

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-169325-1
Laboratory Sample Delivery Group: 2071-2107-06
Client Project/Site: Site #: B866

For:
Tetra Tech, Inc.
1560 Broadway, Suite 1400
Denver, Colorado 80202

Attn: Edvin Aleksandrov

Authorized for release by:
8/24/2021 5:12:41 PM

Carlene McCutcheon, Project Manager II
(602)659-7612
Carlene.McCutcheon@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Job ID: 550-169325-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-169325-1

Comments

No additional comments.

Receipt

The samples were received on 8/19/2021 10:30 AM. Unless otherwise noted below, the samples arrived in good condition.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Industrial Hygiene

Method 7303: The Method Blank, Field Blank (or other QC results) were not used to correct client sample results associated with preparation batch 550-251105 and analytical batch 550-251307.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Sample Summary

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-169325-1	VF001081721	Air	08/17/21 00:00	08/19/21 10:30
550-169325-2	VF002081721	Air	08/17/21 00:00	08/19/21 10:30
550-169325-3	VF003081721	Air	08/17/21 00:00	08/19/21 10:30
550-169325-4	VF003081721FB	Air	08/17/21 00:00	08/19/21 10:30

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Detection Summary

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Client Sample ID: VF001081721

Lab Sample ID: 550-169325-1

No Detections.

Client Sample ID: VF002081721

Lab Sample ID: 550-169325-2

No Detections.

Client Sample ID: VF003081721

Lab Sample ID: 550-169325-3

No Detections.

Client Sample ID: VF003081721FB

Lab Sample ID: 550-169325-4

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Client Sample ID: VF001081721

Lab Sample ID: 550-169325-1

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Sample Air Volume: 2391 L

Sample Container: IH - MCE, 0.8 micron, 37-mm Filter

Method: PE-MET-012 - NIOSH Method 7303

Analyte	Result	Result	Result	Qualifier	RL	Prepared	Analyzed	Dil Fac
	ug/Sample	ug/m3	ug/m3		ug/Sample			
Arsenic	<0.500	<0.209			0.500	08/20/21 14:47	08/23/21 18:29	1
Lead	<0.250	<0.105			0.250	08/20/21 14:47	08/23/21 18:29	1

Client Sample ID: VF002081721

Lab Sample ID: 550-169325-2

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Sample Air Volume: 2619 L

Sample Container: IH - MCE, 0.8 micron, 37-mm Filter

Method: PE-MET-012 - NIOSH Method 7303

Analyte	Result	Result	Result	Qualifier	RL	Prepared	Analyzed	Dil Fac
	ug/Sample	ug/m3	ug/m3		ug/Sample			
Arsenic	<0.500	<0.191			0.500	08/20/21 14:47	08/23/21 18:31	1
Lead	<0.250	<0.0955			0.250	08/20/21 14:47	08/23/21 18:31	1

Client Sample ID: VF003081721

Lab Sample ID: 550-169325-3

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Sample Air Volume: 1285 L

Sample Container: IH - MCE, 0.8 micron, 37-mm Filter

Method: PE-MET-012 - NIOSH Method 7303

Analyte	Result	Result	Result	Qualifier	RL	Prepared	Analyzed	Dil Fac
	ug/Sample	ug/m3	ug/m3		ug/Sample			
Arsenic	<0.500	<0.389			0.500	08/20/21 14:47	08/23/21 18:34	1
Lead	<0.250	<0.195			0.250	08/20/21 14:47	08/23/21 18:34	1

Client Sample ID: VF003081721FB

Lab Sample ID: 550-169325-4

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Sample Air Volume: 0 L

Sample Container: IH - MCE, 0.8 micron, 37-mm Filter

Method: PE-MET-012 - NIOSH Method 7303

Analyte	Result	Result	Result	Qualifier	RL	Prepared	Analyzed	Dil Fac
	ug/Sample	ug/m3	ug/m3		ug/Sample			
Arsenic	<0.500				0.500	08/20/21 14:47	08/23/21 18:36	1
Lead	<0.250				0.250	08/20/21 14:47	08/23/21 18:36	1

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Method: PE-MET-012 - NIOSH Method 7303

Lab Sample ID: MB 550-251105/1-A
Matrix: Air
Analysis Batch: 251307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251105

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.500		0.500	ug/Sample		08/20/21 14:47	08/23/21 18:21	1
Lead	<0.250		0.250	ug/Sample		08/20/21 14:47	08/23/21 18:21	1

Lab Sample ID: LCS 550-251105/2-A
Matrix: Air
Analysis Batch: 251307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251105

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.0	24.28		ug/Sample		97	80 - 120
Lead	25.0	25.28		ug/Sample		101	80 - 120

Lab Sample ID: LCSD 550-251105/3-A
Matrix: Air
Analysis Batch: 251307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 251105

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	25.0	24.91		ug/Sample		100	80 - 120	3	20
Lead	25.0	25.83		ug/Sample		103	80 - 120	2	20

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

IH - Metals

Prep Batch: 251105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-169325-1	VF001081721	Total/NA	Air	Filter Prep	
550-169325-2	VF002081721	Total/NA	Air	Filter Prep	
550-169325-3	VF003081721	Total/NA	Air	Filter Prep	
550-169325-4	VF003081721FB	Total/NA	Air	Filter Prep	
MB 550-251105/1-A	Method Blank	Total/NA	Air	Filter Prep	
LCS 550-251105/2-A	Lab Control Sample	Total/NA	Air	Filter Prep	
LCSD 550-251105/3-A	Lab Control Sample Dup	Total/NA	Air	Filter Prep	

Analysis Batch: 251307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-169325-1	VF001081721	Total/NA	Air	PE-MET-012	251105
550-169325-2	VF002081721	Total/NA	Air	PE-MET-012	251105
550-169325-3	VF003081721	Total/NA	Air	PE-MET-012	251105
550-169325-4	VF003081721FB	Total/NA	Air	PE-MET-012	251105
MB 550-251105/1-A	Method Blank	Total/NA	Air	PE-MET-012	251105
LCS 550-251105/2-A	Lab Control Sample	Total/NA	Air	PE-MET-012	251105
LCSD 550-251105/3-A	Lab Control Sample Dup	Total/NA	Air	PE-MET-012	251105

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Client Sample ID: VF001081721

Lab Sample ID: 550-169325-1

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Filter Prep			251105	08/20/21 14:47	CXK	TAL PHX
Total/NA	Analysis	PE-MET-012		1	251307	08/23/21 18:29	MGM	TAL PHX

Client Sample ID: VF002081721

Lab Sample ID: 550-169325-2

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Filter Prep			251105	08/20/21 14:47	CXK	TAL PHX
Total/NA	Analysis	PE-MET-012		1	251307	08/23/21 18:31	MGM	TAL PHX

Client Sample ID: VF003081721

Lab Sample ID: 550-169325-3

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Filter Prep			251105	08/20/21 14:47	CXK	TAL PHX
Total/NA	Analysis	PE-MET-012		1	251307	08/23/21 18:34	MGM	TAL PHX

Client Sample ID: VF003081721FB

Lab Sample ID: 550-169325-4

Date Collected: 08/17/21 00:00

Matrix: Air

Date Received: 08/19/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Filter Prep			251105	08/20/21 14:47	CXK	TAL PHX
Total/NA	Analysis	PE-MET-012		1	251307	08/23/21 18:36	MGM	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
AIHA-LAP, LLC	Industrial Hygiene Laboratory Accreditation Program (IHLAP)	154268	10-01-21

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Method Summary

Client: Tetra Tech, Inc.
Project/Site: Site #: B866

Job ID: 550-169325-1
SDG: 2071-2107-06

Method	Method Description	Protocol	Laboratory
PE-MET-012	NIOSH Method 7303	NIOSH	TAL PHX
Filter Prep	Preparation, IH Filter	NIOSH	TAL PHX

Protocol References:

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994 and it's Supplements

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340



Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 550-169325-1
SDG Number: 2071-2107-06

Login Number: 169325
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	