. Under this plan, more than 1,200 private potable well samples (including multiple rounds) have been collected, and 50 rounds of sampling of the public municipal wells have been conducted. There have been no detections of chemicals related to the derailment in any of the potable well samples collected. State and local agencies will continue to provide oversight of Norfolk Southern's efforts to sample all potable wells.

Sentinel Well — Monitoring Well Installation and Groundwater Sampling Work Plan (Appendix K)

To date, 25 sentinel wells have been sampled up to 46 times and are currently sampled weekly. Data generated from these wells is evaluated in conjunction with the data from the potable well sampling program to help determine what future potable well sampling will entail. Currently no constituents have been detected at levels of concern.

Waste Sampling and Management Plan (Appendix L)

Work continues under this plan. To date, more than 176,000 tons of contaminated soil, over 50 million gallons of contaminated wastewater, and 201 drums of miscellaneous material have been properly managed and transported off site for disposal. Most soil/debris disposal has taken place via truck transportation (8,917 loads). All wastewater transportation has taken place either via truck or truck-to-rail line (8,005 loads). Work under this plan will continue until all site wastes have been properly transported off site for disposal.

Community Impact Mitigation Plan (Appendix M)

A *Community Impact Mitigation Plan* is being finalized that incorporates response mitigation measures already conducted by Norfolk Southern and any further proposed actions. There is currently no projected end point for this activity.

Other Work Plans

The original removal work plan submitted on March 6, 2023, included the 13 work plans discussed above. During the course of the response, there have been numerous other work plans, memos, and procedures that were reviewed and approved by EPA. Two of these other work plans are notable and will be discussed here.

Structure Cleaning Program: Cleaning Protocol

No significant update. Norfolk Southern offered the structure cleaning program to address potential dust emissions that may have been generated as part of the train derailment and cleanup work to add an additional layer of comfort for people returning to their homes and places of business. Work under this program generated significant positive feedback from the community and was completed on November 12, 2023. In all, 83 structures were cleaned by Norfolk Southern with EPA oversight.

Wastewater Treatment and Contained-In Determination Operational Summary

Norfolk Southern constructed an on-site wastewater treatment plant to remove any residual vinyl chloride from wastewater generated onsite. To date, more than 10 million gallons of wastewater have been treated on-site and been granted a determination for disposal as non-hazardous waste. The

wastewater treatment plant was shut down on November 28, 2023, for operational inspections and winterization of the plant, and resumed operations on January 17, 2024. During periods of the plant shutdown and high precipitation, a portion of collected wastewater was also stored and transported offsite as hazardous waste to ensure adequate total onsite water storage capacity and regulatory compliance. As of February 2024, almost all of the derailment areas adjacent to the tracks have been sampled and characterized. With excavation complete and sampling/characterization nearly complete, the regulatory agencies are evaluating whether surface water running onto the site still has potential to become contaminated, and what measures are appropriate and necessary to protect local waterways. Plans are now in preparation to eventually return normal surface water flows to the north and south ditches, and into Sulphur Run. Part of this plan will include ending water collection from these areas and terminating the bypass of upstream surface water around the derailment area.

Clean Water Act Administrative Order Work Plans

As previously noted, EPA issued a Clean Water Act administrative order on October 18, 2023, which required Norfolk Southern to further evaluate the sediment in Leslie Run and Sulphur Run, to remove sediment from culverts located in Sulphur Run, and to provide a work plan to address the oil remaining in the sediment.

Comprehensive Sheen and Sediment Investigation Work Plan — Sulphur Run and Leslie Run

This work plan describes procedures for Norfolk Southern to fully evaluate the sediment and resulting surface water sheen in Sulphur Run and Leslie Run (approximately 5 miles of waterway). Under this plan, Norfolk Southern was required to qualitatively assess sheen produced when sediment was disturbed, collect samples of sediment that produced sheen and collect samples of the resultant sheen. These assessments occurred every 25 feet along the length of the waterways. This effort was completed on December 1, 2023, with 829 qualitative assessments, 168 sediment, and 83 sheen samples collected. An interactive web viewer summarizing the findings of the qualitative stream assessment was provided to the public in early February 2024. A report of the qualitative assessment was approved in early February 2024 and will be provided to the public.

Sulphur Run Culvert Sediment Removal Plan

This work plan describes procedures for Norfolk Southern to remove sediment located in 5 culverts in Sulphur Run, totaling 1,410 feet. As part of the work plan, Norfolk Southern used robotic means to test the air quality and evaluate the integrity of the culverts prior to sending people in them. Sediment removal in 4 of the 5 culverts has been completed. The remaining culvert is more than 800 feet long and there are safety considerations with conducting sediment removal in that culvert. EPA, Norfolk Southern contractors, and OSHA have evaluated the remaining culvert and are currently preparing a plan to address remaining contamination in the culvert. A report summarizing these findings was approved in early February and will be provided to the public.

Status of Norfolk Southern's Compliance with Orders

On February 21, 2023, EPA issued a CERCLA unilateral administrative order⁵ to Norfolk Southern, ordering it to conduct all necessary actions associated with the cleanup of the February 3, 2023, derailment in East Palestine, Ohio. The effective date of the administrative order is February 27, 2023. Specifically, the order requires Norfolk Southern to develop a removal work plan⁶ to identify and clean up contaminated soil and water resources; to mitigate impacts to the community caused by the work being done at the site; to pay EPA's costs incurred under the order; and to provide financial assurance to demonstrate that Norfolk Southern has adequate financial resources available to complete the required cleanup work. EPA continues to closely monitor and evaluate Norfolk Southern's compliance with the CERCLA order and all approved work plans. Based on EPA's oversight, the Agency believes that Norfolk Southern is in compliance with the order.⁷ This assessment of compliance may change as there are some obligations which have not yet been triggered and certain obligations which are continuing.

Norfolk Southern requirements under the CERCLA unilateral administrative order			
Paragraph	Requirement	Due Date	Date of Performance
30	Notification of intent to comply with the order	2/27/23	2/24/23
31	Submission of contact information and qualifications of the personnel, contractors, and laboratories to be used for the cleanup work and submission of the contractor's quality management plan.	3/2/23	2/28/23
32	Designation of a project coordinator.	3/2/23	2/27/23
38	Submission a draft removal work plan for EPA review and approval.	3/6/23	3/6/23
38.e.	Compliance with EPA approved plans, reports, specifications, schedules, etc.	Various dates based on dates of EPA's approvals	Ongoing
40	Submission of a sampling and analysis plan for EPA review and approval.	3/6/23	3/6/23
41	Submission of a health and safety plan to EPA for review and comment.	3/6/23	3/6/23
44	Submission of weekly progress reports.	Weekly	Ongoing
51.a.	Submission of a draft notice to successors-in-title regarding the removal action and the UAO.	3/14/23	3/13/23

⁵ The UAO was amended by EPA on March 27, 2023. This amendment made several minor changes to the UAO.

⁶ The removal work plan consists of 13 separate appendices addressing various kinds of work including, but not limited to, soil excavation under the main line; residential, commercial, and agricultural soil sampling; waste sampling; potable water sampling; groundwater characterization; and surface water and sediment characterization.

⁷ EPA's compliance evaluation is current as of February 20, 2024.

	Recording of the notice to successors-in-title within 10 days of EPA's approval of the draft notice.	5/23/23 ⁸	5/23/23
	Submission of a certified copy of the recorded notice to successors-in-title.	6/2/23	5/24/23
60	Submission of a written certification that there has been no destruction of records relating to potential liability regarding the site and full compliance with any requests for information regarding the site.	3/6/23 ⁹	3/2/23
75	Submission of general commercial liability insurance.	Extended due to negotiations	10/18/23
78	Submission of a draft financial assurance mechanism for EPA review and approval.	4/20/23 ¹⁰	4/20/23
	Submission of finalized financial assurance mechanism.	5/17/2023 ¹¹	5/17/23

Clean Water Act Administrative Order and Norfolk Southern Requirements Under the Order

On October 18, 2023, EPA issued a Clean Water Act section 311 administrative order to Norfolk Southern, requiring the company to remove contaminated sediments in culverted areas of Sulphur Run and to further delineate, characterize, and, as necessary, remove oil and Clean Water Act hazardous substances from the sediments in Leslie and Sulphur Runs. The effective date of the Clean Water Act order is October 18 — the date Norfolk Southern received the order. EPA continues to closely monitor and evaluate Norfolk Southern's compliance with the Clean Water Act order and all approved work plans. Based on EPA's oversight, the agency believes that Norfolk Southern is in compliance with the Clean Water Act order.¹²

Norfolk Southern requirements under the Clean Water Act administrative order			
Paragraph	Requirement	Due Date	Date of Performance
49	Notification of intent to comply with the order.	10/18/23	10/19/23
51	Submission of work plan to perform a comprehensive sheen and sediment survey for EPA review and approval.	10/25/23	10/25/23
53	Initiation of implementation of the approved sheen and sediment survey work plan. ¹³	11/4/23	11/2/23

⁸ EPA approved Norfolk Southern's draft notice to successors-in-title on May 11, 2023. The due date, which was May 22, 2023, was extended to allow for delivery of the notice to the records office.

⁹ The due date falls on Saturday, March 4, 2023. Per the terms of the UAO, the due date is extended to the next business day.

¹⁰ EPA provided the cost estimate to Norfolk Southern on March 31, 2023.

¹¹ EPA approved the draft financial assurance mechanism on April 27, 2023.

¹² EPA's compliance evaluation is current as of February 20, 2023.

¹³ EPA approved the Comprehensive Sheen and Sediment Survey Work Plan on November 1, 2023.

54	Completion of implementation of sheen and sediment survey work plan.	12/1/23	12/1/23
55	Submission of a report describing the results of the comprehensive sheen and sediment (creek) survey	12/11/23 (creek survey data)	12/11/23
56	Submission of a full sheen and sediment survey report with final data and validated analytical data. ¹⁴	12/18/23 ¹⁵ (validated sediment analytical data) 1/19/24 ¹⁶ (full survey report and validated sheen analytical data)	12/18/23 1/19/24
57	Submission of a revised work plan for sediment removal actions or mitigation measures.	1/8/24 ¹⁷	1/8/24
59	Submission of a Culvert Removal Plan for EPA review and approval.	11/1/23	11/1/23
61	Submission of a report describing the work conducted under the Culvert Removal Plan.	12/20/23 ¹⁸	12/21/23 ¹⁹
64	Submission of a final report summarizing all work conducted under the CWA administrative order.	TBD	

Status of Air, Soil, Surface Water, Groundwater, and Drinking Water

Air

No significant update. None of the more than 115 million monitoring readings or more than 28,000 analytical results have been reported in the community above any site-established action levels since the

¹⁴ Following issuance of the CWA administrative order, the deadlines for submission of validated data from the sediment surveys was separated from the requirement to submit a full report for both surveys accompanied by validated analytical data by a December 1, 2023, directive from Unified Command.

¹⁵ The deadline for submittal of validated sediment analytical data was extended by Unified Command from December 15, 2023, to December 18, 2023.

¹⁶ The deadline for submittal of a full report summarizing the sheen and sediment surveys and submittal of validated sheen analytical data was extended by Unified Command from December 15, 2023, to January 19, 2024.

¹⁷ This deadline was established by the December 1, 2023, directive from Unified Command.

¹⁸ This deadline was extended by Unified Command from December 1, 2023, to December 20, 2023.

¹⁹ This submittal was timely provided by Norfolk Southern. On December 18, 2023, Unified Command approved an Addendum to the Sulphur Run Sediment Removal Plan with modifications. Norfolk Southern submitted the modified the Addendum on December 19, 2023, and then included the data from that Addendum into the Culvert Removal Plan, which was submitted on December 21, 2023.

lifting of the evacuation in February 2023. As noted above, with the completion of excavation of contaminated soil under the Main Line Soil Removal Work Plan, the 24/7 air monitoring network around the derailment site has been discontinued. Air monitoring is conducted, as appropriate, during any intrusive site-related work activity.

Soil

No significant update. Work under the Main Line Soil Removal plan was completed on October 27, 2023. Excavated areas were sampled to ensure they met the clearance criteria and will be re-assessed under the *Characterization Work Plan for Derailment Area Soil (Appendix E)*, which is the final step in determining if all contamination that resulted from the derailment has been characterized and will identify areas potentially requiring further study. As noted in EPA's October 20 report, results from soil investigation under *Phase I — Preliminary Residential/Commercial/Agricultural Soil Sampling Plan (Appendix F)* was completed on April 14, 2023, and results from the assessment indicated that semi-volatile organic chemicals and dioxins were within typical background concentrations for rural and urban/suburban soil. A report summarizing these findings was provided to the public on October 2, 2023, and no further community-wide sampling is expected to be conducted.

Surface Water and Sediment

Surface water and sediment investigations in the tributaries leading from the derailment area to the Ohio River have been completed under the CERCLA administrative order. The report detailing the findings of these investigations has been evaluated and preliminary findings (presence of sheen upon disturbance of sediment) indicated that oil contamination remains in Leslie Run and Sulphur Run as a result of the oil discharged from the derailment.

Ohio EPA (OEPA) and Ohio DNR have been evaluating the biological recovery of the waterways since early spring 2023. According to Ohio EPA, from a biological standpoint (fish and other aquatic wildlife), the waterways have generally recovered to pre-derailment conditions.

EPA issued a Clean Water Act administrative order to Norfolk Southern on October 18, 2023, to further evaluate the sediment and resultant surface water sheen in Leslie Run and Sulphur Run. A qualitative sheen survey performed over the 5 miles of Leslie Run and Sulphur Run waterways (disturbance of sediments every 25 feet) resulted in over 800 data points, approximately 29% of which indicated moderate to heavy sheen (mostly in Sulphur Run). Also under the Clean Water Act order, Norfolk Southern is required to clean the sediment from 5 culverts in Sulphur Run which run through the Village of East Palestine (approximately 1,410 feet of culverts). To date, sediment removal has been completed in 4 of the culverts with more than 140 cubic yards of sediment removed.

Norfolk Southern submitted its required work plan under the Clean Water Act order to address the remaining contamination in the sediments on January 8, 2024. EPA and Ohio EPA have been reviewing the work plan and guiding its finalization.

Groundwater

As of January 12, 2024, a network of 34 shallow and 8 deep wells is now in place at the site to characterize groundwater and monitor for impacts from the derailment. Complete delineation of the

groundwater will be finished once all wells are installed. (Installation of several final wells is on hold due to ongoing site-related work.) At EPA's direction, NSR completed a full round of concurrent sampling of all on-site groundwater and sentinel wells in November 2023, and generated a draft conceptual site model to help understand the site features, hydrology, and subsurface conditions. (This also directly helps the Agencies protect drinking water resources.) While this model is being further developed, the agencies are using the sampling data to determine if there is any derailment-related groundwater contamination near the site and where that contamination may travel (i.e., fate and transport). Review of the sampling data generated to date indicates that there has been no oil or chemical layer observed in the aquifer. Future temporal sample collection activities (samples collected at the same time) and frequencies are being determined for this year. After review of the data and conceptual site model, some wells will be made permanent and require long-term sampling, and others will be abandoned.

Potable Water

No significant update. There have been no detections of contaminants related to the derailment in any of the potable water samples collected. Local and state agencies continue to provide oversight of Norfolk Southern's work for this effort. After review of the data from these sampling events, the local and state regulatory agencies will determine future efforts.

Remaining Timeline and Conclusion

The 1-year anniversary of the Norfolk Southern train derailment was February 3, 2024, marking a year of emergency response and cleanup operations. Since EPA's last report in December 2023, the focus of cleanup efforts has been on the final full-site characterization and the work required under EPA's Clean Water Act order. EPA anticipates that significant cleanup operations will continue through mid-2024:

- Restoration of the main line track areas is now complete, and restoration of Car Scrapping Area #4 remains in progress. Restoration of other work and support areas will likely be complete by mid-2024.
- Work under the *Characterization Work Plan for Derailment Area Soil* — the final comprehensive soil sampling effort of the derailment site, adjacent support areas, and other locations in the Village of East Palestine — is expected to be mostly complete in August 2024 and fully complete in November 2024.
- A vapor intrusion study of several commercial buildings near the derailment site is underway and samples will be collected each quarter to complete the study. This effort is anticipated to have final sampling in September 2024.
- Although excavation and disposal of known soil contamination resulting from the derailment was completed on October 30, 2023, some management and disposal of site-related wastes continues, although at a greatly reduced scale. A small number of roll-off boxes containing hazardous soil and other materials remain on-site, and these are being shipped based on landfill availability. Additional materials are being generated during sampling efforts, and these are being handled appropriately.

For surface water, groundwater (on site and sentinel), and potable water, plan implementation has continued, and on January 26, 2024, EPA issued a directive requiring Norfolk Southern to deliver a combined water characterization report and conceptual site model. This report is expected to contain updated sampling frequencies for groundwater, drinking water, and surface water, as well as comprehensive reporting of hydrologic delineation under these four work plans.

- The health and safety program will continue through project end. EPA anticipates Norfolk Southern will have a presence on site through much of 2024 finalizing restoration and study activities. Any long-term monitoring efforts that extend beyond the duration of the Unified Command will be covered by specific health and safety protocols from Norfolk Southern that will remain under EPA oversight.
- A *Community Impact Mitigation Plan* is being finalized that incorporates response mitigation measures already conducted by Norfolk Southern and any further proposed actions. There is currently no projected end point for this activity.

As noted in previous reports, EPA's timeline for final completion of the cleanup will be determined by conditions on the ground, and operations in East Palestine will continue as long as necessary to protect human health and the environment in East Palestine and nearby communities. EPA will continue to report to the President every 60 days until all cleanup, assessment, and monitoring work required by EPA's unilateral administrative orders has been completed.