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August 14, 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. 1973**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for 81 air samples, including 8 field blanks and 7 field duplicate pairs collected at the E Palestine Site. The samples were collected on May 30 to June 2, 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, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

No rejection of results was required for this data package. The results may be used as reported by the laboratory.

If you have any questions regarding this data validation report, please contact me via the project manager.

Sincerely,

Sandy

Anagnostopoulos

Digitally signed by Sandy
Anagnostopoulos
Date: 2023.08.14 17:10:45
-05'00'

Quality Control Coordinator

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 REPORT NOS.
B152-010, B153-188, B153-189, AND B156-128**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1973a	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Laboratory Report No.	B152-010	Analyses	
Analyses		2-Ethylhexyl acrylate and n-butyl acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029	
Samples and Matrix	10 air samples, including 1 field duplicate pair and 1 field blank		
Collection Date(s)	5/30/2023		
Field Duplicate Pairs	EPD-ST-8H-WA-03-053023-2/ EPD-ST-8H-WA-33-053023-2		
Field QC Blanks	EPD-ST-FB-053023-2		

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 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 are 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 uses method reference “Rohm & Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.</p> <p>A unique sample ID was not provided for LCSD in the laboratory 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 validated EDD were manually revised to match the laboratory report.</p>

**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 laboratory EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the validated EDD; therefore, all extraction date information except the field header was deleted from the validated 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 data 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	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
Y	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

**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 were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and, therefore, in the attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS, LLC REPORT NO. B152-010

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-H-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014 ppm	0.014	U
EPD-ST-8H-DW-H-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-UW-D-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-UW-D-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-01-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.017	U		0.017 ppm	0.017	U
EPD-ST-8H-WA-01-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011 ppm	0.011	U
EPD-ST-8H-WA-02-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-WA-02-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-03-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-WA-03-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-33-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-WA-33-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-04-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-WA-04-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-05-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-WA-05-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-06-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015 ppm	0.015	U
EPD-ST-8H-WA-06-053023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-FB-053023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8 ug	2.8	U
EPD-ST-FB-053023-2	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.	1973b	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Laboratory Report No.	B153-188	Analyses	
Analyses		2-Ethylhexyl acrylate and n-butyl acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029	
Samples and Matrix	10 air samples, including 1 field blank and 1 field duplicate pair		
Collection Date(s)	5/31/2023		
Field Duplicate Pairs	EPD-ST-8H-WA-02-053123-2/EPD-ST-8H-WA-22-053123-2		
Field QC Blanks	EPD-ST-FB-053123-2		

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, and Revision 4* (August 2022), the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

No rejection or qualification of results was required for this data package. The results may be used as received from the laboratory.

Data completeness:

Within Criteria	Exceedance/Notes
Y	<p>The results for the field blank are reported in units of micrograms (µg) while the other sample results are 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 uses method reference “Rohm & Haas IH9805” (referenced to the AIHA certification as IHGC-P029) or “IHGC-P029” interchangeably.</p> <p>A unique sample ID is not provided for LCSID in the laboratory EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSID IDs (in the Samp_No and Lab_Samp_No fields) in the validated EDD were manually revised to match the laboratory report.</p>

**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 laboratory EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the validated EDD; therefore, all extraction date information except the field header was deleted from the validated EDD.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSDs in the analysis date field. The analysis data was correct. The sample analysis time for the LCSDs 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	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
Y	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

**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 were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and, therefore, in the attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS, LLC REPORT NO. B153-188

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-FB-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	U
EPD-ST-8H-DW-H-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-DW-H-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-UW-D-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-UW-D-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-01-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-01-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-02-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-WA-02-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-22-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-22-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-03-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-04-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-05-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-05-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-06-053123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-06-053123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	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.	1973c	Laboratory	Eurofins Analytics, LLC – Ashland VA
Laboratory Report No.	B153-189		
Analyses	n-Butyl acrylate analysis by NIOSH Method 1450M		
Samples and Matrix	32 air samples, including 3 field duplicate pairs and 4 field blanks		
Collection Date(s)	5/31/2023		
Field Duplicate Pairs	EPD-PB-OD-05-053123-2/EPD-PB-OD-055-053123-2 EPD-PB-OD-02-053123-2/EPD-PB-OD-022-053123-2 EPD-PB-WA-01-053123-2/EPD-PB-WA-011-053123-2		
Field QC Blanks	EPD-PB-MB-02-053123-2, EPD-PB-MB-03-053123-2, EPD-PB-FB-02-053123-2, and EPD-PB-FB-03-053123-2		

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 completeness:

Within Criteria	Exceedance/Notes
Y	<p>The results for the field blank are reported in units of micrograms (μg) while the other sample results are reported in units of μg, milligram per cubic meter (mg/m^3), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>A unique sample ID is not provided for LCSID in the laboratory EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSID ID (in the Samp_No and Lab_Samp_No fields) in the validated EDD were manually revised to match the laboratory report.</p>

**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 laboratory EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the validated EDD; therefore, all extraction date information except the field header was deleted from the validated EDD.</p> <p>The sample analysis time was reported as a default value of 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD is not required for the validated EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
Y	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

**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 were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and, therefore, in the attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS, LLC REPORT NO. B153-189

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-BKBA-02-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-06-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-07-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-08-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-09-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-10-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-11-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-12-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-14-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-DW-H-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-FB-02-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-FB-03-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-MB-02-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-MB-03-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-OD-01-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-02-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-022-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-03-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-04-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-05-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-055-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-06-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-07-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-UW-D-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-01-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-011-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-02-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-03-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-04-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-05-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-06-053123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1973d	Laboratory	Eurofins Analytics, LLC – Ashland VA
Laboratory Report No.	B156-128		
Analyses	n-Butyl acrylate analysis by NIOSH Method 1450M		
Samples and Matrix	29 air samples, including 2 field duplicate pairs and 2 field blanks		
Collection Date(s)	6/2/2023		
Field Duplicate Pairs	EPD-PB-BKBA-01-060223-1/EPD-PB-BKBA-011-060223-1 EPD-PB-OD-07-060223-1/EPD-PB-OD-077-060223-1		
Field QC Blanks	EPD-PB-MB-01-060223-1 and EPD-PB-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, 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), and the EPA *NFGs for Inorganic 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 are reported in units of micrograms (µg) while the other sample results are 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>A unique sample ID is not provided for LCSID in the laboratory EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSID ID (in the Samp_No and Lab_Samp_No fields) in the validated EDD were manually revised to match the laboratory report</p>

**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 laboratory EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the validated EDD; therefore, all extraction date information except the field header was deleted from the validated EDD.</p> <p>The sample analysis time was reported as a default value of 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD is not required for the validated EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
Y	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

**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 were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and, therefore, in the attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS, LLC REPORT NO. B156-128

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-BKBA-011-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-BKBA-02-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-06-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-07-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-08-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-09-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-10-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-11-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-12-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-CM-14-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-DW-E-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-FB-01-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-MB-01-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2 ug	2	U
EPD-PB-OD-01-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-02-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-03-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-04-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-05-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-06-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-07-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-OD-077-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-UW-A-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-01-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-02-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-03-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-04-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-05-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U
EPD-PB-WA-06-060223-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091 ppm	0.0091	U