Interim Summary Report

Pennsylvania Department of Environmental Protection
Hazardous Sites Cleanup Act
GTAC 7-5-192 – Norfolk Southern Train Derailment
Lawrence and Beaver Counties, Pennsylvania

GAI Project Number: C190024.02

January 2024

Prepared by: GAI Consultants, Inc.
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Prepared for: Pennsylvania Department of
Environmental Protection
Hazardous Sites Cleanup Act
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222

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1.0 Introduction

GAI Consultants, Inc. (GAI) has prepared this Interim Summary Report for the Pennsylvania Department of Environmental Protection (PADEP), Hazardous Sites Cleanup Act (HSCA), under General Technical Assistance Contract (GTAC) No. 4000023214 in response to Requisition for Contractual Services (RCS), Requisition No. GTAC 7-5-192. The RCS and scope of work were issued to develop and implement a Work Plan and Sampling and Analysis Plan (SAP), both dated March 2023, for various environmental investigations associated with the Norfolk Southern train derailment Site.

This interim Summary Report describes the methods and results of environmental sample collection and analysis for the tasks outlined in the Work Plan and SAP.

1.1 Site Location and Description

For the purpose of this Investigation summary, the Norfolk Southern train derailment Site (Site) is that portion of a two-mile radius from the derailment location in East Palestine Ohio that falls within the Commonwealth of Pennsylvania (PA). The derailment location is at coordinates 40.836041 °N / 80.521678 °W, as reported by the Interagency Modeling and Atmospheric Assessment Center (IMAAC) in their air dispersion modeling. In addition, modeling of the derailment smoke plume by IMAAC was used to determine the second phase of surface soil sample locations. This modeled plume extended from near the southeastern boundary of the Site, to the south-southeast for approximately 10 miles. The approximate Site boundaries are depicted on **Figure 1**.

The Site area includes a mix of residential, agricultural, and forested properties, many of which have and use groundwater-sourced drinking water wells. Area land usage also includes livestock operations, PA Game Lands, former coal mining, and a closed former permitted industrial waste disposal operation. The northern portion of the Site area contains more open agricultural fields, as compared to the southern portion, which is more wooded. Railroad lines extend from the derailment location to the east-northeast through the Site area. An industrial manufacturing facility is located adjacent to these rail lines in the central portion of the Site area. Main roadways within the Site area include Constitution Boulevard and Taggard Road, which intersect in the central portion of the Site area. The Site is bordered by Old Enon Unity Road to the north and extends south into State Game Lands 285. The eastern limit of the Site is located approximately one-half mile across State Route 51.

The modeled plume area includes a mix of residential, agricultural, and forested properties, along with commercial properties and golf courses. The plume area is located to the west of Constitution Boulevard, north of the Ohio River, and east of the PA and Ohio border.

1.2 Site History/Previous Investigations

The following information was provided by the PADEP in the Scope of Work.

Just before 9:00 PM on February 3, 2023, a train, operated by Norfolk Southern Railway Company (Norfolk Southern), derailed on Taggart Road in East Palestine, Ohio. Based on information provided to the PADEP, the center of the derailment Site was located approximately less than 0.25-mile west of the Ohio-Pennsylvania State Line. Approximately 50 railcars were involved in the derailment, ten of which contained hazardous materials including vinyl chloride, combustible liquids (ethylene glycol monobutyl ether acetate, 2-ethylhexyl acrylate), isobutylene, n-butyl acrylate, and benzene residue (from an empty car which previously carried benzene). Various local, state, and federal agencies responded to the incident along with the railroad and their emergency response contractors.

1.3 Objectives

The objectives of this Investigation were to sample potable water sources, sentinel monitoring wells, surface soil, and surface water within the Site in order to evaluate whether or not these media may have been impacted by hazardous materials originating from the derailment location.

2.0 Investigation

The scope of work for the Site Investigation included collection of private potable water, sentinel monitoring well water, surface soil, and surface water samples within the Site area. These water and soil quality data were then compared to PA Land Recycling and Environmental Remediation Standards Act (Act 2) Statewide Health Standards (SHS) Medium Specific Concentrations (MSC), as applicable. In the Final Report, the water and soil quality data will also be compared to both EPA Regional Screening Levels (RSL) and the Agency for Toxic Substance and Disease Registry (ATSDR) standards, as applicable.

Specific procedures for sample collection and analysis were completed in accordance with the PA Act 2 *Technical Guidance Manual* (TGM), applicable ASTM International (ASTM) standards, and United States Environmental Protection Agency (EPA) SW-846 analytical methods. All samples were submitted, under chain-of-custody, to ALS Environmental (ALS), a PA certified drinking water laboratory located in Middletown, PA.

The following sampling was completed for private potable water, monitoring wells, surface soil, and surface water in support of the Work Plan requirements.

2.1 Private Potable Water Source Sampling

The PADEP initially conducted a first round of private potable well sampling at 72 properties within the Site prior to GAI taking over sampling activities. GAI then conducted sampling at the initial PADEP identified properties, as well as subsequent PADEP or GAI identified properties.

A total of 99 private potable water source properties were sampled by the PADEP and/or GAI to date, with 15 properties located within the designated 1-mile radius of the train derailment location (1-mile radius), and 84 properties located within the designated 1-mile to 2-mile radius of the train derailment location (2-mile radius). One potable water source was present and sampled at each of these properties and typically consisted of a well, although springs and cisterns were also sampled. The locations of the private potable wells sampled by both PADEP and GAI are depicted on **Figure 2.**

Three rounds of sampling have been conducted by GAI to date, with sampling still ongoing. Three rounds of sampling were generally conducted for the properties located within the 1-mile radius area. Two rounds of sampling were generally completed for the properties located within the 2-mile radius area. A third round of sampling was generally conducted for properties within the 2-mile radius that had estimated and/or detected parameter concentrations in one or both of the first two rounds.

Table 1 below summarizes the number of properties/water sources sampled by PADEP and/or GAI for each round within both the 1-mile radius and 2-mile radius:

Table 1 - Private Potable Water Source Properties Sampled to Date

Property Radius	1st Round Sampling	2nd Round Sampling	3rd Round Sampling
1-Mile Radius	15	14	11
2-Mile Radius	84	67	30

Typical sampling procedures included GAI coordination with the property owners to identify potential sampling ports. Samples were typically collected from a valve or cold water tap as near to the well as possible, preferably prior to any storage/pressure tanks or physical/chemical treatment system (softeners, filters, activated carbon, etc.) that might be present. GAI collected potable well samples were submitted to ALS for analysis of the parameters presented on **Table 2.**

2.2 Sentinel Monitoring Well Sampling

GAI conducted split sampling at three sentinel monitoring wells (SMW-13, SMW-14, and SMW-15) installed in PA by Norfolk Southern near the derailment location. The monitoring well locations are depicted on **Figure 3.**

The split sampling was performed with Norfolk Southern's environmental consultant, Stantec. GAI started collecting the split samples on April 21, 2023, on a bi-weekly basis, which then transitioned to a monthly basis on June 16, 2023. To date, GAI has performed 10 split sampling events. Monitoring well samples were submitted to ALS for analysis of the parameters presented on **Table 2**. Monitoring well potentiometric data evaluated by the PADEP to date indicates that groundwater flow from the monitoring wells is toward Ohio.

2.3 Surface Soil Sampling

PADEP initially conducted surface soil sampling at 24 sample locations (EPD-PAG-SS01 through EPD-PAG-SS15, and 2270001 through 2270009) from both within and outside the Site area, with one sample collected from each location, prior to GAI taking over sampling activities

GAI developed an initial square sampling grid within the Site area with an origin located east of the train derailment on property located at 365 Taggart Road (SS-25). From this grid origin point, an approximate square grid on 2,000 feet centers was generated. The original sampling grid consisted of 52 sampling locations (SS-01 through SS-52). The square grid sampling option was selected to provide relatively even coverage across the Site area with no bias to any specific property.

Upon completion of the initial sampling grid, a second grid was established within the northern portion of the modeled smoke plume with an origin located at sample location SS-50. From this grid origin point, an approximate square grid on 2,000 feet centers was generated. The second sampling grid consisted of 22 sampling locations (SS-54 through SS-75). A few remaining sample locations were selected outside the original Site and modeled plume area (SS-53, SS-76, and SS-86) and nine sample locations (SS-77 through SS-85) were located on properties of the Blackhawk School District.

Finally, in order to further evaluate an observed 2-nitroaniline concentration at original sample location SS-20, an additional 16 confirmation soil samples were later collected from eight locations (SS-20A through SS-20H) in the vicinity of the original soil sample location SS-20 and around the residence at property ID 008.

Final sampling locations were adjusted as needed due to either Site access issues or property owner permissions. Due to property access issues, surface soil samples were not collected from locations SS-01, SS-02, SS-08, and SS-47.

Based on the above, GAI collected surface soil samples at a total 90 sampling locations. At each sampling location, two surface soil samples were collected with the first sample collected from the 0-inch to 1-inch interval below the ground surface (bgs) and the second from the 1-inch to 6-inch interval for a total of 180 surface soil samples.

The PADEP and GAI surface soil sampling locations are depicted on **Figure 4.** The additional sample locations in the vicinity of original sample location SS-20 are depicted on **Figure 5**. Surface soil samples collected by GAI were submitted to ALS for analysis of the parameters presented on **Table 3**.

2.4 Surface Water Sampling

PADEP initially conducted surface water sampling at five locations (233/234, 235/236, 237, 239/240, and 706) prior to GAI taking over sampling activities.

GAI subsequently collected a total of 18 surface water samples (SW-01 through SW-18) from ponds, lakes and other slow-moving waters within the Site area. The PADEP and GAI surface water sampling locations are depicted on **Figure 6**.

GAI sample locations were selected based on a review of air dispersion models produced by IMAAC and National Weather Service provided by the PADEP. One round of surface water sampling was conducted. The results of the surface water sampling program were used to generate a snapshot of the "presence" or "absence" of constituents of concern within the surface water bodies sampled. Surface water samples collected by GAI were submitted to ALS for analysis of the parameters presented on **Table 4**.

3.0 Investigation Results

The following presents a summary of the results and findings of the investigation activities completed to date. The following sections present the results of the potable well sampling, monitoring well sampling, surface soil investigation and surface water evaluation. These data were compared to the following standards as applicable:

- Residential Direct Contact MSCs; and
- MSCs listed for groundwater for a residential used aquifer with total dissolved solids less than 2,500 mg/L.

In the Final Report, the water and soil quality data will also be compared to both EPA RSL and the ATSDR standards, as applicable.

3.1 Private Potable Water Source Sampling Results

Results of the private potable water analytical testing completed to date are summarized on **Table 5** which presents only the sampling locations where one or more parameters were detected at concentrations or estimated concentrations above the laboratory method detection limits (MDL) during at least one sampling event. Only parameters detected in at least one potable water source over the duration of the sampling are presented. Analytical parameters identified at a concentration exceeding an applicable groundwater SHS MSC are highlighted.

Review of the groundwater quality data summarized on **Table 5** indicates carbon tetrachloride and chloroform were detected at concentrations above their respective applicable MSCs in the first round sample collected from property ID 0139 by GAI on April 27, 2023:

- Carbon Tetrachloride was detected at concentrations above the residential groundwater MSC of 5 micrograms per liter (ug/l) in both the primary sample (13.8 ug/l) and duplicate sample (12.8 ug/l) collected during the sampling event.
- Chloroform was detected at concentrations above the residential groundwater MSC of 80 ug/l in both the primary sample (120 ug/l) and the duplicate sample (123 ug/l).

Several other parameters were detected in the property ID 0139 first event sample, either at estimated concentrations or detected concentrations below their applicable MSCs. During this sampling event, cloudy water likely containing sediment was observed while purging and sampling. GAI is of the opinion that the cloudy sediment laden water likely contributed to the carbon tetrachloride and chloroform exceedances as well as the other parameter detections.

A review of the data on **Table 5** indicates concentrations of carbon tetrachloride reported for subsequent sampling events at property 0139 were below the laboratory method detection limit while chloroform was only detected at an estimated concentration, well below the applicable MSC.

In addition, GAI understands that there was a bis(2-Ethylhexyl)phthalate exceedance (30 ug/l) in the initial sample that PADEP collected for property ID 008, above the residential groundwater MSC of 6 ug/l. However, results from subsequent sampling events at property ID 008 indicate the bis(2-Ethylhexyl)phthalate concentrations are all below the laboratory method detection limits for both the pre- and post-water treatment system samples.

Table 6 presents a summary of the detected parameters for all the available private potable water source sample results obtained to date. These estimated and detected concentrations are generally well below their applicable MSCs.

Table 6 – Frequency of Parameter Detection - Private Potable Water			
Parameter	**Number of Water Sources with Estimated Concentrations**	**Number of Water Sources with Detections Below MSC**	**Number of Water Sources with Detections Above MSC**
bis(2-Ethylhexyl)phthalate	31	5	1
Acetone	10	12	0
Chloroform	3	2	1
Di-n-Butylphthalate	8	1	0
Diethylphthalate	5	0	0
1-Methylnaphthalene	4	0	0
Styrene	1	1	0
Carbon Tetrachloride	0	0	1
Methylene Chloride	0	1	0
Chloromethane	0	1	0
Bromodichloromethane	0	1	0
Toluene	1	1	0
1,1,1-Trichloroethane	0	1	0
2-Methylnaphthalene	1	0	0
Tetrachloroethene	0	1	0
Total Xylenes	0	1	0

The following are descriptions of the two most commonly detected parameters encountered in the private potable well samples, bis(2-Ethylhexyl)phthalate and acetone:

Bis(2-Ethylhexyl)phthalate

The most commonly estimated detected parameter encountered in the private potable well samples was bis(2-Ethylhexyl)phthalate. Bis(2-Ethylhexyl)phthalate is a chemical commonly added to plastics to increase flexibility. Due to its widespread use in plastics, bis(2-Ethylhexyl)phthalate can be found in low levels throughout the environment. Bis(2-Ethylhexyl)phthalate can move out of plastic materials into the environment over long periods of time. Most of the bis(2-Ethylhexyl)phthalate and its breakdown products leave the human body within 24 hours of exposure in urine and feces.

Bis(2-Ethylhexyl)phthalate attaches strongly to soil and sediment, so it will not move rapidly into groundwater. Since bis(2-Ethylhexyl)phthalate is an additive to plastics, it was not present or produced in the controlled vent and burn of vinyl chloride. Additionally, scientific studies have shown that bis(2-Ethylhexyl) phthalate is not emitted when PVC plastics are burned.

Therefore, it is likely that this parameter was present in the well water prior to the train derailment incident. Bis(2-Ethylhexyl)phthalate can leach from PVC, rubber, cellulose, and styrene materials. Well water can also be contaminated with bis(2-Ethylhexyl)phthalate if it is located near a waste site. Due to the potential for health effects caused by bis(2-Ethylhexyl)phthalate exposure, many manufacturers have discontinued using bis(2-Ethylhexyl)phthalate in plastic production. It is unknown at this time how bis(2-Ethylhexyl)phthalate has gotten into the private potable water samples, but it does not appear to be related to the East Palestine train derailment.

Acetone

Acetone is a colorless clear liquid with a strong fruit odor, which is commonly associated with nail polish remover. Acetone is commonly used to produce, remove, or dissolve other substances and products, such as fibers, plastics, paints, coatings, cleaning products, and personal care products. Some man-made sources of acetone include tobacco smoke, vehicle exhaust and landfills. Acetone can be emitted naturally by wildfires, trees, plant, insects, and microbes, and is found naturally in many fruits and vegetables. Additionally, acetone is naturally produced in low levels by the human body, where some health conditions can increase these levels (e.g., those with diabetes or on a ketogenic diet). A person may be exposed to acetone through air, ingestion of food and water, and touching soil, water, or products that contain acetone.

When acetone is released into the air, approximately one-half of the total amount released will break down from sunlight or other chemicals every 22 days. In the atmosphere, acetone will move into the water and soil by rain and snow. Acetone does not bind to soil. Acetone can also migrate into groundwater from spills and landfills. It is unknown at this time exactly how acetone may have gotten into the private potable water samples, but it does not appear to be related to the East Palestine train derailment.

3.2 Sentinel Monitoring Well Sampling Results

Results of the sentinel monitoring well analytical testing completed to date are summarized on **Table 7** which depicts only those parameters that were detected in at least one monitoring well over the duration of the sampling. Analytical parameters identified at a concentration exceeding an applicable groundwater SHS MSC are highlighted.

Review of the groundwater quality data summarized on **Table 7** indicates none of the identified parameters were detected at concentrations above their respective applicable MSCs. The analytical results indicate that the majority of the tested parameters were not detected above the laboratory method detection limits.

Table 8 below presents a summary of the detected parameters for the sentinel monitoring well sample results obtained to date.

Table 8 – Frequency of Parameter Detection - Monitoring Wells

Parameter	Number of Monitoring Wells with Estimated Concentrations	Number of Monitoring Wells with Detections Below MSC	Number of Monitoring Wells with Detections Above MSC
Diethylphthalate	2	0	0
Chloroform	1	1	0
bis(2-Ethylhexyl)phthalate	1	0	0
Acetone	1	1	0

3.3 Surface Soil Sampling

Results of the surface soil analytical testing completed to date are summarized on **Table 9** which depicts only those parameters that were detected in at least one soil sample over the duration of the sampling activities. Only surface soil sampling locations with a parameter detection in at least one of the samples are included on **Table 9**. Analytical parameters identified at a concentration exceeding an applicable soil direct contact SHS MSC are highlighted.

Review of the surface soil quality data summarized on **Table 9** indicates 2-nitroaniline was detected at a concentration above its applicable direct contact MSC:

- 2-Nitroaniline was detected at a concentration of 1.43 milligrams per kilogram (mg/kg), above the residential direct contact MSC of 0.95 mg/kg in the 0-inch to 1-inch deep interval sample collected from sample location SS-20 on property ID 008.

Review of the remaining soil quality data on **Table 9** indicates for the 1-inch to 6-inch deep interval sample collected at location SS-20, the 2-nitroaniline concentration was below the laboratory method detection limit. In addition, only one other estimated concentration of 2-nitroaniline was detected in the entire surface soil data set.

In order to further evaluate the observed 2-nitroaniline concentration at sample location SS-20, an additional 16 confirmation soil samples were later collected from eight locations (SS-20A through SS-20H) in the vicinity of the original soil sample location SS-20 and around the residence at property ID 008. The additional sample locations are depicted on **Figure 5**.

Results of the additional surface soil analytical testing completed at property ID 008 are summarized on **Table 10** which depicts only those parameters that were detected in at least one soil sample over the duration of the sampling activities plus the 2-nitroaniline results. Analytical parameters identified at a concentration exceeding an applicable soil direct contact SHS MSC are highlighted. In summary, 2-nitoaniline was not detected at concentrations above the laboratory method detection limit in any of the additional samples submitted for analysis.

Table 11 below presents a summary of the detected parameters for all the surface soil analytical results obtained to date.

Table 11 – Frequency of Parameter Detection - Surface Soil

Parameter Type	Number of Samples with Estimated Concentrations	Number of Samples with Detections Below MSC	Number of Samples with Detections Above MSC
Polycyclic Aromatic Hydrocarbons	145	82	0
Phthalates	63	4	0
Other Parameters	60	8	1

The following are descriptions of the two most commonly estimated and/or detected parameter types encountered in the surface soil samples, polycyclic aromatic hydrocarbons and phthalates:

Polycyclic Aromatic Hydrocarbons

Polycyclic Aromatic Hydrocarbon (PAH) compounds are consistently present throughout the environment. They are typically formed during the incomplete burning of organic material including wood, coal, oil, gasoline, tobacco, and garbage. PAHs are also found in crude oil, coal tar, creosote and asphalt. Historically, PAHs have been associated with human activities such as cooking, heating homes and operating automobiles, although low levels of PAHs are also present in the environment from natural sources, such as forest fires. Their presence in the environment is an artifact of human habitation in rural and urban areas over the past several hundred years. It is very common to detect low levels of PAHs in surface soils. Several studies, including studies sponsored by the Electrical Power Research Institute (EPRI), the United States Geological Survey (USGS), and the Massachusetts Department of Environmental Protection (MassDEP) indicated PAHs at concentrations similar to those identified in the surface soil samples, are present throughout our environment.

Phthalates

Phthalates are widely used manmade chemicals manufactured for specific applications, mainly as plasticizers to make plastics more flexible. They are contained in PVC and vinyl building products such as wall coverings and flooring. They are also added to adhesives, detergents, lubricating oils, and personal-care products such as soaps, shampoos, hair sprays and nail polishes. Phthalates physically

bind to plastics making them more prone to leach out of the products and into the environment. The widespread use of phthalates has made them one of the most frequently detected organic contaminants in air, soil, and groundwater. Studies conducted throughout the world have demonstrated that phthalates, at relatively low concentrations similar to those detected in the surface soil samples, are present throughout all areas of our environment.

3.4 Surface Water Sampling

Results of the surface water sampling completed by GAI to date are summarized on **Table 12** which depicts only those parameters that were detected in at least one surface water sample submitted for analysis. Only surface water sampling locations with a parameter detection are included on **Table 12**.

Review of the surface water quality data summarized on **Table 12** indicates only infrequent detections of random parameters with over half of the detected concentrations found in one sample. Moreover, of the fifteen parameters detected in the surface water samples, only acetone was detected in more than one sample. The analytical results show that the majority of the detected parameters were found at low estimated concentrations between the laboratory method detection limit and reporting limit.

Table 13 below presents a summary of the detected parameters for the surface water sample results obtained to date.

Table 13 – Frequency of Parameter Detection - Surface Water

Parameter	Number of Samples with Estimated Concentrations	Number of Samples with detections above the Reporting Limits
Acetone	2	0
2,6-Dinitrotoluene	0	1
bis(2-Ethylhexyl)phthalate	1	0
Di-n-butyl phthalate	1	0
Naphthalene	0	1
4-Nitrophenol	1	0
1,2,4-Trimethylbenzene	1	0
Benzaldehyde	1	0
Benzo(a)anthracene	1	0
Benzo(b)fluoranthene	0	1
Benzo(g,h,i)perylene	1	0
Benzo(k)fluoranthene	0	1
Chrysene	1	0
Dibenzo(a,h)anthracene	0	1
Indeno(1,2,3-cd)pyrene	1	0

As mentioned above, half of the detected parameters were found in one surface water sample (5-192-SW008). In addition, a field duplicate of the sample 5-192-SW008 was processed and submitted for analysis at the time of the original sample collection. Review of the duplicate sample analytical results on **Table 12** indicates none of the parameters detected in the original sample were detected in the field duplicate. This could indicate a sampling error, or possibly sediment from the water body inadvertently entered the original sample.

Sediment inadvertently entering the sample seems to be a reasonable explanation for the results as the parameters detected are similar to those identified in nearby soil samples. Based on the duplicate results, GAI is of the opinion that the original sample was compromised in some way and the results should be considered as estimated values and biased high.

4.0 Reporting

The available results of the private potable water source sampling, sentinel monitoring well sampling, surface soil sampling, and surface water sampling have been uploaded to the PADEP East Palestine Train Derailment website:

https://www.dep.pa.gov/About/Regional/SouthwestRegion/Community%20Information/Pages/Ohio-Train-Derailment.aspx

Summary results tables for each property owner have been prepared for both the private potable water source sampling and surface soil sampling results obtained)to date.

Letters to individual landowners (landowner letters) for both the private water source sampling and shallow soil sampling are in the process of being prepared and mailed. The private water source landowner letters consist of a cover letter detailing the sampling performed, sample results, descriptions of any estimated concentration detected parameter, and an analytical results summary table. To date, 41 letters have been mailed. The remaining approximately 50 letters are being prepared and will be mailed in the upcoming weeks.

The surface soil sampling landowner letters consist of a cover letter detailing the sampling performed, sample results, descriptions of any detected parameter, and an analytical results summary table. To date, 36 letters have been mailed. The remaining 13 letters are being prepared and will be mailed in the upcoming weeks.

5.0 Investigation Conclusions and Recommendations

5.1 Conclusions

Based on the investigation performed to date, GAI has developed the following conclusions:

1. Review of the potable well groundwater quality data indicates carbon tetrachloride and chloroform were detected at concentrations above their respective applicable MSCs in the first round sample collected from property ID 0139 by GAI on April 27, 2023. During this sampling event, cloudy water likely containing sediment was observed while purging and sampling. GAI is of the opinion that the cloudy sediment laden water likely contributed to the carbon tetrachloride and chloroform exceedances as well as the other parameter detections. Concentrations of carbon tetrachloride reported for subsequent sampling events at property 0139 were below the laboratory MDL while chloroform was only detected at an estimated concentration, well below the applicable MSC.
2. GAI understands that there was a bis(2-Ethylhexyl)phthalate concentration detected in the initial sample that PADEP collected for property ID 008 that exceeds the residential groundwater MSC. However, results from subsequent sampling events indicate the bis(2-Ethylhexyl)phthalate concentrations are all below the laboratory methos detection limits for both the pre- and post-water treatment system samples.
3. Other parameters detected in the site area groundwater were found at concentrations well below applicable groundwater MSCs. The most common parameters detected were bis(2Ethylhexyl)phthalate and acetone. Neither of these parameters are anticipated to be associated with releases from the train derailment. Based on these results, GAI did not identify impacts related to the train derailment in the potable wells sampled to date.

4. GAI conducted split sampling at three sentinel monitoring wells installed near the derailment location by Norfolk Southern. To date, GAI has performed 10 split sampling events. Review of the monitoring well analytical results indicate only sporadic detections of acetone, bis(2-Ethylhexyl)phthalate, chloroform, and diethylphthalate have been observed. Concentrations of these parameters are all well below the applicable MSCs. GAI has not observed any impacts that are a result of the train derailment.
5. Review of the PADEP and GAI surface soil quality data indicates 2-nitroaniline was detected at a concentration above its applicable residential direct contact MSC in the 0-inch to 1-inch deep interval sample collected from sample location SS-20 on property ID 008. Review of the remaining soil quality data indicates for the 1-inch to 6-inch deep interval sample collected at location SS-20, the 2-nitroaniline concentration was below the laboratory method detection limit. In addition, only one other estimated concentration of 2-nitroaniline was detected in the entire surface soil data set.
6. An additional 16 confirmation soil samples were later collected from eight locations (SS-20A through SS-20H) in the vicinity of the original soil sample location SS-20 and around the residence at property ID 008. 2-nitoaniline was not detected at concentrations above the laboratory method detection limit in any of the additional samples submitted or analysis. GAI is of the opinion that the 2-nitroaniline detection is not a result of the train derailment and no further investigation is warranted.
7. No other soil parameters were detected at concentrations at or above their respective MSCs. Low level concentrations of polyaromatic hydrocarbons (PAH) and several phthalates were observed in the shallow surface soil throughout the study area. Based on the widespread and low level nature of the observed concentrations, GAI is of the opinion that these observed detections are not the result of the train derailment but more in line with deposition from normal human activity.
8. Based on the private potable water source, sentinel monitoring well, surface soil sample and surface water analytical results obtained to date, GAI is of the opinion that hazardous materials originating from the train derailment have not negatively impacted groundwater, shallow soil, or surface water in PA in the vicinity of the derailment location.
9. The results of the private potable water source sampling, sentinel monitoring well sampling, surface soil sampling, and surface water sampling have been uploaded to the PADEP project website (https://www.dep.pa.gov/About/Regional/SouthwestRegion/Community%20Information/Pages/Ohio-Train-Derailment.aspx). Summary results tables for each property owner have been prepared for all the private potable water source sampling and surface soil sampling results obtained. To date, 41 private water source landowner letters and 36 surface soil sampling landowner letters have been mailed. The remaining landowner letters are being prepared and will be mailed in the upcoming weeks.

5.2 Recommendations

Based on the findings of the Investigation detailed above, GAI has developed the following recommendations:

1. Based on the observed analytical results for the potable water sampling, GAI recommends collecting a fourth and final round of private potable water source samples for the 1-mile radius properties. One final round of samples will provide approximately one year of data for these wells closest to the derailment Site.
2. Based on some observed parameter detections, GAI also recommends collecting one additional round of potable well samples from select properties within the 1 to 2-mile radius. For example, we would recommend collecting a final round from each of the three properties where we observed detections of 1-methylnaphthalene. In addition, we would recommend a final round from property 0139 where MSC exceedances were observed and property 009 where a detection of tetrachloroethene was observed in results from the most recent event. GAI anticipates the select sampling will be from less than 10 properties.

3. Due to the observed limited and low level parameter detections in the sentinel monitoring wells, GAI recommends reducing the split sampling to once a quarter until the PADEP is satisfied that additional sampling is not required. GAI also recommends altering this proposed schedule if at some point impacts related to the derailment are observed.
4. Review of the surface soil and surface water sampling results to date do not indicate impacts to the study area as a result of the train derailment. Therefore, GAI recommends no further surface soil or surface water investigations.

6.0 Limitations

In performing this investigation, GAI has striven to conform to generally accepted principles and practices of consultants conducting similar investigations in the same geographic area. The investigation is limited to the specific project, dates, and property, as described in this report, and its findings should not be relied upon by any other party to represent conditions at this or other properties or at later dates. The investigation was also conducted within the context of existing agency rules, regulations, and enforcement policies; later changes in rules, regulations, and policies may result in different conclusions than those expressed in this report.

The scope of the investigation and report was mutually devised by GAI and PADEP and is not intended as an audit for regulatory compliance. No activity, including sampling, investigations, or evaluation of any material or substance, may be assumed to be included in this investigation unless such activity is expressly considered in this report. Maps and drawings in this report are included only to aid the reader and should not be considered surveys or engineering studies.

The findings, conclusions, and recommendations of the investigation are probabilities based on GAI's professional judgment of Site conditions as discernible from the limited, and often indirect, information provided by others, and obtained or observed by GAI using the specified methods. GAI does not warrant the accuracy or completeness of information provided or developed by others and assumes no responsibility for documenting conditions detectable with methods or techniques not specified in the work. GAI's opinion regarding Site conditions is not a warranty that all areas within the Site and beneath the Site are of the same quality or conditions as those observed. If additional data concerning this Site becomes available, such information should be provided to GAI so that our conclusions and recommendations may be reviewed and modified, as necessary.

TABLES

Table 2
Summary of Groundwater Analyzed Parameters and Applicable PADEP SHS MSC
Norfolk Southern Train Derailment

Parameter	Residential Groundwater SHS MSC
Volatile Organic Compounds - EPA Method 524.2	
Acetone	31,000
Benzene	5
Bromochloromethane	90
Bromodichloromethane	80
Bromoform	80
Bromomethane	10
2-Butanone	4,000
Carbon Disulfide	1,500
Carbon Tetrachloride	5
Chlorobenzene	100
Chlorodibromomethane	80
Chloroethane	21,000
Chloroform	80
Chloromethane	30
1,2-Dibromo-3-chloropropane	0.2
1,2-Dibromoethane	0.05
1,2-Dichlorobenzene	600
1,3-Dichlorobenzene	600
1,4-Dichlorobenzene	75
Dichlorodifluoromethane	1,000
1,1-Dichloroethane	31
1,2-Dichloroethane	5
1,1-Dichloroethene	7
cis-1,2-Dichloroethene	70
trans-1,2-Dichloroethene	100
1,2-Dichloropropane	5
cis-1,3-Dichloropropene	N/A
trans-1,3-Dichloropropene	N/A
1,3-Dichloropropene	6.5
Ethylbenzene	700
2-Hexanone	63
Isopropylbenzene	840
Methyl t-Butyl Ether	20
4-Methyl-2-Pentanone(MIBK)	2,800
Methylene Chloride	5
Styrene	100
1,1,2,2-Tetrachloroethane	0.84
Tetrachloroethene	5
Toluene	1,000
1,2,3-Trichlorobenzene	N/A
1,2,4-Trichlorobenzene	70
1,1,1-Trichloroethane	200
1,1,2-Trichloroethane	5
Trichloroethene	5
Trichlorofluoromethane	2,000
1,2,3-Trichloropropane	40
1,2,4-Trimethylbenzene	130
1,3,5-Trimethylbenzene	130
Vinyl Chloride	2
o-Xylene	N/A
mp-Xylene	N/A
Xylenes (Total)	10,000
Acrylates - EPA Method 8260	
2-Ethylhexyl acrylate	N/A
Butyl acrylate	N/A

Notes:
SHS MSC - Statewide Health Standard Medium-Specific Concentration.
SHS MSC shown are in micrograms per liter (ug/l), or parts per billion.
EPA - Environmental Protection Agency.

Table 2
Summary of Groundwater Analyzed Parameters and Applicable SHS MSC
Norfolk Southern Train Derailment

Parameter	Residential Groundwater SHS MSC
Semi-Volatile Organic Compounds - EPA Method 525.2	
Acenaphthene	2,100
Acenaphthylene	2,100
Anthracene	66
Atrazine	3
Benzo(a)anthracene	0.3
Benzo(a)pyrene	0.2
Benzo(b)fluoranthene	0.18
Benzo(g,h,i)perylene	0.26
Benzo(k)fluoranthene	0.18
Butylbenzylphthalate	340
Chrysene	1.8
Di-n-Butylphthalate	3,500
Dibenzo(a,h)anthracene	0.052
Dibenzofuran	35
Diethylphthalate	28,000
Dimethylphthalate	N/A
2,4-Dinitrotoluene	2.1
2,6-Dinitrotoluene	0.43
bis(2-Ethylhexyl)phthalate	6
Fluoranthene	260
Fluorene	1,400
Hexachlorobenzene	1
Hexachlorocyclopentadiene	50
Indeno(1,2,3-cd)pyrene	0.18
2-Methylnaphthalene	6.3
Naphthalene	100
Phenanthrene	1,100
Pyrene	130
Semi-Volatile Organic Compounds - EPA Method 8270D	
1-Methylnaphthalene	N/A

Notes:

SHS MSC - Statewide Health Standard Medium-Specific Concentration.
SHS MSC shown are in micrograms per liter (ug/l), or parts per billion.
EPA - Environmental Protection Agency.

Table 3
Summary of Surface Soil Analyzed Parameters and Applicable PADEP SHS MSC
Norfolk Southern Train Derailment

Parameter	Residential Direct Contact MSC	Non-Residential Direct Contact MSC	
		Surface Soil (0-2 ft)	Subsurface Soil (2-15 ft)
Volatile Organic Compounds - EPA Method SW8260			
2-Ethylhexyl acrylate	N/A	N/A	N/A
Butyl acrylate	N/A	N/A	N/A
Semi-Volatile Organic Compounds - EPA Method 8270D			
Acenaphthene[1]	13,000	190,000	190,000
Acenaphthylene[1]	13,000	190,000	190,000
Acetophenone	10,000	10,000	10,000
Anthracene[1]	66,000	190,000	190,000
Atrazine	81	400	190,000
Benzaldehyde	N/A	N/A	N/A
Benzo(a)anthracene[1]	6.1	130	190,000
Benzo(a)pyrene[1]	4.2	91	190,000
Benzo(b)fluoranthene[1]	3.5	76	190,000
Benzo(g,h,i)perylene[1]	13,000	190,000	190,000
Benzo(k)fluoranthene[1]	3.5	76	190,000
Biphenyl	8.2	34	40
4-Bromophenyl-phenylether	N/A	N/A	N/A
Butylbenzylphthalate[2]	9,800	10,000	10,000
Caprolactam	N/A	N/A	N/A
4-Chloro-3-methylphenol	22,000	190,000	190,000
4-Chloroaniline	93	460	190,000
bis(2-Chloroethoxy)methane	660	9,600	10,000
bis(2-Chloroethyl)ether	1.3	6.7	7.6
bis(2-Chloroisopropyl)ether	44	220	250
Chrysene[1]	35	760	190,000
mp-Cresol	1,100	16,000	190,000
o-Cresol	11,000	160,000	190,000
Di-n-Butylphthalate[2]	10,000	10,000	10,000
Di-n-Octylphthalate[2]	2,200	10,000	10,000
Dibenzo(a,h)anthracene[1]	1	22	190,000
Dibenzofuran	220	3,200	190,000
3,3-Dichlorobenzidine	41	200	190,000
2,4-Dichlorophenol	660	9,600	190,000
Diethylphthalate[2]	10,000	10,000	10,000
2,4-Dimethylphenol	4,400	10,000	10,000
Dimethylphthalate[2]	N/A	N/A	N/A
2,4-Dinitrophenol	440	6,400	190,000
2,4-Dinitrotoluene	60	290	190,000
2,6-Dinitrotoluene	12	61	190,000
1,4-Dioxane	89	440	510
bis(2-Ethylhexyl)phthalate[2]	1,300	6,500	10,000
Fluoranthene[1]	8,800	130,000	190,000
Fluorene[1]	8,800	130,000	190,000
Hexachlorobenzene	12	57	190,000
Hexachlorobutadiene	220	1,200	10,000
Hexachlorocyclopentadiene	1,300	10,000	10,000
Hexachloroethane	46	230	270
Indeno(1,2,3-cd)pyrene[1]	4	76	190,000
Isophorone	10,000	10,000	10,000
2-Methyl-4,6-dinitrophenol	18	260	190,000
2-Methylnaphthalene[1]	57	240	270
Naphthalene[1]	13	66	77
2-Nitroaniline	0.95	3.9	4.5
3-Nitroaniline	N/A	N/A	N/A
4-Nitroaniline	880	4,600	190,000
Nitrobenzene	11	55	63
2-Nitrophenol	1,800	26,000	190,000
4-Nitrophenol	1,800	26,000	190,000
N-Nitroso-di-n-propylamine	0.22	1.1	1.3
N-Nitrosodiphenylamine	170	860	990
Pentachlorophenol	47	230	190,000
Phenanthrene[1]	66,000	190,000	190,000
Phenol	3,800	16,000	18,000
Pyrene[1]	6,600	96,000	190,000
2,4,5-Trichlorophenol	22,000	190,000	190,000
2,4,6-Trichlorophenol	220	3,200	190,000
2,4,5-Trichlorophenol	22,000	190,000	190,000
2,4,6-Trichlorophenol	220	3,200	190,000

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million.

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

SHS MSC shown are in milligrams per kilogram (mg/kg), or parts per million.

N/A - No MCL or Concentration Limit established for parameter.

(1) - Polycyclic Aromatic Hydrocarbon parameter

Table 4
Summary of Surface Water Analyzed Parameters
Norfolk Southern Train Derailment

Parameter
Volatile Organic Compounds
Method: SW8260C
2-Ethylhexyl acrylate
Butyl acrylate
Method: SW846 8260B
Acetone
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
2-Butanone
Carbon Disulfide
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
2-Hexanone
Isopropylbenzene
Methyl t-Butyl Ether
4-Methyl-2-Pentanone(MIBK)
Methylene Chloride
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Vinyl Chloride
o-Xylene
mp-Xylene

Table 4
Summary of Surface Water Analyzed Parameters
Norfolk Southern Train Derailment

Parameter
Semi-Volatile Organic Compounds
Method: SW846 8270D
Acetophenone
Atrazine
Benzaldehyde
Biphenyl
4-Bromophenyl-phenylether
Butylbenzylphthalate
Caprolactam
4-Chloro-3-methylphenol
4-Chloroaniline
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloroisopropyl)ether
Chrysene
mp-Cresol
o-Cresol
Di-n-Butylphthalate
Di-n-Octylphthalate
Dibenzofuran
3,3-Dichlorobenzidine
2,4-Dichlorophenol
Diethylphthalate
2,4-Dimethylphenol
Dimethylphthalate
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
bis(2-Ethylhexyl)phthalate
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Isophorone
2-Methyl-4,6-dinitrophenol
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
Nitrobenzene
2-Nitrophenol
4-Nitrophenol
N-Nitroso-di-n-propylamine
N-Nitrosodiphenylamine
Phenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
Method: SW846 8270D SIM
Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Chrysene
Dibenzo(a,h)anthracene
Fluoranthene
Fluorene
Hexachlorobenzene
Indeno(1,2,3-cd)pyrene
2-Methylnaphthalene
Naphthalene
Pentachlorophenol
Phenanthrene
Pyrene

Table 5
Summary of Private Potable Well Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Property ID	Date Sampled	Sample ID	Sample Agency	1-Methylnaphthalene (ppm)	2-Methylnaphthalene (ppm)	Toluene (ppm)	Xylene,Total (ppm)	1,1,1-Trichloroethane (ppm)	Acetone (ppm)	bis(2-Ethylhexyl)phthalate (ppm)	Bromodichloromethane (ppm)	Carbon Tetrachloride (ppm)	Chloroform (ppm)	Chloromethane (ppm)	Diethylphthalate (ppm)	Di-n-Butylphthalate (ppm)	Methylene Chloride (ppm)	Styrene (ppm)	Tetrachloroethene (ppm)
Residential SHS MSC for Used Aquifers				**0.0011***	**0.0063**	**1**	**10**	**0.2**	**31**	**0.006**	**0.08**	**0.005**	**0.08**	**0.03**	**28**	**3.5**	**0.005**	**0.1**	**0.005**
006	2/23/2023	036	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
006	5/9/2023	5-192-006	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
006	8/16/2023	5-192-006	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00076J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
007	2/23/2023	039	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
007	5/8/2023	5-192-007	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0033J**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
007	8/16/2023	5-192-007	GAI	**0.000056J**	0.000038U	0.00008U	0.00023U	0.00005U	**0.0026J**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
008	2/22/2023	034	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
008	5/10/2023	5-192-008-POST	GAI	0.00001U	0.000038U	NA	NA	NA	NA	0.000066U	NA	NA	NA	NA	0.000047U	0.000047U	NA	NA	NA
008	5/10/2023	5-192-008-PRE	GAI	0.00001U	0.000038U	NA	NA	NA	NA	0.000067U	NA	NA	NA	NA	0.000048U	0.000048U	NA	NA	NA
008	6/14/2023	5-192-008-POST	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
008	6/14/2023	5-192-008-PRE	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
008	9/21/2023	5-192-008 Post	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
008	9/21/2023	5-192-008 Pre	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
009	2/21/2023	028	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
009	5/8/2023	5-192-009	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
009	8/22/2023	5-192-009	GAI	0.000011U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0002J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	**0.0032**
010	2/21/2023	029	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
010	5/23/2023	5-192-010	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	**0.00076J**	0.00013U	0.0001U	0.00022U
010	8/28/2023	5-192-010	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0012	3/13/2023	007	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0012	5/10/2023	5-192-0012	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00011J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0012	8/28/2023	5-192-0012	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.000068J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0015	3/15/2023	019	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0015	6/22/2023	5-192-0015	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00012J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0015	6/22/2023	5-192-0015-D	GAI	**0.000054J**	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0004J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0015	9/18/2023	5-192-0015	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0015	11/13/2023	5-192-0015	GAI	0.00001U	0.000041U	0.00008U	0.00023U	0.00005U	0.0013U	0.000071U	0.00008U	0.00015U	0.00007U	0.00019U	0.000051U	0.000051U	0.00013U	0.0001U	0.00022U
016	2/21/2023	027	DEP	NA	NA	0.0005U	**0.00173**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
016	5/9/2023	5-192-016	GAI	0.00001U	0.000038U	NA	NA	NA	NA	**0.0002J**	NA	NA	NA	NA	0.000047U	0.000047U	NA	NA	NA
016	6/12/2023	5-192-016	GAI	0.00001U	0.00004U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00016J**	0.00008U	0.00015U	0.00007U	0.00019U	0.00005U	0.00005U	0.00013U	0.0001U	0.00022U
016	8/29/2023	5-192-016	GAI	0.0000099U	0.00004U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00015J**	0.00008U	0.00015U	0.00007U	0.00019U	0.00005U	0.00005U	0.00013U	0.0001U	0.00022U
017	4/6/2023	5-192-17	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00057J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	**0.00008J**	0.00013U	0.0001U	0.00022U
0024	3/1/2023	713	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0024	5/17/2023	5-192-0024	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0075**	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0024	8/14/2023	5-192-0024	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0088**	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0025	3/1/2023	714	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0025	5/15/2023	5-192-0025	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0004J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0025	8/14/2023	5-192-0025	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0005J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0027	3/8/2023	104	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0027	5/18/2023	5-192-0027	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00013J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0027	8/16/2023	5-192-0027	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0031J**	**0.00045J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0028	5/16/2023	5-192-0028	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00016J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0028	8/21/2023	5-192-0028	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00018J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0028	8/21/2023	5-192-0028-D	GAI	0.000011U	0.000041U	0.00008U	0.00023U	0.00005U	0.0013U	**0.000075J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000051U	0.000051U	0.00013U	0.0001U	0.00022U
0029	3/13/2023	008	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0029	5/15/2023	5-192-0029	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0023**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0029	8/23/2023	5-192-0029	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0014**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0034	4/17/2023	5-192-34	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	**0.00024J**	0.00013U	0.0001U	0.00022U
0038	3/8/2023	107	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0038	6/6/2023	5-192-0038	GAI	0.00001U	0.000038U	**0.0155**	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	**0.000064J**	0.00013U	0.0001U	0.00022U
0038	8/30/2023	5-192-0038	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00007J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U

Notes:

All analytical data reported in milligrams per liter (mg/l), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

* - US Environmental Protection Agency Regional Screening Level, Residential Tap Water.

U - Constituent not detected at the method detection limit shown, as provided in laboratory analytical reports.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated concentration between the laboratory reporting limit and the method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 5
Summary of Private Potable Well Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Property ID	Date Sampled	Sample ID	Sample Agency	1-Methylnaphthalene (ppm)	2-Methylnaphthalene (ppm)	Toluene (ppm)	Xylene,Total (ppm)	1,1,1-Trichloroethane (ppm)	Acetone (ppm)	bis(2-Ethylhexyl)phthalate (ppm)	Bromodichloromethane (ppm)	Carbon Tetrachloride (ppm)	Chloroform (ppm)	Chloromethane (ppm)	Diethylphthalate (ppm)	Di-n-Butylphthalate (ppm)	Methylene Chloride (ppm)	Styrene (ppm)	Tetrachloroethene (ppm)
Residential SHS MSC for Used Aquifers				**0.0011***	**0.0063**	**1**	**10**	**0.2**	**31**	**0.006**	**0.08**	**0.005**	**0.08**	**0.03**	**28**	**3.5**	**0.005**	**0.1**	**0.005**
0040	3/9/2023	002	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0040	3/9/2023	003	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0040	5/16/2023	5-192-0040	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0124**	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0040	8/17/2023	5-192-0040	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0022J**	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0041	3/22/2023	112	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0041	5/16/2023	5-192-0041	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	**0.008**	0.000068U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0041	8/17/2023	5-192-0041	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0036J**	**0.00048J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0042	2/28/2023	709	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0042	5/15/2023	5-192-0042	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00033J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0042	8/23/2023	5-192-0042	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0047	7/10/2023	5-192-0047	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0086**	**0.00036J**	0.00008U	0.00015U	0.00007U	0.00019U	**0.000052J**	**0.00011J**	0.00013U	0.0001U	0.00022U
0049	3/2/2023	718	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0049	5/18/2023	5-192-0049	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0014**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0049	8/14/2023	5-192-0049	GAI	0.0000099U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0049**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0054	3/8/2023	105	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0054	6/19/2023	5-192-0054	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.000069J**	0.00008U	0.00015U	**0.0054**	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0054	9/11/2023	5-192-0054	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00012J**	0.00008U	0.00015U	**0.0062**	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0055	3/8/2023	106	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0055	6/5/2023	5-192-0055	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00024J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0055	9/5/2023	5-192-0055	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.000076J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0058	3/7/2023	101	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0058	7/19/2023	5-192-0058	GAI	0.00001U	0.00004U	0.00008U	0.00023U	0.00005U	0.0013U	**0.000084J**	0.00008U	0.00015U	0.00007U	0.00019U	**0.000054J**	**0.0009J**	0.00013U	0.0001U	0.00022U
0058	11/13/2023	5-192-0058	GAI	0.00001U	0.000041U	0.00008U	0.00023U	0.00005U	**0.0045J**	0.000072U	0.00008U	0.00015U	0.00007U	0.00019U	0.000051U	**0.0004J**	0.00013U	0.0001U	0.00022U
0074	3/6/2023	096	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0074	5/25/2023	5-192-0074	GAI	0.000011U	0.000038U	0.00008U	0.00023U	0.00005U	**0.004J**	**0.000067J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0074	8/21/2023	5-192-0074	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00009J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0079	6/5/2023	5-192-0079	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00029J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0079	6/5/2023	5-192-0079-D	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.000077J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0079	8/28/2023	5-192-0079	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0083	3/14/2023	012	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0083	5/23/2023	5-192-0083	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00009J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0083	8/21/2023	5-192-0083	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00018J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0090	4/19/2023	5-192-90	GAI	NA	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	0.000068U	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0090	6/22/2023	5-192-0090	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00013J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0090	9/12/2023	5-192-0090	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0057**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0094	4/12/2023	5-192-94	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0094	7/11/2023	5-192-0094	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.005**	**0.00029J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0096	3/15/2023	017	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0096	7/11/2023	5-192-0096	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0003J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0096	10/24/2023	5-192-0096	GAI	0.00001U	0.000041U	0.00008U	0.00023U	0.00005U	0.0013U	0.000073U	0.00008U	0.00015U	0.00007U	0.00019U	0.000052U	0.000052U	0.00013U	0.0001U	0.00022U
0102	4/10/2023	5-192-102	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	**0.0087**	0.000066U	0.00008U	0.00015U	**0.00078J**	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0102	6/21/2023	5-192-0102	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	0.000068U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0104	4/6/2023	5-192-104	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0104	6/20/2023	5-192-0104	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00023J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0104	9/11/2023	5-192-0104	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0002J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0108	4/18/2023	5-192-108	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00028J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0108	6/27/2023	5-192-0108	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	**0.0062**	0.000069U	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0108	9/18/2023	5-192-0108	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0044J**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0109	3/15/2023	021	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0109	5/25/2023	5-192-0109	GAI	**0.000042J**	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0109	8/24/2023	5-192-0109	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0059**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0113	6/1/2023	5-192-0113	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	**0.000069J**	**0.00017J**	0.00013U	0.0001U	0.00022U
0113	10/9/2023	5-192-0113	GAI	0.000012U	0.000047U	0.00008U	0.00023U	0.00005U	**0.0149**	0.000082U	0.00008U	0.00015U	0.00007U	0.00019U	0.000059U	**0.000085J**	0.00013U	0.0001U	0.00022U
0114	6/1/2023	5-192-0114	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00082J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U

Notes:

All analytical data reported in milligrams per liter (mg/l), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

* - US Environmental Protection Agency Regional Screening Level, Residential Tap Water.

U - Constituent not detected at the method detection limit shown, as provided in laboratory analytical reports.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated concentration between the laboratory reporting limit and the method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 5
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Norfolk Southern Train Derailment Site

Property ID	Date Sampled	Sample ID	Sample Agency	1-Methylnaphthalene (ppm)	2-Methylnaphthalene (ppm)	Toluene (ppm)	Xylene,Total (ppm)	1,1,1-Trichloroethane (ppm)	Acetone (ppm)	bis(2-Ethylhexyl)phthalate (ppm)	Bromodichloromethane (ppm)	Carbon Tetrachloride (ppm)	Chloroform (ppm)	Chloromethane (ppm)	Diethylphthalate (ppm)	Di-n-Butylphthalate (ppm)	Methylene Chloride (ppm)	Styrene (ppm)	Tetrachloroethene (ppm)
Residential SHS MSC for Used Aquifers				**0.0011***	**0.0063**	**1**	**10**	**0.2**	**31**	**0.006**	**0.08**	**0.005**	**0.08**	**0.03**	**28**	**3.5**	**0.005**	**0.1**	**0.005**
0118	3/22/2023	111	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0118	5/30/2023	5-192-0118	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0051**	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0123	6/7/2023	5-192-0123	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0123	9/11/2023	5-192-0123	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00032J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0129	3/23/2023	029	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0129	5/31/2023	5-192-0129	GAI	0.000011U	0.00004U	0.00008U	0.00023U	0.00005U	0.0013U	0.000069U	0.00008U	0.00015U	0.00007U	0.00019U	**0.00005J**	0.00005U	0.00013U	0.0001U	0.00022U
0129	8/29/2023	5-192-0129	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0130	3/13/2023	009	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0130	7/11/2023	5-192-0130	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.0011**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0131	4/17/2023	5-192-131	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00028J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0131	6/21/2023	5-192-0131	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00094J**	0.00008U	0.00015U	**0.00073J**	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0131	9/6/2023	5-192-0131	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00014J**	0.00008U	0.00015U	**0.00029J**	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0132	3/7/2023	102	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0132	9/7/2023	5-192-0132	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	**0.00005J**	**0.0013**	0.00013U	0.0001U	0.00022U
0133	4/11/2023	5-192-133	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0133	6/19/2023	5-192-0133	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00022J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0133	9/7/2023	5-192-0133	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00036J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0136	4/12/2023	5-192-136	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00011J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	**0.00038J**	0.00022U
0136	6/26/2023	5-192-0136	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00027J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	**0.00065**	0.00022U
0136	9/21/2023	5-192-0136-D	GAI	0.00001U	0.000039U	**0.00016J**	0.00023U	0.00005U	0.0013U	**0.0002J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000049U	0.000049U	0.00013U	**0.0011**	0.00022U
0136	9/21/2023	5-192-0136	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00019J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	**0.0012**	0.00022U
0137	4/18/2023	5-192-137	GAI	NA	0.000037U	0.00008U	0.00023U	0.00005U	0.0013U	0.000065U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0137	7/17/2023	5-192-0137	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0037J**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0137	10/24/2023	5-192-0137	GAI	0.00001U	0.000042U	0.00008U	0.00023U	0.00005U	0.0013U	0.000073U	0.00008U	0.00015U	0.00007U	0.00019U	0.000052U	0.000052U	0.00013U	0.0001U	0.00022U
0138	4/25/2023	5-192-138	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	**0.0184**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0138	6/26/2023	5-192-0138	GAI	0.00001U	0.000039U	0.00008U	0.00023U	0.00005U	**0.0071**	0.000069U	0.00008U	0.00015U	0.001U	0.00019U	0.000049U	0.000049U	0.00013U	0.0001U	0.00022U
0139	4/27/2023	5-192-139	GAI	NA	0.000038U	0.00008U	0.00023U	**0.00064**	**0.0217**	**0.000098J**	0.00008U	**0.0138**	**0.12**	**0.0023**	0.000047U	0.000047U	**0.0023**	0.0001U	0.00022U
0139	4/27/2023	5-192-139-D	GAI	NA	0.000038U	0.00008U	0.00023U	0.00005U	**0.0206**	**0.000096J**	0.00008U	**0.0128**	**0.123**	**0.0021**	0.000048U	0.000048U	**0.0021**	0.0001U	0.00022U
0139	6/26/2023	5-192-0139	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0066**	**0.00014J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0139	9/12/2023	5-192-0139	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00075J**	0.00008U	0.00015U	**0.00042J**	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0141	6/13/2023	5-192-0141	GAI	**0.00005J**	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	**0.0021**	0.00015U	**0.0045**	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0141	9/5/2023	5-192-0141	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0027J**	0.000066U	**0.0014**	0.00015U	**0.0027**	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
006A	2/23/2023	037	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
006A	5/9/2023	5-192-006-A	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	**0.00012J**	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
006A	8/17/2023	5-192-006-A	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
0X8	2/23/2023	040/041(dup)	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0X8	5/8/2023	5-192-OX8	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
0X8	8/24/2023	5-192-0X8-A	GAI	0.00001U	**0.00013J**	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U
00X8-B	2/27/2023	702	DEP	NA	NA	0.0005U	0.0005U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
00X8-B	5/10/2023	5-192-00X8-B	GAI	0.0000099U	0.000038U	0.00008U	0.00023U	0.00005U	**0.0035J**	0.000066U	0.00008U	0.00015U	0.00007U	0.00019U	0.000047U	0.000047U	0.00013U	0.0001U	0.00022U
00X8-B	8/22/2023	5-192-00X8-B	GAI	0.00001U	0.000038U	0.00008U	0.00023U	0.00005U	0.0013U	0.000067U	0.00008U	0.00015U	0.00007U	0.00019U	0.000048U	0.000048U	0.00013U	0.0001U	0.00022U

Notes:

All analytical data reported in milligrams per liter (mg/l), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

* - US Environmental Protection Agency Regional Screening Level, Residential Tap Water.

U - Constituent not detected at the method detection limit shown, as provided in laboratory analytical reports.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated concentration between the laboratory reporting limit and the method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 7
Summary of Monitoring Well Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Monitoring Well	Date Sampled	Sample ID	Sample Agency	Acetone (ppb)	bis(2-Ethylhexyl)phthalate (ppb)	Chloroform (ppb)	Diethylphthalate (ppb)
Residential SHS MSC for Used Aquifers				**31,000**	**6**	**80**	**28**
SMW-13	4/21/2023	5-192-SMW13	GAI	1.3U	0.067U	0.07U	**0.050J**
	5/5/2023	5-192-SMW13	GAI	1.3U	0.066U	0.07U	0.047U
	5/19/2023	5-192-SMW13	GAI	1.3U	0.067U	0.07U	0.048U
	5/19/2023	5-192-SMW13-D	GAI	1.3U	0.066U	0.07U	0.047U
	6/2/2023	5-192-SMW13	GAI	1.3U	0.066U	0.07U	0.047U
	6/16/2023	5-192-SMW13	GAI	1.3U	0.066U	0.07U	0.047U
	6/16/2023	5-192-SMW13-D	GAI	1.3U	0.067U	0.07U	0.048U
	7/14/2023	5-192-SMW13	GAI	**5.3**	0.067U	0.07U	0.048U
	8/11/2023	5-192-SMW13	GAI	1.3U	0.068U	0.07U	0.049U
	8/11/2023	5-192-SMW13-D	GAI	**4.2J**	0.067U	0.07U	0.048U
	9/8/2023	5-192-SMW13	GAI	1.3U	0.068U	0.07U	**0.077J**
	10/20/2023	5-192-SMW13	GAI	1.3U	0.067U	0.07U	0.048U
	10/20/2023	5-192-SMW13-D	GAI	1.3U	0.073U	0.07U	0.052U
	11/17/2023	5-192-SMW13	GAI	1.3U	0.071U	0.07U	0.051U
SMW-14	4/21/2023	5-192-SMW14	GAI	1.3U	**0.13J**	0.07U	0.047U
	4/21/2023	5-192-SMW14-D	GAI	1.3U	0.066U	0.07U	0.047U
	5/5/2023	5-192-SMW14	GAI	1.3U	0.066U	0.07U	0.047U
	5/19/2023	5-192-SMW14	GAI	1.3U	0.066U	0.07U	0.047U
	6/2/2023	5-192-SMW14	GAI	1.3U	0.067U	0.07U	0.048U
	6/16/2023	5-192-SMW14	GAI	1.3U	0.069U	0.07U	0.049U
	7/14/2023	5-192-SMW14	GAI	1.3U	0.068U	0.07U	0.049U
	7/14/2023	5-192-SMW14-D	GAI	1.3U	0.068U	0.07U	0.049U
	8/11/2023	5-192-SMW14	GAI	1.3U	0.067U	0.07U	0.048U
	9/8/2023	5-192-SMW14	GAI	1.3U	0.067U	0.07U	0.048U
	10/20/2023	5-192-SMW14	GAI	1.3U	0.071U	0.07U	0.051U
	11/17/2023	5-192-SMW14	GAI	1.3U	0.071U	0.07U	0.051U
SMW-15	4/21/2023	5-192-SMW15	GAI	1.3U	0.07U	**1.8**	0.050U
	5/5/2023	5-192-SMW15	GAI	Not Sampled - Pump Failure			
	5/19/2023	5-192-SMW15	GAI	1.3U	0.066U	**0.47J**	0.047U
	6/2/2023	5-192-SMW15	GAI	1.3U	0.066U	**0.41J**	**0.065J**
	6/16/2023	5-192-SMW15	GAI	1.3U	0.066U	0.07U	0.047U
	7/14/2023	5-192-SMW15	GAI	1.3U	0.067U	0.07U	0.048U
	8/11/2023	5-192-SMW15	GAI	1.3U	0.07U	0.07U	0.05U
	9/8/2023	5-192-SMW15	GAI	1.3U	0.069U	0.07U	0.05U
	10/20/2023	5-192-SMW15	GAI	1.3U	0.072U	0.07U	0.052U
	11/17/2023	5-192-SMW15	GAI	1.3U	0.071U	0.07U	0.051U

Notes:

All analytical data reported in micrograms per liter (ug/l), or parts per billion (ppb).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

U - Constituent not detected at the method detection limit shown, as provided in laboratory analytical reports.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated concentration between the laboratory reporting limit and the method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 9
Summary of Surface Soil Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	2-Methylnaphthalene (ppm)	2-Nitroaniline (ppm)	4-Nitrophenol (ppm)	Acenaphthene (ppm)	Acenaphthylene (ppm)	Acetophenone (ppm)	Anthracene (ppm)	Benzaldehyde (ppm)	Benzo(a)anthracene (ppm)	Benzo(a)pyrene (ppm)	Benzo(b)fluoranthene (ppm)	Benzo(g,h,i)perylene (ppm)	Benzo(k)fluoranthene (ppm)	Biphenyl (ppm)
		Residential Direct Contact SHS MSC		57	0.95	1,800	13,000	13,000	10,000	66,000	170*	6.1	4.2	3.5	13,000	3.5	8.2
SS-03	4/24/2023	5-192-SS003-01	GAI	**0.197**	0.026U	0.051U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U
SS-03	4/24/2023	5-192-SS003-16	GAI	0.025U	0.025U	0.05U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
SS-04	4/24/2023	5-192-SS004-01	GAI	**0.064J**	0.028U	0.055U	**0.028J**	0.028U	0.028U	0.028U	0.028U	0.028U	0.028U	0.028U	0.028U	0.028U	0.028U
SS-04	4/24/2023	5-192-SS004-16	GAI	0.023U	0.023U	0.045U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U
SS-05	4/25/2023	5-192-SS005-01	GAI	0.027U	0.027U	0.054U	0.027U	0.027U	0.027U	0.027U	0.027U	0.027U	0.027U	0.027U	0.027U	0.027U	0.027U
SS-05	4/25/2023	5-192-SS005-16	GAI	0.021U	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.022J**	0.021U	0.021U	0.021U
SS-05	4/25/2023	5-192-SS005-16D	GAI	0.026U	0.026U	0.052U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U
SS-06	3/30/2023	5-192-SS006-01	GAI	**0.024J**	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	**0.032J**	**0.028J**	**0.032J**	**0.044J**	**0.034J**	**0.033J**	0.02U
SS-06	3/30/2023	5-192-SS006-16	GAI	**0.023J**	0.018U	0.035U	0.018U	0.018U	0.018U	0.018U	0.018U	**0.052J**	**0.062**	**0.056**	**0.057**	**0.046J**	0.018U
SS-07	4/24/2023	5-192-SS007-01	GAI	0.026U	0.026U	0.053U	0.026U	0.026U	0.026U	0.026U	0.026U	**0.043J**	**0.074J**	**0.063J**	**0.044J**	**0.064J**	0.026U
SS-07	4/24/2023	5-192-SS007-16	GAI	0.024U	0.024U	0.047U	0.024U	**0.034J**	0.024U	0.024U	0.024U	**0.11**	**0.147**	**0.147**	**0.078**	**0.148**	0.024U
SS-09	3/27/2023	5-192-SS009-01	GAI/EPA	**0.057J**	0.034U	0.069U	0.034U	0.034U	0.034U	0.034U	**0.043J**	0.034U	0.034U	0.034U	0.034U	0.034U	0.034U
SS-09	3/27/2023	5-192-SS009-16	GAI	**0.038J**	0.031U	0.063U	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U
SS-10	3/27/2023	5-192-SS010-01	GAI	**0.068J**	0.025U	0.05U	0.025U	0.025U	0.025U	0.025U	**0.076J**	0.025U	**0.027J**	**0.028J**	**0.027J**	0.025U	0.025U
SS-10	3/27/2023	5-192-SS010-16	GAI	**0.048J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	**0.037J**	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U
SS-11	3/28/2023	5-192-SS011-01	GAI	**0.035J**	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-11	3/28/2023	5-192-SS011-16	GAI	**0.037J**	0.019U	0.039U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-12	3/30/2023	5-192-SS012-01	GAI	0.02U	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-12	3/30/2023	5-192-SS012-16	GAI	0.02U	0.02U	0.04U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-13	4/25/2023	5-192-SS013-01	GAI	0.022U	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U
SS-13	4/25/2023	5-192-SS013-16	GAI	0.025U	0.025U	0.049U	0.025U	0.025U	0.025U	0.025U	**0.026J**	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
SS-14	3/27/2023	5-192-SS014-01	GAI	**0.048J**	0.02U	0.04U	0.02U	0.02U	0.02U	0.02U	**0.026J**	0.02U	0.02U	**0.026J**	**0.021J**	**0.022J**	0.02U
SS-14	3/27/2023	5-192-SS014-16	GAI	**0.067J**	0.021U	0.041U	0.021U	0.021U	0.021U	0.021U	**0.025J**	**0.021J**	0.021U	0.021U	**0.026J**	**0.022J**	0.021U
SS-15	3/27/2023	5-192-SS015-01	GAI	**0.03J**	0.019U	0.037U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-15	3/27/2023	5-192-SS015-16	GAI	**0.027J**	0.018U	0.035U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U
SS-16	3/28/2023	5-192-SS016-01	GAI	**0.061J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U
SS-16	3/28/2023	5-192-SS016-16	GAI	**0.076J**	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	**0.02J**	0.02U	0.02U
SS-16	3/28/2023	5-192-SS016-16-D	GAI	**0.057J**	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U
SS-18	4/4/2023	5-192-SS018-01	GAI	0.019U	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-18	4/4/2023	5-192-SS018-16	GAI	0.019U	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	**0.022J**	**0.024J**	0.019U	0.019U	0.019U
SS-19	4/6/2023	5-192-SS019-01	GAI	**0.036J**	0.022U	0.045U	0.022U	0.022U	0.022U	0.022U	**0.273**	0.022U	**0.025J**	**0.028J**	**0.024J**	**0.025J**	0.022U
SS-19	4/6/2023	5-192-SS019-16	GAI	**0.035J**	0.018U	0.036U	0.018U	0.018U	0.018U	0.018U	**0.028J**	0.018U	**0.019J**	**0.019J**	0.018U	0.018U	0.018U
SS-20	3/28/2023	5-192-SS020-01	GAI	**0.07J**	**1.43**	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	**0.024J**	**0.032J**	**0.034J**	**0.027J**	**0.023J**	0.023U
SS-20	3/28/2023	5-192-SS020-16	GAI	**0.054J**	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	**0.025J**	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-21	3/28/2023	5-192-SS021-01	GAI	**0.03J**	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-21	3/28/2023	5-192-SS021-16	GAI	**0.07J**	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	**0.023J**	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-22	3/30/2023	5-192-SS022-01	GAI	**0.049J**	0.03U	0.06U	0.03U	0.03U	0.03U	0.03U	**0.148J**	0.03U	0.03U	**0.032J**	0.03U	0.03U	0.03U
SS-22	3/30/2023	5-192-SS022-16	GAI	**0.093J**	**0.037J**	0.04U	0.02U	0.02U	0.02U	0.02U	**0.026J**	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-23	4/4/2023	5-192-SS023-01	GAI	0.04U	0.04U	0.081U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U
SS-23	4/4/2023	5-192-SS023-16	GAI	0.033U	0.033U	0.067U	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U
SS-23	4/4/2023	5-192-SS023-16-D	GAI	0.035U	0.035U	0.071U	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U
SS-24	4/6/2023	5-192-SS024-01	GAI	**0.03J**	0.019U	0.037U	0.019U	0.019U	**0.027J**	**0.02J**	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-24	4/6/2023	5-192-SS024-16	GAI	**0.032J**	0.02U	0.04U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-25	4/5/2023	5-192-SS025-01	GAI	**0.127J**	0.023U	0.045U	0.023U	0.023U	0.023U	0.023U	**0.072J**	**0.104**	**0.118**	**0.113**	**0.11**	**0.124**	0.023U
SS-25	4/5/2023	5-192-SS025-16	GAI	**0.075J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.065**	**0.08**	**0.079**	**0.062J**	**0.082**	0.022U
SS-26	4/6/2023	5-192-SS026-01	GAI	**0.089J**	0.025U	0.051U	0.025U	0.025U	0.025U	0.025U	**0.188J**	**0.104**	**0.142**	**0.139**	**0.126**	**0.133**	0.025U
SS-26	4/6/2023	5-192-SS026-16	GAI	**0.023J**	0.02U	0.04U	0.02U	**0.02U**	0.02U	0.02U	**0.119J**	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-28	4/25/2023	5-192-SS028-01	GAI	**0.042J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.051J**	**0.065**	**0.066**	**0.07**	**0.058J**	0.022U
SS-28	4/25/2023	5-192-SS028-16	GAI	**0.034J**	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.035J**	**0.05J**	**0.056J**	**0.055J**	**0.047J**	0.021U
SS-30	3/29/2023	5-192-SS030-01	GAI	0.025U	0.025U	0.049U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
SS-30	3/29/2023	5-192-SS030-16	GAI	**0.02J**	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-31	3/29/2023	5-192-SS031-01	GAI	**0.107J**	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.044J**	**0.076**	**0.075**	**0.08**	**0.065**	0.021U
SS-31	3/29/2023	5-192-SS031-16	GAI	**0.084J**	0.017U	0.035U	0.017U	0.017U	0.017U	0.017U	0.017U	0.017U	0.017U	**0.042J**	0.017U	**0.028J**	0.017U

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

U - Constituent not detected at the method detection limit shown.

* - US Environmental Protection Agency Regional Screening Level, Residential Soil.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 9
Summary of Surface Soil Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	bis(2-Ethylhexyl)phthalate (ppm)	Butylbenzylphthalate (ppm)	Chrysene (ppm)	Dibenz(a,h)anthracene (ppm)	Dibenzofuran (ppm)	Di-n-Butylphthalate (ppm)	Di-n-Octylphthalate (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd)pyrene (ppm)	mp-Cresol (ppm)	Naphthalene (ppm)	Phenanthrene (ppm)	Phenol (ppm)	Pyrene (ppm)	n-Butyl Acrylate (ppm)
			Residential Direct Contact SHS MSC	1,300	9,800	35	1	220	10,000	2,200	8,800	8,800	4	1,100	13	66,000	3,800	6,600	
SS-03	4/24/2023	5-192-SS003-01	GAI	0.026U	0.026U	0.026U	0.026U	0.026U	**0.044J**	0.028U	0.026U	0.026U	0.026U	0.051U	**0.053J**	**0.039J**	0.051U	0.026U	0.014U
SS-03	4/24/2023	5-192-SS003-16	GAI	0.025U	0.025U	0.025U	0.025U	0.025U	**0.032J**	0.028U	0.025U	0.025U	0.025U	0.05U	0.025U	0.025U	0.05U	0.025U	0.011U
SS-04	4/24/2023	5-192-SS004-01	GAI	0.028U	0.028U	0.028U	0.028U	**0.03J**	**0.038J**	0.031U	**0.031J**	**0.03J**	0.028U	0.055U	**0.094**	**0.056J**	0.055U	**0.029J**	0.011U
SS-04	4/24/2023	5-192-SS004-16	GAI	**0.033J**	0.023U	0.023U	0.023U	0.023U	**0.033J**	0.025U	0.023U	0.023U	0.023U	0.045U	0.023U	0.023U	0.045U	0.023U	0.01U
SS-05	4/25/2023	5-192-SS005-01	GAI	0.027U	0.027U	0.027U	0.027U	0.027U	**0.033J**	0.03U	0.027U	0.027U	0.027U	0.054U	0.027U	0.027U	0.054U	0.027U	0.011U
SS-05	4/25/2023	5-192-SS005-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	**0.027J**	0.024U	**0.026J**	0.021U	0.021U	0.043U	0.021U	0.021U	0.043U	0.021U	0.006U
SS-05	4/25/2023	5-192-SS005-16D	GAI	0.026U	0.026U	0.026U	0.026U	0.026U	0.026U	0.029U	**0.028J**	0.026U	0.026U	0.052U	**0.04J**	0.026U	0.052U	0.026U	0.0062U
SS-06	3/30/2023	5-192-SS006-01	GAI	**0.026J**	0.02U	**0.038J**	0.02U	0.02U	0.02U	0.023U	**0.072**	0.02U	**0.026J**	0.041U	0.02U	**0.045J**	0.041U	**0.047J**	0.0064U
SS-06	3/30/2023	5-192-SS006-16	GAI	**0.024J**	0.018U	**0.058**	0.018U	0.018U	**0.02J**	0.02U	**0.114**	0.018U	**0.036J**	0.035U	0.018U	**0.064**	0.035U	**0.076**	0.0049U
SS-07	4/24/2023	5-192-SS007-01	GAI	0.026U	0.026U	**0.064J**	0.026U	0.026U	**0.033J**	0.029U	**0.133**	0.026U	**0.056J**	0.053U	0.026U	**0.086**	0.053U	**0.084**	0.0095U
SS-07	4/24/2023	5-192-SS007-16	GAI	0.024U	0.024U	**0.155**	0.024U	0.024U	**0.034J**	0.026U	**0.345**	0.024U	**0.089**	0.047U	0.024U	**0.226**	0.047U	**0.237**	0.0065U
SS-09	3/27/2023	5-192-SS009-01	GAI/EPA	0.034U	0.034U	0.034U	0.034U	0.034U	**0.07J**	0.038U	**0.034J**	0.034U	0.034U	0.069U	**0.095J**	0.034U	0.069U	0.034U	0.014U
SS-09	3/27/2023	5-192-SS009-16	GAI	0.031U	0.031U	0.031U	0.031U	0.031U	**0.046J**	0.035U	0.031U	0.031U	0.031U	0.063U	**0.06J**	0.031U	0.063U	0.031U	0.011U
SS-10	3/27/2023	5-192-SS010-01	GAI	0.025U	0.025U	**0.034J**	0.025U	0.025U	**0.038J**	0.028U	**0.042J**	0.025U	**0.028J**	0.05U	**0.144**	**0.028J**	0.05U	**0.037J**	0.0087U
SS-10	3/27/2023	5-192-SS010-16	GAI	0.023U	0.023U	0.023U	0.023U	0.023U	**0.029J**	0.026U	**0.024J**	0.023U	0.023U	0.046U	**0.093**	0.023U	0.046U	0.023U	0.0073U
SS-11	3/28/2023	5-192-SS011-01	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	**0.031J**	0.021U	0.019U	0.019U	0.019U	0.038U	**0.057**	0.019U	0.038U	0.019U	0.0056U
SS-11	3/28/2023	5-192-SS011-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	**0.033J**	0.022U	0.019U	0.019U	0.019U	0.039U	**0.061**	0.019U	0.039U	0.019U	0.0045U
SS-12	3/30/2023	5-192-SS012-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.021J**	0.023U	0.02U	0.02U	0.02U	0.041U	0.02U	0.02U	0.041U	0.02U	0.0053U
SS-12	3/30/2023	5-192-SS012-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.021J**	0.022U	0.02U	0.02U	0.02U	0.04U	**0.022J**	0.02U	0.04U	0.02U	0.0052U
SS-13	4/25/2023	5-192-SS013-01	GAI	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.024U	**0.028J**	0.022U	0.022U	0.043U	**0.025J**	0.022U	0.043U	**0.025J**	0.0084U
SS-13	4/25/2023	5-192-SS013-16	GAI	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.028U	**0.037J**	0.025U	0.025U	0.049U	0.025U	0.025U	0.049U	**0.03J**	0.0069U
SS-14	3/27/2023	5-192-SS014-01	GAI	**0.027J**	0.02U	**0.024J**	0.02U	0.02U	**0.068J**	0.022U	**0.031J**	0.02U	**0.022J**	0.04U	**0.07**	0.02U	0.04U	**0.027J**	0.0061U
SS-14	3/27/2023	5-192-SS014-16	GAI	0.021U	0.021U	**0.025J**	0.021U	0.021U	**0.032J**	0.023U	**0.032J**	0.021U	0.021U	0.041U	**0.088**	**0.026J**	0.041U	**0.027J**	0.006U
SS-15	3/27/2023	5-192-SS015-01	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	**0.021J**	0.021U	0.019U	0.019U	0.019U	0.037U	**0.056**	0.019U	0.037U	0.019U	0.005U
SS-15	3/27/2023	5-192-SS015-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	**0.032J**	0.02U	0.018U	0.018U	0.018U	0.035U	**0.032J**	0.018U	0.035U	0.018U	0.0048U
SS-16	3/28/2023	5-192-SS016-01	GAI	0.023U	0.023U	0.023U	0.023U	0.023U	**0.036J**	0.026U	**0.026J**	0.023U	0.023U	0.046U	**0.09**	0.023U	0.046U	**0.024J**	0.0063U
SS-16	3/28/2023	5-192-SS016-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.033J**	0.023U	**0.027J**	0.02U	**0.023J**	0.041U	**0.095**	**0.028J**	0.041U	**0.027J**	0.0057U
SS-16	3/28/2023	5-192-SS016-16-D	GAI	0.022U	0.022U	0.022U	0.022U	0.022U	**0.043J**	0.024U	**0.024J**	0.022U	0.022U	0.043U	**0.072**	0.022U	0.043U	**0.022J**	0.0058U
SS-18	4/4/2023	5-192-SS018-01	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.021U	0.019U	0.019U	0.019U	0.038U	0.019U	0.019U	0.038U	0.019U	0.006U
SS-18	4/4/2023	5-192-SS018-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.021U	**0.036J**	0.019U	0.019U	0.038U	0.019U	**0.019J**	0.038U	**0.031J**	0.0056U
SS-19	4/6/2023	5-192-SS019-01	GAI	0.022U	0.022U	**0.03J**	0.022U	0.022U	**0.023J**	0.025U	**0.035J**	0.022U	**0.028J**	0.045U	**0.056J**	**0.026J**	0.045U	**0.033J**	0.0072U
SS-19	4/6/2023	5-192-SS019-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	**0.027J**	0.02U	**0.027J**	0.018U	**0.021J**	0.036U	**0.05J**	**0.021J**	0.036U	**0.025J**	0.007U
SS-20	3/28/2023	5-192-SS020-01	GAI	0.023U	0.023U	**0.026J**	0.023U	0.023U	**0.062J**	0.026U	**0.037J**	0.023U	0.023U	0.046U	**0.117**	**0.025J**	0.046U	**0.029J**	0.0062U
SS-20	3/28/2023	5-192-SS020-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.054J**	0.023U	0.02U	0.02U	0.02U	0.041U	**0.068**	0.02U	0.041U	0.02U	0.0058U
SS-21	3/28/2023	5-192-SS021-01	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	**0.022J**	0.024U	0.021U	0.021U	0.021U	0.042U	**0.036J**	0.021U	0.042U	0.021U	0.0068U
SS-21	3/28/2023	5-192-SS021-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.03J**	0.023U	0.02U	0.02U	0.02U	0.041U	**0.097**	0.02U	0.041U	0.02U	0.0056U
SS-22	3/30/2023	5-192-SS022-01	GAI	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.034U	**0.032J**	0.03U	0.03U	0.06U	**0.043J**	**0.043J**	0.06U	0.03U	0.0074U
SS-22	3/30/2023	5-192-SS022-16	GAI	0.02U	0.02U	0.02U	0.02U	**0.024J**	**0.023J**	0.022U	0.02U	0.02U	0.02U	0.04U	**0.061**	**0.046J**	0.04U	0.02U	0.0053U
SS-23	4/4/2023	5-192-SS023-01	GAI	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.045U	0.04U	0.04U	0.04U	0.081U	0.04U	0.04U	0.081U	0.04U	0.016U
SS-23	4/4/2023	5-192-SS023-16	GAI	0.033U	0.033U	0.033U	0.033U	0.033U	0.033U	0.037U	**0.041J**	0.033U	0.033U	0.067U	0.033U	0.033U	0.067U	0.033U	0.014U
SS-23	4/4/2023	5-192-SS023-16-D	GAI	0.035U	0.035U	0.035U	0.035U	0.035U	0.035U	0.04U	**0.042J**	0.035U	0.035U	0.071U	0.035U	0.035U	0.071U	0.035U	0.013U
SS-24	4/6/2023	5-192-SS024-01	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.021U	0.019U	0.019U	0.019U	0.037U	**0.026J**	**0.02J**	0.037U	0.019U	0.0059U
SS-24	4/6/2023	5-192-SS024-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.022U	0.02U	0.02U	0.02U	0.04U	**0.035J**	0.02U	0.04U	0.02U	0.005U
SS-25	4/5/2023	5-192-SS025-01	GAI	0.023U	0.023U	**0.142**	**0.026J**	**0.047J**	0.023U	0.025U	**0.166**	0.023U	**0.109**	0.045U	**0.121**	**0.147**	0.045U	**0.163**	0.0086U
SS-25	4/5/2023	5-192-SS025-16	GAI	0.022U	0.022U	**0.095**	0.022U	**0.026J**	0.022U	0.024U	**0.111**	0.022U	**0.087**	0.044U	**0.058J**	**0.084**	0.044U	**0.115**	0.0067U
SS-26	4/6/2023	5-192-SS026-01	GAI	0.025U	0.025U	**0.147**	0.025U	0.025U	**0.037J**	0.028U	**0.179**	0.025U	**0.166**	0.051U	**0.109**	**0.131**	0.051U	**0.17**	0.0085U
SS-26	4/6/2023	5-192-SS026-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.023U	0.02U	0.02U	0.02U	0.04U	**0.024J**	0.02U	0.04U	0.02U	0.0064U
SS-28	4/25/2023	5-192-SS028-01	GAI	0.022U	0.022U	**0.063J**	0.022U	0.022U	0.022U	0.024U	**0.088**	0.022U	**0.064J**	0.044U	**0.035J**	**0.042J**	0.044U	**0.076**	0.0073U
SS-28	4/25/2023	5-192-SS028-16	GAI	0.021U	0.021U	**0.044J**	0.021U	0.021U	0.021U	0.024U	**0.065**	0.021U	**0.047J**	0.043U	**0.031J**	**0.036J**	0.043U	**0.064**	0.0066U
SS-30	3/29/2023	5-192-SS030-01	GAI	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.028U	0.025U	0.025U	0.025U	0.049U	0.025U	0.025U	0.049U	0.025U	0.007U
SS-30	3/29/2023	5-192-SS030-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.021U	0.019U	0.019U	0.019U	0.038U	0.019U	**0.039J**	0.038U	0.019U	0.0049U
SS-31	3/29/2023	5-192-SS031-01	GAI	0.021U	0.021U	**0.077**	0.021U	0.021U	0.021U	0.024U	**0.07**	0.021U	**0.07**	0.042U	**0.057J**	**0.115**	**0.681**	**0.066**	0.0063U
SS-31	3/29/2023	5-192-SS031-16	GAI	0.017U	0.017U	**0.035J**	0.017U	**0.026J**	0.017U	0.019U	**0.037J**	0.017U	**0.028J**	0.035U	**0.04J**	**0.08**	**0.474**	**0.036J**	**0.0088**

Notes:
All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).
SHS MSC - Statewide Health Standard Medium-Specific Concentration.
U - Constituent not detected at the method detection limit shown.
* - US Environmental Protection Agency Regional Screening Level, Residential Soil.
Bold values detected at concentrations above the laboratory method detection limit.
J - Estimated value between the laboratory reporting limit and method detection limit.
Shaded values exceed the applicable MSC.
NA - Not Analyzed.

Table 9
Summary of Surface Soil Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	2-Methylnaphthalene (ppm)	2-Nitroaniline (ppm)	4-Nitrophenol (ppm)	Acenaphthene (ppm)	Acenaphthylene (ppm)	Acetophenone (ppm)	Anthracene (ppm)	Benzaldehyde (ppm)	Benzo(a)anthracene (ppm)	Benzo(a)pyrene (ppm)	Benzo(b)fluoranthene (ppm)	Benzo(g,h,i)perylene (ppm)	Benzo(k)fluoranthene (ppm)	Biphenyl (ppm)
		Residential Direct Contact SHS MSC		57	0.95	1,800	13,000	13,000	10,000	66,000	170*	6.1	4.2	3.5	13,000	3.5	8.2
SS-32	3/29/2023	5-192-SS032-01	GAI	**0.104J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	**0.023J**	**0.028J**	**0.042J**	**0.049J**	**0.059J**	**0.03J**	0.022U
SS-32	3/29/2023	5-192-SS032-16	GAI	**0.096J**	0.018U	0.036U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	**0.02J**	**0.024J**	**0.04J**	0.018U	0.018U
SS-33	3/29/2023	5-192-SS033-01	GAI	**0.066J**	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	**0.027J**	0.021U	**0.026J**	**0.031J**	**0.039J**	0.021U	0.021U
SS-33	3/29/2023	5-192-SS033-16	GAI	**0.044J**	0.019U	**0.801**	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	**0.021J**	0.019U	0.019U
SS-34	3/28/2023	5-192-SS034-01	GAI	**0.082J**	0.025U	0.05U	0.025U	0.025U	0.025U	0.025U	**0.028J**	0.025U	0.025U	0.025U	**0.026J**	0.025U	0.025U
SS-34	3/28/2023	5-192-SS034-16	GAI	**0.031J**	0.024U	0.047U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U
SS-35	4/3/2023	5-192-SS035-01	GAI	**0.057J**	0.025U	0.051U	0.025U	0.025U	0.025U	0.025U	**0.032J**	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
SS-35	4/3/2023	5-192-SS035-16	GAI	**0.069J**	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	**0.031J**	0.019U	0.019U
SS-36	4/3/2023	5-192-SS036-01	GAI	0.022U	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	**0.262**	**0.047J**	**0.056J**	**0.048J**	**0.047J**	**0.046J**	0.022U
SS-36	4/3/2023	5-192-SS036-16	GAI	0.02U	0.02U	0.04U	0.02U	0.02U	0.02U	0.02U	0.02U	**0.025J**	**0.032J**	**0.031J**	**0.03J**	**0.026J**	0.02U
SS-37	4/3/2023	5-192-SS037-01	GAI	0.023U	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	**0.032J**	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U
SS-37	4/3/2023	5-192-SS037-16	GAI	0.021U	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	**0.182J**	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-38	4/24/2023	5-192-SS038-01	GAI	0.024U	0.024U	0.048U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U
SS-38	4/24/2023	5-192-SS038-16	GAI	0.018U	0.018U	0.037U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U
SS-39	3/30/2023	5-192-SS039-01	GAI	**0.115J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.023J**	**0.038J**	**0.025J**	**0.023J**	0.022U
SS-39	3/30/2023	5-192-SS039-16	GAI	**0.058J**	0.02U	0.039U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	**0.021J**	0.02U	0.02U	0.02U
SS-39	3/30/2023	5-192-SS039-16-D	GAI	**0.064J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	**0.032J**	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U
SS-40	3/29/2023	5-192-SS040-01	GAI	**0.025J**	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	**0.151J**	**0.04J**	**0.049J**	**0.05J**	**0.028J**	**0.042J**	0.021U
SS-40	3/29/2023	5-192-SS040-16	GAI	0.02U	0.02U	0.04U	0.02U	0.02U	0.02U	0.02U	**0.034J**	**0.02J**	**0.03J**	**0.025J**	0.02U	**0.022J**	0.02U
SS-41	4/3/2023	5-192-SS041-01	GAI	**0.159**	0.024U	0.047U	0.024U	0.024U	0.024U	0.024U	0.024U	**0.025J**	0.024U	0.024U	0.024U	0.024U	0.024U
SS-41	4/3/2023	5-192-SS041-16	GAI	**0.104J**	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U
SS-44	4/3/2023	5-192-SS044-01	GAI	**0.036J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U
SS-44	4/3/2023	5-192-SS044-16	GAI	**0.042J**	0.018U	0.036U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U
SS-45	4/25/2023	5-192-SS045-01	GAI	**3.09**	0.027U	0.055U	0.027U	0.027U	0.027U	**0.035J**	0.027U	**0.212**	**0.142**	**0.171**	**0.133**	**0.127**	**0.259**
SS-45	4/25/2023	5-192-SS045-16	GAI	**3.63**	0.023U	0.046U	0.023U	0.023U	**0.37**	**0.048J**	0.023U	**0.232**	**0.16**	**0.182**	**0.136**	**0.136**	**0.336**
SS-46	4/4/2023	5-192-SS046-01	GAI	**0.038J**	0.02U	0.04U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-46	4/4/2023	5-192-SS046-16	GAI	**0.056J**	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-48	4/5/2023	5-192-SS048-01	GAI	**0.083J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	**0.08J**	**0.03J**	**0.04J**	**0.042J**	**0.042J**	**0.034J**	0.022U
SS-48	4/5/2023	5-192-SS048-16	GAI	**0.079J**	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	**0.048J**	0.021U	**0.022J**	**0.029J**	**0.03J**	0.021U	0.021U
SS-49	4/5/2023	5-192-SS049-01	GAI	**0.03J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U
SS-49	4/5/2023	5-192-SS049-16	GAI	**0.022J**	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-50	3/30/2023	5-192-SS050-01	GAI	**0.113J**	0.035U	0.071U	**0.097J**	**0.084J**	0.035U	**0.071J**	**0.163J**	**0.049J**	**0.05J**	**0.06J**	0.035U	**0.05J**	0.035U
SS-50	3/30/2023	5-192-SS050-16	GAI	**0.233**	0.021U	0.042U	**0.022J**	0.021U	0.021U	0.021U	**0.03J**	0.021U	0.021U	0.021U	0.021U	0.021U	**0.026J**
SS-51	4/25/2023	5-192-SS051-01	GAI	**0.028J**	0.026U	0.051U	0.026U	0.026U	0.026U	0.026U	**0.031J**	0.026U	**0.033J**	**0.037J**	**0.031J**	**0.029J**	0.026U
SS-51	4/25/2023	5-192-SS051-16	GAI	**0.025J**	0.025U	0.05U	0.025U	0.025U	0.025U	0.025U	**0.03J**	0.025U	0.025U	**0.027J**	0.025U	0.025U	0.025U
SS-52	4/5/2023	5-192-SS052-01	GAI	**0.026J**	0.022U	0.045U	0.022U	0.022U	0.022U	0.022U	**0.029J**	**0.033J**	0.022U	0.022U	0.022U	0.022U	0.022U
SS-52	4/5/2023	5-192-SS052-16	GAI	0.022U	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.032J**	0.022U	**0.048J**	0.022U	**0.042J**	0.022U
SS-52	4/5/2023	5-192-SS052-16-D	GAI	0.021U	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.036J**	**0.026J**	0.021U	0.021U	0.021U
SS-53	4/6/2023	5-192-SS053-01	GAI	**0.028J**	0.025U	0.049U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
SS-53	4/6/2023	5-192-SS053-16	GAI	0.019U	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-54	4/12/2023	5-192-SS054-01	GAI	**0.26**	0.021U	0.042U	0.021U	0.021U	**0.026J**	0.021U	0.021U	**0.035J**	0.021U	**0.026J**	**0.025J**	0.021U	**0.052J**
SS-54	4/12/2023	5-192-SS054-16	GAI	**0.228**	0.018U	0.036U	0.018U	0.018U	0.018U	0.018U	0.018U	**0.034J**	0.018U	**0.024J**	0.018U	0.018U	**0.046J**
SS-55	4/17/2023	5-192-SS055-01	GAI/EPA	**0.078J**	0.033U	0.065U	0.033U	0.033U	0.033U	**0.052J**	**0.342J**	**0.237**	**0.326**	**0.341**	**0.185**	**0.31**	0.033U
SS-55	4/17/2023	5-192-SS055-16	GAI	**0.078J**	0.023U	0.046U	**0.024J**	**0.037J**	0.023U	**0.05J**	**0.081J**	**0.268**	**0.361**	**0.352**	**0.192**	**0.365**	0.023U
SS-56	4/17/2023	5-192-SS056-01	GAI/EPA	**0.026J**	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	**0.025J**	0.022U	0.022U	**0.023J**	0.022U	0.022U	0.022U
SS-56	4/17/2023	5-192-SS056-16	GAI	**0.02J**	0.019U	0.039U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-57	4/17/2023	5-192-SS057-01	GAI/EPA	0.025U	0.025U	0.05U	0.025U	0.025U	0.025U	0.025U	**0.042J**	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
SS-57	4/17/2023	5-192-SS057-16	GAI	**0.03J**	0.018U	0.037U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U
SS-58	4/12/2023	5-192-SS058-01	GAI	**0.128J**	0.024U	0.048U	0.024U	0.024U	0.024U	0.024U	**0.024J**	**0.031J**	**0.039J**	**0.035J**	**0.041J**	**0.029J**	0.024U
SS-58	4/12/2023	5-192-SS058-16	GAI	0.021U	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.021J**	**0.026J**	**0.025J**	**0.026J**	**0.022J**	0.021U
SS-59	4/18/2023	5-192-SS059-01	GAI/EPA	**0.044J**	0.025U	0.049U	0.025U	0.025U	0.025U	0.025U	**0.066J**	0.025U	**0.025J**	**0.033J**	0.025U	**0.027J**	0.025U
SS-59	4/18/2023	5-192-SS059-16	GAI	**0.028J**	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.028J**	**0.03J**	0.021U	**0.022J**	0.021U

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

U - Constituent not detected at the method detection limit shown.

* - US Environmental Protection Agency Regional Screening Level, Residential Soil.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 9
Summary of Surface Soil Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	bis(2-Ethylhexyl)phthalate (ppm)	Butylbenzylphthalate (ppm)	Chrysene (ppm)	Dibenz(a,h)anthracene (ppm)	Dibenzofuran (ppm)	Di-n-Butylphthalate (ppm)	Di-n-Octylphthalate (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd)pyrene (ppm)	mp-Cresol (ppm)	Naphthalene (ppm)	Phenanthrene (ppm)	Phenol (ppm)	Pyrene (ppm)	n-Butyl Acrylate (ppm)
		Residential Direct Contact SHS MSC		1,300	9,800	35	1	220	10,000	2,200	8,800	8,800	4	1,100	13	66,000	3,800	6,600	
SS-32	3/29/2023	5-192-SS032-01	GAI	0.022U	0.022U	**0.06J**	0.022U	**0.032J**	0.022U	0.025U	**0.05J**	0.022U	**0.034J**	0.044U	**0.05J**	**0.106**	0.044U	**0.054J**	0.0054U
SS-32	3/29/2023	5-192-SS032-16	GAI	0.018U	0.018U	**0.021J**	0.018U	**0.031J**	0.018U	0.02U	**0.026J**	0.018U	0.018U	0.036U	**0.053**	**0.098**	0.036U	**0.028J**	0.005U
SS-33	3/29/2023	5-192-SS033-01	GAI	0.021U	0.021U	0.021U	0.021U	**0.022J**	0.021U	0.024U	**0.035J**	0.021U	0.021U	0.042U	**0.035J**	**0.073**	0.042U	**0.028J**	0.0072U
SS-33	3/29/2023	5-192-SS033-16	GAI	0.019U	0.019U	**0.02J**	0.019U	0.019U	0.019U	0.021U	0.019U	0.019U	0.019U	0.038U	**0.022J**	**0.05J**	0.038U	0.019U	0.0049U
SS-34	3/28/2023	5-192-SS034-01	GAI	0.025U	0.025U	**0.027J**	0.025U	0.025U	**0.039J**	0.028U	**0.031J**	0.025U	0.025U	0.05U	**0.098**	**0.038J**	**0.052J**	**0.029J**	0.0076U
SS-34	3/28/2023	5-192-SS034-16	GAI	0.024U	0.024U	0.024U	0.024U	0.024U	**0.027J**	0.026U	0.024U	0.024U	0.024U	0.047U	**0.031J**	0.024U	0.047U	0.024U	0.0062U
SS-35	4/3/2023	5-192-SS035-01	GAI	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.028U	0.025U	0.025U	0.025U	0.051U	**0.026J**	**0.053J**	0.051U	0.025U	0.0075U
SS-35	4/3/2023	5-192-SS035-16	GAI	0.019U	0.019U	**0.028J**	0.019U	**0.02J**	0.019U	0.021U	0.019U	0.019U	0.019U	0.038U	**0.024J**	**0.069**	0.038U	**0.022J**	0.0057U
SS-36	4/3/2023	5-192-SS036-01	GAI	0.022U	0.022U	**0.052J**	0.022U	0.022U	0.022U	0.024U	**0.076**	0.022U	**0.053J**	0.043U	0.022U	**0.032J**	0.043U	**0.064**	0.007U
SS-36	4/3/2023	5-192-SS036-16	GAI	0.02U	0.02U	**0.031J**	0.02U	0.02U	0.02U	0.022U	**0.044J**	0.02U	**0.03J**	0.04U	0.02U	0.02U	0.04U	**0.036J**	0.0062U
SS-37	4/3/2023	5-192-SS037-01	GAI	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.026U	0.023U	0.023U	0.023U	0.046U	0.023U	0.023U	0.046U	0.023U	0.0073U
SS-37	4/3/2023	5-192-SS037-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.024U	0.021U	0.021U	0.021U	0.043U	0.021U	0.021U	0.043U	0.021U	0.0052U
SS-38	4/24/2023	5-192-SS038-01	GAI	0.024U	0.024U	0.024U	0.024U	0.024U	**0.031J**	0.027U	0.024U	0.024U	0.024U	0.048U	0.024U	0.024U	0.048U	0.024U	0.013U
SS-38	4/24/2023	5-192-SS038-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	**0.022J**	0.02U	**0.033J**	0.018U	0.018U	0.037U	0.018U	0.018U	0.037U	**0.031J**	0.0054U
SS-39	3/30/2023	5-192-SS039-01	GAI	**0.023J**	0.022U	**0.032J**	0.022U	**0.033J**	0.022U	0.024U	**0.031J**	0.022U	0.022U	0.044U	**0.084**	**0.084**	0.044U	**0.029J**	0.006U
SS-39	3/30/2023	5-192-SS039-16	GAI	0.02U	0.02U	**0.023J**	0.02U	0.02U	0.02U	0.022U	**0.021J**	0.02U	0.02U	0.039U	**0.037J**	**0.047J**	0.039U	0.02U	0.0052U
SS-39	3/30/2023	5-192-SS039-16-D	GAI	**0.036J**	0.022U	0.022U	0.022U	**0.035J**	0.022U	0.024U	0.022U	0.022U	0.022U	0.044U	**0.035J**	**0.069**	0.044U	0.022U	0.0069U
SS-40	3/29/2023	5-192-SS040-01	GAI	**0.023J**	0.021U	**0.048J**	0.021U	0.021U	0.021U	0.024U	**0.08**	0.021U	**0.03J**	0.043U	**0.024J**	**0.057J**	0.043U	**0.057J**	0.011U
SS-40	3/29/2023	5-192-SS040-16	GAI	0.02U	0.02U	**0.026J**	0.02U	0.02U	0.02U	0.022U	**0.047J**	0.02U	0.02U	0.04U	0.02U	**0.029J**	0.04U	**0.035J**	0.0078U
SS-41	4/3/2023	5-192-SS041-01	GAI	0.024U	0.024U	**0.034J**	0.024U	**0.047J**	0.024U	0.026U	**0.029J**	0.024U	0.024U	0.047U	**0.099**	**0.095**	0.047U	**0.032J**	0.0076U
SS-41	4/3/2023	5-192-SS041-16	GAI	0.022U	0.022U	0.022U	0.022U	**0.031J**	0.022U	0.024U	0.022U	0.022U	0.022U	0.043U	**0.063J**	**0.059J**	0.043U	0.022U	0.0063U
SS-44	4/3/2023	5-192-SS044-01	GAI	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.026U	0.023U	0.023U	0.023U	0.046U	**0.024J**	0.023U	0.046U	0.023U	0.0073U
SS-44	4/3/2023	5-192-SS044-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.02U	0.018U	0.018U	0.018U	0.036U	**0.023J**	**0.02J**	0.036U	0.018U	0.0062U
SS-45	4/25/2023	5-192-SS045-01	GAI	0.027U	0.027U	**0.298**	0.027U	**0.897**	0.027U	0.031U	**0.309**	0.027U	**0.074J**	**0.075J**	**1.92**	**1.51**	0.055U	**0.32**	0.0093U
SS-45	4/25/2023	5-192-SS045-16	GAI	0.023U	0.023U	**0.352**	**0.033J**	**1.14**	0.023U	0.025U	**0.385**	0.023U	**0.082**	0.046U	**2.51**	**1.79**	0.046U	**0.36**	0.0087U
SS-46	4/4/2023	5-192-SS046-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.023U	0.02U	0.02U	0.02U	0.04U	0.02U	**0.044J**	0.04U	0.02U	0.0058U
SS-46	4/4/2023	5-192-SS046-16	GAI	0.019U	0.019U	0.019U	0.019U	**0.026J**	0.019U	0.021U	0.019U	0.019U	0.019U	0.038U	0.019U	**0.07**	0.038U	0.019U	0.0058U
SS-48	4/5/2023	5-192-SS048-01	GAI	0.022U	0.022U	**0.056J**	0.022U	0.022U	0.022U	0.024U	**0.046J**	0.022U	**0.036J**	0.044U	**0.069**	**0.08**	0.044U	**0.049J**	0.0077U
SS-48	4/5/2023	5-192-SS048-16	GAI	0.021U	0.021U	**0.035J**	0.021U	**0.024J**	0.021U	0.023U	**0.03J**	0.021U	**0.022J**	0.042U	**0.054J**	**0.072**	0.042U	**0.031J**	0.0053U
SS-49	4/5/2023	5-192-SS049-01	GAI	0.023U	0.023U	0.023U	0.023U	0.023U	0.023U	0.026U	**0.03J**	0.023U	**0.027J**	0.046U	**0.036J**	**0.024J**	0.046U	**0.029J**	0.0078U
SS-49	4/5/2023	5-192-SS049-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.023U	0.02U	0.02U	0.02U	0.041U	**0.024J**	**0.021J**	0.041U	0.02U	0.0058U
SS-50	3/30/2023	5-192-SS050-01	GAI	0.035U	0.035U	**0.042J**	0.035U	0.035U	**0.037J**	0.04U	**0.121**	**0.104J**	0.035U	0.071U	**0.113**	**0.147**	0.071U	**0.086J**	0.011U
SS-50	3/30/2023	5-192-SS050-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.023U	**0.026J**	**0.028J**	0.021U	0.042U	**0.255**	**0.05J**	0.042U	0.021U	0.0059U
SS-51	4/25/2023	5-192-SS051-01	GAI	**0.056J**	0.026U	0.026U	0.026U	0.026U	0.026U	0.029U	**0.035J**	0.026U	**0.027J**	0.051U	**0.035J**	0.026U	0.051U	**0.028J**	0.008U
SS-51	4/25/2023	5-192-SS051-16	GAI	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.028U	**0.029J**	0.025U	0.025U	0.05U	**0.028J**	0.025U	0.05U	0.025U	0.0071U
SS-52	4/5/2023	5-192-SS052-01	GAI	0.022U	0.022U	**0.04J**	0.022U	0.022U	0.022U	0.025U	**0.078**	0.022U	0.022U	0.045U	**0.034J**	**0.04J**	0.045U	**0.062J**	0.0088U
SS-52	4/5/2023	5-192-SS052-16	GAI	0.022U	0.022U	**0.034J**	0.022U	0.022U	0.022U	0.025U	**0.061J**	0.022U	0.022U	0.044U	**0.028J**	**0.034J**	0.044U	**0.044J**	0.0059U
SS-52	4/5/2023	5-192-SS052-16-D	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.023U	**0.045J**	0.021U	0.021U	0.042U	**0.026J**	0.021U	0.042U	**0.03J**	0.0064U
SS-53	4/6/2023	5-192-SS053-01	GAI	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.028U	0.025U	0.025U	0.025U	0.049U	**0.044J**	0.025U	0.049U	0.025U	0.0062U
SS-53	4/6/2023	5-192-SS053-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.021U	0.019U	0.019U	0.019U	0.038U	0.019U	0.019U	0.038U	0.019U	0.0048U
SS-54	4/12/2023	5-192-SS054-01	GAI	0.021U	0.021U	**0.061J**	0.021U	**0.155**	0.021U	0.023U	**0.043J**	0.021U	0.021U	0.042U	**0.104**	**0.338**	0.042U	**0.062**	0.0074U
SS-54	4/12/2023	5-192-SS054-16	GAI	0.018U	0.018U	**0.058**	0.018U	**0.145**	0.018U	0.02U	**0.041J**	0.018U	0.018U	0.036U	**0.091**	**0.342**	0.036U	**0.074**	0.0058U
SS-55	4/17/2023	5-192-SS055-01	GAI/EPA	**0.05J**	**0.113J**	**0.351**	**0.042J**	0.033U	0.033U	0.036U	**0.765**	0.033U	**0.21**	0.065U	**0.072J**	**0.421**	0.065U	**0.489**	0.015U
SS-55	4/17/2023	5-192-SS055-16	GAI	**0.028J**	**0.127J**	**0.363**	**0.049J**	**0.04J**	**0.031J**	0.026U	**0.828**	**0.035J**	**0.229**	0.046U	**0.062J**	**0.448**	0.046U	**0.532**	0.0088U
SS-56	4/17/2023	5-192-SS056-01	GAI/EPA	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.024U	**0.032J**	0.022U	0.022U	0.044U	0.022U	**0.03J**	0.044U	0.022U	0.0073U
SS-56	4/17/2023	5-192-SS056-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.022U	**0.022J**	0.019U	0.019U	0.039U	0.019U	0.019U	0.039U	0.019U	0.0058U
SS-57	4/17/2023	5-192-SS057-01	GAI/EPA	**0.052J**	0.025U	0.025U	0.025U	0.025U	**0.025J**	0.028U	0.025U	0.025U	0.025U	0.05U	0.025U	0.025U	0.05U	0.025U	0.0063U
SS-57	4/17/2023	5-192-SS057-16	GAI	**0.112**	0.018U	0.018U	0.018U	0.018U	0.018U	0.02U	0.018U	0.018U	0.018U	0.037U	0.018U	**0.044J**	0.037U	0.018U	0.0053U
SS-58	4/12/2023	5-192-SS058-01	GAI	0.024U	0.024U	**0.037J**	0.024U	0.024U	0.024U	0.027U	**0.055J**	0.024U	**0.039J**	0.048U	**0.042J**	**0.046J**	0.048U	**0.053J**	0.009U
SS-58	4/12/2023	5-192-SS058-16	GAI	0.021U	0.021U	**0.026J**	0.021U	0.021U	0.021U	0.023U	**0.039J**	0.021U	**0.027J**	0.042U	0.021U	**0.026J**	0.042U	**0.035J**	0.0072U
SS-59	4/18/2023	5-192-SS059-01	GAI/EPA	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.028U	**0.043J**	0.025U	0.025U	0.049U	**0.033J**	**0.035J**	0.049U	**0.031J**	0.0079U
SS-59	4/18/2023	5-192-SS059-16	GAI	**0.024J**	0.021U	**0.027J**	0.021U	0.021U	0.021U	0.023U	**0.044J**	0.021U	0.021U	0.042U	**0.021J**	**0.038J**	0.042U	**0.03J**	0.006U

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).
SHS MSC - Statewide Health Standard Medium-Specific Concentration.
U - Constituent not detected at the method detection limit shown.
* - US Environmental Protection Agency Regional Screening Level, Residential Soil.
Bold values detected at concentrations above the laboratory method detection limit.
J - Estimated value between the laboratory reporting limit and method detection limit.
Shaded values exceed the applicable MSC.
NA - Not Analyzed.

Table 9
Summary of Surface Soil Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	2-Methylnaphthalene (ppm)	2-Nitroaniline (ppm)	4-Nitrophenol (ppm)	Acenaphthene (ppm)	Acenaphthylene (ppm)	Acetophenone (ppm)	Anthracene (ppm)	Benzaldehyde (ppm)	Benzo(a)anthracene (ppm)	Benzo(a)pyrene (ppm)	Benzo(b)fluoranthene (ppm)	Benzo(g,h,i)perylene (ppm)	Benzo(k)fluoranthene (ppm)	Biphenyl (ppm)
Residential Direct Contact SHS MSC				**57**	**0.95**	**1,800**	**13,000**	**13,000**	**10,000**	**66,000**	**170***	**6.1**	**4.2**	**3.5**	**13,000**	**3.5**	**8.2**
SS-60	4/17/2023	5-192-SS060-01	GAI/EPA	**0.022J**	0.019U	0.037U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-60	4/17/2023	5-192-SS060-16	GAI	**0.018J**	0.018U	0.036U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U
SS-61	4/13/2023	5-192-SS061-01	GAI/EPA	**0.061J**	0.042U	0.085U	0.042U	0.042U	0.042U	0.042U	**0.325J**	0.042U	0.042U	0.042U	0.042U	0.042U	0.042U
SS-61	4/13/2023	5-192-SS061-16	GAI	**0.058J**	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-62	4/13/2023	5-192-SS062-01	GAI/EPA	**0.16**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	**0.034J**	**0.038J**	**0.043J**	**0.071**	**0.043J**	**0.045J**	0.023U
SS-62	4/13/2023	5-192-SS062-16	GAI	**0.1J**	0.018U	0.037U	0.018U	0.018U	0.018U	0.018U	0.018U	**0.019J**	0.018U	**0.032J**	0.018U	0.018U	0.018U
SS-62	4/13/2023	5-192-SS062-16D	GAI	**0.089J**	0.018U	0.035U	0.018U	0.018U	0.018U	0.018U	**0.019J**	0.018U	0.018U	**0.026J**	0.018U	0.018U	0.018U
SS-63	4/19/2023	5-192-SS063-01	GAI	**0.034J**	0.024U	0.048U	0.024U	0.024U	0.024U	0.024U	**0.042J**	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U
SS-63	4/19/2023	5-192-SS063-16	GAI	**0.035J**	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-65	4/13/2023	5-192-SS065-01	GAI/EPA	**0.545**	0.021U	0.043U	0.021U	0.021U	**0.064J**	**0.031J**	**0.054J**	**0.139**	**0.128**	**0.13**	**0.09**	**0.099**	**0.06J**
SS-65	4/13/2023	5-192-SS065-16	GAI	**0.414**	0.02U	0.039U	**0.028J**	0.02U	**0.055J**	**0.07**	**0.048J**	**0.22**	**0.172**	**0.164**	**0.112**	**0.134**	**0.06J**
SS-66	4/12/2023	5-192-SS066-01	GAI/EPA	0.022U	0.022U	0.045U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.028J**	**0.025J**	**0.028J**	0.022U	0.022U	0.022U
SS-66	4/12/2023	5-192-SS066-16	GAI	0.022U	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.033J**	**0.034J**	**0.028J**	**0.034J**	**0.033J**	0.022U
SS-67	4/13/2023	5-192-SS067-01	GAI/EPA	**0.058J**	0.024U	0.047U	0.024U	0.024U	0.024U	0.024U	**0.046J**	**0.065J**	**0.069J**	**0.076**	**0.05J**	**0.066J**	0.024U
SS-67	4/13/2023	5-192-SS067-16	GAI	**0.045J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	**0.023J**	**0.054J**	**0.037J**	**0.067J**	**0.04J**	**0.05J**	0.023U
SS-68	4/12/2023	5-192-SS068-01	GAI/EPA	**0.059J**	0.034U	0.067U	0.034U	0.034U	0.034U	**0.041J**	**0.28J**	**0.163**	**0.173**	**0.154**	**0.134**	**0.153**	0.034U
SS-68	4/12/2023	5-192-SS068-16	GAI	**0.039J**	0.02U	0.04U	0.02U	**0.041J**	0.02U	**0.047J**	**0.022J**	**0.212**	**0.226**	**0.195**	**0.157**	**0.199**	0.02U
SS-69	4/13/2024	5-192-SS069-01	GAI	**0.061J**	0.031U	0.063U	0.031U	0.031U	0.031U	0.031U	**0.119J**	0.031U	0.031U	0.031U	0.031U	0.031U	0.031U
SS-69	4/13/2024	5-192-SS069-16	GAI	**0.034J**	0.024U	0.048U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U
SS-70	4/13/2023	5-192-SS070-01	GAI	**0.061J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	**0.025J**	**0.035J**	**0.033J**	**0.028J**	**0.031J**	0.023U
SS-70	4/13/2023	5-192-SS070-16	GAI	**0.025J**	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.024J**	**0.025J**	**0.029J**	**0.022J**	**0.022J**	0.021U
SS-71	4/18/2023	5-192-SS071-01	GAI	**0.065J**	0.021U	0.043U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-71	4/18/2023	5-192-SS071-16	GAI	**0.026J**	0.02U	0.039U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-71	4/18/2023	5-192-SS071-16-D	GAI	**0.025J**	0.018U	0.037U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U
SS-72	4/18/2023	5-192-SS072-01	GAI	**0.042J**	0.027U	0.054U	0.027U	0.027U	0.027U	0.027U	**0.237J**	**0.066J**	**0.089**	**0.117**	**0.062J**	**0.08**	0.027U
SS-72	4/18/2023	5-192-SS072-16	GAI	0.02U	0.02U	0.041U	0.02U	0.02U	0.02U	0.02U	**0.03J**	0.02U	0.02U	**0.027J**	0.02U	**0.021J**	0.02U
SS-73	4/19/2023	5-192-SS073-01	GAI/EPA	**0.033J**	0.024U	0.048U	0.024U	0.024U	0.024U	0.024U	**0.045J**	**0.048J**	**0.064J**	**0.063J**	**0.048J**	**0.06J**	0.024U
SS-73	4/19/2023	5-192-SS073-16	GAI	0.021U	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	**0.021J**	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-74	4/17/2023	5-192-SS074-01	GAI/EPA	**0.275**	0.02U	0.039U	0.02U	0.02U	0.02U	0.02U	**0.052J**	**0.02J**	0.02U	**0.032J**	**0.034J**	0.02U	**0.021J**
SS-74	4/17/2023	5-192-SS074-16	GAI	**0.15**	0.019U	0.039U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	**0.041J**	**0.043J**	0.019U	0.019U
SS-75	4/19/2023	5-192-SS075-01	GAI/EPA	0.023U	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	**0.026J**	**0.032J**	**0.031J**	0.023U	**0.031J**	0.023U
SS-75	4/19/2023	5-192-SS075-16	GAI	0.022U	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.026J**	**0.031J**	**0.029J**	**0.022J**	**0.031J**	0.022U
SS-76	4/27/2023	5-192-SS076-01	GAI	0.021U	0.021U	0.042U	0.021U	0.021U	0.021U	0.021U	0.021U	**0.025J**	0.021U	**0.04J**	**0.031J**	**0.031J**	0.021U
SS-76	4/27/2023	5-192-SS076-16	GAI	0.021U	0.021U	0.041U	0.021U	0.021U	0.021U	0.021U	**0.024J**	0.021U	0.021U	**0.025J**	0.021U	0.021U	0.021U
SS-77	5/10/2023	5-192-SS077-01	GAI	0.024U	0.024U	0.049U	0.024U	0.024U	0.024U	0.024U	0.024U	**0.051J**	**0.063J**	**0.051J**	**0.045J**	**0.056J**	0.024U
SS-77	5/10/2023	5-192-SS077-16	GAI	0.022U	0.022U	0.043U	0.022U	0.022U	0.022U	0.022U	0.022U	**0.053J**	**0.067**	**0.06J**	**0.048J**	**0.062J**	0.022U
SS-78	5/10/2023	5-192-SS078-01	GAI	**0.03J**	0.027U	0.053U	0.027U	**0.028J**	0.027U	0.027U	0.027U	**0.1**	**0.14**	**0.11**	**0.099**	**0.12**	0.027U
SS-78	5/10/2023	5-192-SS078-16	GAI	**0.028J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	**0.085**	**0.11**	**0.096**	**0.083**	**0.096**	0.023U
SS-79	5/10/2023	5-192-SS079-01	GAI/EPA	**0.037J**	0.023U	0.046U	0.023U	**0.028J**	0.023U	**0.071**	0.023U	**0.34**	**0.4**	**0.3**	**0.25**	**0.32**	0.023U
SS-79	5/10/2023	5-192-SS079-16	GAI	**0.031J**	0.019U	0.038U	0.019U	**0.02J**	0.019U	0.019U	0.019U	**0.083**	**0.12**	**0.1**	**0.091**	**0.1**	0.019U
SS-80	5/10/2023	5-192-SS080-01	GAI	0.022U	0.022U	0.045U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U
SS-80	5/10/2023	5-192-SS080-16	GAI	0.022U	0.022U	0.044U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U
SS-81	5/10/2023	5-192-SS081-01	GAI	**0.026J**	0.025U	0.05U	0.025U	0.025U	0.025U	0.025U	**0.025J**	**0.035J**	**0.044J**	**0.041J**	**0.034J**	**0.039J**	0.025U
SS-81	5/10/2023	5-192-SS081-16	GAI	**0.031J**	0.023U	0.046U	0.023U	0.023U	0.023U	0.023U	0.023U	**0.038J**	**0.048J**	**0.05J**	**0.036J**	**0.038J**	0.023U
SS-82	5/10/2023	5-192-SS082-01	GAI/EPA	**0.06J**	0.019U	0.038U	0.019U	0.019U	0.019U	0.019U	0.019U	**0.043J**	**0.064**	**0.064**	**0.076**	**0.058**	0.019U
SS-82	5/10/2023	5-192-SS082-16	GAI	**0.026J**	0.019U	0.037U	0.019U	0.019U	0.019U	0.019U	0.019U	**0.022J**	**0.034J**	**0.035J**	**0.032J**	**0.031J**	0.019U
SS-84	5/10/2023	5-192-SS084-01	GAI	0.023U	0.023U	0.046U	0.023U	0.023U	0.023U	**0.065J**	0.023U	**0.24**	**0.26**	**0.21**	**0.14**	**0.23**	0.023U
SS-84	5/10/2023	5-192-SS084-16	GAI	0.02U	0.02U	0.041U	0.02U	0.02U	0.02U	**0.063**	0.02U	**0.15**	**0.14**	**0.13**	**0.073**	**0.13**	0.02U
SS-85	5/10/2023	5-192-SS085-01	GAI/EPA	**0.066J**	0.021U	0.041U	**0.023J**	**0.18**	0.021U	**0.14**	0.021U	**0.55**	**0.68**	**0.56**	**0.44**	**0.56**	0.021U
SS-85	5/10/2023	5-192-SS085-16	GAI	**0.06J**	0.023U	0.045U	**0.056J**	**0.045J**	0.023U	**0.17**	0.023U	**0.61**	**0.71**	**0.54**	**0.42**	**0.59**	0.023U
SS-85	5/10/2023	5-192-SS085-16-D	GAI	**0.029J**	0.02U	0.039U	0.02U	**0.036J**	0.02U	**0.045J**	0.02U	**0.29**	**0.41**	**0.38**	**0.3**	**0.38**	0.02U
SS-86	6/15/2023	5-192-SS086-01	GAI	**0.092J**	0.02U	0.039U	0.02U	0.02U	0.02U	0.02U	**0.031J**	**0.021J**	0.02U	**0.021J**	0.02U	0.02U	0.02U
SS-86	6/15/2023	5-192-SS086-16	GAI	**0.24**	0.02U	0.039U	0.02U	0.02U	0.02U	0.02U	**0.023J**	0.02U	0.02U	**0.023J**	0.02U	0.02U	0.02U
2270005	3/7/2023	2270005	DEP/EPA	0.08U	NA	NA	0.08U	NA	NA	0.08U	NA	**0.107**	**0.159**	**0.193**	**0.117**	0.08U	NA

Notes:
All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).
SHS MSC - Statewide Health Standard Medium-Specific Concentration.
U - Constituent not detected at the method detection limit shown.
* - US Environmental Protection Agency Regional Screening Level, Residential Soil.
Bold values detected at concentrations above the laboratory method detection limit.
J - Estimated value between the laboratory reporting limit and method detection limit.
Shaded values exceed the applicable MSC.
NA - Not Analyzed.

Table 9
Summary of Surface Soil Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	bis(2-Ethylhexyl)phthalate (ppm)	Butylbenzylphthalate (ppm)	Chrysene (ppm)	Dibenz(a,h)anthracene (ppm)	Dibenzofuran (ppm)	Di-n-Butylphthalate (ppm)	Di-n-Octylphthalate (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd)pyrene (ppm)	mp-Cresol (ppm)	Naphthalene (ppm)	Phenanthrene (ppm)	Phenol (ppm)	Pyrene (ppm)	n-Butyl Acrylate (ppm)
		Residential Direct Contact SHS MSC		1,300	9,800	35	1	220	10,000	2,200	8,800	8,800	4	1,100	13	66,000	3,800	6,600	
SS-60	4/17/2023	5-192-SS060-01	GAI/EPA	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.021U	0.019U	0.019U	0.019U	0.037U	0.019U	**0.038J**	0.037U	0.019U	0.0066U
SS-60	4/17/2023	5-192-SS060-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.02U	0.018U	0.018U	0.018U	0.036U	0.018U	**0.034J**	0.036U	0.018U	0.0049U
SS-61	4/13/2023	5-192-SS061-01	GAI/EPA	0.042U	0.042U	0.042U	0.042U	0.042U	0.042U	0.047U	0.042U	**0.056J**	0.042U	0.085U	**0.104J**	**0.048J**	0.085U	0.042U	0.011U
SS-61	4/13/2023	5-192-SS061-16	GAI	0.021U	0.021U	**0.025J**	0.021U	0.021U	0.021U	0.024U	**0.03J**	0.021U	0.021U	0.043U	**0.065**	**0.037J**	0.043U	**0.023J**	0.0066U
SS-62	4/13/2023	5-192-SS062-01	GAI/EPA	0.023U	0.023U	**0.086**	0.023U	**0.044J**	0.023U	0.026U	**0.087**	0.023U	**0.049J**	0.046U	**0.173**	**0.131**	0.046U	**0.066J**	0.0074U
SS-62	4/13/2023	5-192-SS062-16	GAI	0.018U	0.018U	**0.04J**	0.018U	**0.035J**	0.018U	0.021U	**0.047J**	0.018U	**0.019J**	0.037U	**0.098**	**0.095**	0.037U	**0.038J**	0.0054U
SS-62	4/13/2023	5-192-SS062-16D	GAI	0.018U	0.018U	**0.035J**	0.018U	**0.029J**	0.018U	0.02U	**0.031J**	0.018U	0.018U	0.035U	**0.094**	**0.077**	0.035U	**0.032J**	0.0051U
SS-63	4/19/2023	5-192-SS063-01	GAI	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.027U	**0.026J**	0.024U	0.024U	0.048U	**0.032J**	**0.029J**	0.048U	0.024U	0.0087U
SS-63	4/19/2023	5-192-SS063-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.024U	0.021U	0.021U	0.021U	0.043U	**0.027J**	**0.032J**	0.043U	0.021U	0.0065U
SS-65	4/13/2023	5-192-SS065-01	GAI/EPA	0.021U	0.021U	**0.171**	**0.027J**	**0.195**	0.021U	0.024U	**0.205**	0.021U	**0.098**	0.043U	**0.35**	**0.391**	0.043U	**0.191**	0.0073U
SS-65	4/13/2023	5-192-SS065-16	GAI	0.02U	0.02U	**0.239**	**0.035J**	**0.175**	0.02U	**0.159**	**0.4**	**0.048J**	**0.125**	0.039U	**0.281**	**0.554**	0.039U	**0.324**	0.0066U
SS-66	4/12/2023	5-192-SS066-01	GAI/EPA	0.022U	0.022U	**0.03J**	0.022U	0.022U	0.022U	0.025U	**0.043J**	0.022U	**0.026J**	0.045U	0.022U	**0.03J**	0.045U	**0.043J**	0.0064U
SS-66	4/12/2023	5-192-SS066-16	GAI	0.022U	0.022U	**0.035J**	0.022U	0.022U	0.022U	0.024U	**0.054J**	0.022U	**0.04J**	0.043U	0.022U	**0.035J**	0.043U	**0.049J**	0.0064U
SS-67	4/13/2023	5-192-SS067-01	GAI/EPA	0.024U	0.024U	**0.091**	0.024U	0.024U	0.024U	0.026U	**0.157**	0.024U	**0.069J**	0.047U	**0.099**	**0.093**	0.047U	**0.114**	0.0091U
SS-67	4/13/2023	5-192-SS067-16	GAI	**0.203**	0.023U	**0.074**	0.023U	0.023U	0.023U	0.026U	**0.132**	0.023U	**0.055J**	0.046U	**0.068J**	**0.089**	0.046U	**0.117**	0.0071U
SS-68	4/12/2023	5-192-SS068-01	GAI/EPA	0.034U	0.034U	**0.202**	0.034U	0.034U	0.034U	0.037U	**0.315**	0.034U	**0.156**	0.067U	**0.038J**	**0.201**	0.067U	**0.282**	0.0081U
SS-68	4/12/2023	5-192-SS068-16	GAI	0.02U	0.02U	**0.256**	**0.042J**	0.02U	0.02U	0.022U	**0.455**	**0.027J**	**0.177**	0.04U	**0.026J**	**0.297**	0.04U	**0.408**	0.0066U
SS-69	4/13/2024	5-192-SS069-01	GAI	0.031U	0.031U	**0.034J**	0.031U	0.031U	0.031U	0.035U	**0.042J**	0.031U	0.031U	0.063U	**0.156**	0.031U	0.063U	**0.038J**	0.011U
SS-69	4/13/2024	5-192-SS069-16	GAI	0.024U	0.024U	0.024U	0.024U	0.024U	0.024U	0.027U	0.024U	0.024U	0.024U	0.048U	**0.075**	0.024U	0.048U	0.024U	0.0075U
SS-70	4/13/2023	5-192-SS070-01	GAI	0.023U	0.023U	**0.039J**	0.023U	0.023U	0.023U	0.026U	**0.045J**	0.023U	**0.035J**	0.046U	**0.049J**	**0.058J**	0.046U	**0.038J**	0.0063U
SS-70	4/13/2023	5-192-SS070-16	GAI	0.021U	0.021U	**0.03J**	0.021U	0.021U	0.021U	0.023U	**0.048J**	0.021U	**0.027J**	0.042U	0.021U	**0.032J**	0.042U	**0.034J**	0.0059U
SS-71	4/18/2023	5-192-SS071-01	GAI	0.021U	0.021U	0.021U	0.021U	**0.022J**	0.021U	0.024U	**0.027J**	0.021U	0.021U	0.043U	**0.04J**	**0.052J**	0.043U	0.021U	0.0066U
SS-71	4/18/2023	5-192-SS071-16	GAI	0.02U	**0.028J**	0.02U	0.02U	0.02U	0.02U	0.022U	0.02U	0.02U	0.02U	0.039U	0.02U	**0.028J**	0.039U	0.02U	0.0052U
SS-71	4/18/2023	5-192-SS071-16-D	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	0.018U	0.02U	0.018U	0.018U	0.018U	0.037U	0.018U	**0.035J**	0.037U	0.018U	0.0046U
SS-72	4/18/2023	5-192-SS072-01	GAI	**0.052J**	0.027U	**0.086**	0.027U	0.027U	**0.031J**	0.03U	**0.147**	0.027U	**0.064J**	0.054U	**0.037J**	**0.083**	0.054U	**0.1**	0.012U
SS-72	4/18/2023	5-192-SS072-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.022J**	0.023U	**0.033J**	0.02U	0.02U	0.041U	0.02U	0.02U	0.041U	**0.021J**	0.008U
SS-73	4/19/2023	5-192-SS073-01	GAI/EPA	**0.025J**	0.024U	**0.066J**	0.024U	0.024U	0.024U	0.027U	**0.105**	0.024U	**0.05J**	0.048U	**0.041J**	**0.06J**	0.048U	**0.087**	0.0095U
SS-73	4/19/2023	5-192-SS073-16	GAI	**0.021J**	0.021U	0.021U	0.021U	0.021U	0.021U	0.023U	0.021U	0.021U	0.021U	0.042U	0.021U	0.021U	0.042U	0.021U	0.0059U
SS-74	4/17/2023	5-192-SS074-01	GAI/EPA	0.02U	0.02U	**0.053J**	0.02U	**0.057J**	0.02U	0.022U	**0.033J**	0.02U	0.02U	0.039U	**0.152**	**0.159**	0.039U	**0.044J**	0.0072U
SS-74	4/17/2023	5-192-SS074-16	GAI	0.019U	0.019U	**0.052J**	0.019U	**0.046J**	0.019U	0.022U	**0.031J**	0.019U	0.019U	0.039U	**0.062**	**0.146**	0.039U	**0.032J**	0.0057U
SS-75	4/19/2023	5-192-SS075-01	GAI/EPA	0.023U	0.023U	**0.031J**	0.023U	0.023U	0.023U	0.026U	**0.051J**	0.023U	0.023U	0.046U	**0.023J**	**0.025J**	0.046U	**0.044J**	0.0068U
SS-75	4/19/2023	5-192-SS075-16	GAI	0.022U	0.022U	**0.032J**	0.022U	0.022U	0.022U	0.024U	**0.052J**	0.022U	**0.022J**	0.043U	**0.022J**	**0.024J**	0.043U	**0.045J**	0.0059U
SS-76	4/27/2023	5-192-SS076-01	GAI	0.021U	0.021U	**0.03J**	0.021U	0.021U	0.021U	0.023U	**0.045J**	0.021U	**0.031J**	0.042U	**0.03J**	0.021U	0.042U	**0.037J**	0.0072U
SS-76	4/27/2023	5-192-SS076-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.023U	**0.034J**	0.021U	0.021U	0.041U	0.021U	0.021U	0.041U	**0.027J**	0.0072U
SS-77	5/10/2023	5-192-SS077-01	GAI	**0.044J**	0.024U	**0.058J**	0.024U	0.024U	0.024U	0.027U	**0.092**	0.024U	**0.047J**	0.049U	**0.029J**	**0.032J**	0.049U	**0.07J**	0.0078U
SS-77	5/10/2023	5-192-SS077-16	GAI	**0.042J**	0.022U	**0.064**	0.022U	0.022U	**0.026J**	0.024U	**0.099**	0.022U	**0.052J**	0.043U	0.022U	**0.036J**	0.043U	**0.079**	0.018U
SS-78	5/10/2023	5-192-SS078-01	GAI	**0.55**	0.027U	**0.11**	**0.029J**	0.027U	0.027U	0.03U	**0.18**	0.027U	**0.1**	0.053U	**0.054J**	**0.069J**	0.053U	**0.14**	0.021U
SS-78	5/10/2023	5-192-SS078-16	GAI	**0.068J**	0.023U	**0.11**	0.023U	0.023U	0.023U	0.026U	**0.17**	0.023U	**0.088**	0.046U	**0.053J**	**0.079**	0.046U	**0.13**	0.011U
SS-79	5/10/2023	5-192-SS079-01	GAI/EPA	**0.027J**	0.023U	**0.35**	**0.066J**	0.023U	0.023U	0.026U	**0.69**	0.023U	**0.29**	0.046U	**0.042J**	**0.21**	0.046U	**0.52**	0.0091U
SS-79	5/10/2023	5-192-SS079-16	GAI	**0.02J**	0.019U	**0.1**	**0.025J**	0.019U	0.019U	0.021U	**0.14**	0.019U	**0.1**	0.038U	**0.031J**	**0.043J**	0.038U	**0.12**	0.012U
SS-80	5/10/2023	5-192-SS080-01	GAI	**0.029J**	0.022U	0.022U	0.022U	0.022U	0.022U	0.025U	**0.033J**	0.022U	0.022U	0.045U	0.022U	0.022U	0.045U	**0.026J**	0.0096U
SS-80	5/10/2023	5-192-SS080-16	GAI	0.022U	0.022U	0.022U	0.022U	0.022U	0.022U	0.025U	0.022U	0.022U	0.022U	0.044U	0.022U	0.022U	0.044U	0.022U	0.0099U
SS-81	5/10/2023	5-192-SS081-01	GAI	**0.036J**	0.025U	**0.043J**	0.025U	0.025U	0.025U	0.028U	**0.075**	0.025U	**0.036J**	0.05U	**0.042J**	**0.036J**	0.05U	**0.054J**	0.018U
SS-81	5/10/2023	5-192-SS081-16	GAI	**0.027J**	0.023U	**0.053J**	0.023U	0.023U	0.023U	0.026U	**0.084**	0.023U	**0.039J**	0.046U	**0.042J**	**0.057J**	0.046U	**0.066J**	0.013U
SS-82	5/10/2023	5-192-SS082-01	GAI/EPA	**0.071J**	0.019U	**0.068**	0.019U	**0.021J**	0.019U	0.021U	**0.094**	0.019U	**0.054J**	0.038U	**0.068**	**0.076**	0.038U	**0.075**	0.013U
SS-82	5/10/2023	5-192-SS082-16	GAI	**0.049J**	0.019U	**0.033J**	0.019U	0.019U	0.019U	0.021U	**0.041J**	0.019U	**0.031J**	0.037U	**0.029J**	**0.023J**	0.037U	**0.031J**	0.013U
SS-84	5/10/2023	5-192-SS084-01	GAI	0.023U	0.023U	**0.26**	**0.046J**	0.023U	0.023U	0.026U	**0.5**	0.023U	**0.16**	0.046U	**0.035J**	**0.25**	0.046U	**0.33**	0.016U
SS-84	5/10/2023	5-192-SS084-16	GAI	0.02U	0.02U	**0.15**	**0.028J**	0.02U	0.02U	0.023U	**0.31**	**0.023J**	**0.088**	0.041U	0.02U	**0.2**	0.041U	**0.2**	0.01U
SS-85	5/10/2023	5-192-SS085-01	GAI/EPA	0.021U	0.021U	**0.56**	**0.11**	**0.05J**	0.021U	0.023U	**1**	**0.048J**	**0.48**	0.041U	**0.39**	**0.41**	0.041U	**0.68**	0.0095U
SS-85	5/10/2023	5-192-SS085-16	GAI	**0.047J**	0.023U	**0.69**	**0.12**	**0.029J**	0.023U	0.025U	**1.2**	**0.061J**	**0.47**	0.045U	**0.076**	**0.55**	0.045U	**0.87**	0.0065U
SS-85	5/10/2023	5-192-SS085-16-D	GAI	**0.039J**	0.02U	**0.38**	**0.07**	0.02U	0.02U	0.022U	**0.63**	0.02U	**0.31**	0.039U	**0.063**	**0.2**	0.039U	**0.43**	0.015U
SS-86	6/15/2023	5-192-SS086-01	GAI	0.02U	0.02U	**0.03J**	0.02U	0.02U	0.02U	0.022U	**0.027J**	0.02U	0.02U	0.039U	**0.12**	**0.047J**	0.039U	**0.031J**	0.0057U
SS-86	6/15/2023	5-192-SS086-16	GAI	0.02U	0.02U	**0.028J**	0.02U	**0.043J**	0.02U	0.022U	**0.021J**	0.02U	0.02U	0.039U	**0.21**	**0.079**	0.039U	**0.031J**	0.0054U
2270005	3/7/2023	2270005	DEP/EPA	NA	NA	**0.122**	0.08U	NA	NA	NA	**0.205**	0.08U	0.201U	NA	0.069U	0.08U	0.08U	**0.183**	NA

Notes:
All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).
SHS MSC - Statewide Health Standard Medium-Specific Concentration.
U - Constituent not detected at the method detection limit shown.
* - US Environmental Protection Agency Regional Screening Level, Residential Soil.
Bold values detected at concentrations above the laboratory method detection limit.
J - Estimated value between the laboratory reporting limit and method detection limit.
Shaded values exceed the applicable MSC.
NA - Not Analyzed.

Table 10
Summary of Surface Soil Analytical Data - Property 008 Soil Evaluation
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	2-Methylnaphthalene (ppm)	2-Nitroaniline (ppm)	Acenaphthene (ppm)	Acetophenone (ppm)	Anthracene (ppm)	Benzaldehyde (ppm)	Benzo(a)anthracene (ppm)
			Residential Direct Contact SHS MSC	**57**	**0.95**	**13,000**	**10,000**	**66,000**	**170***	**6.1**
SS-20	3/28/2023	5-192-SS020-01	GAI	**0.07J**	**1.43**	0.023U	0.023U	0.023U	0.023U	**0.024J**
SS-20	3/28/2023	5-192-SS020-16	GAI	**0.054J**	0.02U	0.02U	0.02U	0.02U	**0.025J**	0.02U
SS-20A	9/14/2023	5-192-SS020A-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20A	9/14/2023	5-192-SS020A-16	GAI	0.019U	0.019U	0.019U	**0.068J**	0.019U	**0.028J**	0.019U
SS-20B	9/14/2023	5-192-SS020B-01	GAI	0.022U	0.022U	0.022U	0.022U	0.022U	**0.13J**	**0.025J**
SS-20B	9/14/2023	5-192-SS020B-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.19J**	0.02U
SS-20C	9/14/2023	5-192-SS020C-01	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	**0.47**	**0.02J**
SS-20C	9/14/2023	5-192-SS020C-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	**0.14J**	0.018U
SS-20D	9/14/2023	5-192-SS020D-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20D	9/14/2023	5-192-SS020D-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-20E	9/14/2023	5-192-SS020E-01	GAI	**0.31**	0.02U	0.02U	0.02U	0.02U	**0.073J**	**0.07**
SS-20E	9/14/2023	5-192-SS020E-16	GAI	**0.29**	0.019U	0.019U	**0.049J**	0.019U	0.019U	**0.07**
SS-20F	9/14/2023	5-192-SS020F-01	GAI	**0.22**	0.025U	**0.31**	0.025U	**0.12**	**0.043J**	**0.035J**
SS-20F	9/14/2023	5-192-SS020F-16	GAI	**0.042J**	0.02U	0.02U	0.02U	0.02U	0.02U	**0.031J**
SS-20G	9/14/2023	5-192-SS020G-01	GAI	**0.054J**	0.019U	0.019U	0.019U	0.019U	0.019U	**0.056J**
SS-20G	9/14/2023	5-192-SS020G-16	GAI	**0.13**	0.019U	0.019U	0.019U	0.019U	0.019U	**0.059**
SS-20H	9/14/2023	5-192-SS020H-01	GAI	**0.052J**	0.022U	0.022U	0.022U	**0.025J**	**0.023J**	**0.095**
SS-20H	9/14/2023	5-192-SS020H-16	GAI	**0.067J**	0.02U	0.02U	0.02U	**0.028J**	0.02U	**0.13**
SS-20H	9/14/2023	5-192-SS020H-16D	GAI	**0.056J**	0.021U	0.021U	0.021U	0.021U	**0.028J**	**0.089**

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

U - Constituent not detected at the method detection limit shown.

* - US Environmental Protection Agency Regional Screening Level, Residential Soil.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 10
Summary of Surface Soil Analytical Data - Property 008 Soil Evaluation
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	Benzo(a)pyrene (ppm)	Benzo(b)fluoranthene (ppm)	Benzo(g,h,i)perylene (ppm)	Benzo(k)fluoranthene (ppm)	Biphenyl (ppm)	bis(2-Ethylhexyl)phthalate (ppm)	Chrysene (ppm)
Residential Direct Contact SHS MSC				**4.2**	**3.5**	**13,000**	**3.5**	**8.2**	**1,300**	**35**
SS-20	3/28/2023	5-192-SS020-01	GAI	**0.032J**	**0.034J**	**0.027J**	**0.023J**	0.023U	0.023U	**0.026J**
SS-20	3/28/2023	5-192-SS020-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20A	9/14/2023	5-192-SS020A-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20A	9/14/2023	5-192-SS020A-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	**0.019J**	0.019U
SS-20B	9/14/2023	5-192-SS020B-01	GAI	**0.032J**	**0.03J**	**0.029J**	**0.027J**	0.022U	**0.025J**	**0.033J**
SS-20B	9/14/2023	5-192-SS020B-16	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20C	9/14/2023	5-192-SS020C-01	GAI	**0.024J**	**0.025J**	**0.02J**	**0.023J**	**0.02J**	**0.037J**	**0.027J**
SS-20C	9/14/2023	5-192-SS020C-16	GAI	0.018U	0.018U	0.018U	0.018U	0.018U	**0.024J**	**0.018J**
SS-20D	9/14/2023	5-192-SS020D-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	**0.035J**	0.02U
SS-20D	9/14/2023	5-192-SS020D-16	GAI	0.021U	0.021U	0.021U	0.021U	**0.025J**	**0.023J**	0.021U
SS-20E	9/14/2023	5-192-SS020E-01	GAI	**0.073**	**0.084**	**0.053J**	**0.062**	**0.031J**	**0.072J**	**0.092**
SS-20E	9/14/2023	5-192-SS020E-16	GAI	**0.071**	**0.079**	**0.053J**	**0.069**	**0.031J**	**0.07J**	**0.089**
SS-20F	9/14/2023	5-192-SS020F-01	GAI	**0.035J**	**0.035J**	**0.027J**	0.025U	**0.043J**	**0.11J**	**0.053J**
SS-20F	9/14/2023	5-192-SS020F-16	GAI	**0.029J**	**0.033J**	**0.024J**	**0.026J**	0.02U	**0.026J**	**0.04J**
SS-20G	9/14/2023	5-192-SS020G-01	GAI	**0.067**	**0.057J**	**0.055J**	**0.059**	0.019U	**0.035J**	**0.072**
SS-20G	9/14/2023	5-192-SS020G-16	GAI	**0.069**	**0.065**	**0.057**	**0.057**	0.019U	**0.033J**	**0.074**
SS-20H	9/14/2023	5-192-SS020H-01	GAI	**0.11**	**0.11**	**0.068**	**0.091**	0.022U	**0.05J**	**0.11**
SS-20H	9/14/2023	5-192-SS020H-16	GAI	**0.13**	**0.12**	**0.084**	**0.12**	0.02U	**0.047J**	**0.14**
SS-20H	9/14/2023	5-192-SS020H-16D	GAI	**0.095**	**0.094**	**0.06J**	**0.084**	**0.045J**	**0.053J**	**0.1**

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

U - Constituent not detected at the method detection limit shown.

* - US Environmental Protection Agency Regional Screening Level, Residential Soil.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 10
Summary of Surface Soil Analytical Data - Property 008 Soil Evaluation
Norfolk Southern Train Derailment Site

Sample Location	Date Sampled	Sample ID	Sample Agency	Dibenzofuran (ppm)	Di-n-Butylphthalate (ppm)	Flouranthene (ppm)	Flourene (ppm)	Indeno(1,2,3-cd)pyrene (ppm)	Naphthalene (ppm)	Phenanthrene (ppm)	Pyrene (ppm)
			Residential Direct Contact SHS MSC	**220**	**10,000**	**8,800**	**8,800**	**4**	**13**	**66,000**	**6,600**
SS-20	3/28/2023	5-192-SS020-01	GAI	0.023U	**0.062J**	**0.037J**	0.023U	0.023U	**0.117**	**0.025J**	**0.029J**
SS-20	3/28/2023	5-192-SS020-16	GAI	0.02U	**0.054J**	0.02U	0.02U	0.02U	**0.068**	0.02U	0.02U
SS-20A	9/14/2023	5-192-SS020A-01	GAI	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20A	9/14/2023	5-192-SS020A-16	GAI	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U	0.019U
SS-20B	9/14/2023	5-192-SS020B-01	GAI	0.022U	0.022U	**0.045J**	0.022U	**0.025J**	0.022U	**0.027J**	**0.035J**
SS-20B	9/14/2023	5-192-SS020B-16	GAI	0.02U	0.02U	**0.021J**	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20C	9/14/2023	5-192-SS020C-01	GAI	0.019U	0.019U	**0.036J**	0.019U	**0.021J**	0.019U	0.019U	**0.032J**
SS-20C	9/14/2023	5-192-SS020C-16	GAI	0.018U	0.018U	**0.025J**	0.018U	0.018U	0.018U	0.018U	**0.021J**
SS-20D	9/14/2023	5-192-SS020D-01	GAI	0.02U	0.02U	**0.024J**	0.02U	0.02U	0.02U	0.02U	0.02U
SS-20D	9/14/2023	5-192-SS020D-16	GAI	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U	0.021U
SS-20E	9/14/2023	5-192-SS020E-01	GAI	**0.11J**	0.02U	**0.13**	0.02U	**0.05J**	**0.19**	**0.22**	**0.11**
SS-20E	9/14/2023	5-192-SS020E-16	GAI	**0.12**	0.019U	**0.13**	0.019U	**0.049J**	**0.17**	**0.22**	**0.1**
SS-20F	9/14/2023	5-192-SS020F-01	GAI	**0.21**	0.025U	**0.19**	**0.22**	**0.027J**	**0.2**	**0.49**	**0.12**
SS-20F	9/14/2023	5-192-SS020F-16	GAI	0.02U	0.02U	**0.052J**	0.02U	**0.022J**	**0.03J**	**0.044J**	**0.043J**
SS-20G	9/14/2023	5-192-SS020G-01	GAI	0.019U	0.019U	**0.11**	0.019U	**0.054J**	**0.037J**	**0.07**	**0.089**
SS-20G	9/14/2023	5-192-SS020G-16	GAI	**0.033J**	0.019U	**0.11**	0.019U	**0.055J**	**0.094**	**0.083**	**0.09**
SS-20H	9/14/2023	5-192-SS020H-01	GAI	**0.023J**	0.022U	**0.23**	0.022U	**0.077**	**0.033J**	**0.12**	**0.16**
SS-20H	9/14/2023	5-192-SS020H-16	GAI	**0.025J**	0.02U	**0.29**	0.02U	**0.086**	**0.048J**	**0.15**	**0.21**
SS-20H	9/14/2023	5-192-SS020H-16D	GAI	0.021U	0.021U	**0.18**	0.021U	**0.062**	**0.036J**	**0.077**	**0.14**

Notes:

All analytical data reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

SHS MSC - Statewide Health Standard Medium-Specific Concentration.

U - Constituent not detected at the method detection limit shown.

* - US Environmental Protection Agency Regional Screening Level, Residential Soil.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit.

Shaded values exceed the applicable MSC.

NA - Not Analyzed.

Table 12
Summary of Surface Water Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Site ID	Date Sampled	Sample ID	Sample Agency	Acetone (ppm)	2,6-Dinitrotoluene (ppm)	Bis(2-ethylhexyl) phthalate (ppm)	Di-n-butyl phthalate (ppm)	Napthalene (ppm)	4-Nitrophenol (ppm)	1,2,4-Trimethylbenzene (ppm)	Benzaldehyde (ppm)	Benzo(a)anthracene (ppm)
SW-01	3/30/2023	5-192-SW001	GAI	0.0031U	**0.0183**	0.00026U	0.00026U	0.00005U	**0.00069J**	0.00025U	0.00026U	0.00001U
SW-02	3/30/2023	5-192-SW002	GAI	**0.0034J**	0.00032U	0.00026U	**0.00028J**	0.00005U	0.00067U	0.00025U	0.00026U	0.00001U
SW-07	4/4/2023	5-192-SW007	GAI	**0.0036J**	0.00031U	0.00025U	0.00025U	0.00005U	0.00065U	0.00025U	0.00025U	0.00001U
SW-08	4/26/2023	5-192-SW008	GAI	0.0031U	0.00031U	0.00025U	0.00025U	**0.00013**	0.00066U	0.00025U	0.00025U	**0.000075J**
SW-08	4/26/2023	5-192-SW008-D	GAI	0.0031U	0.00031U	0.00025U	0.00025U	0.00005U	0.00066U	0.00025U	0.00025U	0.00001U
SW-09	3/30/2023	5-192-SW009	GAI	0.0031U	0.00031U	0.00025U	0.00025U	0.00005U	0.00065U	0.00025U	**0.00025J**	0.00001U
SW-16	3/31/2023	5-192-SW016	GAI	0.0031U	0.00031U	**0.00029J**	0.00025U	0.00005U	0.00065U	0.00025U	0.00025U	0.00001U
SW-18	4/3/2023	5-192-SW018	GAI	0.0031U	0.00031U	0.00025U	0.00025U	0.00005U	0.00065U	**0.00028J**	0.00025U	0.00001U

Notes:

All analytical data reported in milligrams per liter (mg/L), or parts per million (ppm).

U - Constituent not detected at the method detection limit shown.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit.

NA - Not Analyzed.

Table 12
Summary of Surface Water Analytical Data - Detected Parameters
Norfolk Southern Train Derailment Site

Site ID	Date Sampled	Sample ID	Sample Agency	Benzo(b)fluoranthene (ppm)	Benzo(g,h,i)perylene (ppm)	Benzo(k)fluoranthene (ppm)	Chrysene (ppm)	Dibenzo(a,h)anthracene (ppm)	Indeno(1,2,3-cd)pyrene (ppm)
SW-01	3/30/2023	5-192-SW001	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U
SW-02	3/30/2023	5-192-SW002	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U
SW-07	4/4/2023	5-192-SW007	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U
SW-08	4/26/2023	5-192-SW008	GAI	**0.00011**	**0.0001J**	**0.00011**	**0.000085J**	**0.000097**	**0.000097J**
SW-08	4/26/2023	5-192-SW008-D	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U
SW-09	3/30/2023	5-192-SW009	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U
SW-16	3/31/2023	5-192-SW016	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U
SW-18	4/3/2023	5-192-SW018	GAI	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U	0.00001U

Notes:

All analytical data reported in milligrams per liter (mg/L), or parts per million (ppm).

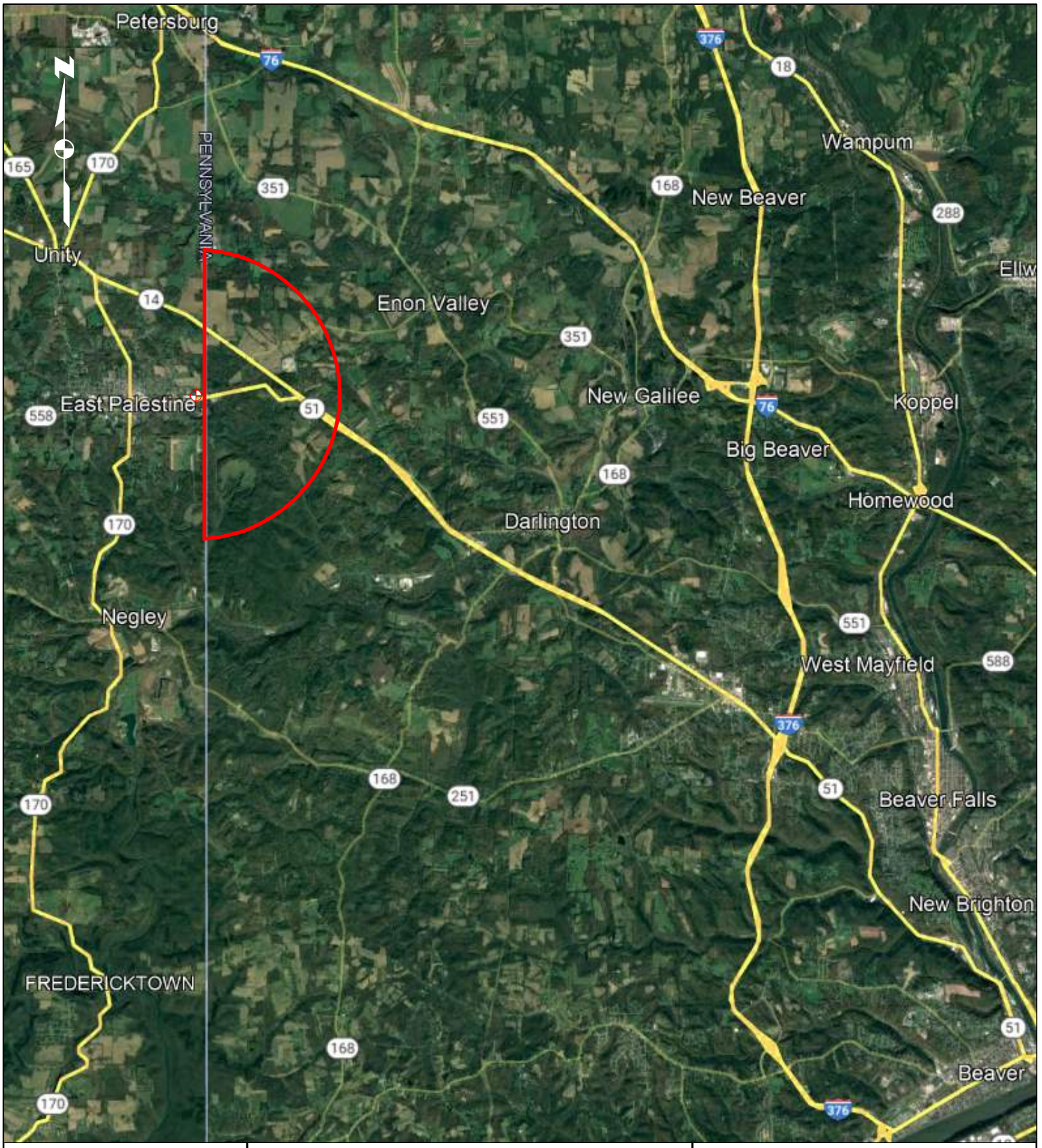
U - Constituent not detected at the method detection limit shown.

Bold values detected at concentrations above the laboratory method detection limit.

J - Estimated value between the laboratory reporting limit and method detection limit

NA - Not Analyzed.

FIGURES



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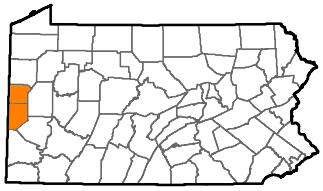


BEAVER AND LAWRENCE COUNTIES, PENNSYLVANIA

LEGEND

Approximate 2-Mile Radius Site Boundary

Approximate Derailment Location
(40.836041 °N / 80.521678 °W)

Approximate Scale

0 5,000 10,000 20,000 Feet

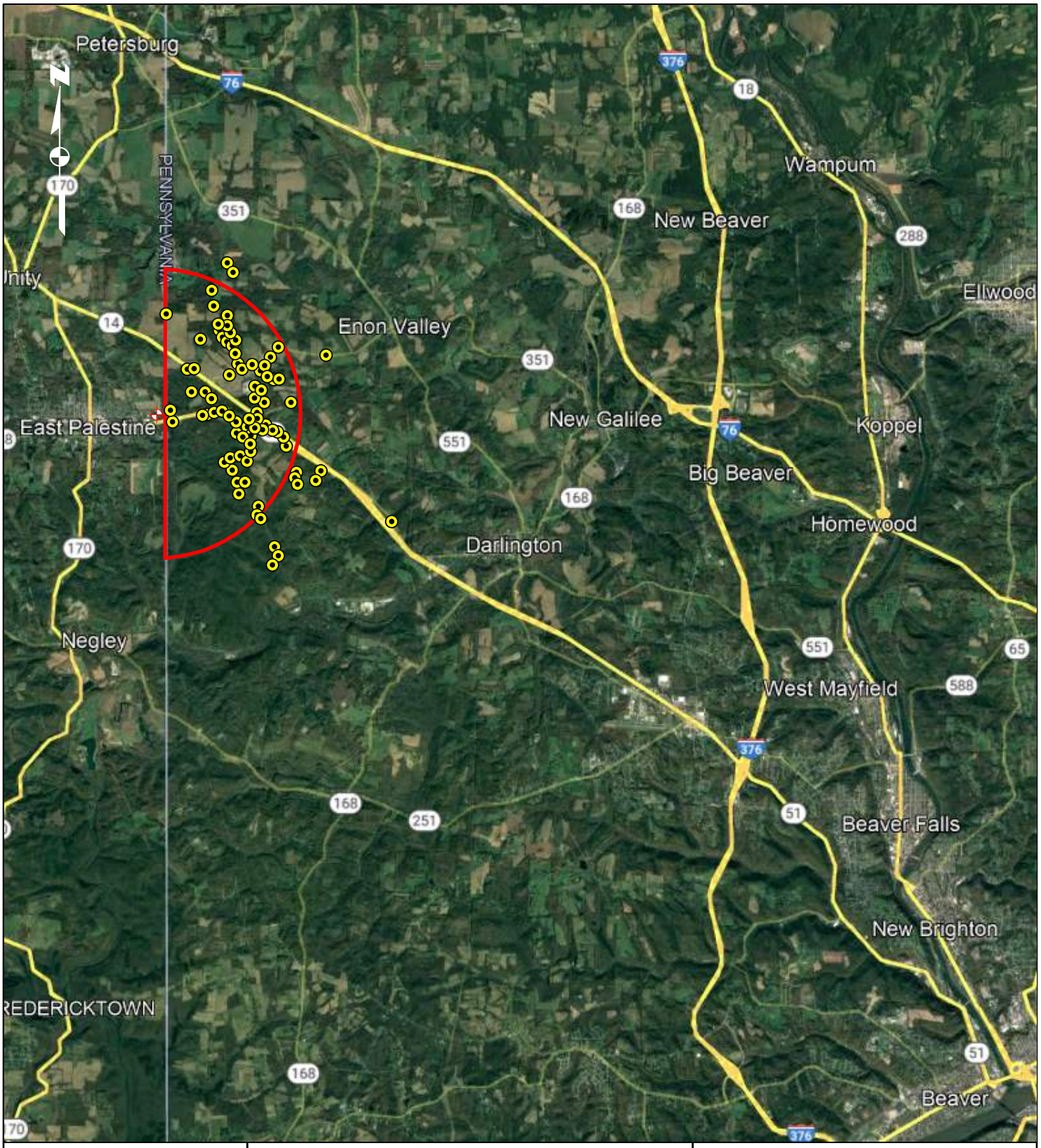
FIGURE 1
SITE LOCATION MAP

NORFOLK SOUTHERN TRAIN DERAILMENT SITE
BEAVER AND LAWRENCE COUNTIES
PENNSYLVANIA

gai consultants

DRAWN BY: EMW DATE: 12/28/2023
CHECKED: ACS APPROVED: AES

REVISION - 1



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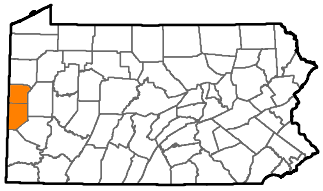

BEAVER AND LAWRENCE COUNTIES, PENNSYLVANIA

LEGEND

- Private Potable Well Location
- Approximate 2-Mile Radius Site Boundary
- Approximate Derailment Location (40.836041 °N / 80.521678 °W)

Approximate Scale

0 5,000 10,000 20,000 Feet

FIGURE 2
PRIVATE POTABLE WELL SAMPLE LOCATION MAP

NORFOLK SOUTHERN TRAIN DERAILMENT SITE
BEAVER AND LAWRENCE COUNTIES
PENNSYLVANIA

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CHECKED: ACS APPROVED: AES

REVISION - 1

N

Monitoring Well Location

Approximate Derailment Location
(40.836041 °N / 80.521678 °W)

APPROXIMATE SCALE (FEET)

0 150 300 600

NO.:	DATE:	DWN:	CHK:	APV:	DESCRIPTION:

REVISION RECORD

ISSUING OFFICE: Pittsburgh | 385 E. Waterfront Drive, Homestead, PA 15120

DRAWING TITLE

FIGURE 3 - MONITORING WELL LOCATION MAP

PROJECT

NORFOLK SOUTHERN TRAIN DERAILMENT

**LAWRENCE AND BEAVER COUNTIES
PENNSYLVANIA**

gai consultants

CLIENT

**PENNSYLVANIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
HAZARDOUS SITES CLEANUP ACT**

**SOUTHWEST REGIONAL OFFICE
400 WATER FRONT DRIVE
PITTSBURGH, PENNSYLVANIA 15222**

DRAWN BY:	CHECKED BY:	APPROVED BY:
ACS	AES	AES
REVISION	SCALE:	ISSUE DATE:
	AS SHOWN	1/21/2024
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	1 OF 1	

GAI FILE NUMBER:

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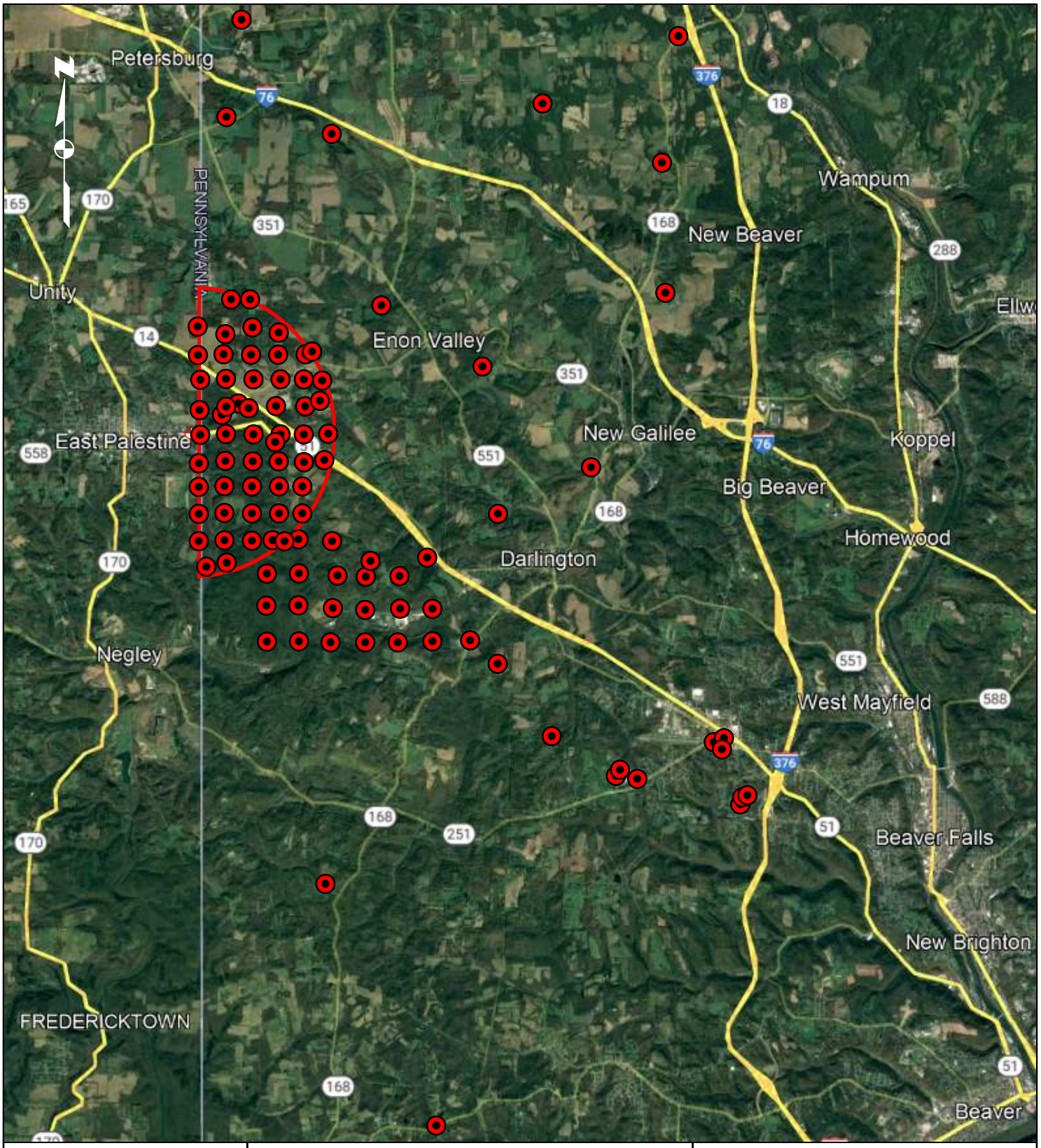

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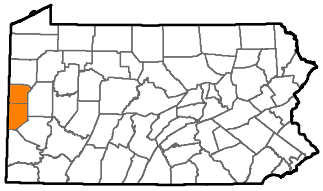

BEAVER AND LAWRENCE COUNTIES, PENNSYLVANIA

LEGEND

- Surface Soil Sample Location
- Approximate 2-Mile Radius Site Boundary
- Approximate Derailment Location (40.836041 °N / 80.521678 °W)

Approximate Scale

0 5,000 10,000 20,000 Feet

FIGURE 4
SURFACE SOIL SAMPLE LOCATION MAP

NORFOLK SOUTHERN TRAIN DERAILMENT SITE
BEAVER AND LAWRENCE COUNTIES
PENNSYLVANIA

gai consultants

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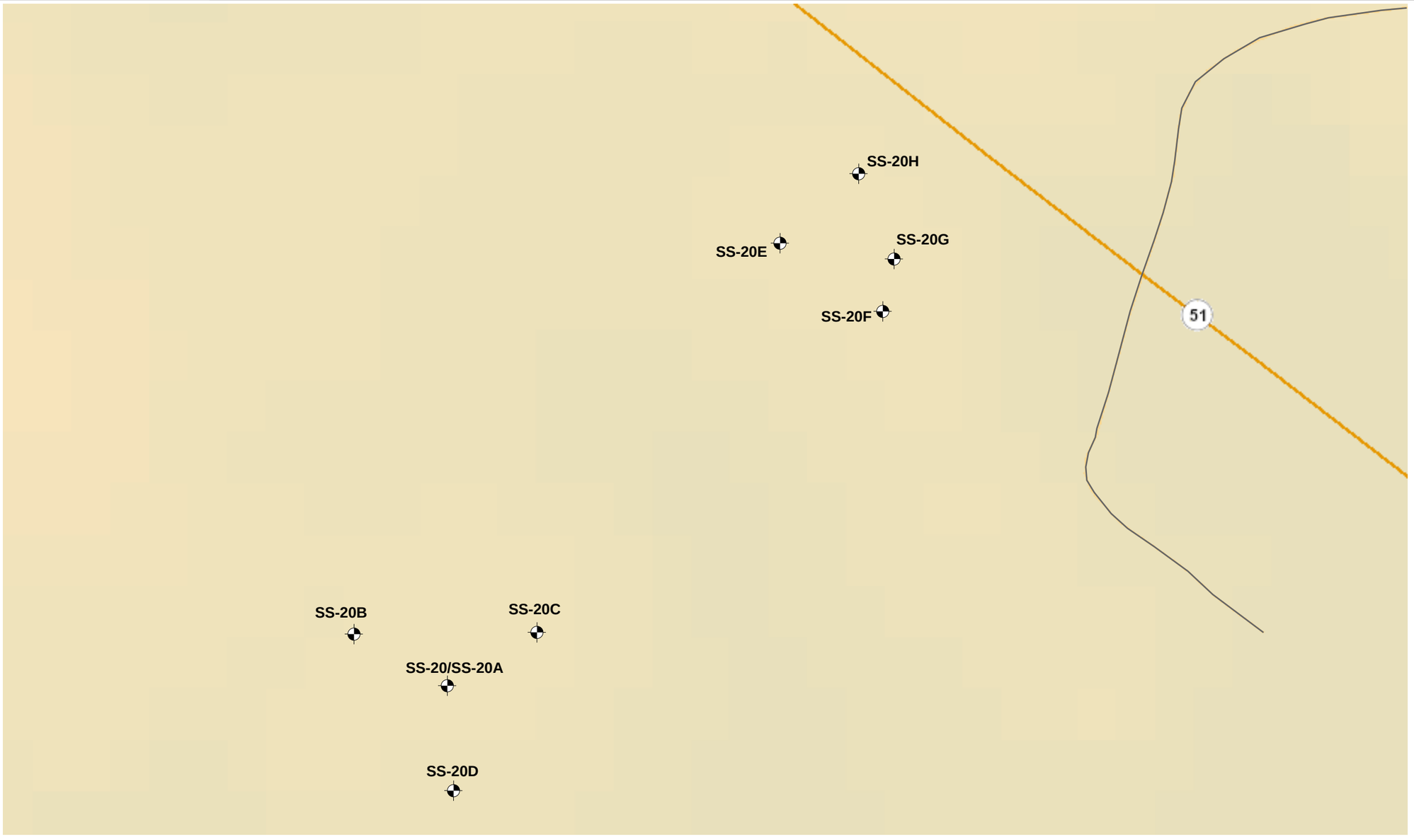

NO.:	DATE:	DWN:	CHK:	APV:	DESCRIPTION:

REVISION RECORD

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DRAWING TITLE

FIGURE 5 - PROPERTY 008 ADDITIONAL SOIL EVALUATION

PROJECT

NORFOLK SOUTHERN TRAIN DERAILMENT

LAWRENCE AND BEAVER COUNTIES PENNSYLVANIA

gai consultants

CLIENT

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION HAZARDOUS SITES CLEANUP ACT

SOUTHWEST REGIONAL OFFICE 400 WATER FRONT DRIVE PITTSBURGH, PENNSYLVANIA 15222

DRAWN BY:	CHECKED BY:	APPROVED BY:
ACS	AES	AES
REVISION	SCALE:	ISSUE DATE:
	AS SHOWN	1/30/2024
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	1 OF 1	

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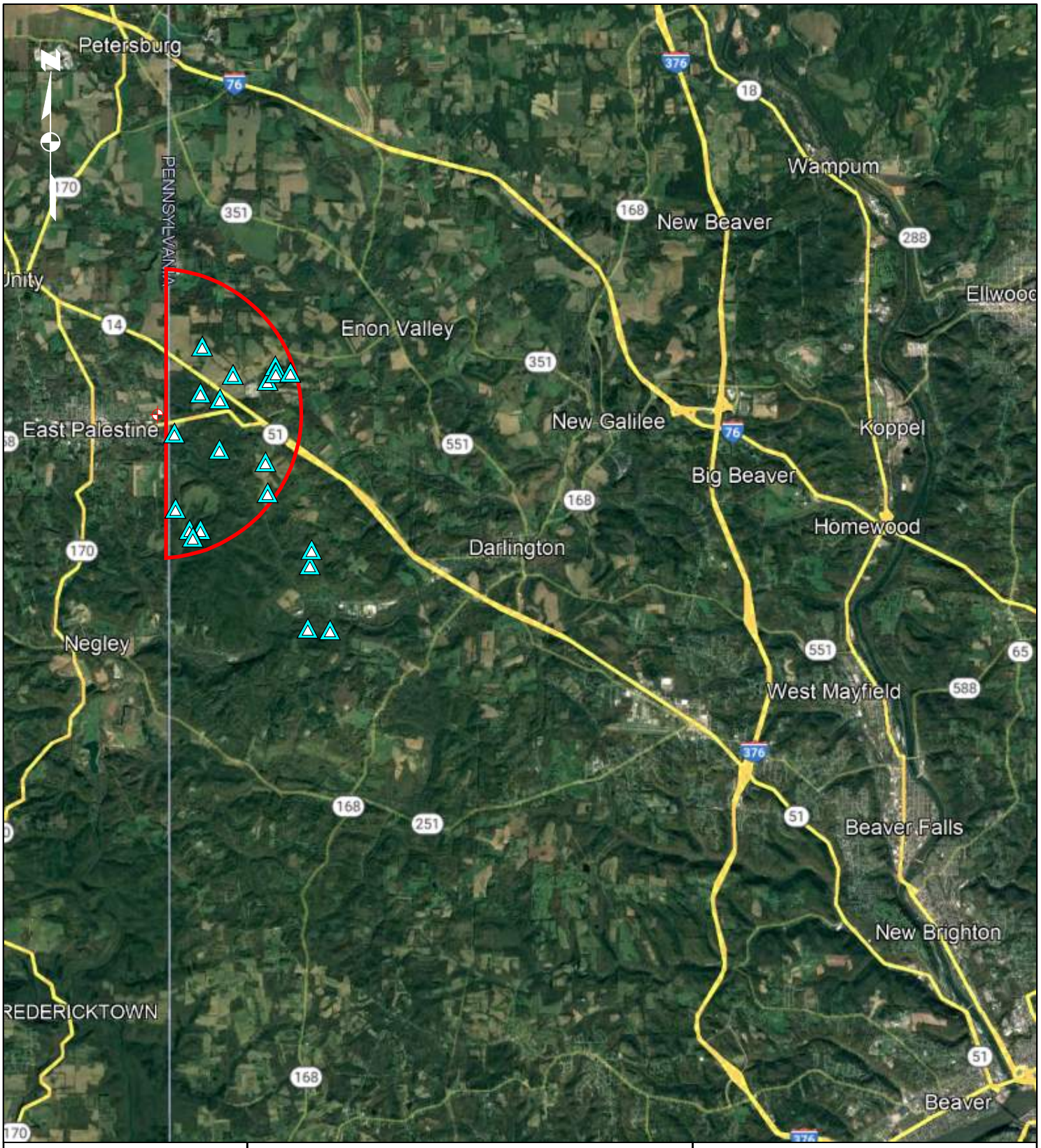

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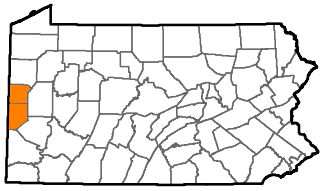

BEAVER AND LAWRENCE COUNTIES, PENNSYLVANIA

LEGEND

Surface Water Sample Location

Approximate 2-Mile Radius Site Boundary

Approximate Derailment Location (40.836041 °N / 80.521678 °W)

Approximate Scale

0 5,000 10,000 20,000 Feet

FIGURE 6
SURFACE WATER SAMPLE LOCATION MAP

NORFOLK SOUTHERN TRAIN DERAILMENT SITE
BEAVER AND LAWRENCE COUNTIES
PENNSYLVANIA

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