

**TABLES**



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Per-and Polyfluoroalkyl Substances Sampling Results**  
**Sanitary Sewer Samples - West of Site**

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID: EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-3 (Sanitary Sewer)	SAN-3 (Sanitary Sewer)	SAN-3 (Sanitary Sewer)	SAN-3 (Sanitary Sewer)	SAN-4 (Sanitary Sewer)	SAN-5 (Sanitary Sewer)
		11/5/2019	6/25/2020	12/18/2020	3/11/2021	11/5/2019	11/5/2019
Perfluorobutanoic Acid (PFBA)	--	<19	25 U	<9.8	<10	<20	<20
Perfluoropentanoic Acid (PFPeA)	--	<9.7	<b>5.0</b>	<b>1.2 J</b>	<b>1.8 J</b>	<10	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorohexanoic Acid (PFHxA)	--	<9.7	<b>5.4</b>	<b>1.6 J</b>	<b>1.8 J</b>	<10	<10
Perfluorobutane Sulfonic Acid (PFBS)	<b>670,000</b>	<9.7	<b>9.3</b>	<b>8.6</b>	<b>8.3</b>	<10	<10
Perfluoroheptanoic Acid (PFHpA)	--	<9.7	<b>3.1</b>	<2.0	<2.0	<10	<10
Perfluoropentane Sulfonic Acid (PFPeS)	--	<9.7	<b>11</b>	<b>10</b>	<b>9.4</b>	<10	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorooctanoic Acid (PFOA)	<b>170</b>	<9.7	<b>9.8</b>	<b>3.3</b>	<b>3.5</b>	<10	<10
Perfluorohexane Sulfonic Acid (PFHxS)	--	<b>40</b>	<b>63</b>	<b>52</b>	<b>42</b>	<10	<b>20</b>
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<b>33</b>	<b>55</b>	<b>46</b>	<b>35</b>	<10	<b>16</b>
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<9.7	<b>7.9</b>	<b>6.5</b>	<b>6.5</b>	<10	<10
Perfluorononanoic Acid (PFNA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<9.7	<b>9.9</b>	<b>9.4</b>	<b>4.4</b>	<10	<10
Perfluorodecanoic Acid (PFDA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<9.7	<4.1	<3.9	<4.1	<10	<10
Perfluorooctane Sulfonic Acid (PFOS)	<b>12</b>	<b>110</b>	<b>230</b>	<b>210</b>	<b>96</b>	<b>61</b>	<b>170</b>
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	<b>21</b>	<b>55</b>	<b>38</b>	<b>17</b>	<b>17</b>	<b>69</b>
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	<b>85</b>	<b>170</b>	<b>170</b>	<b>79</b>	<b>33</b>	<b>100</b>
Perfluoroundecanoic Acid (PFUnDA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorononane Sulfonic Acid (PFNS)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorododecanoic Acid (PFDoDA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorodecane Sulfonic Acid (PFDS)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorotridecanoic Acid (PFTrDA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorooctane Sulfonamide (FOSA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorotetradecanoic Acid (PFTeDA)	--	<9.7	<4.1	<3.9	<4.1	<10	<10
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<9.7	<2.0	<2.0	<2.0	<10	<10
Total Per-and Polyfluoroalkyl Substances	--	<b>150.0</b>	<b>371.5</b>	<b>296.1</b>	<b>167.2</b>	<b>61.0</b>	<b>190.0</b>

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) Dup = Duplicate sample.
- 6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
- 7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
- 9) B - Compound also found in associated method blank.
- 10) I - Matrix interference with internal standard.
- 11) J - Estimated value less than reporting limit, but greater than MDL.
- 12) X - Elevated reporting limit due to matrix interference.
- 13) Light gray header is most recent sampling event result.
- 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Per-and Polyfluoroalkyl Substances Sampling Results**  
**Sanitary Sewer Samples - West of Site**

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID: EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-06 (Sanitary Sewer)	SAN-07 (Sanitary Sewer)
		3/17/2020	6/25/2020	12/18/2020	3/11/2021	3/31/2022	9/7/2022	12/13/2022	4/6/2023	3/18/2020
Perfluorobutanoic Acid (PFBA)	--	<21	13 U	<10	<11	<10	<10	<9.6	<b>2.8 J</b>	<21
Perfluoropentanoic Acid (PFPeA)	--	<10	<b>1.3 J</b>	<4.0	<b>1.9 J</b>	<b>3.2 J</b>	<4.0	<3.8	<b>3.1 J</b>	<11
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<10	<2.0 I	<2.0 I	<2.1	<2.1	<2.0 I	<1.9	<2.0	<11
Perfluorohexanoic Acid (PFHxA)	--	<10	<2.0	<2.0	<b>1.9 J</b>	<b>3.1</b>	<b>3.4</b>	<b>2.1</b>	<b>3.2</b>	<11
Perfluorobutane Sulfonic Acid (PFBS)	<b>670,000</b>	<10	<b>3.1</b>	<b>3.7</b>	<b>4.5</b>	<b>11</b>	<2.0	<1.9	<b>5.8</b>	<11
Perfluoroheptanoic Acid (PFHpA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<b>1.9 J</b>	<11
Perfluoropentane Sulfonic Acid (PFPeS)	--	<10	<2.0	<2.0	<b>2.3</b>	<b>6.7</b>	<2.0	<1.9	<b>3.3</b>	<11
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<10	<2.0 I	<2.0 I	<2.1	<2.1	<2.0 I	<1.9	<2.0	<11
Perfluorooctanoic Acid (PFOA)	<b>170</b>	<10	<2.0	<2.0	<2.1	<b>2.7</b>	<2.0	<1.9	<b>3.0</b>	<11
Perfluorohexane Sulfonic Acid (PFHxS)	--	<10	<b>11</b>	<b>6.3</b>	<b>10</b>	<b>18</b>	<b>5.6</b>	<1.9	<b>10</b>	<11
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<10	<b>9.0</b>	<b>5.0</b>	<b>8.1</b>	<b>14</b>	<b>2.5</b>	<1.9	<b>8.2</b>	<11
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<10	<2.0	<2.0	<2.1	<b>3.7</b>	<b>2.7</b>	<1.9	<b>2.6</b>	<11
Perfluorononanoic Acid (PFNA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<b>1.1 J</b>	<11
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<10	<2.0	<2.0 I	<2.1	<2.1	<2.0 I	<1.9	<2.0	<11
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<b>1.4 J</b>	<11
Perfluorodecanoic Acid (PFDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<b>0.76 J</b>	<11
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<b>2.7</b>	<11
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<10	<3.9 I	<4.0 I	<4.2	<4.1	<4.0	<3.8	<4.0	<11
Perfluorooctane Sulfonic Acid (PFOS)	<b>12</b>	<b>14</b>	<b>21</b>	<b>26</b>	<b>34</b>	<b>38</b>	<b>13</b>	<b>4.5</b>	<b>32</b>	<11
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	<10	<b>5.7</b>	<b>5.0</b>	<b>5.7</b>	<b>5.7</b>	<b>3.6</b>	<b>2.0</b>	<b>7.0</b>	<11
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	<10	<b>16</b>	<b>19</b>	<b>27</b>	<b>31</b>	<b>9.1</b>	<b>2.4</b>	<b>25</b>	<11
Perfluoroundecanoic Acid (PFUnDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
Perfluorononane Sulfonic Acid (PFNS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
Perfluorododecanoic Acid (PFDoDA)	--	<10	<2.0 I	<2.0	<2.1	<2.1	<2.0	<1.9	<b>1.2 J</b>	<11
Perfluorodecane Sulfonic Acid (PFDS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
Perfluorotridecanoic Acid (PFTrDA)	--	<10	<2.0 I	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
Perfluorooctane Sulfonamide (FOSA)	--	<10	<2.0	<2.0 I	<2.1	<2.1	<2.0	<1.9	<2.0	<11
Perfluorotetradecanoic Acid (PFTeDA)	--	<10	<3.9	<4.0	<4.2	<4.1	<4.0	<3.8	<4.0	<11
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<11
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<10	<2.0	<2.0	<2.1	<4.1	<10	<9.6	<2.0	<11
<b>Total Per-and Polyfluoroalkyl Substances</b>	--	<b>14.0</b>	<b>49.4</b>	<b>36.0</b>	<b>54.6</b>	<b>82.7</b>	<b>22.0</b>	<b>6.6</b>	<b>72.3</b>	<b>0.0</b>

- Notes
- 1) Detections in **bold**.
  - 2) Concentrations in ng/L.
  - 3) < = Not detected at specified reporting limit.
  - 4) -- = Not analyzed/No criteria.
  - 5) Dup = Duplicate sample.
  - 6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
  - 7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
  - 8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
  - 9) B - Compound also found in associated method blank.
  - 10) I - Matrix interference with internal standard.
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**Per-and Polyfluoroalkyl Substances Sampling Results**  
**Sanitary Sewer Samples - West of Site**

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID: EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-10 (Sanitary Sewer)	SAN-10 (Sanitary Sewer)	SAN-10 (Sanitary Sewer)	SAN-DUP-121820 (SAN-10) Sanitary Sewer	SAN-10 (Sanitary Sewer)	SAN-DUP-031121 (SAN-10) Sanitary Sewer	SAN-11 (Sanitary Sewer)
	Sample Date:	3/18/2020	6/25/2020	12/18/2020	12/18/2020	3/11/2021	3/11/2021	3/18/2020
Perfluorobutanoic Acid (PFBA)	--	<20	10 U	<9.9	<10	<11	<10	<19
Perfluoropentanoic Acid (PFPeA)	--	<10	<3.9	<4.0	<4.1	<b>2.2 J</b>	<b>1.8 J</b>	<9.7
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<10	<2.0 I	<2.0 I	<2.0 I	<2.1	<2.0	<9.7
Perfluorohexanoic Acid (PFHxA)	--	<10	<2.0	<2.0	<2.0	<b>1.6 J</b>	<b>1.7 J</b>	<9.7
Perfluorobutane Sulfonic Acid (PFBS)	<b>670,000</b>	<10	<b>5.2</b>	<b>5.0</b>	<b>4.0</b>	<b>6.2</b>	<b>6.9</b>	<b>9.9</b>
Perfluoroheptanoic Acid (PFHpA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluoropentane Sulfonic Acid (PFPeS)	--	<10	<2.0	<b>2.2</b>	<b>2.1</b>	<b>4.1</b>	<b>5.0</b>	<9.7
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<10	<2.0 I	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorooctanoic Acid (PFOA)	<b>170</b>	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorohexane Sulfonic Acid (PFHxS)	--	<10	<b>9.5</b>	<b>9.4</b>	<b>9.1</b>	<b>13</b>	<b>15</b>	<b>25</b>
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<10	<b>7.7</b>	<b>7.7</b>	<b>7.2</b>	<b>11</b>	<b>11</b>	<b>21</b>
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<10	<2.0	<2.0	<2.0	<b>2.4</b>	<b>3.2</b>	<9.7
Perfluorononanoic Acid (PFNA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<10	<2.0 I	<2.0 I	<2.0	<2.1	<2.0	<9.7
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<10	<2.0	<2.0	<2.0	<2.1	<b>2.3</b>	<9.7
Perfluorodecanoic Acid (PFDA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<10	<2.0 I	<2.0	<2.0	<2.1	<2.0	<9.7
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<10	<3.9 I	<4.0 I	<4.0 I	<4.3	<4.1	<9.7
Perfluorooctane Sulfonic Acid (PFOS)	<b>12</b>	<b>29</b>	<b>26</b>	<b>31</b>	<b>33</b>	<b>43</b>	<b>45</b>	<b>160</b>
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	<10	<b>6.2</b>	<b>4.7</b>	<b>4.9</b>	<b>7.2</b>	<b>8.2</b>	<b>62</b>
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	<b>24</b>	<b>19</b>	<b>25</b>	<b>26</b>	<b>34</b>	<b>36</b>	<b>100</b>
Perfluoroundecanoic Acid (PFUnDA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorononane Sulfonic Acid (PFNS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorododecanoic Acid (PFDoDA)	--	<10	<2.0 I	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorodecane Sulfonic Acid (PFDS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorotridecanoic Acid (PFTrDA)	--	<10	<2.0 I	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorooctane Sulfonamide (FOSA)	--	<10	<2.0 I	<2.0 I	<2.0	<2.1	<2.0	<9.7
Perfluorotetradecanoic Acid (PFTeDA)	--	<10	<3.9	<4.0	<4.1	<4.3	<4.1	<9.7
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
<b>Total Per-and Polyfluoroalkyl Substances</b>	--	<b>29.0</b>	<b>50.7</b>	<b>47.6</b>	<b>48.2</b>	<b>70.1</b>	<b>77.7</b>	<b>194.9</b>

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
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- 6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
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- 8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
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**Sanitary Sewer Samples - West of Site**

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-12 (Sanitary Sewer)	SAN-13 (Sanitary Sewer)
	Sample Date:		3/18/2020	6/25/2020	12/18/2020	3/11/2021	3/31/2022	9/7/2022	12/13/2022	4/6/2023	3/19/2020
Perfluorobutanoic Acid (PFBA)	--	--	<20	15 U	<9.8	<10	<10	<10	<9.8	<b>2.6 J</b>	<100
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<4.1	<3.9	<b>7.3</b>	<b>7.1</b>	<4.1	<b>14</b>	<b>4.1</b>	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<2.0 <b>I</b>	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorohexanoic Acid (PFHxA)	--	--	<10	<2.0	<2.0	<b>5.6</b>	<b>6.0</b>	<b>1.6 J</b>	<b>12</b>	<b>4.1</b>	<10
Perfluorobutane Sulfonic Acid (PFBS)	<b>670,000</b>	--	<10	<2.0	<b>2.3</b>	<b>5.6</b>	<b>8.4</b>	<2.0	<b>2.0</b>	<b>5.4</b>	<10
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<2.0	<2.0	<b>1.9 J</b>	<b>2.0 J</b>	<2.0	<2.0	<b>2.4</b>	<10
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<2.0	<2.0	<2.0	<b>5.0</b>	<2.0	<2.0	<b>2.2</b>	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<2.0 <b>I</b>	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorooctanoic Acid (PFOA)	<b>170</b>	--	<10	<2.0	<2.0	<b>5.0</b>	<b>7.0</b>	<2.0	<b>2.6</b>	<b>4.3</b>	<10
Perfluorohexane Sulfonic Acid (PFHxS)	--	--	<b>16</b>	<b>2.1</b>	<b>3.8</b>	<b>5.6</b>	<b>22</b>	<2.0	<b>2.3</b>	<b>15</b>	<b>19</b>
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<b>12</b>	<2.0	<b>2.8</b>	<b>3.6</b>	<b>18</b>	<2.0	<b>1.7 J</b>	<b>12</b>	<b>16</b>
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<2.0	<2.0	<2.0	<b>3.5</b>	<2.0	<2.0	<b>3.2</b>	<10
Perfluorononanoic Acid (PFNA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<b>0.89 J</b>	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0 <b>I</b>	<2.0	<2.0	<10
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<2.0	<2.0	<2.0	<b>4.8</b>	<2.0	<2.0	<b>1.3 J</b>	<10
Perfluorodecanoic Acid (PFDA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<4.1 <b>I</b>	<3.9	<4.1	<4.1	<4.1	<3.9	<3.9	<10
Perfluorooctane Sulfonic Acid (PFOS)	<b>12</b>	--	<b>110</b>	<b>55</b>	<b>55</b>	<b>48</b>	<b>120</b>	<b>19</b>	<b>18</b>	<b>31</b>	<b>150</b>
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	<b>48</b>	<b>32</b>	<b>33</b>	<b>24</b>	<b>50</b>	<b>12</b>	<b>7.2</b>	<b>12</b>	<b>75</b>
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	<b>66</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>69</b>	<b>4.8</b>	<b>10</b>	<b>19</b>	<b>75</b>
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<2.0 <b>I</b>	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorotridecanoic Acid (PFTTrDA)	--	--	<10	<2.0 <b>I</b>	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<4.1	<3.9	<4.1	<4.1	<4.1	<3.9	<3.9	<10
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<10
Hexafluoropropylene oxide dimer (HFPO-DA)	--	--	<10	<2.0	<2.0	<2.0	<4.1	<10	<9.8	<2.0	<10
<b>Total Per-and Polyfluoroalkyl Substances</b>	--	--	<b>126.0</b>	<b>72.1</b>	<b>61.1</b>	<b>79.0</b>	<b>182.3</b>	<b>20.6</b>	<b>50.9</b>	<b>73.3</b>	<b>169.0</b>

- Notes
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  - 4) -- = Not analyzed/No criteria.
  - 5) Dup = Duplicate sample.
  - 6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
  - 7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
  - 8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
  - 9) B - Compound also found in associated method blank.
  - 10) I - Matrix interference with internal standard.
  - 11) J - Estimated value less than reporting limit, but greater than MDL.
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  - 13) Light gray header is most recent sampling event result.
  - 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Per-and Polyfluoroalkyl Substances Sampling Results**  
**Sanitary Sewer Samples - West of Site**

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID: EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)	SAN-14 (Sanitary Sewer)
	Sample Date:	3/19/2020	6/25/2020	12/18/2020	3/11/2021	3/31/2022	9/7/2022	12/13/2022	4/6/2023
Perfluorobutanoic Acid (PFBA)	--	<100	12 U	<10.0	<11	<11	<11	<9.9	<b>4.1 J</b>
Perfluoropentanoic Acid (PFPeA)	--	<10	<b>2.1 J</b>	<b>3.6 J</b>	<b>11</b>	<b>3.2 J</b>	<4.3	<3.9	<b>5.9</b>
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<10	<2.0	<2.0 I	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)	--	<10	<b>1.8 J</b>	<b>3.8</b>	<b>8.0</b>	<b>2.8</b>	<b>2.5</b>	<b>1.5 J</b>	<b>7.4</b>
Perfluorobutane Sulfonic Acid (PFBS)	<b>670,000</b>	<10	<b>2.5</b>	<b>11</b>	<b>10.0</b>	<b>7.6</b>	<b>2.5</b>	<b>3.0</b>	<b>5.9</b>
Perfluoroheptanoic Acid (PFHpA)	--	<10	<b>1.6 J</b>	<b>2.8</b>	<b>5.5</b>	<b>1.6 J</b>	<2.1	<2.0	<b>4.3</b>
Perfluoropentane Sulfonic Acid (PFPeS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<b>1.5 J</b>
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<10	<2.0	<2.0 I	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorooctanoic Acid (PFOA)	<b>170</b>	<10	<b>4.4</b>	<b>9.4</b>	<b>12</b>	<b>4.7</b>	<b>3.2</b>	<2.0	<b>12</b>
Perfluorohexane Sulfonic Acid (PFHxS)	--	<10	<b>2.9</b>	<b>6.2</b>	<b>4.6</b>	<b>3.0</b>	<b>3.3</b>	<b>4.0</b>	<b>4.3</b>
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<10	<b>2.0</b>	<b>4.3</b>	<b>3.4</b>	<b>2.1</b>	<b>2.4</b>	<b>2.6</b>	<b>3.5</b>
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<b>1.3 J</b>
Perfluorononanoic Acid (PFNA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<b>1.3 J</b>
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1 I	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorodecanoic Acid (PFDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<b>0.65 J</b>
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<10	<4.0	<4.0 I	<4.2	<4.2	<4.3	<3.9	<2.0
Perfluorooctane Sulfonic Acid (PFOS)	<b>12</b>	<b>29</b>	<b>23</b>	<b>52</b>	<b>40</b>	<b>15</b>	<b>14</b>	<b>6.3</b>	<b>28</b>
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	<10	<b>9</b>	<b>21</b>	<b>17</b>	<b>3.7</b>	<b>6.6</b>	<b>2.4</b>	<b>9.9</b>
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	<b>20</b>	<b>13</b>	<b>30</b>	<b>23</b>	<b>11</b>	<b>8.1</b>	<b>3.8</b>	<b>18</b>
Perfluoroundecanoic Acid (PFUnDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	<10	<4.0	<4.0	<4.2	<4.2	<4.3	<3.9	<4.0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<10	<2.0	<2.0	<2.1	<4.2	<11	<9.9	<2.0
<b>Total Per-and Polyfluoroalkyl Substances</b>	--	<b>29.0</b>	<b>50.3</b>	<b>88.8</b>	<b>91.1</b>	<b>37.9</b>	<b>25.5</b>	<b>14.8</b>	<b>75.4</b>

Notes

- 1) Detections in **bold**.
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- 4) -- = Not analyzed/No criteria.
- 5) Dup = Duplicate sample.
- 6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
- 7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
- 9) B - Compound also found in associated method blank.
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**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Per-and Polyfluoroalkyl Substances Sampling Results**  
**Sanitary Sewer Samples - West of Site**

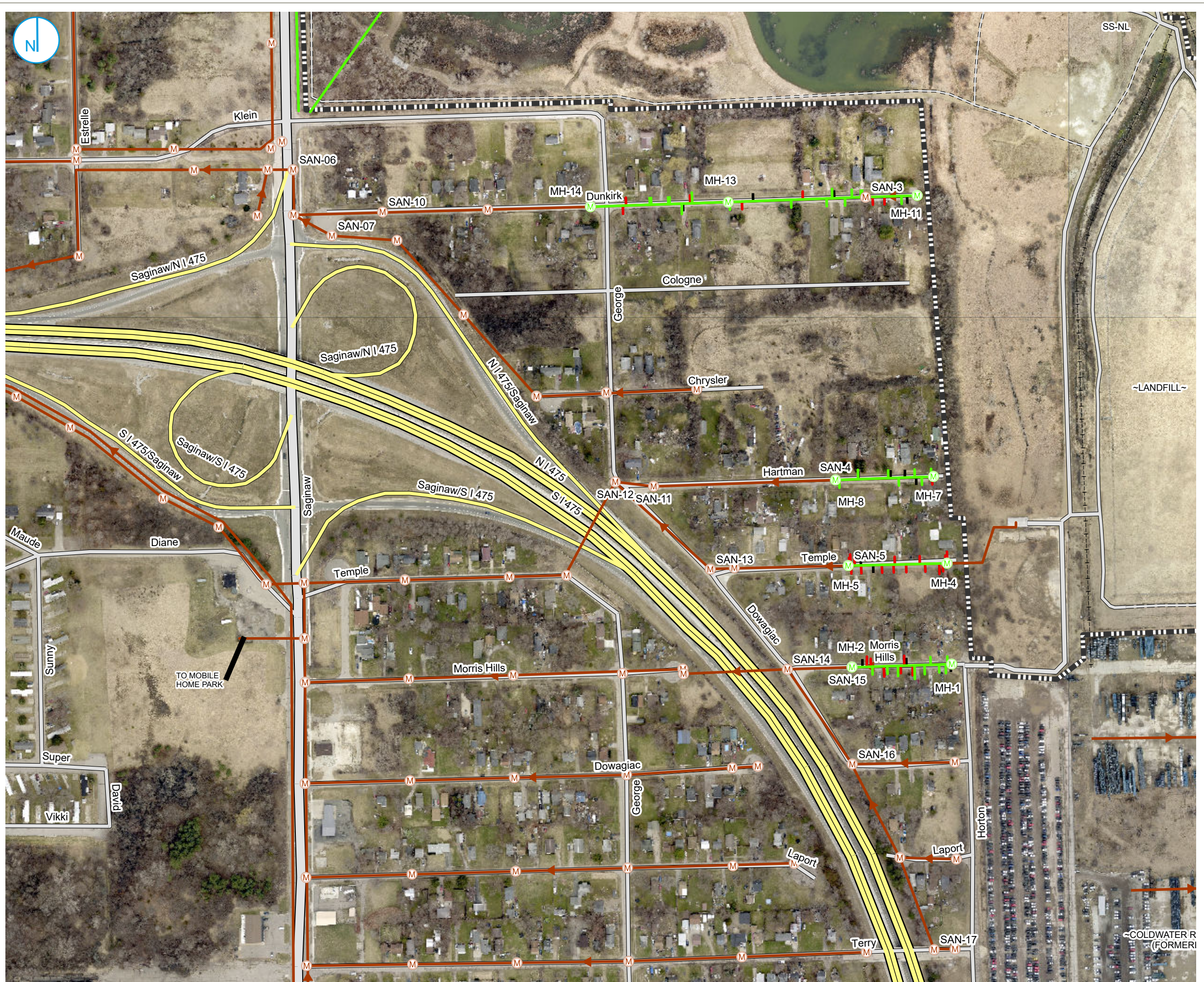
Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID: EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-15 (Sanitary Sewer)	SAN-16 (Sanitary Sewer)	SAN-17 (Sanitary Sewer)	SAN-DUP-1/ SAN-17 (Sanitary Sewer)	SAN-19 (Sanitary Sewer)	SAN-20 (Sanitary Sewer)
	Sample Date:	3/19/2020	3/19/2020	3/19/2020	3/19/2020	3/19/2020	3/19/2020
Perfluorobutanoic Acid (PFBA)	--	<9.8	<100	<9.6	<9.9	<100	<100
Perfluoropentanoic Acid (PFPeA)	--	<9.8	<10	<9.6	<9.9	<10	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexanoic Acid (PFHxA)	--	<9.8	<10	<9.6	<9.9	<10	<b>10</b>
Perfluorobutane Sulfonic Acid (PFBS)	<b>670,000</b>	<9.8	<b>12</b>	<9.6	<9.9	<10	<10
Perfluoroheptanoic Acid (PFHpA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluoropentane Sulfonic Acid (PFPeS)	--	<9.8	<10	<9.6	<9.9	<10	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorooctanoic Acid (PFOA)	<b>170</b>	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexane Sulfonic Acid (PFHxS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorononanoic Acid (PFNA)	--	<9.8	<10	<9.6	<9.9	<10	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorodecanoic Acid (PFDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<9.8	<10	<9.6	<9.9	<10	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorooctane Sulfonic Acid (PFOS)	<b>12</b>	<b>35</b>	<b>13</b>	<9.6	<9.9	<10	<b>11</b>
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	<b>12</b>	<10	<9.6	<9.9	<10	<10
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	<b>20</b>	<10	<9.6	<9.9	<10	<10
Perfluoroundecanoic Acid (PFUnDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorononane Sulfonic Acid (PFNS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorododecanoic Acid (PFDoDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorodecane Sulfonic Acid (PFDS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorotridecanoic Acid (PFTriDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorooctane Sulfonamide (FOSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorotetradecanoic Acid (PFTeDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	<9.8	<10	<9.6	<9.9	<10	<10
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	<9.8	<10	<9.6	<9.9	<10	<10
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<9.8	<10	<9.6	<9.9	<10	<10
<b>Total Per-and Polyfluoroalkyl Substances</b>	--	<b>35.0</b>	<b>25.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>21.0</b>

Notes

- 1) Detections in **bold**.
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- 6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
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- 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

**FIGURES**



- M SANITARY SEWER MANHOLE
- M SANITARY SEWER MANHOLE LINED
- NO LINER VIDEO
- LINED
- CONTRACTOR INDICATES LINED; NO VIDEO TO CONFIRM
- - - CAPPED LATERAL



**SANITARY SEWER / MANHOLE  
SAMPLE LOCATIONS**

**RACER TRUST**  
COLDWATER ROAD  
FLINT, MICHIGAN

**FIGURE 01**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.  
A RAMBOLL COMPANY





**ATTACHMENT A  
LABORATORY ANALYTICAL REPORTS**



# Analytical Laboratory Report

Report ID: S47144.01(01)  
Generated on 05/03/2023

## Report to

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Attention: Clifford Yantz  
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Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:  
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## Report Summary

---

Lab Sample ID(s): S47144.01-S47144.04  
Project: RACER Coldwater Road  
Collected Date(s): 04/06/2023  
Submitted Date/Time: 04/06/2023 14:10  
Sampled by: Kevin Schneider  
P.O. #: 1940006516 TASK 36

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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 and acrylonitrile, and 2-chloroethylvinyl 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.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

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

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There is no additional narrative for this analytical report



# Analytical Laboratory 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
B	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
H	Sample submitted and run outside of holding time
I	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
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	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



# Analytical Laboratory Report

## Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

## 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
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-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



# Analytical Laboratory Report

## Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S47144.01	SAN-06	Liquid	04/06/23 11:37
S47144.02	SAN-12	Liquid	04/06/23 11:52
S47144.03	SAN-14	Liquid	04/06/23 12:05
S47144.04	Field Blank-040623	Liquid	04/06/23 12:20



# Analytical Laboratory Report

Lab Sample ID: S47144.01

Sample Tag: SAN-06

Collected Date/Time: 04/06/2023 11:37

Matrix: Liquid

COC Reference: 093022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.45/6.47/12	ASTMD7979-19M	04/18/23 15:00	AB	

### Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/19/23 19:53, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	2.8	10	1.6	ng/L	2.01	375-22-4	J
PFPeA*	3.1	4.0	0.80	ng/L	2.01	2706-90-3	J
4:2 FTSA*	Not detected	2.0	0.80	ng/L	2.01	757124-72-4	
PFHxA*	3.2	2.0	0.40	ng/L	2.01	307-24-4	
PFBS*	5.8	2.0	0.80	ng/L	2.01	375-73-5	
PFHpA*	1.9	2.0	1.0	ng/L	2.01	375-85-9	J
PFPeS*	3.3	2.0	0.80	ng/L	2.01	2706-91-4	
6:2 FTSA*	Not detected	2.0	1.2	ng/L	2.01	27619-97-2	
PFOA*	3.0	2.0	1.6	ng/L	2.01	335-67-1	
PFHxS*	10	2.0	1.2	ng/L	2.01	355-46-4	
PFHxS-LN*	8.2	2.0	1.2	ng/L	2.01	355-46-4-LN	
PFHxS-BR*	2.6	2.0	1.2	ng/L	2.01	355-46-4-BR	
PFNA*	1.1	2.0	0.80	ng/L	2.01	375-95-1	J
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.01	39108-34-4	
PFHpS*	1.4	2.0	1.2	ng/L	2.01	375-92-8	J
PFDA*	0.76	2.0	0.60	ng/L	2.01	335-76-2	J
N-MeFOSAA*	2.7	2.0	1.4	ng/L	2.01	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	32	2.0	1.2	ng/L	2.01	1763-23-1	
PFOS-LN*	7.0	2.0	1.2	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	25	2.0	1.2	ng/L	2.01	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.0	ng/L	2.01	2058-94-8	
PFNS*	Not detected	2.0	1.0	ng/L	2.01	68259-12-1	
PFDoDA*	1.2	2.0	0.60	ng/L	2.01	307-55-1	J
PFDS*	Not detected	2.0	1.2	ng/L	2.01	335-77-3	
PFTTrDA*	Not detected	2.0	1.0	ng/L	2.01	72629-94-8	
FOSA*	Not detected	2.0	0.80	ng/L	2.01	754-91-6	
PFTeDA*	Not detected	4.0	0.40	ng/L	2.01	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	0.80	ng/L	2.01	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	0.80	ng/L	2.01	756426-58-1	
ADONA*	Not detected	2.0	1.0	ng/L	2.01	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.01	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL



# Analytical Laboratory Report

Lab Sample ID: S47144.02

Sample Tag: SAN-12

Collected Date/Time: 04/06/2023 11:52

Matrix: Liquid

COC Reference: 093022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.62/6.53/12	ASTMD7979-19M	04/18/23 15:00	AB	

### Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/19/23 20:13, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	2.6	9.9	1.6	ng/L	1.97	375-22-4	J
PFPeA*	4.1	3.9	0.79	ng/L	1.97	2706-90-3	
4:2 FTSA*	Not detected	2.0	0.79	ng/L	1.97	757124-72-4	
PFHxA*	4.1	2.0	0.39	ng/L	1.97	307-24-4	
PFBS*	5.4	2.0	0.79	ng/L	1.97	375-73-5	
PFHpA*	2.4	2.0	0.99	ng/L	1.97	375-85-9	
PFPeS*	2.2	2.0	0.79	ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	2.0	1.2	ng/L	1.97	27619-97-2	
PFOA*	4.3	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	15	2.0	1.2	ng/L	1.97	355-46-4	
PFHxS-LN*	12	2.0	1.2	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	3.2	2.0	1.2	ng/L	1.97	355-46-4-BR	
PFNA*	0.89	2.0	0.79	ng/L	1.97	375-95-1	J
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.97	39108-34-4	
PFHpS*	1.3	2.0	1.2	ng/L	1.97	375-92-8	J
PFDA*	Not detected	2.0	0.59	ng/L	1.97	335-76-2	
N-MeFOSAA*	Not detected	2.0	1.4	ng/L	1.97	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.97	2991-50-6	
PFOS*	31	2.0	1.2	ng/L	1.97	1763-23-1	
PFOS-LN*	12	2.0	1.2	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	19	2.0	1.2	ng/L	1.97	1763-23-1-BR	
PFUnDA*	Not detected	2.0	0.99	ng/L	1.97	2058-94-8	
PFNS*	Not detected	2.0	0.99	ng/L	1.97	68259-12-1	
PFDODA*	Not detected	2.0	0.59	ng/L	1.97	307-55-1	
PFDS*	Not detected	2.0	1.2	ng/L	1.97	335-77-3	
PFTTrDA*	Not detected	2.0	0.99	ng/L	1.97	72629-94-8	
FOSA*	Not detected	2.0	0.79	ng/L	1.97	754-91-6	
PFTeDA*	Not detected	3.9	0.39	ng/L	1.97	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	0.79	ng/L	1.97	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	0.79	ng/L	1.97	756426-58-1	
ADONA*	Not detected	2.0	0.99	ng/L	1.97	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.97	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL



# Analytical Laboratory Report

Lab Sample ID: S47144.03

Sample Tag: SAN-14

Collected Date/Time: 04/06/2023 12:05

Matrix: Liquid

COC Reference: 093022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.07/6.51/11	ASTMD7979-19M	04/18/23 15:00	AB	

### Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/19/23 20:52, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	4.1	9.9	1.6	ng/L	1.98	375-22-4	J
PFPeA*	5.9	4.0	0.79	ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0	0.79	ng/L	1.98	757124-72-4	
PFHxA*	7.4	2.0	0.40	ng/L	1.98	307-24-4	
PFBS*	5.9	2.0	0.79	ng/L	1.98	375-73-5	
PFHpA*	4.3	2.0	0.99	ng/L	1.98	375-85-9	
PFPeS*	1.5	2.0	0.79	ng/L	1.98	2706-91-4	J
6:2 FTSA*	Not detected	2.0	1.2	ng/L	1.98	27619-97-2	
PFOA*	12	2.0	1.6	ng/L	1.98	335-67-1	
PFHxS*	4.3	2.0	1.2	ng/L	1.98	355-46-4	
PFHxS-LN*	3.5	2.0	1.2	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	1.3	2.0	1.2	ng/L	1.98	355-46-4-BR	J
PFNA*	1.3	2.0	0.79	ng/L	1.98	375-95-1	J
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0	1.2	ng/L	1.98	375-92-8	
PFDA*	0.65	2.0	0.59	ng/L	1.98	335-76-2	J
N-MeFOSAA*	Not detected	2.0	1.4	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.98	2991-50-6	
PFOS*	28	2.0	1.2	ng/L	1.98	1763-23-1	
PFOS-LN*	9.9	2.0	1.2	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	18	2.0	1.2	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	0.99	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	0.99	ng/L	1.98	68259-12-1	
PFDoDA*	Not detected	2.0	0.59	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	1.2	ng/L	1.98	335-77-3	
PFTTrDA*	Not detected	2.0	0.99	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	0.79	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	0.40	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	0.79	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	0.79	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	0.99	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.98	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL



# Analytical Laboratory Report

Lab Sample ID: S47144.04

Sample Tag: Field Blank-040623

Collected Date/Time: 04/06/2023 12:20

Matrix: Liquid

COC Reference: 093022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.99/6.48/13	ASTMD7979-19M	04/18/23 15:00	AB	

### Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/19/23 19:34, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	1.6	ng/L	2	375-22-4	
PFPeA*	Not detected	4.0	0.80	ng/L	2	2706-90-3	
4:2 FTSA*	Not detected	2.0	0.80	ng/L	2	757124-72-4	
PFHxA*	Not detected	2.0	0.40	ng/L	2	307-24-4	
PFBS*	Not detected	2.0	0.80	ng/L	2	375-73-5	
PFHpA*	Not detected	2.0	1.0	ng/L	2	375-85-9	
PFPeS*	Not detected	2.0	0.80	ng/L	2	2706-91-4	
6:2 FTSA*	Not detected	2.0	1.2	ng/L	2	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	Not detected	2.0	1.2	ng/L	2	355-46-4	
PFHxS-LN*	Not detected	2.0	1.2	ng/L	2	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.2	ng/L	2	355-46-4-BR	
PFNA*	Not detected	2.0	0.80	ng/L	2	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2	39108-34-4	
PFHpS*	Not detected	2.0	1.2	ng/L	2	375-92-8	
PFDA*	Not detected	2.0	0.60	ng/L	2	335-76-2	
N-MeFOSAA*	Not detected	2.0	1.4	ng/L	2	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2	2991-50-6	
PFOS*	Not detected	2.0	1.2	ng/L	2	1763-23-1	
PFOS-LN*	Not detected	2.0	1.2	ng/L	2	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.2	ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.0	ng/L	2	2058-94-8	
PFNS*	Not detected	2.0	1.0	ng/L	2	68259-12-1	
PFDoDA*	Not detected	2.0	0.60	ng/L	2	307-55-1	
PFDS*	Not detected	2.0	1.2	ng/L	2	335-77-3	
PFTTrDA*	Not detected	2.0	1.0	ng/L	2	72629-94-8	
FOSA*	Not detected	2.0	0.80	ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0	0.40	ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	0.80	ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	0.80	ng/L	2	756426-58-1	
ADONA*	Not detected	2.0	1.0	ng/L	2	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2	13252-13-6	

# Merit Laboratories Login Checklist

Lab Set ID:S47144

Attention: Clifford Yantz  
Address: Ramboll Americas  
2090 Commonwealth Blvd  
Ann Arbor, MI 48105

Client:RAMBOLL (Ramboll Americas - East Lansing, MI)

Project: RACER Coldwater Road

Submitted:04/06/2023 14:10 Login User: MMC

Phone: 313-333-0211 FAX:  
Email: Clifford.Yantz@ramboll.com

Selection	Description	Note
-----------	-------------	------

## Sample Receiving

- |     |  |  |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 4.8 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped  |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

## Chain of Custody

- |     |  |  |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab   |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC          |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

## Preservation

- |     |  |   |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation        |
| 11. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?    |

## Bottle Conditions

- |     |  |   |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                            |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used       |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                            |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received             |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration         |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time         |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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: \_\_\_\_\_





# Quality Control Report

Report ID: QC-S47144-01  
Generated on 05/03/2023

Report to

Attention: Clifford Yantz  
Ramboll Americas  
2090 Commonwealth Blvd  
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S47144.01-S47144.04  
Project: RACER Coldwater Road  
Submitted Date/Time: 04/06/2023 14:10  
Sampled by: Kevin Schneider  
P.O. #: 1940006516 TASK 36

QC Report Sections

- Cover Page (Page 1)
- Analysis Summary (Pages 2-5)
- Prep Batch Summary (Page 6)
- Internal Standards per Lab Sample (Pages 7-10)
- Internal Standards per QC Sample (Pages 11-15)
- Batch QC Results (Pages 16-20)

Report Flag Descriptions

- \*: QC result is outside of indicated control limits
- W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

Lab Sample ID: S47144.01

Sample Tag: SAN-06

Collected Date/Time: 04/06/2023 11:37

Matrix: Liquid

COC Reference: 093022

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
28 PFAs	ASTMD7979-19M	04/19/23 19:53	SE230419	PF230418W3	Yes	BLK/LCS/LCSD/MS/DU

# QC Report - Analysis Summary

Lab Sample ID: S47144.02

Sample Tag: SAN-12

Collected Date/Time: 04/06/2023 11:52

Matrix: Liquid

COC Reference: 093022

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
28 PFAs	ASTMD7979-19M	04/19/23 20:13	SE230419	PF230418W3	Yes	BLK/LCS/LCSD/MS/DU

# QC Report - Analysis Summary

Lab Sample ID: S47144.03

Sample Tag: SAN-14

Collected Date/Time: 04/06/2023 12:05

Matrix: Liquid

COC Reference: 093022

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
28 PFAs	ASTMD7979-19M	04/19/23 20:52	SE230419	PF230418W3	Yes	BLK/LCS/LCSD/MS/DU

# QC Report - Analysis Summary

Lab Sample ID: S47144.04

Sample Tag: Field Blank-040623

Collected Date/Time: 04/06/2023 12:20

Matrix: Liquid

COC Reference: 093022

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
28 PFAs	ASTMD7979-19M	04/19/23 19:34	SE230419	PF230418W3	Yes	BLK/LCS/LCSD/MS/DU

# QC Report - Prep Batch Summary

## Organics - Volatiles, Prep Batch ID: PF230418W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S47144.01	28 PFAs	ASTMD7979-19M	04/19/23 19:53	SE230419
S47144.02	28 PFAs	ASTMD7979-19M	04/19/23 20:13	SE230419
S47144.03	28 PFAs	ASTMD7979-19M	04/19/23 20:52	SE230419
S47144.04	28 PFAs	ASTMD7979-19M	04/19/23 19:34	SE230419

# QC Report - Internal Standards per Lab Sample

Lab Sample ID: S47144.01

Sample Tag: SAN-06

Collected Date/Time: 04/06/2023 11:37

Matrix: Liquid

COC Reference: 093022

## Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: SE230419, Run Date: 04/19/2023 19:53, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		<b>98.3</b>	50.0	150.0
M2-6:2FTSA		<b>93.9</b>	50.0	150.0
M2-8:2FTSA		<b>103.6</b>	50.0	150.0
M2PFTeDA		<b>94.9</b>	12.0	218.0
M3PFBS		<b>106.6</b>	50.0	150.0
M3PFHxS		<b>104.3</b>	50.0	150.0
M4PFHpA		<b>102.0</b>	50.0	150.0
M5PFHxA		<b>110.4</b>	50.0	150.0
M5PFPeA		<b>110.8</b>	50.0	150.0
M6PFDA		<b>111.5</b>	50.0	150.0
M7PFUnDA		<b>112.0</b>	50.0	150.0
M8FOSA		<b>105.1</b>	50.0	150.0
M8PFOA		<b>106.0</b>	50.0	150.0
M8PFOS		<b>108.5</b>	50.0	150.0
M9-PFNA		<b>107.2</b>	50.0	150.0
MPFBA		<b>116.2</b>	50.0	150.0
MPFDoDA		<b>105.3</b>	50.0	150.0
d3N-MeFOSAA		<b>99.9</b>	50.0	150.0
d5EtFOSAA		<b>106.8</b>	50.0	150.0
MHFPO-DA		<b>109.9</b>	50.0	150.0

# QC Report - Internal Standards per Lab Sample

Lab Sample ID: S47144.02

Sample Tag: SAN-12

Collected Date/Time: 04/06/2023 11:52

Matrix: Liquid

COC Reference: 093022

## Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: SE230419, Run Date: 04/19/2023 20:13, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		115.9	50.0	150.0
M2-6:2FTSA		106.8	50.0	150.0
M2-8:2FTSA		94.1	50.0	150.0
M2PFTeDA		101.3	12.0	218.0
M3PFBS		108.2	50.0	150.0
M3PFHxS		109.1	50.0	150.0
M4PFHpA		105.4	50.0	150.0
M5PFHxA		108.8	50.0	150.0
M5PFPeA		111.7	50.0	150.0
M6PFDA		110.5	50.0	150.0
M7PFUnDA		112.1	50.0	150.0
M8FOSA		105.7	50.0	150.0
M8PFOA		110.9	50.0	150.0
M8PFOS		106.9	50.0	150.0
M9-PFNA		104.5	50.0	150.0
MPFBA		119.1	50.0	150.0
MPFDoDA		116.7	50.0	150.0
d3N-MeFOSAA		101.9	50.0	150.0
d5EtFOSAA		111.0	50.0	150.0
MHFPO-DA		111.1	50.0	150.0

# QC Report - Internal Standards per Lab Sample

Lab Sample ID: S47144.03

Sample Tag: SAN-14

Collected Date/Time: 04/06/2023 12:05

Matrix: Liquid

COC Reference: 093022

## Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: SE230419, Run Date: 04/19/2023 20:52, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		97.0	50.0	150.0
M2-6:2FTSA		89.5	50.0	150.0
M2-8:2FTSA		112.5	50.0	150.0
M2PFTeDA		111.4	12.0	218.0
M3PFBS		109.1	50.0	150.0
M3PFHxS		108.2	50.0	150.0
M4PFHpA		110.1	50.0	150.0
M5PFHxA		111.1	50.0	150.0
M5PFPeA		114.5	50.0	150.0
M6PFDA		119.3	50.0	150.0
M7PFUnDA		115.5	50.0	150.0
M8FOSA		113.0	50.0	150.0
M8PFOA		106.1	50.0	150.0
M8PFOS		116.7	50.0	150.0
M9-PFNA		106.5	50.0	150.0
MPFBA		119.6	50.0	150.0
MPFDoDA		122.0	50.0	150.0
d3N-MeFOSAA		101.9	50.0	150.0
d5EtFOSAA		110.9	50.0	150.0
MHFPO-DA		110.0	50.0	150.0

# QC Report - Internal Standards per Lab Sample

Lab Sample ID: S47144.04

Sample Tag: Field Blank-040623

Collected Date/Time: 04/06/2023 12:20

Matrix: Liquid

COC Reference: 093022

## Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: SE230419, Run Date: 04/19/2023 19:34, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		110.1	50.0	150.0
M2-6:2FTSA		107.6	50.0	150.0
M2-8:2FTSA		111.3	50.0	150.0
M2PFTeDA		108.5	12.0	218.0
M3PFBS		111.0	50.0	150.0
M3PFHxS		110.2	50.0	150.0
M4PFHpA		103.6	50.0	150.0
M5PFHxA		109.1	50.0	150.0
M5PFPeA		112.3	50.0	150.0
M6PFDA		113.3	50.0	150.0
M7PFUnDA		110.8	50.0	150.0
M8FOSA		111.5	50.0	150.0
M8PFOA		107.2	50.0	150.0
M8PFOS		112.6	50.0	150.0
M9-PFNA		110.7	50.0	150.0
MPFBA		110.9	50.0	150.0
MPFDoDA		118.9	50.0	150.0
d3N-MeFOSAA		107.1	50.0	150.0
d5EtFOSAA		110.0	50.0	150.0
MHFPO-DA		111.4	50.0	150.0

## QC Report - Internal Standards per QC Sample

**Organics - Volatiles, Prep Batch ID: PF230418W3**

QC Types: BLK/LCS/LCSD/MS/DUP

**Blank (BLK)**

Lab Sample ID: SE230419.BLK230418W

Run in Batch: SE230419, Run Date: 04/19/2023 17:17, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		<b>108.8</b>	50.0	150.0
M2-6:2FTSA		<b>97.3</b>	50.0	150.0
M2-8:2FTSA		<b>112.0</b>	50.0	150.0
M2PFTeDA		<b>123.3</b>	12.0	218.0
M3PFBS		<b>106.3</b>	50.0	150.0
M3PFHxS		<b>104.3</b>	50.0	150.0
M4PFHpA		<b>101.9</b>	50.0	150.0
M5PFHxA		<b>104.3</b>	50.0	150.0
M5PFPeA		<b>107.0</b>	50.0	150.0
M6PFDA		<b>103.2</b>	50.0	150.0
M7PFUnDA		<b>103.4</b>	50.0	150.0
M8FOSA		<b>105.1</b>	50.0	150.0
M8PFOA		<b>104.4</b>	50.0	150.0
M8PFOS		<b>111.1</b>	50.0	150.0
M9-PFNA		<b>107.1</b>	50.0	150.0
MPFBA		<b>107.3</b>	50.0	150.0
MPFDoDA		<b>117.6</b>	50.0	150.0
d3N-MeFOSAA		<b>103.9</b>	50.0	150.0
d5EtFOSAA		<b>107.0</b>	50.0	150.0
MHFPO-DA		<b>109.0</b>	50.0	150.0

# QC Report - Internal Standards per QC Sample

## Laboratory Control Sample (LCS)

Lab Sample ID: SE230419.LCS230418WR

Run in Batch: SE230419, Run Date: 04/20/2023 12:39, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		77.2	50.0	150.0
M2-6:2FTSA		72.2	50.0	150.0
M2-8:2FTSA		85.6	50.0	150.0
M2PFTeDA		112.1	12.0	218.0
M3PFBS		77.5	50.0	150.0
M3PFHxS		77.7	50.0	150.0
M4PFHpA		75.9	50.0	150.0
M5PFHxA		74.2	50.0	150.0
M5PFPeA		82.2	50.0	150.0
M6PFDA		86.4	50.0	150.0
M7PFUnDA		92.4	50.0	150.0
M8FOSA		99.4	50.0	150.0
M8PFOA		75.8	50.0	150.0
M8PFOS		82.8	50.0	150.0
M9-PFNA		76.3	50.0	150.0
MPFBA		81.1	50.0	150.0
MPFDoDA		95.9	50.0	150.0
d3N-MeFOSAA		69.8	50.0	150.0
d5EtFOSAA		68.5	50.0	150.0
MHFPO-DA		83.3	50.0	150.0

# QC Report - Internal Standards per QC Sample

## Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: SE230419.LCSD230418W, Parent Sample ID: SE230419.LCS230418WR

Run in Batch: SE230419, Run Date: 04/19/2023 16:58, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		<b>106.0</b>	50.0	150.0
M2-6:2FTSA		<b>107.7</b>	50.0	150.0
M2-8:2FTSA		<b>107.2</b>	50.0	150.0
M2PFTeDA		<b>97.3</b>	12.0	218.0
M3PFBS		<b>107.5</b>	50.0	150.0
M3PFHxS		<b>107.5</b>	50.0	150.0
M4PFHpA		<b>107.6</b>	50.0	150.0
M5PFHxA		<b>104.4</b>	50.0	150.0
M5PFPeA		<b>108.1</b>	50.0	150.0
M6PFDA		<b>108.2</b>	50.0	150.0
M7PFUnDA		<b>108.7</b>	50.0	150.0
M8FOSA		<b>106.8</b>	50.0	150.0
M8PFOA		<b>105.8</b>	50.0	150.0
M8PFOS		<b>107.4</b>	50.0	150.0
M9-PFNA		<b>105.2</b>	50.0	150.0
MPFBA		<b>106.8</b>	50.0	150.0
MPFDoDA		<b>108.3</b>	50.0	150.0
d3N-MeFOSAA		<b>95.3</b>	50.0	150.0
d5EtFOSAA		<b>102.9</b>	50.0	150.0
MHFPO-DA		<b>108.2</b>	50.0	150.0

# QC Report - Internal Standards per QC Sample

## Matrix Spike (MS)

Lab Sample ID: SE230419.4714301M, Parent Sample ID: S47143.01

Run in Batch: SE230419, Run Date: 04/19/2023 18:16, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		<b>107.9</b>	50.0	150.0
M2-6:2FTSA		<b>99.1</b>	50.0	150.0
M2-8:2FTSA		<b>122.6</b>	50.0	150.0
M2PFTeDA		<b>139.0</b>	12.0	218.0
M3PFBS		<b>114.5</b>	50.0	150.0
M3PFHxS		<b>107.5</b>	50.0	150.0
M4PFHpA		<b>104.9</b>	50.0	150.0
M5PFHxA		<b>118.2</b>	50.0	150.0
M5PFPeA		<b>118.9</b>	50.0	150.0
M6PFDA		<b>123.3</b>	50.0	150.0
M7PFUnDA		<b>119.8</b>	50.0	150.0
M8FOSA		<b>115.4</b>	50.0	150.0
M8PFOA		<b>109.0</b>	50.0	150.0
M8PFOS		<b>112.2</b>	50.0	150.0
M9-PFNA		<b>111.5</b>	50.0	150.0
MPFBA		<b>124.7</b>	50.0	150.0
MPFDoDA		<b>127.1</b>	50.0	150.0
d3N-MeFOSAA		<b>104.8</b>	50.0	150.0
d5EtFOSAA		<b>111.4</b>	50.0	150.0
MHFPO-DA		<b>116.8</b>	50.0	150.0

# QC Report - Internal Standards per QC Sample

## Duplicate (DUP)

Lab Sample ID: SE230419.4714402D, Parent Sample ID: S47144.02

Run in Batch: SE230419, Run Date: 04/19/2023 20:32, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		<b>93.9</b>	50.0	150.0
M2-6:2FTSA		<b>91.1</b>	50.0	150.0
M2-8:2FTSA		<b>104.6</b>	50.0	150.0
M2PFTeDA		<b>82.1</b>	12.0	218.0
M3PFBS		<b>108.2</b>	50.0	150.0
M3PFHxS		<b>107.9</b>	50.0	150.0
M4PFHpA		<b>103.6</b>	50.0	150.0
M5PFHxA		<b>111.5</b>	50.0	150.0
M5PFPeA		<b>113.7</b>	50.0	150.0
M6PFDA		<b>111.4</b>	50.0	150.0
M7PFUnDA		<b>111.6</b>	50.0	150.0
M8FOSA		<b>105.1</b>	50.0	150.0
M8PFOA		<b>106.8</b>	50.0	150.0
M8PFOS		<b>111.5</b>	50.0	150.0
M9-PFNA		<b>110.1</b>	50.0	150.0
MPFBA		<b>121.9</b>	50.0	150.0
MPFDoDA		<b>113.6</b>	50.0	150.0
d3N-MeFOSAA		<b>104.3</b>	50.0	150.0
d5EtFOSAA		<b>105.1</b>	50.0	150.0
MHFPO-DA		<b>112.2</b>	50.0	150.0

# QC Report - Batch QC Results

**Organics - Volatiles, Prep Batch ID: PF230418W3**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

**Blank (BLK)**

Lab Sample ID: SE230419.BLK230418W

Run in Batch: SE230419, Run Date: 04/19/2023 17:17, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	4	ng/l
PFPPrS		ND	2	ng/l
PFPeA		ND	4	ng/l
PFMBA		ND	2	ng/l
4:2 FTSA		ND	2	ng/l
NFDHA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
HFPO-DA		ND	2	ng/l
PFEESA		ND	2	ng/l
FPePA (5:3 FTCA)		ND	4	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
ADONA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFBSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFNA		ND	2	ng/l
FHpPA (7:3 FTCA)		ND	4	ng/l
PFECHS		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFOS		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS-LN		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFHxSA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTTrDA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
PFTeDA		ND	4	ng/l
FOSA		ND	2	ng/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: PF230418W3 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

**Laboratory Control Sample (LCS)**

Lab Sample ID: SE230419.LCS230418WR

Run in Batch: SE230419, Run Date: 04/20/2023 12:39, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		93.6	70.0	130.0
PFMPA		87.6	70.0	130.0
FPrPA (3:3 FTCA)		89.8	70.0	130.0
PFPPrS		88.6	70.0	130.0
PFPeA		91.0	70.0	130.0
PFMBA		95.0	70.0	130.0
4:2 FTSA		101.8	70.0	130.0
NFDHA		84.4	70.0	130.0
PFHxA		93.2	70.0	130.0
PFBS		90.0	70.0	130.0
HFPO-DA		81.0	70.0	130.0
PFEESA		75.8	70.0	130.0
FPePA (5:3 FTCA)		81.0	70.0	130.0
PFHpA		77.0	70.0	130.0
PFPeS		73.2	70.0	130.0
ADONA		88.4	70.0	130.0
6:2 FTSA		93.6	70.0	130.0
PFBSA		72.6	70.0	130.0
PFOA		85.4	70.0	130.0
PFHxS		84.6	70.0	130.0
PFNA		89.0	70.0	130.0
FHpPA (7:3 FTCA)		87.0	70.0	130.0
PFECHS		105.4	70.0	130.0
8:2 FTSA		101.2	70.0	130.0
PFHpS		84.0	70.0	130.0
N-MeFOSAA		74.8	70.0	130.0
PFDA		83.2	70.0	130.0
PFOS		86.6	70.0	130.0
EtFOSAA		88.0	70.0	130.0
PFUnDA		90.2	70.0	130.0
PFHxSA		78.6	70.0	130.0
9CL-PF3ONS		85.6	70.0	130.0
PFNS		83.8	70.0	130.0
PFDoDA		82.0	70.0	130.0
PFDS		88.2	70.0	130.0
PFTTrDA		71.4	70.0	130.0
11CL-PF3OUdS		106.8	70.0	130.0
PFTeDA		84.6	70.0	130.0
FOSA		89.4	70.0	130.0

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: SE230419.LCSD230418W, Parent Sample ID: SE230419.LCS230418WR

Run in Batch: SE230419, Run Date: 04/19/2023 16:58, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		96.8	70.0	130.0	3.4	30.0
PFMPA		95.2	70.0	130.0	8.3	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: PF230418W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: SE230419.LCSD230418W, Parent Sample ID: SE230419.LCS230418WR

Run in Batch: SE230419, Run Date: 04/19/2023 16:58, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		101.2	70.0	130.0	11.9	30.0
PFPPrS		90.2	70.0	130.0	1.8	30.0
PFPeA		93.0	70.0	130.0	2.2	30.0
PFMBA		92.2	70.0	130.0	3.0	30.0
4:2 FTSA		110.8	70.0	130.0	8.5	30.0
NFDHA		95.6	70.0	130.0	12.4	30.0
PFHxA		101.2	70.0	130.0	8.2	30.0
PFBS		91.0	70.0	130.0	1.1	30.0
HFPO-DA		88.0	70.0	130.0	8.3	30.0
PFEESA		89.8	70.0	130.0	16.9	30.0
FPePA (5:3 FTCA)		81.2	70.0	130.0	0.2	30.0
PFHpA		87.8	70.0	130.0	13.1	30.0
PFPeS		89.4	70.0	130.0	19.9	30.0
ADONA		91.0	70.0	130.0	2.9	30.0
6:2 FTSA		103.4	70.0	130.0	9.9	30.0
PFBSA		95.4	70.0	130.0	27.1	30.0
PFOA		88.6	70.0	130.0	3.7	30.0
PFHxS		89.8	70.0	130.0	6.0	30.0
PFNA		88.0	70.0	130.0	1.1	30.0
FHpPA (7:3 FTCA)		85.4	70.0	130.0	1.9	30.0
PFECHS		102.2	70.0	130.0	3.1	30.0
8:2 FTSA		110.6	70.0	130.0	8.9	30.0
PFHpS		86.6	70.0	130.0	3.0	30.0
N-MeFOSAA		85.8	70.0	130.0	13.7	30.0
PFDA		86.2	70.0	130.0	3.5	30.0
PFOS		89.8	70.0	130.0	3.6	30.0
EtFOSAA		88.4	70.0	130.0	0.5	30.0
PFUnDA		96.2	70.0	130.0	6.4	30.0
PFHxSA		98.4	70.0	130.0	22.4	30.0
9CL-PF3ONS		91.2	70.0	130.0	6.3	30.0
PFNS		85.8	70.0	130.0	2.4	30.0
PFDoDA		88.2	70.0	130.0	7.3	30.0
PFDS		83.8	70.0	130.0	5.1	30.0
PFTTrDA		77.6	70.0	130.0	8.3	30.0
11CL-PF3OUdS		94.4	70.0	130.0	12.3	30.0
PFTeDA		85.2	70.0	130.0	0.7	30.0
FOSA		92.0	70.0	130.0	2.9	30.0

### Matrix Spike (MS)

Lab Sample ID: SE230419.4714301M, Parent Sample ID: S47143.01

Run in Batch: SE230419, Run Date: 04/19/2023 18:16, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1.99

Analyte	Flags	% Rec	LCL	UCL
PFBA		92.5	70.0	130.0
PFPeA		94.5	70.0	130.0
4:2 FTSA		110.6	70.0	130.0
PFHxA		94.5	70.0	130.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: PF230418W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

### Matrix Spike (MS) (continued)

Lab Sample ID: SE230419.4714301M, Parent Sample ID: S47143.01

Run in Batch: SE230419, Run Date: 04/19/2023 18:16, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1.99

Analyte	Flags	% Rec	LCL	UCL
PFBS		89.9	70.0	130.0
PFHpA		93.2	70.0	130.0
PFPeS		91.5	70.0	130.0
6:2 FTSA		110.6	70.0	130.0
PFOA		88.2	70.0	130.0
PFHxS		91.1	70.0	130.0
PFNA		91.5	70.0	130.0
8:2 FTSA		96.5	70.0	130.0
PFHpS		92.5	70.0	130.0
PFDA		84.4	70.0	130.0
N-MeFOSAA		94.5	70.0	130.0
EtFOSAA		86.4	70.0	130.0
PFOS		92.9	70.0	130.0
PFUnDA		96.5	70.0	130.0
PFNS		89.4	70.0	130.0
PFDoDA		87.4	70.0	130.0
PFDS		84.4	70.0	130.0
PFTTrDA		87.4	70.0	130.0
FOSA		99.5	70.0	130.0
PFTeDA		86.4	70.0	130.0
11CL-PF3OUdS		99.5	70.0	130.0
9CL-PF3ONS		97.5	70.0	130.0
ADONA		90.5	70.0	130.0
HFPO-DA		90.5	70.0	130.0

### Duplicate (DUP)

Lab Sample ID: SE230419.4714402D, Parent Sample ID: S47144.02

Run in Batch: SE230419, Run Date: 04/19/2023 20:32, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1.97

Analyte	Flags	RPD	RPD CL
PFBA	J	3.9	30.0
PFPeA		2.4	30.0
4:2 FTSA		NC	30.0
PFHxA		2.4	30.0
PFBS		7.7	30.0
PFHpA		8.7	30.0
PFPeS	J	14.6	30.0
6:2 FTSA		NC	30.0
PFOA		15.0	30.0
PFHxS		6.9	30.0
PFHxS-LN		8.7	30.0
PFHxS-BR		3.1	30.0
PFNA	J	4.4	30.0
8:2 FTSA		NC	30.0
PFHpS	*	200.0	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: PF230418W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

## Duplicate (DUP) (continued)

Lab Sample ID: SE230419.4714402D, Parent Sample ID: S47144.02

Run in Batch: SE230419, Run Date: 04/19/2023 20:32, Prep Date: 04/18/2023, Matrix: WW, Dilution: 1.97

Analyte	Flags	RPD	RPD CL
EtFOSAA		NC	30.0
PFOS		10.2	30.0
PFOS-LN		8.7	30.0
PFOS-BR		5.4	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0



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C.O.C. PAGE # 1 OF 1

093022

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: Kevin Schneider / Clifford Yantz  
 COMPANY: Ramboll  
 ADDRESS: 2090 Commonwealth Blvd  
 CITY: Ann Arbor STATE: MI ZIP CODE: 48105  
 PHONE NO.: 313 333 0211 FAX NO.:  
 P.O. NO.: 194 000651E TASK 36  
 QUOTE NO.:  
 E-MAIL ADDRESS: clifford.yantz@ramboll.com

CONTACT NAME: X SAME  
 COMPANY:  
 ADDRESS:  
 CITY: STATE: ZIP CODE:  
 PHONE NO.: E-MAIL ADDRESS:

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME: RACER Coldwater Road SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider [Signature]

TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER

DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID  
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

# Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	PFAS (7579)	Certifications		Project Locations	Special Instructions	
	DATE	TIME												<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water			
47144.01	4/6/23	1137	SAN-06	L	3	X							X	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES	<input type="checkbox"/> Detroit	<input type="checkbox"/> New York	Please Report Sample 11 Field Blank - 040623 from COL # 153083 in some coolers
.02	↓	1152	SAN-12	L	3	X							X	<input type="checkbox"/> Other				
.03	↓	1205	SAN-14	L	3	X							X					
.04																		

RELINQUISHED BY: [Signature] X Sampler DATE: 4/6/23 TIME: 12:30  
 RECEIVED BY: [Signature] DATE: 4/6/23 TIME: 12:50  
 RELINQUISHED BY: [Signature] DATE: 4/6/23 TIME: 14:10  
 RECEIVED BY: [Signature] DATE: 4/6/23 TIME: 14:10

RELINQUISHED BY: DATE: TIME:  
 SIGNATURE/ORGANIZATION  
 RECEIVED BY: DATE: TIME:  
 SIGNATURE/ORGANIZATION  
 SEAL NO. SEAL INTACT INITIALS NOTES: TEMP. ON ARRIVAL: 4.8  
 YES  NO   
 SEAL NO. SEAL INTACT INITIALS  
 YES  NO

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE