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July 10, 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 Reports
E Palestine Site - ER
EPA Contract No.: 68HE0519D0005
Task Order/Task Order Line Item No.: 68HE0520F0032/0001EB201
Document Tracking No. 1921**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for 99 air samples (including seven field duplicate samples and nine field blank samples) collected at the E Palestine Site. The samples were collected on April 18 and 19, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC. The final revised laboratory data packages were received on July 3, 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), 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 for Organic Superfund Methods Data Review* (November 2020).

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

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

Sincerely,

Jessica
O'Sullivan

Digitally signed by
Jessica O'Sullivan
Date: 2023.07.10
16:31:04 -04'00'

Quality Reviewer

Enclosure

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

ATTACHMENT

**DATA VALIDATION REPORTS
EUROFINS ANALYTICS, LLC REPORT NOS. B110-013, B111-165,
B111-166, AND B111-167**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1921a	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B110-013	n-Butyl acrylate by National Institute for Occupational Safety and Health (NIOSH) Method 1450M	
Analyses	29 air samples (including two duplicate air samples and two field blank samples)		
Samples and Matrix	04/18/2023		
Collection Date(s)	EPD-PB-CM-07-041823-1/EPD-PB-CM-077-041823-1		
Field Duplicate Pairs	EPD-PB-OD-07-041823-1/EPD-PB-OD-077-041823-1		
Field QC Blanks	EPD-PB-FB-01-041823-1 EPD-PB-MB-01-041823-1		

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan, East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines 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>A revised COC was submitted to the laboratory with the corrected total sample time for sample EPD-PB-OD-01-041823-1 and the corrected sample ID for sample EPD-PB-FB-01-041823-1. The corrected and original COC are both included in the laboratory report and the information from the corrected COC was used in the laboratory report.</p> <p>The results for the field blanks were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/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 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 was manually revised to match the laboratory report.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

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

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	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

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

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [NA]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B110-013

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-BKBA-02-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-06-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-07-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-077-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-08-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-09-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-10-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-11-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-12-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-14-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-DW-B-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0089	U			ppm	0.0089	U
EPD-PB-FB-01-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-01-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-OD-01-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-02-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-03-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-04-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-05-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-06-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-07-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-077-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-UW-F-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0089	U			ppm	0.0089	U
EPD-PB-WA-01-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-02-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-03-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-04-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-05-041823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-06-041823-1	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.	1921b	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B111-165	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 (including one field blank sample)		
Collection Date(s)	04/19/2023		
Field Duplicate Pairs	NA		
Field QC Blanks	EPD-ST-FB-041923-1		

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan, East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines 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
Y	<p>A revised COC was submitted to the laboratory with corrected values for the flow rates or total sample volume for samples EPD-ST-8H-WA-02-041923-1, EPD-ST-8H-UW-G-041923-1, and EPD-ST-8H-WA-03-041923-1. The corrected and original COC are both included in the laboratory report and the information from the corrected COC was used in the laboratory report.</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>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 was manually revised to match the laboratory report.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

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

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	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

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

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [NA]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B111-165

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-DW-C-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-UW-G-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-UW-G-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-01-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U			0.013 ppm	0.013	U
EPD-ST-8H-WA-01-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-02-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-02-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-03-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-04-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-04-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-05-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-05-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-ST-8H-WA-06-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-WA-06-041923-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-FB-041923-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-041923-1	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.	1921c	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B111-166	n-Butyl acrylate by National Institute for Occupational Safety and Health (NIOSH) Method 1450M	
Analyses	29 air samples (including two duplicate air samples and two field blank samples)		
Samples and Matrix	04/19/2023		
Collection Date(s)	EPD-PB-WA-022-041923-1/EPD-PB-WA-02-041923-1		
Field Duplicate Pairs	EPD-PB-WA-011-041923-1/EPD-PB-WA-01-041923-1		
Field QC Blanks	EPD-PB-FB-01-041923-1 EPD-PB-MB-01-041923-1		

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan, East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines 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
Y	<p>The results for the field blanks were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/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 not provided for LCSD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) in the EDD were manually revised to match the laboratory report.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as a default value of 12 AM or 00:00 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

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
NA	

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
N	The percent recovery value for n-butyl acrylate exceeded the QAPP acceptance limit in the LCS and LCSD. n-Butyl acrylate was not detected in any of the samples; therefore, no qualifications were applied.

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

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

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [NA]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B111-166

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-C-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-FB-01-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-01-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-OD-01-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-03-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-G-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-01-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-011-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-022-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-041923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1921d	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B111-167	n-Butyl acrylate by National Institute for Occupational Safety and Health (NIOSH) Method 1450M	
Analyses	32 air samples (including three duplicate air samples and four field blank samples)		
Samples and Matrix	04/19/2023		
Collection Date(s)	EPD-PB-BKBA-022-041923-2/EPD-PB-BKBA-02-041923-2 EPD-PB-WA-011-041923-2/EPD-PB-WA-01-041923-2 EPD-PB-OD-033-041923-2/EPD-PB-OD-03-041923-2 EPD-PB-MB-02-041923-2 EPD-PB-MB-03-041923-2 EPD-PB-FB-03-041923-2 EPD-PB-FB-02-041923-2		
Field Duplicate Pairs			
Field QC Blanks			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan, East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines 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
Y	<p>The results for the field blanks were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/m³), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The sample analysis time was reported as a default value of 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	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

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

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCs/LCSDs:

Within Criteria	Exceedance/Notes
N	The percent recovery value for n-butyl acrylate exceeded the QAPP acceptance limit in the LCS and LCSD. n-Butyl acrylate was not detected in any of the samples; therefore, no qualifications were applied.

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 qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [NA]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B111-167

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-BKBA-02-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-BKBA-022-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-06-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-07-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-08-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-09-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-10-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-11-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-12-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-CM-14-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-DW-C-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-FB-02-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-FB-03-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-02-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-MB-03-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			ug	2	U
EPD-PB-OD-01-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-02-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.009	U
EPD-PB-OD-03-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-033-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-04-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-05-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-06-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-OD-07-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-UW-G-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-01-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-011-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-02-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-03-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.009	U
EPD-PB-WA-04-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-05-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			ppm	0.0091	U
EPD-PB-WA-06-041923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			ppm	0.009	U