ARCADIS

ZF Active Safety US Inc.

PROGRESS REPORT NO. 6

Former Kelsey-Hayes Company Site, Milford, Michigan

Administrative Order for Response Activity, EGLE Docket No. AO-RRD-22-001

October 14, 2022

PROGRESS REPORT NO. 6
FORMER KELSEY-HAYES COMPANY
MILFORD, MICHIGAN
ADMINISTRATIVE ORDER FOR RESPONSE ACTIVITY EGLE
DOCKET NO. AO-RRD-22-001

This progress report has been prepared and is being submitted pursuant to Section XII of the Administrative Order for Response Activity, Docket No. AO-RRD-22-001 (AO) issued by the Department of Environment, Great Lakes, and Energy (EGLE) to ZF Active Safety US Inc. (ZF or Respondent) on March 16, 2022 (effective date), with respect to the former Kelsey-Hayes site in Milford, Michigan (the "Site"). This progress report provides information regarding response activities and other matters related to the AO that have occurred from September 16, 2022 through October 14, 2022.

Chronological Description of Activities Conducted during the Specified Reporting Period:

- On September 16, 2022, EGLE approved modification of Paragraph 5.4 of the AO regarding the submittal date of a proposed Financial Assurance Mechanism (FAM). The submittal date of the proposed FAM has been changed to "…within 30 days of EGLE's written determination pertaining to the information provided in the Technical Summary Report…" A copy of the modification is included in **Attachment 1**.
- On September 21, 2022, a conference call (District Peer Review) was conducted with representatives from EGLE, ZF, Arcadis, Village of Milford, and John Wood Group PLC (Wood) to discuss the Technical Summary Report submitted to EGLE on August 9, 2022 ("Technical Summary Report"). Arcadis presented an overview of the Technical Summary Report and then answered questions from EGLE, Wood, and the Village of Milford. A copy of the presentation is included in **Attachment 2**. As a follow-up to the conference call, on September 22, 2022, EGLE sent a response to ZF via electronic mail ("EGLE's September 22nd Email") requesting updates to the Contingency Plan (CP) contained in the Technical Summary Report and additional technical information. A copy of EGLE's September 22nd Email is included in **Attachment 3**.
- Observation Wells OW-16D2, OW-16D2R1, and OW-16D2R2 were sampled on October 3, 2022. The samples were submitted to Fibertec Environmental Services of Holt, Michigan (Fibertec) for expedited analysis of volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Test Method 8260D. Laboratory analytical results of the October 3, 2022 samples were submitted to EGLE and the Village of Milford (VOM) on October 4, 2022, and are included in **Attachment 4**. Vinyl chloride was not detected at or above the reporting limit of 1.0 ug/L in any of the October 3, 2022 samples.
- On October 7, 2022, ZF sent a response to EGLE via electronic mail ("ZF's October 7th Email") providing an update on ZF's intent to submit a revised Technical Summary Report that includes an updated CP and additional technical information to address the questions in EGLE's September 22nd Email. A copy of ZF's October 7th Email and attachment are included in **Attachment 5**.

- On October 12, 2022, ZF sent a response to EGLE via electronic mail ("ZF's October 12th Email") providing a draft of the additional technical information to address the questions in EGLE's September 22nd Email. This information will also be incorporated into the revised Technical Summary Report as an appendix. A copy of the draft appendix submitted in ZF's October 12th Email is included in **Attachment 6**.

Results of Sampling and Tests and other Data

- Observation Wells OW-16D2, OW-16D2R1, and OW-16D2R2 were sampled on October 3, 2022. The samples were submitted to Fibertec for expedited analysis of VOCs using USEPA Test Method 8260D. A copy of the laboratory analytical report for the October 3, 2022 samples is included in **Attachment 4**. Vinyl chloride was not detected at or above the reporting limit of 1.0 ug/L in any of the October 3, 2022 samples.

Status of Access Issues

- There have been no issues with access during the reporting period.

Scheduled for the Next Reporting Period

- Conduct sampling at Observation Well OW-16D2 during the month of November 2022, with analysis conducted by Fibertec or Eurofins Canton, Ohio (Eurofins) within 10 to 14 days.
- Conduct sampling at Observation Wells OW-16D2R1 and OW-16D2R2 during the month of November 2022, with analysis conducted by Fibertec or Eurofins within 10 to 14 days.
- Submit an updated Technical Summary Report to EGLE, which will include a revised CP.
- Continue to work with Ms. Yusko-Kotimko (EGLE) on ZF's Permit Application for Water Supply Systems pursuant to Act 399 for construction of the VOM treatment system improvements.

Other Relevant Information

- No other relevant information was identified during this reporting period.

Attachments

1. Administrative Order Modification Documentation for the Proposed Financial Assurance Mechanism
2. September 21, 2022 Technical Summary Report Presentation
3. EGLE's September 22, 2022 Email
4. Laboratory Analytical Report (Observation Wells OW-16D2, OW-16D2R1, and OW-16D2R2)
5. ZF's October 7, 2022 Email and Attachment
6. Draft Appendix – Submitted in ZF's October 12, 2022 Email

ATTACHMENT 1

Administrative Order Modification Documentation for the Proposed Financial Assurance Mechanism

First Modification of the
Administrative Order for Response Activity
Former Kelsey-Hayes Company
101 Oak Street, Milford, Oakland County, Michigan
MDEQ Docket No. AO-RRD-22-001

WHEREAS, Respondent has complied with the obligations under 5.2.a., 5.2.b., and 5.2.c.; and

WHEREAS, on August 9, 2022, Respondent submitted a Technical Summary Report inclusive of additional sampling results, investigative conclusions on the conditions of monitoring well OW-16D2, and a Contingency Plan. Respondent also requested EGLE withdraw the Administrative Order for Response Activity (AO), suspend the requirements under the AO while EGLE considers withdrawing it, and replace the AO with a response activity plan; and

WHEREAS, within 180 days of the effective date of the AO Respondent was required to propose a Financial Assurance Mechanism (FAM) to EGLE for approval; and

WHEREAS, the EGLE District Peer Review of the Technical Summary Report is scheduled to occur on a date following the FAM proposal requirement under the AO and EGLE has not yet made a determination to suspend the requirements of the AO or to withdraw it based on the information provided in the Technical Summary Report; and

WHEREAS, the EGLE RRD Director is authorized to modify any required response activities pursuant to Section XIII of the Order.

NOW, THEREFORE, in consideration of Respondents submittal of the Technical Summary Report and EGLE's consideration of Respondent's requests, the following modification to the Order shall take effect upon the date of the EGLE RRD Director's signature:

Paragraph 5.4 of the AO is modified as follows:

5.4 **Financial Assurance.** Within 30 days of EGLE's written determination pertaining to the information provided in the Technical Summary Report, Respondent shall propose a Financial Assurance Mechanism to EGLE for approval. The Financial Assurance Mechanism shall be sufficient to ensure the Monitoring and Operation for a period of 30 years. The Cost of the Monitoring and Operation covered by the Financial Assurance Mechanism shall be documented based on an annual estimate of reasonable costs of the Monitoring and Operation as if they were to be conducted by a person under contract to the Village of Milford, not employees of the Respondent. The proposed Financial Assurance Mechanism shall also include all assumptions and calculations used in preparing the necessary cost estimate and shall be signed by an authorized representative of Respondent who shall confirm the validity of the data. Modifications of the due date in this Paragraph may be approved in writing by the EGLE RRD Warren District Supervisor.

All other aspects of the AO as originally issued on March 16, 2022, remain in full force and effect.

This modification became effective on September 16, 2022.

Mike Neller, Director
Remediation and Redevelopment Division
Michigan Department of Environment, Great Lakes, and Energy

September 16, 2022
Date

Approved as to form:

Danielle Allison-Yokom
Assistant Attorney General
Environment, Natural Resources, and Agriculture Division
Michigan Department of Attorney General

September 16, 2022
Date

ATTACHMENT 2

September 21, 2022 Technical Summary Report Presentation

ARCADIS Design & Consultancy for natural and built assets

TECHNICAL SUMMARY REPORT PRESENTATION

ZF Active Safety US Inc. – Former Kelsey-Hayes
101 Oak Street, Oakland County, Michigan
EGLE Docket No. AO-RRD-22-001

September 21, 2022

Agenda

- Overview/Purpose of Report
- Site Background
- Summary of Investigations
- Monitoring Plan
- Contingency Plan
- Conclusions
- Open Discussion

Overview/Purpose of Report

- EGLE letter dated June 28, 2022 requested a report, monitoring plan and contingency plan
- Consolidate information previously submitted
- Provide details of investigation and additional information
  - Evaluation/Redevelopment of OW-16D2
  - Investigation of CVOCs including VC in the OW-16D2 Area
  - Installation of two replacement wells (June/July)
- Results of the Work Demonstrate
  - OW-16D2 compromised when VC>DWC
  - Groundwater in the aquifer does not contain VC > DLs
  - CVOCs in the aquifer stable

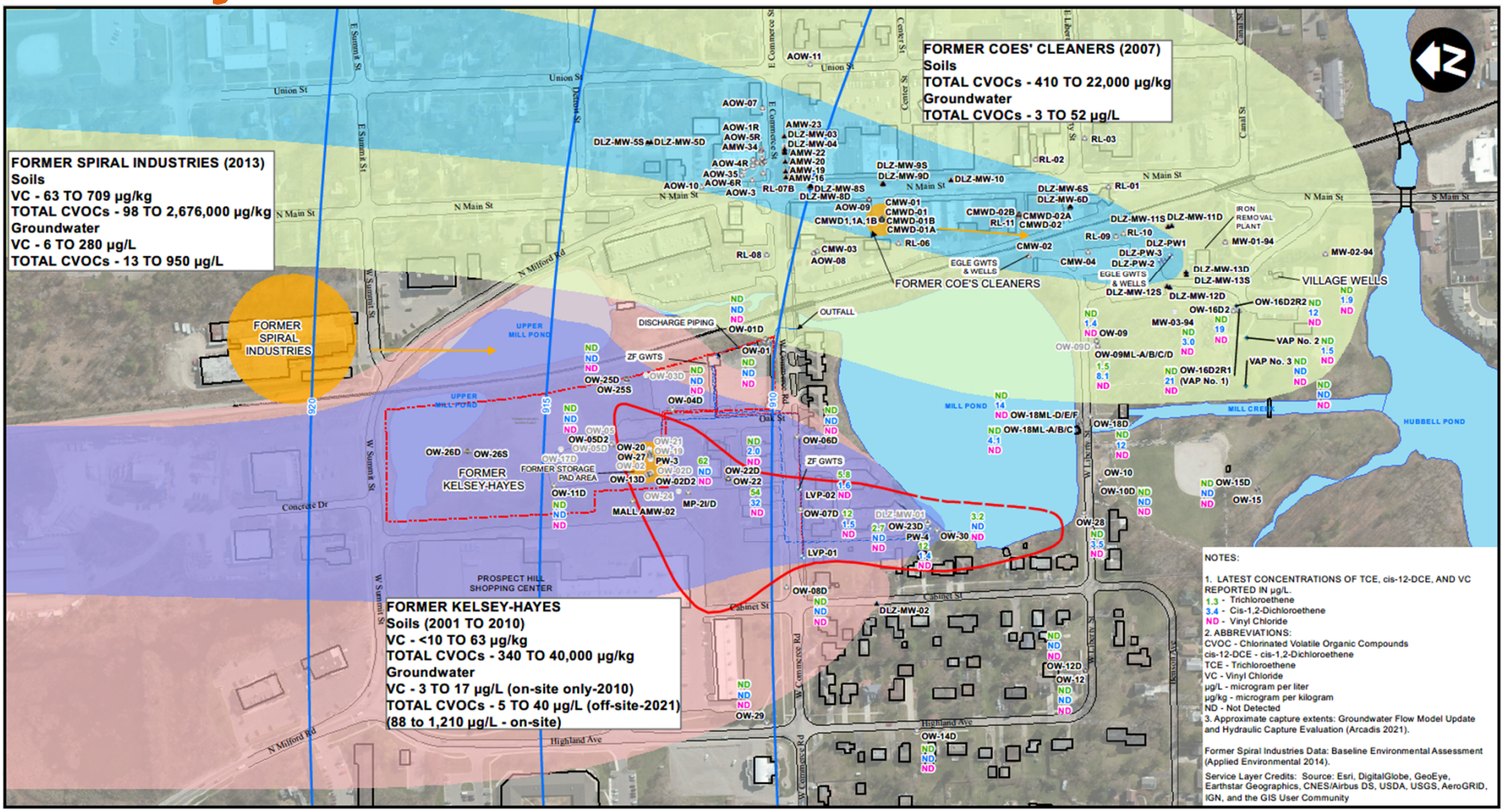
Overview/Purpose of Report (continued)

- Monitoring plan and contingency plan
  - Evaluate GW at the two new replacement wells
  - Establish actions that would be implemented if VC > DWC
- Request for EGLE concurrence with the conclusions, the Technical Summary Report, Monitoring Plan, and Contingency Plan

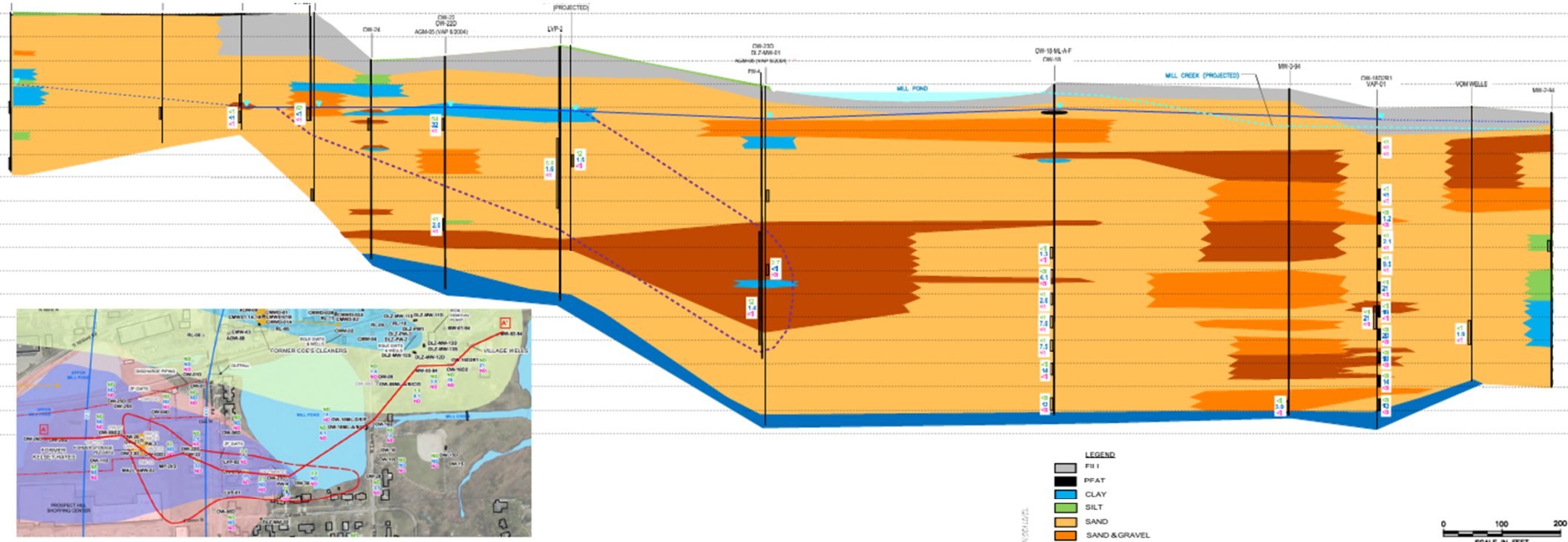
Site Background

- ZF is the corporate successor to the prior operator of the Part 201 Facility at 101 Oak Street
- Samples have been collected from a network of offsite wells installed by ZF for > 25 years
- No VC detection in the off-site monitoring network for >25 years
- No VC detection in the VOM's DW wells and Distribution system EVER for 32 years
- Other VOCs in the aquifer downgradient (at Liberty Street) of the Former KH Property are stable and below DWC
- Other groundwater plumes are present upgradient of the VOM wells

Site Layout


FORMER SPIRAL INDUSTRIES (2013)
Soils
VC - 63 TO 709 µg/kg
TOTAL CVOCs - 98 TO 2,676,000 µg/kg
Groundwater
VC - 6 TO 280 µg/L
TOTAL CVOCs - 13 TO 950 µg/L
FORMER COES' CLEANERS (2007)
Soils
TOTAL CVOCs - 410 TO 22,000 µg/kg
Groundwater
TOTAL CVOCs - 3 TO 52 µg/L
FORMER KELSEY-HAYES
Soils (2001 TO 2010)
VC - <10 TO 63 µg/kg
TOTAL CVOCs - 340 TO 40,000 µg/kg
Groundwater
VC - 3 TO 17 µg/L (on-site only-2010)
TOTAL CVOCs - 5 TO 40 µg/L (off-site-2021)
(88 to 1,210 µg/L - on-site)
FORMER SPIRAL INDUSTRIES
FORMER KELSEY-HAYES
FORMER COE'S CLEANERS
VILLAGE WELLS
PROSPECT HILL SHOPPING CENTER
UPPER MILL POND
MILL POND
MILL CREEK
HUBBELL POND
DISCHARGE PIPING
OUTFALL
ZF GWTS
EGLE GWTS & WELLS
IRON REMOVAL PLANT
NOTES:
1. LATEST CONCENTRATIONS OF TCE, cis-12-DCE, AND VC REPORTED IN µg/L.
1.3 - Trichloroethene
3.4 - Cis-1,2-Dichloroethene
ND - Vinyl Chloride
2. ABBREVIATIONS:
CVOC - Chlorinated Volatile Organic Compounds
cis-12-DCE - cis-1,2-Dichloroethene
TCE - Trichloroethene
VC - Vinyl Chloride
µg/L - microgram per liter
µg/kg - microgram per kilogram
ND - Not Detected
3. Approximate capture extents: Groundwater Flow Model Update and Hydraulic Capture Evaluation (Arcadis 2021).
Former Spiral Industries Data: Baseline Environmental Assessment (Applied Environmental 2014).
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Cross Section



LEGEND
FILL
PEAT
CLAY
SILT
SAND
SAND & GRAVEL
GRAVEL
TILL
GROUNDWATER ELEVATION (MAY16, 2022)
GEOLOGIC SAMPLE INTERVAL
MONITORING WELL SAMPLE (WELL SCREEN)
VAP SAMPLE INTERVAL
*ALL CONCENTRATIONS IN MICROGRAMS PER LITER
EXTENT OF TCE EXCEEDING DRINKING WATER CRITERION
GROUNDWATER TREATMENT SYSTEM CAPTURE ZONE
All other samples collected in May of 2022.
NS - Not recently sampled.
* Arcadis Sample in November 2021

0 100 200
SCALE IN FEET

Site Background (Continued)

Prior to redevelopment of OW-16D2

- No VC detections from 1998 to May 2021 at OW-16D2
- Only 5 samples out of 15 exceeded the DW criterion of 2.0 ug/L (2.3 to 3.5 ug/L) May and August 2021 and January and March 2022

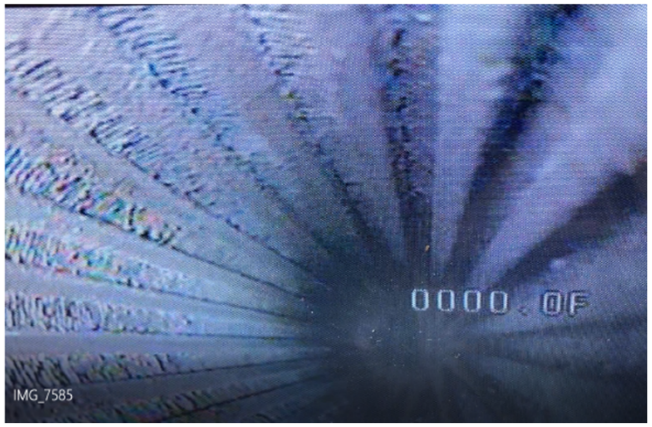
Sample Identification:	Observation Well OW-16D2																								
Sample Collection Date:	5/13/2021	6/8/2021	8/3/2021	8/16/2021	9/1/2021	9/13/2021	9/27/2021	10/11/2021	10/25/2021	11/8/2021	12/6/2021	1/4/2022	1/25/2022	2/17/2022	3/21/2022	4/4/2022		4/8/2022		4/18/2022		5/18/2022	6/8/2022	7/11/2022	8/8/2022	9/8/2022
																Fibertec	Eurofins	Fibertec	Eurofins	Fibertec	Eurofins					
Tetrachloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	17	10	16	13	16	20	18	12	17	17	8.2	15	15	12	18	19	21	20	18	18	16	16	19	18	16	21
trans-1,2-Dichloroethene	1.3	<1.0	1.6	1.1	1.3	1.7	1.7	1.1	1.6	1.5	<1.0	1.6	1.4	1.1	1.6	1.7	1.7	1.5	1.5	1.3	1.2	<1.0	1.4	<1.0	<1.0	1.8
1,1-Dichloroethane	3.8	2.4	3.8	3.0	3.2	3.9	3.7	2.8	3.8	4.2	2.0	3.0	3.4	3.1	3.7	3.5	3.8	3.5	3.0	3.0	2.4	3.4	3.6	3.5	3.6	3.9
Vinyl chloride	3.5	1.2	3.0	1.8	1.7	1.6	1.8	1.4	1.5	1.5	<1.0	2.5	3.2	2.0	2.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Summary of Investigations

- Evaluation of OW-16D2 when VC was detected prior to redevelopment
  - Significant water level drawdown during low-flow sampling
  - Stagnant water under reducing conditions
  - Suspected integrity issues with the well screen and sand pack
  - GW samples not representative of aquifer conditions and therefore, not suitable for establishing Part 201 compliance

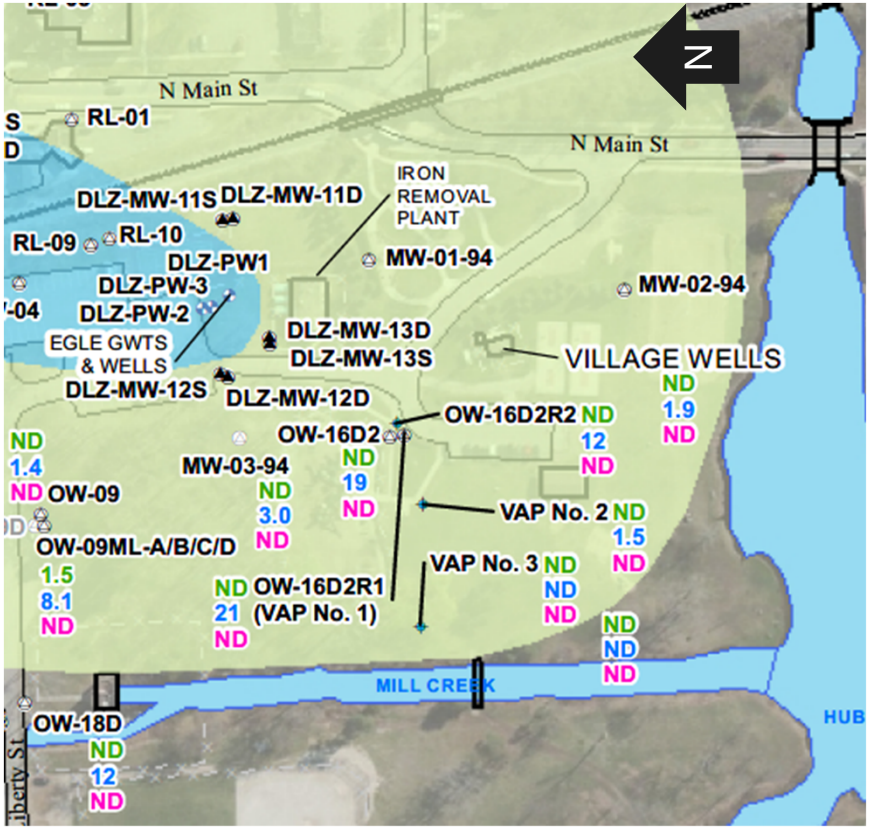
Summary of Investigations (Continued)

- Well Rehabilitation at OW-16D2
  - Initial redevelopment (April 1, 2022)
  - Collection of water samples for chemical and biological analysis (June 2022) (Result - significant potential for mineral scale build-up, well heavily impacted by excessive bacterial growth)
  - Camera Survey of well screen (July 2022) (Significant build-up of sediments on well screen
  - No VC detected since Redevelopement (April-September 2022) in any of the18 GW samples with lab results



Summary of Investigations (Continued)

- Vertical Aquifer Profiles – Three Locations near OW-16D2
  - No VC detected in any of the 36 GW samples collected
- New Replacement Wells (OW-16D2R1 and OW-16D2R2)
  - OW-16D2R1 Sampled 4 times - (Arcadis/Wood) - No VC detected in any of the 7 samples with current lab results
  - OW-16D2R2 Sampled 2 times – (Arcadis/Wood) - No VC detected in any of the 3 samples with results



Summary of Investigations (Continued)

- No VC Detected in any of the 65 Samples Collected Since April 2022 at and adjacent to OW-16D2 and VAPs No. 2 and 3.

  - VAP No. 1 – 14 Samples
  - OW-16D2 – 18 Samples
  - OW-16D2R1 – 7 Samples with current results (8 samples collected)
  - OW-16D2R2 – 3 Samples with current results (4 samples collected)
  - VAP No. 2 and 3 – 22 Samples

Monitoring Plan

- Sample OW-16D2R1 and OW-16D2R2 monthly for 6 Months
- If No VC Exceedance, Quarterly Sampling for a year
- If No VC Exceedance, Semiannual Sampling consistent with current site-wide monitoring program
- If VC exceeds DW, two additional samples will be collected within 4 and 8 days (expedited analysis) of receiving the result. If VC exceeds the DW criterion in the two additional samples, implement the Contingency Plan

Contingency Plan

- Sample OW-16D2R1 and OW-16D2R2 monthly for 6 Months
- Evaluate condition of OW-16D2R1 and OW-16D2R2
- If the Well(s) are functioning properly, sample the well one more time within 1-day (expedited analysis)
- If resampling shows VC>DW, ZF will meet with EGLE to plan/schedule implementation of GW treatment measures for the VOM DW supply

Conclusions

The AO states that the presence of VC in OW-16D2, above the DWC, in close proximity to the VOM drinking water supply wells creates an imminent and substantial endangerment to the public water supply.

This conclusion is no longer supported by the facts based upon all of the results from extensive investigations discussed above including:

- Verification that the condition of OW-16D2 was compromised and the samples collected from the well between May 2021 and March 2022 showing VC > DWC were not representative of aquifer conditions.

Conclusions (Continued)

- No detections of VC in OW-16D2 post redevelopment (18 groundwater samples)
- No detections of VC in 3 VAP borings near OW-16D2 (36 groundwater samples)
- No detections of VC in 2 replacement wells OW-16D2R1 and OW-16D2R2 in 10 groundwater samples
- No detections of VC in VOM wells despite concerns over OW-16D2 distance and groundwater velocity (30 samples since VC first reported at OW-16D2). VC has still never been detected at VOM wells.

Conclusions (Continued)

With the technical basis of the AO now shown to be based on information obtained from OW-16D2 that was not representative of the groundwater conditions in the aquifer and not appropriate to determine compliance with Part 201, the AO should be withdrawn and replaced by a Response Activity Plan prepared by ZF, in consultation with VOM, and approved by EGLE that provides all interested parties the current/correct understating of the issues and assurances of the proper path forward based on the current complete data set.

Open Discussion

ATTACHMENT 3

EGLE’s September 22, 2022 Email

From: Alger, Brandon (EGLE) <AlgerB@michigan.gov>
Sent: Thursday, September 22, 2022 9:55 AM
To: Detwiler Scott MSA HEEN
Cc: Bleazard Robert; Sclafani, Troy; McInnis, John; WILSONC3; Bertolini, Emily (EGLE)
Subject: Request for additional information related to the Kelsey-Hayes Milford, Technical Summary Report

Hi Scott,

Thanks again to you and everyone else for the presentation yesterday. It was very helpful. By the end of our internal discussion EGLE noted some of the discussion we were having was based either on knowledge gained from the presentation or EGLE interpretations of things in the report. This isn't a problem, but because of the importance of this and protection of Milford's water system, we don't want to be making decisions based off assumptions or important knowledge that isn't publicly available in a document, because it was shared only in a conference call. The additional information we'd like to see it as follows:

- Monitoring well construction logs for OW-16D2, OW-16D2R1, and OW-16D2R1, including material and date of installation.
- An explanation of why fouling in OW-16D2 is occurring specifically there and not elsewhere and if we can possibly expect seeing future issues with this well, or other wells.
    - In the presentation you had expressed this was the only stainless steel well in the network and other wells were PVC. Can you express if, how, or why this is notable? Does the well material, slot size, or other parameters play into tendencies for biological fouling?
    - Discuss how biological testing completed two months after initial well redevelopment is important today. We had a good conversation about this yesterday, but I don't want to be recreating that perspective which you had shared.
- Demonstration or proof of why the cis-1,2-DCE (DCE) seen in monitoring OW-16-series will not break down into VC under natural conditions present at the facility.
    - A map of DCE concentrations or possibly appending DCE concentrations onto the Figure 1 Site Layout. This could be shown as where DCE is present above criteria, and where it's present below criteria.
    - May be helpful to show trend graphs for OW-16D2 and any other nearby wells as was shown for upgradient wells.

This we may need further discussion on, or maybe not, I'll leave that to you to discuss internally and get back to EGLE on, but from our perspective the contingency plan needs work to show it is protective. Specifically the paragraph that states if the resampling results show VC in excess of DWP then we will meet and make a plan. That's not an acceptable contingency. What we need to see is that if the *current* drinking water protection criteria is exceeded:

- The replacement wells shall be *both* evaluated and resampled within 1 day (*current plan reads as no timeline on well evaluation, only on resampling*) of the sample results exceeding current DWP criteria.
    - Also, while I have no expectation this will ever change from 2.0, EGLE does have to enforce whatever the *current* criteria may be, and can't limit our enforcement to 2.0 ug/L.
- ZF will expedite results and provide results to EGLE within 1 day of receipt. (*same as proposed*)
- If resampling results show vinyl chloride in excess of DWP in replacement wells, then ZF will immediately begin implementation of EGLE-approved treatment system, which is currently under review.
    - ZF will continue working with EGLE on this review until receiving a permit.
    - ZF will consult with EGLE and Milford during this process, but we're not going to only to discuss it. If there's a real exceedance in a non-fouled well, and analytical sampling can duplicate this, treatment begins immediately.

- ZF may continue evaluation, presenting data, methodologies, etc. to EGLE and if ZF can prove their plume is not the source they may petition to transfer responsibility of the system (*mostly same as proposed, but with discussion of EGLE-approved system*).

The stuff in the first half (non-contingency) could be included with the slide deck which was presented yesterday. This can be considered an addendum or additional appendix to the technical summary report, and we'll assure it's part of the formal record for the facility. This also makes it reliable information from which EGLE can appropriately respond; however, the changes EGLE needs to see to contingency plan may require a change to that section of the report. I am not picky on process, you can submit a Report Version 2, or simply an addendum to the current report with an updated contingency that makes it clear the addendum replaced any prior proposed contingency.

I also cannot state anything to the effect of "do this, get approval" because that's above me – but with this added information we will be responding to all the technical information which was available yesterday, and that's important. Our peer review group can't communicate a complete technical opinion to the more legal-minded people regarding the ultimate question, "is this protective?" without that information. Feel welcome to give me a call if you'd like to discuss.

Thanks,
Brandon Alger | Senior Geologist
Remediation and Redevelopment Division | Warren District Office
Michigan Department of Environment, Great Lakes, and Energy
586-623-2839 | AlgerB@Michigan.gov
Follow Us | Michigan.gov/EGLE

ATTACHMENT 4

Laboratory Analytical Report (Observation Wells OW-16D2, OW-16D2R1, and OW-16D2R2)

Fibertec
environmental
services

Tuesday, October 4, 2022

Fibertec Project Number:	A11227 Amended
Project Identification:	TRW Milford (30136112) /30136112
Submittal Date:	10/03/2022

Ms. Stacey Hannula
Arcadis U.S., Inc. - Novi
28550 Cabot Drive
Suite 500
Novi, MI 48377

Dear Ms. Hannula,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Analytical report amended due to a data upload error for sample A11227-001 (OW-16D2_100322). This report replaces the origianl report created 10/4/22 @ 3: 52 PM.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Katherine Jones at 5:01 PM, Oct 04, 2022

For Daryl P. Strandbergh
Laboratory Director

Enclosures

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11227
Laboratory Sample Number: A11227-001

Order: A11227
Date: 10/04/22

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**OW-16D2_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Ground Water**	Collect Time:	**09:32**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-001** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: OW-16D2_100322**

							Preparation		Analysis		
	Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
	1. Acetone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡	2. Acrylonitrile	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	3. Benzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	4. Bromobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	5. Bromochloromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	6. Bromodichloromethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡	7. Bromoform (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	8. Bromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	9. 2-Butanone	U		µg/L	25	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	10. n-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	11. sec-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	12. tert-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	13. Carbon Disulfide	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	14. Carbon Tetrachloride	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	15. Chlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	16. Chloroethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	KYD
	17. Chloroform	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	18. Chloromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	19. 2-Chlorotoluene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡	20. 1,2-Dibromo-3-chloropropane (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	21. Dibromochloromethane	U	V+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	22. Dibromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	27. 1,1-Dichloroethane	**3.2**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	30. cis-1,2-Dichloroethene	**17**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	31. trans-1,2-Dichloroethene	**1.4**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	35. Ethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	36. Ethylene Dibromide	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
	37. 2-Hexanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART

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Analytical Laboratory Report
Laboratory Project Number: A11227
Laboratory Sample Number: A11227-001

Order: A11227
Date: 10/04/22

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**OW-16D2_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Ground Water**	Collect Time:	**09:32**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-001** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: OW-16D2_100322**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
38. Isopropylbenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
40. Methylene Chloride	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡ 41. 2-Methylnaphthalene	U	V+ L+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
42. MTBE	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
43. Naphthalene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
44. n-Propylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
45. Styrene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
46. 1,1,1,2-Tetrachloroethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
48. Tetrachloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
49. Toluene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
53. Trichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
59. Vinyl Chloride	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
60. m&p-Xylene	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
61. o-Xylene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART
‡ 62. Xylenes	U		µg/L	3.0	1.0	10/03/22	VB22J03A	10/03/22 18:14	VB22J03A	ART

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Analytical Laboratory Report
Laboratory Project Number: A11227
Laboratory Sample Number: A11227-002

Order: A11227
Date: 10/04/22

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**OW-16D2R1_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Ground Water**	Collect Time:	**10:18**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-002** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: OW-16D2R1_100322**

							Preparation		Analysis		
	Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
	1. Acetone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡	2. Acrylonitrile	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	3. Benzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	4. Bromobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	5. Bromochloromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	6. Bromodichloromethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡	7. Bromoform (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	8. Bromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	9. 2-Butanone	U		µg/L	25	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	10. n-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	11. sec-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	12. tert-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	13. Carbon Disulfide	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	14. Carbon Tetrachloride	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	15. Chlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	16. Chloroethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	17. Chloroform	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	18. Chloromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	19. 2-Chlorotoluene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡	20. 1,2-Dibromo-3-chloropropane (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	21. Dibromochloromethane	U	V+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	22. Dibromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	27. 1,1-Dichloroethane	**2.1**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	30. cis-1,2-Dichloroethene	**19**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	31. trans-1,2-Dichloroethene	**1.1**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	35. Ethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	36. Ethylene Dibromide	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
	37. 2-Hexanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**OW-16D2R1_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Ground Water**	Collect Time:	**10:18**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-002** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: OW-16D2R1_100322**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
38. Isopropylbenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
40. Methylene Chloride	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡ 41. 2-Methylnaphthalene	U	V+ L+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
42. MTBE	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
43. Naphthalene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
44. n-Propylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
45. Styrene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
46. 1,1,1,2-Tetrachloroethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
48. Tetrachloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
49. Toluene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
53. Trichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
59. Vinyl Chloride	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
60. m&p-Xylene	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
61. o-Xylene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART
‡ 62. Xylenes	U		µg/L	3.0	1.0	10/03/22	VB22J03A	10/03/22 18:39	VB22J03A	ART

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Analytical Laboratory Report
Laboratory Project Number: A11227
Laboratory Sample Number: A11227-003

Order: A11227
Date: 10/04/22

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**OW-16D2R2_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Ground Water**	Collect Time:	**11:07**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-003** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: OW-16D2R2_100322**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
3. Benzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
4. Bromobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
5. Bromochloromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
6. Bromodichloromethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 7. Bromoform (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
8. Bromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
9. 2-Butanone	U		µg/L	25	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
10. n-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
11. sec-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
12. tert-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
13. Carbon Disulfide	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
14. Carbon Tetrachloride	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
15. Chlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
16. Chloroethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
17. Chloroform	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
18. Chloromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
21. Dibromochloromethane	U	V+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
22. Dibromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
30. cis-1,2-Dichloroethene	**10**		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
35. Ethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
36. Ethylene Dibromide	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
37. 2-Hexanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**OW-16D2R2_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Ground Water**	Collect Time:	**11:07**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-003** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: OW-16D2R2_100322**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
38. Isopropylbenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
40. Methylene Chloride	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 41. 2-Methylnaphthalene	U	V+ L+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
42. MTBE	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
43. Naphthalene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
44. n-Propylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
45. Styrene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
46. 1,1,1,2-Tetrachloroethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
48. Tetrachloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
49. Toluene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
53. Trichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
59. Vinyl Chloride	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
60. m&p-Xylene	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
61. o-Xylene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART
‡ 62. Xylenes	U		µg/L	3.0	1.0	10/03/22	VB22J03A	10/03/22 19:04	VB22J03A	ART

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Analytical Laboratory Report
Laboratory Project Number: A11227
Laboratory Sample Number: A11227-004

Order: A11227
Date: 10/04/22

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**Fieldblank_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Blank: Field**	Collect Time:	**13:00**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-004** **Matrix: Blank: Field**
Method: EPA 5030C/EPA 8260D **Description: Fieldblank_100322**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
3. Benzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
4. Bromobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
5. Bromochloromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
6. Bromodichloromethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 7. Bromoform (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
8. Bromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
9. 2-Butanone	U		µg/L	25	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
10. n-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
11. sec-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
12. tert-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
13. Carbon Disulfide	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
14. Carbon Tetrachloride	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
15. Chlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
16. Chloroethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
17. Chloroform	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
18. Chloromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
21. Dibromochloromethane	U	V+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
22. Dibromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
35. Ethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
36. Ethylene Dibromide	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
37. 2-Hexanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**Fieldblank_100322**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Blank: Field**	Collect Time:	**13:00**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-004** **Matrix: Blank: Field**
Method: EPA 5030C/EPA 8260D **Description: Fieldblank_100322**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
38. Isopropylbenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
40. Methylene Chloride	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 41. 2-Methylnaphthalene	U	V+ L+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
42. MTBE	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
43. Naphthalene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
44. n-Propylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
45. Styrene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
46. 1,1,1,2-Tetrachloroethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
48. Tetrachloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
49. Toluene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
53. Trichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
59. Vinyl Chloride	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
60. m&p-Xylene	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
61. o-Xylene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART
‡ 62. Xylenes	U		µg/L	3.0	1.0	10/03/22	VB22J03A	10/03/22 17:25	VB22J03A	ART

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Analytical Laboratory Report
Laboratory Project Number: A11227
Laboratory Sample Number: A11227-005

Order: A11227
Date: 10/04/22

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**Trip Blank**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Blank: Trip**	Collect Time:	**NA**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-005** **Matrix: Blank: Trip**
Method: EPA 5030C/EPA 8260D **Description: Trip Blank**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
3. Benzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
4. Bromobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
5. Bromochloromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
6. Bromodichloromethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 7. Bromoform (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
8. Bromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
9. 2-Butanone	U		µg/L	25	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
10. n-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
11. sec-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
12. tert-Butylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
13. Carbon Disulfide	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
14. Carbon Tetrachloride	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
15. Chlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
16. Chloroethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
17. Chloroform	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
18. Chloromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
21. Dibromochloromethane	U	V+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
22. Dibromomethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
34. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
35. Ethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
36. Ethylene Dibromide	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
37. 2-Hexanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART

Client Identification:	**Arcadis U.S., Inc. - Novi**	Sample Description:	**Trip Blank**	Chain of Custody:	**205827**
Client Project Name:	**TRW Milford (30136112)**	Sample No:		Collect Date:	**10/03/22**
Client Project No:	**30136112**	Sample Matrix:	**Blank: Trip**	Collect Time:	**NA**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A11227-005** **Matrix: Blank: Trip**
Method: EPA 5030C/EPA 8260D **Description: Trip Blank**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
38. Isopropylbenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
40. Methylene Chloride	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 41. 2-Methylnaphthalene	U	V+ L+	µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
42. MTBE	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
43. Naphthalene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
44. n-Propylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
45. Styrene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
46. 1,1,1,2-Tetrachloroethane	U	V+	µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
48. Tetrachloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
49. Toluene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
53. Trichloroethene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
55. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
59. Vinyl Chloride	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
60. m&p-Xylene	U		µg/L	2.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
61. o-Xylene	U		µg/L	1.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART
‡ 62. Xylenes	U		µg/L	3.0	1.0	10/03/22	VB22J03A	10/03/22 17:49	VB22J03A	ART

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.

Accreditation Number(s):

T104704518-22-14 (TX)

Fibertec environmental services

Analytical Laboratory

1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Geoprobe

11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody #
205827
PAGE 1 of 1

Client Name: Arcadis
Contact Person: Stacey Hannula
Project Name/ Number: 30136112 TRW Milford
Email distribution list: stacey.hannula@arcadis.com
john.mcinnis@arcadis.com
Quote#
Purchase Order# 30136112

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS: VOC 8260B	HOLD SAMPLE	Remarks:
10/3/22	0932		OW-16D2_100322	GW	3	x		48hr TAT
10/3/22	1018		OW-16D2R1_100322	GW	3	x		48hr TAT
10/3/22	1107		OW-16D2R2_100322	GW	3	x		48hr TAT
10/3/22	1100		FIELDBLANK_100322	-	3	x		std TAT
-			TRIP BLANK	-	3	x		std TAT

Matrix Code: S Soil; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Deliverables: X Level 2; Level 3; Level 4; EDD

Received By Lab
OCT 03 2022
Initials: AW

Comments:

Sampled/Relinquished By: Stacey Hannula/Arcadis	Date/ Time 10/3/22 1204	Received By: Kriss Scott
Relinquished By: Kriss Scott	Date/ Time	Received By: [signature] 10/3/22 1:00
Relinquished By: [signature]	Date/ Time 10/3/22 14:49	Received By Laboratory: [signature]

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

_____1 bus. day X 2 bus. days _____3 bus. days _____4 bus. days

_____5-7 bus. days (standard) Other (specify time/date requirement): _____

LAB USE ONLY

Fibertec project number: A11227

Received On Ice

Temperature upon receipt at Lab: 5.0°C

Please see back for terms and conditions

ATTACHMENT 5

ZF's October 7, 2022 Email and Attachment

From: Detwiler Scott MSA HEEN <Scott.Detwiler@zf.com>
Sent: Friday, October 7, 2022 11:09 AM
To: Alger, Brandon (EGLE)
Cc: McInnis, John; Bleazard Robert; Martorano Kelly
Subject: ZF Milford Site - DRAFT Contingency Plan
Attachments: 221007 DRAFT CONTINGENCY PLAN Rev1.docx

Hello Brandon,

I wanted to provide an update on our anticipated timing for submittal of the additional information requested during the recent meeting with the EGLE peer review team, Village of Milford, ZF and Arcadis. ZF plans to submit a revised Technical Report next week, including an updated Contingency Plan (CP) section that addresses the comments and concerns raised by EGLE during the meeting and in your email dated September 22nd. The updated Technical Report will also include an additional attachment/appendix that specifically answers the questions raised by EGLE during the meeting and in your email.

However, prior to submitting the revised Technical Report and CP, we wanted to share some of our ideas about the CP revisions with you and get some initial feedback from you on the approach before our October 11 submission target date, if your schedule permits..

1. Based on your comments and our discussion about monthly sampling results from the Observation Wells (OWs) that show vinyl chloride above the DW criteria, ZF plans to update the CP with the following information:

    1. Initial evaluation of the condition of the OWs within 1 business day to determine if the OWs are functioning properly, specifically to evaluate the draw-down of the OW(s).
    2. More details describing what will be done for an initial evaluation of the OWs.
    3. Description and estimated timing for rehabilitation or replacement of an OW, if it is found to be compromised based on the initial evaluation.

2. Based on your comment that it is not an acceptable contingency for ZF and EGLE to meet and make a plan, if the resampling results show vinyl chloride in excess of DW criteria, ZF plans to amend the CP to include the following actions if this situation arises:

    1. ZF will complete the current Act 399 construction permit review process with ELGE DWEHD in parallel with other actions and decisions related to the AO, so that a complete Act 399 permit package is available for immediate submission to EGLE, should it be required.
    2. If an OW has been rehabilitated or replaced and sampling still shows vinyl chloride above the DW criteria, then ZF will meet with ELGE and VOM within 5 business days to initiate the implementation of the treatment system and ZF will submit the Act 399 construction permit application for EGLE and VOM immediate approval.
    3. ZF will meet with EGLE every 5 years, while the Contingency Plan is required, to review the Act 399 construction permit application to make sure that the permit documentation still meets regulatory and technical requirements and would be ready for immediate submittal and approval, if needed.

I have attached a DRAFT version of the language we have formulated for the Contingency Plan for your review and feedback. Please advise on whether this will be acceptable to the Agency, or whether there are any significant issues that need to be discussed.

We believe these steps are prudent and protective and, if they are acceptable to EGLE, we will complete the edits to the Technical Report and Contingency Plan for submission next week.

Kind regards
Scott Detwiler CSP
Senior Regional EHS Manager

ZF Group
Environmental, Health and Safety
11202 E. Germann Rd., Mesa, AZ 85212

Phone: 480-722-4139, Mobile: 480-600-7433, Fax: 480-722-4254
E-Mail: scott.detwiler@zf.com

DRAFT

CONTINGENCY PLAN

This Contingency Plan has been developed to describe the actions that will be implemented if vinyl chloride above the applicable DW criteria is verified in the Observation Well(s) pursuant to the process set forth in the monitoring plan included above.

ZF will continue to work with the EGLE, Drinking Water and Environmental Health Division – Warren District Office (DWEHD – WDO) to complete the currently ongoing Act 399 construction permit review process, including submittal of any updated supporting plans and specifications that describe the work necessary to implement the treatment system set forth in ZF's Act 399 permit application submitted on June 20, 2022. ZF will coordinate with EGLE on the permit review process in parallel with the process of withdrawing and replacing the AO, so that a complete Act 399 permit package is available for immediate submission to EGLE, should it be required pursuant to this Contingency Plan. ZF would meet with EGLE and VOM every 5 years, while the Contingency Plan is still required for the Site, to review the Act 399 construction permit documentation and evaluate the technical and regulatory feasibility of the plans and specifications that describe the work necessary to implement the treatment system.

If the verification sampling results from the Observation Well(s) show vinyl chloride at concentrations that exceed the applicable DW criteria, then an initial evaluation of the condition of the Observation Well(s) will be conducted within 1 business day, to determine if the Observation Wells are functioning properly. Initial evaluation will specifically involve, evaluation of the drawdown within the Observation Well(s) under low-flow purging rates (100 to 150 milliliters per minute). If the well is unable to sustain low-flow purging rates without significant draw-down, or if the total amount of water purged from the well is similar to the volume of standing water measured in the well before purging, then stagnant water conditions likely exist and one or both of the Observation Wells may be compromised and not rendering sampling results representative of actual aquifer conditions. Based on the information obtained during the initial evaluation, one or both of the Observation Wells may require rehabilitation or replacement.

If an Observation Well is determined to be compromised, ZF will prepare a plan to rehabilitate or replace the well within 5 business days and submit it to EGLE for review. Rehabilitation measures may include surging/pumping, jetting, air lifting, mechanical scrubbing, and injecting approved additives into the Observation Well(s). It is expected that these rehabilitation measures could be performed within 2 weeks, subject to EGLE approvals, and contractor and equipment availability. If replacement of an Observation Well is necessary, it is anticipated that

drilling a new well could be completed within 1 month, subject to EGLE approvals, and contractor and equipment availability. Once an Observation Well is rehabilitated or replaced, the Observation Well will be resampled/sampled in one week (per EGLE guidelines) with expedited laboratory analysis. ZF will provide EGLE the results of the resampling/sampling within 1 business day of receipt from the laboratory.

If the Observation Well is determined to be functioning properly after rehabilitation, ZF will resample the Observation Well 1 more time within 1 business day of that determination, with expedited laboratory analysis. ZF will provide EGLE the results of the resampling within 1 business day of receipt from the laboratory.

If the Observation Well has been rehabilitated or a replacement well has been installed and the resampling/sampling results show vinyl chloride in excess of applicable DW criteria, then ZF will meet with EGLE and the VOM within 5 business days to initiate the implementation of the treatment system set forth in the Act 399 construction permit previously discussed with EGLE and ZF will submit the Act 399 construction permit documents for immediate approval. Once the Act 399 construction permit has been approved, ZF will begin the equipment procurement and installation process to implement the treatment system described in the Act 399 construction permit.

At any point, ZF may conduct additional investigation activities, including but not limited to additional sampling, groundwater flow and transport modeling, and forensic analysis to further evaluate the source of any vinyl chloride that could potentially be detected in groundwater at the Observation Wells at concentrations above applicable DW criteria. ZF would notify EGLE of its intent to collect and analyze such data, and present the data, methodologies, and determinations to EGLE. If the additional information indicates that the former Kelsey Hayes site is a valid potential source of vinyl chloride in the area of the Observation Wells, then ZF will continue its obligations under this Contingency Plan. If it is determined that the former Kelsey-Hayes site is not a valid potential source of vinyl chloride in the area of the Observation Wells, ZF may submit a request to EGLE to discontinue this Contingency Plan. ZF may also elect to evaluate whether there are alternative, equally protective, groundwater treatment technologies that may become available and propose any such technologies to EGLE and VOM for approval in place of the treatment system currently described in ZF's Act 399 construction permit application and supporting documents. This Contingency Plan may be modified, amended, or terminated upon the written consent and approval of ZF, EGLE and the VOM.

This Contingency Plan is protective of public health for the following reasons:

DRAFT

- The previous vinyl chloride detections above DW criteria at OW-16D2 have been shown to be a result of stagnant anaerobic water within a compromised and malfunctioning monitoring well, not representative of the groundwater conditions, and no other wells or VAP borings in the vicinity have ever yielded vinyl chloride detections.
- Previous detections of vinyl chloride within the compromised OW-16D2 at concentrations ranging from 1.2 to 3.5 ug/L from May 2021 through March 2022 did not result in a detectable concentration of vinyl chloride in any other wells, including the VOM drinking water wells (vinyl chloride has never been detected at any time in the VOM drinking water wells).
- The existing VOM iron removal plant is estimated to have a 50% removal efficiency for vinyl chloride, affording current safeguards against vinyl chloride concentrations exceeding DW criteria in the water being supplied by the VOM drinking water wells.

All actions will be evaluated and implemented in close cooperation with the VOM and EGLE.

ATTACHMENT 6

Draft Appendix – Submitted in ZF's October 12, 2022 Email

DRAFT
ATTACHMENT 16

Response to EGLE's September 22, 2022 Email: Request for Additional Information Related to the Former Kelsey-Hayes Site, Milford, Technical Summary Report

1) EGLE Technical Comment/Request No. 1:

Monitoring well construction logs for OW-16D2, OW-16D2R1, and OW-16D2R2, including material and date of installation.

ZF Response:

The monitoring well construction logs are attached and include the materials of construction and date of installation. ***See Exhibit A****.*

2) EGLE Technical Comment/Recommendation No. 2:

An explanation of why fouling in OW-16D2 is occurring specifically there and not elsewhere and if we can possibly expect seeing future issues with this well, or other wells.

- In the presentation you had expressed this was the only stainless steel well in the network and other wells were PVC. Can you express if, how, or why this is notable? Does the well material, slot size, or other parameters play into tendencies for biological fouling?
- Discuss how biological testing completed two months after initial well redevelopment is important today. We had a good conversation about this yesterday, but I don't want to be recreating that perspective which you had shared.

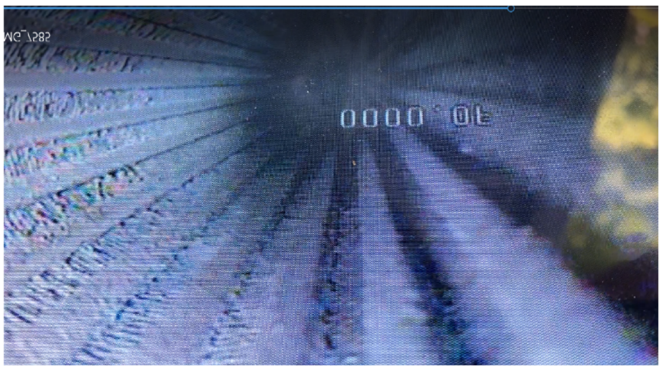
ZF Response:

As indicated in the well log for Monitoring Well OW-16D2, the material of construction is galvanized steel (casing and screen). None of the other wells were constructed with galvanized steel well materials. Most wells have polyvinyl chloride (PVC) casings and screens except for the two new monitoring wells (OW-16D2R1 and OW-16D2R2) which have PVC casings and stainless-steel screens. Although PVC well screens are acceptable for monitoring wells, stainless steel screens were selected for the two new wells to provide optimal connectivity to the aquifer and long-term performance for monitoring and maintenance. In general, galvanized monitoring wells are not preferred because of their low resistance to chemical attack and corrosion, especially over the course of long-term monitoring programs.

During the initial redevelopment of OW-16D2 conducted on April 1, 2022, most of the water was removed from the well during the process and recovery of groundwater into the well was very slow, at a rate of less than 1 foot per hour. Because this initial surging did not significantly improve the hydraulic connection of the well to the aquifer (i.e., we still observed significant drawdown during low-flow sampling), the purpose of the chemical/biological testing was to assess biological and chemical factors (biofouling, scaling, etc.) for a complete well profile to help determine if there is

scaling and/or bioaccumulation on the well screen. Water Systems Engineering (WSE) performed the chemical/biological testing of two samples collected on June 6, 2022. A camera survey/video of OW-16D2 was also performed to further assess and verify the condition of the well.

*As indicated in the WSE evaluation (see **Attachment 2**), there is significant potential for mineral scale buildup over time as indicated by the high concentration of dissolved minerals present including hardness, calcium, and alkalinity. This was confirmed in the well video as shown below:*



OW-16D2 well screen

The bacterial assessment as well as the microscopic evaluation found strong evidence indicating that the well is heavily impacted by excessive bacterial growth, particularly by slime forming organisms.

*In addition, as presented in the follow-up letter from Mr. Michael Schnieders (WSE), dated September 29, 2022 (See **Exhibit B**), it's believed there may be a breach in the well casing and/or degradation/failure of the grout based on the following:*

- *Oxidative oxidation reduction potential (ORP) of 160 and 179 millivolts (mV) observed in both the June 6, 2022 water samples evaluated by WSE in comparison to the aquifer conditions characterized by the ORP in OW-16D2R1 (-112 to -187 mV, June through September 2022) and OW-16D2R2 (-138 to -145 mV, August and September 2022). Please note: Based on the drawdown observed during the collection of the two June 6, 2022 samples evaluated by WSE (approximately 21 and 25 feet), both samples contain water primarily from within the well and are not indicative of aquifer conditions.*
- *The evidence of corrosion in the well video as shown below.*

OW-16D2 joint where sections of the well casing are connected together

Initial recommendations provided by WSE to help restore unrestricted flow between the interior of the well and the aquifer include well rehabilitation involving mechanical brushing, an acid treatment to dissolve mineral scale followed by disinfection to reduce the bacterial load in the well. However, since the well is constructed with galvanized steel and there are already signs of corrosion and deterioration (observed in the well video), there is a good chance the well would fail during the rehabilitation process or again after rehabilitation. Furthermore, the use of chemicals in a well near the Village of Milford's drinking water wells has been strongly discouraged/denied by EGLE. As indicated above, no other wells in ZF's monitoring network are constructed with galvanized steel materials. The material of construction of most of the other ZF monitoring wells are PVC with no significant drawdown observed during sampling and are therefore believed to be properly functioning.

Because there are now two new properly constructed and performing monitoring wells (OW-16D2R1 and OW-16D2R2) installed adjacent to OW-16D2, and for the reasons discussed above, OW-16D2 is no longer needed and should be abandoned.

3) EGLE Technical Comment/Recommendation No. 3:

Demonstration or proof of why the cis-1,2-DCE (DCE) seen in monitoring OW-16-series will not break down into VC under natural conditions present at the facility.

- A map of DCE concentrations or possibly appending DCE concentrations onto the Figure 1 Site Layout. This could be shown as where DCE is present above criteria, and where it's present below criteria.
- May be helpful to show trend graphs for OW-16D2 and any other nearby wells as was shown for upgradient wells.

ZF Response:

There has been over 25 years of data collected from the off-site monitoring wells in ZF's well network with no detections of vinyl chloride, including the two new properly constructed and performing wells (OW-16D2R1 and OW-16D2R2 located next to OW-16D2. The only exception was the emergence of vinyl chloride between May 2021 and March 2022, and only in OW-16D2 which was determined to be a compromised well and not indicative of actual aquifer conditions, as discussed in the previous correspondence with EGLE. This abundance of data demonstrates that cis-1,2-dichloroethene (cis-1,2-DCE) is stable below drinking water criteria in the aquifer and conditions of the aquifer are not conducive for degradation of this compound to vinyl chloride. In addition, the aquifer is highly prolific with estimated linear groundwater velocities ranging from 1.4 feet per day (downgradient of the former Kelsey-Hayes Site) to 76 feet/day (near the Village of Milford drinking water wells) which provides high pore-water exchange in the aquifer and is therefore not conducive for further degradation to vinyl chloride, as evidenced by over 25 years of monitoring data.

Regarding the comment about vinyl chloride exceedances in OW-16D2 being intermittent, there are temporal variabilities, along with sampling and analytical method variabilities and other factors that result in variability of reported concentrations especially at the part-per-billion level. The reported "exceedances" ranged from 2.3 to 3.5 ug/L vinyl chloride or 1.2 ug/L variance relative to a reporting limit of 1.0 ug/L. However, as the well was determined to be compromised, and low-flow (minimal

drawdown) purging could not be sustained, the analytical results produced from the well in the compromised condition are not suitable for comparison to EGLE Part 201 criteria. More important than the variability of the vinyl chloride concentrations produced from the malfunctioning monitoring well is the fact that since the stagnant water was removed from OW-16D2 during redevelopment, no vinyl chloride detections have been reported during the following 7-month period which has included 20 total samples to date.

Figure 1 Site Layout from the Technical Summary report contains concentrations of cis-1,2-DCE. Cis-1,2-DCE is not above the drinking water criterion (70 ug/L) in any of the wells. The Figure has been updated to show the locations of Monitoring Well OW-16D2R2 and the vertical aquifer profile borings.

*Because OW-16D2 has been determined to be a malfunctioning monitoring well and not representative of actual aquifer conditions, Arcadis does not believe that a trend graph of OW-16D2 analytical results is appropriate for evaluation of site conditions. Trend graphs of Observation Wells within and directly downgradient of the Site-related groundwater impacts were presented in the Technical Summary Report (see **Attachment 1)** and show the following:*

1. *No detections of vinyl chloride*
2. *cis-1,2-DCE concentrations stable and far below the drinking water criterion*
3. *decreasing trichloroethene (TCE) concentrations, the presumed parent chlorinated volatile organic compound (CVOC) for dichlorination daughter products such as cis-1,2-DCE*

The Village of Milford's Monitoring Well (MW-03-94) is the closest upgradient well to OW-16D2. A trend graph of this well was received from the Village of Milford's consultant, John Wood Group PLC (Wood). This graph shows no detections of vinyl chloride and decreasing concentrations of cis-1,2-DCE. We have not included the trend graph in this submittal because Arcadis was not given permission from Wood to reproduce the data; however, these data may be requested and reviewed by EGLE if desired.

*While the OW-09 series wells are located outside of the modeled flow-path of groundwater from the former Kelsey-Hayes Site, and in the in proximity to other known sources of CVOC contamination and downgradient of the Former Spiral Industries CVOC release site, a review of concentrations from these wells (**Exhibit C**) similarly shows the following:*

1. *No detections of vinyl chloride*
2. *cis-1,2-DCE concentrations stable and far (order of magnitude) below the drinking water criterion*
3. *decreasing and non-detect TCE concentrations*

*A review of the concentrations from the OW-18 series of wells (**Exhibit C**) shows the following:*

1. *No detections of vinyl chloride or TCE*
2. *cis-1,2-DCE concentrations stable and far below the drinking water criterion*

Collectively these data further reinforce the already sound conclusion that there is no imminent and substantial endangerment to the public water supply due to vinyl chloride.

Exhibit A

Monitoring Well Construction Logs

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: VAP-01/OW-16D2R1

Sheet: 1 of 6

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 05/16/2022
Date Completed: 05/20/2022

Logger: Christian Seidel
Editor: C Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1–5			60	HA			FILL; Hand Auger to 5 feet.	(0.0-85.0' bgs) 2" PVC Well Casing	
6–10			13	SD	0.0 0.0		FILL; silt and sand; roots; metal; glass; black and gray to dark gray. NOTE: odor.		
11			53	SD	0.0		FILL; silt and sand; dark gray.	(1.0-80.0' bgs) Bentonite	
12					0.0		SAND, very fine to fine; little medium sand; subangular; well sorted; wet; gray.		
13–14					0.0		SAND, fine to medium; some coarse sand, subrounded; little granule; little small pebble; trace large pebble, subrounded; well sorted; wet; gray.		
15					0.0		SAND, very fine to medium, subrounded; well sorted; wet; gray.		
16			50	VAP-01-01_15_20	0.0		SAND, very fine to medium, subrounded; some small to large pebbles; subrounded; wet; gray.		
17–20					0.0		SAND, very fine to medium, subrounded; well sorted; wet; gray.		
21			46	SD	0.0		SAND, very fine to medium, subrounded; trace medium to large pebbles, subrounded; well sorted; wet; gray.		
22–23					0.0 0.0		SAND, very fine to coarse, subrounded; little granule, subrounded; little small pebble; trace small to large cobble, subrounded; poorly sorted; wet; gray.		
24–25							SAND, very fine to medium, subrounded; some silt; little granule; little small pebble, subrounded; trace large pebble, subrounded; wet; gray.		

Drilling Co.: Cascade
Driller: Kendall Schultz
Drilling Method: Sonic Drilling
Drilling Fluid: Water
Remarks: Driller indicates that he arrived at a dead stop at 128 feet and is certain that he encountered clay at that depth.

Sampling Method: Sonic Drilling
Sampling Interval: Continuous
Water Level Start (ft. bgs.): 11
Water Level Finish (ft. btoc.):
Converted to Well: ☒ Yes ☐ No
Surface Elev.:
North Coor:
East Coor:

SOIL BORING LOG 2013 C:\USERS\CJEFFERS\ONEDRIVE - ARCADIS\DESKTOP\TRW_MILFORD_BORING LOGS.GPJ ARCADIS_2013.GDT 9/27/22

ARCADIS Design & Consultancy for natural and built assets

Boring No.: VAP-01/OW-16D2R1

Soil Boring Log

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 05/16/2022
Date Completed: 05/20/2022

Logger: Christian Seidel
Editor: C Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
26			60	SD	0.0		SAND, very fine to medium, subrounded; some silt; little granule; little small pebble, subrounded; trace large pebble, subrounded; wet; gray.		
27					0.0		SAND and SILT, very fine to fine sand, subrounded; trace granule, subrounded; trace small pebble; well sorted; wet; gray.		
28									
29									
30									
31			6	SD	0.0		SAND with SILT, very fine to fine, subrounded; trace granule, subrounded; trace small pebble; well sorted; wet; gray.		
32							SAND, very fine to fine; little coarse, subrounded; trace silt; trace granule, subrounded; trace small to medium cobble; well sorted; wet; gray.		
33									
34									
35									
36			22	VAP-01-02_35_40	0.0			(1.0-80.0' bgs) Bentonite	
37									
38									
39									
40									
41			29	SD	0.0		SAND, fine to medium subrounded; well sorted; wet; gray.		
42					0.0				
43							SAND, fine to medium, subrounded; little coarse to very coarse, subrounded; trace granule; trace small to medium cobbles, subrounded; wet; gray.		
44					0.0				
45									
46			60	VAP-01-03_45_50	0.3		SAND, fine to medium, subrounded; little coarse to very coarse, subrounded; trace granule; trace small cobble, subrounded; wet; gray.		
47					0.0		GRANULE, subrounded; little small to medium pebble, subrounded; little sand, subrounded; trace large pebble, subrounded; trace small cobble, subrounded; wet; gray.		
48					1.1		GRANULE and SAND, very fine to fine, subrounded; some silt; trace small to medium pebble; wet; gray.		
49					0.0		SAND, vine to medium, subrounded; some coarse sand, subrounded; little small to medium pebble; gray; wet.		
50									
51					1.5		SAND, fine to medium; little very fine sand, subrounded; trace silt; trace granule, subrounded; trace small to medium cobble, subrounded; wet; gray.		

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: VAP-01/OW-16D2R1

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 05/16/2022
Date Completed: 05/20/2022

Logger: Christian Seidel
Editor: C Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
53			60	SD	0.8 0.5 2.9 0.3		SAND, fine to medium, subrounded; well sorted; wet; gray.		
54									
55									
56			60	VAP-01-04_55_60	16.2 1.1 0.2 2.3 10.8		SAND, fine to medium, subrounded; well sorted; wet; gray. SAND, fine to medium; some coarse sand; trace very coarse sand, subrounded; trace small to medium pebble, subrounded; poorly sorted; wet.		
57									
58									
59									
60									
61			18	SD	0.0 0.0 5.2		SAND, fine to medium; some coarse sand; trace very coarse sand, subrounded; trace small to medium pebble, subrounded; poorly sorted; wet. SAND, fine to medium; little very coarse sand; trace coarse sand; trace granule; trace small pebble, subrounded; wet; gray.		
62									
63									
64									
65								(1.0-80.0' bgs) Bentonite	
66			48	VAP-01-05_65_70	NA		SAND, fine to medium; some coarse sand, subrounded; trace granule, subrounded; trace small to medium pebble, subrounded; trace small cobble, subrounded; wet; gray. PEBBLE, small and SAND, fine to medium, subrounded; trace cobble, subrounded; wet; gray.		
67									
68							SAND, fine to medium, subrounded, and SILT; some small to medium pebble, subrounded; trace small cobble, subrounded; wet; gray.		
69							SAND, fine to medium, subrounded; some silt; little granule, subrounded; trace small to medium pebble, subrounded; trace small cobble, subrounded; wet; gray.		
70							PEBBLE, small to medium, subrounded; some sand; little large to very large pebble; trace small cobble, subrounded; wet; gray.		
71			49	SD	0.0 0.0 0.2		SAND, fine to medium, trace coarse, subrounded; well sorted; wet; gray. SAND, very fine to medium; little large to very large pebble, subrounded; trace coarse sand, subrounded; trace granule, subrounded; wet; gray. SAND, very fine, some fine sand, subrounded; some silt, rapid dilatency; trace granule, subrounded; wet; gray.		
72									
73									
74									
75									
76			60	VAP-01-06_75_80	NA		SAND, fine to medium, some very fine sand, little small pebble, subrounded; trace very coarse sand, subrounded; trace granule, subrounded; trace very large pebble; wet; gray. SAND, fine to medium, some very fine sand, some silt; little small pebble, subrounded; trace very coarse sand, subrounded; trace granule, subrounded; trace very large pebble; wet; gray.		
77									
78									

Remarks:

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Boring No.: VAP-01/OW-16D2R1

Soil Boring Log

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 05/16/2022
Date Completed: 05/20/2022

Logger: Christian Seidel
Editor: C Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
79							SAND, fine to medium; some very fine sand, little small pebble, subrounded; trace very coarse, subrounded; trace granule, subrounded; trace very large pebble; wet; gray.	(1.0-80.0' bgs) Bentonite	
80									
81					0.2		SAND, very fine to medium; little silt; trace coarse sand, subrounded; trace granule, subrounded; well sorted; wet; gray.	(80.0-82.0' bgs) Choker Sand	
82									
83			30	SD	0.1		PEBBLE, small to medium, subrounded; some coarse to very coarse sand; little granule, subrounded; trace medium sand, subrounded; wet; gray.	(82.0-93.0' bgs) Sand Pack	
84					0.1		PEBBLE, small to medium, subrounded; some coarse to very coarse sand; little granule, subrounded; trace medium sand, subrounded; trace large to very large pebble; wet; gray.		
85									
86							PEBBLE, small to medium; some fine to medium sand, subrounded; little silt; trace large pebble, subrounded; wet; gray.		
87									
88			15	VAP-01-07_85_90	0.2		SAND, medium to coarse; little very coarse sand, subrounded; trace granule, subrounded; trace small pebble, subrounded; trace very large pebble, subrounded; wet; gray.	(85.0-90.0' bgs) 2" Stainless Steel 10 Slot Wire-Wrapped Well Screen	
89									
90									
91					0.2		SAND, fine to medium; some coarse sand; trace very coarse sand, subrounded; well sorted; wet; gray.		
92					0.7				
93			48	SD	0.2				
94					0.5			(93.0-95.0' bgs) Choker Sand	
95									
96					0.2		SAND, fine to medium; little medium to large pebble, subrounded; trace coarse sand, subrounded; trace granule, subrounded; wet; gray.		
97					0.4		SAND, very fine to medium, subrounded; some silt; little medium to large pebble; trace coarse sand, subrounded; trace granule, subrounded; trace very large pebble, subrounded; trace small cobble, subrounded; wet; gray		
98			60	VAP-01-08_95_100	0.2				
99					0.5		SAND, fine to medium; little medium to large pebble, subrounded; trace coarse sand, subrounded; trace granule, subrounded; wet; gray.		
100									
101					0.3		SAND, medium to very coarse, subrounded; trace granule, subrounded; trace small pebble; wet; gray.	(95.0-130.0' bgs) Bentonite	
102					0.4		SAND, fine to coarse; some silt; little very coarse sand, subrounded; little clay; trace small to medium pebble, subrounded; wet; gray.		
103			60	SD	0.1		PEBBLE, small to medium, subrounded; some coarse sand, subrounded; some silt; trace large to very large pebble; subrounded; wet; gray.		
104					0.2		PEBBLE, small to medium, subrounded; some coarse sand, subrounded; some silt; trace very large pebble; subrounded; trace small cobble, subrounded; wet; gray.		
105					0.1		PEBBLE, small to large, subrounded; some medium to coarse sand; little fine sand, subrounded; little silt; wet;		

Remarks:

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Boring No.: VAP-01/OW-16D2R1

Soil Boring Log

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 05/16/2022
Date Completed: 05/20/2022

Logger: Christian Seidel
Editor: C Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
106							gray.		
					0.0		SAND, medium to very coarse, subrounded; trace granule, subrounded; trace small pebble; wet; gray.		
107					0.5		SAND, fine to coarse, some silt; little very coarse, subrounded; little clay; trace small to medium pebble, subrounded; wet; gray.		
			58	VAP-01-09_105_110	5.5				
108					0.0		PEBBLE, small to medium, subrounded; some coarse sand, subrounded; some silt; trace large to very large pebble, subrounded; wet; gray.		
109					0.0				
							PEBBLE, small to large, subrounded; some medium to coarse sand; little fine sand, subrounded; little silt; wet; gray.		
110									
111					0.0		SAND, medium to coarse; trace very coarse sand, subrounded; trace small pebble, subrounded; wet; gray.		
112					0.0		SAND and SILT, very fine to medium sand; little very coarse sand, subrounded; little clay; trace small to medium pebble, subrounded; wet; gray.		
			63	SD					
113					0.0		SAND and SILT, very fine to medium sand, subrounded; some small to large pebble, subrounded; little clay; wet; gray.		
114					0.0				
115							PEBBLE, small to large; trace very lare pebble, subrounded; wet; gray.		
116					0.0		SAND, coarse to very coarse, subrounded; some granule, subrounded; little small to medium pebble; trace small cobble, subrounded; wet; gray.		
117					0.0				
118			52	VAP-01-10_115_120	0.0			(95.0-130.0' bgs) Bentonite	
119					0.0				
120									
121					0.0		PEBBLE, large to very large; trace small cobble, subrounded; wet; gray.		
122					0.0		GRANULE, subrounded; some coarse to very coarse sand, subrounded; little small to large pebble, subrounded; little silt; trace clay; wet; gray.		
123			61	SD			SAND, coarse to very coarse, subrounded; little clay; trace medium sand, subrounded; trace granule, subrounded; trace small to large pebble, subrounded; wet; gray.		
124					0.0				
125									
126							SAND, coarse to very coarse, subrounded; little clay; trace medium sand, subrounded; trace granule, subrounded; tace small to large pebble, subrounded; wet; gray.		
127							SAND, very fine, trace fine sand, subrounded; and SILT, rapid dilantancy; trace medium cobble; wet; gray.		
128			60	VAP-01-11_125_130	NA				
129							CLAY, very stiff, non-plastic, no dilatancy; trace small to medium pebble; dry; gray.		
130									
131					4.1		CLAY, very stiff, non-plastic, no dilatancy; trace small to medium pebble; dry; gray.	(130.0-135.0' bgs) Fill	
132					1.0				

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: VAP-01/OW-16D2R1

Soil Boring Log

Sheet: 6 of 6

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 05/16/2022
Date Completed: 05/20/2022

Logger: Christian Seidel
Editor: C Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
133			60	SD	1.1				
							CLAY, hard, non-plastic, no dilatancy; trace small to medium pebble; dry; gray. NOTE: Shows con	(130.0-135.0' bgs) Fill	
134					0.0				
135					0.7		CLAY, hard, non-plastic, no dilatancy; trace small to medium pebble; dry; gray.		
136									
137									
138									
139									
140									
141									
142									
143									
144									
145									
146									
147									
148									
149									
150									
151									
152									
153									
154									
155									
156									
157									
158									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: OW-16D2R2

Soil Boring Log

Sheet: 1 of 4

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 07/20/2022
Date Completed: 07/20/2022

Logger: C. Seidel/M. Olender
Editor: C. Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1–5			60	HA			FILL; Hand Auger to 5 feet.	(0.0-1.0' bgs) Filter Pack Sand; (0.0-85.0' bgs) 2" PVC Well Casing	
6–10			13	SD			FILL; silt and sand; roots; metal; glass; black and gray to dark gray. NOTE: odor.		
11–15			53	SD			FILL; silt and sand; dark gray.	(1.0-90.0' bgs) Bentonite Chips	
							SAND, very fine to fine; little medium sand; subangular; well sorted; wet; gray.		
							SAND, fine to medium; some coarse sand, subrounded; little granule; little small pebble; trace large pebble, subrounded; well sorted; wet; gray.		
							SAND, very fine to medium, subrounded; well sorted; wet; gray.		
16–20			50	SD			SAND, very fine to medium, subrounded; some small to large pebbles; subrounded; wet; gray.		
							SAND, very fine to medium, subrounded; well sorted; wet; gray.		
21–25			46	SD			SAND, very fine to medium, subrounded; trace medium to large pebbles, subrounded; well sorted; wet; gray.		
							SAND, very fine to coarse, subrounded; little granule, subrounded; little small pebble; trace small to large cobble, subrounded; poorly sorted; wet; gray.		
							SAND, very fine to medium, subrounded; some silt; little granule; little small pebble, subrounded; trace large pebble, subrounded; wet; gray.		
26–27							SAND, very fine to medium, subrounded; some silt; little granule; little small pebble, subrounded; trace large pebble, subrounded; wet; gray.		

Drilling Co.: Cascade
Driller: Kendall Schultz
Drilling Method: Sonic Drilling
Drilling Fluid: Water
Remarks: Lithology is based on OW-16D2R1

Sampling Method: Sonic Drilling
Sampling Interval: Continous
Water Level Start (ft. bgs.): 11
Water Level Finish (ft. btoc.):
Converted to Well: ☒ Yes ☐ No
Surface Elev.:
North Coor:
East Coor:

SOIL BORING LOG 2013 C:\USERS\CJEFFERS\ONEDRIVE - ARCADIS\DESKTOP\TRW_MILFORD_BORING LOGS.GPJ ARCADIS_2013.GDT 9/27/22

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: OW-16D2R2

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 07/20/2022
Date Completed: 07/20/2022

Logger: C. Seidel/M. Olender
Editor: C. Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
28			60	SD			SAND and SILT, very fine to fine sand, subrounded; trace granule, subrounded; trace small pebble; well sorted; wet; gray.		
29									
30									
31			6	SD			SAND with SILT, very fine to fine, subrounded; trace granule, subrounded; trace small pebble; well sorted; wet; gray.		
32							SAND, very fine to fine; little coarse, subrounded; trace silt; trace granule, subrounded; trace small to medium cobble; well sorted; wet; gray.		
33									
34									
35									
36			22	SD					
37									
38									
39									
40									
41			29	SD			SAND, fine to medium subrounded; well sorted; wet; gray.	(1.0-90.0' bgs) Bentonite Chips	
42									
43							SAND, fine to medium, subrounded; little coarse to very coarse, subrounded; trace granule; trace small to medium cobbles, subrounded; wet; gray.		
44									
45									
46			60	SD			SAND, fine to medium, subrounded; little coarse to very coarse, subrounded; trace granule; trace small cobble, subrounded; wet; gray.		
47							GRANULE, subrounded; little small to medium pebble, subrounded; little sand, subrounded; trace large pebble, subrounded; trace small cobble, subrounded; wet; gray.		
48							GRANULE and SAND, very fine to fine, subrounded; some silt; trace small to medium pebble; wet; gray.		
49							SAND, vine to medium, subrounded; some coarse sand, subrounded; little small to medium pebble; gray; wet.		
50									
51			60	SD			SAND, fine to medium; little very fine sand, subrounded; trace silt; trace granule, subrounded; trace small to medium cobble, subrounded; wet; gray.		
52									
53							SAND, fine to medium, subrounded; well sorted; wet; gray.		
54									
55									
							SAND, fine to medium, subrounded; well sorted; wet; gray.		

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: OW-16D2R2

Soil Boring Log

Sheet: 3 of 4

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 07/20/2022
Date Completed: 07/20/2022

Logger: C. Seidel/M. Olender
Editor: C. Jeffers
Weather Conditions: 70 F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
57			60	SD			SAND, fine to medium, subrounded; well sorted; wet; gray.	(1.0-90.0' bgs) Bentonite Chips	
58							SAND, fine to medium; some coarse sand; trace very coarse sand, subrounded; trace small to medium pebble, subrounded; poorly sorted; wet.		
59									
60									
61			18	SD			SAND, fine to medium; some coarse sand; trace very coarse sand, subrounded; trace small to medium pebble, subrounded; poorly sorted; wet.		
62									
63							SAND, fine to medium; little very coarse sand; trace coarse sand; trace granule; trace small pebble, subrounded; wet; gray.		
64									
65									
66			48	SD			SAND, fine to medium; some coarse sand, subrounded; trace granule, subrounded; trace small to medium pebble, subrounded; trace small cobble, subrounded; wet; gray.		
67							PEBBLE, small and SAND, fine to medium, subrounded; trace cobble, subrounded; wet; gray.		
68							SAND, fine to medium, subrounded, and SILT; some small to medium pebble, subrounded; trace small cobble, subrounded; wet; gray.		
69							SAND, fine to medium, subrounded; some silt; little granule, subrounded; trace small to medium pebble, subrounded; trace small cobble, subrounded; wet; gray.		
70									
71			49	SD			PEBBLE, small to medium, subrounded; some sand; little large to very large pebble; trace small cobble, subrounded; wet; gray.		
72							SAND, fine to medium, trace coarse, subrounded; well sorted; wet; gray.		
73									
74							SAND, very fine to medium; little large to very large pebble, subrounded; trace coarse sand, subrounded; trace granule, subrounded; wet; gray.		
75							SAND, very fine, some fine sand, subrounded; some silt, rapid dilatency; trace granule, subrounded; wet; gray.		
76			60	SD			SAND, fine to medium, some very fine sand, little small pebble, subrounded; trace very coarse sand, subrounded; trace granule, subrounded; trace very large pebble; wet; gray.		
77									
78							SAND, fine to medium, some very fine sand, some silt; little small pebble, subrounded; trace very coarse sand, subrounded; trace granule, subrounded; trace very large pebble; wet; gray.		
79									
80							SAND, fine to medium; some very fine sand, little small pebble, subrounded; trace very coarse, subrounded; trace granule, subrounded; trace very large pebble; wet; gray.		
81			30	SD			SAND, very fine to medium; little silt; trace coarse sand, subrounded; trace granule, subrounded; well sorted; wet; gray.		
82									
83							PEBBLE, small to medium, subrounded; some coarse to very coarse sand; little granule, subrounded; trace medium sand, subrounded; wet; gray.		
84									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: OW-16D2R2

Sheet: 4 of 4

Project Name: Former Kelsey-Hayes-Milford
Project Number: 30136112
Project Location: Milford, MI

Date Started: 07/20/2022
Date Completed: 07/20/2022

Logger: C. Seidel/M. Olender
Editor: C. Jeffers
Weather Conditions: 70 F, Sunny

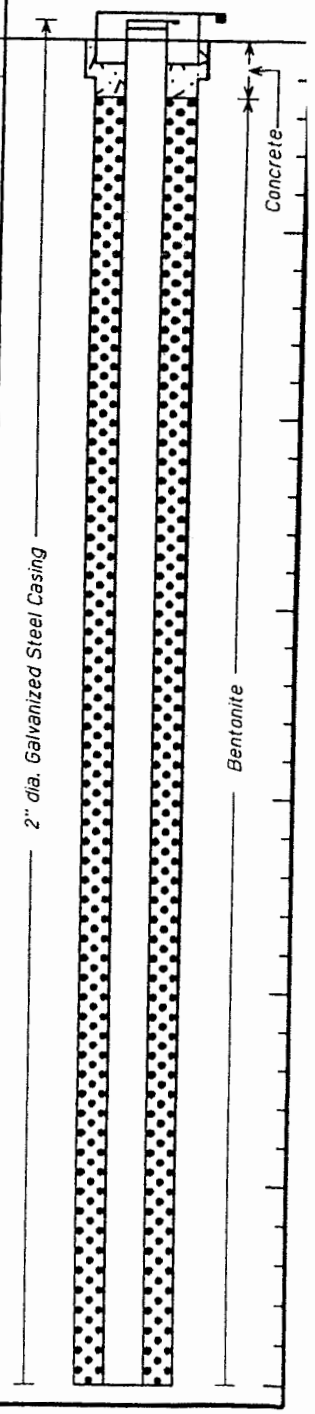
Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
86			15	SD			PEBBLE, small to medium, subrounded; some coarse to very coarse sand; little granule, subrounded; trace medium sand, subrounded; trace large to very large pebble; wet; gray.	(1.0-90.0' bgs) Bentonite Chips	
87							PEBBLE, small to medium; some fine to medium sand, subrounded; little silt; trace large pebble, subrounded; wet; gray.		
88							SAND, medium to coarse; little very coarse sand, subrounded; trace granule, subrounded; trace small pebble, subrounded; trace very large pebble, subrounded; wet; gray.		
89									
90									
91			48	SD			SAND, fine to medium; some coarse sand; trace very coarse sand, subrounded; well sorted; wet; gray.	(90.0-92.0' bgs) Choker Sand	
92									
93									
94									
95									
96			60	SD			SAND, fine to medium; little medium to large pebble, subrounded; trace coarse sand, subrounded; trace granule, subrounded; wet; gray.	(92.0-103.0' bgs) Sand Pack (95.0-100.0' bgs) 2" Stainless Steel 10 Slot Wire-Wrapped Well Screen (103.0-105.0' bgs) Choker Sand	
97									
98							SAND, very fine to medium, subrounded; some silt; little medium to large pebble; trace coarse sand, subrounded; trace granule, subrounded; trace very large pebble, subrounded; trace small cobble, subrounded; wet; gray		
99							SAND, fine to medium; little medium to large pebble, subrounded; trace coarse sand, subrounded; trace granule, subrounded; wet; gray.		
100									
101			60	SD			SAND, medium to very coarse, subrounded; trace granule, subrounded; trace small pebble; wet; gray.		
102							SAND, fine to coarse; some silt; little very coarse sand, subrounded; little clay; trace small to medium pebble, subrounded; wet; gray.		
103							PEBBLE, small to medium, subrounded; some coarse sand, subrounded; some silt; trace large to very large pebble; subrounded; wet; gray.		
104							PEBBLE, small to medium, subrounded; some coarse sand, subrounded; some silt; trace very large pebble; subrounded; trace small cobble, subrounded; wet; gray.		
105							PEBBLE, small to large, subrounded; some medium to coarse sand; little fine sand, subrounded; little silt; wet; gray.		
106							SAND, medium to very coarse, subrounded; trace granule, subrounded; trace small pebble; wet; gray.		
107									
108									
109									
110									
111									
112									
113									

Remarks:

Techna Corporation Plymouth, Michigan	**Log of Monitoring Well OW16D/D2**
PROJECT: *Former Lucas Varity Milford Facility*	LOCATION: *101 Oak St., Milford, MI/Village of Milford Park*
PROJECT NO.: *A35T0-213-C02*	SURFACE ELEVATION:
DATE START/FINISH: *11/19/97 - 12/18/97*	INITIAL H2O LEVEL: *8 Feet BGL*
DRILLING METHOD: *4.25 inch ID Hollow Stem Auger*	STATIC H2O ELEV.:
SAMPLING METHOD: *Screened Auger/Temporary well*	TOTAL DEPTH: *129.5 Feet*
DRILLING COMPANY: *Carlo Environmental/Stearns Drilling*	LOGGED BY: *(124)*

DEPTH feet	LAB SAMPLE NO.	BLOWS/0.5 ft.	PID (relative ppm) VALUES	PID (relative ppm) PROFILE 0 200	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
0						PT	PEAT
						SM	SAND: fine to coarse, some silt and organic material, little clay, trace gravel, moist, dark brown to black brown in cuttings.
5							saturated 8' BGL.
10	OW16D-						dark brown to light brown 10' BGL Screened auger sample from 10'-15' BGL: low water yield.
15							
20	OW16D-2						SAND-SILT: fine to coarse sand, some silt, saturated, brown in cuttings.
25							
30	OW16D-3						Screened auger sample from 30'-35' BGL: fair water yield.
35							

WELL DIAGRAM



Techna Corporation
Plymouth, Michigan

Log of Monitoring Well OW16D/D2

PROJECT: *Former Lucas Varity Milford Facility*

LOCATION: *101 Oak St., Milford, MI/Village of Milford Park*

DEPTH feet	LAB SAMPLE NO.	BLOWS/0.5 ft.	PID (relative ppm) VALUES	PID (relative ppm) PROFILE 0 200	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
40	OW16D-4					SP	SAND: coarse, some gravel, saturated, brown in cuttings.
							Screened auger sample from 40'-45' BGL: good water yield.
45							
50	OW16D-5						Screened auger sample from 50'-55' BGL: very good water yield.
55							
60	OW16D-6						Screened auger sample from 60'-65' BGL: good water yield.
65							
70	OW16D-7						Screened auger sample from 70'-75' BGL: fair water yield.
75							

WELL DIAGRAM

2" dia. Galvanized Steel Casing

Bentonite

Techna Corporation
Plymouth, Michigan

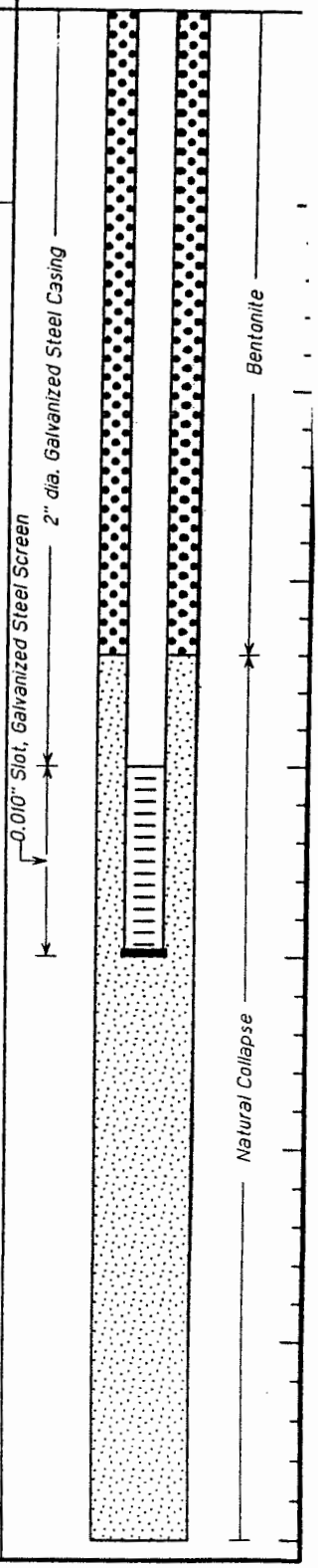
Log of Monitoring Well OW16D/D2

PROJECT: *Former Lucas Varity Milford Facility*

LOCATION: *101 Oak St., Milford, MI/Village of Milford Park*

DEPTH feet	LAB SAMPLE NO.	BLOWS/0.5 ft.	PID (relative ppm) VALUES	PID (relative ppm) PROFILE 0 200	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SP	
80	OW16D-8					GP	SAND-GRAVEL: saturated. Logged from cuttings and drilling indications.
							Screened auger sample from 80'-85' BGL: good water yield.
85							
90	OW16D-9						Screened auger sample from 90'-95' BGL: excellent water yield.
95							
100	OW16D-10 OW16D2-10						Screened auger sample from 100'-105' BGL: fair water yield (OW16D-10), Temporary well sample from 100'-105' BGL: excellent water yield (OW16D2-10).
105							
110	OW16D2-11						Temporary well sample from 110'-115'BGL: excellent water yield.
115							

WELL DIAGRAM



Techna Corporation
Plymouth, Michigan

Log of Monitoring Well OW16D/D2

PROJECT: *Former Lucas Varity Milford Facility*

LOCATION: *101 Oak St., Milford, MI/Village of Milford Park*

DEPTH feet	LAB SAMPLE NO.	BLOWS/0.5 ft.	PID (relative ppm) VALUES	PID (relative ppm) PROFILE 0 200	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
120	OW16D2-S2					GP	Temporary well sample from 120'-125' BGL: excellent water yield.	Natural Collapse
							Cobbles	
125	OW16D2-S1					CL	CLAY: some silt, trace sand and gravel, medium plasticity, hard, moist, gray brown.	
130							END OF BORING	
							Note: Auger failure during screened-auger vertical profiling activities at OW16D. Approximately 95' of auger remain down hole estimated from 15' to 110' BGL. Offset 21' to east of OW16D to complete vertical profiling activities at OW16D2 using temporary well sampling methods.	
135								
140								
145								
150								
155								

Exhibit B

Water Systems Engineering Letter

September 29, 2022

John McInnis
Arcadis
28550 Cabot Drive, Suite 500
Novi, Michigan 48377

Re: WSE Lab Report No. 22457 - ZF North America Inc. Well OW-16D2

Mr. McInnis:

Thank you for sharing the well log, video survey, and additional sampling data for Well OW-16D2.

The behavior of the water chemistry and pumping of the well is unusual to say the least. In looking at several parameters and the operational activity, I suspect the well may be experiencing a breach in the casing and/or the degradation/failure of the grout. Some of the things that lead me to this conclusion include: the oxidative ORP in the well in comparison to the aquifer conditions, the presence of plant particulate in both samples we evaluated, and the evidence of corrosion in the downhole video to include: collar near surface, linear accumulation of corrosion by-products and/or damage, and the mass of build-up just above the screened section. Additionally, the erratic drawdown behavior observed over the past year further indicates some disruption in the borehole or borehole/aquifer interface is occurring.

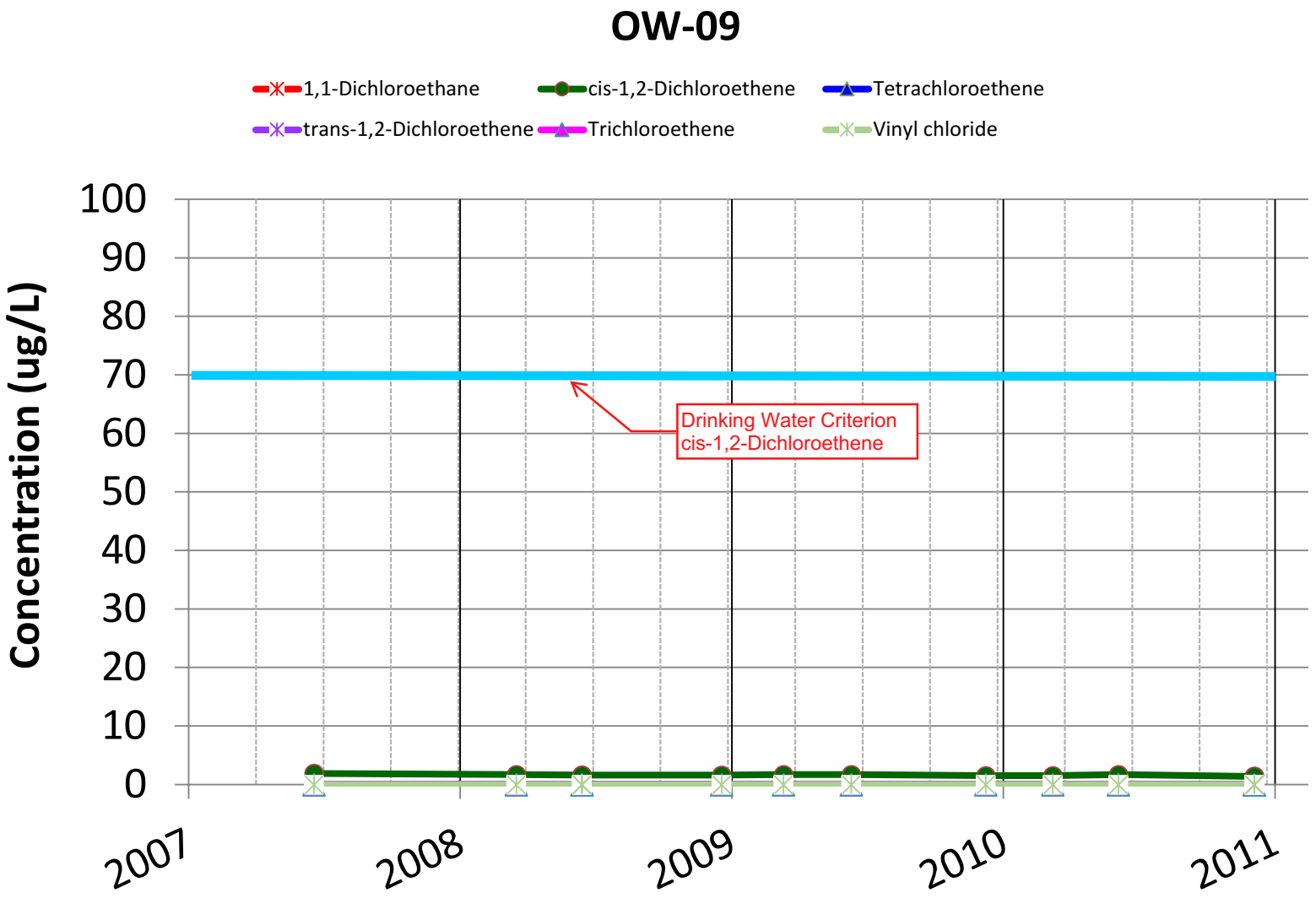
While the video did not show a specific breach, nor was a specific surface or shallow subsurface microorganism identified, these conditions suggest that issues are occurring or developing that are beyond what we would consider normal fouling or ageing of the well structure. Given the use of galvanized materials in the original well construction, I do not believe that the well could withstand the physical cleaning and reconstruction necessary to address the current concerns, nor would it significantly alter the design to alleviate the potential reoccurrence of the suspected problems.

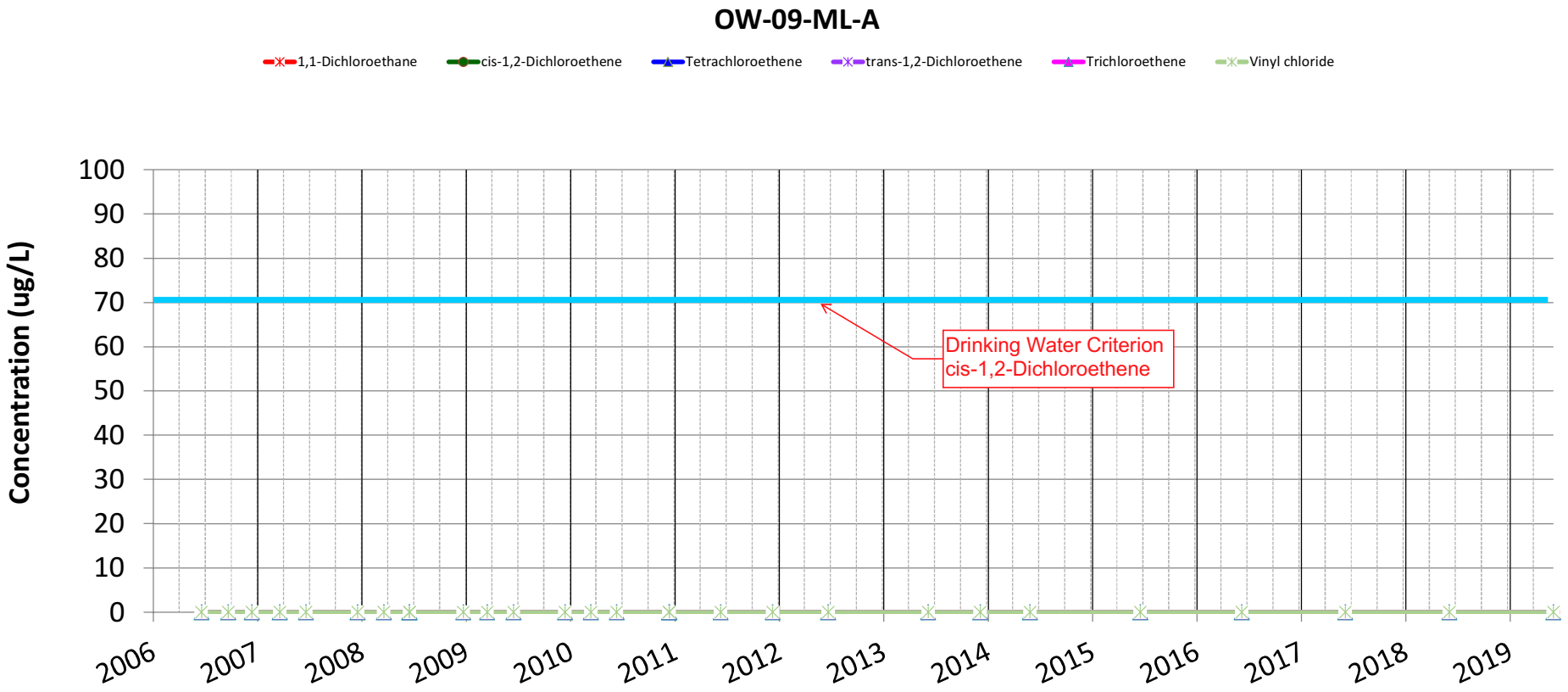
Best Regards,

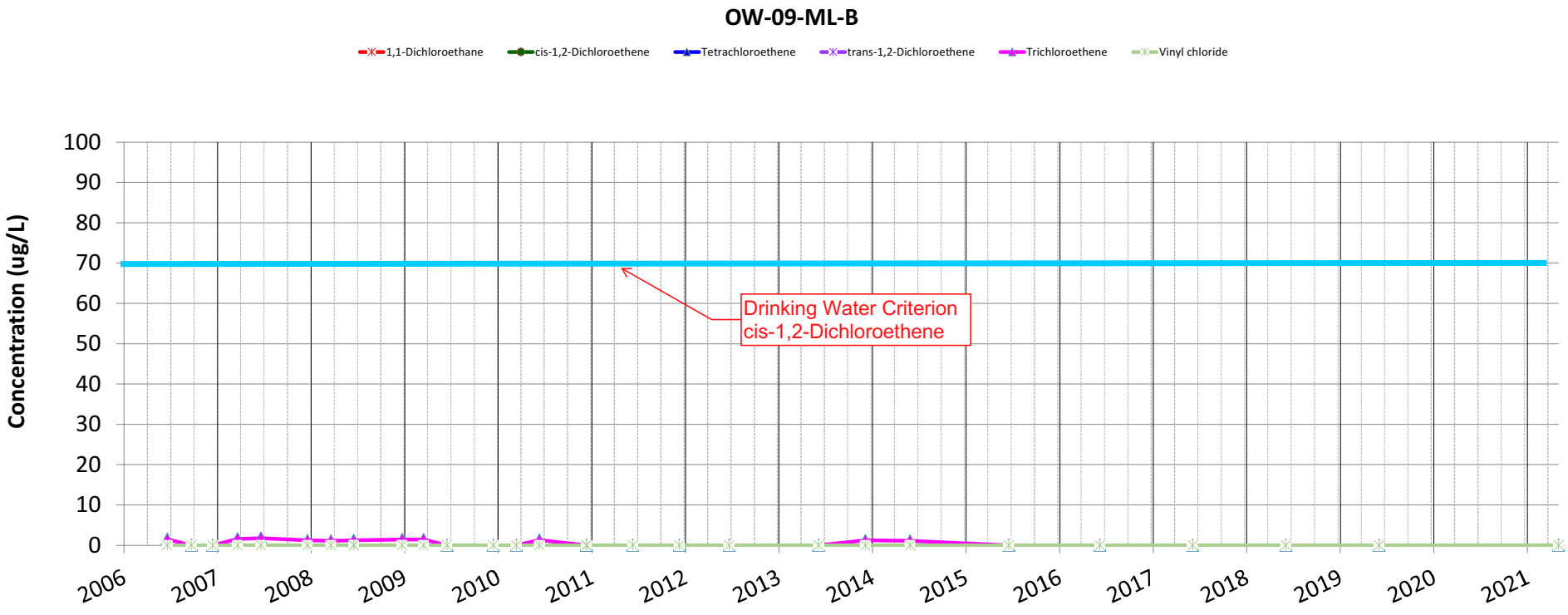
Michael Schnieders, PG, PH-GW
Hydrogeologist

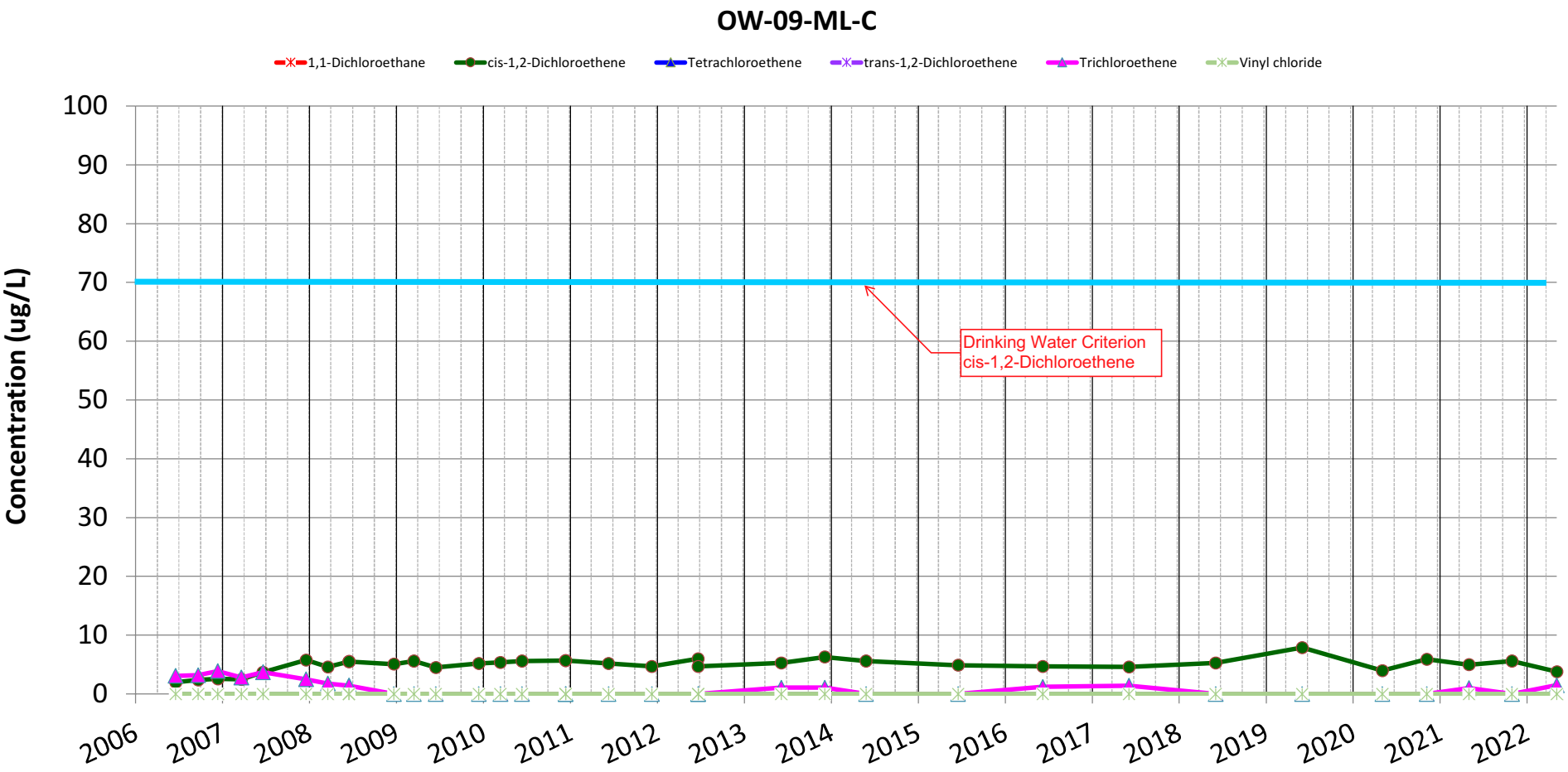
Exhibit C

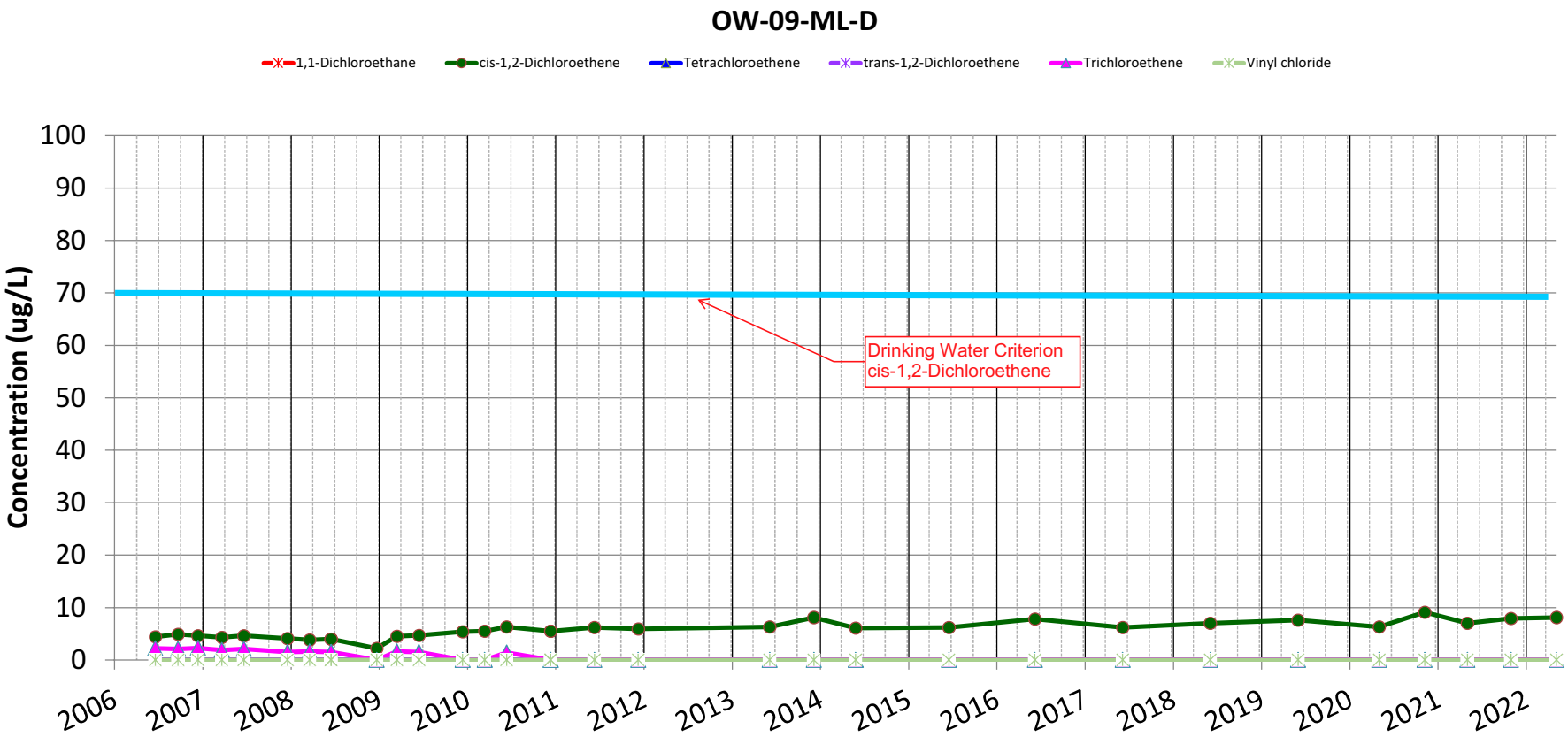
Trend Graphs (OW-9 and OW-18 Series of Wells)

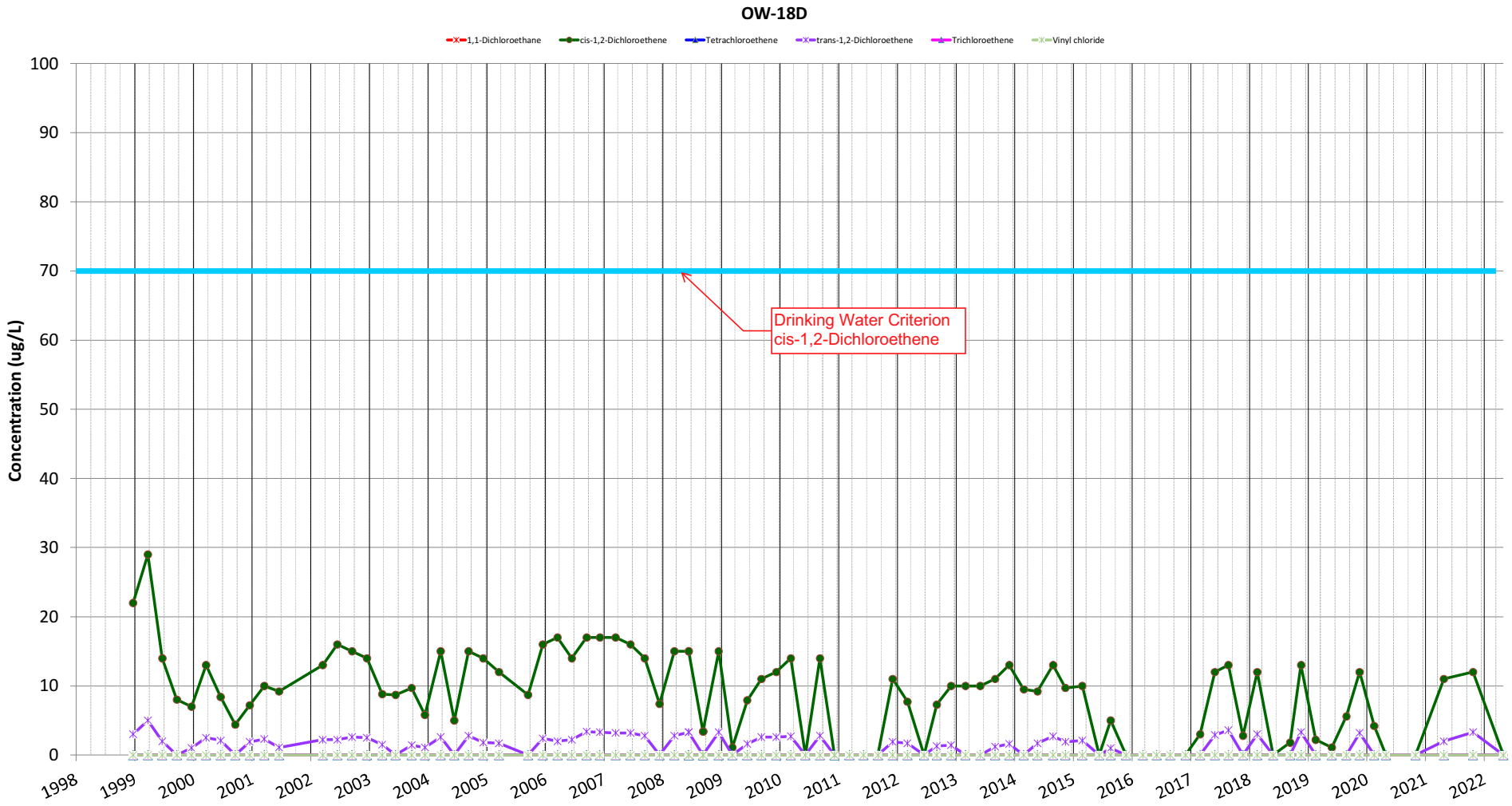

OW-09
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2007
2008
2009
2010
2011
Drinking Water Criterion
cis-1,2-Dichloroethene

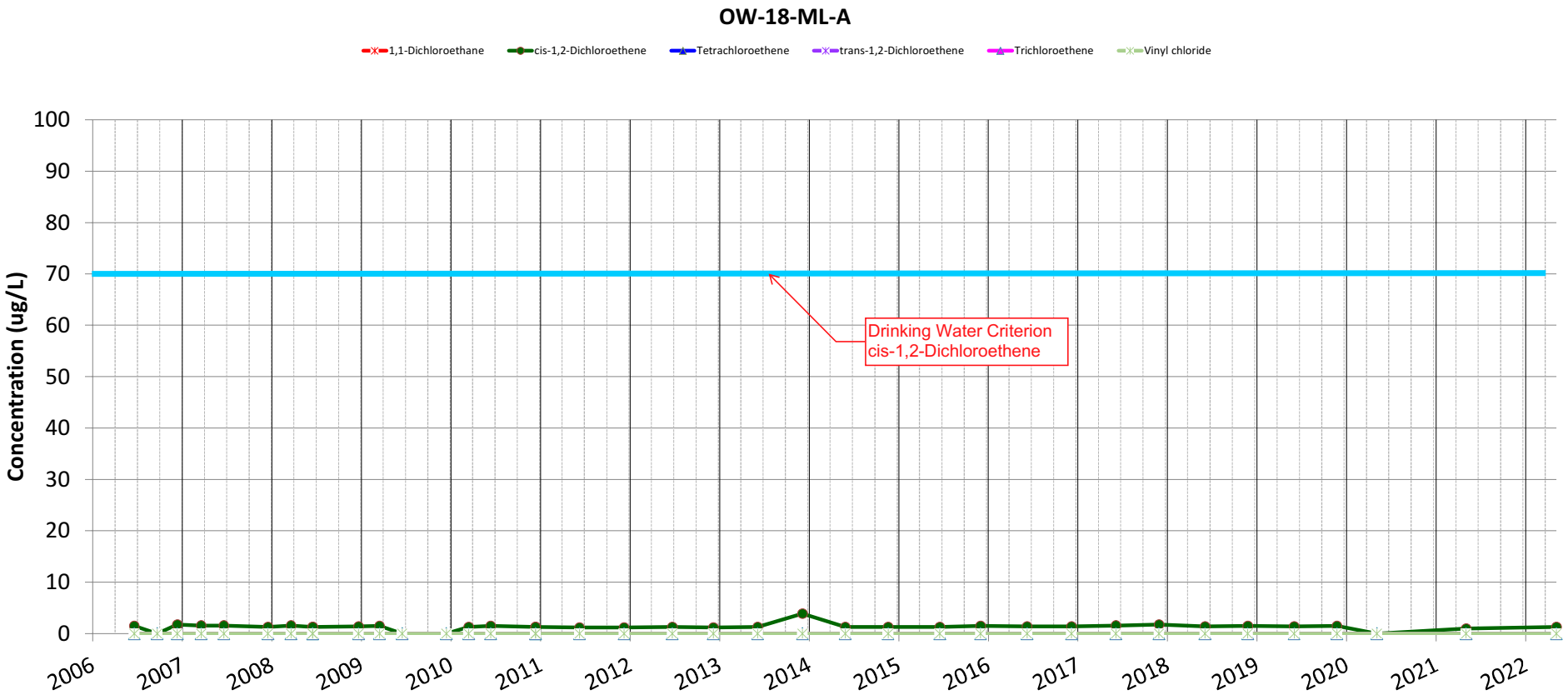

OW-09-ML-A
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Drinking Water Criterion
cis-1,2-Dichloroethene

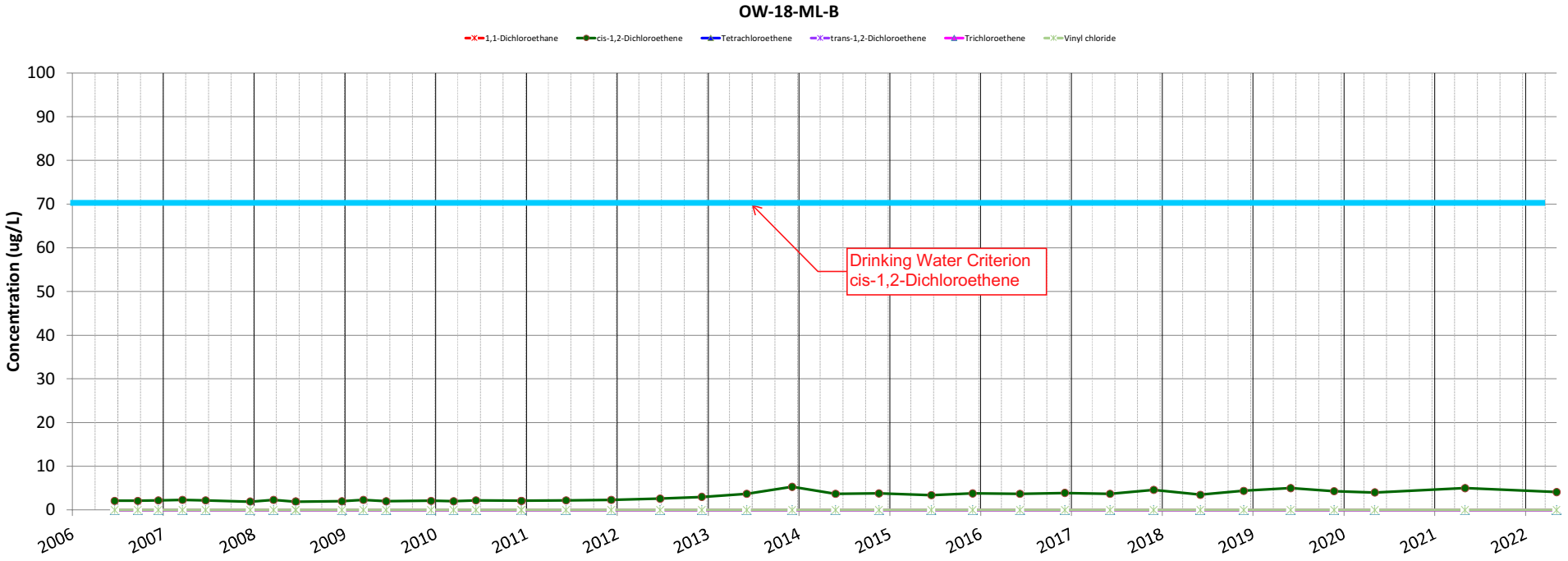

OW-09-ML-B
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Drinking Water Criterion
cis-1,2-Dichloroethene

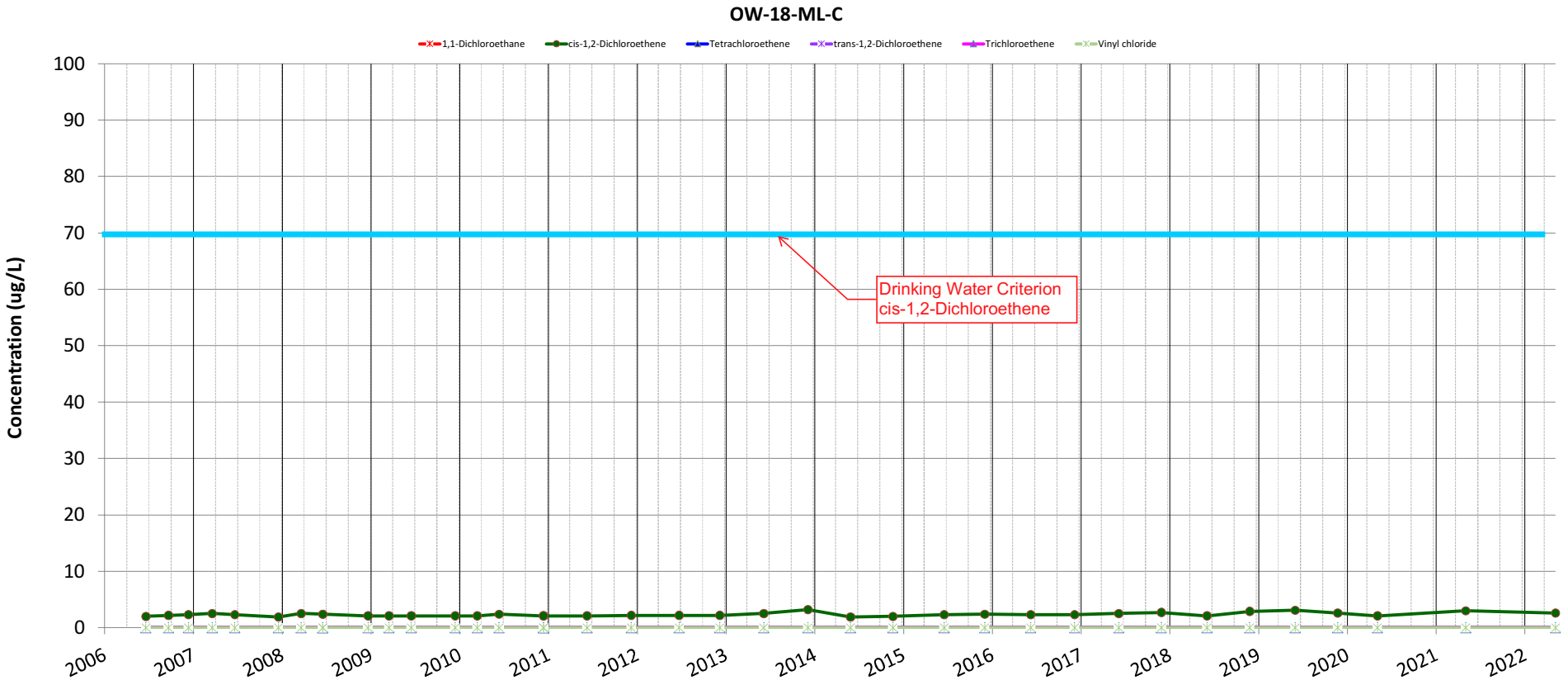

OW-09-ML-C
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Drinking Water Criterion
cis-1,2-Dichloroethene
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022


OW-09-ML-D
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Drinking Water Criterion
cis-1,2-Dichloroethene


OW-18D
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Drinking Water Criterion
cis-1,2-Dichloroethene
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022


OW-18-ML-A
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Drinking Water Criterion
cis-1,2-Dichloroethene


OW-18-ML-B
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Drinking Water Criterion
cis-1,2-Dichloroethene


OW-18-ML-C
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Drinking Water Criterion
cis-1,2-Dichloroethene
2006
2007
2008
2009
2010
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2015
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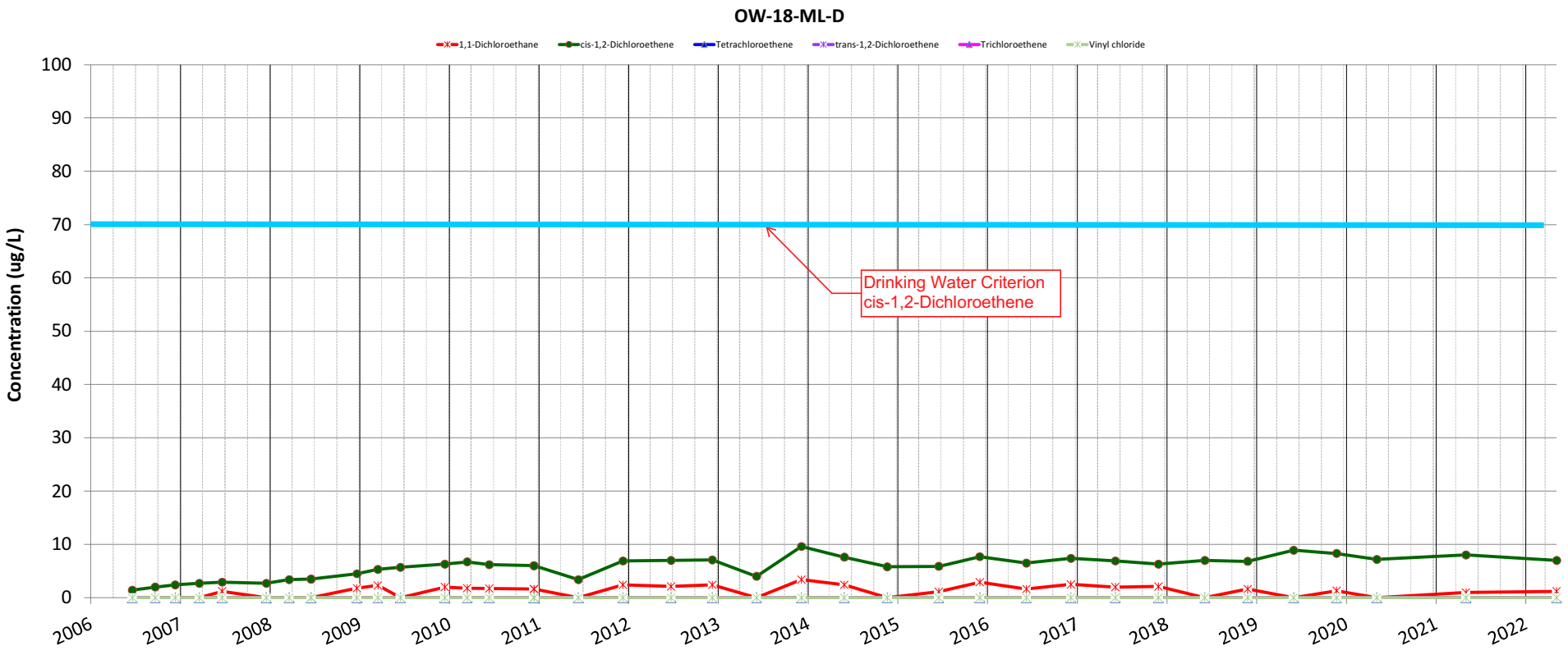
2018
2019
2020
2021
2022


OW-18-ML-D
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Drinking Water Criterion
cis-1,2-Dichloroethene
2006
2007
2008
2009
2010
2011
2012
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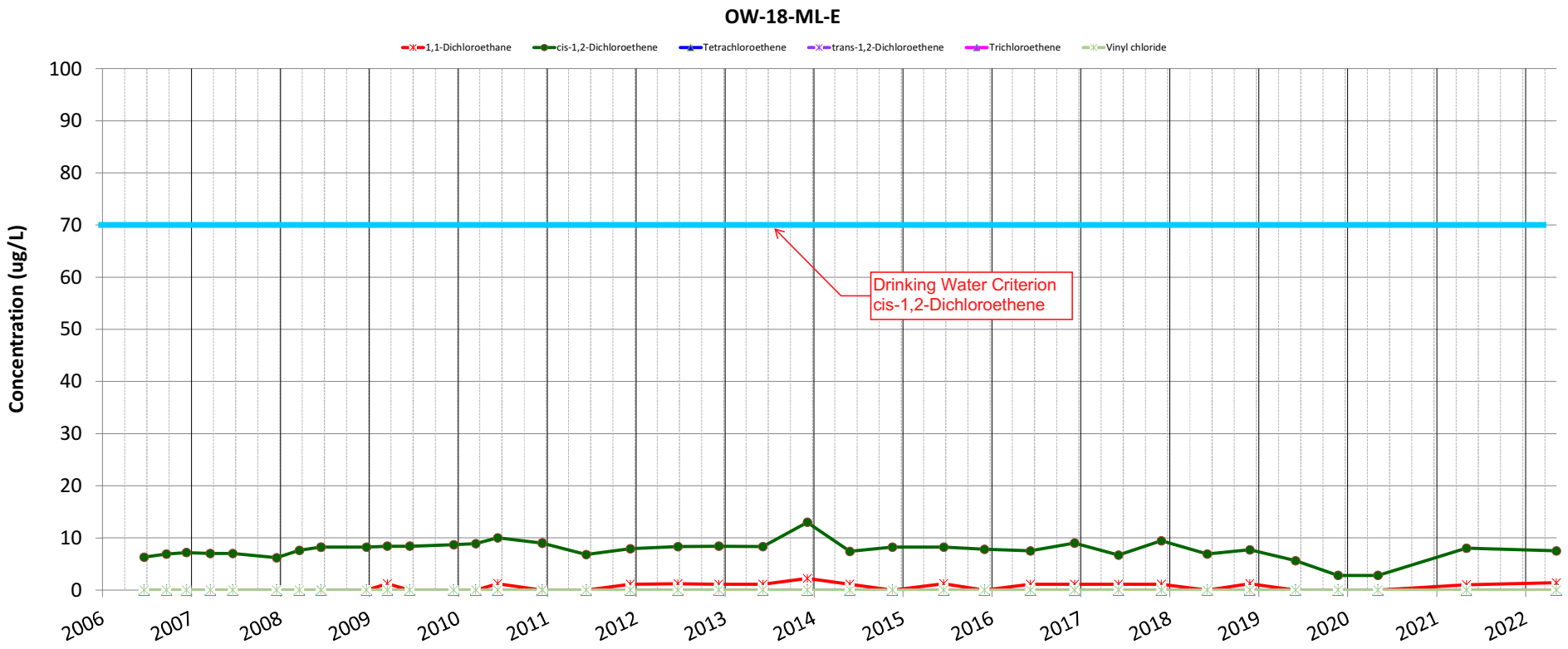
2019
2020
2021
2022


OW-18-ML-E
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cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Drinking Water Criterion
cis-1,2-Dichloroethene
2006
2007
2008
2009
2010
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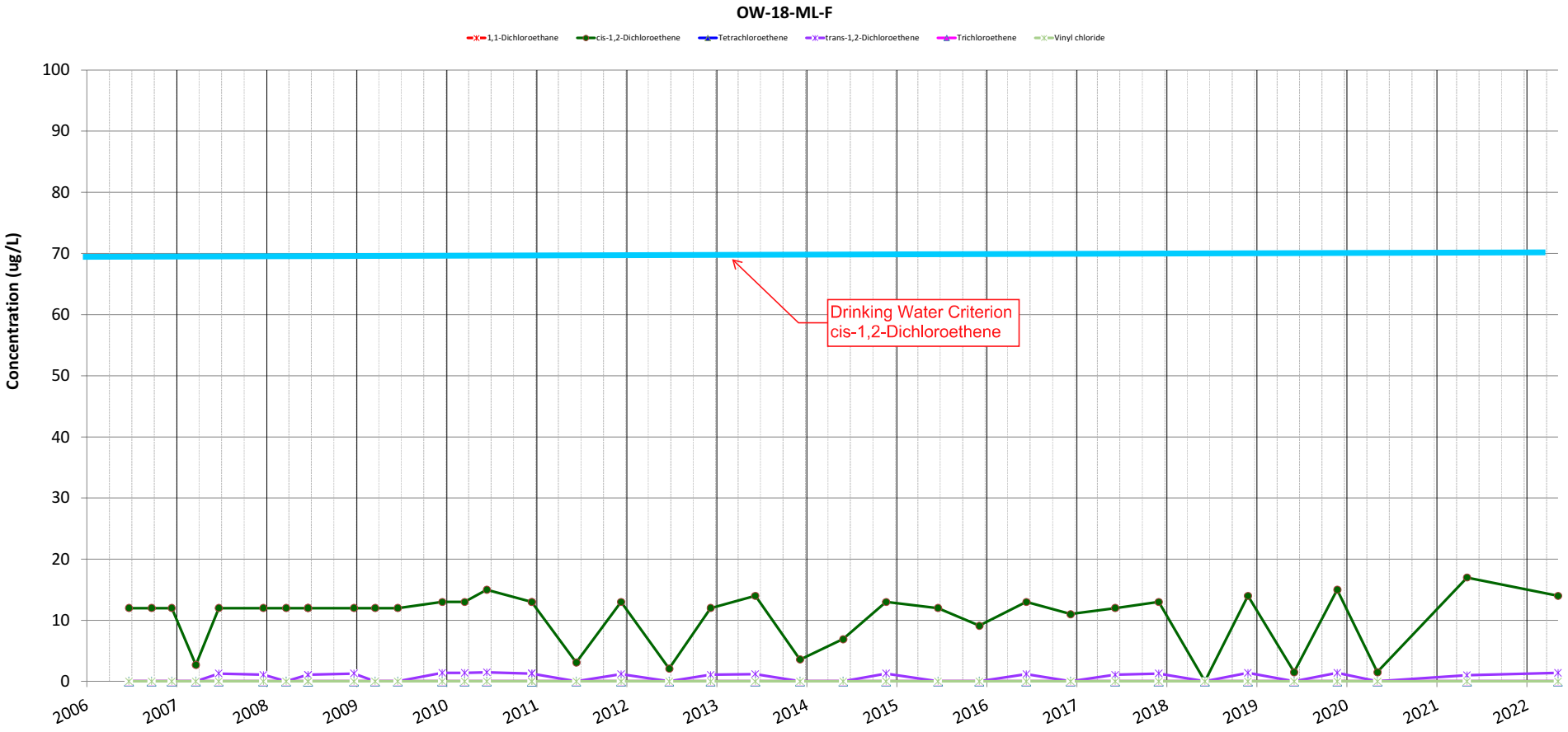
2016
2017
2018
2019
2020
2021
2022


OW-18-ML-F
1,1-Dichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Vinyl chloride
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Drinking Water Criterion
cis-1,2-Dichloroethene

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28550 Cabot Drive, Suite 500
Novi
Michigan 48377
Phone: 248 994 2240
Fax:

www.arcadis.com