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R5\_EastPalestine@epa.gov

June 27, 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. 1908**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for seventy-three air samples including three field duplicates and two field blanks collected at the E Palestine ER. The samples were collected from April 7 to 9, 2023, and were analyzed by Eurofins Analytics laboratory in Ashland, Virginia for either n-butyl acrylate or both n-butyl acrylate and ethyl-hexyl acrylate. The final laboratory data package was received on April 13, 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), the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020), and the *EPA NFG for Inorganic Superfund Methods Data Review* (November 2020).

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

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

Sincerely,

Tom  
Hahne

Digitally signed  
by Tom Hahne  
Date: 2023.06.27  
08:32:26 -05'00'

Enclosure

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

**ATTACHMENT**

**DATA VALIDATION REPORT  
EUROFINS ANALYTICS REPORT NO. B102-027, B102-028, B102-  
029 AND B102-031**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1908a	Laboratory	Eurofins Analytices, LLC, Ashland VA
Laboratory Report No.	B102-027	Analyses	
Samples and Matrix	2-Ethylhexyl Acrylate and n-Butyl Acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029	Samples and Matrix	
Collection Date(s)	Nine air samples, including one field blank	Collection Date(s)	
Field Duplicate Pairs	04/09/2023	Field Duplicate Pairs	
Field QC Blanks	None	Field QC Blanks	
	EPD-ST-FB-040923-1		

**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), 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 the findings of this validation effort. .

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Level II SDG did not have required QC forms thus a level IV package was reviewed.  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).

**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” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>A unique sample ID not provided for LCSD. 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) in the EDD were manually revised to match the laboratory report.</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> <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>

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

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

**Method blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

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

**Field blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

**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	

**LCs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

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

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

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

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within Criteria	Exceedance/Notes
NA	

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

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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS REPORT NO. B102-027

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-H-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-DW-H-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.0090	U
EPD-ST-8H-UW-C-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	U
EPD-ST-8H-UW-C-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.0090	U
EPD-ST-8H-WA-01-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-01-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-02-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-02-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	U
EPD-ST-8H-WA-03-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	U
EPD-ST-8H-WA-03-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.0090	U
EPD-ST-8H-WA-04-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	U
EPD-ST-8H-WA-04-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.008	U		0.008	ppm	0.008	U
EPD-ST-8H-WA-05-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.017	U		0.017	ppm	0.017	U
EPD-ST-8H-WA-05-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011	ppm	0.011	U
EPD-ST-8H-WA-06-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-06-040923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.0090	U
EPD-ST-FB-040923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	U
EPD-ST-FB-040923-1	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**

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1908b	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B102-028		
Analyses	n-Butyl Acrylate analysis by NIOSH Method 1450 Modified GC/FID.		
Samples and Matrix	Thirty air samples including three field duplicates and two field blanks		
Collection Date(s)	04/08/2023		
Field Duplicate Pairs	EPD-PB-WA-04-040823-2/EPD-PB-WA-044-040823-2 EPD-PB-WA-02-040823-2/EPD-PB-WA-022-040823-2 EPD-PB-OD-04-040823-2/EPD-PB-OD-044-040823-2		
Field QC Blanks	EPD-PB-MB-02-040823-2 & EPD-PB-MB-03-040823-2		

**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), 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 the findings of this validation effort. .

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	Level II SDG did not have required QC forms thus a level IV package was reviewed.  Report was amended 4/19/23 to change volumes on samples EPD-PB-WA-03-040823-2 (B102028012) and EPD-PB-OD-02-040823-2 (B10202801312) per client request.

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

**Data completeness(continued):**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>The results for the method blank, LCS, and LCSD were reported in units of micrograms (µg) while the other sample results were reported in units of and parts per million (ppm) (volume) in the laboratory report.</p> <p>A unique sample ID not provided for LCSD. 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) in the EDD were manually revised to match the laboratory report.</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> <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>

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

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

**Method blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

**Field blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

**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	None.

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS REPORT NO. B102-028

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-BKBA-02-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-06-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-07-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-08-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-09-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.0090	U
EPD-PB-CM-10-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.0090	U
EPD-PB-CM-11-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.0090	U
EPD-PB-CM-12-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.0090	U
EPD-PB-CM-14-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-DW-G-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-MB-02-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2.0	U
EPD-PB-MB-03-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2.0	U
EPD-PB-OD-01-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-02-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.0090	U
EPD-PB-OD-03-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-04-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-044-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-05-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-06-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-07-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0089	U			ppm	0.0089	U
EPD-PB-UW-C-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-01-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-02-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-022-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-03-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-04-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-044-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-05-040823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-06-040823-2	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**

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1908c	Laboratory	Eurofins Analytices, LLC, Ashland VA
Laboratory Report No.	B102-029	Analyses	
Analyses	2-Ethylhexyl Acrylate and n-Butyl Acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine air samples, including one field blank		
Collection Date(s)	04/07/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-040723-2		

**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), 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 the findings of this validation effort. .

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Level II SDG did not have required QC forms thus a level IV package was reviewed.  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).

**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” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>A unique sample ID not provided for LCSD. 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) in the EDD were manually revised to match the laboratory report.</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> <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>

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

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

**Method blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.



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

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	None.

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
NA	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

**LCs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	None.

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

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

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

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within Criteria	Exceedance/Notes
NA	

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

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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS REPORT NO. B102-029

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-D-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-DW-D-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-UW-H-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-UW-H-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-01-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-01-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-02-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-02-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-03-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-04-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-05-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-05-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-06-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-06-040723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-FB-040723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-040723-2	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**

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1908d	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B102-031		
Analyses	n-Butyl Acrylate analysis by NIOSH Method 1450 Modified GC/FID		
Samples and Matrix	Twenty-five air samples		
Collection Date(s)	04/07/2023		
Field Duplicate Pairs	None		
Field QC Blanks	None		

**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), 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 the findings of this validation effort. .

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<p>The report was amended on April 19, 2023 to change volumes for EPD-PB-OD-05-040723-2 (B102031021) and EPD-PB-CM-11-040723-2 (B102031004).</p> <p>The results for the method blank, LCS, and LCSD were reported in units of micrograms (µg) while the other sample results were reported in units of and parts per million (ppm) (volume) in the laboratory report.</p> <p>A unique sample ID not provided for LCSD. 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) in the EDD were manually revised to match the laboratory report.</p>

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

<b>Data completeness:</b>	
<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<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> <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>

<b>Sample preservation, receipt, and holding times:</b>	
<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

<b>Method blanks:</b>	
<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	None.

<b>Field blanks:</b>	
<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**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>
Y	None.

**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 [specify]:**

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

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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS REPORT NO. B102-031

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-D-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-01-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-03-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-H-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-01-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-040723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U