



We are in the process of ensuring this document is accessible to all audiences. If you need assistance accessing this document, or any material on the EPA East Palestine, Ohio emergency response web pages, please contact the Region 5 Public Information Officer on-call at: [R5\\_EastPalestine@epa.gov](mailto:R5_EastPalestine@epa.gov)

August 9, 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. 1971**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for fifty-eight air samples (including four field duplicate samples and five field blanks) collected at the E Palestine ER. The samples were collected between May 27 and June 1, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC in their Ashland, Virginia laboratory. The final laboratory data package was received on June 28, 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, 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 via the project manager.

Sincerely,

Sandy  
Anagnostopoulos  
Digitally signed by Sandy  
Anagnostopoulos  
Date: 2023.08.09  
14:19:46 -05'00'

Environmental Chemist

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 NOS. B151-018, B151-019,  
B156-107, AND B156-108**

**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>	1971a		
<b>Laboratory Report No.</b>	B151-018	<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 duplicate sample		
<b>Collection Date(s)</b>	5/27/2023		
<b>Field Duplicate Pairs</b>	EPD-ST-8H-WA-01-052723-2/ EPD-ST-8H-WA-11-052723-2		
<b>Field QC Blanks</b>	EPD-ST-FB-052723-2		

**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 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 laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029” and “Rohm &amp; Haas IH9805” is listed as the method on the EDD and qualified data table.</p>

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

**Data completeness (continued):**

Within Criteria	Exceedance/Notes
Y	<p>A unique sample was not provided for LCSD in the laboratory EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) of the validated EDD was manually revised to match the laboratory report.</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	The site-specific QAPP sample preparation holding time limit was exceeded. The samples were collected on May 27 <sup>th</sup> but samples were prepared on June 5 <sup>th</sup> , which is two days past the 7-day holding time. The non-detect sample results were qualified as estimated, possibly biased low (flagged UJ).

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

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

**Surrogates and labeled compounds:**

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

**MS/MSDs :**

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

**Laboratory duplicates :**

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

**Field duplicates:**

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	The recoveries of 2-Ethylhexyl acrylate in the LCS and LCSD were above the QC limits. All sample results were nondetect, therefore, no qualification was applied.

**Sample dilutions:**

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

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

**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 were 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. B151-018

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qualifier	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-G-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-DW-G-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-UW-C-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-UW-C-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-01-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-01-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-02-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-02-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-03-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-03-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-04-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-04-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-05-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-05-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-06-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-WA-06-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	UJ
EPD-ST-8H-WA-11-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-11-052723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-FB-052723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	UJ
EPD-ST-FB-052723-2	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>	1971b		
<b>Laboratory Report No.</b>	B151-019	<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>	5/28/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-052823-1		

**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	<p>The results for the field blank were reported in units of micrograms (<math>\mu\text{g}</math>) while the other sample results were reported in units of <math>\mu\text{g}</math>, milligram per cubic meter (<math>\text{mg}/\text{m}^3</math>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>A unique sample was not provided for LCSD in the laboratory EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) of the validated EDD was manually revised to match the laboratory report.</p>

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

**Data completeness (continued):**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029” and “Rohm &amp; Haas IH9805” is listed as the method on the EDD and qualified data table.</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:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	<p>The site-specific QAPP sample preparation holding time limit was exceeded. The samples were collected on May 28<sup>th</sup> but samples were prepared on June 5<sup>th</sup>, which is one day past the 7-day holding time. The non-detect sample results were qualified as estimated, possibly biased low (flagged UJ).</p>

**Method blanks:**

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

**Field blanks:**

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

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

**Surrogates and labeled compounds:**

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

**MS/MSDs:**

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

**Laboratory duplicates:**

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

**Field duplicates:**

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	The recoveries of 2-Ethylhexyl acrylate in the LCS and LCSD were above the QC limits. The sample results were nondetect, therefore, no qualification was applied.

**Sample dilutions:**

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

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

**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 were 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.

ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B151-019

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qualifier	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-G-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-DW-G-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-UW-C-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-UW-C-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-01-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-01-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	UJ
EPD-ST-8H-WA-02-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-WA-02-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	UJ
EPD-ST-8H-WA-03-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-03-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-04-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-04-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	UJ
EPD-ST-8H-WA-05-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-05-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-06-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-WA-06-052823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	UJ
EPD-ST-FB-052823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	UJ
EPD-ST-FB-052823-1	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>	1971c		
<b>Laboratory Report No.</b>	B156-107	<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 duplicate sample		
<b>Collection Date(s)</b>	6/01/2023		
<b>Field Duplicate Pairs</b>	EPD-ST-8H-WA-06-060123-2/EPD-ST-8H-WA-66-060123-2		
<b>Field QC Blanks</b>	EPD-ST-FB-060123-2		

**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 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 laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029” and “Rohm &amp; Haas IH9805” is listed on the EDD and qualified data table as the Method.</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	The site-specific QAPP sample preparation holding time limit was exceeded. The samples were collected on June 1 <sup>st</sup> but samples were prepared on June 9 <sup>th</sup> , which is one day past the 7-day holding time. The non-detect sample results were qualified as estimated, possibly biased low (flagged UJ).

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	



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

**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
Y	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

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

**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 were 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.

ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B156-107

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qualifier	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-E-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-DW-E-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-UW-A-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-UW-A-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-01-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-01-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-02-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-02-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-03-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-03-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-04-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-04-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-05-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-05-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-06-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-06-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-66-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-66-060123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-FB-060123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	UJ
EPD-ST-FB-060123-2	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>	1971d		
<b>Laboratory Report No.</b>	B156-108	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Analyses</b>	n-Butyl Acrylate analysis by NIOSH Method 1450M (Modified GC/FID)		
<b>Samples and Matrix</b>	Twenty-nine air samples including two field blanks and two duplicate samples		
<b>Collection Date(s)</b>	6/01/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-CM-09-090123-1/EPD-PB-CM-099-060123-1 EPD-PB-CM-10-060123-1/EPD-PB-CM-100-060123-1		
<b>Field QC Blanks</b>	EPD-PB-MB-01-060123, EPD-PB-FB-01-060123-1		

**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:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	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	<p>A unique sample ID was not provided for the LCSD in the laboratory EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) of the validated EDD was manually revised to match the laboratory report.</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
Y	

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

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

**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
Y	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

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

**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 were 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 [specify]:**

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 ER - AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B156-108

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qual	MDL	RL	Units	VAL Result	VAL Qual
EPD-PB-BKBA-01-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-099-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-100-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-H-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-FB-01-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-01-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-OD-01-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-03-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-D-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-01-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-060123-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U