**From:** Ziegelbauer, Heather/MKE <Heather.Ziegelbauer@jacobs.com>
**Sent:** Tuesday, March 03, 2020 4:49 PM
**To:** Dodds, Jennifer
**Cc:** Carey, Angela J - DNR; Rick Dewey Bethel; Jeffrey Howard Danko
**Subject:** FW: Tyco - EPA Request for FA and VI Assessment Update
**Attachments:** J177806-1 UDS Level 2 Report Final Report.pdf; 2002336_d.pdf

Jennifer, On behalf of Tyco and per your request in the email below, here is a summary of the VI sampling at Building 14.

**Building 14 Preliminary VI Sampling Results**
Five indoor air samples, including one duplicate, and one outdoor air sample were collected at Building 14 on February 11, 2020. All air sample results were non-detect for the analyzed parameters (vinyl chloride, cis-1,2-dichloroethene, and trichloroethene) with reporting limits below applicable indoor air screening levels. See attached level 2 laboratory report 2002336. Samples were collected from the following locations:

- One indoor air sample and a duplicate were collected from the office/lunchroom area in the central portion of the building (sample IDs B14-IA004-20200211 and B14-IA004-20200211-D)
- One indoor air sample was collected from the wastewater treatment area in the eastern portion of the building (sample ID B14-IA003-20200211)
- One indoor air sample was collected from the groundwater treatment area in the western portion of the building (sample ID B14-IA002-20200211)
- One indoor air sample was collected in the extended western portion of the building where the Vibratory Shear Enhanced Processing units are located (sample ID B14-IA001-20200211)
- One outdoor (ambient) air sample was collected on the north side of the building near the air intake (sample ID B14-OA005-20200211)

Concurrent with the indoor air sampling, the groundwater and wastewater treatment facility influent samples also were non-detect for the same analyzed parameters (sample IDs B14-INGWCTS-20200211 and B14-INWWTP-20200211). See attached level 2 laboratory report J177806-1.

Please let us know if you have any questions.

**Heather Ziegelbauer, PE*** | Jacobs | Project Manager
O:+1.262.644.6167 | M:+1.312.933.1017 | heather.ziegelbauer@jacobs.com
1610 N. 2nd Street, Suite 201 | Milwaukee, WI 53202 | USA
*Wisconsin

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**From:** Dodds, Jennifer [mailto:dodds.jennifer@epa.gov]
**Sent:** Tuesday, March 03, 2020 1:34 PM
**To:** Jeffrey Howard Danko <jeffrey.howard.danko@jci.com>
**Cc:** angela.carey@wisconsin.gov; Rick Bethel <rick.dewey.bethel@jci.com>; Clarizio, Richard <Clarizio.Richard@epa.gov>; Abrams, Justin <abrams.justin@epa.gov>
**Subject:** Tyco - EPA Request for FA and VI Assessment Update

Mr. Danko,

Per EPA's February 4, 2020 letter (see attached) approving the 2020 Cost Estimate for the Tyco Fire Products Facility in Marinette, WI (EPA ID: WID 006 125 215), the financial assurance instrument was due into the Agency by February 28, 2020. To date, I have not received a copy of the required instrument. Please provide a status update on this by COB tomorrow, March 4, 2020.

Additionally, EPA is requesting an update on any preliminary data from the VI sampling that recently took place in Building 14.

I look forward to a quick response to both of these requests. Please respond via email so all parties are aware.

Thank you,

Jennifer Dodds
U.S. Environmental Protection Agency, Region 5
Land, Chemicals and Redevelopment Division
77 West Jackson Blvd, LR-16J
Chicago, IL 60604-3590
Tel: (312) 886-1484
dodds.jennifer@epa.gov

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**From:** Jeffrey Howard Danko <jeffrey.howard.danko@jci.com>
**Sent:** Thursday, February 6, 2020 1:43 PM
**To:** Dodds, Jennifer <dodds.jennifer@epa.gov>
**Cc:** angela.carey@wisconsin.gov; Rick Bethel <rick.dewey.bethel@jci.com>
**Subject:** RE: Tyco - EPA Request for VI Assessment Update

We are scheduled to be taking the samples in Building 14 next week. In addition, the response to comments on VI Work Plan are under internal review and should be to the agencies next week.

Also to let you know Jacobs is nearing completion of the draft porewater investigation report and the annual report. Following internal review, they will be submitted to the agencies.

Per discussion today, we will set up a meeting for the week of April 27, most likely for the 29th at the Marinette site.

**Jeffrey Danko**
EHS Manager – Environmental Remediation
Johnson Controls
5757 N. Green Bay Ave
Milwaukee, WI 53209
+1 414 524 3344 direct
+1 262 349 2528 cell
jeffrey.howard.danko@jci.com
@johnsoncontrols

www.johnsoncontrols.com

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Johnson Controls
USA



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**From:** Dodds, Jennifer [mailto:dodds.jennifer@epa.gov]
**Sent:** Wednesday, February 05, 2020 2:34 PM
**To:** Jeffrey Howard Danko <jeffrey.howard.danko@jci.com>
**Cc:** angela.carey@wisconsin.gov
**Subject:** Tyco - EPA Request for VI Assessment Update

Mr. Danko,

Please provide an update on your progress related to the September 27, 2019 Vapor Intrusion Assessment and Work Plan. Additionally, EPA is requesting an update on the vapor intrusion assessment of Building 14 by COB February 7, 2020 as this pathway was identified as a priority by EPA and WDNR in our December 18, 2019 comment letter.

Thank you,

Jennifer Dodds
U.S. Environmental Protection Agency, Region 5
Land, Chemicals and Redevelopment Division
77 West Jackson Blvd, LR-16J
Chicago, IL 60604-3590
Tel: (312) 886-1484
dodds.jennifer@epa.gov

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**From:** Dodds, Jennifer
**Sent:** Thursday, December 19, 2019 8:25 AM
**To:** 'Jeffrey Howard Danko' <jeffrey.howard.danko@jci.com>
**Cc:** Moore, Tammy <moore.tammy@epa.gov>; Clarizio, Richard <Clarizio.Richard@epa.gov>; 'Carey, Angela J - DNR' <Angela.Carey@wisconsin.gov>
**Subject:** EPA Review of Tyco 9-27-19 VI Work Plan - 12-18-19

Mr. Danko,

Please find attached an electronic copy of the December 18, 2019 EPA review of the September 27, 2019 Vapor Intrusion Assessment and Work Plan (VI Work Plan) for the Tyco Fire Products LP, Stanton Street Facility, located in Marinette, Wisconsin. The September 2019 VI Work Plan was reviewed by both EPA and WDNR and a signed copy of this comment letter was mailed out to you. Should you have any questions regarding this matter, please let me know.

Thank you,

Jennifer Dodds
U.S. Environmental Protection Agency, Region 5
Land, Chemicals and Redevelopment Division
77 West Jackson Blvd, LR-16J
Chicago, IL 60604-3590
Tel: (312) 886-1484
dodds.jennifer@epa.gov

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2/25/2020
Ms. Kaye Walker
Jacobs (formerly CH2M Hill)
4121 Carmichael Road
Suite 400
Montgomery AL 36106

Project Name: 2020 Indoor Air Sampling
Project #: D3235600
Workorder #: 2002336

Dear Ms. Kaye Walker

The following report includes the data for the above referenced project for sample(s) received on 2/13/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Brian Whittaker

Project Manager

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# WORK ORDER #: 2002336

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Ms. Kaye Walker<br>Jacobs (formerly CH2M Hill)<br>4121 Carmichael Road<br>Suite 400<br>Montgomery, AL 36106 | **BILL TO:** | Ms. Kaye Walker<br>Jacobs (formerly CH2M Hill)<br>4121 Carmichael Road<br>Suite 400<br>Montgomery, AL 36106 |
| **PHONE:** | 334-215-9058 | **P.O. #** | |
| **FAX:** | 334-277-5763 | **PROJECT #** | D3235600 2020 Indoor Air Sampling |
| **DATE RECEIVED:** | 02/13/2020 | **CONTACT:** | Brian Whittaker |
| **DATE COMPLETED:** | 02/25/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | B14-IA003-20200211 | Modified TO-15 | 6.9 "Hg | 5.1 psi |
| 02A | B14-IA002-20200211 | Modified TO-15 | 6.7 "Hg | 4.8 psi |
| 03A | B14-IA001-20200211 | Modified TO-15 | 6.9 "Hg | 5.1 psi |
| 04A | B14-IA004-20200211 | Modified TO-15 | 6.9 "Hg | 4.9 psi |
| 05A | B14-IA004-20200211-D | Modified TO-15 | 5.3 "Hg | 5.6 psi |
| 06A | B14-OA005-20200211 | Modified TO-15 | 3.1 "Hg | 4.7 psi |
| 07A | Lab Blank | Modified TO-15 | NA | NA |
| 08A | CCV | Modified TO-15 | NA | NA |
| 09A | LCS | Modified TO-15 | NA | NA |
| 09AA | LCSD | Modified TO-15 | NA | NA |

CERTIFIED BY:  DATE: 02/25/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards



180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

**LABORATORY NARRATIVE**
**Modified TO-15**
**Jacobs (formerly CH2M Hill)**
**Workorder# 2002336**

Six 6 Liter Summa Canister (100% Cert Ambient) samples were received on February 13, 2020. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

| ***Requirement*** | ***TO-15*** | ***ATL Modifications*** |
|---|---|---|
| Initial Calibration | </=30% RSD with 2 compounds allowed out to < 40% RSD | </=30% RSD with 4 compounds allowed out to < 40% RSD |
| Blank and standards | Zero Air | UHP Nitrogen provides a higher purity gas matrix than zero air |

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

There were no analytical discrepancies.

## Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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# Summary of Detected Compounds
# MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: B14-IA003-20200211**

**Lab ID#: 2002336-01A**

No Detections Were Found.

**Client Sample ID: B14-IA002-20200211**

**Lab ID#: 2002336-02A**

No Detections Were Found.

**Client Sample ID: B14-IA001-20200211**

**Lab ID#: 2002336-03A**

No Detections Were Found.

**Client Sample ID: B14-IA004-20200211**

**Lab ID#: 2002336-04A**

No Detections Were Found.

**Client Sample ID: B14-IA004-20200211-D**

**Lab ID#: 2002336-05A**

No Detections Were Found.

**Client Sample ID: B14-OA005-20200211**

**Lab ID#: 2002336-06A**

No Detections Were Found.

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**Client Sample ID: B14-IA003-20200211**

**Lab ID#: 2002336-01A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022220** | **Date of Collection: 2/11/20 6:09:00 PM** | |
| **Dil. Factor:** | **1.75** | **Date of Analysis: 2/22/20 12:02 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.18 | Not Detected | 0.45 | Not Detected |
| cis-1,2-Dichloroethene | 0.18 | Not Detected | 0.69 | Not Detected |
| Trichloroethene | 0.18 | Not Detected | 0.94 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% Cert Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 80 | 70-130 |

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**Client Sample ID: B14-IA002-20200211**

**Lab ID#: 2002336-02A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022221** | **Date of Collection: 2/11/20 6:13:00 PM** | |
| **Dil. Factor:** | **1.71** | **Date of Analysis: 2/22/20 12:37 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.17 | Not Detected | 0.44 | Not Detected |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| Trichloroethene | 0.17 | Not Detected | 0.92 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% Cert Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 92 | 70-130 |

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**Client Sample ID: B14-IA001-20200211**

**Lab ID#: 2002336-03A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022222** | **Date of Collection: 2/11/20 6:18:00 PM** | |
| **Dil. Factor:** | **1.75** | **Date of Analysis: 2/22/20 01:12 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.18 | Not Detected | 0.45 | Not Detected |
| cis-1,2-Dichloroethene | 0.18 | Not Detected | 0.69 | Not Detected |
| Trichloroethene | 0.18 | Not Detected | 0.94 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% Cert Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 88 | 70-130 |

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**Client Sample ID: B14-IA004-20200211**

**Lab ID#: 2002336-04A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022223** | **Date of Collection: 2/11/20 6:22:00 PM** | |
| **Dil. Factor:** | **1.73** | **Date of Analysis: 2/22/20 01:55 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.17 | Not Detected | 0.44 | Not Detected |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| Trichloroethene | 0.17 | Not Detected | 0.93 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% Cert Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 83 | 70-130 |

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**Client Sample ID: B14-IA004-20200211-D**

**Lab ID#: 2002336-05A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022226** | **Date of Collection: 2/11/20 6:22:00 PM** | |
| **Dil. Factor:** | **1.68** | **Date of Analysis: 2/22/20 04:03 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.17 | Not Detected | 0.43 | Not Detected |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| Trichloroethene | 0.17 | Not Detected | 0.90 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% Cert Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 100 | 70-130 |
| 4-Bromofluorobenzene | 85 | 70-130 |

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**Client Sample ID: B14-OA005-20200211**

**Lab ID#: 2002336-06A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022225** | **Date of Collection: 2/11/20 6:26:00 PM** | |
| **Dil. Factor:** | **1.47** | **Date of Analysis: 2/22/20 03:26 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.15 | Not Detected | 0.38 | Not Detected |
| cis-1,2-Dichloroethene | 0.15 | Not Detected | 0.58 | Not Detected |
| Trichloroethene | 0.15 | Not Detected | 0.79 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% Cert Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | 70-130 |
| Toluene-d8 | 95 | 70-130 |
| 4-Bromofluorobenzene | 81 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2002336-07A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022206a** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/21/20 10:17 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.10 | Not Detected | 0.26 | Not Detected |
| cis-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| Trichloroethene | 0.10 | Not Detected | 0.54 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 95 | 70-130 |
| 4-Bromofluorobenzene | 82 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2002336-08A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022202** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/21/20 07:40 PM** | |

| Compound | %Recovery |
|---|---|
| Vinyl Chloride | 86 |
| cis-1,2-Dichloroethene | 88 |
| Trichloroethene | 83 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2002336-09A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022203** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/21/20 08:31 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 84 | 70-130 |
| cis-1,2-Dichloroethene | 76 | 70-130 |
| Trichloroethene | 79 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | 70-130 |
| Toluene-d8 | 100 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2002336-09AA**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **21022204** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/21/20 09:07 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 84 | 70-130 |
| cis-1,2-Dichloroethene | 77 | 70-130 |
| Trichloroethene | 79 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

eurofins | Environment Testing TestAmerica

# ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-177806-1
Client Project/Site: Sample Analysis

For:
Tyco Fire Protection Products
1 Stanton St
Marinette, Wisconsin 54143

Attn: Mr. Ryan Suennen

*Authorized for release by:*
*2/26/2020 5:11:32 PM*

Richard Wright, Senior Project Manager
(708)534-5200
richard.wright@testamericainc.com

# Table of Contents

## Job ID: 500-177806-1

### Laboratory: Eurofins TestAmerica, Chicago

**Narrative**

**Job Narrative**
**500-177806-1**

**Receipt**
The samples were received on 2/13/2020 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

**GC/MS VOA**
Method 8260B: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: B14-INWWTP-20200211 (500-177806-2).

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

# Detection Summary

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## Client Sample ID: B14-INGWCTS-20200211 — Lab Sample ID: 500-177806-1

No Detections.

## Client Sample ID: B14-INWWTP-20200211 — Lab Sample ID: 500-177806-2

No Detections.

## Client Sample ID: TB001-20200211 — Lab Sample ID: 500-177806-3

No Detections.

This Detection Summary does not include radiochemical test results.

# Method Summary

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL CHI |
| 5030B | Purge and Trap | SW846 | TAL CHI |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Sample Summary

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 500-177806-1 | B14-INGWCTS-20200211 | Water | 02/11/20 12:44 | 02/13/20 10:15 | |
| 500-177806-2 | B14-INWWTP-20200211 | Water | 02/11/20 13:00 | 02/13/20 10:15 | |
| 500-177806-3 | TB001-20200211 | Water | 02/11/20 13:05 | 02/13/20 10:15 | |

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

**Client Sample ID: B14-INGWCTS-20200211**
**Date Collected: 02/11/20 12:44**
**Date Received: 02/13/20 10:15**

**Lab Sample ID: 500-177806-1**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 02/19/20 13:51 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 02/19/20 13:51 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 02/19/20 13:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *75 - 126* | | *02/19/20 13:51* | *1* |
| *Toluene-d8 (Surr)* | *93* | | *75 - 120* | | *02/19/20 13:51* | *1* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *72 - 124* | | *02/19/20 13:51* | *1* |
| *Dibromofluoromethane (Surr)* | *102* | | *75 - 120* | | *02/19/20 13:51* | *1* |

# Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## Client Sample ID: B14-INWWTP-20200211

**Date Collected: 02/11/20 13:00**
**Date Received: 02/13/20 10:15**

## Lab Sample ID: 500-177806-2

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 02/19/20 13:26 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 02/19/20 13:26 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 02/19/20 13:26 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *75 - 126* | | *02/19/20 13:26* | *1* |
| *Toluene-d8 (Surr)* | *94* | | *75 - 120* | | *02/19/20 13:26* | *1* |
| *4-Bromofluorobenzene (Surr)* | *111* | | *72 - 124* | | *02/19/20 13:26* | *1* |
| *Dibromofluoromethane (Surr)* | *103* | | *75 - 120* | | *02/19/20 13:26* | *1* |

# Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## Client Sample ID: TB001-20200211

**Date Collected: 02/11/20 13:05**
**Date Received: 02/13/20 10:15**

## Lab Sample ID: 500-177806-3

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 02/19/20 14:16 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 02/19/20 14:16 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 02/19/20 14:16 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *75 - 126* | | *02/19/20 14:16* | *1* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* | | *02/19/20 14:16* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *72 - 124* | | *02/19/20 14:16* | *1* |
| *Dibromofluoromethane (Surr)* | *108* | | *75 - 120* | | *02/19/20 14:16* | *1* |

# Definitions/Glossary

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| 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) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| 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) |

# QC Association Summary

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## GC/MS VOA

### Analysis Batch: 530316

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-177806-1 | B14-INGWCTS-20200211 | Total/NA | Water | 8260B | |
| 500-177806-2 | B14-INWWTP-20200211 | Total/NA | Water | 8260B | |
| 500-177806-3 | TB001-20200211 | Total/NA | Water | 8260B | |
| MB 500-530316/7 | Method Blank | Total/NA | Water | 8260B | |
| LCS 500-530316/5 | Lab Control Sample | Total/NA | Water | 8260B | |

# Surrogate Summary

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | TOL | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (75-126) | (75-120) | (72-124) | (75-120) |
| 500-177806-1 | B14-INGWCTS-20200211 | 95 | 93 | 105 | 102 |
| 500-177806-2 | B14-INWWTP-20200211 | 93 | 94 | 111 | 103 |
| 500-177806-3 | TB001-20200211 | 95 | 91 | 103 | 108 |
| LCS 500-530316/5 | Lab Control Sample | 97 | 93 | 97 | 108 |
| MB 500-530316/7 | Method Blank | 95 | 96 | 111 | 105 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-530316/7**
**Matrix: Water**
**Analysis Batch: 530316**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 02/19/20 10:56 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 02/19/20 10:56 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 02/19/20 10:56 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *75 - 126* | | *02/19/20 10:56* | *1* |
| *Toluene-d8 (Surr)* | *96* | | *75 - 120* | | *02/19/20 10:56* | *1* |
| *4-Bromofluorobenzene (Surr)* | *111* | | *72 - 124* | | *02/19/20 10:56* | *1* |
| *Dibromofluoromethane (Surr)* | *105* | | *75 - 120* | | *02/19/20 10:56* | *1* |

**Lab Sample ID: LCS 500-530316/5**
**Matrix: Water**
**Analysis Batch: 530316**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Vinyl chloride | 50.0 | 48.3 | | ug/L | | 97 | 64 - 126 |
| cis-1,2-Dichloroethene | 50.0 | 56.2 | | ug/L | | 112 | 70 - 125 |
| Trichloroethene | 50.0 | 54.5 | | ug/L | | 109 | 70 - 125 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 126* |
| *Toluene-d8 (Surr)* | *93* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *72 - 124* |
| *Dibromofluoromethane (Surr)* | *108* | | *75 - 120* |

# Lab Chronicle

Client: Tyco Fire Protection Products
Project/Site: Sample Analysis

Job ID: 500-177806-1

## Client Sample ID: B14-INGWCTS-20200211
**Lab Sample ID: 500-177806-1**

**Date Collected: 02/11/20 12:44**
**Matrix: Water**
**Date Received: 02/13/20 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 530316 | 02/19/20 13:51 | STW | TAL CHI |

## Client Sample ID: B14-INWWTP-20200211
**Lab Sample ID: 500-177806-2**

**Date Collected: 02/11/20 13:00**
**Matrix: Water**
**Date Received: 02/13/20 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 530316 | 02/19/20 13:26 | STW | TAL CHI |

## Client Sample ID: TB001-20200211
**Lab Sample ID: 500-177806-3**

**Date Collected: 02/11/20 13:05**
**Matrix: Water**
**Date Received: 02/13/20 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 530316 | 02/19/20 14:16 | STW | TAL CHI |

**Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Accreditation/Certification Summary

Client: Tyco Fire Protection Products
Job ID: 500-177806-1
Project/Site: Sample Analysis

## Laboratory: Eurofins TestAmerica, Chicago

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Wisconsin | State | 999580010 | 08-31-20 |

# Chain of Custody Record

417149 eurofins | Environment Testing TestAmerica

Address: 2417 Bond St. University Park, IL 60484

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

| Client Contact | Project Manager: Kaye Walker | Site Contact: Kaye Walker | Date: 2-12-20 | COC No: 1 |
|---|---|---|---|---|
| Company Name: Tyco Fire Products LP-Vicki | Tel/Email: 334-215-4058 Kaye.walker@tycofs.com | Lab Contact: Richard Wright | Carrier: | 1 of 1 COCs |
| Address: 1 Stanton St. | Analysis Turnaround Time | | | Sampler: KAW |
| City/State/Zip: Marinette, WI 54143 | ☒ CALENDAR DAYS ☐ WORKING DAYS | | | For Lab Use Only: |
| Phone: 715-587-5721 | TAT if different from Below _____ | | | Walk-in Client: |
| Fax: | ☒ 2 weeks | | | Lab Sampling: |
| Project Name: 2020 Indoor Air Sampling | ☐ 1 week | | | |
| Site: Building 14 - Tyco Stanton St. Site | ☐ 2 days | | | Job / SDG No.: 500-177806 |
| PO# direct bill Tyco, no PO | ☐ 1 day | | | |

500-177806 COC

| | Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=Grab) | Matrix | # of Cont. | Filtered Sample (Y/N) | Perform MS / MSD (Y/N) | TCE | cis-1,2-DCE | Vinyl Chloride | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | B14-INGWCTS-20200211 | 2-11-20 | 1244 | G | water | 3 | N | N | X | X | X | |
| 2 | B14-INWWTP-20200211 | 2-11-20 | 1300 | G | water | 3 | N | N | X | X | X | |
| 3 | TB001-20200211 | 2-11-20 | 1305 | - | wate | 1 | N | N | X | X | X | Trip blank |

Preservation Used: 1= Ice, (2= HCl) 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

**Possible Hazard Identification:**
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

**Special Instructions/QC Requirements & Comments:**
VOCs, EPA Method 624 (only TCE, cis-1,2-DCE, vinyl chloride)

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 1134902 | Cooler Temp. (°C): Obs'd: 0.4 Corr'd: _____ Therm ID No.: _____

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| Katherine Wilson | Jacobs | 2-12-20 1500 | | | |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: | Date/Time: |
| | | | | TA-CHE | 2/13/20 1015 |

# Login Sample Receipt Checklist

Client: Tyco Fire Protection Products

Job Number: 500-177806-1

**Login Number: 177806**
**List Number: 1**
**Creator: Scott, Sherri L**

**List Source: Eurofins TestAmerica, Chicago**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= 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. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 0.4 |
| 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 <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |