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August 13, 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. 1997**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for seventy-six air samples, including five duplicate pairs and six field blanks collected at the E Palestine Site. The samples were collected on June 12 – June 13, 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 reported by the laboratory.

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: 2023.08.13  
16:01:22 -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 REPORTS  
EUROFINS ANALYTICS, LLC REPORT NOS.  
B165-007, B165-008, B165-011, AND B166-004**

**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>	1997a	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland VA
<b>Laboratory Report No.</b>	B165-007		
<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>	6/12/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-CM-06-061223-1/ EPD-PB-CM-066-061223-1 EPD-PB-CM-11-061223-1/ EPD-PB-CM-111-061223-1		
<b>Field QC Blanks</b>	EPD-PB-FB-01-061223-1 and EPD-PB-MB-01-061223-1		

**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
N	<p>The results for the field blanks 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 validated EDD; therefore, this value was not manually revised.</p> <p>The site-specific QAPP SOP reference for passive badges is IHGC-001-v.22-3. The laboratory confirmed that AIHA approved the laboratory SOP IHGC-001-v.22-3 may be referenced as NIOSH Method 1450M in 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>
N	The site-specific QAPP for passive badges specifies one laboratory blank, one laboratory control sample (LCS), and one LCS duplicate (LCSD) will be prepared per batch of 20 samples. However, the laboratory was not specifying a maximum batch sample size. The laboratory was contacted and directed to follow the QC sample frequencies specified in the site-specific QAPP. No qualifications were applied because the LCS/LCSD met the QAPP acceptance criteria, and the LCS/LCSD data from previous datasets for this project have met the site-specific QAPP acceptance criteria.

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

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

**Method blanks:**

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

**Field blanks:**

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

**Surrogates and labeled compounds:**

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

**MS/MSDs:**

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

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

**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 site specific QAPP requires a laboratory reagent blank (LRB), laboratory media blank (LMB), LCS, and LCSD to be analyzed per batch of 20 samples. However, the laboratory analyzed 29 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 moving forward the laboratory will 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	

**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. B165-007

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-066-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-111-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-A-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-FB-01-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-01-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-OD-01-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-PB-OD-03-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-E-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-01-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-061223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-061223-1	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>	1997b	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Laboratory Report No.</b>	B165-008		
<b>Analyses</b>	2-Ethylhexyl acrylate and n-Butyl acrylate analysis 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>	6/12/2023		
<b>Field Duplicate Pairs</b>	EPD-ST-8H-WA-05-061223-2/ EPD-ST-8H-WA-055-061223-2		
<b>Field QC Blanks</b>	EPD-ST-FB-061223-2		

**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 or qualification of results was required for this data package. The results may be used as received from the laboratory.

**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 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 validated EDD; therefore, this value was not manually revised.</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>



**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
Y	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
Y	

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

**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	

**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	

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

**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. B165-008

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-DW-C-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-UW-G-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-UW-G-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-01-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-01-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-02-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-02-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-03-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-03-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-04-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-04-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-05-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-05-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-06-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-06-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-55-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-55-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-FB-061223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	U
EPD-ST-FB-061223-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U		1.3	ug	1.3	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>	1997c	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland, VA
<b>Laboratory Report No.</b>	B165-011		
<b>Analyses</b>	2-Ethylhexyl acrylate and n-Butyl acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	Eight air samples, including one field blank		
<b>Collection Date(s)</b>	6/12/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-061223-1		

**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, and 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:**

Within Criteria	Exceedance/Notes
N	<p>EPD-ST-8H-WA-01-061223-1 was marked void due to a pump fault that occurred during sampling collection and was not analyzed.</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 validated EDD; therefore, this value was not manually revised.</p>

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

**Data completeness (continued):**

Within Criteria	Exceedance/Notes
N	The laboratory report uses method reference “Rohm & Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.

**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
Y	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

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

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**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.

**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. B165-011

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-A-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-DW-A-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-UW-E-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-UW-E-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-02-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-02-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-03-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-04-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-04-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-05-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-05-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-06-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-06-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-FB-061223-1	IHG230614C	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-061223-1	IHG230614C	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	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>	1997d	<b>Laboratory</b>	Eurofins Analytics, LLC – Ashland VA
<b>Laboratory Report No.</b>	B166-004		
<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>	6/13/2023		
<b>Field Duplicate Pairs</b>	EPD-PB-WA-03-061323-1/EPD-PB-WA-033-061323-1 EPD-PB-OD-07-061323-1/EPD-PB-OD-077-061323-1		
<b>Field QC Blanks</b>	EPD-PB-FB-01-061323-1 and EPD-PB-MB-01-061323-1		

**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, 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
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/m3), 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 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD is not required for the validated EDD; therefore, this value was not manually revised.</p> <p>The site-specific QAPP SOP reference for passive badges is IHGC-001-v.22-3. The laboratory confirmed that AIHA approved the laboratory SOP IHGC-001-v.22-3 may be referenced as NIOSH Method 1450M in the laboratory report.</p>

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

**Data completeness (continued):**

Within Criteria	Exceedance/Notes
N	The site-specific QAPP for passive badges specifies one laboratory blank, one laboratory control sample (LCS), and one LCS duplicate (LCSD) will be prepared per batch of 20 samples. However, the laboratory was not specifying a maximum batch sample size. The laboratory was contacted and directed to follow the QC sample frequencies specified in the site-specific QAPP. No qualifications were applied because the LCS/LCSD met the QAPP acceptance criteria, and the LCS/LCSD data from previous datasets for this project have met the site-specific QAPP acceptance criteria.

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

Within Criteria	Exceedance/Notes
Y	The second page of the chain of custody did not have a signature/date/time for sample receipt at the laboratory.

**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:**

<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 site specific QAPP requires a laboratory reagent blank (LRB), laboratory media blank (LMB), LCS, and LCSD to be analyzed per batch of 20 samples. However, the laboratory analyzed 29 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 moving forward the laboratory will 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	

**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 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. B166-004

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-C-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-FB-01-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-01-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-OD-01-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-PB-OD-03-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-077-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-G-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-PB-WA-01-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-033-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-061323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U