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September 1, 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. 1903**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for fifty-six air samples (including three field duplicate samples) and three field blank samples collected at the E Palestine site. The samples were collected on April 8-10, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC. The final laboratory data package was received on August 24, 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), Revision 4 (August 2022)* and the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)*.

No qualification or 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 feel free to contact me via the project manager.

Sincerely,

Deb Kutsal Digitally signed by Deb Kutsal
Date: 2023.09.01 16:01:13
-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. B102-021, B102-023,
B102-025, AND B102-026**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1903a		
Laboratory Report No.	B102-021	Laboratory	Eurofins Analytics, LLC - Ashland, VA
Analyses	n-Butyl acrylate by NIOSH Method 1450M		
Samples and Matrix	Thirty-two air samples including two field blanks, two media blanks, and three field duplicates		
Collection Date(s)	04/10/2023		
Field Duplicate Pairs	EPD-PB-OD-07-041023-2/EPD-PB-OD-077-041023-2 EPD-PB-CM-09-041023-2/EPD-PB-CM-099-041023-2 EPD-PB-CM-10-041023-2/EPD-PB-CM-100-041023-2		
Field QC Blanks	EPD-PB-FB-02-041023-2 EPD-PB-FB-03-041023-2 EPD-PB-MB-02-041023-2 EPD-PB-MB-03-041023-2		

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 reported by the laboratory.

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>Level II laboratory report does not include some required quality control (QC) information; therefore, the Level IV laboratory report was used for this validation effort.</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/m³), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The site-specific QAPP specifies analysis of acrylates in air by Eurofins Analytics, LLC standard operating procedure (SOP) IHGC-001-v.22-3. The laboratory confirmed that NIOSH Method 1450M, which is mentioned in the laboratory deliverables, is equivalent to SOP IHGC-001-v.22-3; therefore, these method references may be used interchangeably.</p> <p>A unique sample ID for the LCSID was not provided in the laboratory EDD. Unique IDs are needed to avoid overwriting other QC sample data when the validated EDDs are uploaded to the SCRIBE database. The LCSID ID in the Samp_No and Lab_Samp_No fields of the validated EDD were manually revised to match those in the laboratory report.</p> <p>The extraction date information in the laboratory EDD do not match the laboratory report or was blank. During the data validation effort, extraction times were deleted from the validated EDD and the extraction dates were corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time is reported as a default value of 00:00 hours for the LCSID in the analysis date field of the laboratory EDD. Since the sample analysis time for the LCSID is not required for the validated EDD, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

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

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	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

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

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 analytical results summary 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. B102-021

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-BKBA-02-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-06-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-07-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-08-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-09-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-099-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-100-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-10-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-11-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-12-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-CM-14-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-DW-B-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-FB-02-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-FB-03-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-MB-02-041023-2	NIOSH Method 1450M	141-32-3	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-MB-03-041023-2	NIOSH Method 1450M	141-32-4	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-OD-01-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-OD-02-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-OD-03-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-OD-04-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-OD-05-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-06-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-07-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-OD-077-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-UW-F-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-01-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-WA-02-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-WA-03-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-WA-04-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-WA-05-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-PB-WA-06-041023-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	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.	1903b		
Laboratory Report No.	B102-023	Laboratory	Eurofins Analytics, LLC - Ashland VA
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine air samples		
Collection Date(s)	04/08/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-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, 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 VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT**

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>Level II laboratory report does not include some required quality control (QC) information; therefore, the Level IV laboratory report was used for this validation effort.</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/m3), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The laboratory report included the following note: “The method reference, Rohm & Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm & 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 for the LCSD was not provided in the laboratory EDD. Unique IDs are needed to avoid overwriting other QC sample data when the validated EDDs are uploaded to the SCRIBE database. The LCSD ID in the Samp_No and Lab_Samp_No fields of the validated EDD were manually revised to match those in the laboratory report.</p> <p>The extraction date information in the laboratory EDD do not match the laboratory report or was blank. During the data validation effort, extraction times were deleted from the validated EDD and the extraction dates were corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

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

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	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

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

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	The laboratory report and the EDD have one or more minor discrepancies in the LCS/LCSD results (+/- 1 ug) and/or percent recoveries (+/- 1%) that were verified with 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 EDD and attached analytical results summary.

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. B102-023

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-G-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-DW-G-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-UW-C-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-UW-C-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-01-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-01-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-02-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-02-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-03-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-03-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-04-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-05-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-05-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-06-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-06-040823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-FB-040823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-040823-2	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.	1903c		
Laboratory Report No.	B102-025	Laboratory	Eurofins Analytics, LLC - Ashland VA
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine air samples		
Collection Date(s)	04/08/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-040823-1		

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 or qualification of results was required for this data package. The results may be used as reported by the laboratory.

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>Level II laboratory report does not include some required quality control (QC) information; therefore, the Level IV laboratory report was used for this validation effort.</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/m3), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The laboratory report included the following note: “The method reference, Rohm & Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm & 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 for the LCSD was not provided in the laboratory EDD. Unique IDs are needed to avoid overwriting other QC sample data when the validated EDDs are uploaded to the SCRIBE database. The LCSD ID in the Samp_No and Lab_Samp_No fields of the validated EDD were manually revised to match those in the laboratory report.</p> <p>The extraction date information in the laboratory EDD do not match the laboratory report or was blank. During the data validation effort, extraction times were deleted from the validated EDD and the extraction dates were corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	The “received by” signature and date was absent from the chain-of-custody (COC) form; a revised report with a corrected COC form was requested on 6/21/2023.

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

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	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

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

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. B102-025

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-D-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-DW-D-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-UW-H-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U			0.013 ppm	0.013	U
EPD-ST-8H-UW-H-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-01-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-01-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-02-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U			0.013 ppm	0.013	U
EPD-ST-8H-WA-02-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-03-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U			0.013 ppm	0.013	U
EPD-ST-8H-WA-03-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-04-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-05-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-05-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-06-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.017	U			0.017 ppm	0.017	U
EPD-ST-8H-WA-06-040823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.012	U			0.012 ppm	0.012	U
EPD-ST-FB-040823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-040823-1	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.	1903d		
Laboratory Report No.	B102-026	Laboratory	Eurofins Analytics, LLC - Ashland VA
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine air samples		
Collection Date(s)	04/09/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-040923-2		

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 reported by the laboratory.

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>Level II laboratory report does not include some required quality control (QC) information; therefore, the Level IV laboratory report was used for this validation effort.</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/m3), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The laboratory report included the following note: “The method reference, Rohm & Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm & 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 for the LCSD was not provided in the laboratory EDD. Unique IDs are needed to avoid overwriting other QC sample data when the validated EDDs are uploaded to the SCRIBE database. The LCSD ID in the Samp_No and Lab_Samp_No fields of the validated EDD were manually revised to match those in the laboratory report.</p> <p>The extraction date information in the laboratory EDD do not match the laboratory report or was blank. During the data validation effort, extraction times were deleted from the validated EDD and the extraction dates were corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

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

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	The “relinquished by” signature and date is absent from the chain-of-custody (COC) form; the COC form was corrected, and a report revision was requested on 6/21/2023. A revised report that includes the corrected COC form was received on 08/24/2023.

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	

**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	

**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 analytical results summary.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [continuing calibration]:

Within Criteria	Exceedance/Notes
NA	The ending continuing calibration verification CCV B-097-78 standard on column 2 was below the control limit for 2-ethylhexyl acetate. The continuing calibration verification CCV B-097-78 standard on column 1 was within the control limits; therefore, the results were not qualified.

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. B102-026

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-DW-F-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-DW-F-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-FB-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	U
EPD-ST-UW-B-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-UW-B-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-WA-01-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-WA-01-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-WA-02-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.017	U			0.017 ppm	0.017	U
EPD-ST-WA-02-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	U
EPD-ST-WA-03-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-WA-03-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-WA-04-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-WA-04-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-WA-05-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-WA-05-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	U
EPD-ST-WA-06-040923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-WA-06-040923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U