



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

August 7, 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. 1981**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for eighty-three air samples, including seven duplicate pairs and ten field blanks collected at the E Palestine ER. The samples were collected on June 2 and June 3, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC at their Ashland, Virginia laboratory. The final laboratory data package was received on June 15, 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 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,

Robert Tisdale Digitally signed by Robert Tisdale
Date: 2023.08.07 15:26:23 -06'00'

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 REPORTS
EUROFINS ANALYTICS, LLC REPORT NOS. B156-129, B156-130,
B156-131, B157-156**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1981a	Laboratory	Eurofins Analytics LLC, -- Ashland, VA
Laboratory Report No.	B156-129		
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Ten air samples, including one field blank and one duplicate pair		
Collection Date(s)	6/2/2023		
Field Duplicate Pairs	EPD-ST-8H-WA-05-060223-2/ EPD-ST-8H-WA-55-060223-2		
Field QC Blanks	EPD-ST-FB-060223-2		

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 4* (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
Y	<p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m³), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. Extraction date information was manually added to the EDD.</p>

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<p>The sample analysis time for the LCSD was reported as a default value of 12 AM or 00:00 hours in the analysis date field of the EDD, and not reported in the laboratory report. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p> <p>The laboratory report uses method reference “Rohm & Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	Holding time limits were exceeded in the extraction of the samples. The sample results were non-detect and therefore qualified non-detect (UJ).

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
N/A	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
N/A	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
N/A	

Field duplicates:

Within Criteria	Exceedance/Notes
N/A	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
N/A	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
N/A	

**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
N/A	

Other [specify]:

Within Criteria	Exceedance/Notes
N/A	

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 REPORT NO. B156-129

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-E-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-DW-E-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.0100	UJ
EPD-ST-8H-UW-A-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-UW-A-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	UJ
EPD-ST-8H-WA-01-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-01-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-02-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-02-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-03-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-03-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-04-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-04-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-05-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-05-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-06-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-06-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-55-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-55-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-FB-060223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	UJ
EPD-ST-FB-060223-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	UJ

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1981b	Laboratory	Eurofins Analytics LLC, - Ashland, VA
Laboratory Report No.	B156-130	Analyses	
		2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Samples and Matrix	Nine air samples, including one field blank		
Collection Date(s)	6/2/2023		
Field Duplicate Pairs	N/A		
Field QC Blanks	EPD-ST-FB-01-060223-1		

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:

Within Criteria	Exceedance/Notes
Y	<p>The Chain of Custody was amended on 06/07/2023 to correct the final flow rate, average flow rate, and total volume of Sample ID EPD-ST-8H-DW-E-060223-1.</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) except for blanks which provided results in µg.</p>

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<p>A unique sample ID was not provided for the LCSD in the EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) 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. Extraction date information was manually added to the EDD.</p> <p>The sample analysis time for the LCSD was reported as a default value of 12 AM or 00:00 hours in the analysis date field of the EDD, and not reported in the laboratory report. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p> <p>The laboratory report uses method reference “Rohm & Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	Holding time limits were exceeded in the extraction of the samples. The sample results were non-detect and therefore qualified non-detect (UJ).

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

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

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
N/A	

MS/MSDs:

Within Criteria	Exceedance/Notes
N/A	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
N/A	

Field duplicates:

Within Criteria	Exceedance/Notes
N/A	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	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 qualification was applied.

Sample dilutions:

Within Criteria	Exceedance/Notes
N/A	

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

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
N/A	

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
N/A	

Other [specify]:

Within Criteria	Exceedance/Notes
N/A	

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 REPORT NO. B156-130

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-E-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-DW-E-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-UW-A-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	UJ
EPD-ST-8H-UW-A-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	UJ
EPD-ST-8H-WA-01-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-01-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-02-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-02-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-03-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-03-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	UJ
EPD-ST-8H-WA-04-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-04-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.0100	UJ
EPD-ST-8H-WA-05-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	UJ
EPD-ST-8H-WA-05-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	UJ
EPD-ST-8H-WA-06-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	UJ
EPD-ST-8H-WA-06-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	UJ
EPD-ST-FB-01-060223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	UJ
EPD-ST-FB-01-060223-1	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	UJ

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1981c	Laboratory	Eurofins Analytics, LLC – Ashland VA
Laboratory Report No.	B156-131		
Analyses	n-Butyl Acrylate analysis by NIOSH Method 1450M Modified GC/FID		
Samples and Matrix	Thirty-two air samples, including four field blanks and three duplicate pairs		
Collection Date(s)	6/2/2023		
Field Duplicate Pairs	EPD-PB-OD-06-060223-2/EPD-PB-OD-066-060223-2 EPD-PB-OD-02-060223-2/EPD-PB-OD-022-060223-2 EPD-PB-WA-01-060223-2/EPD-PB-WA-011-060223-2		
Field QC Blanks	EPD-PB-FB-03-060223-2 EPD-PB-FB-02-060223-2 EPD-PB-MB-03-060223-2 EPD-PB-MB-02-060223-2		

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

Data completeness:

Within Criteria	Exceedance/Notes
Y	The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m ³), and parts per million (ppm) (volume) in the laboratory report and ppm in the electronic data deliverable (EDD).

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<p>The extraction date information in the EDD did not match the laboratory report or was blank. Extraction date information was manually added to the EDD.</p> <p>The sample analysis time for the LCSD was reported as a default value of 12 AM or 00:00 hours in the analysis date field of the EDD, and not reported in the laboratory report. 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	The second page of the COC did not have a signature/date/time for sample receipt at the laboratory. No qualifications were applied.

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
N/A	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
N/A	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
N/A	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
N/A	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
N/A	

**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
N/A	

Other [specify]:

Within Criteria	Exceedance/Notes
N/A	

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 REPORT NO. B156-131

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-BKBA-02-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-06-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-07-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-08-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-09-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-10-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-11-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-12-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-14-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-DW-E-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-FB-02-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-FB-03-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-02-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-03-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-OD-01-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-02-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-022-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-03-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-04-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-05-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-06-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-066-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-07-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-UW-A-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-01-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-011-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-02-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-03-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-04-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-05-060223-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-06-060223-2	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.	1981d	Laboratory	Eurofins Analytics, LLC – Ashland VA
Laboratory Report No.	B157-156		
Analyses	n-Butyl Acrylate analysis by NIOSH Method 1450M Modified GC/FID		
Samples and Matrix	Thirty-two air samples, including four field blanks and three duplicate pairs		
Collection Date(s)	6/3/2023		
Field Duplicate Pairs	EPD-PB-WA-03-060323-2/ EPD-PB-WA-033-060323-2 EPD-PB-WA-02-060323-2/ EPD-PB-WA-022-060323-2 EPD-PB-CM-14-060323-2/ EPD-PB-CM-144-060323-2		
Field QC Blanks	EPD-PB-MB-02-060323-2 EPD-PB-MB-03-060323-2 EPD-PB-FB-02-060323-2 EPD-PB-FB-03-060323-2		

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

Data completeness:

Within Criteria	Exceedance/Notes
Y	The Chain of Custody was amended on 06/06/2023 to amend a badge number for EPD-PB-CM-07-060323-2. 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 ³), and parts per million (ppm) (volume) in the laboratory report and ppm in the electronic data deliverable (EDD).

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	The extraction date information in the EDD did not match the laboratory report or was blank. Extraction date information was manually added to the EDD. 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.

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	The second page of the COC did not have a signature/date/time for sample receipt at the laboratory. No qualifications were applied.

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
N/A	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
N/A	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
N/A	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
N/A	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
N/A	

**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
N/A	

Other [specify]:

Within Criteria	Exceedance/Notes
N/A	

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 REPORT NO. B157-156

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-BKBA-02-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-06-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-07-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-08-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-09-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-10-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-11-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-12-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-14-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-144-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-DW-F-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-FB-02-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-FB-03-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-02-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-03-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-OD-01-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-02-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-03-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-04-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-05-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-06-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-07-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-UW-B-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-01-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-02-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-022-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-03-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-033-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-04-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-05-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-06-060323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U