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August 21, 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. 2005**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for 83 air samples (including seven field duplicate samples, six field blank samples, and four media blank samples) collected at the E Palestine site. The samples were collected on June 13 and 14, 2023 and were analyzed for acrylates by Eurofins Analytics, LLC. The final laboratory data package was received on June 23, 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 these data packages. 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 contact me via the project manager.

Sincerely,

**Deb Kutsal** Digitally signed by Deb Kutsal  
Date: 2023.08.22 08:43:26  
-07'00'

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, LLC REPORT NOS. B166-005, B166-006,  
B166-007, B167-155**

**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>	2005a		
<b>Laboratory Report No.</b>	B166-005	<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 sample		
<b>Collection Date(s)</b>	06/13/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-061323-1		

**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, 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:**

<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 in units of ppm in the laboratory electronic data deliverable (EDD).

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

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

Within Criteria	Exceedance/Notes
N	The holding time specified in the site-specific QAPP for sorbent tubes is seven days to sample preparation. The samples were collected on June 13 and prepared on June 21, which is one day past the seven-day holding time. All sample results were qualified as estimated with a 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	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

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

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
N	The Level II laboratory report, laboratory EDD, and Level IV data package have one minor discrepancy in the percent recoveries (+/- 1%) that was verified by the laboratory to be a significant figures issue. No qualifications were applied.

**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 laboratory EDD and attached analytical results summary.

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

**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. PALASTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B166-005

Sample ID	Method	CAS_NO	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-DW-C-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-UW-G-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U		0.016	ppm	0.016	UJ
EPD-ST-8H-UW-G-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-01-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-WA-01-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-02-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-WA-02-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	UJ
EPD-ST-8H-WA-03-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-03-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-04-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-04-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-05-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-WA-05-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-06-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-WA-06-061323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-FB-061323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	UJ
EPD-ST-FB-061323-1	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>	2005b		
<b>Laboratory Report No.</b>	B166-006	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Analyses</b>	n-Butyl Acrylate by NIOSH Method 1450M		
<b>Samples and Matrix</b>	32 air samples including two field blanks, two media blanks, and three field duplicate samples		
<b>Collection Date(s)</b>	06/13/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-OD-05-061323-2/EPD-PB-OD-055-061323-2 EPD-PB-CM-144-061323-2/EPD-PB-CM-14-061323-2 EPD-PB-WA-011-061323-2/EPD-PB-WA-01-061323-2		
<b>Field QC Blanks</b>	EPD-PB-FB-03-061323-2 EPD-PB-FB-02-061323-2 EPD-MB-FB-03-061323-2 EPD-MB-FB-02-061323-2		

**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, 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 received from 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 in units of ppm in the laboratory electronic data deliverable (EDD).



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

**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	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

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

**Field duplicates:**

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	The site-specific QAPP requires a laboratory reagent blank (LRB), laboratory media blank (LMB), laboratory control sample (LCS), and LCS duplicate (LCSD) to be analyzed per batch of 20 samples. However, the laboratory analyzed 32 field samples in one sample preparation batch consisting of one LRB, LMB, LCS, and LCSD, when the batch should have contained two LRBs, LMBs, LCSs, and LCSDs. The laboratory was contacted about the deviation from the site-specific QAPP, and agreed that moving forward they would follow the quality control (QC) sample frequency requirements in the site-specific QAPP. No qualifications were applied because the QC samples met the QAPP acceptance criteria and the QC samples from previous datasets for this project have met the QAPP acceptance criteria.

**Sample dilutions:**

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

**Re-extraction and reanalysis:**

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

**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 laboratory EDD and attached analytical results summary table.

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

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [None]:**

Within Criteria	
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. B166-006

Sample ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-BKBA-02-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-06-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-07-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-08-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-09-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-10-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-11-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-12-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-14-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-CM-144-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-DW-B-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-FB-02-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		ug	2	U
EPD-PB-FB-03-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		ug	2	U
EPD-PB-MB-02-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		ug	2	U
EPD-PB-MB-03-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		ug	2	U
EPD-PB-OD-01-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-02-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-03-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-04-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-05-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-055-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-06-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-OD-07-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-UW-F-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-01-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-011-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-02-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-03-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-04-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-05-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		ppm	0.0091	U
EPD-PB-WA-06-061323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		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>	2005c		
<b>Laboratory Report No.</b>	B166-007	<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>	10 air samples including one field blank and one field duplicate sample		
<b>Collection Date(s)</b>	06/13/2023		
<b>Field Duplicate Pairs</b>	EPD-ST-SH-WA-01-061323-2/ EPD-ST-SH-WA-11-061323-2		
<b>Field QC Blanks</b>	EPD-ST-FB-061323-2		

**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, 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
N	<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 in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>The sample analysis time is reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field of the laboratory EDD. The analysis date was correct. Since the sample analysis time for the LCSD was not required for the validated EDD; this value was not manually revised.</p>

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

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

Within Criteria	Exceedance/Notes
N	The holding time in the site-specific QAPP for sorbent tubes is seven days to sample preparation. The samples were collected on June 13 and prepared on June 21, which is one day past the seven-day holding time. All sample results were qualified as estimated with a 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	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

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

**Field duplicates:**

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	The Level IV laboratory report has a minor discrepancy from the Level II laboratory report and laboratory EDD in the percent recoveries (+/- 1%) that was verified with the laboratory to be a significant figures issue. No qualifications were applied.

**Sample dilutions:**

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

**Re-extraction and reanalysis:**

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

**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 laboratory EDD and attached analytical results summary.

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

**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. B166-007

Sample ID	Method	CAS_NO	Analyte	Lab_Result	Lab_Qual	MDL	Reporting_Limit	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-B-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-DW-B-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-UW-F-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-UW-F-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	UJ
EPD-ST-8H-WA-01-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-01-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-02-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	UJ
EPD-ST-8H-WA-02-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.008	U		0.008	ppm	0.008	UJ
EPD-ST-8H-WA-03-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	UJ
EPD-ST-8H-WA-03-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-04-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-04-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-05-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-05-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-06-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-06-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-8H-WA-11-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	UJ
EPD-ST-8H-WA-11-061323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	UJ
EPD-ST-FB-061323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	UJ
EPD-ST-FB-061323-2	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>	2005d		
<b>Laboratory Report No.</b>	B167-155	<b>Laboratory</b>	Eurofins Analytic, LLC – Ashland, VA
<b>Analyses</b>	n-Butyl Acrylate by NIOSH Method 1450M		
<b>Samples and Matrix</b>	32 air samples including two field blanks, two media blanks, and three field duplicate samples		
<b>Collection Date(s)</b>	06/14/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-OD-06-061423-2/ EPD-PB-OD-066-061423-2 EPD-PB-CM-08-061423-2/ EPD-PB-CM-088-061423-2 EPD-PB-CM-12-061423-2/ EPD-PB-CM-122-061423-2		
<b>Field QC Blanks</b>	EPD-PB-FB-03-061423-2 EPD-PB-FB-02-061423-2 EPD-PB-MB-03-061423-2 EPD-PB-MB-02-061423-2		

**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, 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 received from 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, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).

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

**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	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

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

**Field duplicates:**

Within Criteria	Exceedance/Notes
Y	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	<p>The Level II laboratory report and Level IV data package have one minor discrepancy in the relative percent difference (+/- 1%) that was verified by the laboratory to be a significant figures issue. No qualifications were applied.</p> <p>The site-specific QAPP requires a laboratory reagent blank (LRB), laboratory media blank (LMB), laboratory control sample (LCS), and LCS duplicate (LCSD) to be analyzed per batch of 20 samples. However, the laboratory analyzed 32 field samples in one sample preparation batch consisting of one LRB, LMB, LCS, and LCSD, when the batch should have contained two LRBs, LMBs, LCSs, and LCSDs. The laboratory was contacted about the deviation from the site-specific QAPP, and agreed that moving forward they would follow the quality control (QC) sample frequency requirements in the site specific QAPP. No qualifications were applied because the QC samples met the QAPP acceptance criteria and the QC samples from previous datasets for this project have met the QAPP acceptance criteria.</p>

**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 laboratory EDD and attached analytical results summary 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. B167-155

Sample ID	Method	CAS_NO	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-088-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-122-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-D-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-FB-02-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-FB-03-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-02-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-03-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-OD-01-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-03-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-066-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-H-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-01-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-061423-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U