From: Dombrowski, Frank J <frank.dombrowski@wecenergygroup.com>
Sent: Wednesday, December 15, 2021 3:53 PM
To: Werner, Leah
Cc: Krueger, Sarah E - DNR; DNR RR NER; Korpela, Adrienne/MKE; 'staci.goetz@ramboll.com'
Subject: WPSC Former Green Bay Former MGP - Nov. 2021 Monthly Progress Report (CERCLA Docket No. V-W-06-C-847)
Attachments: 2021-12-15 WPSC-USEPA November 2021 WPSC Green Bay Monthly Progress Report.pdf

Leah,

Please find attached the November 2021 monthly progress report for the WPSC Green Bay, WI Former MGP Site.

As always, please feel free to contact me if you have any questions or if additional information may be needed.

Thanks,

Frank Dombrowski
Principal Environmental Consultant

WEC Energy Group – Business Services
Environmental Dept. - Land Quality Group
333 W. Everett St., A231
Milwaukee, WI 53203
Office: (414) 221-2156
Cell: (414) 587-4467
Fax: (414) 221-2022

Serving WEC Energy Group, We Energies, Wisconsin Public Service, Michigan Gas Utilities, Minnesota Energy Resources, Peoples Gas and North Shore Gas

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

December 15, 2021

Ms. Leah Werner
Remedial Project Manager
United States Environmental Protection Agency
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

RE: November 2021 Monthly Progress Report
Green Bay Former Manufactured Gas Plant
Green Bay, Wisconsin
Wisconsin Public Service Corporation
CERCLA Docket No. V-W-06-C-847, CERCLIS ID – WIN000509948

Dear Ms. Werner:

Wisconsin Public Service Corporation (WPSC) is providing this monthly progress report for the WPSC Former Green Bay Manufactured Gas Plant (MGP) Site.

1) PROGRESS MADE DURING THE PAST MONTH

- Prepared and submitted October 2021 Monthly Progress Report to United States Environmental Protection Agency (USEPA) by November 15, 2021.
- Performed weekly sheen observation monitoring. Sorbent boom was removed mid-November in anticipation of river freeze-up.
- Performed semi-annual groundwater sampling November 1-3, 2021.
- Initiate subcontractor procurement for an upland utility corridor investigation.

2) ANALYTICAL AND OTHER TESTING RESULTS RECEIVED

- Analytical results from a sheen sample (and sheen blank) collected October 5, 2021.

3) PROJECTED WORK

WPSC Actions

- Submit monthly progress report to USEPA by the 15th of the month.
- Continue to evaluate pre-design investigation (PDI) information for the northern portion of the upland Operable Unit (OU). Incorporate PDI data into a PDI Data Summary Report.
- Respond to comments on the Letter of Intent (LOI) for the upland OU and incorporate comments into a Remedial Action Work Plan or an RI Report Revision 0.
- Prepare to receive comments on Sediment OU RI Report, Revision 1.
- Procure subcontractors for utility corridor investigation planned for December.

USEPA Actions

- Review Sediment OU Response to Comments on RI Report Revision 0 and RI Report, Revision 1, submitted February 19, 2021.

4) PROBLEMS OR POTENTIAL PROBLEMS ENCOUNTERED

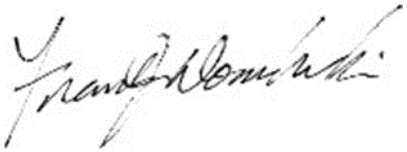
- None.

5) ACTUAL OR PLANNED RESOLUTION OF PROBLEMS OR POTENTIAL PROBLEMS

- None.

If you have any questions, please don't hesitate to contact me at (414) 221-2156 or via email at frank.dombrowski@wecenergygroup.com.

Sincerely,



Frank Dombrowski
Principal Environmental Consultant
WEC Business Services – Environmental Dept.

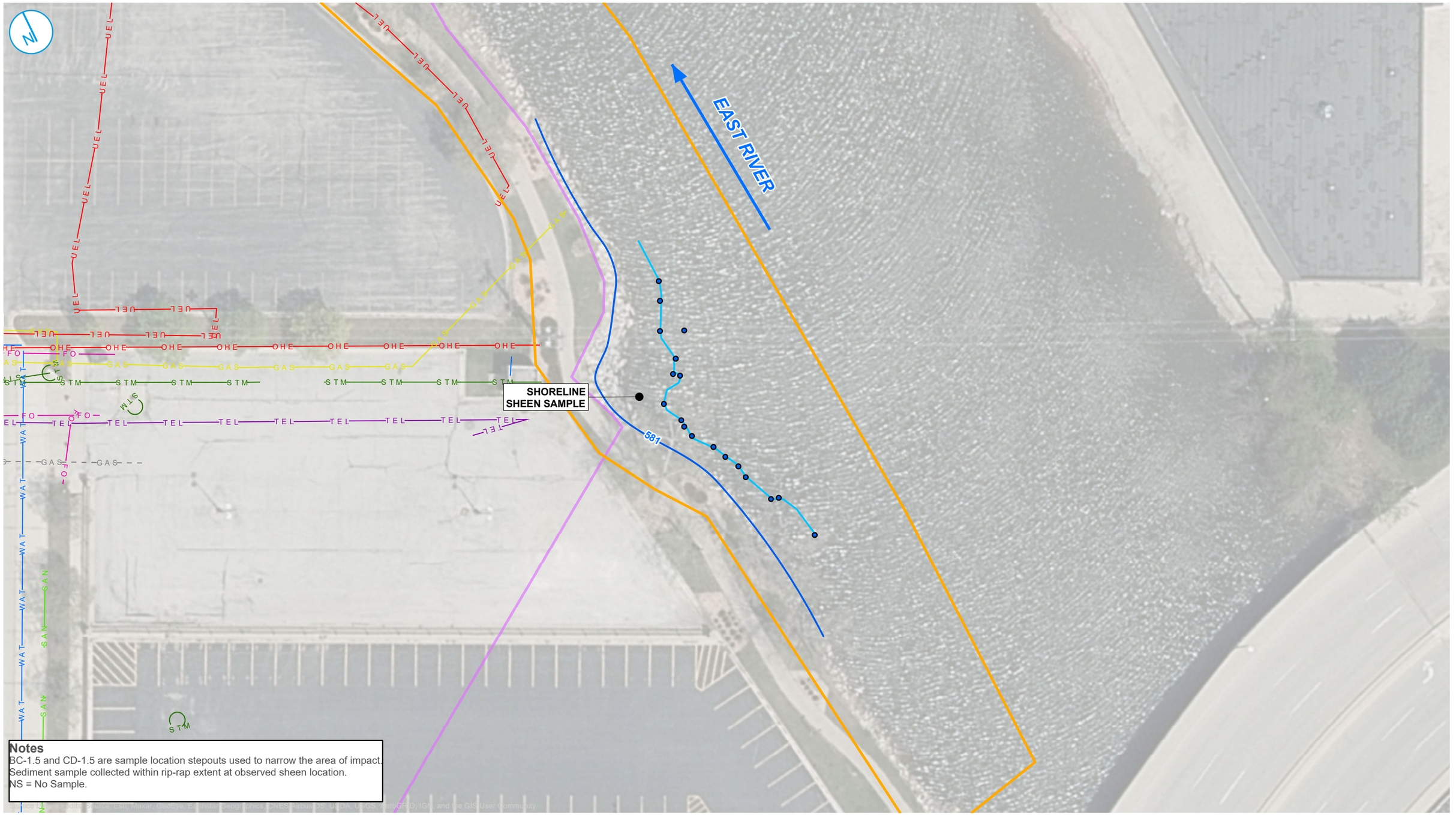
Enclosures:
Figure 1. Sheen Net Sample Location Map
Table 1. October 2021 Alpha Labs Sheen Net Results
Analytical Data Report provided via SharePoint link below:
Green Bay November 2021 MPR SharePoint Link

For distribution to:
Ms. Sarah Krueger, WDNR (via US Mail and email)
WDNR Northeast Region (via email to DNRRRNER@wisconsin.gov)
Ms. Adrienne Korpela, Jacobs (via email)
Mr. Dave Klatt, Jacobs (via email)
Dr. Staci Goetz, Ramboll (via email)

FIGURES

Y:\GIS\Projects\15\15841MXD\PDI_EvaluationReport\Figure 4_Sediment Sampling_092021.mxd

PROJECT: 169000XXXX | DATED: 10/8/2021 | DESIGNER: HOTCALD



Notes
BC-1.5 and CD-1.5 are sample location stepouts used to narrow the area of impact.
Sediment sample collected within rip-rap extent at observed sheen location.
NS = No Sample.

- UPLAND SITE BOUNDARY
- FORMER MGP SITE
- WALKED AND PHOTOGRAPHED AREA
- UTILITIES
  - FO — FIBER OPTIC LINE
  - GAS — GAS LINE
  - SAN — SANITARY SEWER LINE
  - STM — STORM SEWER LINE
  - TEL — TELEPHONE LINE
  - WAT — WATER LINE
  - UEL — UNDERGROUND ELECTRIC LINE
  - OHE — OVERHEAD ELECTRIC LINE
  - GAS — ABANDONED GAS LINE

ELEVATION CONTOURS
- RIP RAP CONTOUR (FT)
- SHORELINE ELEVATION CONTOUR (FT)

SAMPLING LOCATIONS
- SHORELINE SHEEN
- SURVEY LOCATIONS

0 20 40 Feet

SUPPLEMENTAL SHEEN NET SAMPLING LOCATION OCTOBER 5, 2021

PRE-DESIGN INVESTIGATION EVALUATION REPORT
FORMER GREEN BAY MANUFACTURED GAS PLANT
WISCONSIN PUBLIC SERVICE CORPORATION
GREEN BAY, WISCONSIN

FIGURE 1

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

TABLES

Table 1. October 2021 Sheen Net Analytical Results

November 2021 Monthly Progress Report
Wisconsin Public Service Corporation
Green Bay Former Manufactured Gas Plant Site
700 N Adams St, Green Bay, Wisconsin
BRRTS#: 02-05-000254 USEPA#: WIN000509948

			SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC		SVOC	
9-digit Code	Sample Location	Sample Date	1-Methylnaphthalene		2,3,5-Trimethylnaphthalene		2,6-Dimethylnaphthalene		2-Methylnaphthalene		Acenaphthene		Acenaphthylene		Anthracene		Benzo(a)anthracene		Benzo(a)pyrene		Benzo(b)fluoranthene		Benzo(e)pyrene		Benzo(g,h,i)perylene		Benzo(j/k)fluoranthene		Biphenyl		C1-Chrysenes		C1-Dibenzothiophene		C1-Fluoranthenes/ Pyrenes		C1-Fluorenes		C1-Naphthalenes		C1-Phenanthrenes/ Anthracenes		C2-Chrysenes		C2-Dibenzothiophene		C2-Fluoranthenes/ Pyrenes		C2-Fluorenes		C2-Naphthalenes	
	Reporting Units:		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
			Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
100521017	Sheen Net-1	10/05/2021	58.7		5.04		34.8		64.9		23.2		37.4		47.8		48.0		43.1		32.3		26.5		26.2		27.2		17.3		34.8		23.7		91.4		26.3		80.4		120		14.6		17.6		27.2		15.0		86.4	
100521018	Sheen Net Blank	10/05/2021	0.069		0.030	U	0.051		0.175		0.030		0.091		0.008	J	0.030	U	0.030	U	0.030	U	0.030	U	0.030	U	0.030	U	0.038		0.030	U	0.030	U	0.054		0.016	J	0.165		0.023	J	0.030	U	0.013	J	0.022	J	0.025	J	0.111	

Results & Flags:
J = Estimated concentration
U = Concentration was not detected above the reported limit

Acronyms:
BRRTS = Bureau for Remediation and Redevelopment Tracking System
EPA = Environmental Protection Agency
mg/kg = milligrams per kilogram
PHC = Petroleum Hydrocarbon
SVOC = Semi-Volatile Organic Compound
USEPA = United States Environmental Protection Agency
WI = Wisconsin

Result values/flags may differ from lab report values/flags due to changes applied in third party validation report.
Lab comments, additional data qualifiers and definitions can be found in associated laboratory and validation reports.

Table 1. October 2021 Sheen Net Analytical Results

November 2021 Monthly Progress Report
Wisconsin Public Service Corporation
Green Bay Former Manufactured Gas Plant Site
700 N Adams St, Green Bay, Wisconsin
BRRTS#: 02-05-000254 USEPA#: WIN000509948

			SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	PHCs (Fuel)
9-digit Code	Sample Location	Sample Date	C2-Phenanthrenes/ Anthracenes	C3-Chrysenes	C3-Dibenzothiophene	C3-Fluoranthenes/ Pyrenes	C3-Fluorenes	C3-Naphthalenes	C3-Phenanthrenes/ Anthracenes	C4-Chrysenes	C4-Dibenzothiophene	C4-Fluoranthenes/ Pyrenes	C4-Naphthalenes	C4-Phenanthrenes/ Anthracenes	Chrysene/ Triphenylene	Dibenz(a,h)+(a,c)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Retene	Total Petroleum Hydrocarbons (C9-C44)
		Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag
100521017	Sheen Net-1	10/05/2021	50.2	7.41	7.39	8.81	7.08	33.1	14.7	2.31	1.97	3.57	8.93	3.19	45.0	8.52	21.8	21.4	78.8	38.8	25.3	50.6	9.92	155	82.9	0.030 U	5,230
100521018	Sheen Net Blank	10/05/2021	0.019 J	0.030 U	0.030 U	0.030 U	0.030 U	0.051	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.006 J	0.030 U	0.073	0.030 U	0.030 U	0.021 J	0.030 U	0.178	0.030 U	0.081	0.030 U	0.030 U	98.5

[O:CMD 12/7/21,U:MGP 12/7/21]

Results & Flags:
J = Estimated concentration
U = Concentration was not detected above the reported limit

Acronyms:
BRRTS = Bureau for Remediation and Redevelopment Tracking System
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Result values/flags may differ from lab report values/flags due to changes applied in third party validation report.
Lab comments, additional data qualifiers and definitions can be found in associated laboratory and validation reports.

ANALYTICAL LABORATORY REPORTS

ANALYTICAL REPORT

Lab Number:	L2154147
Client:	Ramboll 234 W. Florida St, 5th Floor Milwaukee, WI 54304
ATTN:	Staci Goetz
Phone:	(414) 335-3563
Project Name:	GREENBAY FORMER MGP
Project Number:	1940101550
Report Date:	11/01/21

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550

Lab Number: L2154147
Report Date: 11/01/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2154147-01	100521017	NET	GREEN BAY, WI	10/05/21 09:30	10/06/21
L2154147-02	100521018	NET	GREEN BAY, WI	10/05/21 09:35	10/06/21

Project Name:	GREENBAY FORMER MGP	**Lab Number:**	L2154147
Project Number:	1940101550	**Report Date:**	11/01/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	GREENBAY FORMER MGP	**Lab Number:**	L2154147
Project Number:	1940101550	**Report Date:**	11/01/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Petroleum Hydrocarbon Identification by GC-FID

L2154147-01 and -02: The sample was extracted and then analyzed using a gas chromatograph equipped with a flame ionization detector (GC/FID). The temperature program and associated experimental conditions were optimized to obtain maximum resolution in an eighty minute chromatographic run representative of hydrocarbons in the n-Octane (C8) to n-Tetracontane (C40) range. Qualitative evaluation of the sample was conducted by reviewing the sample chromatogram in conjunction with a chromatogram of a normal alkane series generated with the same chromatographic conditions. Chromatograms of hydrocarbon reference materials obtained from our library of 82 reference standards were also utilized to provide the best possible sample match. Quantitative determination of the sample's hydrocarbon concentration was performed in accordance with EPA Method 8015M. The sample's total hydrocarbon concentration and all associated quality control data are included in the report.

The following qualitative information is based on a tentative interpretation of chromatographic pattern recognition and boiling point ranges:

Total Petroleum Hydrocarbon Identification

L2154147-01 contains hydrocarbons eluting in the range of n-Octane (C8) to after the elution of n-Tetracontane (C40).

Based on the data generated, L2154147-01 contains material eluting in the low to heavy weight ranges of the chromatogram which is similar to coal tar/creosote.

L2154147-02 did not contain enough material for a qualitative identification.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 11/01/21

ORGANICS

SEMIVOLATILES

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550
Lab Number: L2154147
Report Date: 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-01
Client ID: 100521017
Sample Location: GREEN BAY, WI

Date Collected: 10/05/21 09:30
Date Received: 10/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Net
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 10/29/21 12:06
Analyst: CC
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs - Mansfield Lab						
Naphthalene	56.6	E	mg/kg	0.030	0.009	1
C1-Naphthalenes	98.5	E	mg/kg	0.030	0.009	1
C2-Naphthalenes	86.4		mg/kg	0.030	0.009	1
C3-Naphthalenes	33.1		mg/kg	0.030	0.009	1
C4-Naphthalenes	8.93		mg/kg	0.030	0.009	1
2-Methylnaphthalene	79.7	E	mg/kg	0.030	0.008	1
1-Methylnaphthalene	71.4	E	mg/kg	0.030	0.009	1
Biphenyl	17.3		mg/kg	0.030	0.009	1
2,6-Dimethylnaphthalene	34.8		mg/kg	0.030	0.007	1
Dibenzofuran	21.8		mg/kg	0.030	0.009	1
Acenaphthylene	41.1	E	mg/kg	0.030	0.006	1
Acenaphthene	23.2		mg/kg	0.030	0.005	1
2,3,5-Trimethylnaphthalene	5.04		mg/kg	0.030	0.005	1
Fluorene	46.9	E	mg/kg	0.030	0.008	1
C1-Fluorenes	26.3		mg/kg	0.030	0.008	1
C2-Fluorenes	15.0		mg/kg	0.030	0.008	1
C3-Fluorenes	7.08		mg/kg	0.030	0.008	1
Dibenzothiophene	21.4		mg/kg	0.030	0.008	1
C1-Dibenzothiophenes BS	23.7		mg/kg	0.030	0.008	1
C2-Dibenzothiophenes	17.6		mg/kg	0.030	0.008	1
C3-Dibenzothiophenes	7.39		mg/kg	0.030	0.008	1
C4-Dibenzothiophenes	1.97		mg/kg	0.030	0.008	1
Phenanthrene	226	E	mg/kg	0.030	0.010	1
C1-Phenanthrenes/Anthracenes	120		mg/kg	0.030	0.010	1
C2-Phenanthrenes/Anthr BS	50.2		mg/kg	0.030	0.010	1
C3-Phenanthrenes/Anthracenes	14.7		mg/kg	0.030	0.010	1
C4-Phenanthrenes/Anthracenes	3.19		mg/kg	0.030	0.010	1
Retene	ND		mg/kg	0.030	0.007	1

Project Name: GREENBAY FORMER MGP **Lab Number:** L2154147

Project Number: 1940101550 **Report Date:** 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-01 Date Collected: 10/05/21 09:30

Client ID: 100521017 Date Received: 10/06/21

Sample Location: GREEN BAY, WI Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs - Mansfield Lab						
Anthracene	59.0	E	mg/kg	0.030	0.006	1
Fluoranthene	111	E	mg/kg	0.030	0.010	1
Pyrene	122	E	mg/kg	0.030	0.008	1
C1-Fluoranthenes/Pyrenes	91.4		mg/kg	0.030	0.008	1
C2-Fluoranthenes/Pyrenes	27.2		mg/kg	0.030	0.008	1
C3-Fluoranthenes/Pyrenes	8.81		mg/kg	0.030	0.008	1
C4-Fluoranthenes/Pyrenes	3.57		mg/kg	0.030	0.008	1
Benz(a)anthracene	57.6	E	mg/kg	0.030	0.006	1
Chrysene/Triphenylene	51.1	E	mg/kg	0.030	0.006	1
C1-Chrysenes	34.8		mg/kg	0.030	0.006	1
C2-Chrysenes BS	14.6		mg/kg	0.030	0.006	1
C3-Chrysenes	7.41		mg/kg	0.030	0.006	1
C4-Chrysenes	2.31		mg/kg	0.030	0.006	1
Benzo(b)fluoranthene	32.3		mg/kg	0.030	0.008	1
Benzo(j)+(k)fluoranthene	27.2		mg/kg	0.030	0.006	1
Benzo(e)pyrene	26.5		mg/kg	0.030	0.006	1
Benzo(a)pyrene	51.3	E	mg/kg	0.030	0.009	1
Perylene	9.92		mg/kg	0.030	0.006	1
Indeno(1,2,3-cd)pyrene	25.3		mg/kg	0.030	0.008	1
Dibenz(a,h)+(a,c)anthracene	8.52		mg/kg	0.030	0.008	1
Benzo(g,h,i)perylene	26.2		mg/kg	0.030	0.008	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	117		50-130
Phenanthrene-d10	116		50-130
Benzo(a)pyrene-d12	106		50-130

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550
Lab Number: L2154147
Report Date: 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-01 D
Client ID: 100521017
Sample Location: GREEN BAY, WI

Date Collected: 10/05/21 09:30
Date Received: 10/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Net
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 10/30/21 18:03
Analyst: CC
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs - Mansfield Lab						
Naphthalene	50.6		mg/kg	0.150	0.043	5
C1-Naphthalenes	80.4		mg/kg	0.150	0.043	5
2-Methylnaphthalene	64.9		mg/kg	0.150	0.039	5
1-Methylnaphthalene	58.7		mg/kg	0.150	0.047	5
Acenaphthylene	37.4		mg/kg	0.150	0.029	5
Fluorene	38.8		mg/kg	0.150	0.040	5
Phenanthrene	155		mg/kg	0.150	0.050	5
Anthracene	47.8		mg/kg	0.150	0.031	5
Fluoranthene	78.8		mg/kg	0.150	0.048	5
Pyrene	82.9		mg/kg	0.150	0.039	5
Benz(a)anthracene	48.0		mg/kg	0.150	0.031	5
Chrysene/Triphenylene	45.0		mg/kg	0.150	0.030	5
Benzo(a)pyrene	43.1		mg/kg	0.150	0.043	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	95		50-130
Phenanthrene-d10	93		50-130
Benzo(a)pyrene-d12	95		50-130

Project Name: GREENBAY FORMER MGP **Lab Number:** L2154147

Project Number: 1940101550 **Report Date:** 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-02
Client ID: 100521018
Sample Location: GREEN BAY, WI

Date Collected: 10/05/21 09:35
Date Received: 10/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Net
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 10/29/21 13:33
Analyst: CC
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs - Mansfield Lab						
Naphthalene	0.178		mg/kg	0.030	0.009	1
C1-Naphthalenes	0.165		mg/kg	0.030	0.009	1
C2-Naphthalenes	0.111		mg/kg	0.030	0.009	1
C3-Naphthalenes	0.051		mg/kg	0.030	0.009	1
C4-Naphthalenes	ND		mg/kg	0.030	0.009	1
2-Methylnaphthalene	0.175		mg/kg	0.030	0.008	1
1-Methylnaphthalene	0.069		mg/kg	0.030	0.009	1
Biphenyl	0.038		mg/kg	0.030	0.009	1
2,6-Dimethylnaphthalene	0.051		mg/kg	0.030	0.007	1
Dibenzofuran	0.073		mg/kg	0.030	0.009	1
Acenaphthylene	0.091		mg/kg	0.030	0.006	1
Acenaphthene	0.030		mg/kg	0.030	0.005	1
2,3,5-Trimethylnaphthalene	ND		mg/kg	0.030	0.005	1
Fluorene	0.021	J	mg/kg	0.030	0.008	1
C1-Fluorenes	0.016	J	mg/kg	0.030	0.008	1
C2-Fluorenes	0.025	J	mg/kg	0.030	0.008	1
C3-Fluorenes	ND		mg/kg	0.030	0.008	1
Dibenzothiophene	ND		mg/kg	0.030	0.008	1
C1-Dibenzothiophenes BS	ND		mg/kg	0.030	0.008	1
C2-Dibenzothiophenes	0.013	J	mg/kg	0.030	0.008	1
C3-Dibenzothiophenes	ND		mg/kg	0.030	0.008	1
C4-Dibenzothiophenes	ND		mg/kg	0.030	0.008	1
Phenanthrene	0.081		mg/kg	0.030	0.010	1
C1-Phenanthrenes/Anthracenes	0.023	J	mg/kg	0.030	0.010	1
C2-Phenanthrenes/Anthr BS	0.019	J	mg/kg	0.030	0.010	1
C3-Phenanthrenes/Anthracenes	ND		mg/kg	0.030	0.010	1
C4-Phenanthrenes/Anthracenes	ND		mg/kg	0.030	0.010	1
Retene	ND		mg/kg	0.030	0.007	1

Project Name: GREENBAY FORMER MGP **Lab Number:** L2154147

Project Number: 1940101550 **Report Date:** 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-02 Date Collected: 10/05/21 09:35

Client ID: 100521018 Date Received: 10/06/21

Sample Location: GREEN BAY, WI Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs - Mansfield Lab						
Anthracene	0.008	J	mg/kg	0.030	0.006	1
Fluoranthene	ND		mg/kg	0.030	0.010	1
Pyrene	ND		mg/kg	0.030	0.008	1
C1-Fluoranthenes/Pyrenes	0.054		mg/kg	0.030	0.008	1
C2-Fluoranthenes/Pyrenes	0.022	J	mg/kg	0.030	0.008	1
C3-Fluoranthenes/Pyrenes	ND		mg/kg	0.030	0.008	1
C4-Fluoranthenes/Pyrenes	ND		mg/kg	0.030	0.008	1
Benz(a)anthracene	ND		mg/kg	0.030	0.006	1
Chrysene/Triphenylene	0.006	J	mg/kg	0.030	0.006	1
C1-Chrysenes	ND		mg/kg	0.030	0.006	1
C2-Chrysenes BS	ND		mg/kg	0.030	0.006	1
C3-Chrysenes	ND		mg/kg	0.030	0.006	1
C4-Chrysenes	ND		mg/kg	0.030	0.006	1
Benzo(b)fluoranthene	ND		mg/kg	0.030	0.008	1
Benzo(j)+(k)fluoranthene	ND		mg/kg	0.030	0.006	1
Benzo(e)pyrene	ND		mg/kg	0.030	0.006	1
Benzo(a)pyrene	ND		mg/kg	0.030	0.009	1
Perylene	ND		mg/kg	0.030	0.006	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.030	0.008	1
Dibenz(a,h)+(a,c)anthracene	ND		mg/kg	0.030	0.008	1
Benzo(g,h,i)perylene	ND		mg/kg	0.030	0.008	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	88		50-130
Phenanthrene-d10	94		50-130
Benzo(a)pyrene-d12	82		50-130

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550
Lab Number: L2154147
Report Date: 11/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 10/29/21 07:48
Analyst: CC

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL
PAHs - Mansfield Lab for sample(s): 01-02 Batch: WG1560945-1					
Naphthalene	ND		mg/kg	0.030	0.009
C1-Naphthalenes	ND		mg/kg	0.030	0.009
C2-Naphthalenes	ND		mg/kg	0.030	0.009
C3-Naphthalenes	ND		mg/kg	0.030	0.009
C4-Naphthalenes	ND		mg/kg	0.030	0.009
2-Methylnaphthalene	ND		mg/kg	0.030	0.008
1-Methylnaphthalene	ND		mg/kg	0.030	0.009
Biphenyl	ND		mg/kg	0.030	0.009
2,6-Dimethylnaphthalene	ND		mg/kg	0.030	0.007
Dibenzofuran	ND		mg/kg	0.030	0.009
Acenaphthylene	ND		mg/kg	0.030	0.006
Acenaphthene	ND		mg/kg	0.030	0.005
2,3,5-Trimethylnaphthalene	ND		mg/kg	0.030	0.005
Fluorene	ND		mg/kg	0.030	0.008
C1-Fluorenes	ND		mg/kg	0.030	0.008
C2-Fluorenes	ND		mg/kg	0.030	0.008
C3-Fluorenes	ND		mg/kg	0.030	0.008
Dibenzothiophene	ND		mg/kg	0.030	0.008
C1-Dibenzothiophenes	ND		mg/kg	0.030	0.008
C2-Dibenzothiophenes	ND		mg/kg	0.030	0.008
C3-Dibenzothiophenes	ND		mg/kg	0.030	0.008
C4-Dibenzothiophenes	ND		mg/kg	0.030	0.008
Phenanthrene	ND		mg/kg	0.030	0.010
C1-Phenanthrenes/Anthracenes	ND		mg/kg	0.030	0.010
C2-Phenanthrenes/Anthracenes	ND		mg/kg	0.030	0.010
C3-Phenanthrenes/Anthracenes	ND		mg/kg	0.030	0.010
C4-Phenanthrenes/Anthracenes	ND		mg/kg	0.030	0.010
Retene	ND		mg/kg	0.030	0.007
Anthracene	ND		mg/kg	0.030	0.006

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550
Lab Number: L2154147
Report Date: 11/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 10/29/21 07:48
Analyst: CC

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL
PAHs - Mansfield Lab for sample(s): 01-02 Batch: WG1560945-1					
Fluoranthene	ND		mg/kg	0.030	0.010
Pyrene	ND		mg/kg	0.030	0.008
C1-Fluoranthenes/Pyrenes	ND		mg/kg	0.030	0.008
C2-Fluoranthenes/Pyrenes	ND		mg/kg	0.030	0.008
C3-Fluoranthenes/Pyrenes	ND		mg/kg	0.030	0.008
C4-Fluoranthenes/Pyrenes	ND		mg/kg	0.030	0.008
Benz(a)anthracene	ND		mg/kg	0.030	0.006
Chrysene	ND		mg/kg	0.030	0.006
Chrysene/Triphenylene	ND		mg/kg	0.030	0.006
C1-Chrysenes	ND		mg/kg	0.030	0.006
C2-Chrysenes	ND		mg/kg	0.030	0.006
C3-Chrysenes	ND		mg/kg	0.030	0.006
C4-Chrysenes	ND		mg/kg	0.030	0.006
Benzo(b)fluoranthene	ND		mg/kg	0.030	0.008
Benzo(j)+(k)Fluoranthene	0.006	J	mg/kg	0.030	0.006
Benzo(e)Pyrene	ND		mg/kg	0.030	0.006
Benzo(a)pyrene	ND		mg/kg	0.030	0.009
Perylene	ND		mg/kg	0.030	0.006
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.030	0.008
Dibenz(a,h)+(a,c)anthracene	ND		mg/kg	0.030	0.008
Benzo(ghi)perylene	ND		mg/kg	0.030	0.008

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	76		50-130
Phenanthrene-d10	89		50-130
Benzo(a)pyrene-d12	77		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: GREENBAY FORMER MGP

Project Number: 1940101550

Lab Number: L2154147

Report Date: 11/01/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs - Mansfield Lab Associated sample(s): 01-02 Batch: WG1560945-2 WG1560945-3								
Naphthalene	91		89		50-130	2		30
2-Methylnaphthalene	90		88		50-130	2		30
Acenaphthylene	91		89		50-130	2		30
Acenaphthene	93		91		50-130	2		30
Fluorene	90		89		50-130	1		30
Phenanthrene	92		95		50-130	3		30
Anthracene	94		97		50-130	3		30
Fluoranthene	89		90		50-130	1		30
Pyrene	87		89		50-130	2		30
Benz(a)anthracene	77		78		50-130	1		30
Chrysene/Triphenylene	83		85		50-130	2		30
Benzo(b)fluoranthene	80		80		50-130	0		30
Benzo(j)+(k)Fluoranthene	81		82		50-130	1		30
Benzo(a)pyrene	88		88		50-130	0		30
Indeno(1,2,3-cd)Pyrene	81		78		50-130	4		30
Dibenz(a,h)+(a,c)anthracene	81		80		50-130	1		30
Benzo(ghi)perylene	86		84		50-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: GREENBAY FORMER MGP

Project Number: 1940101550

Lab Number: L2154147

Report Date: 11/01/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs - Mansfield Lab Associated sample(s): 01-02 Batch: WG1560945-2 WG1560945-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Naphthalene-d8	97		94		50-130
Phenanthrene-d10	99		103		50-130
Benzo(a)pyrene-d12	90		90		50-130

PETROLEUM HYDROCARBONS

Project Name: GREENBAY FORMER MGP
Lab Number: L2154147
Project Number: 1940101550
Report Date: 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-01
Client ID: 100521017
Sample Location: GREEN BAY, WI

Date Collected: 10/05/21 09:30
Date Received: 10/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Net
Analytical Method: 1,8015D(M)
Analytical Date: 10/30/21 02:00
Analyst: WR
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	5230		mg/kg	66.0	33.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	105		50-130
d50-Tetracosane	125		50-130

Project Name: GREENBAY FORMER MGP
Lab Number: L2154147
Project Number: 1940101550
Report Date: 11/01/21

SAMPLE RESULTS

Lab ID: L2154147-02
Client ID: 100521018
Sample Location: GREEN BAY, WI

Date Collected: 10/05/21 09:35
Date Received: 10/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Net
Analytical Method: 1,8015D(M)
Analytical Date: 10/30/21 03:26
Analyst: WR
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	98.5		mg/kg	66.0	33.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	96		50-130
d50-Tetracosane	95		50-130

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550
Lab Number: L2154147
Report Date: 11/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 10/29/21 20:16
Analyst: WR

Extraction Method: ALPHA OP-013
Extraction Date: 10/20/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab for sample(s): 01-02 Batch: WG1560945-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	66.0	33.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	87		50-130
d50-Tetracosane	86		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: GREENBAY FORMER MGP

Project Number: 1940101550

Lab Number: L2154147

Report Date: 11/01/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab Associated sample(s): 01-02 Batch: WG1560945-2 WG1560945-3								
Nonane (C9)	77		76		50-130	1		30
Decane (C10)	74		75		50-130	1		30
Dodecane (C12)	78		78		50-130	0		30
Tetradecane (C14)	77		77		50-130	0		30
Hexadecane (C16)	96		96		50-130	0		30
Octadecane (C18)	94		95		50-130	1		30
Nonadecane (C19)	87		87		50-130	0		30
Eicosane (C20)	94		94		50-130	0		30
Docosane (C22)	93		93		50-130	0		30
Tetracosane (C24)	97		100		50-130	3		30
Hexacosane (C26)	94		95		50-130	1		30
Octacosane (C28)	97		97		50-130	0		30
Triacontane (C30)	93		94		50-130	1		30
Hexatriacontane (C36)	85		84		50-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	100		100		50-130
d50-Tetracosane	98		98		50-130

Project Name: GREENBAY FORMER MGP
Project Number: 1940101550

Lab Number: L2154147
Report Date: 11/01/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154147-01A	Glass 250ml/8oz unpreserved	A	NA		4.7	Y	Present/Intact		A2-ALKPAH(14),A2-PHI(14)
L2154147-02A	Glass 250ml/8oz unpreserved	A	NA		4.7	Y	Present/Intact		A2-ALKPAH(14),A2-PHI(14)

*Values in parentheses indicate holding time in days

Project Name:	GREENBAY FORMER MGP	**Lab Number:**	L2154147
Project Number:	1940101550	**Report Date:**	11/01/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	GREENBAY FORMER MGP	**Lab Number:**	L2154147
Project Number:	1940101550	**Report Date:**	11/01/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	GREENBAY FORMER MGP	**Lab Number:**	L2154147
Project Number:	1940101550	**Report Date:**	11/01/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	GREENBAY FORMER MGP	**Lab Number:**	L2154147
Project Number:	1940101550	**Report Date:**	11/01/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 10/6/21

ALPHA Job #: L2154147

Client Information

Client: WPSC / RAMBOLL
Address: 234 W. FLORIDA ST., 5TH FL MILWAUKEE, WI 53204
Phone: 414-335-3563
Fax:
Email: STACI.GOETZ@RAMBOLL.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: GREEN BAY FORMER MGP
Project Location: GREEN BAY, WI
Project #: 1940101550
Project Manager:
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
COC #: 1940101550 - 1021 - 001
CUSTODY SEAL #'S: 1940101550-001
1940101550-002

ANALYSIS: OIL/SHEEN NET

SAMPLE HANDLING
Filtration ________
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	OIL/SHEEN NET	Sample Specific Comments	TOTAL # BOTTLES
	~~10042100~~ 100421017 DJV	~~10/4/21~~		~~O~~	~~DJV~~	~~X~~		
	~~10042~~ 100421018 DJV	~~10/4/21~~		~~O~~	~~DJV~~	~~X~~		
54147-01	100521017	10/5/21	0930	O	DJV	X		
-02	100521018	10/5/21	0935	O	DJV	X		

	OIL/SHEEN NET
Container Type	G
Preservative	A

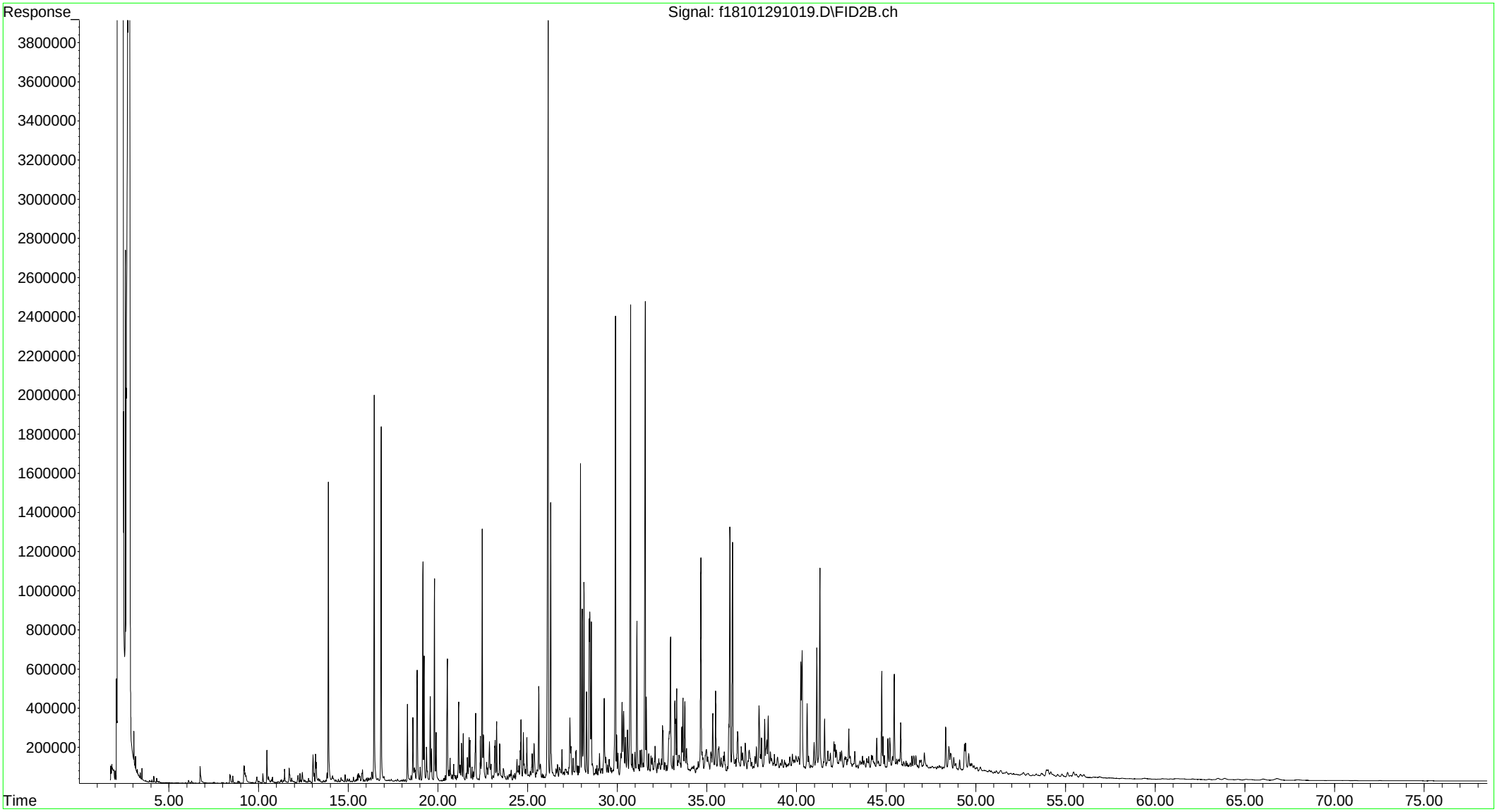
Relinquished By:	Date/Time	Received By:	Date/Time
[signature] / RAMBOLL	10/5/21 @ 1600	FedEx	
Fed Ex		[signature] - AAL	10/6/21 10:49

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

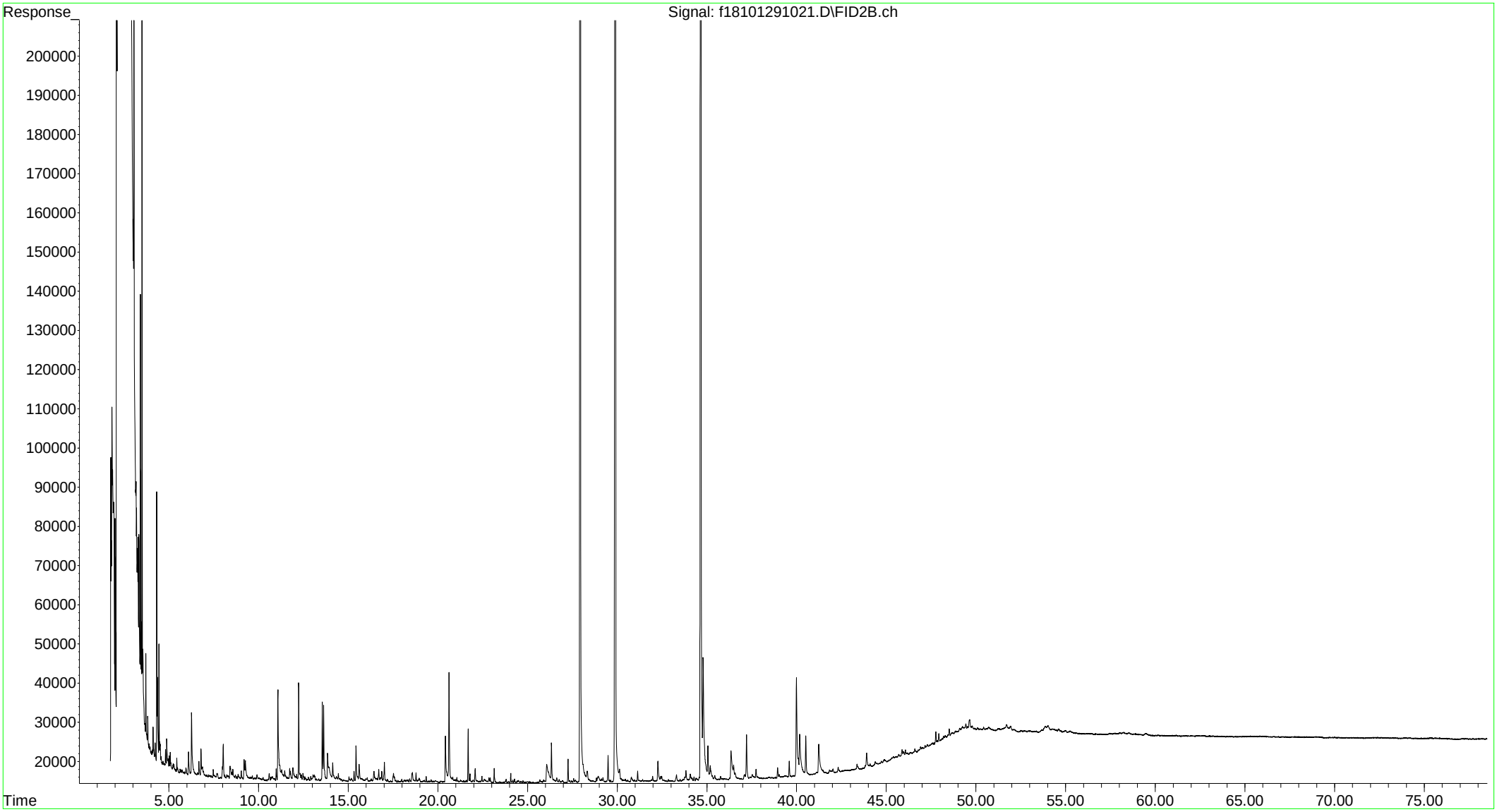
FORM NO: 01-01 (rev. 14-OCT-07)

GC-FID Chromatogram

File :O:\Forensics\Data\FID18\2021\OCT\OCT29.SEC\f18101291019.D
Operator : FID18:WR
Acquired : 30 Oct 2021 02:00 am using AcqMethod FID18.M
Instrument : FID 18
Sample Name: L2154147-01,42,,
Misc Info : WG1565047,WG1560945,ICAL17763
Vial Number: 60



File :O:\Forensics\Data\FID18\2021\OCT\OCT29.SEC\f18101291021.D
Operator : FID18:WR
Acquired : 30 Oct 2021 03:26 am using AcqMethod FID18.M
Instrument : FID 18
Sample Name: L2154147-02,42,,
Misc Info : WG1565047,WG1560945,ICAL17763
Vial Number: 61



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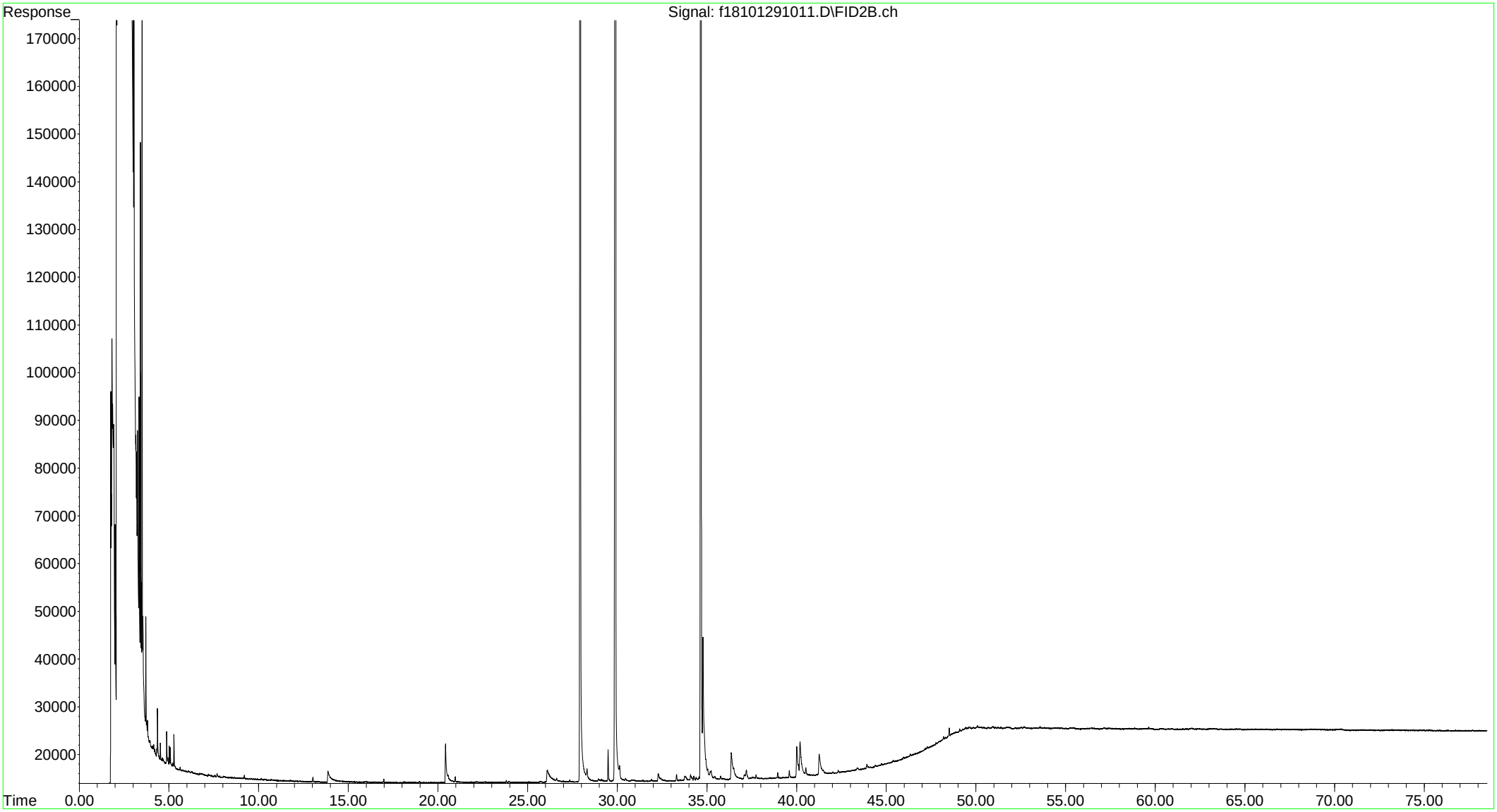
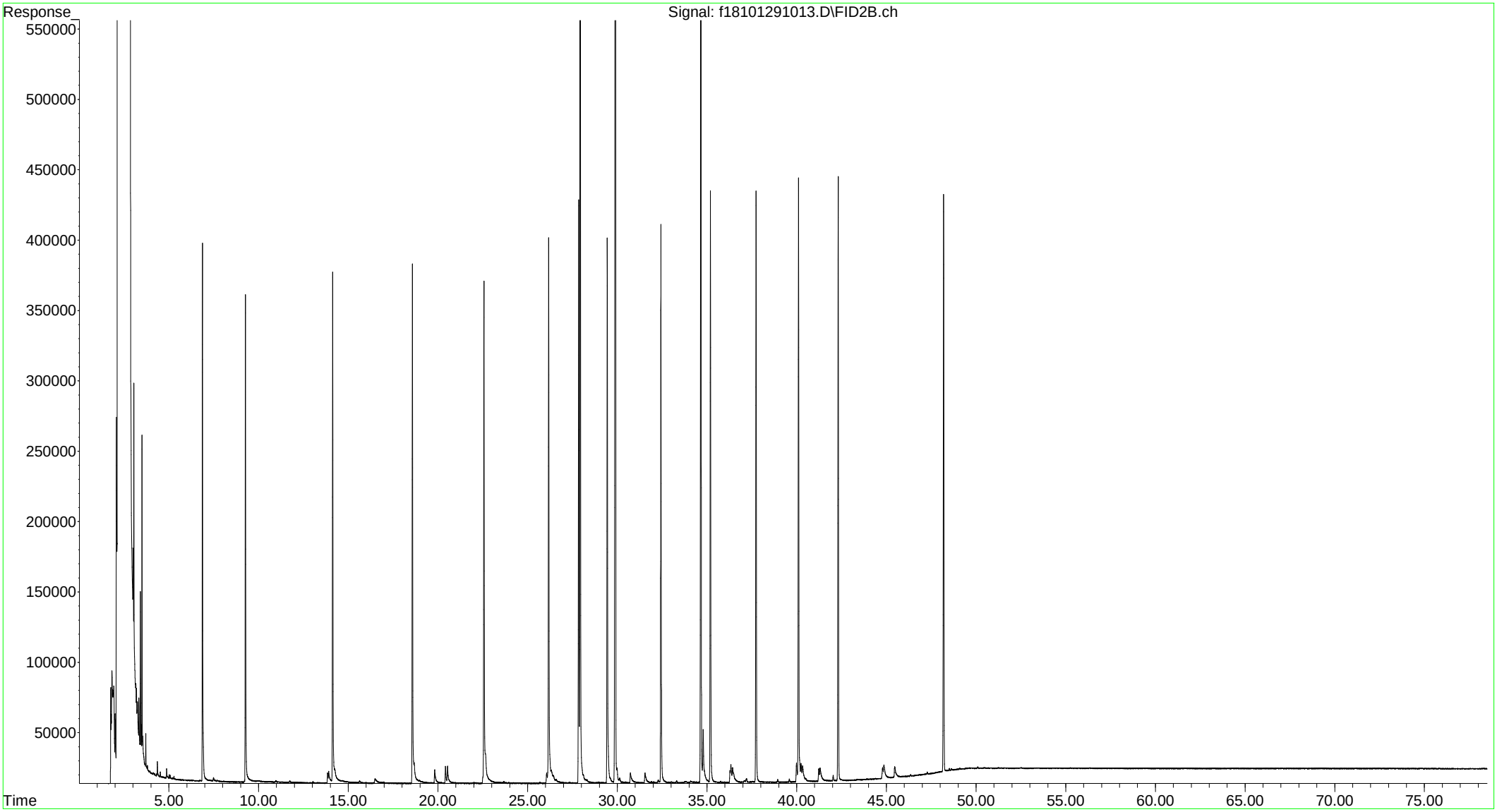
Operator : FID18:WR
Acquired : 29 Oct 2021 08:16 pm using AcqMethod FID18.M
Instrument : FID 18
Sample Name: WG1560945-1,42,,
Misc Info : WG1565047,WG1560945,ICAL17763
Vial Number: 56

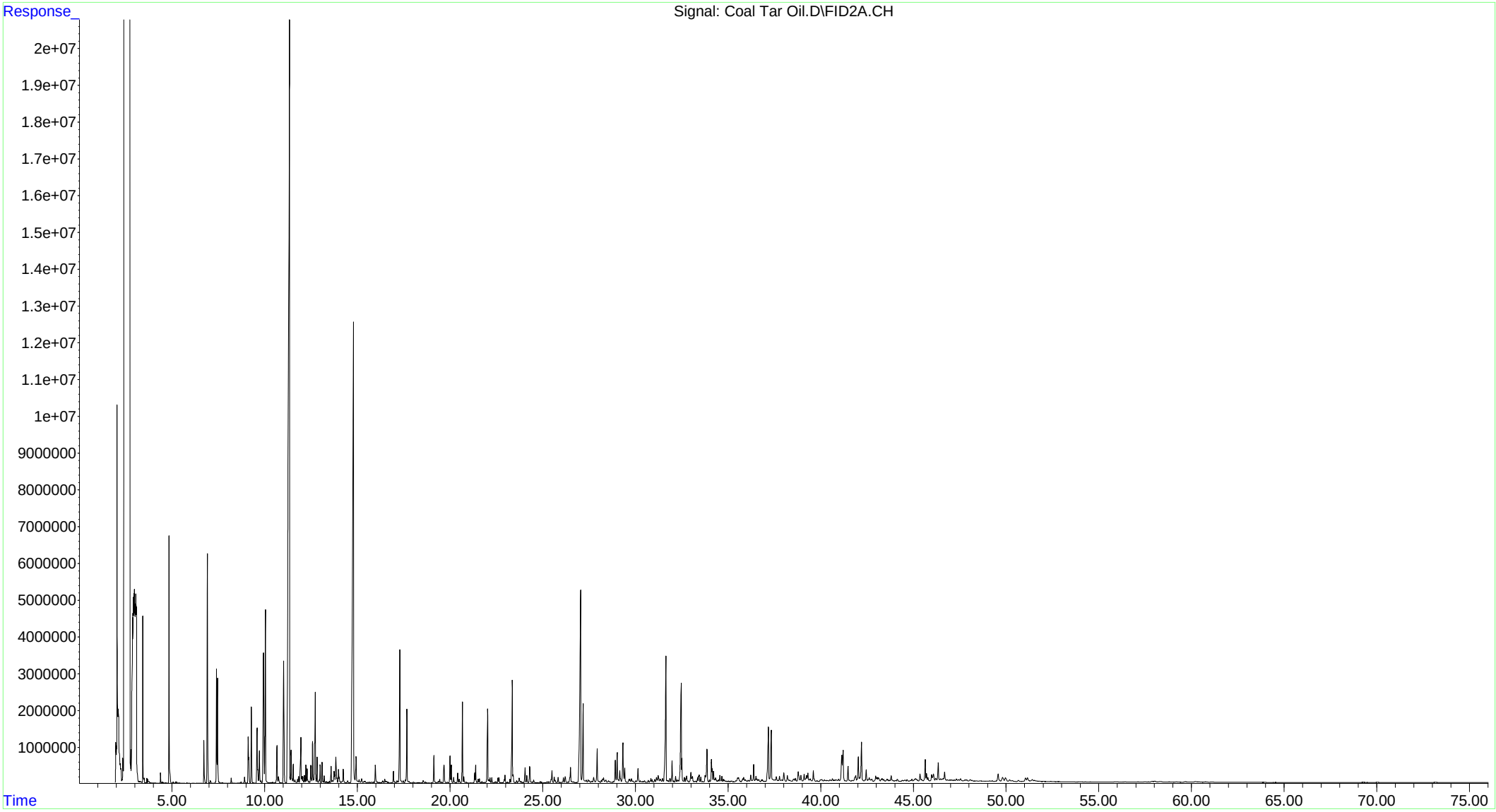


File :O:\Forensics\Data\FID18\2021\OCT\OCT29.SEC\f18101291013.D
Operator : FID18:WR
Acquired : 29 Oct 2021 09:42 pm using AcqMethod FID18.M
Instrument : FID 18
Sample Name: WG1560945-2,42,,
Misc Info : WG1565047,WG1560945,ICAL17763
Vial Number: 57



Petroleum Reference Standards

```
File       :O:\Forensics\Data\LIBRARY\Hydrocarbon Reference Standards\Co
...         al Tar Oil.D
Operator  : DMP
Instrument :   PAH2
Acquired  : 08 Aug 2013   6:49 pm using AcqMethod FRNC2A.M
Sample    : Coal Tar Oil
Misc Info : Chem Service Pz-123 (F031908K)
```



File :O:\Forensics\Data\FID18\2021\OCT\OCT29.SEC\f18101291005.D
Operator : FID18:WR
Acquired : 29 Oct 2021 03:39 pm using AcqMethod FID18.M
Instrument : FID 18
Sample Name: WG1565047-1
Misc Info : WG1565047,FRBE18,ICAL17763
Vial Number: 53