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August 3, 2023

Mr. Josh Peters  
On-Scene Coordinator  
U.S. Environmental Protection Agency, Region 5  
Superfund and Emergency Management Division  
2565 Plymouth Road  
Ann Arbor, MI 48105

**Subject: Data Validation Report  
E Palestine Site - ER  
EPA Contract No.: 68HE0519D0005  
Task Order/Task Order Line Item No.: 68HE0520F0032/0001EB201  
Document Tracking No. 1982**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation report for eighty air samples, including eight field blanks and six field duplicate pairs collected at the E Palestine ER. The samples were collected on June 3-4, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC at their Ashland, Virginia laboratory. The final laboratory data package was received on June 21, 2023.

Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

If you have any questions regarding this data validation report, please feel free to contact me.

Sincerely,

Tom  
Hahne

Digitally signed  
by Tom Hahne  
Date: 2023.08.03  
10:49:48 -05'00'

Quality Reviewer

Enclosure

cc: Karl Schultz, Tetra Tech Program Manager  
Dustin Grams, Tetra Tech Project Manager  
Mayra ArroyoOrtiz, Tetra Tech Project Document Control Coordinator  
TO-TOLIN File

**ATTACHMENT**

**DATA VALIDATION REPORT  
EUROFINS ANALYTICS REPORT NO.  
B157-157, B157-158, B157-159, AND B157-160**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1982a		
<b>Laboratory Report No.</b>	B157-157	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Analyses</b>	n-Butyl acrylate analysis by NIOSH Method 1450M		
<b>Samples and Matrix</b>	Twenty-nine air samples including two field blanks and two field duplicate pairs		
<b>Collection Date(s)</b>	6/04/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-BKBA-01-060423-1/EPD-PB-BKBA-011-060423-1 EPD-PB-BKBA-02-060423-1/EPD-PB-BKBA-022-060423-1		
<b>Field QC Blanks</b>	EPD-PB-MB-01-060423-1 and EPD-PB-FB-01-060423-1		

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data package. The results may be used as reported by the laboratory.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<p>The report was amended to correct sample ID “EPD-PB-BKBA-011-06042023-1” to “EPD-PB-BKBA-011-060423-1” and to correct the total time for sample EPD-PB-CM-06-060423-1 from “0” to “720”.</p> <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p>

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness (continued):**

Within Criteria	Exceedance/Notes
Y	The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.

**Sample preservation, receipt, and holding times:**

Within Criteria	Exceedance/Notes
Y	

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
Y	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within Criteria	Exceedance/Notes
NA	

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B157-157

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-011-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-02-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-022-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-06-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-07-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-08-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-09-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-10-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-11-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-12-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-14-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-DW-F-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-FB-01-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-MB-01-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-OD-01-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-02-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-03-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-04-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-05-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-06-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-07-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-UW-B-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-01-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-02-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-03-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-04-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-05-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-06-060423-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1982b		
<b>Laboratory Report No.</b>	B157-158	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-Butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	Nine air samples, including one field blank		
<b>Collection Date(s)</b>	6/04/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-060423-1		

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection of results was required for this data package. The results may be used as qualified based on this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	The report was amended to correct the value for Total time/volume for sample EPD-ST-24H-WA-03-060423-1 from “1438/72.96” to 1440/73.07” and to correct Avg/Volume values for the following samples: EPD-ST-24H-DW-F-060423-1 from “0.052715/75.91” to “0.05270/75.89”; sample EPD-ST-24H-WA-06-060423-1 from “0.05325/76.68” to “0.053204/76.61”; sample EPD-ST-24H-WA-02-060423-1 from “0.051845/74.66” to “0.051829/74.63”; sample EPD-ST-24H-WA-01-060423-1 from “0.05255/75.67” to “0.052544/75.66”; sample EPD-ST-24H-WA-44-060423-1 from “ 0.05205/74.95” to “0.05204/74.93”; and sample EPD-ST-24H-UW-B-060423-1 from “ 0.05255/75.67” to “0.052543/75.66”.



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness (continued):**

Within Criteria	Exceedance/Notes
Y	<p>Sample EPD-ST-24H-WA-04-060423-1 was not shipped due to pump failure.</p> <p>The laboratory report uses method reference “Rohm &amp; Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.</p> <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p>

**Sample preservation, receipt, and holding times:**

Within Criteria	Exceedance/Notes
N	Holding time limits were exceeded in the extraction of the samples. All sample results were non-detect, and therefore qualified as non-detect with possible low bias (flagged UJ).

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
NA	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within Criteria	Exceedance/Notes
NA	

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B157-158

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-24H-DW-F-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-DW-F-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-UW-B-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-UW-B-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-WA-01-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-WA-01-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-WA-02-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-WA-02-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-WA-03-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-WA-03-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-WA-05-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-WA-05-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-WA-06-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-WA-06-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-24H-WA-44-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005	U		0.005	ppm	0.005	UJ
EPD-ST-24H-WA-44-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003	U		0.003	ppm	0.003	UJ
EPD-ST-FB-060423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	UJ
EPD-ST-FB-060423-1	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U		1.3	ug	1.3	UJ

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1982c		
<b>Laboratory Report No.</b>	B157-159	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Analyses</b>	n-Butyl acrylate analysis by NIOSH Method 1450M		
<b>Samples and Matrix</b>	Thirty-two air samples including four field blanks and three field duplicate pairs		
<b>Collection Date(s)</b>	6/04/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-CM-08-060423-2/EPD-PB-CM-088-060423-2 EPD-PB-WA-05-060423-2/EPD-PB-WA-055-060423-2 EPD-PB-OD-03-060423-2/EPD-PB-OD-033-060423-2		
<b>Field QC Blanks</b>	EPD-PB-MB-02-060423-2, EPD-PB-MB-03-060423-2, EPD-PB-FB-02-060423-2, and EPD-PB-FB-03-060423-2		

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection of results was required for this data package. The results may be used as qualified based on this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	The report was amended to correct Badge# for sample EPD-PB-BKBA-011-0604123-1 from “QH066545” to “QH06545”.  The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m <sup>3</sup> ), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness(continued):**

Within Criteria	Exceedance/Notes
Y	The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.

**Sample preservation, receipt, and holding times:**

Within Criteria	Exceedance/Notes
Y	

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
Y	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within Criteria	Exceedance/Notes
NA	

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B157-159

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-02-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-06-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-07-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-08-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-088-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-09-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-10-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-11-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-12-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-14-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-DW-F-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-FB-02-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-FB-03-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-MB-02-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-MB-03-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-OD-01-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-02-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-03-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-033-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-04-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-05-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-06-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-07-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-UW-B-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-01-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-02-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-03-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-04-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-05-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-055-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-06-060423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1982d		
<b>Laboratory Report No.</b>	B157-160	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-Butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	Ten air samples including one field blank and one field duplicate pair		
<b>Collection Date(s)</b>	6/03/2023		
<b>Field Duplicate Pairs</b>	EPD-ST-8H-WA-01-060323-2/EPD-ST-8H-WA-11-060323-2		
<b>Field QC Blanks</b>	EPD-ST-FB-060323-2		

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection of results was required for this data package. The results may be used as qualified based on this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<p>The laboratory report uses method reference “Rohm &amp; Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.</p> <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p>

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness(continued):**

Within Criteria	Exceedance/Notes
Y	<p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p>

**Sample preservation, receipt, and holding times:**

Within Criteria	Exceedance/Notes
N	Holding time limits were exceeded in the extraction of the samples. All sample results were non-detect, and therefore qualified as non-detect with possible low bias (flagged UJ).

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
Y	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**MDLs/RLs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Other [none]:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B157-160

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-F-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U		0.016	ppm	0.016	UJ
EPD-ST-8H-DW-F-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011	ppm	0.011	UJ
EPD-ST-8H-UW-B-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U		0.016	ppm	0.016	UJ
EPD-ST-8H-UW-B-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011	ppm	0.011	UJ
EPD-ST-8H-WA-01-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-01-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-02-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-02-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-03-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-03-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-04-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-04-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-05-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-05-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-06-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-06-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-11-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-11-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-FB-060323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	UJ
EPD-ST-FB-060323-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U		1.3	ug	1.3	UJ