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June 15, 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. 1885**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for fifty-eight air samples, including four field blank and five field duplicate pairs collected at the E Palestine Site. The samples were collected on May 18-20, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC at their Ashland, Virginia laboratory. The final laboratory data package was received on May 26, 2023.

Analytical data were evaluated in general accordance with *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 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 this data validation report, please feel free to contact me.

Sincerely,

Shanna M Vasser

Digitally signed by Shanna M Vasser
Date: 2023.06.15 23:05:24 -04'00'

Shanna Vasser
Civil Engineer, PE

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

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ATTACHMENT

**DATA VALIDATION REPORTS
EUROFINS ANALYTICS, LLC REPORT NOS.
B142-167, B142-168, B142-171, AND B142-172**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1885a	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B142-167		
Analyses	n-Butyl acrylate analysis by NIOSH Method 1450M		
Samples and Matrix	Thirty-two air samples, including two field blanks and three field duplicate pairs		
Collection Date(s)	05/19/2023		
Field Duplicate Pairs	EPD-PB-CM-077-051923-2/EPD-PB-CM-07-051923-2, EPD-PB-WA-044-051923-2/ EPD-PB-WA-04-051923-2, and EPD-PB-CM-144-051923-2/EPD-PB-CM-14-051923-2		
Field QC Blanks	EPD-PB-FB-03-051923-2 and EPD-PB-FB-02-051923-2		

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), 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 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>

**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. 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	

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	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

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

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached 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.
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, LLC REPORT NO. B142-167

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-06-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-07-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-077-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-08-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-09-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-10-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-11-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-12-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-14-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-CM-144-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-DW-A-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-FB-02-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-FB-03-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-02-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-MB-03-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U		2	ug	2	U
EPD-PB-OD-01-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-02-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-03-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-04-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-05-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-06-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-OD-07-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-UW-E-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-01-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-02-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-03-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-04-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-044-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-05-051923-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U		0.0091	ppm	0.0091	U
EPD-PB-WA-06-051923-2	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.	1885b	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B142-168	Analyses	
		2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	Samples and Matrix		
		Nine air samples, including one field duplicate pair	
Samples and Matrix	Collection Date(s)		
		05/19/2023	
Collection Date(s)	Field Duplicate Pairs		
		EPD-ST-8H-WA-03-051923-2/ EPD-ST-8H-WA-33-051923-2	
Field Duplicate Pairs	Field QC Blanks		
		None	

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the *Tetra Tech Quality Assurance Project Plan, East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the *Tetra Tech Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), 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>Per email correspondence from the laboratory to the client (documented in the laboratory report), the field blank sample, EPD-ST-FB-051923-2, was broken by the syringe that introduces the sample to the instrument (autosampler); therefore, no results were available.</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>

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<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
NA	Field blank EPD-ST-FB-051923-2 was damaged during analysis, therefore no results are available.

**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
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 [None]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS, LLC REPORT NO. B142-168

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-A-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-DW-A-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-UW-E-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.018	U			0.018 ppm	0.018	U
EPD-ST-8H-UW-E-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.012	U			0.012 ppm	0.012	U
EPD-ST-8H-WA-01-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-01-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-02-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-02-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-03-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-04-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-05-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-05-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-06-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-06-051923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-33-051923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-33-051923-2	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.	1885c	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B142-171	Analyses	
		2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Samples and Matrix	Seven air samples, including one field blank		
Collection Date(s)	05/20/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-052023-1		

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 (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>Samples EPD-ST-8H-DW-A-052023-1 and EPD-ST-8H-WA-05-052023-1 were cancelled due to pump failures caused by weather.</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 not provided for LCSD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) in the EDD were manually revised to match the laboratory report.</p>

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

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. 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	

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
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

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

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached 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.
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, LLC REPORT NO. B142-171

Sample_ID	Method	CAS#	Analyte	Lab_Resul	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-UW-E-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-UW-E-052023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-01-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-01-052023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-02-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-02-052023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-03-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	U
EPD-ST-8H-WA-03-052023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-04-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.018	U		0.018	ppm	0.018	U
EPD-ST-8H-WA-04-052023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.012	U		0.012	ppm	0.012	U
EPD-ST-8H-WA-06-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-06-052023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-FB-052023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	U
EPD-ST-FB-052023-1	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.	1885d	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B142-172	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 field duplicate pair		
Collection Date(s)	05/18/2023		
Field Duplicate Pairs	EPD-ST-8H-WA-04-051823-2/ EPD-ST-8H-WA-44-051823-2		
Field QC Blanks	EPD-ST-FB-051823-2		

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), 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/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 not provided for LCSD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) in the EDD were manually revised to match the laboratory report.</p>

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

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. 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
N	The laboratory sample receipt date and time are missing on the COC.

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	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

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

MDLs/RLs:

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

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, LLC REPORT NO. B142-172

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-H-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-DW-H-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-UW-D-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-UW-D-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-01-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-01-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-02-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-02-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-03-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-04-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-05-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-05-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-06-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-06-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-8H-WA-44-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-44-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.01	U
EPD-ST-FB-051823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-051823-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	U