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R5\_EastPalestine@epa.gov

March 1, 2023

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. 1675**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for sixteen air samples collected at the E Palestine site. The samples were collected on February 14-21, 2023 and were analyzed for VOCs by ALS Environmental. The final laboratory data package was received on February 22, 2023.

Analytical data were evaluated in general accordance with 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 these data packages. The results may be used as qualified based on the findings of this validation effort.

If you have any questions regarding this data validation report, please call me at (770) 598-1808

Sincerely,

A handwritten signature in black ink that reads 'Shanna Vasser'.

Shanna Vasser, PE  
Civil Engineer

Enclosure

cc: Chris Burns, 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  
ALS ENVIRONMENTAL REPORT NOS. P2300666, P2300681,  
P2300699, P2300719, P2300720, P2300728, AND P2300749**

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675a		<b>Technical Reviewer (signature and date)</b>	<i>S. Ramon Vasser</i> 2/27/2023
<b>Data Reviewer (signature and date)</b>	<i>Dennis Magini</i> February 23, 2023	<i>Sweng</i> 02/24/2023	<b>Laboratory</b>	ALS Environmental, Simi Valley, CA
<b>Laboratory Report No.</b>	P2300666			
<b>Analyses</b>	Volatile organic compounds (VOCs) by EPA Method TO-15 in scan and selected ion monitoring (SIM) modes			
<b>Samples and Matrix</b>	Two air samples			
<b>Collection Date(s)</b>	02/14/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	TO-15 SIM results are reported in units of $\mu\text{g}/\text{m}^3$ and ppbV in the analytical data package, however, these results are only reported in units of $\mu\text{g}/\text{m}^3$ in the EDD. No qualifications are required.

**Sample preservation, receipt, and holding times:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	There were no custody seals on the canisters/shipping containers. No qualifications are required.

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

**Method blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**Field blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Surrogates and labeled compounds:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**MS/MSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Laboratory duplicates:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Field duplicates:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**Sample dilutions:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Canister dilution factor for EPD-WA-01-021423 was 1.40 and canister dilution factor for EPD-MG-01-021423 was 1.36.

**Re-extraction and reanalysis:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**MDLs/RLs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

**Tentatively identified compounds:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Several tentatively identified compounds (TICs) were detected in both samples. The known TICs were qualified as tentatively identified (flagged NJ). 2-Butoxyethanol and 2-ethylhexyl acrylate in both samples and butyl ester-2-propenoic acid in EPD-MG-01-021423 were reported as not detected and qualified as manually searched for, but not found in the sample (flagged U, NF). Sulfur dioxide was tentatively identified in EPD-WA-01-021423. Since EPA Method TO-15 is not an appropriate method for quantifying sulfur dioxide, the laboratory qualified the result as probably biased low. The sulfur dioxide result in EPD-WA-01-021423 was qualified as tentatively identified and possibly biased low (flagged NJ-).

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

**Other [None]:**

Within Criteria	Exceedance/Notes
NA	

**Overall Qualifications:**

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

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NF	The tentatively identified compound was manually searched for but was not found in the sample.
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.
NJ-	The tentatively identified compound result is probably biased low because TO-15 is not an appropriate method for quantifying it.
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  
ALS ENVIRONMENTAL REPORT NO. P2300666

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021423	TO-15	Propene	3.4	T			UG/M3	3.4	NJ
EPD-WA-01-021423	TO-15	Propane	5.5	T			UG/M3	5.5	NJ
EPD-WA-01-021423	TO-15	Sulfur Dioxide	2.7	T,!			UG/M3	2.7	NJ-
EPD-WA-01-021423	TO-15	2-Methylpropane	13	T			UG/M3	13	NJ
EPD-WA-01-021423	TO-15	Vinyl Chloride	3.4	T			UG/M3	3.4	NJ
EPD-WA-01-021423	TO-15	n-Butane	32	T			UG/M3	32	NJ
EPD-WA-01-021423	TO-15	Ethanol	4.5	T			UG/M3	4.5	NJ
EPD-WA-01-021423	TO-15	2-Methylbutane	18	T			UG/M3	18	NJ
EPD-WA-01-021423	TO-15	n-Pentane	10	T			UG/M3	10	NJ
EPD-WA-01-021423	TO-15	2-Methylpentane	3.1	T			UG/M3	3.1	NJ
EPD-WA-01-021423	TO-15	Benzene	4.1	T			UG/M3	4.1	NJ
EPD-WA-01-021423	TO-15	BUTYL ESTER-2-PROPENOIC ACID	29	T			UG/M3	29	NJ
EPD-WA-01-021423	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021423	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021423	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.6		0.012	0.07	UG/M3	2.6	
EPD-WA-01-021423	TO-15 SIM	Chloromethane	0.52		0.036	0.07	UG/M3	0.52	
EPD-WA-01-021423	TO-15 SIM	Vinyl Chloride	6.1		0.017	0.035	UG/M3	6.1	
EPD-WA-01-021423	TO-15 SIM	1,3-Butadiene	0.38		0.011	0.07	UG/M3	0.38	
EPD-WA-01-021423	TO-15 SIM	Bromomethane	0.026	J	0.0094	0.035	UG/M3	0.026	J
EPD-WA-01-021423	TO-15 SIM	Chloroethane	0.026	J	0.011	0.035	UG/M3	0.026	J
EPD-WA-01-021423	TO-15 SIM	Acrolein	0.36		0.049	0.28	UG/M3	0.36	
EPD-WA-01-021423	TO-15 SIM	Acetone	5.1		0.32	3.5	UG/M3	5.1	
EPD-WA-01-021423	TO-15 SIM	Trichlorofluoromethane	1.3		0.011	0.07	UG/M3	1.3	
EPD-WA-01-021423	TO-15 SIM	1,1-Dichloroethene	0.035	U	0.012	0.035	UG/M3	0.035	U
EPD-WA-01-021423	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.34		0.011	0.14	UG/M3	0.34	
EPD-WA-01-021423	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.48		0.011	0.035	UG/M3	0.48	
EPD-WA-01-021423	TO-15 SIM	trans-1,2-Dichloroethene	0.035	U	0.015	0.035	UG/M3	0.035	U
EPD-WA-01-021423	TO-15 SIM	1,1-Dichloroethane	0.035	U	0.011	0.035	UG/M3	0.035	U
EPD-WA-01-021423	TO-15 SIM	Methyl tert-Butyl Ether	0.035	U	0.017	0.035	UG/M3	0.035	U
EPD-WA-01-021423	TO-15 SIM	cis-1,2-Dichloroethene	0.035	U	0.01	0.035	UG/M3	0.035	U
EPD-WA-01-021423	TO-15 SIM	Chloroform	0.080	J	0.011	0.14	UG/M3	0.080	J
EPD-WA-01-021423	TO-15 SIM	1,2-Dichloroethane	0.072		0.012	0.035	UG/M3	0.072	
EPD-WA-01-021423	TO-15 SIM	1,1,1-Trichloroethane	0.035	U	0.013	0.035	UG/M3	0.035	U

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300666

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021423	TO-15 SIM	Benzene	2.1		0.021	0.11	UG/M3	2.1	
EPD-WA-01-021423	TO-15 SIM	Carbon Tetrachloride	0.47		0.0099	0.035	UG/M3	0.47	
EPD-WA-01-021423	TO-15 SIM	1,2-Dichloropropane	0.016 J		0.0085	0.035	UG/M3	0.016 J	
EPD-WA-01-021423	TO-15 SIM	Bromodichloromethane	0.035 U		0.0081	0.035	UG/M3	0.035 U	
EPD-WA-01-021423	TO-15 SIM	Trichloroethene	0.019 J		0.011	0.035	UG/M3	0.019 J	
EPD-WA-01-021423	TO-15 SIM	1,4-Dioxane	0.13 J		0.012	0.14	UG/M3	0.13 J	
EPD-WA-01-021423	TO-15 SIM	cis-1,3-Dichloropropene	0.070 U		0.0099	0.07	UG/M3	0.070 U	
EPD-WA-01-021423	TO-15 SIM	trans-1,3-Dichloropropene	0.070 U		0.0067	0.07	UG/M3	0.070 U	
EPD-WA-01-021423	TO-15 SIM	1,1,2-Trichloroethane	0.14 U		0.0083	0.14	UG/M3	0.14 U	
EPD-WA-01-021423	TO-15 SIM	Toluene	2.8		0.017	0.14	UG/M3	2.8	
EPD-WA-01-021423	TO-15 SIM	Dibromochloromethane	0.035 U		0.009	0.035	UG/M3	0.035 U	
EPD-WA-01-021423	TO-15 SIM	1,2-Dibromoethane	0.035 U		0.0094	0.035	UG/M3	0.035 U	
EPD-WA-01-021423	TO-15 SIM	Tetrachloroethene	0.11		0.012	0.035	UG/M3	0.11	
EPD-WA-01-021423	TO-15 SIM	Chlorobenzene	0.14 U		0.014	0.14	UG/M3	0.14 U	
EPD-WA-01-021423	TO-15 SIM	Ethylbenzene	0.46		0.017	0.14	UG/M3	0.46	
EPD-WA-01-021423	TO-15 SIM	m,p-Xylenes	1.9		0.034	0.14	UG/M3	1.9	
EPD-WA-01-021423	TO-15 SIM	Styrene	0.14 J		0.017	0.14	UG/M3	0.14 J	
EPD-WA-01-021423	TO-15 SIM	o-Xylene	0.67		0.018	0.14	UG/M3	0.67	
EPD-WA-01-021423	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.035 U		0.012	0.035	UG/M3	0.035 U	
EPD-WA-01-021423	TO-15 SIM	1,3,5-Trimethylbenzene	0.23		0.02	0.14	UG/M3	0.23	
EPD-WA-01-021423	TO-15 SIM	1,2,4-Trimethylbenzene	0.84		0.022	0.14	UG/M3	0.84	
EPD-WA-01-021423	TO-15 SIM	1,3-Dichlorobenzene	0.035 U		0.024	0.035	UG/M3	0.035 U	
EPD-WA-01-021423	TO-15 SIM	1,4-Dichlorobenzene	0.25		0.028	0.035	UG/M3	0.25	
EPD-WA-01-021423	TO-15 SIM	1,2-Dichlorobenzene	0.035 U		0.025	0.035	UG/M3	0.035 U	
EPD-WA-01-021423	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14 U		0.02	0.14	UG/M3	0.14 U	
EPD-WA-01-021423	TO-15 SIM	1,2,4-Trichlorobenzene	0.070 U		0.028	0.07	UG/M3	0.070 U	
EPD-WA-01-021423	TO-15 SIM	Naphthalene	0.23		0.031	0.14	UG/M3	0.23	
EPD-WA-01-021423	TO-15 SIM	Hexachlorobutadiene	0.14 U		0.018	0.14	UG/M3	0.14 U	
EPD-MG-01-021423	TO-15	Propane	4.7 T				UG/M3	4.7 NJ	
EPD-MG-01-021423	TO-15	2-Methylpropane	3.9 T				UG/M3	3.9 NJ	
EPD-MG-01-021423	TO-15	n-Butane	4.4 T				UG/M3	4.4 NJ	
EPD-MG-01-021423	TO-15	2-Methylbutane	6.6 T				UG/M3	6.6 NJ	
EPD-MG-01-021423	TO-15	n-Pentane	5.0 T				UG/M3	5.0 NJ	




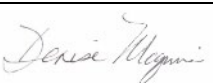
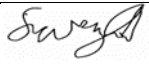
E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300666

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-MG-01-021423	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-MG-01-021423	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-MG-01-021423	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-MG-01-021423	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.7		0.012	0.068	UG/M3	2.7	
EPD-MG-01-021423	TO-15 SIM	Chloromethane	0.44		0.035	0.068	UG/M3	0.44	
EPD-MG-01-021423	TO-15 SIM	Vinyl Chloride	0.034	U	0.016	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	1,3-Butadiene	0.10		0.011	0.068	UG/M3	0.10	
EPD-MG-01-021423	TO-15 SIM	Bromomethane	0.031	J	0.0091	0.034	UG/M3	0.031	J
EPD-MG-01-021423	TO-15 SIM	Chloroethane	0.013	J	0.011	0.034	UG/M3	0.013	J
EPD-MG-01-021423	TO-15 SIM	Acrolein	0.23	J	0.048	0.27	UG/M3	0.23	J
EPD-MG-01-021423	TO-15 SIM	Acetone	3.9		0.31	3.4	UG/M3	3.9	
EPD-MG-01-021423	TO-15 SIM	Trichlorofluoromethane	1.3		0.011	0.068	UG/M3	1.3	
EPD-MG-01-021423	TO-15 SIM	1,1-Dichloroethene	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.40		0.011	0.14	UG/M3	0.40	
EPD-MG-01-021423	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.51		0.011	0.034	UG/M3	0.51	
EPD-MG-01-021423	TO-15 SIM	trans-1,2-Dichloroethene	0.034	U	0.015	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	1,1-Dichloroethane	0.034	U	0.011	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	Methyl tert-Butyl Ether	0.034	U	0.016	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	cis-1,2-Dichloroethene	0.034	U	0.0098	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	Chloroform	0.082	J	0.011	0.14	UG/M3	0.082	J
EPD-MG-01-021423	TO-15 SIM	1,2-Dichloroethane	0.080		0.011	0.034	UG/M3	0.080	
EPD-MG-01-021423	TO-15 SIM	1,1,1-Trichloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	Benzene	1.1		0.02	0.1	UG/M3	1.1	
EPD-MG-01-021423	TO-15 SIM	Carbon Tetrachloride	0.48		0.0097	0.034	UG/M3	0.48	
EPD-MG-01-021423	TO-15 SIM	1,2-Dichloropropane	0.016	J	0.0083	0.034	UG/M3	0.016	J
EPD-MG-01-021423	TO-15 SIM	Bromodichloromethane	0.034	U	0.0079	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	Trichloroethene	0.022	J	0.01	0.034	UG/M3	0.022	J
EPD-MG-01-021423	TO-15 SIM	1,4-Dioxane	0.14	U	0.012	0.14	UG/M3	0.14	U
EPD-MG-01-021423	TO-15 SIM	cis-1,3-Dichloropropene	0.068	U	0.0097	0.068	UG/M3	0.068	U
EPD-MG-01-021423	TO-15 SIM	trans-1,3-Dichloropropene	0.018	J	0.0065	0.068	UG/M3	0.018	J
EPD-MG-01-021423	TO-15 SIM	1,1,2-Trichloroethane	0.14	U	0.008	0.14	UG/M3	0.14	U
EPD-MG-01-021423	TO-15 SIM	Toluene	1.8		0.016	0.14	UG/M3	1.8	
EPD-MG-01-021423	TO-15 SIM	Dibromochloromethane	0.034	U	0.0087	0.034	UG/M3	0.034	U

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-MG-01-021423	TO-15 SIM	1,2-Dibromoethane	0.015	J	0.0091	0.034	UG/M3	0.015	J
EPD-MG-01-021423	TO-15 SIM	Tetrachloroethene	0.18		0.012	0.034	UG/M3	0.18	
EPD-MG-01-021423	TO-15 SIM	Chlorobenzene	0.14	U	0.013	0.14	UG/M3	0.14	U
EPD-MG-01-021423	TO-15 SIM	Ethylbenzene	0.24		0.016	0.14	UG/M3	0.24	
EPD-MG-01-021423	TO-15 SIM	m,p-Xylenes	1.1		0.033	0.14	UG/M3	1.1	
EPD-MG-01-021423	TO-15 SIM	Styrene	0.066	J	0.016	0.14	UG/M3	0.066	J
EPD-MG-01-021423	TO-15 SIM	o-Xylene	0.33		0.018	0.14	UG/M3	0.33	
EPD-MG-01-021423	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	1,3,5-Trimethylbenzene	0.087	J	0.019	0.14	UG/M3	0.087	J
EPD-MG-01-021423	TO-15 SIM	1,2,4-Trimethylbenzene	0.32		0.022	0.14	UG/M3	0.32	
EPD-MG-01-021423	TO-15 SIM	1,3-Dichlorobenzene	0.034	U	0.023	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	1,4-Dichlorobenzene	0.12		0.027	0.034	UG/M3	0.12	
EPD-MG-01-021423	TO-15 SIM	1,2-Dichlorobenzene	0.034	U	0.024	0.034	UG/M3	0.034	U
EPD-MG-01-021423	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14	U	0.019	0.14	UG/M3	0.14	U
EPD-MG-01-021423	TO-15 SIM	1,2,4-Trichlorobenzene	0.068	U	0.027	0.068	UG/M3	0.068	U
EPD-MG-01-021423	TO-15 SIM	Naphthalene	0.11	J	0.03	0.14	UG/M3	0.11	J
EPD-MG-01-021423	TO-15 SIM	Hexachlorobutadiene	0.14	U	0.018	0.14	UG/M3	0.14	U

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675b		<b>Technical Reviewer (signature and date)</b>	 2/27/2023
<b>Data Reviewer (signature and date)</b>	 February 23, 2023	 02/24/2023	<b>Laboratory</b>	ALS Environmental, Simi Valley, CA
<b>Laboratory Report No.</b>	P2300681			
<b>Analyses</b>	Volatile organic compounds (VOCs) by EPA Method TO-15 in scan and selected ion monitoring (SIM) modes			
<b>Samples and Matrix</b>	Two air samples			
<b>Collection Date(s)</b>	02/15/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

Within Criteria	Exceedance/Notes
N	<p>TO-15 SIM results are reported in units of <math>\mu\text{g}/\text{m}^3</math> and ppbV in the analytical data package; however, these results were only reported in units <math>\mu\text{g}/\text{m}^3</math> in the EDD. No qualifications are required.</p> <p>The laboratory noted that EPD-WA-01-021523 was collected using canisters that were batch-certified for method TO-15 scan and not TO-15 SIM. The results should be utilized accordingly.</p>

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

**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	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
Y	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

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

**Field duplicates:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**Sample dilutions:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Canister dilution factor for EPD-WA-01-021523 is 1.43. Canister dilution factor for EPD-A-01-021523 is 1.41.

**Re-extraction and reanalysis:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**MDLs/RLs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

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

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
Y	Several tentatively identified compounds (TICs) were detected in both samples. The known TICs were qualified as tentatively identified (flagged NJ). 2-Butoxyethanol, 2-ethylhexyl acrylate, and butyl ester-2-propenoic acid in both samples were reported as nondetect and qualified as searched for, but not found in the sample (flagged U, NF).

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.
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  
ALS ENVIRONMENTAL REPORT NO. P2300681

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val	Result	Val Qual
EPD-WA-01-021523	TO-15	Propane	4.7	T			UG/M3	4.7	NJ	
EPD-WA-01-021523	TO-15	2-Methylpropane	5.0	T			UG/M3	5.0	NJ	
EPD-WA-01-021523	TO-15	n-Butane	5.5	T			UG/M3	5.5	NJ	
EPD-WA-01-021523	TO-15	Acetone	11	T			UG/M3	11	NJ	
EPD-WA-01-021523	TO-15	n-Pentane	12	T			UG/M3	12	NJ	
EPD-WA-01-021523	TO-15	2-Butanone (MEK)	4.8	T			UG/M3	4.8	NJ	
EPD-WA-01-021523	TO-15	Ethyl Acetate	2.8	T			UG/M3	2.8	NJ	
EPD-WA-01-021523	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF	
EPD-WA-01-021523	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF	
EPD-WA-01-021523	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF	
EPD-WA-01-021523	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.2		0.012	0.072	UG/M3	2.2		
EPD-WA-01-021523	TO-15 SIM	Chloromethane	0.32		0.037	0.072	UG/M3	0.32		
EPD-WA-01-021523	TO-15 SIM	Vinyl Chloride	0.036	U	0.017	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	1,3-Butadiene	0.055	J	0.011	0.072	UG/M3	0.055	J	
EPD-WA-01-021523	TO-15 SIM	Bromomethane	0.030	J	0.0096	0.036	UG/M3	0.030	J	
EPD-WA-01-021523	TO-15 SIM	Chloroethane	0.041		0.011	0.036	UG/M3	0.041		
EPD-WA-01-021523	TO-15 SIM	Acrolein	0.29		0.05	0.29	UG/M3	0.29		
EPD-WA-01-021523	TO-15 SIM	Acetone	7.1		0.33	3.6	UG/M3	7.1		
EPD-WA-01-021523	TO-15 SIM	Trichlorofluoromethane	1.1		0.012	0.072	UG/M3	1.1		
EPD-WA-01-021523	TO-15 SIM	1,1-Dichloroethene	0.036	U	0.013	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.28		0.011	0.14	UG/M3	0.28		
EPD-WA-01-021523	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.44		0.012	0.036	UG/M3	0.44		
EPD-WA-01-021523	TO-15 SIM	trans-1,2-Dichloroethene	0.036	U	0.016	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	1,1-Dichloroethane	0.036	U	0.012	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	Methyl tert-Butyl Ether	0.036	U	0.017	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	cis-1,2-Dichloroethene	0.036	U	0.01	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	Chloroform	0.064	J	0.011	0.14	UG/M3	0.064	J	
EPD-WA-01-021523	TO-15 SIM	1,2-Dichloroethane	0.060		0.012	0.036	UG/M3	0.060		
EPD-WA-01-021523	TO-15 SIM	1,1,1-Trichloroethane	0.036	U	0.013	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	Benzene	0.65		0.021	0.11	UG/M3	0.65		
EPD-WA-01-021523	TO-15 SIM	Carbon Tetrachloride	0.41		0.01	0.036	UG/M3	0.41		
EPD-WA-01-021523	TO-15 SIM	1,2-Dichloropropane	0.012	J	0.0087	0.036	UG/M3	0.012	J	
EPD-WA-01-021523	TO-15 SIM	Bromodichloromethane	0.036	U	0.0083	0.036	UG/M3	0.036	U	

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300681

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val	Result	Val Qual
EPD-WA-01-021523	TO-15 SIM	Trichloroethene	0.017	J	0.011	0.036	UG/M3	0.017	J	
EPD-WA-01-021523	TO-15 SIM	1,4-Dioxane	0.11	J	0.012	0.14	UG/M3	0.11	J	
EPD-WA-01-021523	TO-15 SIM	cis-1,3-Dichloropropene	0.072	U	0.01	0.072	UG/M3	0.072	U	
EPD-WA-01-021523	TO-15 SIM	trans-1,3-Dichloropropene	0.072	U	0.0069	0.072	UG/M3	0.072	U	
EPD-WA-01-021523	TO-15 SIM	1,1,2-Trichloroethane	0.14	U	0.0084	0.14	UG/M3	0.14	U	
EPD-WA-01-021523	TO-15 SIM	Toluene	1.5		0.017	0.14	UG/M3	1.5		
EPD-WA-01-021523	TO-15 SIM	Dibromochloromethane	0.036	U	0.0092	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	1,2-Dibromoethane	0.036	U	0.0096	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	Tetrachloroethene	0.27		0.012	0.036	UG/M3	0.27		
EPD-WA-01-021523	TO-15 SIM	Chlorobenzene	0.14	U	0.014	0.14	UG/M3	0.14	U	
EPD-WA-01-021523	TO-15 SIM	Ethylbenzene	0.17		0.017	0.14	UG/M3	0.17		
EPD-WA-01-021523	TO-15 SIM	m,p-Xylenes	0.63		0.034	0.14	UG/M3	0.63		
EPD-WA-01-021523	TO-15 SIM	Styrene	0.055	J	0.017	0.14	UG/M3	0.055	J	
EPD-WA-01-021523	TO-15 SIM	o-Xylene	0.22		0.019	0.14	UG/M3	0.22		
EPD-WA-01-021523	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.036	U	0.012	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	1,3,5-Trimethylbenzene	0.041	J	0.02	0.14	UG/M3	0.041	J	
EPD-WA-01-021523	TO-15 SIM	1,2,4-Trimethylbenzene	0.14	J	0.023	0.14	UG/M3	0.14	J	
EPD-WA-01-021523	TO-15 SIM	1,3-Dichlorobenzene	0.036	U	0.024	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	1,4-Dichlorobenzene	0.20		0.029	0.036	UG/M3	0.20		
EPD-WA-01-021523	TO-15 SIM	1,2-Dichlorobenzene	0.036	U	0.026	0.036	UG/M3	0.036	U	
EPD-WA-01-021523	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14	U	0.02	0.14	UG/M3	0.14	U	
EPD-WA-01-021523	TO-15 SIM	1,2,4-Trichlorobenzene	0.072	U	0.029	0.072	UG/M3	0.072	U	
EPD-WA-01-021523	TO-15 SIM	Naphthalene	0.043	J	0.031	0.14	UG/M3	0.043	J	
EPD-WA-01-021523	TO-15 SIM	Hexachlorobutadiene	0.14	U	0.019	0.14	UG/M3	0.14	U	
EPD-A-01-021523	TO-15	Propane	5.4	T			UG/M3	5.4	NJ	
EPD-A-01-021523	TO-15	2-Methylpropane	3.4	T			UG/M3	3.4	NJ	
EPD-A-01-021523	TO-15	n-Butane	3.5	T			UG/M3	3.5	NJ	
EPD-A-01-021523	TO-15	Acetone	7.4	T			UG/M3	7.4	NJ	
EPD-A-01-021523	TO-15	n-Pentane	5.7	T			UG/M3	5.7	NJ	
EPD-A-01-021523	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF	
EPD-A-01-021523	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF	
EPD-A-01-021523	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF	
EPD-A-01-021523	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.3		0.012	0.071	UG/M3	2.3		



E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300681

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val	Result	Val Qual
EPD-A-01-021523	TO-15 SIM	Chloromethane	0.29		0.037	0.071	UG/M3		0.29	
EPD-A-01-021523	TO-15 SIM	Vinyl Chloride	0.035	U	0.017	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	1,3-Butadiene	0.063	J	0.011	0.071	UG/M3		0.063	J
EPD-A-01-021523	TO-15 SIM	Bromomethane	0.027	J	0.0094	0.035	UG/M3		0.027	J
EPD-A-01-021523	TO-15 SIM	Chloroethane	0.012	J	0.011	0.035	UG/M3		0.012	J
EPD-A-01-021523	TO-15 SIM	Acrolein	0.15	J	0.049	0.28	UG/M3		0.15	J
EPD-A-01-021523	TO-15 SIM	Acetone	3.8		0.32	3.5	UG/M3		3.8	
EPD-A-01-021523	TO-15 SIM	Trichlorofluoromethane	1.2		0.011	0.071	UG/M3		1.2	
EPD-A-01-021523	TO-15 SIM	1,1-Dichloroethene	0.035	U	0.012	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.31		0.011	0.14	UG/M3		0.31	
EPD-A-01-021523	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.46		0.011	0.035	UG/M3		0.46	
EPD-A-01-021523	TO-15 SIM	trans-1,2-Dichloroethene	0.035	U	0.016	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	1,1-Dichloroethane	0.035	U	0.012	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	Methyl tert-Butyl Ether	0.035	U	0.017	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	cis-1,2-Dichloroethene	0.035	U	0.01	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	Chloroform	0.063	J	0.011	0.14	UG/M3		0.063	J
EPD-A-01-021523	TO-15 SIM	1,2-Dichloroethane	0.064		0.012	0.035	UG/M3		0.064	
EPD-A-01-021523	TO-15 SIM	1,1,1-Trichloroethane	0.035	U	0.013	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	Benzene	0.67		0.021	0.11	UG/M3		0.67	
EPD-A-01-021523	TO-15 SIM	Carbon Tetrachloride	0.43		0.01	0.035	UG/M3		0.43	
EPD-A-01-021523	TO-15 SIM	1,2-Dichloropropane	0.013	J	0.0086	0.035	UG/M3		0.013	J
EPD-A-01-021523	TO-15 SIM	Bromodichloromethane	0.035	U	0.0082	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	Trichloroethene	0.035	U	0.011	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	1,4-Dioxane	0.14	U	0.012	0.14	UG/M3		0.14	U
EPD-A-01-021523	TO-15 SIM	cis-1,3-Dichloropropene	0.071	U	0.01	0.071	UG/M3		0.071	U
EPD-A-01-021523	TO-15 SIM	trans-1,3-Dichloropropene	0.0085	J	0.0068	0.071	UG/M3		0.0085	J
EPD-A-01-021523	TO-15 SIM	1,1,2-Trichloroethane	0.14	U	0.0083	0.14	UG/M3		0.14	U
EPD-A-01-021523	TO-15 SIM	Toluene	0.68		0.017	0.14	UG/M3		0.68	
EPD-A-01-021523	TO-15 SIM	Dibromochloromethane	0.035	U	0.009	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	1,2-Dibromoethane	0.035	U	0.0094	0.035	UG/M3		0.035	U
EPD-A-01-021523	TO-15 SIM	Tetrachloroethene	0.049		0.012	0.035	UG/M3		0.049	
EPD-A-01-021523	TO-15 SIM	Chlorobenzene	0.14	U	0.014	0.14	UG/M3		0.14	U
EPD-A-01-021523	TO-15 SIM	Ethylbenzene	0.088	J	0.017	0.14	UG/M3		0.088	J

## E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY

ALS ENVIRONMENTAL REPORT NO. P2300681

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021523	TO-15 SIM	m,p-Xylenes	0.31		0.034	0.14	UG/M3	0.31	
EPD-A-01-021523	TO-15 SIM	Styrene	0.062	J	0.017	0.14	UG/M3	0.062	J
EPD-A-01-021523	TO-15 SIM	o-Xylene	0.11	J	0.018	0.14	UG/M3	0.11	J
EPD-A-01-021523	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.035	U	0.012	0.035	UG/M3	0.035	U
EPD-A-01-021523	TO-15 SIM	1,3,5-Trimethylbenzene	0.024	J	0.02	0.14	UG/M3	0.024	J
EPD-A-01-021523	TO-15 SIM	1,2,4-Trimethylbenzene	0.078	J	0.023	0.14	UG/M3	0.078	J
EPD-A-01-021523	TO-15 SIM	1,3-Dichlorobenzene	0.035	U	0.024	0.035	UG/M3	0.035	U
EPD-A-01-021523	TO-15 SIM	1,4-Dichlorobenzene	0.27		0.028	0.035	UG/M3	0.27	
EPD-A-01-021523	TO-15 SIM	1,2-Dichlorobenzene	0.035	U	0.025	0.035	UG/M3	0.035	U
EPD-A-01-021523	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14	U	0.02	0.14	UG/M3	0.14	U
EPD-A-01-021523	TO-15 SIM	1,2,4-Trichlorobenzene	0.071	U	0.028	0.071	UG/M3	0.071	U
EPD-A-01-021523	TO-15 SIM	Naphthalene	0.14	U	0.031	0.14	UG/M3	0.14	U
EPD-A-01-021523	TO-15 SIM	Hexachlorobutadiene	0.14	U	0.018	0.14	UG/M3	0.14	U

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675c		<b>Technical Reviewer (signature and date)</b>	<i>Shanna Vasser</i> 2/27/2023
<b>Data Reviewer (signature and date)</b>	<i>Daria Magini</i> February 22, 2023	<i>Sweng</i> 02/23/2023	<b>Laboratory</b>	ALS Environmental, Simi Valley, CA
<b>Laboratory Report No.</b>	P2300699		<b>Analyses</b>	
			Volatile organic compounds (VOCs) by EPA Method TO-15 in scan and selected ion monitoring (SIM) modes	
<b>Samples and Matrix</b>	Two air samples			
<b>Collection Date(s)</b>	02/16/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

Within Criteria	Exceedance/Notes
N	<p>TO-15 SIM results are reported in units of <math>\mu\text{g}/\text{m}^3</math> and ppbV in the analytical data package; however, these results were only reported in units <math>\mu\text{g}/\text{m}^3</math> in the EDD. No qualifications are required.</p> <p>The laboratory noted that both samples were collected using canisters that were batch-certified for method TO-15 scan and not TO-15 SIM. The results should be utilized accordingly.</p>

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

**Sample preservation, receipt, and holding times:**

Within Criteria	Exceedance/Notes
N	The ending field-measured canister pressure listed on the chain-of-custody (COC) form for EPD-WA-01-021623 is 0” Hg(zero vacuum pressure) and for EPD-A-01-021623 is (-2.5” Hg)(slight vacuum pressure), while the canister pressure measured by the laboratory upon receipt is 0.58 psig (1.2” Hg) for EPD-WA-01-021623(slight positive pressure) and 0.16 psig (0.33” Hg) for EPD-A-01-021623 (slight positive pressure). These pressure discrepancies suggest that either one or more of the pressure gauges used were inaccurate or there is the possibility of canister leaks. Typically, the field gauges tend to be less accurate than lab gauges. If it is assumed that the field gauges were less accurate than the laboratory gauges, then the pressure data collected by the laboratory upon canister receipt suggests that the canisters may have filled more quickly than intended and may have filled up before the end of the intended sampling period. Because it cannot be known when during the sampling period the canisters filled completely, the samples may not be representative of the matrix conditions over the entire sampling period, and the analytical results for the samples should be used with this in mind. If both gauges were measuring pressure accurately, the data suggests the possibility that the canisters had leaks that allowed them to fill up to atmospheric pressure between the end of the sampling event and the time the canisters arrived at the lab. Such leaks could have contaminated, or in the least, diluted the samples with air unintended for sampling. Under either of these circumstances, these sample results should be used with caution because the results may not be representative of sampling conditions over the intended sampling period.

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
NA	

**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
NA	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
Y	Canister dilution factor for EPD-WA-01-021623 is 1.22. Canister dilution factor for EPD-A-01-021623 is 1.27.

**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	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
Y	Several tentatively identified compounds (TICs) were detected in both samples. The known TICs were qualified as tentatively identified (flagged NJ). The unknown TICs were qualified as estimated (flagged J). 2-butoxyethanol and 2-ethylhexyl acrylate in both samples and butyl ester-2-propenoic acid in EPD-A-01-021623 were reported as not detected and qualified as manually searched for, but not found in the sample (flagged U, NF).

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.
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  
ALS ENVIRONMENTAL REPORT NO. P2300699

Sample ID	Method	Analyte	Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021623	TO-15	Propane	2.4	T			UG/M3	2.4	NJ
EPD-WA-01-021623	TO-15	2-Methylpropane	17	T			UG/M3	17	NJ
EPD-WA-01-021623	TO-15	Vinyl Chloride	3.7	T			UG/M3	3.7	NJ
EPD-WA-01-021623	TO-15	n-Butane	47	T			UG/M3	47	NJ
EPD-WA-01-021623	TO-15	Ethanol	3.5	T			UG/M3	3.5	NJ
EPD-WA-01-021623	TO-15	2-Methylbutane	26	T			UG/M3	26	NJ
EPD-WA-01-021623	TO-15	n-Pentane	8.0	T			UG/M3	8.0	NJ
EPD-WA-01-021623	TO-15	2-Methylpentane	3.6	T			UG/M3	3.6	NJ
EPD-WA-01-021623	TO-15	BUTYL ESTER-2-PROPENOIC ACID	6.4	T			UG/M3	6.4	NJ
EPD-WA-01-021623	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021623	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021623	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.3		0.01	0.061	UG/M3	2.3	
EPD-WA-01-021623	TO-15 SIM	Chloromethane	0.37		0.032	0.061	UG/M3	0.37	
EPD-WA-01-021623	TO-15 SIM	Vinyl Chloride	7.7		0.015	0.031	UG/M3	7.7	
EPD-WA-01-021623	TO-15 SIM	1,3-Butadiene	0.13		0.0096	0.061	UG/M3	0.13	
EPD-WA-01-021623	TO-15 SIM	Bromomethane	0.064		0.0082	0.031	UG/M3	0.064	
EPD-WA-01-021623	TO-15 SIM	Chloroethane	0.052		0.0095	0.031	UG/M3	0.052	
EPD-WA-01-021623	TO-15 SIM	Acrolein	0.43		0.043	0.24	UG/M3	0.43	
EPD-WA-01-021623	TO-15 SIM	Acetone	7.4		0.28	3.1	UG/M3	7.4	
EPD-WA-01-021623	TO-15 SIM	Trichlorofluoromethane	1.1		0.0099	0.061	UG/M3	1.1	
EPD-WA-01-021623	TO-15 SIM	1,1-Dichloroethene	0.031	U	0.011	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.25		0.0095	0.12	UG/M3	0.25	
EPD-WA-01-021623	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.44		0.0099	0.031	UG/M3	0.44	
EPD-WA-01-021623	TO-15 SIM	trans-1,2-Dichloroethene	0.031	U	0.013	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	1,1-Dichloroethane	0.031	U	0.01	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	Methyl tert-Butyl Ether	0.031	U	0.015	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	cis-1,2-Dichloroethene	0.031	U	0.0088	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	Chloroform	0.058	J	0.0098	0.12	UG/M3	0.058	J
EPD-WA-01-021623	TO-15 SIM	1,2-Dichloroethane	0.060		0.01	0.031	UG/M3	0.060	
EPD-WA-01-021623	TO-15 SIM	1,1,1-Trichloroethane	0.031	U	0.011	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	Benzene	1.1		0.018	0.092	UG/M3	1.1	
EPD-WA-01-021623	TO-15 SIM	Carbon Tetrachloride	0.40		0.0087	0.031	UG/M3	0.40	
EPD-WA-01-021623	TO-15 SIM	1,2-Dichloropropane	0.011	J	0.0074	0.031	UG/M3	0.011	J



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Sample ID	Method	Analyte	Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021623	TO-15 SIM	Bromodichloromethane	0.031	U	0.0071	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	Trichloroethene	0.031	U	0.0094	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	1,4-Dioxane	0.57		0.011	0.12	UG/M3	0.57	
EPD-WA-01-021623	TO-15 SIM	cis-1,3-Dichloropropene	0.061	U	0.0087	0.061	UG/M3	0.061	U
EPD-WA-01-021623	TO-15 SIM	trans-1,3-Dichloropropene	0.061	U	0.0059	0.061	UG/M3	0.061	U
EPD-WA-01-021623	TO-15 SIM	1,1,2-Trichloroethane	0.12	U	0.0072	0.12	UG/M3	0.12	U
EPD-WA-01-021623	TO-15 SIM	Toluene	1.6		0.015	0.12	UG/M3	1.6	
EPD-WA-01-021623	TO-15 SIM	Dibromochloromethane	0.031	U	0.0078	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	1,2-Dibromoethane	0.031	U	0.0082	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	Tetrachloroethene	0.044		0.01	0.031	UG/M3	0.044	
EPD-WA-01-021623	TO-15 SIM	Chlorobenzene	0.012	J	0.012	0.12	UG/M3	0.012	J
EPD-WA-01-021623	TO-15 SIM	Ethylbenzene	0.22		0.015	0.12	UG/M3	0.22	
EPD-WA-01-021623	TO-15 SIM	m,p-Xylenes	0.90		0.029	0.12	UG/M3	0.90	
EPD-WA-01-021623	TO-15 SIM	Styrene	0.057	J	0.015	0.12	UG/M3	0.057	J
EPD-WA-01-021623	TO-15 SIM	o-Xylene	0.30		0.016	0.12	UG/M3	0.30	
EPD-WA-01-021623	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.031	U	0.011	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	1,3,5-Trimethylbenzene	0.094	J	0.017	0.12	UG/M3	0.094	J
EPD-WA-01-021623	TO-15 SIM	1,2,4-Trimethylbenzene	0.30		0.02	0.12	UG/M3	0.30	
EPD-WA-01-021623	TO-15 SIM	1,3-Dichlorobenzene	0.031	U	0.021	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	1,4-Dichlorobenzene	0.34		0.024	0.031	UG/M3	0.34	
EPD-WA-01-021623	TO-15 SIM	1,2-Dichlorobenzene	0.031	U	0.022	0.031	UG/M3	0.031	U
EPD-WA-01-021623	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.12	U	0.017	0.12	UG/M3	0.12	U
EPD-WA-01-021623	TO-15 SIM	1,2,4-Trichlorobenzene	0.061	U	0.024	0.061	UG/M3	0.061	U
EPD-WA-01-021623	TO-15 SIM	Naphthalene	0.073	J	0.027	0.12	UG/M3	0.073	J
EPD-WA-01-021623	TO-15 SIM	Hexachlorobutadiene	0.12	U	0.016	0.12	UG/M3	0.12	U
EPD-A-01-021623	TO-15	Propane	3.3	T			UG/M3	3.3	NJ
EPD-A-01-021623	TO-15	Dimethyl Ether	2.5	T			UG/M3	2.5	NJ
EPD-A-01-021623	TO-15	2-Methylpropane	2.6	T			UG/M3	2.6	NJ
EPD-A-01-021623	TO-15	n-Butane	4.8	T			UG/M3	4.8	NJ
EPD-A-01-021623	TO-15	Ethanol	8.9	T			UG/M3	8.9	NJ
EPD-A-01-021623	TO-15	Acetone	9.3	T			UG/M3	9.3	NJ
EPD-A-01-021623	TO-15	Unknown Siloxane	2.6	T			UG/M3	2.6	J
EPD-A-01-021623	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF

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Sample ID	Method	Analyte	Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021623	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021623	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021623	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.3		0.011	0.064	UG/M3	2.3	
EPD-A-01-021623	TO-15 SIM	Chloromethane	0.31		0.033	0.064	UG/M3	0.31	
EPD-A-01-021623	TO-15 SIM	Vinyl Chloride	0.48		0.015	0.032	UG/M3	0.48	
EPD-A-01-021623	TO-15 SIM	1,3-Butadiene	0.051	J	0.01	0.064	UG/M3	0.051	J
EPD-A-01-021623	TO-15 SIM	Bromomethane	0.028	J	0.0085	0.032	UG/M3	0.028	J
EPD-A-01-021623	TO-15 SIM	Chloroethane	0.015	J	0.0099	0.032	UG/M3	0.015	J
EPD-A-01-021623	TO-15 SIM	Acrolein	0.26		0.044	0.25	UG/M3	0.26	
EPD-A-01-021623	TO-15 SIM	Acetone	6.2		0.29	3.2	UG/M3	6.2	
EPD-A-01-021623	TO-15 SIM	Trichlorofluoromethane	1.1		0.01	0.064	UG/M3	1.1	
EPD-A-01-021623	TO-15 SIM	1,1-Dichloroethene	0.032	U	0.011	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.27		0.0099	0.13	UG/M3	0.27	
EPD-A-01-021623	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.44		0.01	0.032	UG/M3	0.44	
EPD-A-01-021623	TO-15 SIM	trans-1,2-Dichloroethene	0.032	U	0.014	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	1,1-Dichloroethane	0.032	U	0.01	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	Methyl tert-Butyl Ether	0.032	U	0.015	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	cis-1,2-Dichloroethene	0.032	U	0.0091	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	Chloroform	0.066	J	0.01	0.13	UG/M3	0.066	J
EPD-A-01-021623	TO-15 SIM	1,2-Dichloroethane	0.061		0.011	0.032	UG/M3	0.061	
EPD-A-01-021623	TO-15 SIM	1,1,1-Trichloroethane	0.032	U	0.011	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	Benzene	0.67		0.019	0.095	UG/M3	0.67	
EPD-A-01-021623	TO-15 SIM	Carbon Tetrachloride	0.42		0.009	0.032	UG/M3	0.42	
EPD-A-01-021623	TO-15 SIM	1,2-Dichloropropane	0.0096	J	0.0077	0.032	UG/M3	0.0096	J
EPD-A-01-021623	TO-15 SIM	Bromodichloromethane	0.032	U	0.0074	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	Trichloroethene	0.034		0.0098	0.032	UG/M3	0.034	
EPD-A-01-021623	TO-15 SIM	1,4-Dioxane	0.12	J	0.011	0.13	UG/M3	0.12	J
EPD-A-01-021623	TO-15 SIM	cis-1,3-Dichloropropene	0.064	U	0.009	0.064	UG/M3	0.064	U
EPD-A-01-021623	TO-15 SIM	trans-1,3-Dichloropropene	0.064	U	0.0061	0.064	UG/M3	0.064	U
EPD-A-01-021623	TO-15 SIM	1,1,2-Trichloroethane	0.13	U	0.0075	0.13	UG/M3	0.13	U
EPD-A-01-021623	TO-15 SIM	Toluene	1.2		0.015	0.13	UG/M3	1.2	
EPD-A-01-021623	TO-15 SIM	Dibromochloromethane	0.032	U	0.0081	0.032	UG/M3	0.032	U
EPD-A-01-021623	TO-15 SIM	1,2-Dibromoethane	0.032	U	0.0085	0.032	UG/M3	0.032	U

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Sample ID	Method	Analyte	Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021623	TO-15 SIM	Tetrachloroethene	0.17		0.011	0.032	UG/M3	0.17	
EPD-A-01-021623	TO-15 SIM	Chlorobenzene	0.13 U		0.012	0.13	UG/M3	0.13 U	
EPD-A-01-021623	TO-15 SIM	Ethylbenzene	0.20		0.015	0.13	UG/M3	0.20	
EPD-A-01-021623	TO-15 SIM	m,p-Xylenes	0.92		0.03	0.13	UG/M3	0.92	
EPD-A-01-021623	TO-15 SIM	Styrene	0.045 J		0.015	0.13	UG/M3	0.045 J	
EPD-A-01-021623	TO-15 SIM	o-Xylene	0.31		0.017	0.13	UG/M3	0.31	
EPD-A-01-021623	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.032 U		0.011	0.032	UG/M3	0.032 U	
EPD-A-01-021623	TO-15 SIM	1,3,5-Trimethylbenzene	0.11 J		0.018	0.13	UG/M3	0.11 J	
EPD-A-01-021623	TO-15 SIM	1,2,4-Trimethylbenzene	0.38		0.02	0.13	UG/M3	0.38	
EPD-A-01-021623	TO-15 SIM	1,3-Dichlorobenzene	0.032 U		0.022	0.032	UG/M3	0.032 U	
EPD-A-01-021623	TO-15 SIM	1,4-Dichlorobenzene	1.5		0.025	0.032	UG/M3	1.5	
EPD-A-01-021623	TO-15 SIM	1,2-Dichlorobenzene	0.032 U		0.023	0.032	UG/M3	0.032 U	
EPD-A-01-021623	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.13 U		0.018	0.13	UG/M3	0.13 U	
EPD-A-01-021623	TO-15 SIM	1,2,4-Trichlorobenzene	0.064 U		0.025	0.064	UG/M3	0.064 U	
EPD-A-01-021623	TO-15 SIM	Naphthalene	0.065 J		0.028	0.13	UG/M3	0.065 J	
EPD-A-01-021623	TO-15 SIM	Hexachlorobutadiene	0.13 U		0.017	0.13	UG/M3	0.13 U	

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675d		<b>Technical Reviewer (signature and date)</b>	<i>Shannon Vasser</i> 2/28/2023
<b>Data Reviewer (signature and date)</b>	<i>Denise Magini</i> February 22, 2023	<i>Sweng</i> 02/24/2023	<b>Laboratory</b>	ALS Environmental, Simi Valley, CA
<b>Laboratory Report No.</b>	P2300719		<b>Analyses</b>	
<b>Analyses</b>	Volatile organic compounds (VOCs) by EPA Method TO-15 in scan and selected ion monitoring (SIM) modes			
<b>Samples and Matrix</b>	Two air samples			
<b>Collection Date(s)</b>	02/17/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	TO-15 SIM results are reported in units of $\mu\text{g}/\text{m}^3$ and ppbV in the analytical data package; however, these results were only reported in units $\mu\text{g}/\text{m}^3$ in the EDD. No qualifications are required.

**Sample preservation, receipt, and holding times:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

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

**Method blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**Field blanks:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Surrogates and labeled compounds:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**MS/MSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Laboratory duplicates:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**Field duplicates:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

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

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
Y	Canister dilution factor for EPD-A-01-021723 is 1.34 and canister dilution factor for EPD-WA-01-021723 is 1.31.

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
Y	Several tentatively identified compounds (TICs) were detected in both samples. The known TICs were qualified as tentatively identified (flagged NJ). 2-Butoxyethanol and 2-ethylhexyl acrylate in both samples and butyl ester-2-propenoic acid in EPD-A-01-021723 were reported as not detected and qualified as manually searched for, but not found in the sample (flagged U, NF).

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.
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  
ALS ENVIRONMENTAL REPORT NO. P2300719

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val	Result	Val Qual
EPD-A-01-021723	TO-15	Propane	6.7	T			UG/M3	6.7	NJ	
EPD-A-01-021723	TO-15	2-Methylpropane	3.8	T			UG/M3	3.8	NJ	
EPD-A-01-021723	TO-15	n-Butane	3.6	T			UG/M3	3.6	NJ	
EPD-A-01-021723	TO-15	Acetone	6.0	T			UG/M3	6.0	NJ	
EPD-A-01-021723	TO-15	n-Pentane	5.2	T			UG/M3	5.2	NJ	
EPD-A-01-021723	TO-15	Dichloromethane (Methylene Chloride)	15	T			UG/M3	15	NJ	
EPD-A-01-021723	TO-15	Ethyl Acetate	7.9	T			UG/M3	7.9	NJ	
EPD-A-01-021723	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF	
EPD-A-01-021723	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF	
EPD-A-01-021723	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF	
EPD-A-01-021723	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.3		0.011	0.067	UG/M3	2.3		
EPD-A-01-021723	TO-15 SIM	Chloromethane	0.29		0.035	0.067	UG/M3	0.29		
EPD-A-01-021723	TO-15 SIM	Vinyl Chloride	0.034	U	0.016	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,3-Butadiene	0.015	J	0.011	0.067	UG/M3	0.015	J	
EPD-A-01-021723	TO-15 SIM	Bromomethane	0.025	J	0.009	0.034	UG/M3	0.025	J	
EPD-A-01-021723	TO-15 SIM	Chloroethane	0.015	J	0.01	0.034	UG/M3	0.015	J	
EPD-A-01-021723	TO-15 SIM	Acrolein	0.17	J	0.047	0.27	UG/M3	0.17	J	
EPD-A-01-021723	TO-15 SIM	Acetone	3.1	J	0.31	3.4	UG/M3	3.1	J	
EPD-A-01-021723	TO-15 SIM	Trichlorofluoromethane	1.1		0.011	0.067	UG/M3	1.1		
EPD-A-01-021723	TO-15 SIM	1,1-Dichloroethene	0.034	U	0.012	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	Dichloromethane (Methylene Chloride)	16		0.01	0.13	UG/M3	16		
EPD-A-01-021723	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.43		0.011	0.034	UG/M3	0.43		
EPD-A-01-021723	TO-15 SIM	trans-1,2-Dichloroethene	0.034	U	0.015	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,1-Dichloroethane	0.034	U	0.011	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	Methyl tert-Butyl Ether	0.034	U	0.016	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	cis-1,2-Dichloroethene	0.034	U	0.0096	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	Chloroform	0.060	J	0.011	0.13	UG/M3	0.060	J	
EPD-A-01-021723	TO-15 SIM	1,2-Dichloroethane	0.054		0.011	0.034	UG/M3	0.054		
EPD-A-01-021723	TO-15 SIM	1,1,1-Trichloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	Benzene	0.40		0.02	0.1	UG/M3	0.40		
EPD-A-01-021723	TO-15 SIM	Carbon Tetrachloride	0.41		0.0095	0.034	UG/M3	0.41		
EPD-A-01-021723	TO-15 SIM	1,2-Dichloropropane	0.012	J	0.0082	0.034	UG/M3	0.012	J	
EPD-A-01-021723	TO-15 SIM	Bromodichloromethane	0.034	U	0.0078	0.034	UG/M3	0.034	U	



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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val	Result	Val Qual
EPD-A-01-021723	TO-15 SIM	Trichloroethene	0.034	U	0.01	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,4-Dioxane	0.13	U	0.012	0.13	UG/M3	0.13	U	
EPD-A-01-021723	TO-15 SIM	cis-1,3-Dichloropropene	0.067	U	0.0095	0.067	UG/M3	0.067	U	
EPD-A-01-021723	TO-15 SIM	trans-1,3-Dichloropropene	0.067	U	0.0064	0.067	UG/M3	0.067	U	
EPD-A-01-021723	TO-15 SIM	1,1,2-Trichloroethane	0.13	U	0.0079	0.13	UG/M3	0.13	U	
EPD-A-01-021723	TO-15 SIM	Toluene	1.1		0.016	0.13	UG/M3	1.1		
EPD-A-01-021723	TO-15 SIM	Dibromochloromethane	0.034	U	0.0086	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,2-Dibromoethane	0.034	U	0.009	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	Tetrachloroethene	0.041		0.012	0.034	UG/M3	0.041		
EPD-A-01-021723	TO-15 SIM	Chlorobenzene	0.13	U	0.013	0.13	UG/M3	0.13	U	
EPD-A-01-021723	TO-15 SIM	Ethylbenzene	0.079	J	0.016	0.13	UG/M3	0.079	J	
EPD-A-01-021723	TO-15 SIM	m,p-Xylenes	0.29		0.032	0.13	UG/M3	0.29		
EPD-A-01-021723	TO-15 SIM	Styrene	0.018	J	0.016	0.13	UG/M3	0.018	J	
EPD-A-01-021723	TO-15 SIM	o-Xylene	0.11	J	0.017	0.13	UG/M3	0.11	J	
EPD-A-01-021723	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,3,5-Trimethylbenzene	0.13	U	0.019	0.13	UG/M3	0.13	U	
EPD-A-01-021723	TO-15 SIM	1,2,4-Trimethylbenzene	0.038	J	0.021	0.13	UG/M3	0.038	J	
EPD-A-01-021723	TO-15 SIM	1,3-Dichlorobenzene	0.034	U	0.023	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,4-Dichlorobenzene	0.034	U	0.027	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,2-Dichlorobenzene	0.034	U	0.024	0.034	UG/M3	0.034	U	
EPD-A-01-021723	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.13	U	0.019	0.13	UG/M3	0.13	U	
EPD-A-01-021723	TO-15 SIM	1,2,4-Trichlorobenzene	0.067	U	0.027	0.067	UG/M3	0.067	U	
EPD-A-01-021723	TO-15 SIM	Naphthalene	0.13	U	0.029	0.13	UG/M3	0.13	U	
EPD-A-01-021723	TO-15 SIM	Hexachlorobutadiene	0.13	U	0.017	0.13	UG/M3	0.13	U	
EPD-WA-01-021723	TO-15	Propane	4.8	T			UG/M3	4.8	NJ	
EPD-WA-01-021723	TO-15	2-Methylpropane	3.6	T			UG/M3	3.6	NJ	
EPD-WA-01-021723	TO-15	n-Butane	5.5	T			UG/M3	5.5	NJ	
EPD-WA-01-021723	TO-15	2-Methylbutane	6.6	T			UG/M3	6.6	NJ	
EPD-WA-01-021723	TO-15	n-Pentane	11	T			UG/M3	11	NJ	
EPD-WA-01-021723	TO-15	Dichloromethane (Methylene Chloride)	24	T			UG/M3	24	NJ	
EPD-WA-01-021723	TO-15	Ethyl Acetate	13	T			UG/M3	13	NJ	
EPD-WA-01-021723	TO-15	BUTYL ESTER-2-PROPENOIC ACID	1.7	T			UG/M3	1.7	NJ	
EPD-WA-01-021723	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF	


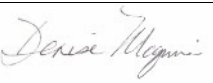
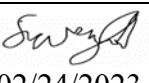
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val	Result	Val Qual
EPD-WA-01-021723	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF	
EPD-WA-01-021723	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.4		0.011	0.066	UG/M3	2.4		
EPD-WA-01-021723	TO-15 SIM	Chloromethane	0.30		0.034	0.066	UG/M3	0.30		
EPD-WA-01-021723	TO-15 SIM	Vinyl Chloride	1.0		0.016	0.033	UG/M3	1.0		
EPD-WA-01-021723	TO-15 SIM	1,3-Butadiene	0.042	J	0.01	0.066	UG/M3	0.042	J	
EPD-WA-01-021723	TO-15 SIM	Bromomethane	0.030	J	0.0088	0.033	UG/M3	0.030	J	
EPD-WA-01-021723	TO-15 SIM	Chloroethane	0.014	J	0.01	0.033	UG/M3	0.014	J	
EPD-WA-01-021723	TO-15 SIM	Acrolein	0.18	J	0.046	0.26	UG/M3	0.18	J	
EPD-WA-01-021723	TO-15 SIM	Acetone	3.2	J	0.3	3.3	UG/M3	3.2	J	
EPD-WA-01-021723	TO-15 SIM	Trichlorofluoromethane	1.1		0.011	0.066	UG/M3	1.1		
EPD-WA-01-021723	TO-15 SIM	1,1-Dichloroethene	0.033	U	0.012	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	Dichloromethane (Methylene Chloride)	23		0.01	0.13	UG/M3	23		
EPD-WA-01-021723	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.46		0.011	0.033	UG/M3	0.46		
EPD-WA-01-021723	TO-15 SIM	trans-1,2-Dichloroethene	0.033	U	0.014	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	1,1-Dichloroethane	0.033	U	0.011	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	Methyl tert-Butyl Ether	0.033	U	0.016	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	cis-1,2-Dichloroethene	0.033	U	0.0094	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	Chloroform	0.062	J	0.01	0.13	UG/M3	0.062	J	
EPD-WA-01-021723	TO-15 SIM	1,2-Dichloroethane	0.060		0.011	0.033	UG/M3	0.060		
EPD-WA-01-021723	TO-15 SIM	1,1,1-Trichloroethane	0.033	U	0.012	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	Benzene	0.58		0.02	0.098	UG/M3	0.58		
EPD-WA-01-021723	TO-15 SIM	Carbon Tetrachloride	0.43		0.0093	0.033	UG/M3	0.43		
EPD-WA-01-021723	TO-15 SIM	1,2-Dichloropropane	0.014	J	0.008	0.033	UG/M3	0.014	J	
EPD-WA-01-021723	TO-15 SIM	Bromodichloromethane	0.033	U	0.0076	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	Trichloroethene	0.033	U	0.01	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	1,4-Dioxane	0.13	U	0.011	0.13	UG/M3	0.13	U	
EPD-WA-01-021723	TO-15 SIM	cis-1,3-Dichloropropene	0.066	U	0.0093	0.066	UG/M3	0.066	U	
EPD-WA-01-021723	TO-15 SIM	trans-1,3-Dichloropropene	0.066	U	0.0063	0.066	UG/M3	0.066	U	
EPD-WA-01-021723	TO-15 SIM	1,1,2-Trichloroethane	0.13	U	0.0077	0.13	UG/M3	0.13	U	
EPD-WA-01-021723	TO-15 SIM	Toluene	1.9		0.016	0.13	UG/M3	1.9		
EPD-WA-01-021723	TO-15 SIM	Dibromochloromethane	0.033	U	0.0084	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	1,2-Dibromoethane	0.033	U	0.0088	0.033	UG/M3	0.033	U	
EPD-WA-01-021723	TO-15 SIM	Tetrachloroethene	0.046		0.011	0.033	UG/M3	0.046		

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ALS ENVIRONMENTAL REPORT NO. P2300719

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021723	TO-15 SIM	Chlorobenzene	0.13	U	0.013	0.13	UG/M3	0.13	U
EPD-WA-01-021723	TO-15 SIM	Ethylbenzene	0.12	J	0.016	0.13	UG/M3	0.12	J
EPD-WA-01-021723	TO-15 SIM	m,p-Xylenes	0.43		0.031	0.13	UG/M3	0.43	
EPD-WA-01-021723	TO-15 SIM	Styrene	0.074	J	0.016	0.13	UG/M3	0.074	J
EPD-WA-01-021723	TO-15 SIM	o-Xylene	0.16		0.017	0.13	UG/M3	0.16	
EPD-WA-01-021723	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.033	U	0.011	0.033	UG/M3	0.033	U
EPD-WA-01-021723	TO-15 SIM	1,3,5-Trimethylbenzene	0.038	J	0.018	0.13	UG/M3	0.038	J
EPD-WA-01-021723	TO-15 SIM	1,2,4-Trimethylbenzene	0.14		0.021	0.13	UG/M3	0.14	
EPD-WA-01-021723	TO-15 SIM	1,3-Dichlorobenzene	0.033	U	0.022	0.033	UG/M3	0.033	U
EPD-WA-01-021723	TO-15 SIM	1,4-Dichlorobenzene	0.033	U	0.026	0.033	UG/M3	0.033	U
EPD-WA-01-021723	TO-15 SIM	1,2-Dichlorobenzene	0.033	U	0.024	0.033	UG/M3	0.033	U
EPD-WA-01-021723	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.13	U	0.018	0.13	UG/M3	0.13	U
EPD-WA-01-021723	TO-15 SIM	1,2,4-Trichlorobenzene	0.066	U	0.026	0.066	UG/M3	0.066	U
EPD-WA-01-021723	TO-15 SIM	Naphthalene	0.15		0.029	0.13	UG/M3	0.15	
EPD-WA-01-021723	TO-15 SIM	Hexachlorobutadiene	0.13	U	0.017	0.13	UG/M3	0.13	U

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675e		<b>Technical Reviewer (signature and date)</b>	 2/28/2023
<b>Data Reviewer (signature and date)</b>	 February 23, 2023	 02/24/2023	<b>Laboratory</b>	ALS Environmental, Semi Valley, CA
<b>Laboratory Report No.</b>	P2300720			
<b>Analyses</b>	Volatile organic compounds (VOCs) by EPA Method TO-15 scan and selected ion monitoring (SIM) modes			
<b>Samples and Matrix</b>	Two air samples			
<b>Collection Date(s)</b>	02/18/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	TO-15 SIM results are reported in units of $\mu\text{g}/\text{m}^3$ and ppbV in the analytical data package; however, these results were only reported in units $\mu\text{g}/\text{m}^3$ in the EDD. No qualifications are required.

**Sample preservation, receipt, and holding times:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

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

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
NA	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
Y	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A  
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**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**Sample dilutions:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Canister dilution factor for EPD-A-01-021823 is 1.34 and canister dilution factor for EPD-WA-01-021823 is 1.33

**Re-extraction and reanalysis:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**MDLs/RLs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

**Tentatively identified compounds:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Several tentatively identified compounds (TICs) were detected in both samples. The known TICs were qualified as tentatively identified (flagged NJ). 2-Butoxyethanol, 2-ethylhexyl acrylate, and butyl ester-2-propenoic acid in both samples were reported as not detected and qualified as manually searched for, but not found in the sample (flagged U, NF).

**Other [None]:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
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  
ALS ENVIRONMENTAL REPORT NO. P2300720

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021823	TO-15	Propane	2.5	T			UG/M3	2.5	NJ
EPD-A-01-021823	TO-15	Ethyl Acetate	4.2	T			UG/M3	4.2	NJ
EPD-A-01-021823	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021823	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021823	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021823	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.5		0.011	0.067	UG/M3	2.5	
EPD-A-01-021823	TO-15 SIM	Chloromethane	0.32		0.035	0.067	UG/M3	0.32	
EPD-A-01-021823	TO-15 SIM	Vinyl Chloride	0.033	U	0.016	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,3-Butadiene	0.067	U	0.011	0.067	UG/M3	0.067	U
EPD-A-01-021823	TO-15 SIM	Bromomethane	0.027	J	0.0089	0.033	UG/M3	0.027	J
EPD-A-01-021823	TO-15 SIM	Chloroethane	0.033	U	0.01	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Acrolein	0.065	J	0.047	0.27	UG/M3	0.065	J
EPD-A-01-021823	TO-15 SIM	Acetone	1.7	J	0.31	3.3	UG/M3	1.7	J
EPD-A-01-021823	TO-15 SIM	Trichlorofluoromethane	1.2		0.011	0.067	UG/M3	1.2	
EPD-A-01-021823	TO-15 SIM	1,1-Dichloroethene	0.033	U	0.012	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.48		0.01	0.13	UG/M3	0.48	
EPD-A-01-021823	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.46		0.011	0.033	UG/M3	0.46	
EPD-A-01-021823	TO-15 SIM	trans-1,2-Dichloroethene	0.033	U	0.015	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,1-Dichloroethane	0.033	U	0.011	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Methyl tert-Butyl Ether	0.033	U	0.016	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	cis-1,2-Dichloroethene	0.033	U	0.0096	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Chloroform	0.064	J	0.011	0.13	UG/M3	0.064	J
EPD-A-01-021823	TO-15 SIM	1,2-Dichloroethane	0.063		0.011	0.033	UG/M3	0.063	
EPD-A-01-021823	TO-15 SIM	1,1,1-Trichloroethane	0.033	U	0.012	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Benzene	0.50		0.02	0.1	UG/M3	0.50	
EPD-A-01-021823	TO-15 SIM	Carbon Tetrachloride	0.45		0.0094	0.033	UG/M3	0.45	
EPD-A-01-021823	TO-15 SIM	1,2-Dichloropropane	0.015	J	0.0081	0.033	UG/M3	0.015	J
EPD-A-01-021823	TO-15 SIM	Bromodichloromethane	0.033	U	0.0077	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Trichloroethene	0.033	U	0.01	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,4-Dioxane	0.13	U	0.012	0.13	UG/M3	0.13	U
EPD-A-01-021823	TO-15 SIM	cis-1,3-Dichloropropene	0.067	U	0.0094	0.067	UG/M3	0.067	U
EPD-A-01-021823	TO-15 SIM	trans-1,3-Dichloropropene	0.067	U	0.0064	0.067	UG/M3	0.067	U
EPD-A-01-021823	TO-15 SIM	1,1,2-Trichloroethane	0.13	U	0.0078	0.13	UG/M3	0.13	U



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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021823	TO-15 SIM	Toluene	0.27		0.016	0.13	UG/M3	0.27	
EPD-A-01-021823	TO-15 SIM	Dibromochloromethane	0.033	U	0.0085	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,2-Dibromoethane	0.033	U	0.0089	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	Tetrachloroethene	0.025	J	0.011	0.033	UG/M3	0.025	J
EPD-A-01-021823	TO-15 SIM	Chlorobenzene	0.13	U	0.013	0.13	UG/M3	0.13	U
EPD-A-01-021823	TO-15 SIM	Ethylbenzene	0.029	J	0.016	0.13	UG/M3	0.029	J
EPD-A-01-021823	TO-15 SIM	m,p-Xylenes	0.088	J	0.032	0.13	UG/M3	0.088	J
EPD-A-01-021823	TO-15 SIM	Styrene	0.021	J	0.016	0.13	UG/M3	0.021	J
EPD-A-01-021823	TO-15 SIM	o-Xylene	0.035	J	0.017	0.13	UG/M3	0.035	J
EPD-A-01-021823	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.033	U	0.012	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,3,5-Trimethylbenzene	0.13	U	0.019	0.13	UG/M3	0.13	U
EPD-A-01-021823	TO-15 SIM	1,2,4-Trimethylbenzene	0.033	J	0.021	0.13	UG/M3	0.033	J
EPD-A-01-021823	TO-15 SIM	1,3-Dichlorobenzene	0.033	U	0.023	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,4-Dichlorobenzene	0.20		0.027	0.033	UG/M3	0.20	
EPD-A-01-021823	TO-15 SIM	1,2-Dichlorobenzene	0.033	U	0.024	0.033	UG/M3	0.033	U
EPD-A-01-021823	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.13	U	0.019	0.13	UG/M3	0.13	U
EPD-A-01-021823	TO-15 SIM	1,2,4-Trichlorobenzene	0.067	U	0.027	0.067	UG/M3	0.067	U
EPD-A-01-021823	TO-15 SIM	Naphthalene	0.13	U	0.029	0.13	UG/M3	0.13	U
EPD-A-01-021823	TO-15 SIM	Hexachlorobutadiene	0.13	U	0.017	0.13	UG/M3	0.13	U
EPD-WA-01-021823	TO-15	Propane	3.1	T			UG/M3	3.1	NJ
EPD-WA-01-021823	TO-15	Acetone	4.6	T			UG/M3	4.6	NJ
EPD-WA-01-021823	TO-15	Ethyl Acetate	41	T			UG/M3	41	NJ
EPD-WA-01-021823	TO-15	1-Butanol	2.6	T			UG/M3	2.6	NJ
EPD-WA-01-021823	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021823	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021823	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021823	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.4		0.011	0.067	UG/M3	2.4	
EPD-WA-01-021823	TO-15 SIM	Chloromethane	0.35		0.035	0.067	UG/M3	0.35	
EPD-WA-01-021823	TO-15 SIM	Vinyl Chloride	1.2		0.016	0.034	UG/M3	1.2	
EPD-WA-01-021823	TO-15 SIM	1,3-Butadiene	0.025	J	0.011	0.067	UG/M3	0.025	J
EPD-WA-01-021823	TO-15 SIM	Bromomethane	0.027	J	0.009	0.034	UG/M3	0.027	J
EPD-WA-01-021823	TO-15 SIM	Chloroethane	0.013	J	0.01	0.034	UG/M3	0.013	J
EPD-WA-01-021823	TO-15 SIM	Acrolein	0.13	J	0.047	0.27	UG/M3	0.13	J


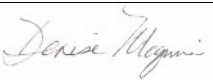
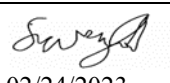
E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300720

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021823	TO-15 SIM	Acetone	3.7		0.31	3.4	UG/M3	3.7	
EPD-WA-01-021823	TO-15 SIM	Trichlorofluoromethane	1.2		0.011	0.067	UG/M3	1.2	
EPD-WA-01-021823	TO-15 SIM	1,1-Dichloroethene	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.64		0.01	0.13	UG/M3	0.64	
EPD-WA-01-021823	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.45		0.011	0.034	UG/M3	0.45	
EPD-WA-01-021823	TO-15 SIM	trans-1,2-Dichloroethene	0.034	U	0.015	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	1,1-Dichloroethane	0.034	U	0.011	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	Methyl tert-Butyl Ether	0.034	U	0.016	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	cis-1,2-Dichloroethene	0.034	U	0.0096	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	Chloroform	0.065	J	0.011	0.13	UG/M3	0.065	J
EPD-WA-01-021823	TO-15 SIM	1,2-Dichloroethane	0.062		0.011	0.034	UG/M3	0.062	
EPD-WA-01-021823	TO-15 SIM	1,1,1-Trichloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	Benzene	0.56		0.02	0.1	UG/M3	0.56	
EPD-WA-01-021823	TO-15 SIM	Carbon Tetrachloride	0.44		0.0095	0.034	UG/M3	0.44	
EPD-WA-01-021823	TO-15 SIM	1,2-Dichloropropane	0.015	J	0.0082	0.034	UG/M3	0.015	J
EPD-WA-01-021823	TO-15 SIM	Bromodichloromethane	0.034	U	0.0078	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	Trichloroethene	0.034	U	0.01	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	1,4-Dioxane	0.013	J	0.012	0.13	UG/M3	0.013	J
EPD-WA-01-021823	TO-15 SIM	cis-1,3-Dichloropropene	0.067	U	0.0095	0.067	UG/M3	0.067	U
EPD-WA-01-021823	TO-15 SIM	trans-1,3-Dichloropropene	0.067	U	0.0064	0.067	UG/M3	0.067	U
EPD-WA-01-021823	TO-15 SIM	1,1,2-Trichloroethane	0.13	U	0.0079	0.13	UG/M3	0.13	U
EPD-WA-01-021823	TO-15 SIM	Toluene	0.43		0.016	0.13	UG/M3	0.43	
EPD-WA-01-021823	TO-15 SIM	Dibromochloromethane	0.034	U	0.0086	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	1,2-Dibromoethane	0.034	U	0.009	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	Tetrachloroethene	0.025	J	0.012	0.034	UG/M3	0.025	J
EPD-WA-01-021823	TO-15 SIM	Chlorobenzene	0.13	U	0.013	0.13	UG/M3	0.13	U
EPD-WA-01-021823	TO-15 SIM	Ethylbenzene	0.082	J	0.016	0.13	UG/M3	0.082	J
EPD-WA-01-021823	TO-15 SIM	m,p-Xylenes	0.28		0.032	0.13	UG/M3	0.28	
EPD-WA-01-021823	TO-15 SIM	Styrene	0.042	J	0.016	0.13	UG/M3	0.042	J
EPD-WA-01-021823	TO-15 SIM	o-Xylene	0.096	J	0.017	0.13	UG/M3	0.096	J
EPD-WA-01-021823	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	1,3,5-Trimethylbenzene	0.029	J	0.019	0.13	UG/M3	0.029	J
EPD-WA-01-021823	TO-15 SIM	1,2,4-Trimethylbenzene	0.14		0.021	0.13	UG/M3	0.14	

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
 ALS ENVIRONMENTAL REPORT NO. P2300720

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021823	TO-15 SIM	1,3-Dichlorobenzene	0.034	U	0.023	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	1,4-Dichlorobenzene	0.27		0.027	0.034	UG/M3	0.27	
EPD-WA-01-021823	TO-15 SIM	1,2-Dichlorobenzene	0.034	U	0.024	0.034	UG/M3	0.034	U
EPD-WA-01-021823	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.13	U	0.019	0.13	UG/M3	0.13	U
EPD-WA-01-021823	TO-15 SIM	1,2,4-Trichlorobenzene	0.067	U	0.027	0.067	UG/M3	0.067	U
EPD-WA-01-021823	TO-15 SIM	Naphthalene	0.096	J	0.029	0.13	UG/M3	0.096	J
EPD-WA-01-021823	TO-15 SIM	Hexachlorobutadiene	0.13	U	0.017	0.13	UG/M3	0.13	U

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675f		<b>Technical Reviewer (signature and date)</b>	 2/28/2023
<b>Data Reviewer (signature and date)</b>	 February 23, 2023	 02/24/2023	<b>Laboratory</b>	ALS Environmental, Simi Valley, CA
<b>Laboratory Report No.</b>	P2300728			
<b>Analyses</b>	Volatile organic compounds (VOCs) by EPA Method TO-15 scan and selected ion monitoring (SIM) modes			
<b>Samples and Matrix</b>	Four air samples			
<b>Collection Date(s)</b>	02/19/2023-2/20/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	TO-15 SIM results are reported in units of $\mu\text{g}/\text{m}^3$ and ppbV in the analytical data package; however, these results were only reported in units $\mu\text{g}/\text{m}^3$ in the EDD. No qualifications are required.

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

**Sample preservation, receipt, and holding times:**

Within Criteria	Exceedance/Notes
N	<p>The ending field-measured canister pressure listed on the chain-of-custody (COC) form for EPD-A-01-022023 is (0” Hg) (zero pressure), while the canister pressure measured by the laboratory upon receipt is -0.68 psig (-1.38” Hg) for EPD-A-01-022023 (slight vacuum pressure). This pressure discrepancy suggests that either one or more of the pressure gauges used were inaccurate or there is the possibility of a canister leak. Typically, the field gauges tend to be less accurate than lab gauges. If it is assumed that the field gauge was less accurate than the laboratory gauge, then the pressure data collected by the laboratory upon canister receipt suggests that the canister may have filled more quickly than intended and may have filled up before the end of the intended sampling period. Because it cannot be known when during the sampling period the canister filled completely, the sample may not be representative of the matrix conditions over the entire sampling period, and the analytical results for the sample should be used with this in mind. If both gauges were measuring pressure accurately, the data suggests the possibility that the canister had a leak that allowed them to fill up to atmospheric pressure between the end of the sampling event and the time the canister arrived at the lab. Such a leak could have contaminated, or in the least, diluted the sample with air unintended for sampling. Under either of these circumstances, this sample result should be used with caution because the result may not be representative of sampling conditions over the intended sampling period.</p>

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
NA	

**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
NA	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
Y	Canister dilution factor for EPD-WA-01-021923 and EPD-A-01-021923 is 1.42. Canister dilution factor for EPD-WA-01-022023 is 1.46. Canister dilution factor for EPD-A-01-022023 is 1.36.

**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	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
Y	Several tentatively identified compounds (TICs) were detected in all four samples. The known TICs were qualified as tentatively identified (flagged NJ). 2-Butoxyethanol and 2-ethylhexyl acrylate in all four samples and butyl ester-2-propenoic acid in EPD-WA-01-021923, EPD-A-01-021923, and EPD-A-01-022023 were reported as not detected and qualified as manually searched for, but not found in the sample (flagged U, NF).

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.
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  
ALS ENVIRONMENTAL REPORT NO. P2300728

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021923	TO-15	Propane	3.7	T			UG/M3	3.7	NJ
EPD-A-01-021923	TO-15	2-Methylbutane	3.8	T			UG/M3	3.8	NJ
EPD-A-01-021923	TO-15	Ethyl Acetate	3.8	T			UG/M3	3.8	NJ
EPD-A-01-021923	TO-15	n-Nonaldehyde	8.3	T			UG/M3	8.3	NJ
EPD-A-01-021923	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021923	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021923	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-A-01-021923	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.5		0.012	0.071	UG/M3	2.5	
EPD-A-01-021923	TO-15 SIM	Chloromethane	0.32		0.037	0.071	UG/M3	0.32	
EPD-A-01-021923	TO-15 SIM	Vinyl Chloride	0.036	U	0.017	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,3-Butadiene	0.035	J	0.011	0.071	UG/M3	0.035	J
EPD-A-01-021923	TO-15 SIM	Bromomethane	0.027	J	0.0095	0.036	UG/M3	0.027	J
EPD-A-01-021923	TO-15 SIM	Chloroethane	0.042		0.011	0.036	UG/M3	0.042	
EPD-A-01-021923	TO-15 SIM	Acrolein	0.22	J	0.05	0.28	UG/M3	0.22	J
EPD-A-01-021923	TO-15 SIM	Acetone	1.6	J	0.33	3.6	UG/M3	1.6	J
EPD-A-01-021923	TO-15 SIM	Trichlorofluoromethane	1.2		0.012	0.071	UG/M3	1.2	
EPD-A-01-021923	TO-15 SIM	1,1-Dichloroethene	0.036	U	0.012	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.29		0.011	0.14	UG/M3	0.29	
EPD-A-01-021923	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.46		0.012	0.036	UG/M3	0.46	
EPD-A-01-021923	TO-15 SIM	trans-1,2-Dichloroethene	0.036	U	0.016	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,1-Dichloroethane	0.036	U	0.012	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	Methyl tert-Butyl Ether	0.036	U	0.017	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	cis-1,2-Dichloroethene	0.036	U	0.01	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	Chloroform	0.065	J	0.011	0.14	UG/M3	0.065	J
EPD-A-01-021923	TO-15 SIM	1,2-Dichloroethane	0.062		0.012	0.036	UG/M3	0.062	
EPD-A-01-021923	TO-15 SIM	1,1,1-Trichloroethane	0.036	U	0.013	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	Benzene	0.55		0.021	0.11	UG/M3	0.55	
EPD-A-01-021923	TO-15 SIM	Carbon Tetrachloride	0.44		0.01	0.036	UG/M3	0.44	
EPD-A-01-021923	TO-15 SIM	1,2-Dichloropropane	0.017	J	0.0087	0.036	UG/M3	0.017	J
EPD-A-01-021923	TO-15 SIM	Bromodichloromethane	0.036	U	0.0082	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	Trichloroethene	0.036	U	0.011	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,4-Dioxane	0.14	U	0.012	0.14	UG/M3	0.14	U
EPD-A-01-021923	TO-15 SIM	cis-1,3-Dichloropropene	0.071	U	0.01	0.071	UG/M3	0.071	U

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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-021923	TO-15 SIM	trans-1,3-Dichloropropene	0.071	U	0.0068	0.071	UG/M3	0.071	U
EPD-A-01-021923	TO-15 SIM	1,1,2-Trichloroethane	0.14	U	0.0084	0.14	UG/M3	0.14	U
EPD-A-01-021923	TO-15 SIM	Toluene	0.58		0.017	0.14	UG/M3	0.58	
EPD-A-01-021923	TO-15 SIM	Dibromochloromethane	0.036	U	0.0091	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,2-Dibromoethane	0.036	U	0.0095	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	Tetrachloroethene	0.030	J	0.012	0.036	UG/M3	0.030	J
EPD-A-01-021923	TO-15 SIM	Chlorobenzene	0.14	U	0.014	0.14	UG/M3	0.14	U
EPD-A-01-021923	TO-15 SIM	Ethylbenzene	0.056	J	0.017	0.14	UG/M3	0.056	J
EPD-A-01-021923	TO-15 SIM	m,p-Xylenes	0.18		0.034	0.14	UG/M3	0.18	
EPD-A-01-021923	TO-15 SIM	Styrene	0.034	J	0.017	0.14	UG/M3	0.034	J
EPD-A-01-021923	TO-15 SIM	o-Xylene	0.070	J	0.018	0.14	UG/M3	0.070	J
EPD-A-01-021923	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.036	U	0.012	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,3,5-Trimethylbenzene	0.14	U	0.02	0.14	UG/M3	0.14	U
EPD-A-01-021923	TO-15 SIM	1,2,4-Trimethylbenzene	0.068	J	0.023	0.14	UG/M3	0.068	J
EPD-A-01-021923	TO-15 SIM	1,3-Dichlorobenzene	0.036	U	0.024	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,4-Dichlorobenzene	0.084		0.028	0.036	UG/M3	0.084	
EPD-A-01-021923	TO-15 SIM	1,2-Dichlorobenzene	0.036	U	0.026	0.036	UG/M3	0.036	U
EPD-A-01-021923	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14	U	0.02	0.14	UG/M3	0.14	U
EPD-A-01-021923	TO-15 SIM	1,2,4-Trichlorobenzene	0.071	U	0.028	0.071	UG/M3	0.071	U
EPD-A-01-021923	TO-15 SIM	Naphthalene	0.037	J	0.031	0.14	UG/M3	0.037	J
EPD-A-01-021923	TO-15 SIM	Hexachlorobutadiene	0.14	U	0.018	0.14	UG/M3	0.14	U
EPD-WA-01-021923	TO-15	Propane	4.5	T			UG/M3	4.5	NJ
EPD-WA-01-021923	TO-15	n-Butane	3.5	T			UG/M3	3.5	NJ
EPD-WA-01-021923	TO-15	2-Methylbutane	4.4	T			UG/M3	4.4	NJ
EPD-WA-01-021923	TO-15	n-Pentane	3.6	T			UG/M3	3.6	NJ
EPD-WA-01-021923	TO-15	Ethyl Acetate	12	T			UG/M3	12	NJ
EPD-WA-01-021923	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021923	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021923	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-021923	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.4		0.012	0.071	UG/M3	2.4	
EPD-WA-01-021923	TO-15 SIM	Chloromethane	0.33		0.037	0.071	UG/M3	0.33	
EPD-WA-01-021923	TO-15 SIM	Vinyl Chloride	0.27		0.017	0.036	UG/M3	0.27	
EPD-WA-01-021923	TO-15 SIM	1,3-Butadiene	0.035	J	0.011	0.071	UG/M3	0.035	J

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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021923	TO-15 SIM	Bromomethane	0.036		0.0095	0.036	UG/M3	0.036	
EPD-WA-01-021923	TO-15 SIM	Chloroethane	0.036 U		0.011	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Acrolein	0.13 J		0.05	0.28	UG/M3	0.13 J	
EPD-WA-01-021923	TO-15 SIM	Acetone	1.4 J		0.33	3.6	UG/M3	1.4 J	
EPD-WA-01-021923	TO-15 SIM	Trichlorofluoromethane	1.1		0.012	0.071	UG/M3	1.1	
EPD-WA-01-021923	TO-15 SIM	1,1-Dichloroethene	0.036 U		0.012	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.27		0.011	0.14	UG/M3	0.27	
EPD-WA-01-021923	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.44		0.012	0.036	UG/M3	0.44	
EPD-WA-01-021923	TO-15 SIM	trans-1,2-Dichloroethene	0.036 U		0.016	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	1,1-Dichloroethane	0.036 U		0.012	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Methyl tert-Butyl Ether	0.036 U		0.017	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	cis-1,2-Dichloroethene	0.036 U		0.01	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Chloroform	0.065 J		0.011	0.14	UG/M3	0.065 J	
EPD-WA-01-021923	TO-15 SIM	1,2-Dichloroethane	0.060		0.012	0.036	UG/M3	0.060	
EPD-WA-01-021923	TO-15 SIM	1,1,1-Trichloroethane	0.036 U		0.013	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Benzene	0.56		0.021	0.11	UG/M3	0.56	
EPD-WA-01-021923	TO-15 SIM	Carbon Tetrachloride	0.42		0.01	0.036	UG/M3	0.42	
EPD-WA-01-021923	TO-15 SIM	1,2-Dichloropropane	0.015 J		0.0087	0.036	UG/M3	0.015 J	
EPD-WA-01-021923	TO-15 SIM	Bromodichloromethane	0.036 U		0.0082	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Trichloroethene	0.036 U		0.011	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	1,4-Dioxane	0.14 U		0.012	0.14	UG/M3	0.14 U	
EPD-WA-01-021923	TO-15 SIM	cis-1,3-Dichloropropene	0.071 U		0.01	0.071	UG/M3	0.071 U	
EPD-WA-01-021923	TO-15 SIM	trans-1,3-Dichloropropene	0.071 U		0.0068	0.071	UG/M3	0.071 U	
EPD-WA-01-021923	TO-15 SIM	1,1,2-Trichloroethane	0.14 U		0.0084	0.14	UG/M3	0.14 U	
EPD-WA-01-021923	TO-15 SIM	Toluene	0.90		0.017	0.14	UG/M3	0.90	
EPD-WA-01-021923	TO-15 SIM	Dibromochloromethane	0.036 U		0.0091	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	1,2-Dibromoethane	0.036 U		0.0095	0.036	UG/M3	0.036 U	
EPD-WA-01-021923	TO-15 SIM	Tetrachloroethene	0.047		0.012	0.036	UG/M3	0.047	
EPD-WA-01-021923	TO-15 SIM	Chlorobenzene	0.016 J		0.014	0.14	UG/M3	0.016 J	
EPD-WA-01-021923	TO-15 SIM	Ethylbenzene	0.091 J		0.017	0.14	UG/M3	0.091 J	
EPD-WA-01-021923	TO-15 SIM	m,p-Xylenes	0.27		0.034	0.14	UG/M3	0.27	
EPD-WA-01-021923	TO-15 SIM	Styrene	0.071 J		0.017	0.14	UG/M3	0.071 J	
EPD-WA-01-021923	TO-15 SIM	o-Xylene	0.10 J		0.018	0.14	UG/M3	0.10 J	

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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-021923	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.036	U	0.012	0.036	UG/M3	0.036	U
EPD-WA-01-021923	TO-15 SIM	1,3,5-Trimethylbenzene	0.026	J	0.02	0.14	UG/M3	0.026	J
EPD-WA-01-021923	TO-15 SIM	1,2,4-Trimethylbenzene	0.11	J	0.023	0.14	UG/M3	0.11	J
EPD-WA-01-021923	TO-15 SIM	1,3-Dichlorobenzene	0.036	U	0.024	0.036	UG/M3	0.036	U
EPD-WA-01-021923	TO-15 SIM	1,4-Dichlorobenzene	0.090		0.028	0.036	UG/M3	0.090	
EPD-WA-01-021923	TO-15 SIM	1,2-Dichlorobenzene	0.036	U	0.026	0.036	UG/M3	0.036	U
EPD-WA-01-021923	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14	U	0.02	0.14	UG/M3	0.14	U
EPD-WA-01-021923	TO-15 SIM	1,2,4-Trichlorobenzene	0.071	U	0.028	0.071	UG/M3	0.071	U
EPD-WA-01-021923	TO-15 SIM	Naphthalene	0.14	U	0.031	0.14	UG/M3	0.14	U
EPD-WA-01-021923	TO-15 SIM	Hexachlorobutadiene	0.14	U	0.018	0.14	UG/M3	0.14	U
EPD-A-01-022023	TO-15	Propane	5.0	T			UG/M3	5.0	NJ
EPD-A-01-022023	TO-15	n-Butane	3.8	T			UG/M3	3.8	NJ
EPD-A-01-022023	TO-15	Acetone	5.7	T			UG/M3	5.7	NJ
EPD-A-01-022023	TO-15	Ethyl Acetate	6.4	T			UG/M3	6.4	NJ
EPD-A-01-022023	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-A-01-022023	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-A-01-022023	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-A-01-022023	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.4		0.012	0.068	UG/M3	2.4	
EPD-A-01-022023	TO-15 SIM	Chloromethane	0.30		0.035	0.068	UG/M3	0.30	
EPD-A-01-022023	TO-15 SIM	Vinyl Chloride	0.034	U	0.016	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	1,3-Butadiene	0.084		0.011	0.068	UG/M3	0.084	
EPD-A-01-022023	TO-15 SIM	Bromomethane	0.025	J	0.0091	0.034	UG/M3	0.025	J
EPD-A-01-022023	TO-15 SIM	Chloroethane	0.034	U	0.011	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	Acrolein	0.23	J	0.048	0.27	UG/M3	0.23	J
EPD-A-01-022023	TO-15 SIM	Acetone	3.5		0.31	3.4	UG/M3	3.5	
EPD-A-01-022023	TO-15 SIM	Trichlorofluoromethane	1.2		0.011	0.068	UG/M3	1.2	
EPD-A-01-022023	TO-15 SIM	1,1-Dichloroethene	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.27		0.011	0.14	UG/M3	0.27	
EPD-A-01-022023	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.46		0.011	0.034	UG/M3	0.46	
EPD-A-01-022023	TO-15 SIM	trans-1,2-Dichloroethene	0.034	U	0.015	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	1,1-Dichloroethane	0.034	U	0.011	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	Methyl tert-Butyl Ether	0.034	U	0.016	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	cis-1,2-Dichloroethene	0.034	U	0.0098	0.034	UG/M3	0.034	U

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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-022023	TO-15 SIM	Chloroform	0.076	J	0.011	0.14	UG/M3	0.076	J
EPD-A-01-022023	TO-15 SIM	1,2-Dichloroethane	0.061		0.011	0.034	UG/M3	0.061	
EPD-A-01-022023	TO-15 SIM	1,1,1-Trichloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	Benzene	0.84		0.02	0.1	UG/M3	0.84	
EPD-A-01-022023	TO-15 SIM	Carbon Tetrachloride	0.44		0.0097	0.034	UG/M3	0.44	
EPD-A-01-022023	TO-15 SIM	1,2-Dichloropropane	0.013	J	0.0083	0.034	UG/M3	0.013	J
EPD-A-01-022023	TO-15 SIM	Bromodichloromethane	0.034	U	0.0079	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	Trichloroethene	0.012	J	0.01	0.034	UG/M3	0.012	J
EPD-A-01-022023	TO-15 SIM	1,4-Dioxane	0.14	U	0.012	0.14	UG/M3	0.14	U
EPD-A-01-022023	TO-15 SIM	cis-1,3-Dichloropropene	0.068	U	0.0097	0.068	UG/M3	0.068	U
EPD-A-01-022023	TO-15 SIM	trans-1,3-Dichloropropene	0.068	U	0.0065	0.068	UG/M3	0.068	U
EPD-A-01-022023	TO-15 SIM	1,1,2-Trichloroethane	0.14	U	0.008	0.14	UG/M3	0.14	U
EPD-A-01-022023	TO-15 SIM	Toluene	1.1		0.016	0.14	UG/M3	1.1	
EPD-A-01-022023	TO-15 SIM	Dibromochloromethane	0.034	U	0.0087	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	1,2-Dibromoethane	0.034	U	0.0091	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	Tetrachloroethene	0.073		0.012	0.034	UG/M3	0.073	
EPD-A-01-022023	TO-15 SIM	Chlorobenzene	0.14	U	0.013	0.14	UG/M3	0.14	U
EPD-A-01-022023	TO-15 SIM	Ethylbenzene	0.14		0.016	0.14	UG/M3	0.14	
EPD-A-01-022023	TO-15 SIM	m,p-Xylenes	0.55		0.033	0.14	UG/M3	0.55	
EPD-A-01-022023	TO-15 SIM	Styrene	0.048	J	0.016	0.14	UG/M3	0.048	J
EPD-A-01-022023	TO-15 SIM	o-Xylene	0.18		0.018	0.14	UG/M3	0.18	
EPD-A-01-022023	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.034	U	0.012	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	1,3,5-Trimethylbenzene	0.043	J	0.019	0.14	UG/M3	0.043	J
EPD-A-01-022023	TO-15 SIM	1,2,4-Trimethylbenzene	0.17		0.022	0.14	UG/M3	0.17	
EPD-A-01-022023	TO-15 SIM	1,3-Dichlorobenzene	0.034	U	0.023	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	1,4-Dichlorobenzene	0.16		0.027	0.034	UG/M3	0.16	
EPD-A-01-022023	TO-15 SIM	1,2-Dichlorobenzene	0.034	U	0.024	0.034	UG/M3	0.034	U
EPD-A-01-022023	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.14	U	0.019	0.14	UG/M3	0.14	U
EPD-A-01-022023	TO-15 SIM	1,2,4-Trichlorobenzene	0.068	U	0.027	0.068	UG/M3	0.068	U
EPD-A-01-022023	TO-15 SIM	Naphthalene	0.066	J	0.03	0.14	UG/M3	0.066	J
EPD-A-01-022023	TO-15 SIM	Hexachlorobutadiene	0.14	U	0.018	0.14	UG/M3	0.14	U
EPD-WA-01-022023	TO-15	Propane	6.2	T			UG/M3	6.2	NJ
EPD-WA-01-022023	TO-15	2-Methylpropane	15	T			UG/M3	15	NJ

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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-022023	TO-15	Vinyl Chloride	6.9	T			UG/M3	6.9	NJ
EPD-WA-01-022023	TO-15	n-Butane	41	T			UG/M3	41	NJ
EPD-WA-01-022023	TO-15	Ethanol	6.1	T			UG/M3	6.1	NJ
EPD-WA-01-022023	TO-15	2-Methylbutane	42	T			UG/M3	42	NJ
EPD-WA-01-022023	TO-15	n-Pentane	150	T			UG/M3	150	NJ
EPD-WA-01-022023	TO-15	2-Methylpentane	3.4	T			UG/M3	3.4	NJ
EPD-WA-01-022023	TO-15	Ethyl Acetate	66	T			UG/M3	66	NJ
EPD-WA-01-022023	TO-15	1-Butanol	9.4	T			UG/M3	9.4	NJ
EPD-WA-01-022023	TO-15	Toluene	5.2	T			UG/M3	5.2	NJ
EPD-WA-01-022023	TO-15	BUTYL ESTER-2-PROPENOIC ACID	150	T			UG/M3	150	NJ
EPD-WA-01-022023	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-022023	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-022023	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.7		0.012	0.073	UG/M3	2.7	
EPD-WA-01-022023	TO-15 SIM	Chloromethane	0.35		0.038	0.073	UG/M3	0.35	
EPD-WA-01-022023	TO-15 SIM	Vinyl Chloride	11		0.018	0.037	UG/M3	11	
EPD-WA-01-022023	TO-15 SIM	1,3-Butadiene	0.17		0.012	0.073	UG/M3	0.17	
EPD-WA-01-022023	TO-15 SIM	Bromomethane	0.025	J	0.0098	0.037	UG/M3	0.025	J
EPD-WA-01-022023	TO-15 SIM	Chloroethane	0.020	J	0.011	0.037	UG/M3	0.020	J
EPD-WA-01-022023	TO-15 SIM	Acrolein	0.27	J	0.051	0.29	UG/M3	0.27	J
EPD-WA-01-022023	TO-15 SIM	Acetone	3.3	J	0.34	3.7	UG/M3	3.3	J
EPD-WA-01-022023	TO-15 SIM	Trichlorofluoromethane	1.2		0.012	0.073	UG/M3	1.2	
EPD-WA-01-022023	TO-15 SIM	1,1-Dichloroethene	0.037	U	0.013	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.30		0.011	0.15	UG/M3	0.30	
EPD-WA-01-022023	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.45		0.012	0.037	UG/M3	0.45	
EPD-WA-01-022023	TO-15 SIM	trans-1,2-Dichloroethene	0.037	U	0.016	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	1,1-Dichloroethane	0.037	U	0.012	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	Methyl tert-Butyl Ether	0.037	U	0.018	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	cis-1,2-Dichloroethene	0.037	U	0.011	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	Chloroform	0.096	J	0.012	0.15	UG/M3	0.096	J
EPD-WA-01-022023	TO-15 SIM	1,2-Dichloroethane	0.065		0.012	0.037	UG/M3	0.065	
EPD-WA-01-022023	TO-15 SIM	1,1,1-Trichloroethane	0.037	U	0.013	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	Benzene	1.9		0.022	0.11	UG/M3	1.9	
EPD-WA-01-022023	TO-15 SIM	Carbon Tetrachloride	0.43		0.01	0.037	UG/M3	0.43	

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300728

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-022023	TO-15 SIM	1,2-Dichloropropane	0.014	J	0.0089	0.037	UG/M3	0.014	J
EPD-WA-01-022023	TO-15 SIM	Bromodichloromethane	0.037	U	0.0085	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	Trichloroethene	0.037	U	0.011	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	1,4-Dioxane	0.15	U	0.013	0.15	UG/M3	0.15	U
EPD-WA-01-022023	TO-15 SIM	cis-1,3-Dichloropropene	0.073	U	0.01	0.073	UG/M3	0.073	U
EPD-WA-01-022023	TO-15 SIM	trans-1,3-Dichloropropene	0.073	U	0.007	0.073	UG/M3	0.073	U
EPD-WA-01-022023	TO-15 SIM	1,1,2-Trichloroethane	0.15	U	0.0086	0.15	UG/M3	0.15	U
EPD-WA-01-022023	TO-15 SIM	Toluene	5.8		0.018	0.15	UG/M3	5.8	
EPD-WA-01-022023	TO-15 SIM	Dibromochloromethane	0.037	U	0.0093	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	1,2-Dibromoethane	0.037	U	0.0098	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	Tetrachloroethene	0.10		0.013	0.037	UG/M3	0.10	
EPD-WA-01-022023	TO-15 SIM	Chlorobenzene	0.15	U	0.014	0.15	UG/M3	0.15	U
EPD-WA-01-022023	TO-15 SIM	Ethylbenzene	0.43		0.018	0.15	UG/M3	0.43	
EPD-WA-01-022023	TO-15 SIM	m,p-Xylenes	1.7		0.035	0.15	UG/M3	1.7	
EPD-WA-01-022023	TO-15 SIM	Styrene	0.26		0.018	0.15	UG/M3	0.26	
EPD-WA-01-022023	TO-15 SIM	o-Xylene	0.64		0.019	0.15	UG/M3	0.64	
EPD-WA-01-022023	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.037	U	0.013	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	1,3,5-Trimethylbenzene	0.17		0.02	0.15	UG/M3	0.17	
EPD-WA-01-022023	TO-15 SIM	1,2,4-Trimethylbenzene	0.61		0.023	0.15	UG/M3	0.61	
EPD-WA-01-022023	TO-15 SIM	1,3-Dichlorobenzene	0.037	U	0.025	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	1,4-Dichlorobenzene	0.62		0.029	0.037	UG/M3	0.62	
EPD-WA-01-022023	TO-15 SIM	1,2-Dichlorobenzene	0.037	U	0.026	0.037	UG/M3	0.037	U
EPD-WA-01-022023	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.15	U	0.02	0.15	UG/M3	0.15	U
EPD-WA-01-022023	TO-15 SIM	1,2,4-Trichlorobenzene	0.073	U	0.029	0.073	UG/M3	0.073	U
EPD-WA-01-022023	TO-15 SIM	Naphthalene	0.38		0.032	0.15	UG/M3	0.38	
EPD-WA-01-022023	TO-15 SIM	Hexachlorobutadiene	0.15	U	0.019	0.15	UG/M3	0.15	U

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

<b>Site Name</b>	E Palestine Site - ER		<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1675g		<b>Technical Reviewer (signature and date)</b>	<i>Shanah Vasser</i> 2/28/2023
<b>Data Reviewer (signature and date)</b>	<i>Denise Megumi</i> February 23, 2023	<i>Swartz</i> 02/24/2023	<b>Laboratory</b>	ALS Environmental, Simi Valley, CA
<b>Laboratory Report No.</b>	P2300749			
<b>Analyses</b>	Volatile organic compounds (VOCs) by EPA Method TO-15 scan and selected ion monitoring (SIM) modes			
<b>Samples and Matrix</b>	Two air samples			
<b>Collection Date(s)</b>	02/21/2023			
<b>Field Duplicate Pairs</b>	NA			
<b>Field QC Blanks</b>	NA			

**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, 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 of data was required for this data package. The data can be used with the qualifications indicated in this checklist.

**Data completeness:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
N	TO-15 SIM results are reported in units of $\mu\text{g}/\text{m}^3$ and ppbV in the analytical data package, however, these results are only reported in units of $\mu\text{g}/\text{m}^3$ in the EDD. No qualifications are required.

**Sample preservation, receipt, and holding times:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	



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

**Method blanks:**

Within Criteria	Exceedance/Notes
Y	

**Field blanks:**

Within Criteria	Exceedance/Notes
NA	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
Y	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	

**Sample dilutions:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Canister dilution factor for EPD-A-01-022123 is 1.48 and canister dilution factor for EPD-WA-01-022123 is 1.53.

**Re-extraction and reanalysis:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
NA	

**MDLs/RLs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Detections between the method detection limit (MDL) and reporting limit (RL) were reported and qualified as estimated (flagged J) by the laboratory.

**Tentatively identified compounds:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Several tentatively identified compounds (TICs) were detected in both samples. The known TICs were qualified as tentatively identified (flagged NJ). 2-Butoxyethanol and 2-ethylhexyl acrylate in both samples and butyl ester-2-propenoic acid in EPD-A-01-022123 were reported as not detected and qualified as manually searched for, but not found in the sample (flagged U, NF).

**Other [None]:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.
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 ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300749

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-022123	TO-15	Propane	6.9	T			UG/M3	6.9	NJ
EPD-A-01-022123	TO-15	2-Methylpropane	12	T			UG/M3	12	NJ
EPD-A-01-022123	TO-15	n-Butane	5.2	T			UG/M3	5.2	NJ
EPD-A-01-022123	TO-15	2-Methylbutane	7.3	T			UG/M3	7.3	NJ
EPD-A-01-022123	TO-15	Ethyl Acetate	3.8	T			UG/M3	3.8	NJ
EPD-A-01-022123	TO-15	BUTYL ESTER-2-PROPENOIC ACID	0	U,NF			UG/M3	0	U,NF
EPD-A-01-022123	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-A-01-022123	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-A-01-022123	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.5		0.013	0.074	UG/M3	2.5	
EPD-A-01-022123	TO-15 SIM	Chloromethane	0.32		0.038	0.074	UG/M3	0.32	
EPD-A-01-022123	TO-15 SIM	Vinyl Chloride	0.035	J	0.018	0.037	UG/M3	0.035	J
EPD-A-01-022123	TO-15 SIM	1,3-Butadiene	0.086		0.012	0.074	UG/M3	0.086	
EPD-A-01-022123	TO-15 SIM	Bromomethane	0.026	J	0.0099	0.037	UG/M3	0.026	J
EPD-A-01-022123	TO-15 SIM	Chloroethane	0.012	J	0.012	0.037	UG/M3	0.012	J
EPD-A-01-022123	TO-15 SIM	Acrolein	0.18	J	0.052	0.3	UG/M3	0.18	J
EPD-A-01-022123	TO-15 SIM	Acetone	4.4		0.34	3.7	UG/M3	4.4	
EPD-A-01-022123	TO-15 SIM	Trichlorofluoromethane	1.2		0.012	0.074	UG/M3	1.2	
EPD-A-01-022123	TO-15 SIM	1,1-Dichloroethene	0.037	U	0.013	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.31		0.012	0.15	UG/M3	0.31	
EPD-A-01-022123	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.44		0.012	0.037	UG/M3	0.44	
EPD-A-01-022123	TO-15 SIM	trans-1,2-Dichloroethene	0.037	U	0.016	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	1,1-Dichloroethane	0.037	U	0.012	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	Methyl tert-Butyl Ether	0.037	U	0.018	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	cis-1,2-Dichloroethene	0.037	U	0.011	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	Chloroform	0.076	J	0.012	0.15	UG/M3	0.076	J
EPD-A-01-022123	TO-15 SIM	1,2-Dichloroethane	0.068		0.012	0.037	UG/M3	0.068	
EPD-A-01-022123	TO-15 SIM	1,1,1-Trichloroethane	0.037	U	0.013	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	Benzene	0.97		0.022	0.11	UG/M3	0.97	
EPD-A-01-022123	TO-15 SIM	Carbon Tetrachloride	0.42		0.011	0.037	UG/M3	0.42	
EPD-A-01-022123	TO-15 SIM	1,2-Dichloropropane	0.039		0.009	0.037	UG/M3	0.039	
EPD-A-01-022123	TO-15 SIM	Bromodichloromethane	0.037	U	0.0086	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	Trichloroethene	0.039		0.011	0.037	UG/M3	0.039	
EPD-A-01-022123	TO-15 SIM	1,4-Dioxane	0.15	U	0.013	0.15	UG/M3	0.15	U
EPD-A-01-022123	TO-15 SIM	cis-1,3-Dichloropropene	0.074	U	0.011	0.074	UG/M3	0.074	U
EPD-A-01-022123	TO-15 SIM	trans-1,3-Dichloropropene	0.074	U	0.0071	0.074	UG/M3	0.074	U
EPD-A-01-022123	TO-15 SIM	1,1,2-Trichloroethane	0.15	U	0.0087	0.15	UG/M3	0.15	U
EPD-A-01-022123	TO-15 SIM	Toluene	2.2		0.018	0.15	UG/M3	2.2	
EPD-A-01-022123	TO-15 SIM	Dibromochloromethane	0.037	U	0.0095	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	1,2-Dibromoethane	0.037	U	0.0099	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	Tetrachloroethene	0.17		0.013	0.037	UG/M3	0.17	
EPD-A-01-022123	TO-15 SIM	Chlorobenzene	0.15	U	0.014	0.15	UG/M3	0.15	U
EPD-A-01-022123	TO-15 SIM	Ethylbenzene	0.14	J	0.018	0.15	UG/M3	0.14	J
EPD-A-01-022123	TO-15 SIM	m,p-Xylenes	0.56		0.036	0.15	UG/M3	0.56	
EPD-A-01-022123	TO-15 SIM	Styrene	0.058	J	0.018	0.15	UG/M3	0.058	J
EPD-A-01-022123	TO-15 SIM	o-Xylene	0.19		0.019	0.15	UG/M3	0.19	
EPD-A-01-022123	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.037	U	0.013	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	1,3,5-Trimethylbenzene	0.040	J	0.021	0.15	UG/M3	0.040	J
EPD-A-01-022123	TO-15 SIM	1,2,4-Trimethylbenzene	0.17		0.024	0.15	UG/M3	0.17	

E PALESTINE SITE - ER ANALYTICAL RESULTS SUMMARY  
ALS ENVIRONMENTAL REPORT NO. P2300749

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-A-01-022123	TO-15 SIM	1,3-Dichlorobenzene	0.037	U	0.025	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	1,4-Dichlorobenzene	0.059		0.03	0.037	UG/M3	0.059	
EPD-A-01-022123	TO-15 SIM	1,2-Dichlorobenzene	0.037	U	0.027	0.037	UG/M3	0.037	U
EPD-A-01-022123	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.15	U	0.021	0.15	UG/M3	0.15	U
EPD-A-01-022123	TO-15 SIM	1,2,4-Trichlorobenzene	0.074	U	0.03	0.074	UG/M3	0.074	U
EPD-A-01-022123	TO-15 SIM	Naphthalene	0.040	J	0.033	0.15	UG/M3	0.040	J
EPD-A-01-022123	TO-15 SIM	Hexachlorobutadiene	0.15	U	0.019	0.15	UG/M3	0.15	U
EPD-WA-01-022123	TO-15	Propane	9.5	T			UG/M3	9.5	NJ
EPD-WA-01-022123	TO-15	2-Methylpropane	20	T			UG/M3	20	NJ
EPD-WA-01-022123	TO-15	n-Butane	16	T			UG/M3	16	NJ
EPD-WA-01-022123	TO-15	2-Methylbutane	11	T			UG/M3	11	NJ
EPD-WA-01-022123	TO-15	n-Pentane	4.4	T			UG/M3	4.4	NJ
EPD-WA-01-022123	TO-15	Ethyl Acetate	5.4	T			UG/M3	5.4	NJ
EPD-WA-01-022123	TO-15	Benzene	3.2	T			UG/M3	3.2	NJ
EPD-WA-01-022123	TO-15	Toluene	2.9	T			UG/M3	2.9	NJ
EPD-WA-01-022123	TO-15	Hexamethylcyclotrisiloxane	3.3	T			UG/M3	3.3	NJ
EPD-WA-01-022123	TO-15	BUTYL ESTER-2-PROPENOIC ACID	17	T			UG/M3	17	NJ
EPD-WA-01-022123	TO-15	2-Ethylhexyl Acrylate	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-022123	TO-15	2-Butoxyethanol	0	U,NF			UG/M3	0	U,NF
EPD-WA-01-022123	TO-15 SIM	Dichlorodifluoromethane (CFC 12)	2.5		0.013	0.077	UG/M3	2.5	
EPD-WA-01-022123	TO-15 SIM	Chloromethane	0.36		0.04	0.077	UG/M3	0.36	
EPD-WA-01-022123	TO-15 SIM	Vinyl Chloride	4.7		0.018	0.038	UG/M3	4.7	
EPD-WA-01-022123	TO-15 SIM	1,3-Butadiene	0.14		0.012	0.077	UG/M3	0.14	
EPD-WA-01-022123	TO-15 SIM	Bromomethane	0.025	J	0.01	0.038	UG/M3	0.025	J
EPD-WA-01-022123	TO-15 SIM	Chloroethane	0.016	J	0.012	0.038	UG/M3	0.016	J
EPD-WA-01-022123	TO-15 SIM	Acrolein	0.18	J	0.054	0.31	UG/M3	0.18	J
EPD-WA-01-022123	TO-15 SIM	Acetone	4.2		0.35	3.8	UG/M3	4.2	
EPD-WA-01-022123	TO-15 SIM	Trichlorofluoromethane	1.2		0.012	0.077	UG/M3	1.2	
EPD-WA-01-022123	TO-15 SIM	1,1-Dichloroethene	0.038	U	0.013	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	Dichloromethane (Methylene Chloride)	0.33		0.012	0.15	UG/M3	0.33	
EPD-WA-01-022123	TO-15 SIM	1,1,2-Trichlorotrifluoroethane	0.45		0.012	0.038	UG/M3	0.45	
EPD-WA-01-022123	TO-15 SIM	trans-1,2-Dichloroethene	0.038	U	0.017	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	1,1-Dichloroethane	0.038	U	0.013	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	Methyl tert-Butyl Ether	0.038	U	0.018	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	cis-1,2-Dichloroethene	0.038	U	0.011	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	Chloroform	0.075	J	0.012	0.15	UG/M3	0.075	J
EPD-WA-01-022123	TO-15 SIM	1,2-Dichloroethane	0.071		0.013	0.038	UG/M3	0.071	
EPD-WA-01-022123	TO-15 SIM	1,1,1-Trichloroethane	0.038	U	0.014	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	Benzene	1.3		0.023	0.11	UG/M3	1.3	
EPD-WA-01-022123	TO-15 SIM	Carbon Tetrachloride	0.44		0.011	0.038	UG/M3	0.44	
EPD-WA-01-022123	TO-15 SIM	1,2-Dichloropropane	0.048		0.0093	0.038	UG/M3	0.048	
EPD-WA-01-022123	TO-15 SIM	Bromodichloromethane	0.038	U	0.0089	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	Trichloroethene	0.036	J	0.012	0.038	UG/M3	0.036	J
EPD-WA-01-022123	TO-15 SIM	1,4-Dioxane	0.15	U	0.013	0.15	UG/M3	0.15	U
EPD-WA-01-022123	TO-15 SIM	cis-1,3-Dichloropropene	0.077	U	0.011	0.077	UG/M3	0.077	U
EPD-WA-01-022123	TO-15 SIM	trans-1,3-Dichloropropene	0.077	U	0.0073	0.077	UG/M3	0.077	U
EPD-WA-01-022123	TO-15 SIM	1,1,2-Trichloroethane	0.15	U	0.009	0.15	UG/M3	0.15	U
EPD-WA-01-022123	TO-15 SIM	Toluene	3.2		0.018	0.15	UG/M3	3.2	

E PALESTINE SITE - ER ANALYTICAL RESULTS SUMMARY  
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
EPD-WA-01-022123	TO-15 SIM	Dibromochloromethane	0.038	U	0.0098	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	1,2-Dibromoethane	0.038	U	0.01	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	Tetrachloroethene	0.25		0.013	0.038	UG/M3	0.25	
EPD-WA-01-022123	TO-15 SIM	Chlorobenzene	0.15	U	0.015	0.15	UG/M3	0.15	U
EPD-WA-01-022123	TO-15 SIM	Ethylbenzene	0.29		0.018	0.15	UG/M3	0.29	
EPD-WA-01-022123	TO-15 SIM	m,p-Xylenes	1.2		0.037	0.15	UG/M3	1.2	
EPD-WA-01-022123	TO-15 SIM	Styrene	0.11	J	0.018	0.15	UG/M3	0.11	J
EPD-WA-01-022123	TO-15 SIM	o-Xylene	0.52		0.02	0.15	UG/M3	0.52	
EPD-WA-01-022123	TO-15 SIM	1,1,2,2-Tetrachloroethane	0.038	U	0.013	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	1,3,5-Trimethylbenzene	0.11	J	0.021	0.15	UG/M3	0.11	J
EPD-WA-01-022123	TO-15 SIM	1,2,4-Trimethylbenzene	0.43		0.024	0.15	UG/M3	0.43	
EPD-WA-01-022123	TO-15 SIM	1,3-Dichlorobenzene	0.038	U	0.026	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	1,4-Dichlorobenzene	0.11		0.031	0.038	UG/M3	0.11	
EPD-WA-01-022123	TO-15 SIM	1,2-Dichlorobenzene	0.038	U	0.028	0.038	UG/M3	0.038	U
EPD-WA-01-022123	TO-15 SIM	1,2-Dibromo 3-Chloropropane	0.15	U	0.021	0.15	UG/M3	0.15	U
EPD-WA-01-022123	TO-15 SIM	1,2,4-Trichlorobenzene	0.077	U	0.031	0.077	UG/M3	0.077	U
EPD-WA-01-022123	TO-15 SIM	Naphthalene	0.14	J	0.034	0.15	UG/M3	0.14	J
EPD-WA-01-022123	TO-15 SIM	Hexachlorobutadiene	0.15	U	0.02	0.15	UG/M3	0.15	U