

Report ID: S34226.01(01) Generated on 04/14/2022

Report to

Attention: Don Popma Biotech Agronomics, Inc. 1651 Beulah Highway Beulah, MI 49617

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Merit Laboratories, Inc. 2680 East Lansing Drive East Lansing, MI 48823

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Report Summary

Lab Sample ID(s): S34226.01

Project: Birch Run

Collected Date(s): 03/24/2022

Submitted Date/Time: 03/24/2022 14:20

Sampled by: Don Popma

P.O. #:

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Maya Murshak Technical Director

Naya Mushah



General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples

for acrolein, acrylonitrile, and 2-chlorovinylethyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

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Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report



Laboratory Certifications

| Authority | Certification ID |
|---------------------|------------------|
| Michigan DEQ | #9956 |
| DOD ELAP/ISO 17025 | #69699 |
| WBENC | #2005110032 |
| Ohio VAP | #CL0002 |
| Indiana DOH | #C-MI-07 |
| New York NELAC | #11814 |
| North Carolina DENR | #680 |
| North Carolina DOH | #26702 |
| Alaska CSLAP | #17-001 |
| Pennsylvania DEP | #68-05884 |
| Wisconsin DNR | FID# 399147320 |

Qualifier Descriptions

| Qualifier | Description |
|-----------|---|
| ! | Result is outside of stated limit criteria |
| В | Compound also found in associated method blank |
| E | Concentration exceeds calibration range |
| F | Analysis run outside of holding time |
| G | Estimated result due to extraction run outside of holding time |
| Н | Sample submitted and run outside of holding time |
| 1 | Matrix interference with internal standard |
| J | Estimated value less than reporting limit, but greater than MDL |
| L | Elevated reporting limit due to low sample amount |
| M | Result reported to MDL not RDL |
| 0 | Analysis performed by outside laboratory. See attached report. |
| R | Preliminary result |
| S | Surrogate recovery outside of control limits |
| Т | No correction for total solids |
| X | Elevated reporting limit due to matrix interference |
| Υ | Elevated reporting limit due to high target concentration |
| b | Value detected less than reporting limit, but greater than MDL |
| е | Reported value estimated due to interference |
| j | Analyte also found in associated method blank |
| р | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| х | Preserved from bulk sample |

Glossary of Abbreviations

| Abbreviation | Description |
|--------------|--|
| RL/RDL | Reporting Limit |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| SW | EPA SW 846 (Soil and Wastewater) Methods |
| E | EPA Methods |
| SM | Standard Methods |
| LN | Linear |
| BR | Branched |



Method Summary

Method Version

ASTM D7968-17M ASTM Method D7968 - 17 Modified (Isotopic Dilution)

SM2540B Standard Method 2540 B 2015

Parameter Summary

| Parameter | Synonym | Cas # |
|--------------|---|--------------|
| PFBA | Perfluorobutanoic Acid | 375-22-4 |
| PFPeA | Perfluoropentanoic Acid | 2706-90-3 |
| 4:2 FTSA | 4:2 Fluorotelomer Sulfonic Acid | 757124-72-4 |
| PFHxA | Perfluorohexanoic Acid | 307-24-4 |
| PFBS | Perfluorobutane sulfonic Acid | 375-73-5 |
| PFHpA | Perfluoroheptanoic Acid | 375-85-9 |
| PFPeS | Perfluoropentane Sulfonic Acid | 2706-91-4 |
| 6:2 FTSA | 6:2 Fluorotelomer Sulfonic Acid | 27619-97-2 |
| PFOA | Perfluorooctanoic Acid | 335-67-1 |
| PFHxS | Perfluorohexane Sulfonic Acid | 355-46-4 |
| PFHxS-LN | Perfluorohexane Sulfonic Acid - LN | 355-46-4-LN |
| PFHxS-BR | Perfluorohexane Sulfonic Acid - BR | 355-46-4-BR |
| PFNA | Perfluorononanoic Acid | 375-95-1 |
| 8:2 FTSA | 8:2 Fluorotelomer Sulfonic Acid | 39108-34-4 |
| PFHpS | Perfluoroheptane Sulfonic Acid | 375-92-8 |
| PFDA | Perfluorodecanoic Acid | 335-76-2 |
| N-MeFOSAA | N-methyl perfluorooctanesulfonamidoacetic acid | 2355-31-9 |
| EtFOSAA | N-Ethyl Perfluorooctane Sulfonamidoacetic Acid | 2991-50-6 |
| PFOS | Perfluorooctane Sulfonic Acid | 1763-23-1 |
| PFOS-LN | Perfluorooctane Sulfonic Acid - LN | 1763-23-1-LN |
| PFOS-BR | Perfluorooctane Sulfonic Acid - BR | 1763-23-1-BR |
| PFUnDA | Perfluoroundecanoic Acid | 2058-94-8 |
| PFNS | Perfluorononane Sulfonic Acid | 68259-12-1 |
| PFDoDA | Perfluorododecanoic Acid | 307-55-1 |
| PFDS | Perfluorodecane Sulfonic Acid | 335-77-3 |
| PFTrDA | Perfluorotridecanoic Acid | 72629-94-8 |
| FOSA | Perfluorooctane Sulfonamide | 754-91-6 |
| PFTeDA | Perfluorotetradecanoic Acid | 376-06-7 |
| 11CI-PF3OUdS | 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | 763051-92-9 |
| 9CI-PF3ONS | 9-chlorohexadecafluoro-3-oxanone1-sulfonic acid | 756426-58-1 |
| ADONA | 4,8-dioxa-3H-perfluorononanoic acid | 919005-14-4 |
| HFPO-DA | Hexafluoropropylene oxide dimer | 13252-13-6 |



Sample Summary (1 samples)

Sample ID Sample Tag Matrix Collected Date/Time

S34226.01 CELL #2 Sludge 03/24/22 11:45



Lab Sample ID: S34226.01

Sample Tag: CELL #2

Collected Date/Time: 03/24/2022 11:45

Matrix: Sludge

COC Reference: 146614

Sample Containers

| # | Туре | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|----------------------|-----------------|---------------|-------------------|---------------|
| 1 | 15ml Centrifuge Tube | None | Yes | 5.6 | IR |
| 1 | 250ml Plastic | None | Yes | 5.6 | IR |

Extraction / Prep.

| Parameter | Result | Method | Run Date | Analyst | Flags |
|--|---------------|----------------|----------------|---------|-------|
| Initial wt. (g) / Final wt. (g) / Volume (ml)* | 11.84/7.05/10 | ASTM D7968-17M | 03/29/22 13:30 | KCV | |

Inorganics

Method: SM2540B, Run Date: 03/24/22 16:53, Analyst: MAM

| Parameter | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------|--------|----|-----|-------|----------|------|-------|
| Total Solids* | 3.5 | 1 | | % | 1 | | |

Organics

28 PFAs, Method: ASTM D7968-17M, Run Date: 03/30/22 22:51, Analyst: KCV

| Parameter | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------|--------------|-----|-----|-------|----------|--------------|------------|
| PFBA* | Not detected | 4.2 | | ug/kg | 59.6 | 375-22-4 | IX |
| PFPeA* | Not detected | 0.6 | | ug/kg | 59.6 | 2706-90-3 | 1 |
| 4:2 FTSA* | Not detected | 0.6 | | ug/kg | 59.6 | 757124-72-4 | 1 |
| PFHxA* | Not detected | 0.6 | | ug/kg | 59.6 | 307-24-4 | 1 |
| PFBS* | Not detected | 0.6 | | ug/kg | 59.6 | 375-73-5 | |
| PFHpA* | Not detected | 0.6 | | ug/kg | 59.6 | 375-85-9 | |
| PFPeS* | Not detected | 0.6 | | ug/kg | 59.6 | 2706-91-4 | |
| 6:2 FTSA* | Not detected | 0.6 | | ug/kg | 59.6 | 27619-97-2 | 1 |
| PFOA* | 1.1 | 0.6 | | ug/kg | 59.6 | 335-67-1 | |
| PFHxS* | 1.7 | 0.6 | | ug/kg | 59.6 | 355-46-4 | |
| PFHxS-LN* | 1 | 0.6 | | ug/kg | 59.6 | 355-46-4-LN | |
| PFHxS-BR* | 0.65 | 0.6 | | ug/kg | 59.6 | 355-46-4-BR | |
| PFNA* | Not detected | 0.6 | | ug/kg | 59.6 | 375-95-1 | |
| 8:2 FTSA* | Not detected | 0.6 | | ug/kg | 59.6 | 39108-34-4 | 1 |
| PFHpS* | Not detected | 0.6 | | ug/kg | 59.6 | 375-92-8 | |
| PFDA* | 0.82 | 0.6 | | ug/kg | 59.6 | 335-76-2 | 1 |
| N-MeFOSAA* | 46 | 0.6 | | ug/kg | 59.6 | 2355-31-9 | |
| EtFOSAA* | 87 | 0.6 | | ug/kg | 59.6 | 2991-50-6 | |
| PFOS* | 12 | 0.6 | | ug/kg | 59.6 | 1763-23-1 | |
| PFOS-LN* | 10 | 0.6 | | ug/kg | 59.6 | 1763-23-1-LN | |
| PFOS-BR* | 1.4 | 0.6 | | ug/kg | 59.6 | 1763-23-1-BR | |
| PFUnDA* | 1 | 0.6 | | ug/kg | 59.6 | 2058-94-8 | 1 |
| PFNS* | Not detected | 0.6 | | ug/kg | 59.6 | 68259-12-1 | |
| PFDoDA* | 2.2 | 0.6 | | ug/kg | 59.6 | 307-55-1 | I1 |
| PFDS* | 20 | 0.6 | | ug/kg | 59.6 | 335-77-3 | |
| PFTrDA* | 0.72 | 0.6 | | ug/kg | 59.6 | 72629-94-8 | I 1 |
| FOSA* | 4.2 | 0.6 | | ug/kg | 59.6 | 754-91-6 | |
| PFTeDA* | Not detected | 0.6 | | ug/kg | 59.6 | 376-06-7 | I 1 |
| 11CI-PF3OUdS* | Not detected | 0.6 | | ug/kg | 59.6 | 763051-92-9 | |

I-Matrix interference with internal standard X-Elevated reporting limit due to matrix interference 1-IS recovery <10%



Lab Sample ID: S34226.01 (continued)

Sample Tag: CELL #2

28 PFAs, Method: ASTM D7968-17M, Run Date: 03/30/22 22:51, Analyst: KCV (continued)

| Parameter | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------|--------------|-----|-----|-------|----------|-------------|-------|
| 9CI-PF3ONS* | Not detected | 0.6 | | ug/kg | 59.6 | 756426-58-1 | _ |
| ADONA* | Not detected | 0.6 | | ug/kg | 59.6 | 919005-14-4 | |
| HFPO-DA* | Not detected | 0.6 | | ug/kg | 59.6 | 13252-13-6 | 1 |

I-Matrix interference with internal standard

Merit Laboratories Login Checklist

Lab Set ID:S34226

Client:BIOTECHAGRO (Biotech Agronomics, Inc.)

Project: Birch Run

Submitted:03/24/2022 14:20 Login User: JRM

Attention: Don Popma

Address: Biotech Agronomics, Inc. 1651 Beulah Highway Beulah, MI 49617

Phone: 616-835-0100 FAX: Email: dpopma@biotechag.com

| Selection | | | Description | Note |
|------------------|-------|-------|--|--------|
| Sample Rece | iving | | | |
| 01. X Yes | ☐ No | □ N/A | Samples are received at 4C +/- 2C Thermometer # | IR 5.6 |
| 02. X Yes | ☐ No | □ N/A | Received on ice/ cooling process begun | |
| 03. Yes | X No | N/A | Samples shipped | |
| 04. Yes | X No | □ N/A | Samples left in 24 hr. drop box | |
| 05. Yes | No | X N/A | Are there custody seals/tape or is the drop box locked | |
| Chain of Cus | tody | | | |
| 06. X Yes | ☐ No | □ N/A | COC adequately filled out | |
| 07. X Yes | No | N/A | COC signed and relinquished to the lab | |
| 08. X Yes | No | N/A | Sample tag on bottles match COC | |
| 09. Yes | X No | □ N/A | Subcontracting needed? Subcontacted to: | |
| Preservation | | | | |
| 10. X Yes | ☐ No | N/A | Do sample have correct chemical preservation | |
| 11. Yes | No | X N/A | Completed pH checks on preserved samples? (no VOAs) | |
| 12. Yes | X No | □ N/A | Did any samples need to be preserved in the lab? | |
| Bottle Condi | ions | | | |
| 13. X Yes | ☐ No | N/A | All bottles intact | |
| 14. X Yes | No | N/A | Appropriate analytical bottles are used | |
| 15. X Yes | No | N/A | Merit bottles used | |
| 16. X Yes | No | □ N/A | Sufficient sample volume received | |
| 17. Yes | X No | □ N/A | Samples require laboratory filtration | |
| 18. X Yes | ☐ No | □ N/A | Samples submitted within holding time | |
| 19. Yes | No | X N/A | Do water VOC or TOX bottles contain headspace | |
| | | | | |

| Corrective action for all | exceptions is to call | the client and to | notify the project | manager. |
|---------------------------|-----------------------|-------------------|--------------------|----------|
| Client Review By: | | | Date: | |



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| CONTACT NAME DON PORMED | | | | | | | | | | CONTACT NAME | | | | | | | | | | | | | | Ø 3 H. | C-61 A | | | |
| CONTACT NAME DON POPMES COMPANY BIOTECH AGRONOMICS, INC ADDRESS 1651 Beniah Huy CITY DISTATE ZIRCODE | | | | | | | | | | COMPANY | | | | | | | | | | | | | | | 12/14 | | | |
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