Feb. 12, 2021
DRI 352-M4 MVRHS Athletic Fields

Note from MVC staff:

The following is a preliminary report on the laboratory testing organized in 2020 and 2021 by MVC consultant Tetra Tech and conducted by Alpha Analytical, with revisions to the report in February 2021. These are the laboratory results for phase 2 of the testing, which focused on Total Oxidizable Precursor Assay (TOPA) and Total Organic Fluorine (TOF) analysis of the synthetic turf samples. Please note that as of Feb. 12, additional testing is underway to refine the results for the TOF analysis. Final reports on the data by Tetra Tech and Horsley Witten will be added to the record as soon as they are available. The testing protocols as developed by Tetra Tech are available here.

ANALYTICAL REPORT

Lab Number:	L2100733
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Ron Myrick
Phone:	(508) 786-2200
Project Name:	MVC TURF
Project Number:	143-319629-21001
Report Date:	02/11/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
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Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2100733-01	GREENFIELD TURF	SOLID	EDGARTOWN, MA	01/07/21 11:00	01/07/21
L2100733-02	BROCK SHOCK PAD	SOLID	EDGARTOWN, MA	11/24/20 09:30	01/07/21
L2100733-03	BROCK FILL	SOLID	EDGARTOWN, MA	01/07/21 11:10	01/07/21
L2100733-04	REYNOLDS 775 GLUE	SOLID	EDGARTOWN, MA	01/07/21 11:20	01/07/21
L2100733-05	MAPEI ULTRA BOND	SOLID	EDGARTOWN, MA	01/07/21 11:30	01/07/21

Project Name:	MVC TURF	**Lab Number:**	L2100733
Project Number:	143-319629-21001	**Report Date:**	02/11/21

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:	MVC TURF	**Lab Number:**	L2100733
Project Number:	143-319629-21001	**Report Date:**	02/11/21

Case Narrative (continued)

Report Revision

February 11, 2021: The Client IDs were amended on L2100733-02 and -03.

February 01, 2021: The subcontracted report has been amended.

Report Submission

The analysis of total organic fluorine was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

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

Sample Receipt

L2100733-02: A container identified as "BLOCK SHOCK PAD" was listed on the Chain of Custody, but not received. This was verified by the client.

L2100733-05: The sample was received in an inappropriate container for the PFAAs via LCMSMS-Isotope Dilution and Isotope via EPA 537 analysis.

Perfluorinated Alkyl Acids by Isotope Dilution

L2100733-01, -03, -04, and -05: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2100733-04: The reporting limit was elevated for Perfluorooctanesulfonamide (FOSA) due to low recovery of the extracted internal standard Perfluoro[13C8]Octanesulfonamide (M8FOSA). The low recovery was attributed to the sample matrix.

WG1456772-1, WG1456772-2, WG1456772-3, and WG1456772-4: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The WG1456772-3 MS recoveries, performed on L2100733-03, are outside the acceptance criteria for

Case Narrative (continued)

perfluorononanesulfonic acid (pfns) (65%) and perfluorodecanesulfonic acid (pfds) (52%).
WG1456772-4: The reporting limit was elevated for Perfluorooctanesulfonamide (FOSA) due to low recovery of the extracted internal standard Perfluoro[13C8]Octanesulfonamide (M8FOSA). The low recovery was attributed to the sample matrix.

Perfluorinated Alkyl Acids (Post-Treatment)
L2100733-01, -02, -03, -04, and -05RE\D(TOP): The sample has elevated detection limits due to the dilution required by the sample matrix.
L2100733-01, -02, and -05RE\D (TOP): Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.
L2100733-01, -02, -03, -04, and -05RE\D(TOP): The following surrogates are negative controls for the TOP Assay: M2-4:2FTS. Low recoveries of these surrogates demonstrates that the associated compounds have been converted to a different PFAS constituent (Limit 0-25%).
L2100733-01, -02, -03, -04, and -05RE\D (TOP) was extracted beyond the 14 day collection date.
L2100733-01, -02, -03, -04, and -05RE\D (TOP): The sample was re-extracted due to QC failures in the original extraction. The results of the re-extraction are reported.
WG1458673-1RE\D(TOP): The sample has elevated detection limits due to the dilution required by the sample matrix.
WG1458673-1RE\D: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.
WG1458673-1 (TOP) :M2PFHxA,M4PFOA and M3PFPeA are not spike in the associated quality control samples.
WG1458673-1: The following surrogates are negative controls for the TOP Assay: M2-4:2FTS. Low recoveries of these surrogates demonstrates that the associated compounds have been converted to a different PFAS constituent (Limit 0-25%)
WG1458673-1RE\D(TOP): The following surrogates are negative controls for the TOP Assay: M2-4:2FTS. Low recoveries of these surrogates demonstrates that the associated compounds have been converted to a

Project Name:	MVC TURF	**Lab Number:**	L2100733
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Case Narrative (continued)

different PFAS constituent (Limit 0-25%).

WG1458673-2 and WG1458673-3: The following surrogates are negative controls for the TOP Assay: M2-4:2FTS. Low recoveries of these surrogates demonstrates that the associated compounds have been converted to a different PFAS constituent (Limit 0-25%).

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: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 02/11/21

ORGANICS

SEMIVOLATILES

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-01
Client ID: GREENFIELD TURF
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:00
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/21/21 00:03
Analyst: HT
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.826	0.038	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.826	0.076	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.413	0.065	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.65	0.107	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.826	0.087	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.65	0.138	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.413	0.075	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.413	0.100	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.413	0.069	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.826	0.297	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.826	0.226	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.413	0.124	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.413	0.215	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.413	0.111	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.826	0.474	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.65	0.494	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.826	0.333	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.826	0.077	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.826	0.253	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.826	0.162	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.826	0.140	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.826	0.116	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.826	0.338	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.826	0.089	1

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-01 Date Collected: 01/07/21 11:00

Client ID: GREENFIELD TURF Date Received: 01/07/21

Sample Location: EDGARTOWN, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	116		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	134		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	105		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**376**	Q	14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	94		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	115		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	107		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	119		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**218**	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	**148**	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	124		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	117		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**641**	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**166**	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	131		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	71		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**157**	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	112		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	125		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-01 RE\D
Client ID: GREENFIELD TURF
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:00
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 12:02
Analyst: SG
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	7.06	J	ng/g	11.0	0.499	5
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	11.0	1.01	5
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	5.49	0.857	5
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	11.0	1.15	5
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	22.0	1.84	5
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	5.49	0.991	5
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	5.49	1.33	5
Perfluorooctanoic Acid (PFOA)	ND		ng/g	5.49	0.921	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	11.0	3.00	5
Perfluorononanoic Acid (PFNA)	ND		ng/g	5.49	1.65	5
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	5.49	2.86	5
Perfluorodecanoic Acid (PFDA)	ND		ng/g	5.49	1.47	5
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	22.0	6.57	5
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	11.0	1.03	5
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	11.0	3.36	5
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	11.0	1.54	5
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	11.0	4.49	5
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	11.0	1.19	5

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-01 RE\D
Client ID: GREENFIELD TURF
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:00
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	118		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	124		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	21		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	89		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	101		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	125		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	115		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	124		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	121		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	119		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	115		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	106		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	79		50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	**162**	Q	50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	80		50-150

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-02
Client ID: BROCK SHOCK PAD
Sample Location: EDGARTOWN, MA
Date Collected: 11/24/20 09:30
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/21/21 00:26
Analyst: HT
Percent Solids: Results reported on an 'AS RECEIVED' basis.
Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	3.28	0.149	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	3.28	0.302	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.64	0.256	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	6.56	0.423	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	3.28	0.344	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	6.56	0.548	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.64	0.296	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.64	0.397	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	1.64	0.275	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	3.28	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	3.28	0.895	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.64	0.492	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	1.64	0.852	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.64	0.439	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	3.28	1.88	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	6.56	1.96	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	3.28	1.32	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	3.28	0.307	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	3.28	1.00	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	3.28	0.643	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	3.28	0.554	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	3.28	0.459	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	3.28	1.34	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	3.28	0.354	1

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-02 Date Collected: 11/24/20 09:30

Client ID: BROCK SHOCK PAD Date Received: 01/07/21

Sample Location: EDGARTOWN, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	79		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	101		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	133		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	101		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	106		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	94		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	74		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	68		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	13		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	55		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001
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SAMPLE RESULTS

Lab ID: L2100733-02 RE\D
Client ID: BROCK SHOCK PAD
Sample Location: EDGARTOWN, MA

Date Collected: 11/24/20 09:30
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 12:18
Analyst: SG
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	28.7	J	ng/g	50.0	2.27	5
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	50.0	4.60	5
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	25.0	3.90	5
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	50.0	5.25	5
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	100	8.35	5
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	25.0	4.51	5
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	25.0	6.05	5
Perfluorooctanoic Acid (PFOA)	ND		ng/g	25.0	4.19	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	50.0	13.6	5
Perfluorononanoic Acid (PFNA)	ND		ng/g	25.0	7.50	5
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	25.0	13.0	5
Perfluorodecanoic Acid (PFDA)	ND		ng/g	25.0	6.70	5
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	100	29.9	5
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	50.0	4.68	5
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	50.0	15.3	5
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	50.0	7.00	5
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	50.0	20.4	5
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	50.0	5.40	5

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-02 RE\D
Client ID: BROCK SHOCK PAD
Sample Location: EDGARTOWN, MA

Date Collected: 11/24/20 09:30
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	121		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	109		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	18		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	129		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	118		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	128		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	125		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	122		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	114		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	104		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	95		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	70		50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	**152**	Q	50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	72		50-150

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-03
Client ID: BROCK FILL
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:10
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/21/21 00:42
Analyst: HT
Percent Solids:

Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.461	0.021	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.461	0.042	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.230	0.036	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.922	0.059	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.461	0.048	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.922	0.077	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.230	0.042	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.230	0.056	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.230	0.039	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.461	0.165	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.461	0.126	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.230	0.069	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.230	0.120	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.230	0.062	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.461	0.264	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.922	0.276	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.461	0.186	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.461	0.043	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.461	0.141	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.461	0.090	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.461	0.078	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.461	0.065	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.461	0.188	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.461	0.050	1

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-03 Date Collected: 01/07/21 11:10

Client ID: BROCK FILL Date Received: 01/07/21

Sample Location: EDGARTOWN, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	103		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	62		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**177**	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**347**	Q	14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**54**	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	122		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	112		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**525**	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	109		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	136		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	113		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**375**	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	105		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	114		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	123		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	124		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	145		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-03 RE\D
Client ID: BROCK FILL
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:10
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 12:35
Analyst: SG
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	2.11	J	ng/g	8.77	0.398	5
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	8.77	0.807	5
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	4.38	0.684	5
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	8.77	0.921	5
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	17.5	1.46	5
Perfluoroheptanoic Acid (PFHpA)	20.4	F	ng/g	4.38	0.791	5
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	4.38	1.06	5
Perfluorooctanoic Acid (PFOA)	ND		ng/g	4.38	0.735	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	8.77	2.39	5
Perfluorononanoic Acid (PFNA)	ND		ng/g	4.38	1.32	5
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	4.38	2.28	5
Perfluorodecanoic Acid (PFDA)	ND		ng/g	4.38	1.18	5
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	17.5	5.24	5
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	8.77	0.821	5
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	8.77	2.68	5
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	8.77	1.23	5
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	8.77	3.59	5
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	8.77	0.947	5

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-03 RE\D
Client ID: BROCK FILL
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:10
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	117		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	22		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	122		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	116		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	136		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	121		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	119		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	122		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	110		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	87		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	66		50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	141		50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	64		50-150

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-04
Client ID: REYNOLDS 775 GLUE
Sample Location: EDGARTOWN, MA
Date Collected: 01/07/21 11:20
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/21/21 01:16
Analyst: HT
Percent Solids: Results reported on an 'AS RECEIVED' basis.
Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.447	0.020	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.447	0.041	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.224	0.035	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.895	0.058	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.447	0.047	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.895	0.075	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.224	0.040	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.224	0.054	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.224	0.038	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.447	0.161	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.447	0.122	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.224	0.067	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.224	0.116	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.224	0.060	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.447	0.257	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.895	0.268	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.447	0.180	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.447	0.042	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.447	0.137	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	4.47	0.088	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.447	0.076	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.447	0.063	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.447	0.183	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.447	0.048	1

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-04 Date Collected: 01/07/21 11:20

Client ID: REYNOLDS 775 GLUE Date Received: 01/07/21

Sample Location: EDGARTOWN, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	80		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	114		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	121		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	100		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	128		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	112		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	169		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**178**	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	114		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	88		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-04 RE\D
Client ID: REYNOLDS 775 GLUE
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:20
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 12:51
Analyst: SG
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	8.07	J	ng/g	9.34	0.424	5
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	9.34	0.860	5
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	4.67	0.729	5
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	9.34	0.981	5
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	18.7	1.56	5
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	4.67	0.843	5
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	4.67	1.13	5
Perfluorooctanoic Acid (PFOA)	ND		ng/g	4.67	0.783	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	9.34	2.55	5
Perfluorononanoic Acid (PFNA)	ND		ng/g	4.67	1.40	5
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	4.67	2.43	5
Perfluorodecanoic Acid (PFDA)	ND		ng/g	4.67	1.25	5
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	18.7	5.59	5
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	9.34	0.875	5
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	9.34	2.86	5
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	9.34	1.31	5
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	9.34	3.82	5
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	9.34	1.01	5

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-04 RE\D
Client ID: REYNOLDS 775 GLUE
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:20
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	119		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	107		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	100		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	18		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	108		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	126		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	114		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	127		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	124		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	120		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	116		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	70		50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	149		50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	71		50-150

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-05
Client ID: MAPEI ULTRA BOND
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:30
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/21/21 01:49
Analyst: HT
Percent Solids:

Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.461	0.021	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.461	0.042	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.230	0.036	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.922	0.059	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.461	0.048	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.922	0.077	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.230	0.042	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.230	0.056	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.230	0.039	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.461	0.165	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.461	0.126	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.230	0.069	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.230	0.120	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.230	0.062	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.461	0.264	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.922	0.276	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.461	0.186	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.461	0.043	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.461	0.141	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.461	0.090	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.461	0.078	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.461	0.065	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.461	0.188	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.461	0.050	1

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-05 Date Collected: 01/07/21 11:30

Client ID: MAPEI ULTRA BOND Date Received: 01/07/21

Sample Location: EDGARTOWN, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	123		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	128		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	59		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	109		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	100		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	101		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	53		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	118		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	102		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	55		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	78		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	123		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	46		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**256**	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	117		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	142		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-05 RE\D
Client ID: MAPEI ULTRA BOND
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:30
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 13:08
Analyst: SG
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	3.77	J	ng/g	8.33	0.378	5
Perfluoropentanoic Acid (PFPeA)	6.08	J	ng/g	8.33	0.767	5
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	4.17	0.650	5
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	8.33	0.875	5
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	16.7	1.39	5
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	4.17	0.752	5
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	4.17	1.01	5
Perfluorooctanoic Acid (PFOA)	ND		ng/g	4.17	0.698	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	8.33	2.28	5
Perfluorononanoic Acid (PFNA)	ND		ng/g	4.17	1.25	5
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	4.17	2.17	5
Perfluorodecanoic Acid (PFDA)	ND		ng/g	4.17	1.12	5
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	16.7	4.98	5
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	8.33	0.780	5
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	8.33	2.55	5
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	8.33	1.17	5
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	8.33	3.41	5
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	8.33	0.900	5

Project Name: MVC TURF **Lab Number:** L2100733

Project Number: 143-319629-21001 **Report Date:** 02/11/21

SAMPLE RESULTS

Lab ID: L2100733-05 RE\D
Client ID: MAPEI ULTRA BOND
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:30
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	126		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	116		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	113		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	22		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	136		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	124		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	**154**	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	**137**	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	128		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	124		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	117		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	66		50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	134		50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	65		50-150

TOTAL OXIDIZABLE PRECURSOR ASSAY

RESULTS SUMMARY

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Lab ID: L2100733-01
Client ID: GREENFIELD TURF
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:00
Date Received: 01/07/21
Field Prep: Not Specified

Parameter	Pre-Treatment Results	Pre-Treatment Qualifier	Pre-Treatment Units	Post-Treatment Results	Post-Treatment Qualifier	Post-Treatment Units	Difference Results	Difference Qualifier	Difference Units
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab									
Perfluorobutanoic Acid (PFBA)	ND		ng/g	7.06	J	ng/g	7.06	J	ng/g
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanoic Acid (PFOA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanoic Acid (PFNA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanoic Acid (PFDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	ND		ng/g	0		ng/g

TOTAL OXIDIZABLE PRECURSOR ASSAY

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Lab ID: L2100733-02
Client ID: BROCK SHOCK PAD
Sample Location: EDGARTOWN, MA

Date Collected: 11/24/20 09:30
Date Received: 01/07/21
Field Prep: Not Specified

Parameter	Pre-Treatment Results	Pre-Treatment Qualifier	Pre-Treatment Units	Post-Treatment Results	Post-Treatment Qualifier	Post-Treatment Units	Difference Results	Difference Qualifier	Difference Units
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab									
Perfluorobutanoic Acid (PFBA)	ND		ng/g	28.7	J	ng/g	28.7	J	ng/g
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanoic Acid (PFOA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanoic Acid (PFNA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanoic Acid (PFDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	ND		ng/g	0		ng/g

TOTAL OXIDIZABLE PRECURSOR ASSAY

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Lab ID: L2100733-03
Client ID: BROCK FILL
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:10
Date Received: 01/07/21
Field Prep: Not Specified

Parameter	Pre-Treatment Results	Pre-Treatment Qualifier	Pre-Treatment Units	Post-Treatment Results	Post-Treatment Qualifier	Post-Treatment Units	Difference Results	Difference Qualifier	Difference Units
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab									
Perfluorobutanoic Acid (PFBA)	ND		ng/g	2.11	J	ng/g	2.11	J	ng/g
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	20.4	F	ng/g	20.4		ng/g
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanoic Acid (PFOA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanoic Acid (PFNA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanoic Acid (PFDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	ND		ng/g	0		ng/g

TOTAL OXIDIZABLE PRECURSOR ASSAY

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Lab ID: L2100733-04
Client ID: REYNOLDS 775 GLUE
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:20
Date Received: 01/07/21
Field Prep: Not Specified

Parameter	Pre-Treatment Results	Pre-Treatment Qualifier	Pre-Treatment Units	Post-Treatment Results	Post-Treatment Qualifier	Post-Treatment Units	Difference Results	Difference Qualifier	Difference Units
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab									
Perfluorobutanoic Acid (PFBA)	ND		ng/g	8.07	J	ng/g	8.07	J	ng/g
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanoic Acid (PFOA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanoic Acid (PFNA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanoic Acid (PFDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	ND		ng/g	0		ng/g

TOTAL OXIDIZABLE PRECURSOR ASSAY

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Lab ID: L2100733-05
Client ID: MAPEI ULTRA BOND
Sample Location: EDGARTOWN, MA

Date Collected: 01/07/21 11:30
Date Received: 01/07/21
Field Prep: Not Specified

Parameter	Pre-Treatment Results	Pre-Treatment Qualifier	Pre-Treatment Units	Post-Treatment Results	Post-Treatment Qualifier	Post-Treatment Units	Difference Results	Difference Qualifier	Difference Units
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab									
Perfluorobutanoic Acid (PFBA)	ND		ng/g	3.77	J	ng/g	3.77	J	ng/g
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	6.08	J	ng/g	6.08	J	ng/g
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanoic Acid (PFOA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanoic Acid (PFNA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanoic Acid (PFDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	ND		ng/g	0		ng/g
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	ND		ng/g	0		ng/g

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/20/21 23:30
Analyst: HT

Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-05 Batch: WG1456772-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	0.039
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	0.065
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	0.053
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	0.084
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	0.287
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	0.299
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	0.054

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/20/21 23:30
Analyst: HT

Extraction Method: ALPHA 23528
Extraction Date: 01/20/21 10:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-05 Batch: WG1456772-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	129		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**160**	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	120		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**137**	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	120		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	119		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	113		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	118		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	120		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	112		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	92		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	96		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	120		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	17		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	96		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	103		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 10:55
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab for sample(s): 01-05 Batch: WG1458673-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	0.039
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	0.053
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	0.084
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	0.042
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	0.067
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	0.299
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	0.153
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	0.054

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 10:55
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab for sample(s): 01-05 Batch: WG1458673-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	113		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	132		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	125		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	0		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	123		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	115		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	124		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	110		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	118		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	112		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	109		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	97		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	**0**	Q	50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	**5**	Q	50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	**0**	Q	50-150

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 11:45
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab for sample(s): 01-05 Batch: WG1458673-1 RE\D					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	2.50	0.114
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	2.50	0.230
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.25	0.195
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	2.50	0.262
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	5.00	0.418
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.25	0.226
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.25	0.302
Perfluorooctanoic Acid (PFOA)	ND		ng/g	1.25	0.210
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	2.50	0.682
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.25	0.375
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	1.25	0.650
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.25	0.335
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	5.00	1.50
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	2.50	0.234
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	2.50	0.765
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	2.50	0.350
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	2.50	1.02
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	2.50	0.270

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/28/21 11:45
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 01/27/21 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab for sample(s): 01-05 Batch: WG1458673-1 RE\D					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	116		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	107		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	16		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	82		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	104		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	122		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	112		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	119		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	121		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	115		75-130
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	111		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	89		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	70		50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	**152**	Q	50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	73		50-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 Batch: WG1456772-2								
Perfluorobutanoic Acid (PFBA)	95		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	93		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	93		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	100		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	117		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	90		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	98		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	98		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	92		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	96		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	99		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	115		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	99		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	107		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	92		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	103		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	107		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	111		-		69-135	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MVC TURF

Project Number: 143-319629-21001

Lab Number: L2100733

Report Date: 02/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 Batch: WG1456772-2								
Perfluorotridecanoic Acid (PFTrDA)	116		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	98		-		69-133	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	104				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	130				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**156**	Q			74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	101				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**131**	Q			66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	116				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	119				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	110				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	100				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	115				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	115				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	109				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	79				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	82				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	104				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	20				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	98				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	103				24-159

Lab Control Sample Analysis
Batch Quality Control

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab Associated sample(s): 01-05 Batch: WG1458673-2 WG1458673-3								
Perfluorobutanoic Acid (PFBA)	82		87		71-135	6		30
Perfluoropentanoic Acid (PFPeA)	86		92		69-132	7		30
Perfluorobutanesulfonic Acid (PFBS)	85		91		72-128	7		30
Perfluorohexanoic Acid (PFHxA)	85		90		70-132	6		30
Perfluoropentanesulfonic Acid (PFPeS)	85		86		73-123	1		30
Perfluoroheptanoic Acid (PFHpA)	85		90		71-131	6		30
Perfluorohexanesulfonic Acid (PFHxS)	86		88		67-130	2		30
Perfluorooctanoic Acid (PFOA)	85		90		69-133	6		30
Perfluoroheptanesulfonic Acid (PFHpS)	89		96		70-132	8		30
Perfluorononanoic Acid (PFNA)	83		86		72-129	4		30
Perfluorooctanesulfonic Acid (PFOS)	90		95		68-136	5		30
Perfluorodecanoic Acid (PFDA)	84		89		69-133	6		30
Perfluorononanesulfonic Acid (PFNS)	90		99		69-125	10		30
Perfluoroundecanoic Acid (PFUnA)	88		94		64-136	7		30
Perfluorodecanesulfonic Acid (PFDS)	94		103		59-134	9		30
Perfluorododecanoic Acid (PFDoA)	90		97		69-135	7		30
Perfluorotridecanoic Acid (PFTrDA)	86		92		66-139	7		30
Perfluorotetradecanoic Acid (PFTA)	92		96		69-133	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MVC TURF

Project Number: 143-319629-21001

Lab Number: L2100733

Report Date: 02/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab Associated sample(s): 01-05 Batch: WG1458673-2 WG1458673-3								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	115		113		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	135		131		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	132		131		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	3		4		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	125		121		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	119		114		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	127		130		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	112		109		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	119		119		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	119		119		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	116		111		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	1		0		0-25
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	111		106		61-155
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	105		101		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		90		24-159
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	**0**	Q	**0**	Q	50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	**4**	Q	**4**	Q	50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	**0**	Q	**0**	Q	50-150

Matrix Spike Analysis

Batch Quality Control

Project Name: MVC TURF

Project Number: 143-319629-21001

Lab Number: L2100733

Report Date: 02/11/21

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456772-3 QC Sample: L2100733-03 Client ID: BROCK FILL												
Perfluorobutanoic Acid (PFBA)	ND	4.74	4.54	96		-	-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	ND	4.74	4.14	87		-	-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	4.21	3.88	92		-	-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	4.44	4.01	90		-	-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	ND	4.74	4.33	91		-	-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	4.45	5.02	113		-	-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	4.74	4.36	92		-	-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.33	4.88	113		-	-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	4.74	4.08	86		-	-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	4.51	4.72	105		-	-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	4.51	3.59	80		-	-		70-132	-		30
Perfluorononanoic Acid (PFNA)	ND	4.74	4.08	86		-	-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	4.4	3.81	87		-	-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	ND	4.74	4.77	101		-	-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	4.55	5.17	114		-	-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	ND	4.56	2.95	**65**	Q	-	-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	4.74	5.56	117		-	-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	4.74	4.41	93		-	-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	ND	4.57	2.36	**52**	Q	-	-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	ND	4.74	4.18F	88		-	-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	4.74	5.00	106		-	-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	ND	4.74	5.45	115		-	-		69-135	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456772-3 QC Sample: L2100733-03 Client ID: BROCK FILL												
Perfluorotridecanoic Acid (PFTrDA)	ND	4.74	6.08	128		-	-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	4.74	4.77	101		-	-		69-133	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**370**	Q			19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**328**	Q			14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**479**	Q			20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	128				34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	116				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	124				61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	112				75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**63**	Q			71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100				78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	134				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	149				24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	105				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69				58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	37				10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	132				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	112				75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	119				72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**161**	Q			74-139

Lab Duplicate Analysis
Batch Quality Control

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456772-4 QC Sample: L2100733-04 Client ID: REYNOLDS 775 GLUE						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/g	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/g	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/g	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/g	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/g	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/g	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/g	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/g	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/g	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/g	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/g	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/g	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/g	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/g	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456772-4 QC Sample: L2100733-04 Client ID: REYNOLDS 775 GLUE						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/g	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/g	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/g	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/g	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	80		85		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	114		114		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	121		132		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	100		93		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		112		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		101		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		109		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		100		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	128		102		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	112		112		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109		110		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		102		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	169		108		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**178**	Q	**216**	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	114		129		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	**0**	Q	10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		95		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		124		54-150

Lab Duplicate Analysis
Batch Quality Control

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456772-4 QC Sample: L2100733-04 Client ID: REYNOLDS 775 GLUE

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	88		125		24-159

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2100733-01A	Bag	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-01B	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-01C	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		SUB-TOF(14)
L2100733-02A	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-02B	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-02C	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		SUB-TOF(14)
L2100733-02X	Glass 250ml unpreserved split	A	NA		3.1	Y	Absent		SUB-TOF(14)
L2100733-03A	Bag	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-03B	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-03C	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-03D	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-03E	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		SUB-TOF(14)
L2100733-04A	Bag	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-04B	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-04C	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-04D	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-04E	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		SUB-TOF(14)
L2100733-05A	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Project Name: MVC TURF
Project Number: 143-319629-21001

Lab Number: L2100733
Report Date: 02/11/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2100733-05B	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-05C	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-05D	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-05E	Glass 500ml/16oz unpreserved	A	NA		3.1	Y	Absent		HOLD-537(28),A2-537-ISOTOPE(14),A2-TOP-537-ISOTOPE(14)
L2100733-05F	Glass 60mL/2oz unpreserved	A	NA		3.1	Y	Absent		SUB-TOF(14)

*Values in parentheses indicate holding time in days

Project Name: MVC TURF
Project Number: 143-319629-21001
Lab Number: L2100733
Report Date: 02/11/21

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name:	MVC TURF	**Lab Number:**	L2100733
Project Number:	143-319629-21001	**Report Date:**	02/11/21

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:	MVC TURF	**Lab Number:**	L2100733
Project Number:	143-319629-21001	**Report Date:**	02/11/21

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 at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). 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:	MVC TURF	**Lab Number:**	L2100733
Project Number:	143-319629-21001	**Report Date:**	02/11/21

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	MVC TURF	**Lab Number:**	L2100733
Project Number:	143-319629-21001	**Report Date:**	02/11/21

REFERENCES

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; 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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
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.**

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.

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.

Serial_No:02112117:31

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 1/7/21

ALPHA Job #: L2100733

Client Information

Client: TETRA TECH
Address: 100 NICKERSON ROAD MARLBOROUGH MA
Phone: 508-561-6893
Email: RON.MYRICK@TETRATECH.COM

Project Information

Project Name: MVC TURF
Project Location: EDGARTOWN MA
Project #: 143-319624-21001
Project Manager: MYRICK
ALPHA Quote #:

Turn-Around Time

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

Date Due: 1/21/2021

Additional Project Information:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program ______ Criteria ______

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; PFAS TOPA (MERTON ONLY); TOF (GALBRAITH)*

SAMPLE INFO — Filtration: ☐ Field ☐ Lab to do; Preservation: ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PFAS TOPA	TOF	Sample Comments
733-01	GREENFIELD TURF	1/7/21	1100	SOLID	RM	✓	✓	1 BAG
-02	BROCK SHOCK PAD	11/24/20	930	SOLID	RM	✓	✓	PREVIOUSLY SUBMITTED
-03	BROCK FILL	1/7/21	1110	SOLID	RM	✓	✓	1 BAG
-04	REYNOLDS 775 GLUE	1/7/21	1120	SOLID	RM	✓	✓	1 BAG
-05	MAPEI ULTRA BOND	1/7/21	1130	SEMI SOLID	RM	✓	✓	2 JARS

DIRECT SAMPLES TO PHIL BASSIGNANI ARTIFICIAL TURF PROJECT

* SUBCONTRACTED TOF ANALYSIS

Container Type
Preservative

Container Type	Preservative
P= Plastic	A= None
A= Amber glass	B= HCl
V= Vial	C= HNO_3
G= Glass	D= H_2SO_4
B= Bacteria cup	E= NaOH
C= Cube	F= MeOH
O= Other	G= $NaHSO_4$
E= Encore	H = $Na_2S_2O_3$
D= BOD Bottle	I= Ascorbic Acid
	J = NH_4Cl
	K= Zn Acetate
	O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/7/21 1300	[signature] AAL	1/7/21 1300
[signature] AAL	1/7/21 1505	C. Jebeau AAL	1/7/21 1505
Aileen Mac	1/7/21 1930	[signature] Bezio AAL	1/7/21 1930
MB Bezio AAL	1/7/21 2033	[signature] AAL	1/7/21 2033

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Galbraith Laboratories, Inc.
2323 Sycamore Drive
Knoxville, TN 37921

Alpha Job Number
L2100733

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 508.439.5137
Email: nhunt@alphalab.com

Project Information

Project Location: MA
Project Manager: Nichole Hunt

Turnaround & Deliverables Information

Due Date: 01/25/21
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2100733

Report to include Method Blank, LCS/LCSD: YES

Additional Comments: Send all results/reports to subreports@alphalab.com Galbraith Pricing Quote 14953

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GREENFIELD TURF	01-07-21 11:00	Solid	Total Organic Fluorine	
	BLOCK SHOCK PAD	11-24-20 09:30	SOLID	Total Organic Fluorine	
	BLOCK FILL	01-07-21 11:10	SOLID	Total Organic Fluorine	
	REYNOLDS 775 GLUE	01-07-21 11:20	SOLID	Total Organic Fluorine	
	MAPEI ULTRA BOND	01-07-21 11:30	SOLID	Total Organic Fluorine	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	[signature]	1/12/21 1200	UPS	
Form No: AL_subcoc				

Subcontract Chain of Custody

Galbraith Laboratories, Inc.
2323 Sycamore Drive
Knoxville, TN 37921

Alpha Job Number
L2100733

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 508.439.5137
Email: nhunt@alphalab.com

Project Information

Project Location: MA
Project Manager: Nichole Hunt

Turnaround & Deliverables Information

Due Date: 01/25/21
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2100733

Report to include Method Blank, LCS/LCSD: YES

Additional Comments: Send all results/reports to subreports@alphalab.com Galbraith Pricing Quote 14953

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GREENFIELD TURF	01-07-21 11:00	Solid	Total Organic Fluorine	
*	BLOCK SHOCK PAD	11-24-20 09:30	SOLID	Total Organic Fluorine	
	BLOCK FILL	01-07-21 11:10	SOLID	Total Organic Fluorine	
	REYNOLDS 775 GLUE	01-07-21 11:20	SOLID	Total Organic Fluorine	
	MAPEI ULTRA BOND	01-07-21 11:30	SOLID	Total Organic Fluorine	

* Additional volume for samples submitted 1/13/21.

	Relinquished By:	Date/Time:	Received By:	Date/Time:
Form No: AL_subcoc				

Report Number: 128391 Report Date: 2021-02-01

Amended Laboratory Report

Report prepared for:

Nichole Hunt
Alpha Analytical Labs
8 Walkup Dr
Westborough, MA 01581
Email: nhunt@alphalab.com, subreports@alphalab.com

Report prepared by:

Debbie S Robertson

Purchase Order:

For further assistance, contact:

Debbie S Robertson
Report Production Coordinator
PO Box 51610
Knoxville, TN 37950 -1610
(865) 546-1335
debbierobertson@galbraith.com

Sample: Brock Shock Pad
Lab ID: 2021-M-7028 **Received:** 2021-01-21

Analysis	Method	Result	Basis	Sample Amount Used	Date (Time)
F : Fluorine					
	GLI Procedure E9-3	26 ppm	As Received	209.33 mg	2021-01-25

For all samples on this report:

1. Amended Report: This report amends data included in report 128242

Signatures:

Published By:	Debbie.S.Robertson	2021-02-01T17:14:52.777-05:00
Created By:	Debbie.S.Robertson	2021-02-01T17:14:43.37-05:00

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- "Published By" signature indicates authorized release of data.

Report Number: 128069 GALBRAITH LABORATORIES, INC. Report Date: 2021-01-19

Laboratory Report

Report prepared for:
Nichole Hunt
Alpha Analytical Labs
8 Walkup Dr
Westborough, MA 01581
Email: nhunt@alphalab.com, subreports@alphalab.com

Report prepared by:
Debbie S Robertson

Purchase Order:

For further assistance, contact:
Debbie S Robertson
Report Production Coordinator
PO Box 51610
Knoxville, TN 37950 -1610
(865) 546-1335
debbierobertson@galbraith.com

Sample: GREENFIELD TURF
Lab ID: 2021-M-6443 **Received:** 2021-01-13

Analysis	Method	Result	Basis	Sample Amount Used	Date (Time)
F : Fluorine					
	GLI Procedure E9-3	70 ppm	As Received	202.15 mg	2021-01-14

Sample: BROCK SHOCK PAD –
Lab ID: 2021-M-6444 **Received:** 2021-01-13

Analysis	Method	Result	Basis	Sample Amount Used	Date (Time)

1. There was insufficient sample to test for fluorine; if you want to submit additional 200 mgs of sample. please include a copy of this report.

Sample: BROCK FILL
Lab ID: 2021-M-6445 **Received:** 2021-01-13

Analysis	Method	Result	Basis	Sample Amount Used	Date (Time)
F : Fluorine					
	GLI Procedure E9-3	< 10 ppm	As Received	212.45 mg	2021-01-14

Sample: REYNOLDS 775 GLUE
Lab ID: 2021-M-6446 **Received:** 2021-01-13

Analysis	Method	Result	Basis	Sample Amount Used	Date (Time)
F : Fluorine					
	GLI Procedure E9-3	10 ppm	As Received	211.67 mg	2021-01-14

Sample: MAPEI ULTRA BOND
Lab ID: 2021-M-6447 **Received:** 2021-01-13

Analysis	Method	Result	Basis	Sample Amount Used	Date (Time)
F : Fluorine					
	GLI Procedure E9-3	11 ppm	As Received	200.96 mg	2021-01-14

Signatures:

Published By:	Debbie.S.Robertson	2021-01-19T20:04:41.3-05:00
Created By:	Debbie.S.Robertson	2021-01-19T20:03:35.063-05:00

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