

Town of Coupeville and Fort Casey Treatment Plant (Keystone Hill Well 108)  
 434 Wanamaker Road, Coupeville, WA 98239  
 Sample ID: WI-CV-1RW23-1017  
 Date Collected: October 19, 2017  
 Time Collected: 14:25  
 Validated Results Provided: March 29, 2018

**RECEIVED**  
 APR 09 2018  
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA. The Navy also analyzed for additional parameters for wells with PFAS detections, including select dissolved metals and general water quality parameters. These results are shown below.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

**Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	64.7	70
PFOS and PFOA (cumulative) <sup>1</sup>	64.7	70

<sup>1</sup> Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

**Results for other PFAS where no EPA Health Advisory Levels have been established**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	14.8	Not applicable
Perfluorohexanoic acid (PFHxA)	33.7	Not applicable
Perfluoroheptanoic acid (PFHpA)	10.6	Not applicable
Perfluorohexane sulfonate (PFHxS)	65.2	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

ND – Analyte not detected in the sample

ppt – parts per trillion

#### Results for other chemical parameters

Chemical Name	October 2017
	Result (units mg/L)
<b>Total Metals</b>	
Iron	0.47 U
<b>Dissolved Metals</b>	
Aluminum	0.44 U
Calcium	64 J
Iron	0.47 U
Magnesium	31 J
Manganese	0.043
Potassium	5.1
Silicon	17

J – Analyte present. Value may or may not be accurate or precise.

mg/L – Milligrams per liter

U – The material was analyzed for, but not detected

#### Results for other chemical parameters, unvalidated

Chemical Name	October 2017
	Result (units mg/L)
<b>Wet Chemistry</b>	
Alkalinity	240
Ammonia	0.15 J
Bicarbonate Alkalinity as CaCO <sub>3</sub>	240
Carbonate Alkalinity as CaCO <sub>3</sub>	5.0 U
Chloride	28
Fluoride	0.041 J
Hydroxide Alkalinity as CaCO <sub>3</sub>	5.0 U
Nitrate/Nitrite	2.1
ortho-Phosphate	0.11 H
Sulfate	25
Total dissolved solids (TDS)	390 B
Total suspended solids (TSS)	2.0 U
<b>Wet Chemistry</b>	<b>Result (units CM-1)</b>
UV254	0.0173
<b>Dissolved Wet Chemistry</b>	<b>Result (units mg/L)</b>
Dissolved organic carbon	1.2

These parameters were not validated because the purpose of collection was for drinking water characteristics only.

B – Analyte not detected above the level reported in blanks

CM-1 – Reciprocal centimeters

H – The analyte was analyzed outside of holding time

J – Analyte present. Value may or may not be accurate or precise.

mg/L – Milligrams per liter

U – The material was analyzed for, but not detected



Town of Coupeville and Fort Casey Treatment Plant (Well 487)  
 434 Wanamaker Road, Coupeville, WA 98239  
 Sample ID: WI-CV-1RW24-1017  
 Date Collected: October 19, 2017  
 Time Collected: 15:18  
 Validated Results Provided: March 29, 2018

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 APR 09 2018  
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

**Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) <sup>1</sup>	ND	70

<sup>1</sup> Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

**Results for other PFAS where no EPA Health Advisory Levels have been established**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	5.06 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

ND – Analyte not detected in the sample

ppt – parts per trillion

U-MBL – The analyte was qualified as a non-detect due to potential high bias from the concentration reported in the associated method blank.

Town of Coupeville and Fort Casey Treatment Plant (Well 106)  
 434 Wanamaker Road, Coupeville, WA 98239  
 Sample ID: WI-CV-1RW25-1017  
 Date Collected: October 19, 2017  
 Time Collected: 12:38  
 Validated Results Provided: March 29, 2018

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TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

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**Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels**

Chemical Name	October 2017	Health Advisor (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) <sup>1</sup>	ND	70

<sup>1</sup> Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

**Results for other PFAS where no EPA Health Advisory Levels have been established**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.72 J	Not applicable
Perfluorohexanoic acid (PFHxA)	4.96 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J – Analyte present, but result is estimated

ND – Analyte not detected in the sample

ppt – parts per trillion

U-MBL – The analyte was qualified as a non-detect due to potential high bias from the concentration reported in the associated method blank.



Town of Coupeville and Fort Casey Treatment Plant (Well 190)  
 434 Wanamaker Road, Coupeville, WA 98239  
 Sample ID: WI-CV-1RW26-1017  
 Date Collected: October 19, 2017  
 Time Collected: 13:10  
 Validated Results Provided: March 29, 2018

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APR 09 2018

TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

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**Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) <sup>1</sup>	ND	70

<sup>1</sup> Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

**Results for other PFAS where no EPA Health Advisory Levels have been established**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	4.84 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

N – Analyte not detected in the sample

ppt – parts per trillion

U-MBL – The analyte was qualified as a non-detect due to potential high bias from the concentration reported in the associated method blank.

Town of Coupeville and Fort Casey Treatment Plant (Post Treatment, Distribution Point)  
 434 Wanamaker Road, Coupeville, WA 98239  
 Sample ID: WI-CV-1RW27-1017  
 Date Collected: October 19, 2017  
 Time Collected: 12:10  
 Validated Results Provided: March 29, 2018

RECEIVED  
 APR 09 2018  
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

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If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

**Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	36.8	70
PFOS and PFOA (cumulative) <sup>1</sup>	36.8	70

<sup>1</sup> Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

**Results for other PFAS where no EPA Health Advisory Levels have been established**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	9.46 J	Not applicable
Perfluorohexanoic acid (PFHxA)	19.9	Not applicable
Perfluoroheptanoic acid (PFHpA)	5.31 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	38.8	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-ocatanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J – Analyte present, but result is estimated

ND – Analyte not detected in the sample

ppt – parts per trillion

#### Results for other chemical parameters

Chemical Name	October 2017
	Result (units mg/L)
<b>Total Metals</b>	
Iron	0.47 U
<b>Dissolved Metals</b>	
Aluminum	0.44 U
Calcium	61 J
Iron	0.47 U
Magnesium	34 J
Manganese	0.0044 J
Potassium	6.1
Silicon	17

J – Analyte present, but result is estimated

mg/L – Milligrams per liter

U – The material was analyzed for, but not detected

#### Results for other chemical parameters, unvalidated

Chemical Name	October 2017
	Result (units mg/L)
<b>Wet Chemistry</b>	
Alkalinity	250
Ammonia	0.12 J
Bicarbonate Alkalinity as CaCO <sub>3</sub>	250
Carbonate Alkalinity as CaCO <sub>3</sub>	5.0 U
Chloride	37
Fluoride	0.070 J
Hydroxide Alkalinity as CaCO <sub>3</sub>	5.0 U
Nitrate/Nitrite	2.2
ortho-Phosphate	0.19 H
Sulfate	22
Total dissolved solids (TDS)	420 B

Chemical Name	October 2017
	Result (units mg/L)
Total suspended solids (TSS)	2.0 U
Wet Chemistry	Result (units CM-1)
UV254	0.0243
Dissolved Wet Chemistry	Result (units mg/L)
Dissolved organic carbon	1.7

These parameters were not validated because the purpose of collection was for drinking water characteristics only.

B – Analyte not detected above the level reported in blanks

CM-1 – Reciprocal centimeters

H – The analyte was analyzed outside of holding time

J – Analyte present, but result is estimated

mg/L – Milligrams per liter

U – The material was analyzed for, but not detected



Town of Coupeville and Fort Casey Treatment Plant (Well 287)  
 434 Wanamaker Road, Coupeville, 98239  
 Sample ID: WI-CV-1RW60-1017  
 Date Collected: October 19, 2017  
 Time Collected: 15:30  
 Validated Results Provided: March 29, 2018

RECEIVED  
 APR 09 2018  
 TOWN OF COUPEVILLE

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**Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	5.64 J	70
PFOS and PFOA (cumulative) <sup>1</sup>	5.64 J	70

<sup>1</sup> Only detected values of PFOS and PFOA are summed.

J – Analyte present, but result is estimated

ND – Analyte not detected in the sample

ppt – parts per trillion

**Results for other PFAS where no EPA Health Advisory Levels have been established**

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.11 J	Not applicable
Perfluorohexanoic acid (PFHxA)	5.07 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	0.572 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	5.00 J	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J – Analyte present, but result is estimated

ND – Analyte not detected in the sample

ppt – parts per trillion

U-MBL – The analyte was qualified as a non-detect due to potential high bias from the concentration reported in the associated method blank.



Sample ID: WI-CV-1RW23-1017

EPA Method 537

Client Data			Laboratory Data		
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-12
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 14:25	Date Received:	21-Oct-17 09:30
Location:	DW			Column:	BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.0148	0.000427	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFHxA	0.0337	0.000639	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFHpA	0.0106	0.000514	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFHxS	0.0652	0.000400	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFOA	0.0647	0.00104	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFNA	ND	0.00139	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFOS	ND	0.00100	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFDA	ND	0.00123	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
MeFOSAA	ND	0.00293	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
EFOSAA	ND	0.00186	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFUnA	ND	0.000246	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFDoA	ND	0.000917	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFTriDA	ND	0.000909	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFTeDA	ND	0.000749	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
<b>Labeled Standards</b>										
		Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA		SURR	107	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
13C2-PFIDA		SURR	102	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
d5-EFOSAA		SURR	103	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1

DL - Detection Limit  
 LOD - Limit of Detection  
 LOQ - Limit of quantitation  
 LCL-UCL - Lower control limit - upper control limit  
 Results reported to the DL

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers  
 Only the linear isomer is reported for all other analytes

W1212311+

Sample ID: W1-CV-1RW24-1017

EPA Method 537

**Client Data**  
 Name: CH2M Hill  
 Project: CLEAN CTQ-4041 NASWI  
 Location: DW

**Laboratory Data**  
 Lab Sample: 1701526-14  
 Date Received: 21-Oct-17 09:30  
 Matrix: Drinking Water  
 Date Collected: 19-Oct-17 15:18  
 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.000449	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFHxA	0.00506	0.000671	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFHpA	0.000540	0.000540	0.00506	0.0101	LB	B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFHxS	ND	0.000420	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFOA	0.00109	0.00146	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFNA	ND	0.00105	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFDA	ND	0.00130	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
MeFOSAA	ND	0.00308	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFUnA	ND	0.00195	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFDoA	ND	0.000258	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFTrDA	ND	0.000964	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFTeDA	ND	0.000955	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
Labelled Standards	ND	0.000787	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
13C2-PFHxA			70 - 130			B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
13C2-PFDA			70 - 130			B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
D5-EtFOSAA			70 - 130			B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1

DL - Detection Limit  
 LOD - Limit of Detection  
 LOQ - Limit of quantitation  
 LCL-UCL - Lower control limit - upper control limit  
 Results reported to the DL  
 When reported, PFHxS, PFNA and PFOS include both linear and branched isomers  
 Only the linear isomer is reported for all other analytes

NW1212317

MGL

Sample ID: WI-CV-1RW25-1017

EPA Method 537

Client Data			Matrix:			Laboratory Data			
Name:	CH2M Hill		Drinking Water			Lab Sample:	1701526-08	Column:	BEH C18
Project:	CLEAN CTQ-4041 NAWMI		Date Collected:	19-Oct-17 12:38		Date Received:	21-Oct-17 09:30		
Location:	DW								

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.00172	0.000439	0.00496	0.00991	J	B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHxA	0.000657	0.000657	0.00496	0.00991	LB	B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHpA	0.000528	0.000528	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHxS	0.000411	0.000411	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOA	0.00107	0.00107	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFNA	0.00143	0.00143	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOS	0.00127	0.00127	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFDA	0.00103	0.00103	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
MeFOSAA	0.00301	0.00301	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
EFOSAA	0.00191	0.00191	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOuA	0.000253	0.000253	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFDoA	0.000944	0.000944	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFTDA	0.000935	0.000935	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFTeDA	0.000770	0.000770	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
<b>Labeled Standards</b>										
		Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA		SURR	105	70 - 130		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
13C2-PFDA		SURR	106	70 - 130		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
d5-EFOSAA		SURR	98.8	70 - 130		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1

DL - Detection Limit  
 LOD - Limit of Detection  
 LOQ - Limit of quantitation  
 LCL - UCL - Lower control limit - upper control limit  
 Results reported to the DL  
 When reported, PFHxS, PFOA and PFOS include both linear and branched isomers  
 Only the linear isomer is reported for all other analytes

MBL

W121631.7

Sample ID: WI-CV-1RW26-1017

EPA Method 537

<b>Client Data</b>	Name: CH2M Hill Project: CLEAN CTO-4041 NASWI Location: DW	Matrix: Drinking Water Date Collected: 19-Oct-17 13:10	<b>Laboratory Data</b>	Lab Sample: 1701526-10 Date Received: 21-Oct-17 09:30	Column: B/EH C18
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Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.000428	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFHxA	0.00484	0.000641	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFHpA	ND	0.000515	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFHxS	ND	0.000401	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFOA	ND	0.00104	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFNA	ND	0.00139	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFOA	ND	0.00101	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
MeFOSAA	ND	0.00124	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
EtFOSAA	ND	0.00294	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFUnA	ND	0.00187	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFDA	ND	0.000247	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFTDA	ND	0.000921	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PTeDA	ND	0.000912	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
Labeled Standards	ND	0.000751	0.00484	0.00967		B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
13C2-PFHxA			70 - 130			B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
13C2-PFDA			70 - 130			B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
d5-EFOSAA			70 - 130			B710173	26-Oct-17	0.259 L	01-Nov-17 02:12	1

DL - Detection Limit  
LOD - Limit of Detection  
LOQ - Limit of quantitation  
LCL-UCL - Lower control limit - upper control limit  
Results reported to the DL  
When reported, PFHxS, PFOA and PFOA include both linear and branched isomers  
Only the linear isomer is reported for all other analytes

WI: 212311+



Sample ID: W1-CV-1RW27-1017

EPA Method 537

<b>Client Data</b>		<b>Laboratory Data</b>	
Name: CH2M Hill	Matrix: Drinking Water	Lab Sample: 1701526-06	Column: BEH C18
Project: CLEAN CTO-4041 NAWWI	Date Collected: 19-Oct-17 12:10	Date Received: 21-Oct-17 09:30	
Location: DW			

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBs	0.00946	0.000438	0.00495	0.00989	J	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHxA	0.0199	0.000656	0.00495	0.00989	J B	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHpA	0.00531	0.000527	0.00495	0.00989	J	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHxS	0.0388	0.000411	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFOA	0.0368	0.00107	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFNA	ND	0.00142	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFOS	ND	0.00103	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFDA	ND	0.00127	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
MeFOSAA	ND	0.00301	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
EtFOSAA	ND	0.00191	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFUnA	ND	0.000252	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFDoA	ND	0.000942	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTDA	ND	0.000933	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTeDA	ND	0.000769	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
<b>Labeled Standards</b>	<b>Type</b>	<b>% Recovery</b>	<b>Limits</b>	<b>Qualifiers</b>	<b>Batch</b>	<b>Extracted</b>	<b>Samp Size</b>	<b>Analyzed</b>	<b>Dilution</b>	
13C2-PFHxA	SURR	103	70 - 130		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1	
13C2-PFDa	SURR	97.7	70 - 130		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1	
d5-EFOSAA	SURR	111	70 - 130		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1	

DL - Detection Limit  
 LOD - Limit of Detection  
 LOQ - Limit of quantitation  
 ECL-UCL - Lower control limit - upper control limit  
 Results reported to the DL  
 When reported, PFHxS, PFHpA and PFOS include both linear and branched isomers  
 Only the linear isomer is reported for all other analytes

NW: 212317

Sample ID: WI-CV-1RW60-1017

EPA Method 537

<b>Client Data</b>		<b>Laboratory Data</b>	
Name: CH2M Hill	Matrix: Drinking Water	Lab Sample: 1701526-16	Column: BEH C18
Project: CLEAN CTO-4041 NASSWI	Date Collected: 19-Oct-17 15:30	Date Received: 21-Oct-17 09:30	
Location: DW			

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.00111	0.000449	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFHxA	0.00320	0.000673	0.00507	0.0101	J, B	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFHpA	0.000572	0.000541	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFHxS	0.00500	0.000421	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFOA	0.00564	0.00110	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFNA	ND	0.00146	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFOS	ND	0.00106	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFDA	ND	0.00130	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
MeFOSAA	ND	0.00308	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
EFOSAA	ND	0.00196	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFLuA	ND	0.000259	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFDoA	ND	0.000966	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFTDA	ND	0.000957	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFTeDA	ND	0.000788	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
<b>Labeled Standards</b>	<b>Type</b>	<b>% Recovery</b>	<b>Limits</b>	<b>Qualifiers</b>	<b>Batch</b>	<b>Extracted</b>	<b>Samp Size</b>	<b>Analyzed</b>	<b>Dilution</b>	
13C2-PFHxA	SURR	98.6	70 - 130		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1	
13C2-PFDA	SURR	94.4	70 - 130		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1	
d5-EFOSAA	SURR	111	70 - 130		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1	

DL - Detection Limit  
 LOD - Limit of Detection  
 LOQ - Limit of quantitation  
 LCL, UCL - Lower control limit - upper control limit  
 Results reported to the DL  
 When reported, PFHxS, PFOA and PFOS include both linear and branched isomers  
 Only the linear isomers reported for all other analytes

NW 21231.4

MCL

1 ng/L = 1 ppt  
nanogram(s) per liter = part(s) per trillion

The detection limit (**DL**) is the lowest level at which the laboratory can reliably "see" that this compound is present.  
The limit of detection (**LOD**) is the lowest level at which the laboratory can reliably "see" this compound is **not** present.  
The limit of quantitation (**LOQ**) is the lowest level at which the laboratory can reliably measure this compound with a known degree of confidence and accuracy.

This section contains quality control information used by the data validator.

Client Data		Sample Data		Laboratory Data		EPA Method 537			
<b>Sample ID:</b> WF-RW02-0317 Name: [REDACTED] Project: [REDACTED] Date Collected: [REDACTED] Location: WF-RW02		Matrix: Drinking Water Sample Size: 0.289 L		Lab Sample: [REDACTED] QC Batch: B7C0165 Date Analyzed: 04-Apr-17 15:37 Column: BEH C18		Date Received: 29-Mar-2017 9:21 Date Extracted: 30-Mar-2017 7:50			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-TCL	Qualifiers
PFBS	ND	3.02	8.65	17.3		SUR_13C2-PFHxA	103	70 - 130	
PFOA	6.53	3.93	8.65	17.3	J	SUR_13C2-PFDA	117	70 - 130	
PFOs	ND	2.64	8.65	17.3					

DL - Detection limit  
RL - Reporting limit

LCL-TCL - Lower control limit - upper control limit  
Results reported to DL.  
When reported, PFBS, PFHxS, PFOA and PFOs include both linear and branched isomers.  
Only the linear isomer is reported for all other analytes.

The result for PFBS: **PFBS was not detected in the sample.**  
This is reported as "ND" (Non-Detect).

The result for PFOA: **PFOA was detected in the sample at 6.53 ng/L (6.53 ppt).**  
The "J" qualifier means that the PFOA was detected but the amount detected is estimated.

The result for PFOs: **PFOs was not detected in the sample.**  
This is reported as "ND" (Non-Detect).

This column identifies the data qualifiers that apply to a given result. Possible laboratory qualifiers are:  
**"J" (Estimated Value)** - indicates the value reported for the analyte is below the LOQ and was detected. The value reported is considered estimated.  
**"B" (Blank)** - this compound was also detected in the method blank.  
**"D" (Diluted Sample)** - sample result was taken from a diluted sample.

\*There is not a health advisory level for PFBS; therefore, no action is currently being taken based on this result. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration Program.