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Technical Memorandum

To

Joseph DeMorett, Water Supply Manager
Madison Water Utility
119 East Olin Avenue
Madison, WI 53713

Subject

Results of Field Screening Investigation (Element 2)
Unit Well 15 – Contaminant Source Assessment
3900 East Washington Avenue, Madison, Wisconsin
AECOM Project No. 60263461

From

Eric C. Schmidt, P.E.
Project Engineer
eric.schmidt@aecom.com

David S. Senfelds, P.E., CHMM
Manager, Environmental Services
david.senfelds@aecom.com

Date

August 21, 2012

AECOM has completed a Field Screening Investigation (soil gas survey) to assist the Madison Water Utility (MWU) in identifying potential sources of tetrachloroethylene (PCE) in the capture zone of Unit Well 15.

Background Information

Volatile organic compounds (VOCs), including PCE, trichloroethylene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA) have been detected in Unit Well 15 since the early 1990s. PCE concentrations in the well have generally increased from below 1 microgram per liter (µg/L) in the early 1990s to 3 to 4 µg/L between 2008 and 2011. The maximum contaminant level established by the United States Environmental Protection Agency for PCE is 5 µg/L. The concentrations of TCE and 1,1,1-TCA have been detected below their respective MCLs, and concentrations have generally decreased or stabilized since 1996. The location of Unit Well 15 is shown on Figure 1, enclosed.

AECOM completed a Contaminant Source Inventory (CSI) for Unit Well 15, which was summarized in a technical memorandum dated May 18, 2012. The CSI included a field reconnaissance, interviews, and a review of regulatory records, historical aerial photographs, city directories, and topographic maps. The CSI results identified 32 potential sources of PCE contamination. Field screening investigations were recommended for the 10 sites considered to have the highest perceived potential of being a source of PCE detected at Unit Well 15.

Description of Field Investigation

On June 18 through June 21, 2012, an AECOM technician installed 40 passive soil gas samplers (W.L. Gore & Associates, Inc. [Gore®] Modules) near the suspected PCE source areas and across a portion of the flow path(s) feeding Unit Well 15 (see Figure 2). The Gore® Module is a patented tool based on a refined form of the proven technology of passive soil gas sampling and is used to capture volatile vapors emitted by contaminated soil and groundwater. VOCs such as PCE, volatilize into the soil gas above the contaminated aquifer and approach equilibrium relatively quickly in the porous subsurface. Although Gore® Modules cannot quantify concentrations of PCE in the aquifer; they can provide qualitative information about the relative levels of PCE in soil gas.

The modules were installed at depths ranging from 24 to 34 inches below ground surface in boreholes advanced using an electric hammer drill with a 1 inch diameter drill bit. Subsurface soils encountered during drilling included silty sand and sandstone. The modules were placed at the bottom of the borings using an aluminum insertion rod per the manufacturer's instruction. A cork was placed at the top of each boring to limit potential surface contamination.

AECOM retrieved 39 of the 40 Gore® Modules on June 29, 2012. The modules were placed into laboratory supplied containers and shipped to the Gore® laboratory in Elkton, Maryland. The modules were analyzed for VOCs using U.S. Environmental Protection Agency Method 8260. Module GM-8530, which was installed northwest of Site 8 (Office Depot/former Burke Town Hall), was not found during retrieval activities.

Results

The Gore® Laboratory Report and Mapping Report are enclosed. Analytical results indicated detectable levels of PCE at the following locations (see enclosed Figures 2 through 6):

CSI Site No.	Site Name	Gore® Module ID (0068….)	PCE Result (µg)
1	Former Day One Formal Wear	8535	0.27
3	Former Duraclean and Johnny on the Spot	8548	0.10
		8549	0.12
6	Former Paul's Classic Cleaners	8560	0.02
8	Office Depot (former Burke Town Hall)	8543	0.02

Based on the results of the field screening investigation, a groundwater investigation (Element 3) is recommended at the four potential sources sites where PCE was detected in soil gas to confirm the presence of PCE in groundwater.

AECOM appreciates the opportunity to assist MWU with this project. If you have any questions, please contact us at (715) 341-8110.

Enclosures: Figures
Gore® Laboratory Report
Gore® Mapping Report

References

References

AECOM, 2012. *Results of PCE Contaminant Source Inventory*, Technical Memorandum, May 18.

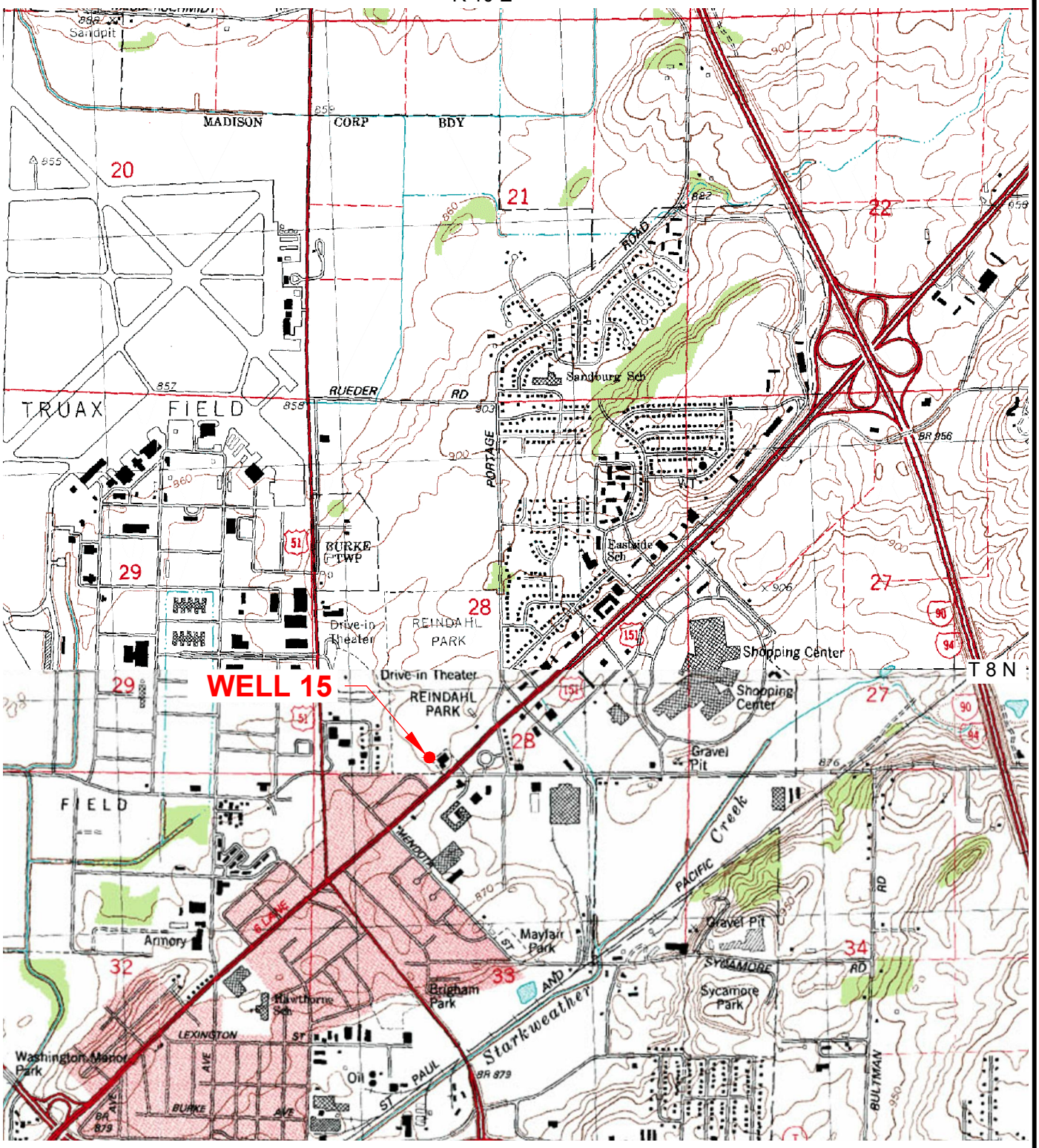
Black & Veatch Corporation, 2011. *Unit Well 15 – Volatile Organic Compound (VOC) Mitigation*, October 13.

U.S. Geological Survey. 1983a. *DeForest, Wis.*, 7.5-Minute Quadrangle.

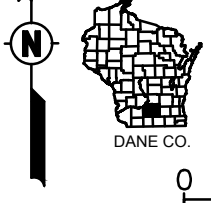
U.S. Geological Survey. 1983b. *Madison, Wis.*, 7.5-Minute Quadrangle.

Dane County. Interactive GIS Mapping (including parcel reports and 1995, 2000, 2005, and 2010 aerial photos). http://www.countyofdane.com/lio/.

Figures



MAP SOURCE: MADISON, EAST, WI USGS TOPO QUADRANGLE, DATED 1983.
MAP SOURCE: DE FOREST, WI USGS TOPO QUADRANGLE, DATED 1983.



0 2000' 4000'

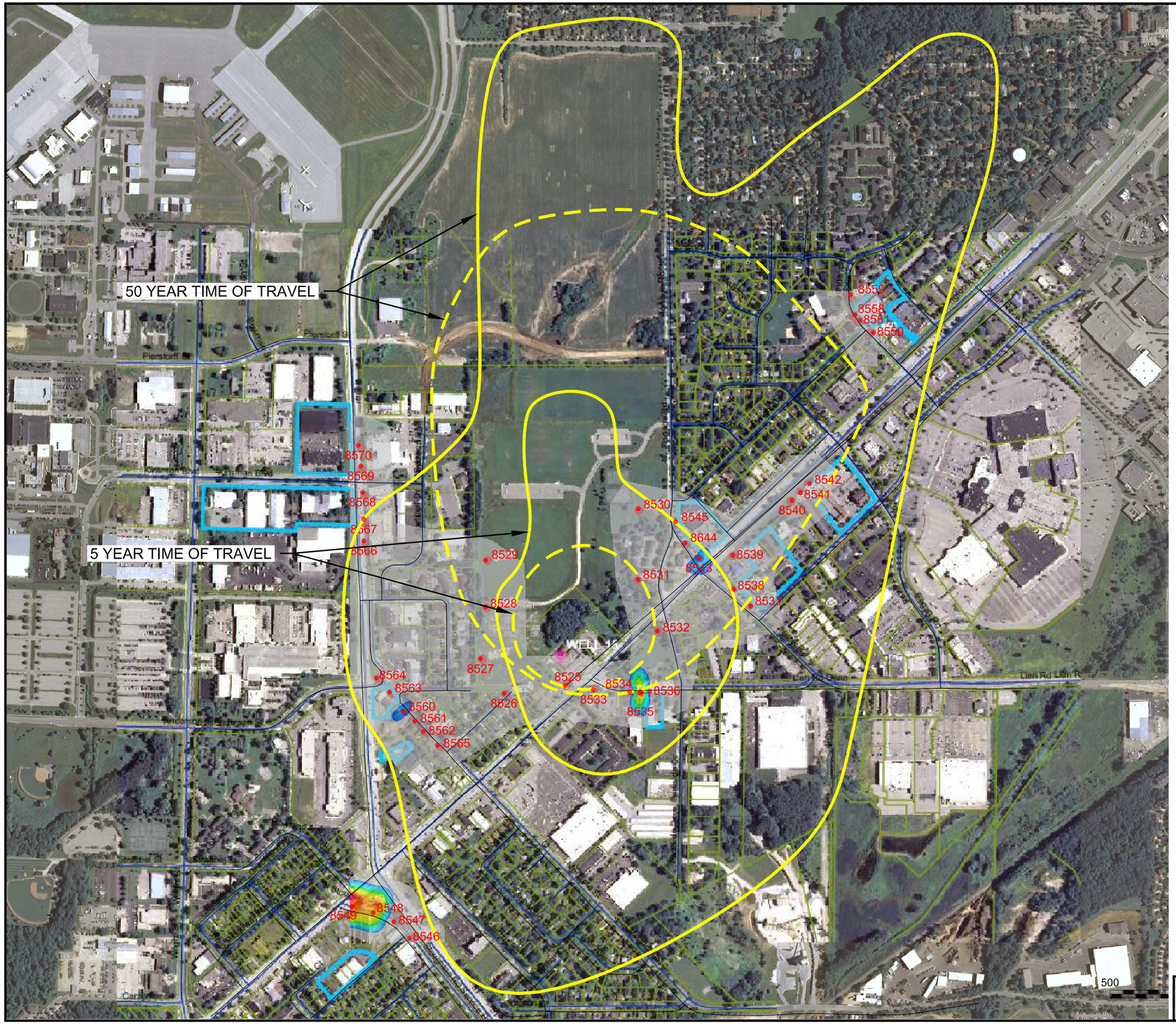
AECOM

SITE LOCATION MAP

UNIT WELL 15
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN

PROJECT NO.	DRAWN BY:	DATE:	
60263461	KAM	04/10/2012	**FIGURE 1**

File: P:\60263461\000_CAD\001_Drawings\Design\G60263461-FIGURE_1.dwg Layout: Figure 1 User: mittelsteadtk Plotted: Jul 30, 2012 - 10:19am



0.266
0.234
0.205
0.180
0.159
0.139
0.122
0.108
0.094
0.083
0.073
0.064
0.056
0.049
0.043
0.038
0.034
0.029
0.026
0.023
0.020

PCE [µg]

LEGEND:

- GORE SORBER SAMPLE LOCATION
- ESTIMATED ZONE OF CONTRIBUTION ASSUMING 100% DESIGN CAPACITY PUMPING RATE (3 MILLION GALLONS PER DAY)
- ESTIMATED ZONE OF CONTRIBUTION ASSUMING 50% DESIGN CAPACITY PUMPING RATE (1.5 MILLION GALLONS PER DAY).

NOTE: ZONES OF CONTRIBUTION / TIMES OF TRAVEL BASED OFF FIGURES INCLUDED IN THE UNIT 15 WELLHEAD PROTECTION PLAN DATED OCTOBER 2003 AND PREPARED BY STRAND ASSOCIATES, INC.

0′ 400′ 800′ 1600′

SCALE

NOTE: PCE CONCENTRATION CONTOURS PROVIDED BY W. L. GORE & ASSOCIATES

FIELD SCREENING INVESTIGATION RESULTS

UNIT WELL 15
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN

PROJECT NO.	DRAWN BY:	DATE:	
60263461	KAM	07/27/2012	**FIGURE 2**

AECOM

File: P:\60263461\000_CAD\001_Drawings\Design\G60263461-SITE_FIGURES.dwg Layout: Fig 2 User: mittelsteadtk Plotted: Jul 30, 2012 - 11:07am

PCE DETECTED AT 0.27µg IN SAMPLE 8535.

PCE [µg]
0.266
0.234
0.205
0.180
0.159
0.139
0.122
0.108
0.094
0.083
0.073
0.064
0.056
0.049
0.043
0.038
0.034
0.029
0.026
0.023
0.020

LEGEND:

GORE SORBER SAMPLE LOCATION

0′ 150′ 300′ 600′

SCALE

NOTE: PCE CONCENTRATION CONTOURS PROVIDED BY W. L. GORE & ASSOCIATES

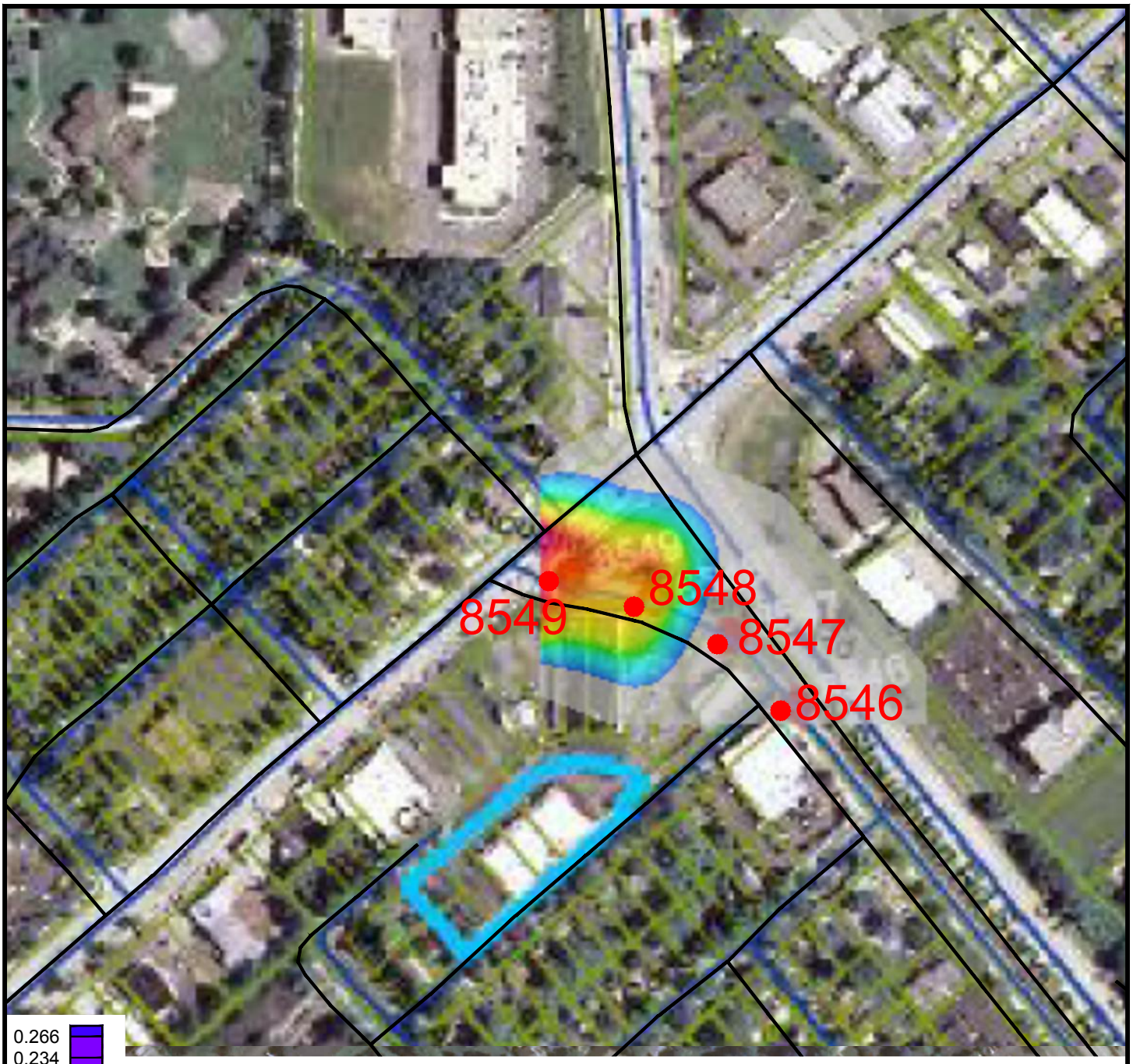
AECOM

SITE No. 1
FORMER DAY ONE FORMAL WEAR

UNIT WELL 15
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN

PROJECT NO.	DRAWN BY:	DATE:	
60263461	KAM	07/27/2012	**FIGURE 3**

File: P:\60263461\000_CAD\001_Drawings\Design\G60263461-SITE_FIGURES.dwg Layout: Fig 3 User: mittelsteadtk Plotted: Jul 30, 2012 - 10:47am



PCE DETECTED AT 0.10µg IN SAMPLE 8548
AND AT 0.12µg IN SAMPLE 8549.

PCE [µg]
0.266
0.234
0.205
0.180
0.159
0.139
0.122
0.108
0.094
0.083
0.073
0.064
0.056
0.049
0.043
0.038
0.034
0.029
0.026
0.023
0.020

LEGEND:

● GORE SORBER SAMPLE LOCATION

0′ 150′ 300′ 600′

SCALE

N

NOTE: PCE CONCENTRATION CONTOURS PROVIDED BY W. L. GORE & ASSOCIATES

AECOM

SITE No. 3
FORMER DURACLEAN AND JOHNNY ON THE SPOT

UNIT WELL 15
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN

PROJECT NO.	DRAWN BY:	DATE:	
60263461	KAM	07/27/2012	**FIGURE 4**

File: P:\60263461\000_CAD\001_Drawings\Design\G60263461-SITE_FIGURES.dwg Layout: Fig 4 User: mittelsteadtk Plotted: Jul 30, 2012 - 10:48am

PCE DETECTED AT 0.02µg IN SAMPLE 8560.

0.266
0.234
0.205
0.180
0.159
0.139
0.122
0.108
0.094
0.083
0.073
0.064
0.056
0.049
0.043
0.038
0.034
0.029
0.026
0.023
0.020

PCE [µg]

LEGEND:

GORE SORBER SAMPLE LOCATION

0′ 150′ 300′ 600′

SCALE

NOTE: PCE CONCENTRATION CONTOURS PROVIDED BY W. L. GORE & ASSOCIATES

AECOM

SITE No. 6
FORMER PAUL's CLASSIC CLEANERS

UNIT WELL 15
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN

PROJECT NO.	DRAWN BY:	DATE:	
60263461	KAM	07/27/2012	**FIGURE 5**

File: P:\60263461\000_CAD\001_Drawings\Design\G60263461-SITE_FIGURES.dwg Layout: Fig 5 User: mittelsteadtk Plotted: Jul 30, 2012 - 10:49am

PCE DETECTED AT 0.02µg IN SAMPLE 8543.

0.266
0.234
0.205
0.180
0.159
0.139
0.122
0.108
0.094
0.083
0.073
0.064
0.056
0.049
0.043
0.038
0.034
0.029
0.026
0.023
0.020

PCE [µg]

LEGEND:

GORE SORBER SAMPLE LOCATION

0′ 150′ 300′ 600′

SCALE

NOTE: PCE CONCENTRATION CONTOURS PROVIDED BY W. L. GORE & ASSOCIATES

AECOM

SITE No. 8
OFFICE DEPOT
(FORMER BURKE TOWN HALL)

UNIT WELL 15
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN

PROJECT NO.	DRAWN BY:	DATE:	
60263461	KAM	07/27/2012	**FIGURE 6**

File: P:\60263461\000_CAD\001_Drawings\Design\G60263461-SITE_FIGURES.dwg Layout: Fig 6 User: mittelsteadtk Plotted: Jul 30, 2012 - 10:49am

AECOM

Gore® Laboratory Report

GORE Surveys

FOR ENVIRONMENTAL

Laboratory Report

Site: UNIT WELL 15
MADISON WI

Prepared for:

AECOM- STEVENS POINT WI
200 INDIANA AVENUE
STEVENS POINT, WI
UNITED STATES

Prepared on:
July 20, 2012

Project Summary and Objective

W. L. Gore & Associates, Inc. (Gore) provided the GORE® Survey (Survey) used at:

UNIT WELL 15

MADISON WI

The service provided by Gore included delivery of the required quantity of GORE® Modules, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

Jay W Hodny

Project Manager

Reviewed/approved by:

Dayna M Cobb

Project Manager

Analytical data approved by:

Kelly J Stringham

Chemist

Quality Assurance Statement

The Survey Products Group laboratory, at W. L. Gore & Associates' facility in Elkton, MD USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SPG-SOP-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [√] fall within the scope of W. L. Gore's ISO 17025 accreditation.

Screening/Concentration Method

The GORE® Modules are analyzed at Gore's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, and a second-source Reference Standard is analyzed near the mid point of the calibration curve. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

Note: Analyte levels reported for the field-deployed GORE® Modules that exceed trip and method blank levels, and/or method detection limit, are more likely to have originated from on-site sources.

Media Sampled:	SOIL GAS
Chemist - sample analysis:	Kelly J Stringham
Chemist - data processor:	Ian McMullen
Chemist - data review:	Kelly J Stringham

Method deviations: Removed high standard for pentadecane and acenaphthylene to maintain linearity.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same module, and are reported.

Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s)
- Concentration Calculation Method Summary (as applicable)
- Total Ion Chromatograms

Project Specific Comments

None.

Survey period [1]	The sampling period began 6/18/12 and ended 6/29/12. See the install log for more details.
Tamper seal intact:	Yes
Date received:	7/6/2012 7:03:51AM By: Scott Kirlin
COC returned:	Yes

Comments:

None.

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

General Comments

Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the GORE® Module, and transferring one or more "sorbers" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbers not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per Gore's Quality Assurance program (SPG-SOP-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged GORE® Modules to those modules deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the modules other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each module is incorporated in the TIC identification (e.g., 12345678.D represents GORE® Module 12345678).

General Comments

Soil Gas Sampling

For soil gas sampling, the GORE® Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the GORE® Module, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the modules compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and/or free-phase contamination. The soil gas signal reported from each GORE® Module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

Air Sampling

For indoor, outdoor, and crawlspace air sampling, the GORE® Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the GORE® Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations (µg/L) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the GORE® Module below the water table), water temperature and the aquifer flow rate.

LABORATORY SAMPLE REPORT

Project: ENV 21682020 **Site Name: UNIT WELL 15** **Module Type: SPG0001**

Module ID	Sample Type	Field ID
00688525	FIELD_SAMPLE	Not Provided
00688526	FIELD_SAMPLE	Not Provided
00688527	FIELD_SAMPLE	Not Provided
00688528	FIELD_SAMPLE	Not Provided
00688529	FIELD_SAMPLE	Not Provided
00688530	LOST	Not Provided
00688531	FIELD_SAMPLE	Not Provided
00688532	FIELD_SAMPLE	Not Provided
00688533	FIELD_SAMPLE	Not Provided
00688534	FIELD_SAMPLE	Not Provided
00688535	FIELD_SAMPLE	Not Provided
00688536	FIELD_SAMPLE	Not Provided
00688537	FIELD_SAMPLE	Not Provided
00688538	FIELD_SAMPLE	Not Provided
00688539	FIELD_SAMPLE	Not Provided
00688540	FIELD_SAMPLE	Not Provided
00688541	FIELD_SAMPLE	Not Provided
00688542	FIELD_SAMPLE	Not Provided
00688543	FIELD_SAMPLE	Not Provided
00688544	FIELD_SAMPLE	Not Provided
00688545	FIELD_SAMPLE	Not Provided
00688546	FIELD_SAMPLE	Not Provided
00688547	FIELD_SAMPLE	Not Provided
00688548	FIELD_SAMPLE	Not Provided
00688549	FIELD_SAMPLE	Not Provided
00688550	FIELD_SAMPLE	Not Provided
00688551	FIELD_SAMPLE	Not Provided
00688558	FIELD_SAMPLE	Not Provided
00688559	FIELD_SAMPLE	Not Provided
00688560	FIELD_SAMPLE	Not Provided
00688561	FIELD_SAMPLE	Not Provided
00688562	FIELD_SAMPLE	Not Provided
00688563	FIELD_SAMPLE	Not Provided
00688564	FIELD_SAMPLE	Not Provided
00688565	FIELD_SAMPLE	Not Provided
00688566	FIELD_SAMPLE	Not Provided
00688567	FIELD_SAMPLE	Not Provided
00688568	FIELD_SAMPLE	Not Provided
00688569	FIELD_SAMPLE	Not Provided
00688570	FIELD_SAMPLE	Not Provided
00688571	TRIP_BLANK	Not Provided
00688572	TRIP_BLANK	Not Provided

Total # "FIELD SAMPLES"	Total # "TRIP BLANKS"	Total # "UNUSED"	Total # "LOST"
39	2	0	1

Duplicate samples: **0**

GORE SURVEY PRODUCTS GROUP
100 CHESAPEAKE BOULEVARD ELKTON MARYLAND USA
+1 410 392 7600 ENVIRONMENTAL@WLGORE.COM

GORE® Survey Chain of Custody
Soil gas and/or Air Sampling

Production Order #: 21682020

Customer Name: AECOM
Address: ACCOUNTS PAYABLE
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
USA

Site Name: UNIT WELL 15
Site Address: MADISON WI
Project Manager:

Serial # of GORE Modules Shipped
00688525 - 00688551
00688558 - 00688572

# of Modules for Installation	40.00	# of Trip Blanks 2
Total Modules Shipped	42.00	Pieces
Total Modules Received	42.00	Pieces
Total Modules Installed	40.0	Pieces

Serial # of Trip Blanks (Client Decides)

00688571 00688572		

Prepared By: Darlene Lyellowsley
Verified By: Clarence Wiffin

Installation Method: (Circle those that apply)
Slide Hammer (Hammer Drill) Auger
Other

Installation Performed By:
Name: PHIL EAGAN
Company: AECOM

Retrieval Performed By:
Name: PHIL EAGAN
Company: AECOM

Installation Start Date / Time: 06/18/2012 16:30
Installation Complete Date / Time: 06/21/2012 14:15

Retrieval Start Date / Time: 06/29/12 11:00
Retrieval Complete Date / Time 06/29/12 16:00

Total Modules Retrieved: 39
Total Modules Lost In Field: 1
Total Unused Modules Returned: 0

Relinquished By	Darlene Lyellowsley	Date/Time 6-31-12	**Received By:**	PHIL EAGAN	Date/Time 6/4/12
Company:	W. L. Gore	12:05 PM	**Company:**	AECOM	12:00
Relinquished By	Phil Eagan	Date/Time 7/2/12 16:00	**Received By:**		Date/Time
Company:	AECOM		**Company:**		
Relinquished By		Date/Time	**Received By:**		Date/Time 7-6-12
Company:			**Company:**	W.L. GORE	6:30AM

W. L. Gore & Associates, Inc.
100 Chesapeake Boulevard
Elkton, MD USA 21921
ph: 410-392-7600

GORE Project No: ENV 21682020
Site Name: UNIT WELL 15
Site Location: MADISON WI

Company Name: AECOM
Location: Madison, WI
Samples collected by: Phil Eagan

GORE(R) Surveys
Installation & Retrieval Log

*** Optional or as needed**

MODULE SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO			AT MINIMUM PROVIDE SOIL TYPE			LONGITUDE (easting) or X	LATITUDE (northing) or Y
							EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS ?	ODOR ?	WATER IN INSTALLATION HOLE?	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)		
00688525	GM-8525	FIELD_SAMPLE	6/18/12 16:30	6/29/12 11:06	33"	GRASS	NO	NO	NO	SILTY SAND			W089.31895	N43.12101
00688526	GM-8526	FIELD_SAMPLE	6/18/12 17:05	6/29/12 11:12	33"	GRASS	NO	NO	NO	SILTY SAND			W089.32061	N43.12108
00688527	GM-8527	FIELD_SAMPLE	6/18/12 17:30	6/29/12 11:17	33"	GRASS	NO	NO	NO	SILTY SAND			W089.32137	N43.12165
00688528	GM-8528	FIELD_SAMPLE	6/19/12 10:30	6/29/12 11:25	33"	GRASS	NO	NO	NO	SILTY SAND			W089.32117	N43.12284
00688529	GM-8529	FIELD_SAMPLE	6/19/12 11:30	6/29/12 11:27	32"	GRASS	NO	NO	NO	SILTY SAND			W089.32147	N43.12402
00688530	GM-8530	FIELD_SAMPLE	6/19/12 12:25	No Retrieval	34"	GRASS	NO	NO	NO	LOAM			W089.31640	N43.12504
00688531	GM-8531	FIELD_SAMPLE	6/19/12 13:00	6/29/12 12:10	32"	GRASS	NO	NO	NO	LOAM			W089.31634	N43.12340
00688532	GM-8532	FIELD_SAMPLE	6/19/12 13:40	6/29/12 12:16	32"	GRASS	NO	NO	NO	LOAM			W089.31567	N43.12239
00688533	GM-8533	FIELD_SAMPLE	6/19/12 14:05	6/29/12 12:22	34"	GRASS	NO	NO	NO	LOAM			W089.31790	N43.12101
00688534	GM-8534	FIELD_SAMPLE	6/19/12 16:45	6/29/12 12:29	24"	GRASS	NO	NO	NO	LOAM			W089.31674	N43.12075
00688535	GM-8535	FIELD_SAMPLE	6/19/12 17:35	6/29/12 12:30	34"	GRASS	NO	NO	NO	LOAM			W089.31640	N43.12079
00688536	GM-8536	FIELD_SAMPLE	6/19/12 18:00	6/29/12 12:32	33"	GRASS	NO	NO	NO	LOAM			W089.31617	N4312073
00688537	GM-8537	FIELD_SAMPLE	6/20/12 9:50	6/29/12 12:42	34"	GRASS	NO	NO	NO	LOAM			W089.31322	N43.12296
00688538	GM-8538	FIELD_SAMPLE	6/20/12 10:20	6/29/12 12:45	36"	GRASS	NO	NO	NO	LOAM			W089.31367	N43.12327
00688539	GM-8539	FIELD_SAMPLE	6/20/12 11:15	6/29/12 12:50	30"	GRASS	NO	NO	NO	LOAM			W089.31345	N4312407
00688540	GM-8540	FIELD_SAMPLE	6/20/12 11:45	6/29/12 12:53	30"	GRASS	NO	NO	NO	LOAM			W089.31117	N43.12519
00688541	GM-8541	FIELD_SAMPLE	6/20/12 12:30	6/29/12 13:05	24"	GRASS	NO	NO	NO	LOAM			W089.31145	N43.12537
00688542	GM-8542	FIELD_SAMPLE	6/20/12 12:50	6/29/12 13:10	30"	GRASS	NO	NO	NO	LOAM			W089.31115	N43.12561
00688543	GM-8543	FIELD_SAMPLE	6/20/12 13:20	6/29/12 13:20	28"	GRASS	NO	NO	NO	LOAM			W089.31469	N43.12400
00688544	GM-8544	FIELD_SAMPLE	6/20/12 13:45	6/29/12 13:23	30"	GRASS	NO	NO	NO	LOAM			W089.31495	N43.12426
00688545	GM-8545	FIELD_SAMPLE	6/20/12 14:20	6/29/12 13:33	28"	GRASS	NO	NO	NO	LOAM			W089.31532	N43.12474
00688546	GM-8546	FIELD_SAMPLE	6/20/12 15:00	6/29/12 13:50	28"	GRASS	NO	NO	NO	LOAM			W089.32357	N43.11548
00688547	GM-8547	FIELD_SAMPLE	6/20/12 16:20	6/29/12 13:55	28"	GRASS	NO	NO	NO	LOAM			W089.32405	N43.11574
00688548	GM-8548	FIELD_SAMPLE	6/20/12 18:00	6/29/12 14:00	30"	GRASS	NO	NO	NO	LOAM			W089.32470	N43.11599
00688549	GM-8549	FIELD_SAMPLE	6/20/12 18:30	6/29/12 14:03	30"	GRASS	NO	NO	NO	LOAM			W089.32522	N43.11616
00688550	GM-8550	FIELD_SAMPLE	6/21/12 9:20	6/29/12 14:14	24"	GRASS	NO	NO	NO	LOAM			W089.30887	N43.12879
00688551	GM-8551	FIELD_SAMPLE	6/21/12 9:45	6/29/12 14:17	24"	GRASS	NO	NO	NO	LOAM			W089.30972	N43.12933
00688558	GM-8558	FIELD_SAMPLE	6/21/12 10:10	6/29/12 14:20	24"	GRASS	NO	NO	NO	LOAM			W089.30989	N43.12948
00688559	GM-8559	FIELD_SAMPLE	6/21/12 10:25	6/29/12 14:25	26"	GRASS	NO	NO	NO	LOAM			W089.30994	N43.12983
00688560	GM-8560	FIELD_SAMPLE	6/21/12 11:00	6/29/12 14:40	30"	GRASS	NO	NO	NO	LOAM			W089.32366	N43.12054
00688561	GM-8561	FIELD_SAMPLE	6/21/12 11:20	6/29/12 14:42	28"	GRASS	NO	NO	NO	LOAM			W089.32333	N43.12031
00688562	GM-8562	FIELD_SAMPLE	6/21/12 11:30	6/29/12 14:45	30"	GRASS	NO	NO	NO	LOAM			W089.32303	N43.12000
00688563	GM-8563	FIELD_SAMPLE	6/21/12 11:55	6/29/12 14:55	28"	GRASS	NO	NO	NO	LOAM			W089.32408	N43.12073
00688564	GM-8564	FIELD_SAMPLE	6/21/12 12:15	6/29/12 15:00	24"	GRASS	NO	NO	NO	LOAM			W089.32453	N43.12118
00688565	GM-8565	FIELD_SAMPLE	6/21/12 12:40	6/29/12 14:50	24"	GRASS	NO	NO	NO	LOAM			W089.32264	N43.11968
00688566	GM-8566	FIELD_SAMPLE	6/21/12 13:10	6/29/12 15:05	32"	GRASS	NO	NO	NO	LOAM			W089.32486	N4312413
00688567	GM-8567	FIELD_SAMPLE	6/21/12 13:30	6/29/12 15:08	32"	GRASS	NO	NO	NO	LOAM			W089.32494	N43.12490
00688568	GM-8568	FIELD_SAMPLE	6/21/12 13:50	6/29/12 15:11	28"	GRASS	NO	NO	NO	LOAM			W089.32463	N43.12529
00688569	GM-8569	FIELD_SAMPLE	6/21/12 14:05	6/29/12 15:15	32"	GRASS	NO	NO	NO	LOAM			W089.32494	N43.12607
00688570	GM-8570	FIELD_SAMPLE	6/21/12 14:15	6/29/12 15:20	26"	GRASS	NO	NO	NO	LOAM			W089.32499	N43.12655
00688571		TRIP_BLANK												
00688572		TRIP_BLANK												

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

DATE ANALYZED	FIELD ID	SAMPLE NAME	TPH, ug	VC, ug	BTEX, ug	BENZ, ug	TOL, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug
		MDL=	0.50	0.20		0.02	0.02	0.02	0.02	0.02
07/11/12	GM-8525	688525	4.58	nd	1.76	0.52	0.73	0.09	0.28	0.14
07/10/12	GM-8526	688526	bdl	nd	0.05	0.03	0.02	nd	nd	nd
07/10/12	GM-8527	688527	1.70	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8528	688528	bdl	nd	0.13	0.06	0.06	nd	nd	nd
07/10/12	GM-8529	688529	0.52	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8531	688531	1.32	nd	0.13	0.07	0.06	nd	nd	nd
07/11/12	GM-8532	688532	3.21	nd	0.15	0.02	0.12	nd	nd	nd
07/11/12	GM-8533	688533	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8534	688534	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8535	688535	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8536	688536	0.64	nd	0.05	0.03	0.02	nd	nd	nd
07/11/12	GM-8537	688537	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8538	688538	1.16	nd	0.07	0.04	0.03	nd	bdl	nd
07/11/12	GM-8539	688539	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8540	688540	bdl	nd	0.03	nd	0.03	nd	nd	nd
07/11/12	GM-8541	688541	7.46	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8542	688542	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8543	688543	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8544	688544	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12	GM-8545	688545	12.76	nd	0.10	0.08	0.03	nd	nd	nd
07/10/12	GM-8546	688546	4.26	nd	0.14	nd	0.05	0.04	0.03	0.02
07/11/12	GM-8547	688547	bdl	nd	0.05	0.02	0.02	nd	nd	nd
07/10/12	GM-8548	688548	0.85	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8549	688549	0.63	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8550	688550	bdl	nd	0.07	0.03	0.04	nd	nd	nd
07/11/12	GM-8551	688551	0.65	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8558	688558	bdl	nd	0.03	nd	0.03	nd	bdl	nd
07/10/12	GM-8559	688559	bdl	nd	0.02	nd	0.02	nd	nd	nd
07/10/12	GM-8560	688560	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8561	688561	bdl	nd	0.02	nd	0.02	nd	nd	nd
07/11/12	GM-8562	688562	bdl	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

DATE ANALYZED	FIELD ID	SAMPLE NAME	TPH, ug	VC, ug	BTEX, ug	BENZ, ug	TOL, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug
		MDL=	0.50	0.20		0.02	0.02	0.02	0.02	0.02
07/11/12	GM-8563	688563	bdl	nd	0.03	nd	0.03	nd	nd	nd
07/10/12	GM-8564	688564	bdl	nd	0.02	nd	0.02	nd	nd	bdl
07/10/12	GM-8565	688565	0.78	nd	0.06	nd	0.06	nd	nd	nd
07/10/12	GM-8566	688566	bdl	nd	0.02	nd	0.02	nd	bdl	nd
07/11/12	GM-8567	688567	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8568	688568	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8569	688569	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12	GM-8570	688570	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12		688571	nd	nd	nd	nd	nd	nd	nd	nd
07/10/12		688572	bdl	nd	nd	nd	nd	nd	nd	nd
07/10/12		method blank	bdl	nd	nd	nd	nd	nd	nd	nd
07/11/12		method blank	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug
MDL=		0.05	0.05	0.05		0.02	0.02		0.02
688525	bdl	nd	nd	bdl	0.36	0.29	0.08	nd	nd
688526	0.13	0.13	nd	nd	nd	nd	nd	nd	nd
688527	1.35	1.35	nd	nd	nd	nd	nd	nd	nd
688528	nd	nd	nd	nd	nd	nd	nd	nd	nd
688529	0.20	0.20	nd	nd	nd	nd	nd	nd	nd
688531	nd	nd	nd	nd	bdl	bdl	nd	nd	nd
688532	bdl	bdl	nd	nd	nd	nd	nd	nd	nd
688533	nd	nd	nd	nd	nd	nd	nd	nd	nd
688534	nd	nd	nd	nd	nd	nd	nd	nd	nd
688535	nd	nd	nd	nd	nd	nd	nd	nd	nd
688536	bdl	bdl	nd	nd	bdl	bdl	nd	nd	nd
688537	nd	nd	nd	nd	nd	nd	nd	nd	nd
688538	nd	nd	nd	nd	0.04	0.04	nd	nd	nd
688539	nd	nd	nd	nd	nd	nd	nd	nd	nd
688540	nd	nd	nd	nd	nd	nd	nd	nd	nd
688541	6.30	6.30	nd	nd	nd	nd	nd	nd	nd
688542	nd	nd	nd	nd	nd	nd	nd	nd	nd
688543	nd	nd	nd	nd	nd	nd	nd	nd	nd
688544	bdl	bdl	nd	nd	0.02	0.02	nd	nd	nd
688545	0.32	bdl	0.10	0.22	0.06	0.03	0.03	nd	nd
688546	0.22	0.11	0.11	bdl	0.10	0.08	0.02	nd	nd
688547	nd	nd	nd	nd	nd	nd	nd	nd	nd
688548	nd	nd	nd	nd	bdl	bdl	nd	nd	nd
688549	bdl	bdl	nd	nd	0.04	0.04	nd	nd	nd
688550	nd	nd	nd	nd	nd	nd	nd	nd	nd
688551	bdl	bdl	nd	nd	0.05	0.05	bdl	nd	nd
688558	nd	nd	nd	nd	nd	nd	nd	nd	nd
688559	nd	nd	nd	nd	nd	nd	nd	nd	nd
688560	nd	nd	nd	nd	nd	nd	nd	nd	nd
688561	nd	nd	nd	nd	0.02	0.02	nd	nd	nd
688562	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug
MDL=		0.05	0.05	0.05		0.02	0.02		0.02
688563	nd	nd	nd	nd	0.02	0.02	bdl	nd	nd
688564	0.05	0.05	nd	nd	nd	nd	nd	nd	nd
688565	nd	nd	nd	nd	nd	nd	nd	nd	nd
688566	nd	nd	nd	nd	bdl	bdl	nd	nd	nd
688567	nd	nd	nd	nd	nd	nd	nd	nd	nd
688568	nd	nd	nd	nd	nd	nd	nd	nd	nd
688569	nd	nd	nd	nd	nd	nd	nd	nd	nd
688570	nd	nd	nd	nd	nd	nd	nd	nd	nd
688571	nd	nd	nd	nd	nd	nd	nd	nd	nd
688572	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug
MDL=	0.02		0.05	0.05	0.02	0.02	0.02	0.02	0.02	0.02
688525	nd	0.08	0.08	bdl	nd	nd	nd	nd	nd	0.03
688526	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688527	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688528	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688529	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688531	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688532	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688533	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688534	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688535	nd	0.05	0.05	bdl	nd	nd	nd	nd	nd	nd
688536	nd	bdl	bdl	bdl	nd	nd	nd	nd	nd	nd
688537	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688538	nd	0.09	0.09	bdl	nd	nd	nd	nd	nd	nd
688539	nd	0.16	0.09	0.07	nd	nd	nd	nd	nd	nd
688540	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688541	nd	bdl	nd	bdl	nd	nd	nd	nd	nd	nd
688542	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688543	nd	bdl	nd	bdl	nd	nd	nd	nd	nd	nd
688544	nd	bdl	nd	bdl	nd	nd	nd	nd	nd	nd
688545	nd	49.14	27.64	21.50	nd	nd	nd	nd	nd	nd
688546	nd	bdl	bdl	bdl	nd	nd	nd	nd	nd	nd
688547	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688548	nd	bdl	bdl	bdl	nd	nd	nd	nd	nd	nd
688549	nd	0.11	0.11	bdl	nd	nd	nd	nd	nd	nd
688550	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688551	nd	bdl	bdl	bdl	nd	nd	nd	nd	nd	nd
688558	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688559	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688560	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688561	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688562	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug
MDL=	0.02		0.05	0.05	0.02	0.02	0.02	0.02	0.02	0.02
688563	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688564	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688565	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688566	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688567	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688568	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688569	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688570	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688571	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
688572	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	PCE, ug	14DCB, ug	Acenaphthene, ug	Acenaphthylene, ug	Fluorene, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug
MDL=	0.02	0.02	0.05	0.05	0.05	0.02	0.02	0.02	0.02
688525	nd	nd	nd	nd	nd	nd	nd	nd	nd
688526	nd	nd	nd	nd	nd	nd	nd	nd	nd
688527	nd	nd	nd	nd	nd	nd	nd	nd	nd
688528	nd	nd	nd	nd	nd	nd	nd	nd	nd
688529	nd	nd	nd	nd	nd	nd	nd	nd	nd
688531	nd	nd	nd	nd	nd	nd	nd	nd	nd
688532	nd	nd	nd	nd	nd	nd	nd	nd	nd
688533	nd	nd	nd	nd	nd	nd	nd	nd	nd
688534	nd	nd	nd	nd	nd	nd	0.05	nd	nd
688535	0.27	nd	0.13	nd	bdl	nd	nd	nd	nd
688536	nd	nd	0.06	nd	bdl	nd	nd	nd	nd
688537	nd	nd	nd	nd	nd	nd	nd	nd	nd
688538	nd	nd	0.12	nd	0.06	nd	nd	nd	nd
688539	nd	nd	bdl	nd	bdl	nd	nd	nd	nd
688540	nd	nd	nd	nd	nd	nd	nd	nd	nd
688541	nd	nd	bdl	nd	bdl	nd	nd	nd	nd
688542	nd	nd	nd	nd	nd	nd	nd	nd	nd
688543	0.02	nd	nd	nd	0.07	nd	0.09	nd	nd
688544	nd	nd	nd	nd	nd	nd	0.04	nd	nd
688545	nd	nd	9.50	5.86	26.31	nd	nd	nd	nd
688546	nd	nd	bdl	nd	bdl	nd	nd	nd	nd
688547	nd	nd	0.07	nd	bdl	nd	nd	nd	nd
688548	0.10	nd	bdl	nd	bdl	nd	nd	nd	nd
688549	0.12	nd	0.33	bdl	0.10	nd	nd	nd	nd
688550	nd	nd	nd	nd	nd	nd	nd	nd	nd
688551	nd	nd	nd	nd	nd	nd	nd	nd	nd
688558	nd	nd	bdl	nd	nd	nd	nd	nd	nd
688559	nd	nd	nd	nd	nd	nd	nd	nd	nd
688560	0.02	nd	nd	nd	nd	nd	0.08	nd	nd
688561	nd	nd	nd	nd	nd	nd	nd	nd	nd
688562	nd	nd	nd	nd	nd	nd	0.38	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	PCE, ug	14DCB, ug	Acenaphthene, ug	Acenaphthylene, ug	Fluorene, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug
MDL=	0.02	0.02	0.05	0.05	0.05	0.02	0.02	0.02	0.02
688563	nd	nd	nd	nd	nd	nd	0.06	nd	nd
688564	nd	nd	nd	nd	nd	nd	nd	nd	nd
688565	nd	nd	nd	nd	nd	nd	nd	nd	nd
688566	nd	nd	nd	nd	nd	nd	0.21	nd	nd
688567	nd	nd	nd	nd	nd	nd	0.06	nd	nd
688568	nd	nd	nd	nd	nd	nd	0.05	nd	nd
688569	nd	nd	nd	nd	nd	nd	nd	nd	nd
688570	nd	nd	nd	nd	nd	nd	nd	nd	nd
688571	nd	nd	nd	nd	nd	nd	nd	nd	nd
688572	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.02	0.02	0.02	0.02	0.02
688525	nd	nd	nd	nd	nd
688526	nd	nd	nd	nd	nd
688527	nd	nd	nd	nd	nd
688528	nd	nd	nd	nd	nd
688529	nd	nd	nd	nd	nd
688531	nd	nd	nd	nd	nd
688532	nd	nd	nd	nd	nd
688533	nd	nd	nd	nd	nd
688534	nd	nd	nd	nd	nd
688535	nd	nd	nd	nd	nd
688536	nd	nd	nd	nd	nd
688537	nd	nd	nd	nd	nd
688538	nd	nd	nd	nd	nd
688539	nd	nd	nd	nd	nd
688540	nd	nd	nd	nd	nd
688541	nd	nd	nd	nd	nd
688542	nd	nd	nd	nd	nd
688543	nd	nd	nd	nd	nd
688544	nd	nd	nd	nd	nd
688545	nd	nd	nd	nd	nd
688546	nd	nd	nd	nd	nd
688547	nd	nd	nd	nd	nd
688548	nd	nd	nd	nd	nd
688549	nd	nd	nd	nd	nd
688550	nd	nd	nd	nd	nd
688551	nd	nd	nd	nd	nd
688558	nd	nd	nd	nd	nd
688559	nd	nd	nd	nd	nd
688560	nd	nd	nd	nd	nd
688561	nd	nd	nd	nd	nd
688562	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
AECOM, STEVENS POINT, WI
GORE SCREENING COMPOUNDS
UNIT WELL 15, MADISON, WI
PRODUCTION ORDER # 21682020

SAMPLE NAME	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.02	0.02	0.02	0.02	0.02
688563	nd	nd	nd	nd	nd
688564	nd	nd	nd	nd	nd
688565	nd	nd	nd	nd	nd
688566	nd	nd	nd	nd	nd
688567	nd	nd	nd	nd	nd
688568	nd	nd	nd	nd	nd
688569	nd	nd	nd	nd	nd
688570	nd	nd	nd	nd	nd
688571	nd	nd	nd	nd	nd
688572	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE® Surveys
KEY TO DATA TABLE

UNITS

µg	micrograms, relative mass value
RL	reporting limit
bdl	below reporting limit; compound was observed at level below the RL
nd	non-detect, compound was not detected at any level
>	greater than; value considered estimated due to high mass levels

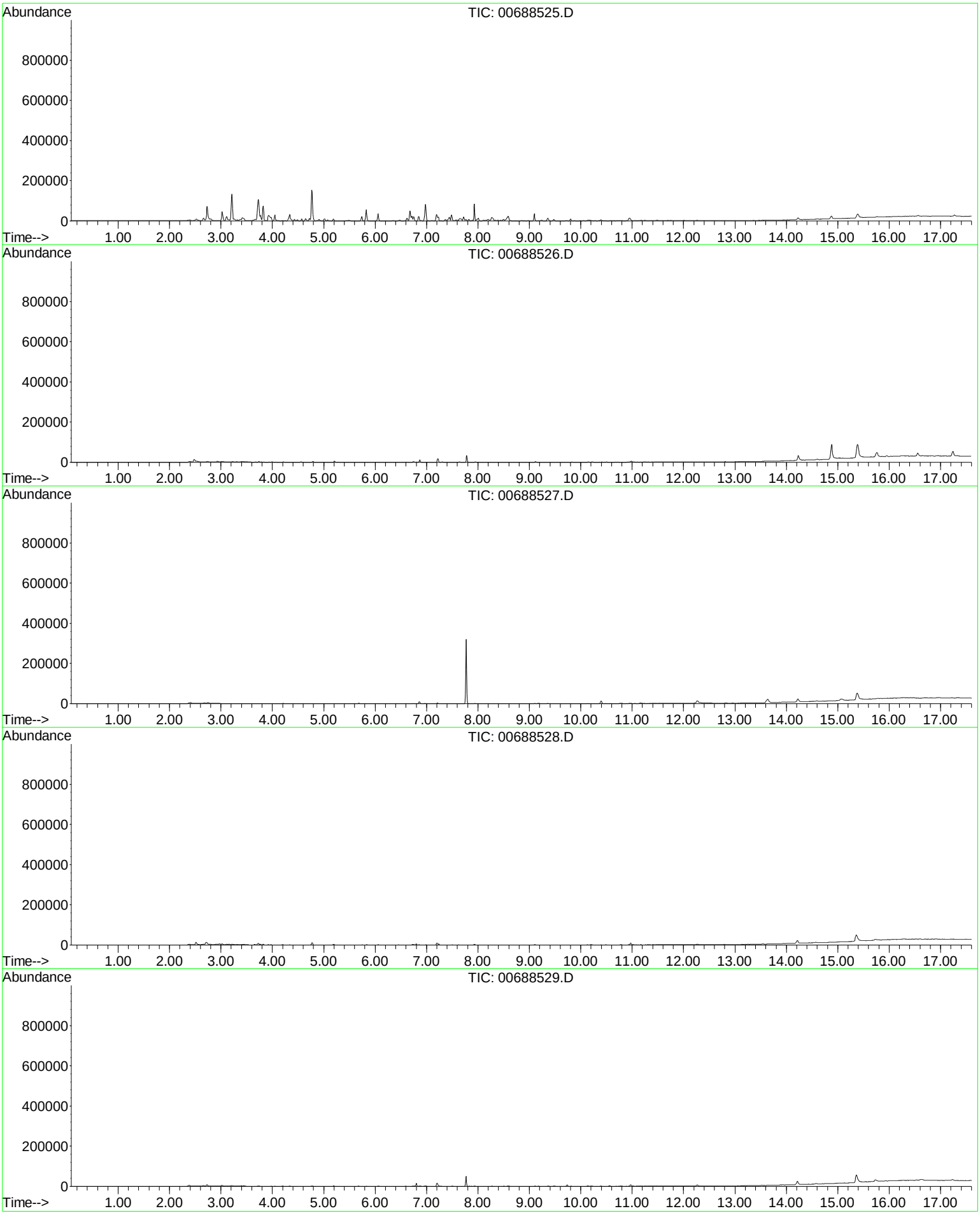
ANALYTES

TPH	total petroleum hydrocarbons
BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
MTBE	methyl t-butyl ether
Combined PAHs	combined masses of naphthalene, 2-methyl naphthalene, acenaphthene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, and pyrene.
PHEN	phenanthrene
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
OCT	octane
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
11DCA	1,1-dichloroethane
CHC13	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CC14	carbon tetrachloride
TCE	trichloroethene
PCE	tetrachloroethene
ClBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene
112TCA	1,1,2-trichloroethane
1112TetCA	1,1,1,2-tetrachloroethane
1122TetCA	1,1,2,2-tetrachloroethane
13DCB	1,3-dichlorobenzene
12DCB	1,2-dichlorobenzene
11DCE	1,1-dichloroethene
VC	vinyl chloride

BLANKS

method blank	QA/QC module, documents analytical conditions during analysis

TIC-21682020
In Numerical Order



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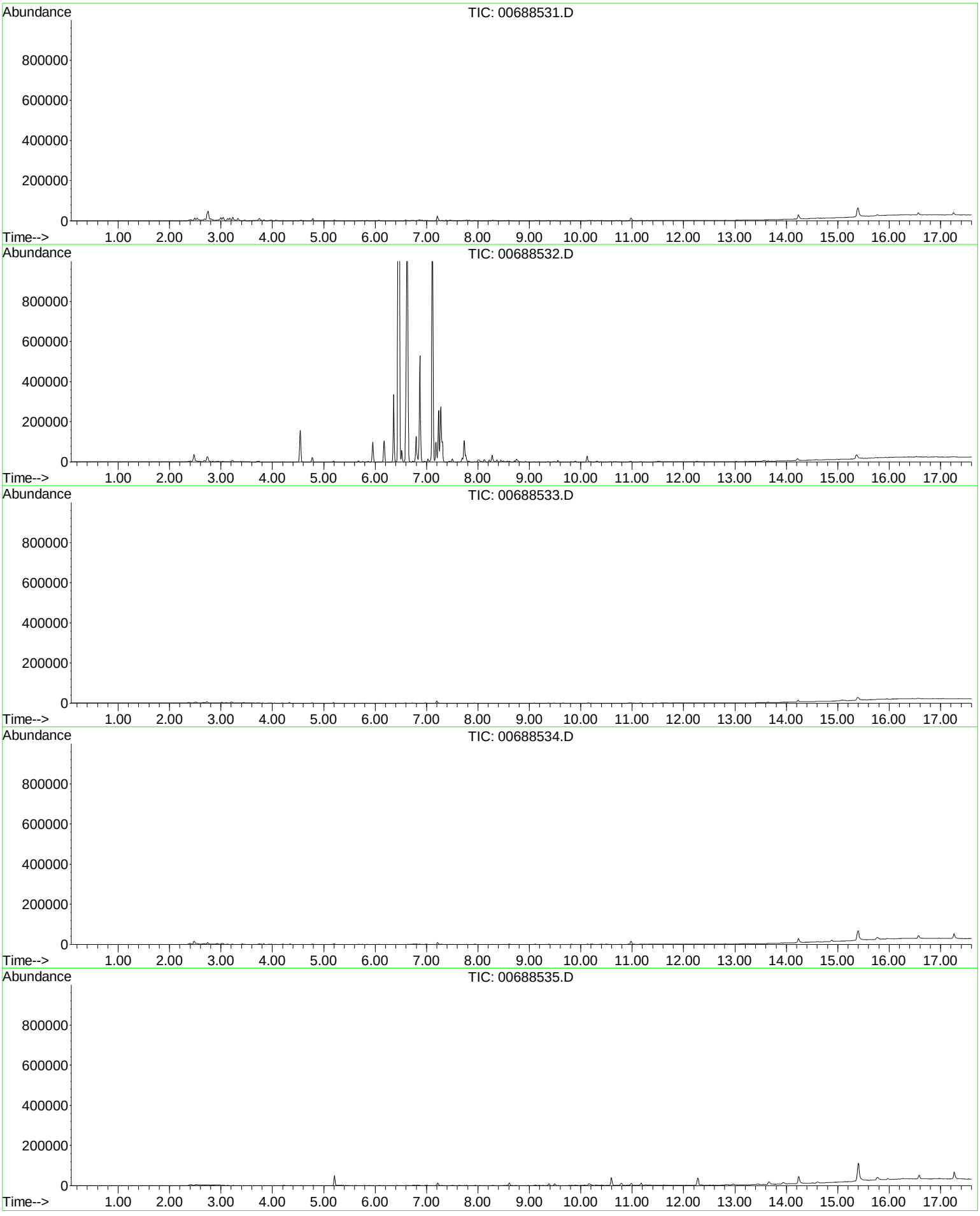

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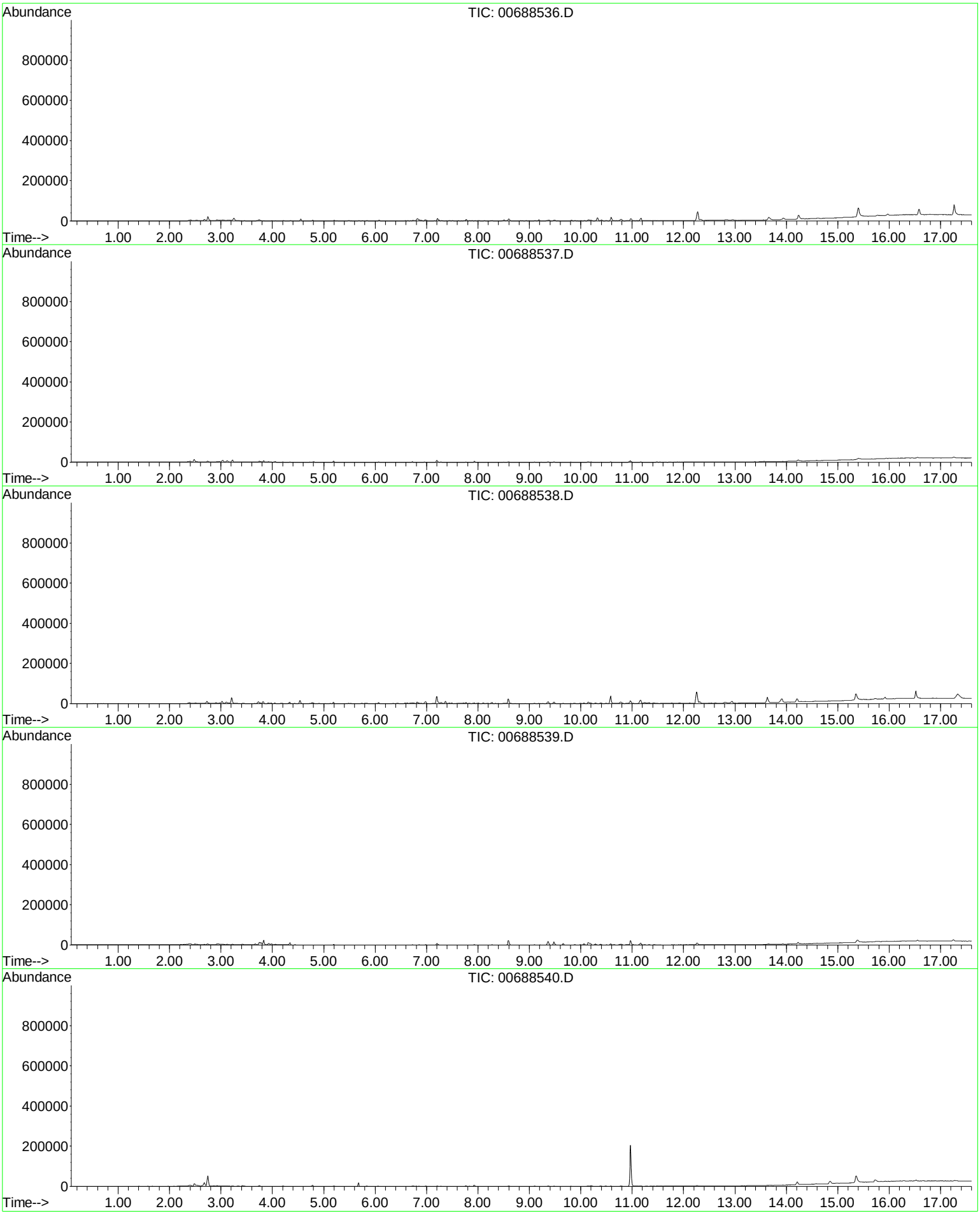

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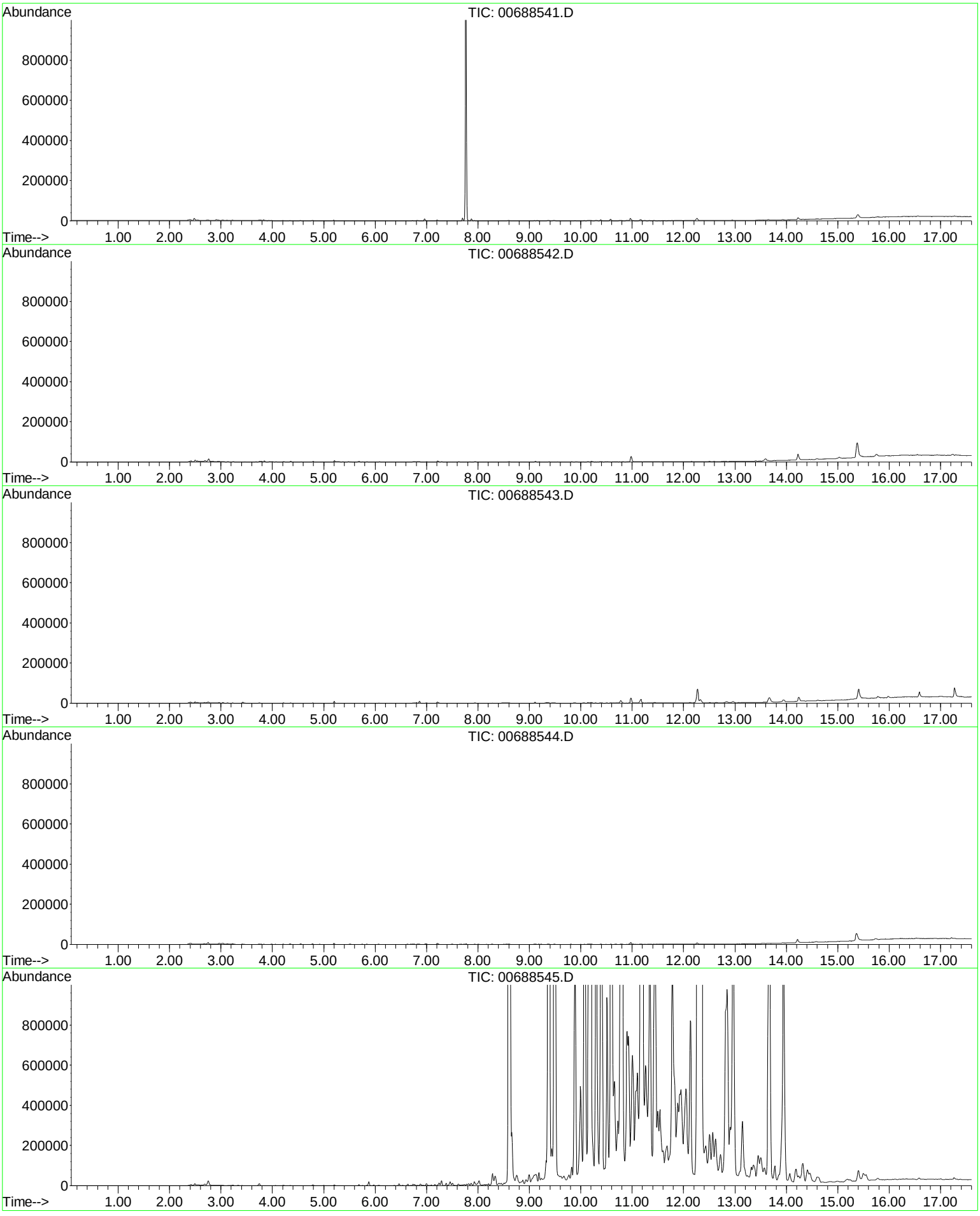

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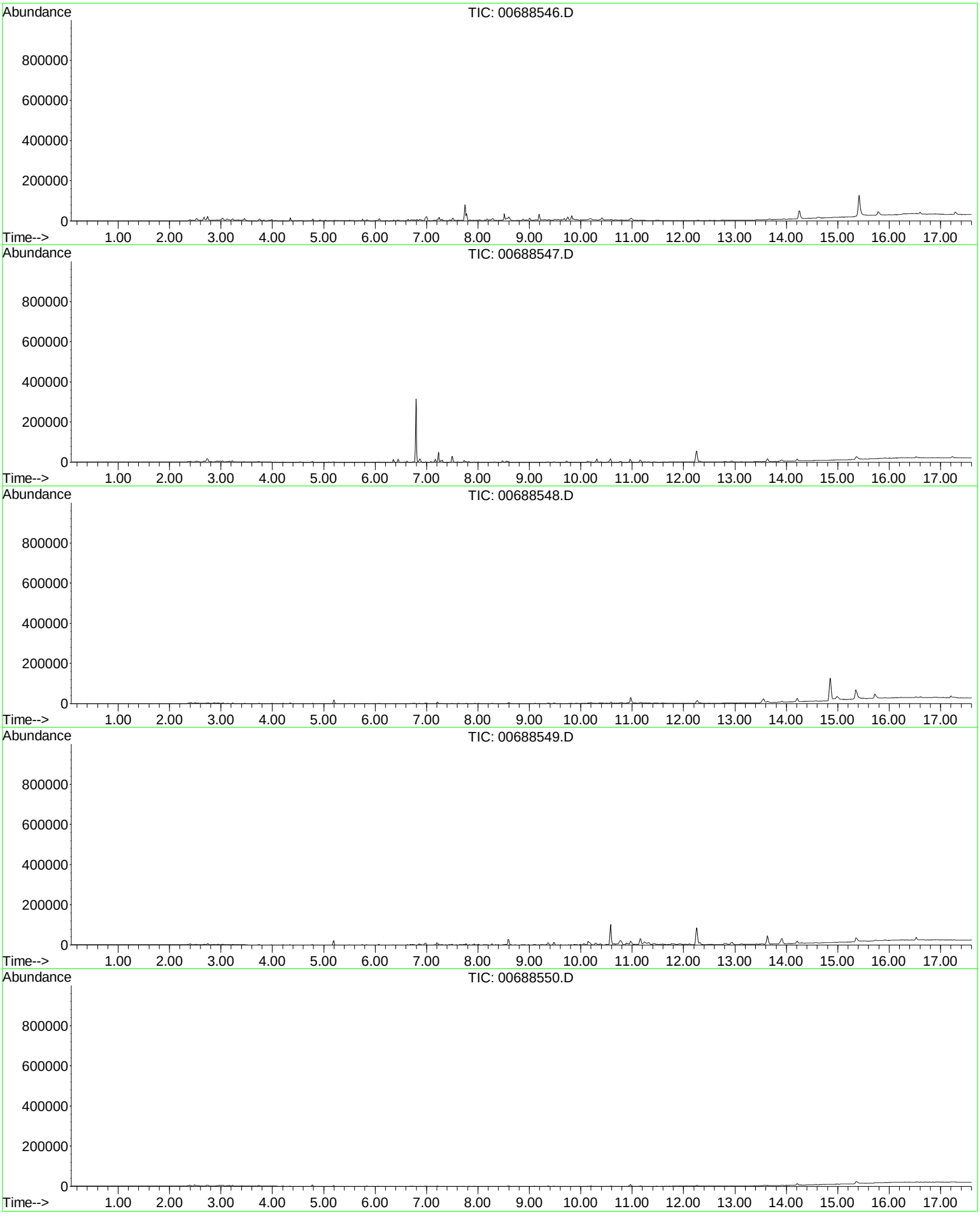

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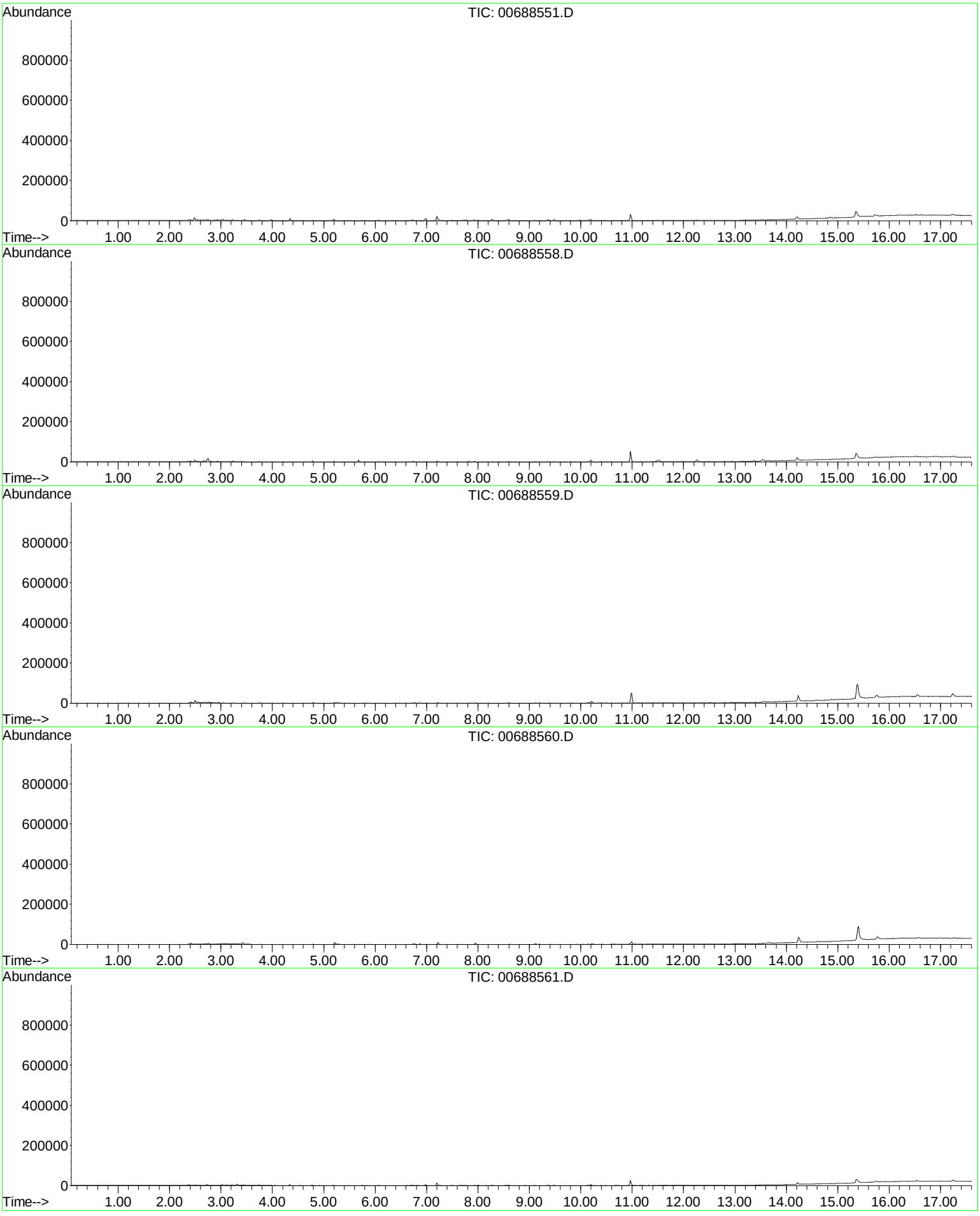

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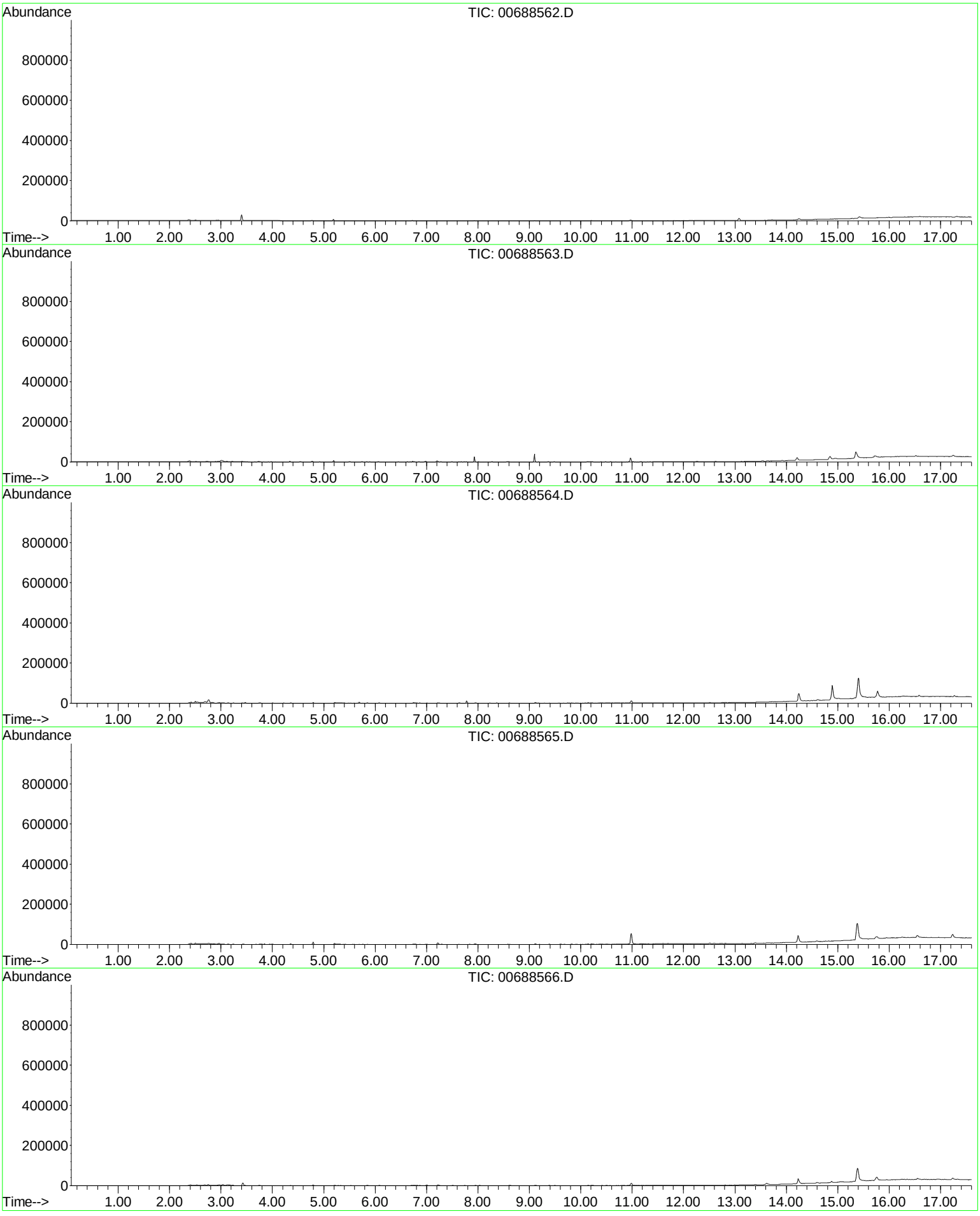

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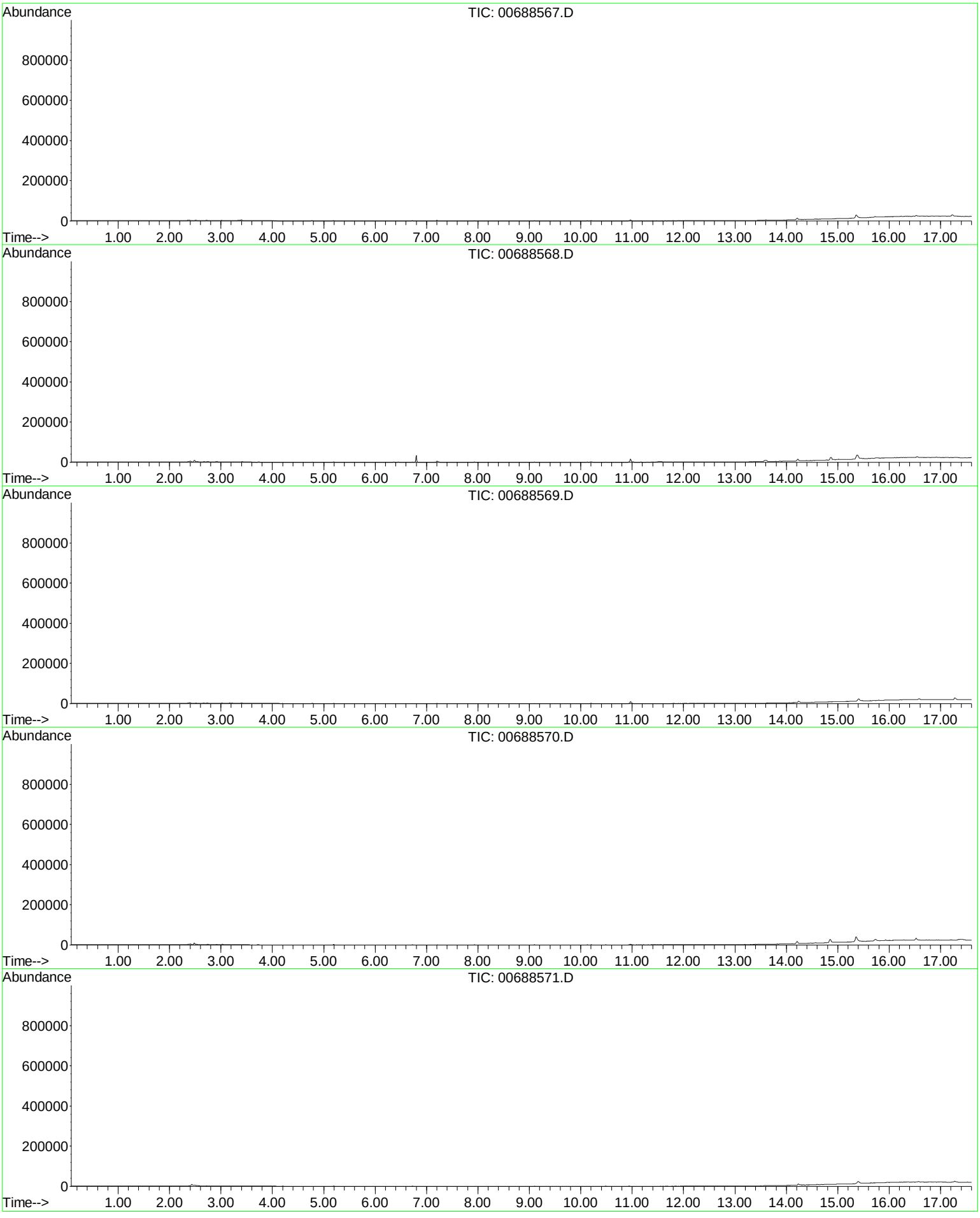

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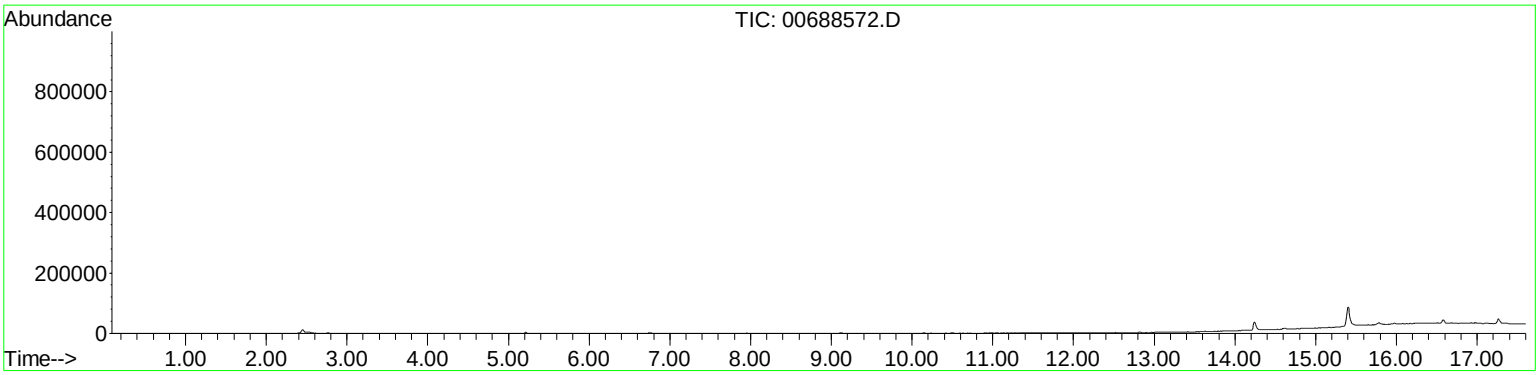

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GORE
Creative Technologies Worldwide

LIT 139.0 08/14/07

AECOM

Gore® Mapping Report

GORE® Surveys
FOR ENVIRONMENTAL

Mapping Report

Site: UNIT WELL 15
MADISON WI

Prepared for:

AECOM- STEVENS POINT WI
200 INDIANA AVENUE
STEVENS POINT, WI
UNITED STATES

Prepared on:

July 20, 2012 (REVISED July 23, 2012)

Project Summary

W. L. Gore & Associates, Inc. (Gore) provided the GORE® Survey (Survey) used at:

UNIT WELL 15

MADISON WI

The service provided by Gore included delivery of the required quantity of GORE Modules, analysis by the method described for the requested organic compounds, and reporting of the data. A Laboratory Report was issued previously which summarized the field sampling and analytical procedures, and contained the sample results.

Normally, when printed at scale, the maps are 11 x 17 inch in size. Other sizes are available upon request. General and project specific comments on the contouring and mapping can be found on the next page.

Maps prepared by:

Jay W Hodny

Project Manager

Maps reviewed/approved by:

Dayna M Cobb

Project Manager

General Comments

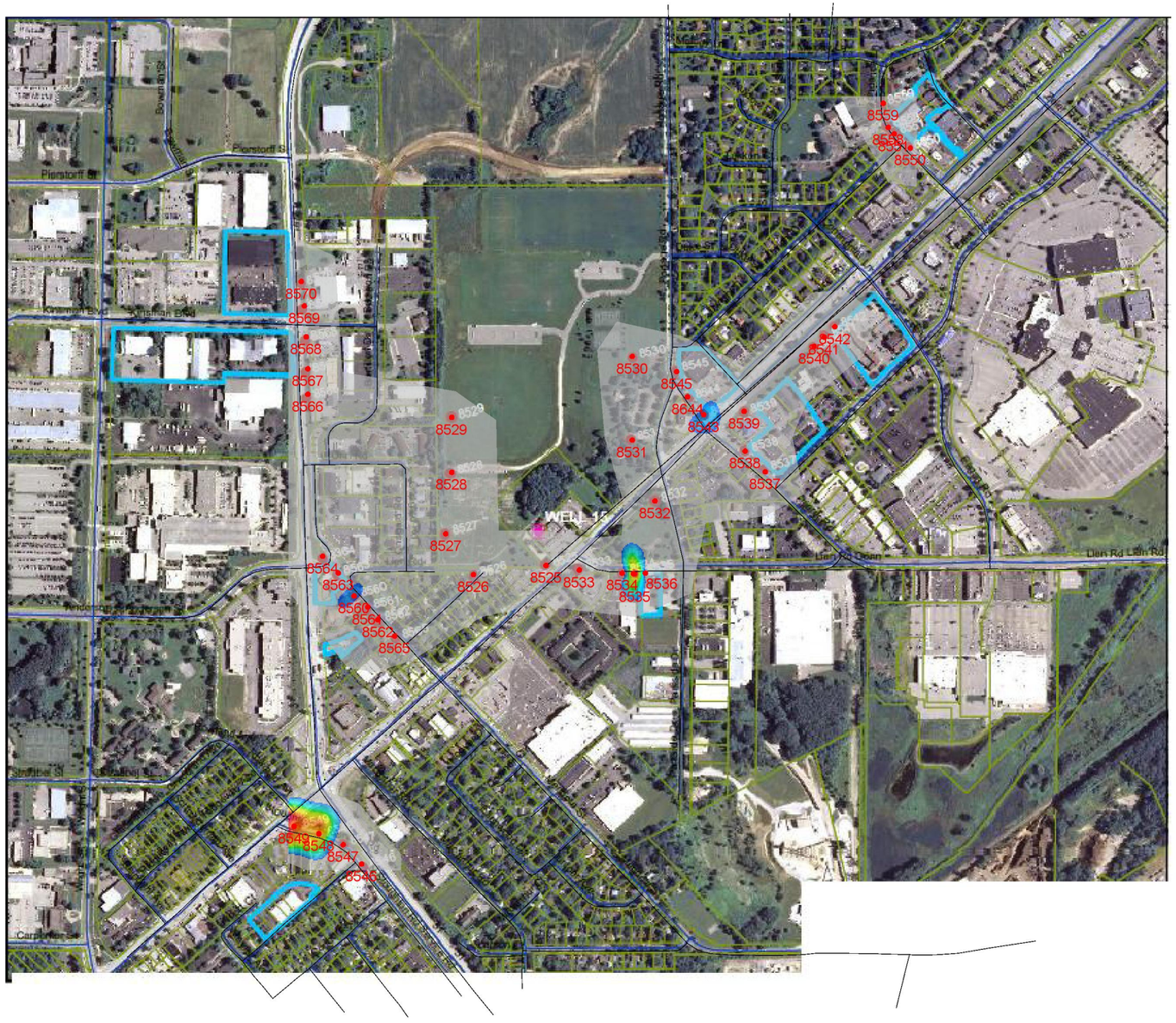
A minimum curvature algorithm was used to interpolate the data from the sample locations to a regularily-spaced grid. The resulting surface is considered to be the smoothest possible surface that will fit the observed values at each sample location (i.e., data honoring). The interpolation is performed in log space, with grid cell sizes approximately one-tenth the average distance between sample locations. For example, when GORE® Modules are placed about 50 feet apart, the grid cell size is set to five feet.

Where observations trend from lower to higher values, and moving towards the edge of the area sampled, the contour surface will continue to rise (showing warmer colors) as no additional data exist to constrain the interpolation. Where observations trend from high to low, towards the edge of the area sampled, the opposite is true.

Contour minimums and maximums used in the color interval assignment are established based on the QA blank levels (trip and method blanks), method detection limits, and maximum values observed. The minimum contour level (gray color) is established using the maximum QA blank level or method detection limit, whichever is greater, per compound or groups of compounds. The maximum contour level is set at the maximum value observed, per compound or groups of compounds. Contour interval assignments can be modified at the client's request.

Project Specific Comments

None.



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0.205
0.180
0.159
0.139
0.122
0.108
0.094
0.083
0.073
0.064
0.056
0.049
0.043
0.038
0.034
0.029
0.026
0.023
0.020

PCE
[µg]

Scale 1:10800

500 0 500 1000 1500 2000
(feet)

GORE® Surveys for Environmental

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ELKTON, MD, USA 21921
(410) 392-7600

Creative Technologies Worldwide

AECOM, Stevens Point, WI
Unit Well 15, Madison, WI
Tetrachloroethene

DATE DRAWN: 20 July 2012	DRAWN BY: JH	ORIG. CAD:	SITE CODE:
REV. DATE: 7/23/2012	REV. #: 1	PROJECT NUMBER: 21682020	

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