



**Groundwater Sample Results,
Electronic Data Deliverable, Data Validation Report,
and the Sample Location Report, SDG 1803361**

*Naval Weapons Industrial Reserve Plant Calverton
Riverhead, New York*

August 2019

"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","375-73-5","PFBS","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","307-24-4","PFHxA","3.00","ng/L","J","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","375-85-9","PFHpA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","355-46-4","PFHxS","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","335-67-1","PFOA","4.61","ng/L","J","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","375-95-1","PFNA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","1763-23-1","PFOS","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","335-76-2","PFDA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","2355-31-9","MeFOSAA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","2991-50-6","EtFOSAA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","2058-94-8","PFUnA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","307-55-1","PFDoA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","72629-94-8","PFTTrDA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","376-06-7","PFTeDA","4.79","ng/L","U","2.91","LOD","","TRG","","","9.58","LOQ","YES","-99","","","0.261","0.001","4.79",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","13C2-PFHxA","13C2-PFHxA","97.9","%R","","-99","NA","","SURRE","97.9","","-99","NA","YES","100","","","0.261","0.001","-99",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","13C2-PFDA","13C2-PFDA","101","%R","","-99","NA","","SURRE","101","","-99","NA","YES","100","","","0.261","0.001","-99",""
"CAL-DW15-20181017","EPA Method 537","Initial","1803361-01","Vista","d5-EtFOSAA","d5-EtFOSAA","78.8","%R","","-99","NA","","SURRE","78.8","","-99","NA","YES","100","","","0.261","0.001","-99",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","375-73-5","PFBS","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","307-24-4","PFHxA","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","375-85-9","PFHpA","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","355-46-4","PFHxS","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","335-67-1","PFOA","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","375-95-1","PFNA","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","1763-23-1","PFOS","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","335-76-2","PFDA","4.77","ng/L","U","2.90","LOD","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","2355-31-

9","MeFOSAA","4.77","ng/L","U","2.90","LOD","","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",
,""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","2991-50-
6","EtFOSAA","4.77","ng/L","U","2.90","LOD","","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",
,""
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","2058-94-
8","PFUnA","4.77","ng/L","U","2.90","LOD","","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","307-55-
1","PFDaA","4.77","ng/L","U","2.90","LOD","","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","72629-94-
8","PFTTrDA","4.77","ng/L","U","2.90","LOD","","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","376-06-
7","PFTeDA","4.77","ng/L","U","2.90","LOD","","","TRG","","","9.54","LOQ","YES","-99","","","0.262","0.001","4.77",
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","13C2-PFHxA","13C2-
PFHxA","89.3","%R","","-99","NA","","","SURR","89.3","","-99","NA","YES","100","","","0.262","0.001","-99",
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","13C2-PFDA","13C2-
PFDA","92.6","%R","","-99","NA","","","SURR","92.6","","-99","NA","YES","100","","","0.262","0.001","-99",
"CAL-DW15-FRB-20181017","EPA Method 537","Initial","1803361-02","Vista","d5-EtFOSAA","d5-
EtFOSAA","95.0","%R","","-99","NA","","","SURR","95.0","","-99","NA","YES","100","","","0.262","0.001","-99",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","375-73-
5","PFBS","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","307-24-
4","PFHxA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","375-85-
9","PFHpA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","355-46-
4","PFHxS","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","335-67-
1","PFOA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","375-95-
1","PFNA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","1763-23-
1","PFOS","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","335-76-
2","PFDA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","2355-31-
9","MeFOSAA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
,""
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","2991-50-
6","EtFOSAA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
,""
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","2058-94-
8","PFUnA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","307-55-
1","PFDaA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","72629-94-
8","PFTTrDA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","376-06-
7","PFTeDA","5.00","ng/L","U","3.04","LOD","","","TRG","","","10.0","LOQ","YES","-99","","","0.250","0.001","5.00",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","86.1","%R","","-99","NA","","","SUR","86.1","","-99","NA","YES","100","","","0.250","0.001","-99",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","13C2-PFDA","13C2-
PFDA","86.2","%R","","-99","NA","","","SUR","86.2","","-99","NA","YES","100","","","0.250","0.001","-99",
"B8J0164-BLK1","EPA Method 537","Initial","B8J0164-BLK1","Vista","d5-EtFOSAA","d5-

EtFOSAA","93.4","%R",,"",-99","NA",,"","SUR","93.4",,"",-99","NA","YES","100",,"","0.250","0.001", "-99",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","375-73-
5","PFBS","73.9","ng/L",,"","3.04","LOD",,"","TRG","104",,"","10.0","LOQ","YES","70.8",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","307-24-
4","PFHxA","79.5","ng/L",,"","3.04","LOD",,"","TRG","99.4",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","375-85-
9","PFHpA","86.5","ng/L",,"","3.04","LOD",,"","TRG","108",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","355-46-
4","PFHxS","76.6","ng/L",,"","3.04","LOD",,"","TRG","105",,"","10.0","LOQ","YES","72.8",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","335-67-
1","PFOA","97.4","ng/L",,"","3.04","LOD",,"","TRG","122",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","375-95-
1","PFNA","87.0","ng/L",,"","3.04","LOD",,"","TRG","109",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","1763-23-
1","PFOS","88.5","ng/L",,"","3.04","LOD",,"","TRG","120",,"","10.0","LOQ","YES","74.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","335-76-
2","PFDA","86.2","ng/L",,"","3.04","LOD",,"","TRG","108",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","2355-31-
9","MeFOSAA","69.7","ng/L",,"","3.04","LOD",,"","TRG","87.2",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","2991-50-
6","EtFOSAA","77.5","ng/L",,"","3.04","LOD",,"","TRG","96.9",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","2058-94-
8","PFUnA","91.8","ng/L",,"","3.04","LOD",,"","TRG","115",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","307-55-
1","PFDoA","101","ng/L",,"","3.04","LOD",,"","TRG","126",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","72629-94-
8","PFTTrDA","93.9","ng/L",,"","3.04","LOD",,"","TRG","117",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","376-06-
7","PFTeDA","76.8","ng/L",,"","3.04","LOD",,"","TRG","96.0",,"","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","91.9","%R",,"",-99","NA",,"","SUR","91.9",,"",-99","NA","YES","100",,"","0.250","0.001", "-99",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","13C2-PFDA","13C2-
PFDA","99.4","%R",,"",-99","NA",,"","SUR","99.4",,"",-99","NA","YES","100",,"","0.250","0.001", "-99",,""
"B8J0164-BS1","EPA Method 537","Initial","B8J0164-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","90.7","%R",,"",-99","NA",,"","SUR","90.7",,"",-99","NA","YES","100",,"","0.250","0.001", "-99",,""
"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","375-73-
5","PFBS","71.1","ng/L",,"","3.04","LOD",,"","TRG","100","3.97","10.0","LOQ","YES","70.8",,"","0.250","0.001","5.00",,""
"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","307-24-
4","PFHxA","78.3","ng/L",,"","3.04","LOD",,"","TRG","97.9","1.55","10.0","LOQ","YES","80.0",,"","0.250","0.001","5.00",,""
"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","375-85-

9","PFHpA","85.1","ng/L","","3.04","LOD","","TRG","106","1.65","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","355-46-4","PFHxS","75.0","ng/L","","3.04","LOD","","TRG","103","2.20","10.0","LOQ","YES","72.8","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","335-67-1","PFOA","95.1","ng/L","","3.04","LOD","","TRG","119","2.33","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","375-95-1","PFNA","80.4","ng/L","","3.04","LOD","","TRG","101","7.86","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","1763-23-1","PFOS","79.3","ng/L","","3.04","LOD","","TRG","107","10.9","10.0","LOQ","YES","74.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","335-76-2","PFDA","79.0","ng/L","","3.04","LOD","","TRG","98.7","8.74","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","2355-31-9","MeFOSAA","74.8","ng/L","","3.04","LOD","","TRG","93.5","7.03","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","2991-50-6","EtFOSAA","83.2","ng/L","","3.04","LOD","","TRG","104","7.01","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","2058-94-8","PFUnA","88.0","ng/L","","3.04","LOD","","TRG","110","4.29","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","307-55-1","PFDoA","95.7","ng/L","","3.04","LOD","","TRG","120","5.47","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","72629-94-8","PFTTrDA","87.2","ng/L","","3.04","LOD","","TRG","109","7.32","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","376-06-7","PFTeDA","73.2","ng/L","","3.04","LOD","","TRG","91.5","4.80","10.0","LOQ","YES","80.0","","0.250","0.001","5.00",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","13C2-PFHxA","13C2-PFHxA","88.1","%R","","-99","NA","","SUR","88.1","","-99","NA","YES","100","","0.250","0.001","-99",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","13C2-PFDA","13C2-PFDA","91.6","%R","","-99","NA","","SUR","91.6","","-99","NA","YES","100","","0.250","0.001","-99",""

"B8J0164-BSD1","EPA Method 537","Initial","B8J0164-BSD1","Vista","d5-EtFOSAA","d5-EtFOSAA","91.9","%R","","-99","NA","","SUR","91.9","","-99","NA","YES","100","","0.250","0.001","-99",""

"112608005-WE05","Calverton Offbase DW Sampling 112608005-WE05","CAL-DW15-20181017","10/17/2018 16:15","AQ","1803361-01","NM","","1.20","EPA Method 537","METHOD","Initial","10/19/2018 09:30","10/23/2018 12:04","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0164","B8J0164","NA","S8J0064","1803361","10/18/2018 09:14","01/01/1900 00:00",""

"112608005-WE05","Calverton Offbase DW Sampling 112608005-WE05","CAL-DW15-FRB-20181017","10/17/2018 16:15","AQ","1803361-02","NM","","1.20","EPA Method 537","METHOD","Initial","10/19/2018 09:30","10/23/2018 12:17","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0164","B8J0164","NA","S8J0064","1803361","10/18/2018 09:14","01/01/1900 00:00",""

"112608005-WE05","Calverton Offbase DW Sampling 112608005-WE05","B8J0164-BLK1","01/01/1900 00:00","AQ","B8J0164-BLK1","MB","","-99","EPA Method 537","METHOD","Initial","10/19/2018 09:30","10/23/2018 10:32","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0164","B8J0164","NA","S8J0064","1803361","01/01/1900 00:00","01/01/1900 00:00",""

"112608005-WE05","Calverton Offbase DW Sampling 112608005-WE05","B8J0164-BS1","01/01/1900

00:00","AQ","B8J0164-BS1","LCS","",-99","EPA Method 537","METHOD","Initial","10/19/2018
09:30","10/23/2018 12:30","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8J0164","B8J0164","NA","S8J0064","1803361","01/01/1900 00:00","01/01/1900 00:00",""
"112608005-WE05","Calverton Offbase DW Sampling 112608005-WE05","B8J0164-BSD1","01/01/1900
00:00","AQ","B8J0164-BSD1","LCSD","",-99","EPA Method 537","METHOD","Initial","10/19/2018
09:30","10/23/2018 10:19","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8J0164","B8J0164","NA","S8J0064","1803361","01/01/1900 00:00","01/01/1900 00:00",""



TETRA TECH

INTERNAL CORRESPONDENCE

TO: K. FRANCISCO **DATE:** OCTOBER 30, 2018

FROM: TERRI L. SOLOMON **COPIES:** DV FILE

SUBJECT: ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), CALVERTON
SAMPLE DELIVERY GROUP (SDG) 1803361

SAMPLES: 1/Drinking Water
CAL-DW15-20181017

1/Field Reagent Blank (FRB)
CAL-DW15-FRB-20181017

Overview

The sample set for NWIRP Calverton, SDG 1803361, consisted of one (1) drinking water sample and one (1) FRB sample. All samples were analyzed for polyfluoroalkyl substances (PFAS). No field duplicate pairs were included in this SDG.

The samples were collected by Tetra Tech, Inc. on October 17, 2018 and analyzed by Vista Analytical Laboratory. All analyses were conducted in accordance with EPA Method 537 REV. 1.1 analytical and reporting protocols. The data contained in this SDG was validated at Stage 4 with regard to the following parameters:

- * • Data completeness
- * • Hold times/Sample Preservation
- * • Mass Calibration
- * • LC/MS/MS System Tuning and Performance
- * • Mass Spectral Acquisition Rate
- * • Instrument Sensitivity Check
- * • Ion Transition Check
- * • Asymmetry Factor Results
- * • Initial/Continuing Calibrations
- * • Laboratory Preparation/Method Blank Results
- * • Field Reagent Blank (FRB) Results
- * • Surrogate Spike Recoveries (Extraction Internal Standard Recoveries)
- * • Injection Internal Standard Recoveries
- * • Laboratory Fortified Blank/Laboratory Fortified Blank Duplicate Results
- * • Compound Identification
- * • Compound Quantitation
- * • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

PFAS

Non-detected results were reported to the limit of detection (LOD).

Additional Comments

A matrix spike was not included in this data group. No action was taken on this issue.

Executive Summary

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017), the Environmental Protection Agency document EPA/600/R-08/092, Method 537, "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)", (September 2009) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (2017). The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech, Inc.
Terri L. Solomon
Chemist/Data Validator



Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:

Appendix A - Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Appendix A

Qualified Analytical Results

Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; i.e. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors $> 40\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-WE05 SDG: 1803361 FRACTION: PFAS MEDIA: WATER	NSAMPLE	CAL-DW15-20181017			CAL-DW15-FRB-20181017		
	LAB_ID	1803361-01			1803361-02		
	SAMP_DATE	10/17/2018			10/17/2018		
	QC_TYPE	NM			NM		
	UNITS	NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		4.79	U		4.77	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		4.79	U		4.77	U	
PENTADECALUOROOCTANOIC ACID (PFOA)		4.61	J	P	4.77	U	
PERFLUOROBUTANESULFONIC ACID (PFBS)		4.79	U		4.77	U	
PERFLUORODECANOIC ACID (PFDA)		4.79	U		4.77	U	
PERFLUORODODECANOIC ACID (PFDOA)		4.79	U		4.77	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		4.79	U		4.77	U	
PERFLUOROHXANESULFONIC ACID (PFHXS)		4.79	U		4.77	U	
PERFLUOROHXANOIC ACID (PFHXA)		3	J	P	4.77	U	
PERFLUORONONANOIC ACID (PFNA)		4.79	U		4.77	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		4.79	U		4.77	U	
PERFLUOROTETRADECANOIC ACID (PFTEA)		4.79	U		4.77	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		4.79	U		4.77	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		4.79	U		4.77	U	

Appendix B

Results as Reported by the Laboratory

Sample ID: CAL-DW15-20181017										EPA Method 537	
Client Data						Laboratory Data					
Name:	Tetra Tech			Matrix:	Drinking Water		Lab Sample:	1803361-01		Column:	BEH C18
Project:	Calverton Offbase DW Sampling 112608005-WE05				Date Collected:	17-Oct-18 16:15		Date Received:	18-Oct-18 09:14		
SDG:	WE05										
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFHxA	307-24-4	3.00	2.91	4.79	9.58	J	B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFHpA	375-85-9	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFHxS	355-46-4	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFOA	335-67-1	4.61	2.91	4.79	9.58	J	B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFNA	375-95-1	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFOS	1763-23-1	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFDA	335-76-2	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
MeFOSAA	2355-31-9	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
EtFOSAA	2991-50-6	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFUnA	2058-94-8	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFDoA	307-55-1	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFTTrDA	72629-94-8	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
PFTeDA	376-06-7	ND	2.91	4.79	9.58		B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers		Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	97.9	70 - 130				B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
13C2-PFDA	SURR	101	70 - 130				B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1
d5-EtFOSAA	SURR	78.8	70 - 130				B8J0164	19-Oct-18	0.261 L	23-Oct-18 12:04	1

DL - Detection Limit

 LOD - Limit of Detection
 LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CAL-DW15-FRB-20181017										EPA Method 537	
Client Data Name: Tetra Tech											

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

LOQ - Limit of quantitation

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

Appendix C

Support Documentation



CHAIN OF CUSTODY

CALVERTON OFF BASE DW SAMPLING

For Laboratory Use Only
Work Order #: 1803361 Temp: 1.2 °C
Storage ID: WR-2 Storage Secured: Yes ☒ No ☐

Project ID: 112608005-WEDS PO#: _____ Sampler: BEAU BENFIELD
(name) MARK MENGEL

TAT Standard: ☐ 21 days
(check one): Rush (surcharge may apply)
☐ 14 days ☒ 7 days Specify: _____

Invoice to: Name _____ Company Tetra Tech Address 5700 LAKE WRIGHT DRIVE Suite 102 Norfolk, VA City _____ State _____ Ph# _____ Fax# _____
Date 10/17/18 Time 1700

Relinquished by (printed name and signature) _____ Date _____ Time _____ Received by (printed name and signature) _____ Date _____ Time _____

Relinquished by (printed name and signature) BEAU BENFIELD Date 10/17/18 Time _____ Received by (printed name and signature) FEDEX Date _____ Time _____

Relinquished by (printed name and signature) FEDEX Date _____ Time _____ Received by (printed name and signature) B. Benedict Beth Benedict Date 10/18/18 Time 0914

SHIP TO: Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 Ph: (916) 673-1520; Fax: (916) 673-0106				Method of Shipment: <u>Fedex</u>		Tracking No.: _____		Add Analysis(es) Requested										Comments	
ATTN: <u>SAMPLE CUSTODIAN</u>				Container(s)		PFAS Isotope Dilution										USEPA Method 537			
Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	List of 21	List of 21 w/Isomers	List of 24	List of 24 w/Isomers	List of 28	Other: Please List Below	PFAS PPOS	USEPA PFAS List 14	PFAS List 14				
<u>CAL-DWIS-20181017</u>	<u>10/17</u>	<u>1615</u>		<u>2</u>	<u>P</u>	<u>DW</u>								<u>2</u>					
<u>CAL-DWIS-FRB-20181017</u>	<u>10/17</u>	<u>1615</u>		<u>2</u>	<u>P</u>	<u>QA</u>									<u>2</u>	<u>FRB</u>			

Special Instructions/Comments: _____
SEND DOCUMENTATION AND RESULTS TO: _____
Name: Megan VED
Company: Tetra Tech
Address: 661 Anderson Drive
City: Pittsburgh State: PA Zip: 15220
Phone: 412 921-7271 Fax: _____
Email: Megan.Ved@TetraTech.com

Container Types: P= HDPE, PJ= HDPE Jar
Bottle Preservation Type: T = Thiosulfate, TZ = Trizma:
Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Sample Log-In Checklist

 Page # 1 of 1

 Vista Work Order #: 1803361

 TAT 7 day

Samples Arrival:	Date/Time <u>10/18/18</u> <u>0914</u>	Initials: <u>UBB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>NA</u>
Logged In:	Date/Time <u>10/18/18</u> <u>1105</u>	Initials: <u>WWS</u>	Location: <u>WR-2</u> Shelf/Rack: <u>8-3, E-3</u>
Delivered By:	☒ FedEx	☐ UPS	☐ On Trac
	☐ GSO	☐ DHL	☐ Hand Delivered
	☐ Other		
Preservation:	☒ Ice	☐ Blue Ice	☐ Dry Ice
	☐ None		
Temp °C: <u>1.3</u> (uncorrected)	Probe used: Y ☒ N		Thermometer ID: <u>IR-4</u>
Temp °C: <u>1.2</u> (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	☒		
Holding Time Acceptable?	☒		
Shipping Container(s) Intact?	☒		
Shipping Custody Seals Intact?	☒		
Shipping Documentation Present?	☒		
Airbill	Trk # <u>78330439 2535</u>	☒	
Sample Container Intact?	☒		
Sample Custody Seals Intact?	☒		☒
Chain of Custody / Sample Documentation Present?	☒		
COC Anomaly/Sample Acceptance Form completed?		☒	☒
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	☒		
Preservation Documented:	☒ Na ₂ S ₂ O ₃	☒ Trizma	☐ None
	☒ Yes	☐ No	☐ NA
Shipping Container	☒ Vista	☐ Client	☒ Retain
	☐ Return	☐ Dispose	

Comments:

SDG Number WE05

Vista Work Order No. 1803361

Case Narrative

Sample Condition on Receipt:

One drinking water sample and one QC Water sample were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 537, Rev. 1.1

The samples were extracted and analyzed for a selected list of PFAS using EPA Method 537, Rev. 1.1.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

Two Laboratory Fortified Blanks (LFB/LFBD) and a Laboratory Reagent Blank (LRB) were extracted and analyzed with the preparation batch. No analytes were detected in the Laboratory Reagent Blank above 1/2 the LOQ. The LFB/LFBD recoveries were within the method acceptance criteria.

The surrogate recoveries for all QC and field samples were within the acceptance criteria.

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1803361-01	CAL-DW15-20181017	17-Oct-18 16:15	18-Oct-18 09:14	Polypropylene, 250mL Polypropylene, 250mL
1803361-02	CAL-DW15-FRB-20181017	17-Oct-18 16:15	18-Oct-18 09:14	Polypropylene, 250mL Polypropylene, 250mL

Sample ID: LRB						EPA Method 537					
Client Data Name: Tetra Tech Matrix: Aqueous Project: Calverton Offbase DW Sampling 112608005-WE05						Laboratory Data Lab Sample: B8J0164-BLK1 Column: BEH C18					
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFHxA	307-24-4	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFHpA	375-85-9	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFHxS	355-46-4	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFOA	335-67-1	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFNA	375-95-1	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFOS	1763-23-1	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFDA	335-76-2	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
MeFOSAA	2355-31-9	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
EtFOSAA	2991-50-6	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFUnA	2058-94-8	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFDoA	307-55-1	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFTTrDA	72629-94-8	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
PFTeDA	376-06-7	ND	3.04	5.00	10.0		B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers		Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	86.1	70 - 130				B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
13C2-PFDA	SURR	86.2	70 - 130				B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1
d5-EtFOSAA	SURR	93.4	70 - 130				B8J0164	19-Oct-18	0.250 L	23-Oct-18 10:32	1

DL - Detection Limit

 LOD - Limit of Detection
 LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: LFBD													EPA Method 537			
Name: Tetra Tech Project: Calverton Offbase DW Sampling 112608005-WE0 Matrix: Aqueous					Lab Sample: B8J0164-BS1/B8J0164-BSD1 QC Batch: B8J0164 Samp Size: 0.250/0.250 L					Date Extracted: 19-Oct-18 Column: BEH C18						
Analyte	CAS Number	LFB (ng/L)	LFB Spike Amt	LFB % Rec	LFB Quals	LFBD (ng/L)	LFBD Spike Amt	LFBD % Rec	RPD	LFBD Quals	%Rec Limits	RPD Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
PFBS	375-73-5	73.9	70.8	104		71.1	70.8	100	3.97		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFHxA	307-24-4	79.5	80.0	99.4		78.3	80.0	97.9	1.55		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFHpA	375-85-9	86.5	80.0	108		85.1	80.0	106	1.65		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFHxS	355-46-4	76.6	72.8	105		75.0	72.8	103	2.20		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFOA	335-67-1	97.4	80.0	122		95.1	80.0	119	2.33		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFNA	375-95-1	87.0	80.0	109		80.4	80.0	101	7.86		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFOS	1763-23-1	88.5	74.0	120		79.3	74.0	107	10.9		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFDA	335-76-2	86.2	80.0	108		79.0	80.0	98.7	8.74		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
MeFOSAA	2355-31-9	69.7	80.0	87.2		74.8	80.0	93.5	7.03		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
EtFOSAA	2991-50-6	77.5	80.0	96.9		83.2	80.0	104	7.01		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFUnA	2058-94-8	91.8	80.0	115		88.0	80.0	110	4.29		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFDoA	307-55-1	101	80.0	126		95.7	80.0	120	5.47		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFTTrDA	72629-94-8	93.9	80.0	117		87.2	80.0	109	7.32		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
PFTeDA	376-06-7	76.8	80.0	96.0		73.2	80.0	91.5	4.80		70-130	30	23-Oct-18 12:30	1	23-Oct-18 10:19	1
Labeled Standards		Type		LFB % Rec	LFB Quals			LFBD % Rec		LFBD Quals	Limits		LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
13C2-PFHxA		SURR		91.9				88.1			70-130		23-Oct-18 12:30	1	23-Oct-18 10:19	1
13C2-PFDA		SURR		99.4				91.6			70-130		23-Oct-18 12:30	1	23-Oct-18 10:19	1
d5-EtFOSAA		SURR		90.7				91.9			70-130		23-Oct-18 12:30	1	23-Oct-18 10:19	1

PREPARATION BENCH SHEET

Matrix: Aqueous

B8J0164

Chemist: MAC

Method: 537 PFAS DW Unmodified MI So Sig Digs

Prep Date: 10/19/18

Prepared using: LCMS - SPE Extraction-LCMS

Prep Time: 030

Balance ID: <u>HRMS-8</u>							
Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	B8J0164-BLK1 <u>(A)</u>	<u>N/A</u>	<u>N/A</u>	<u>(0.250)</u>	<u>MAC</u>	<u>AE</u>	<u>10/19/18</u>
☐	B8J0164-BS1			<u>(0.250)</u>			
☐	B8J0164-BSD1			<u>(0.250)</u>			
☐	1803348-01	<u>281.45</u>	<u>27.57</u>	<u>0.25438</u>			
☐	1803352-01	<u>287.47</u>	<u>27.46</u>	<u>0.26001</u>			
☐	1803352-02	<u>279.61</u>	<u>28.18</u>	<u>0.25151</u>			
☐	1803352-03	<u>283.17</u>	<u>28.19</u>	<u>0.25498</u>			
☐	1803355-01	<u>289.41</u>	<u>27.32</u>	<u>0.26239</u>			
☐	1803356-01	<u>289.50</u>	<u>27.23</u>	<u>0.26227</u>			

SS/IS: <u>18H1309, 20µL (V1)</u> NS: <u>18H1311, 20µL (V4)</u> IS/RS: <u>18H1310, 20µL (C3)</u>	SPE Chem: <u>Strata X 330m 02mg</u> Lot#: <u>602</u> Ele SOLV: <u>MeOH</u> Lot#: <u>38069205</u> Final Volume(s): <u>1mL</u>	Notes: <u>A) 1.25 µm 20µm preservative added to Q3 HB 10/19/18</u>
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Comments: Assume 1 g = 1 mL
Cen = Centrifuged

PREPARATION BENCH SHEET

Matrix: Aqueous

B8J0164

Chemist: MAC

Method: 537 PFAS DW DoD Unmodified

Prep Date: 10/19/18

Method: 537 PFAS DW Unmodified MI Sp Sig Digs

Prep Time: 0930

Prepared using: LCMS - SPE Extraction-LCMS

Balance ID: <u>HRMS-8</u>		Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	VISTA Sample ID						
☐	B8J0164-BLK1		MAC 10/22/18	MAC 10/22/18			
☐	B8J0164-BS1						
☐	B8J0164-BSD1						
☐	1803348-01						
☐	1803352-01						
☐	1803352-02						
☐	1803352-03						
☐	1803355-01						
☐	1803356-01						SR 10/18/18
☐	1803361-01	298.20	37.23	0.26097 ✓	MAC 98 10/19/18	MAC 10/19/18	98 MAC 10/22/18
☐	1803361-02	299.59	37.50	0.26209 ✓	↓	↓	↓

SS/IS: <u>18H1309, 20µL (V1)</u> NS: <u>18H1311, 20µL (V4)</u> IS/RS: <u>18H1310, 20µL (C2)</u>	SPE Chem: <u>Strata X 500mg</u> Lot#: <u>0</u> Ele SOLV: <u>MeOH</u> Lot#: <u>3606201</u> Final Volume(s): <u>1mL</u>	Notes:
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Comments: Assume 1 g = 1 mL
Cen = Centrifuged

Batch: B8J0164

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1803348-01	0.25438 ✓	NA	NA	1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW Unmodified
1803352-01	0.26001 ✓			1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW Unmodified
1803352-02	0.25151 ✓			1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW Unmodified
1803352-03	0.25498 ✓			1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW Unmodified
1803355-01	0.26239 ✓			1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW Unmodified
1803356-01	0.26227 ✓			1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW Unmodified
1803361-01	0.26097 ✓			1000	19-Oct-18 09:30	MAC			Drinking Water	537 PFAS DW DoD Unmod
1803361-02	0.26209 ✓			1000	19-Oct-18 09:30	MAC			QC Water	537 PFAS DW DoD Unmod
B8J0164-BLK1	0.25 ✓			1000	19-Oct-18 09:30	MAC				QC
B8J0164-BS1	0.25 ✓			1000	19-Oct-18 09:30	MAC	18H1311 ✓	20 ✓		QC
B8J0164-BSD1	0.25 ✓			1000	19-Oct-18 09:30	MAC	18H1311 ✓	20 ✓		QC

MAC 10/22/18

ICAL

Compound 18: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	% Area
1 IPA	181023G1_1	Analyte	10.0			7130.11	0.00
2 ST181023G1-1 PFC CS-1 537 18J1804	181023G1_2	Analyte	10.0	4.21	10287.85	7130.11	144.29
3 B8J0164-BS1 LFB 0.25	181023G1_3	Analyte	10.0	4.21	9200.95	7130.11	129.04
4 B8J0164-BSD1 LFB 0.25	181023G1_4	Analyte	10.0	4.21	9676.91	7130.11	135.72
5 B8J0164-BLK1 LRB 0.25	181023G1_5	Analyte	10.0	4.21	9398.06	7130.11	131.81
6 1803348-01 WR1810151430SK 0.25438	181023G1_6	Analyte	10.0	4.21	9819.14	7130.11	137.71
7 1803352-01 WT1810151115SK 0.26001	181023G1_7	Analyte	10.0	4.21	9096.53	7130.11	127.58
8 1803352-02 WT1810160815SK 0.25151	181023G1_8	Analyte	10.0	4.20	8902.04	7130.11	124.85
9 1803352-03 WR1810160830SK 0.25498	181023G1_9	Analyte	10.0	4.20	8370.16	7130.11	117.39
10 1803355-01 GWIN1810151325MK 0.26239	181023G1_10	Analyte	10.0	4.21	8793.32	7130.11	123.33
11 1803356-01 GWNT1810151640MK 0.26227	181023G1_11	Analyte	10.0	4.20	9114.13	7130.11	127.83
12 1803361-01 CAL-DW15-20181017 0.26097	181023G1_12	Analyte	10.0	4.21	8440.20	7130.11	118.37
13 1803361-02 CAL-DW15-FRB-20181017 0.26209	181023G1_13	Analyte	10.0	4.21	8842.66	7130.11	124.02
14 B8J0164-BS1 LFB 0.25	181023G1_14	Analyte	10.0	4.22	9004.87	7130.11	126.29
15 IPA	181023G1_15	Analyte	10.0			7130.11	0.00
16 ST181023G1-2 PFC CS1 537 18J1806	181023G1_16	Analyte	10.0	4.21	9762.04	7130.11	136.91

Compound 19: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	% Area
1 IPA	181023G1_1	Analyte	28.7			10450.46	0.00
2 ST181023G1-1 PFC CS-1 537 18J1804	181023G1_2	Analyte	28.7	4.64	15115.45	10450.46	144.64
3 B8J0164-BS1 LFB 0.25	181023G1_3	Analyte	28.7	4.64	15688.83	10450.46	150.13
4 B8J0164-BSD1 LFB 0.25	181023G1_4	Analyte	28.7	4.63	13966.97	10450.46	133.65
5 B8J0164-BLK1 LRB 0.25	181023G1_5	Analyte	28.7	4.63	14155.76	10450.46	135.46
6 1803348-01 WR1810151430SK 0.25438	181023G1_6	Analyte	28.7	4.63	14404.89	10450.46	137.84
7 1803352-01 WT1810151115SK 0.26001	181023G1_7	Analyte	28.7	4.63	14347.92	10450.46	137.29
8 1803352-02 WT1810160815SK 0.25151	181023G1_8	Analyte	28.7	4.63	14283.05	10450.46	136.67
9 1803352-03 WR1810160830SK 0.25498	181023G1_9	Analyte	28.7	4.63	13627.73	10450.46	130.40

10 1803355-01 GWIN1810151325MK 0.26239	181023G1_10 Analyte	28.7	4.63	13086.67	10450.46	125.23
11 1803356-01 GWNT1810151640MK 0.26227	181023G1_11 Analyte	28.7	4.64	13628.15	10450.46	130.41
12 1803361-01 CAL-DW15-20181017 0.26097	181023G1_12 Analyte	28.7	4.64	13731.99	10450.46	131.40
13 1803361-02 CAL-DW15-FRB-20181017 0.26209	181023G1_13 Analyte	28.7	4.64	13823.64	10450.46	132.28
14 B8J0164-BS1 LFB 0.25	181023G1_14 Analyte	28.7	4.64	13319.36	10450.46	127.45
15 IPA	181023G1_15 Analyte	28.7			10450.46	0.00
16 ST181023G1-2 PFC CS1 537 18J1806	181023G1_16 Analyte	28.7	4.64	14337.69	10450.46	137.20

Compound 20: d3-N-MeFOSAA

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	% Area
1 IPA	181023G1_1	Analyte	40.0			15091.37	0.00
2 ST181023G1-1 PFC CS-1 537 18J1804	181023G1_2	Analyte	40.0	5.01	18986.52	15091.37	125.81
3 B8J0164-BS1 LFB 0.25	181023G1_3	Analyte	40.0	5.03	21456.32	15091.37	142.18
4 B8J0164-BSD1 LFB 0.25	181023G1_4	Analyte	40.0	5.01	19666.11	15091.37	130.31
5 B8J0164-BLK1 LRB 0.25	181023G1_5	Analyte	40.0	5.01	17538.14	15091.37	116.21
6 1803348-01 WR1810151430SK 0.25438	181023G1_6	Analyte	40.0	5.01	18944.11	15091.37	125.53
7 1803352-01 WT1810151115SK 0.26001	181023G1_7	Analyte	40.0	5.01	18700.11	15091.37	123.91
8 1803352-02 WT1810160815SK 0.25151	181023G1_8	Analyte	40.0	5.01	18805.60	15091.37	124.61
9 1803352-03 WR1810160830SK 0.25498	181023G1_9	Analyte	40.0	5.01	20413.22	15091.37	135.26
10 1803355-01 GWIN1810151325MK 0.26239	181023G1_10	Analyte	40.0	5.01	19001.36	15091.37	125.91
11 1803356-01 GWNT1810151640MK 0.26227	181023G1_11	Analyte	40.0	5.01	21592.08	15091.37	143.08
12 1803361-01 CAL-DW15-20181017 0.26097	181023G1_12	Analyte	40.0	5.01	20481.34	15091.37	135.72
13 1803361-02 CAL-DW15-FRB-20181017 0.26209	181023G1_13	Analyte	40.0	5.01	19993.80	15091.37	132.49
14 B8J0164-BS1 LFB 0.25	181023G1_14	Analyte	40.0	5.01	21371.70	15091.37	141.62
15 IPA	181023G1_15	Analyte	40.0			15091.37	0.00
16 ST181023G1-2 PFC CS1 537 18J1806	181023G1_16	Analyte	40.0	5.01	21288.19	15091.37	141.06

CCAL

Compound 18: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	% Area
1 IPA	181023G1_1	Analyte	10.0			10287.85	0.00
2 ST181023G1-1 PFC CS-1 537 18J1804	181023G1_2	Analyte	10.0	4.21	10287.85	10287.85	100.00
3 B8J0164-BS1 LFB 0.25	181023G1_3	Analyte	10.0	4.21	9200.95	10287.85	89.44
4 B8J0164-BSD1 LFB 0.25	181023G1_4	Analyte	10.0	4.21	9676.91	10287.85	94.06
5 B8J0164-BLK1 LRB 0.25	181023G1_5	Analyte	10.0	4.21	9398.06	10287.85	91.35
6 1803348-01 WR1810151430SK 0.25438	181023G1_6	Analyte	10.0	4.21	9819.14	10287.85	95.44
7 1803352-01 WT1810151115SK 0.26001	181023G1_7	Analyte	10.0	4.21	9096.53	10287.85	88.42
8 1803352-02 WT1810160815SK 0.25151	181023G1_8	Analyte	10.0	4.20	8902.04	10287.85	86.53
9 1803352-03 WR1810160830SK 0.25498	181023G1_9	Analyte	10.0	4.20	8370.16	10287.85	81.36
10 1803355-01 GWIN1810151325MK 0.26239	181023G1_10	Analyte	10.0	4.21	8793.32	10287.85	85.47
11 1803356-01 GWNT1810151640MK 0.26227	181023G1_11	Analyte	10.0	4.20	9114.13	10287.85	88.59
12 1803361-01 CAL-DW15-20181017 0.26097	181023G1_12	Analyte	10.0	4.21	8440.20	10287.85	82.04
13 1803361-02 CAL-DW15-FRB-20181017 0.26209	181023G1_13	Analyte	10.0	4.21	8842.66	10287.85	85.95
14 B8J0164-BS1 LFB 0.25	181023G1_14	Analyte	10.0	4.22	9004.87	10287.85	87.53
15 IPA	181023G1_15	Analyte	10.0			10287.85	0.00
16 ST181023G1-2 PFC CS1 537 18J1806	181023G1_16	Analyte	10.0	4.21	9762.04	10287.85	94.89

Compound 19: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	% Area
1 IPA	181023G1_1	Analyte	28.7			15115.45	0.00
2 ST181023G1-1 PFC CS-1 537 18J1804	181023G1_2	Analyte	28.7	4.64	15115.45	15115.45	100.00
3 B8J0164-BS1 LFB 0.25	181023G1_3	Analyte	28.7	4.64	15688.83	15115.45	103.79
4 B8J0164-BSD1 LFB 0.25	181023G1_4	Analyte	28.7	4.63	13966.97	15115.45	92.40
5 B8J0164-BLK1 LRB 0.25	181023G1_5	Analyte	28.7	4.63	14155.76	15115.45	93.65
6 1803348-01 WR1810151430SK 0.25438	181023G1_6	Analyte	28.7	4.63	14404.89	15115.45	95.30
7 1803352-01 WT1810151115SK 0.26001	181023G1_7	Analyte	28.7	4.63	14347.92	15115.45	94.92
8 1803352-02 WT1810160815SK 0.25151	181023G1_8	Analyte	28.7	4.63	14283.05	15115.45	94.49

9	1803352-03 WR1810160830SK 0.25498	181023G1_9	Analyte	28.7	4.63	13627.73	15115.45	90.16
10	1803355-01 GWIN1810151325MK 0.26239	181023G1_10	Analyte	28.7	4.63	13086.67	15115.45	86.58
11	1803356-01 GWNT1810151640MK 0.26227	181023G1_11	Analyte	28.7	4.64	13628.15	15115.45	90.16
12	1803361-01 CAL-DW15-20181017 0.26097	181023G1_12	Analyte	28.7	4.64	13731.99	15115.45	90.85
13	1803361-02 CAL-DW15-FRB-20181017 0.26209	181023G1_13	Analyte	28.7	4.64	13823.64	15115.45	91.45
14	B8J0164-BS1 LFB 0.25	181023G1_14	Analyte	28.7	4.64	13319.36	15115.45	88.12
15	IPA	181023G1_15	Analyte	28.7			15115.45	0.00
16	ST181023G1-2 PFC CS1 537 18J1806	181023G1_16	Analyte	28.7	4.64	14337.69	15115.45	94.85

Compound 20: d3-N-MeFOSAA

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	% Area
1	IPA	181023G1_1	Analyte	40.0		18986.52	0.00
2	ST181023G1-1 PFC CS-1 537 18J1804	181023G1_2	Analyte	40.0	5.01	18986.52	100.00
3	B8J0164-BS1 LFB 0.25	181023G1_3	Analyte	40.0	5.03	21456.32	113.01
4	B8J0164-BSD1 LFBD 0.25	181023G1_4	Analyte	40.0	5.01	19666.11	103.58
5	B8J0164-BLK1 LRB 0.25	181023G1_5	Analyte	40.0	5.01	17538.14	18986.52
6	1803348-01 WR1810151430SK 0.25438	181023G1_6	Analyte	40.0	5.01	18944.11	92.37
7	1803352-01 WT1810151115SK 0.26001	181023G1_7	Analyte	40.0	5.01	18700.11	18986.52
8	1803352-02 WT1810160815SK 0.25151	181023G1_8	Analyte	40.0	5.01	18805.60	99.78
9	1803352-03 WR1810160830SK 0.25498	181023G1_9	Analyte	40.0	5.01	20413.22	98.49
10	1803355-01 GWIN1810151325MK 0.26239	181023G1_10	Analyte	40.0	5.01	19001.36	18986.52
11	1803356-01 GWNT1810151640MK 0.26227	181023G1_11	Analyte	40.0	5.01	21592.08	100.08
12	1803361-01 CAL-DW15-20181017 0.26097	181023G1_12	Analyte	40.0	5.01	20481.34	113.72
13	1803361-02 CAL-DW15-FRB-20181017 0.26209	181023G1_13	Analyte	40.0	5.01	19993.80	107.87
14	B8J0164-BS1 LFB 0.25	181023G1_14	Analyte	40.0	5.01	21371.70	18986.52
15	IPA	181023G1_15	Analyte	40.0			18986.52
16	ST181023G1-2 PFC CS1 537 18J1806	181023G1_16	Analyte	40.0	5.01	21288.19	0.00

LC Calibration Standards Review Checklist

01

Calibration ID:	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
ST181023G1-1 LMH	N/A	☒	☒	☒	☒	☒	☒
↓ -2 LMH	☒	☒	☒	☒	☒	☒	☒
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☒	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐
Calibration ID: LMH	☐	☐	☐	☐	☐	☐	☐

N/A

Full Mass Cal. Date: 9/25/18

Run Log Present: ☒

of Samples per Sequence Checked: ☒

Instrument Blank Saved: ☒

IIS Area Saved: ☒

Reviewed By: WBF 10/23/18
Initials/Date

Comments:

DW-L14

ID: LR - LCSRC

Rev. No.: 1

Rev. Date: 02/06/2018

Work Order 1803361

Dataset: X:\G1.PRO\Results\2018\181023G1\181023G1-2.qld

Last Altered: Tuesday, October 23, 2018 10:32:01 Pacific Daylight Time
Printed: Tuesday, October 23, 2018 12:56:40 Pacific Daylight Time

CCV

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1023.mdb 23 Oct 2018 10:31:22
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Name: 181023G1_2, Date: 23-Oct-2018, Time: 09:17:47, ID: ST181023G1-1 PFC CS-1 537 18J1804, Description: PFC CS-1 537 18J1804

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	7.27e2	1.51e4	1.00		2.92	2.92	1.38	1.62	90.9
2	2 PFHxA	312.8 > 269.0	1.67e3	1.03e4	1.00		3.28	3.28	1.62	1.87	93.7
3	3 PFHpA	362.8 > 319.0	2.02e3	1.03e4	1.00		3.79	3.79	1.96	2.10	105.2
4	4 PFHxS	398.7 > 80.2	8.00e2	1.51e4	1.00		3.91	3.91	1.52	1.74	95.8
5	5 PFOA	412.7 > 368.9	2.09e3	1.03e4	1.00		4.21	4.21	2.03	2.21	110.5
6	6 PFNA	462.8 > 419.0	1.64e3	1.03e4	1.00		4.57	4.57	1.59	1.81	90.6
7	7 PFOS	498.7 > 80.2	3.53e2	1.51e4	1.00		4.64	4.64	0.671	2.42	129.9
8	8 PFDA	512.8 > 468.9	2.83e3	1.03e4	1.00		4.88	4.88	2.75	2.14	107.2
9	9 N-MeFOSAA	569.8 > 419.0	5.73e2	1.90e4	1.00		5.01	5.01	1.21	1.80	89.8
10	10 N-EtFOSAA	583.8 > 419.0	5.12e2	1.90e4	1.00		5.14	5.14	1.08	1.65	82.6
11	11 PFUnA	562.7 > 518.9	2.63e3	1.03e4	1.00		5.15	5.15	2.56	2.17	108.4
12	12 PFDoA	612.8 > 569.0	2.81e3	1.03e4	1.00		5.33	5.33	2.73	2.55	127.4
13	13 PFTTrDA	662.8 > 619.0	2.96e3	1.03e4	1.00		5.54	5.54	2.88	2.49	124.3
14	14 PFTeDA	712.8 > 669.0	2.54e3	1.03e4	1.00		5.73	5.73	2.47	1.94	96.9
15	15 13C2-PFHxA	314.9 > 270.0	8.72e3	1.03e4	1.00	0.899	3.28	3.28	8.47	9.42	94.2
16	16 13C2-PFDA	514.8 > 470.0	1.13e4	1.03e4	1.00	1.108	4.84	4.88	11.0	9.94	99.4
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.73e4	1.90e4	1.00	0.885	5.14	5.14	36.5	41.3	103.2
18	18 13C2-PFOA	414.8 > 370.0	1.03e4	1.03e4	1.00	1.000	4.21	4.21	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.51e4	1.51e4	1.00	1.000	4.64	4.64	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.90e4	1.90e4	1.00	1.000	5.01	5.01	40.0	40.0	100.0

✓ 10/23/18
Cald
10/23/18

Dataset: X:\G1.PRO\Results\2018\181023G1\181023G1-IIS.qld

Last Altered: Tuesday, October 23, 2018 13:17:34 Pacific Daylight Time
Printed: Tuesday, October 23, 2018 13:31:30 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1023.mdb 23 Oct 2018 10:31:22
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Compound name: PFBS

	# Name	ID	Acq.Date	Acq.Time
1	1 181023G1_1	IPA	23-Oct-18	09:05:43
2	2 181023G1_2	ST181023G1-1 PFC CS-1 537 18J1804	23-Oct-18	09:17:47
3	3 181023G1_3	B8J0164-BS1 LFB 0.25	23-Oct-18	10:07:51
4	4 181023G1_4	B8J0164-BSD1 LFBD 0.25	23-Oct-18	10:19:54
5	5 181023G1_5	B8J0164-BLK1 LRB 0.25	23-Oct-18	10:32:49
6	6 181023G1_6	1803348-01 WR1810151430SK 0.25438	23-Oct-18	10:45:47
7	7 181023G1_7	1803352-01 WT1810151115SK 0.26001	23-Oct-18	11:00:35
8	8 181023G1_8	1803352-02 WT1810160815SK 0.25151	23-Oct-18	11:12:37
9	9 181023G1_9	1803352-03 WR1810160830SK 0.25498	23-Oct-18	11:25:36
10	10 181023G1_10	1803355-01 GWIN1810151325MK 0.26239	23-Oct-18	11:38:33
11	11 181023G1_11	1803356-01 GWNT1810151640MK 0.26227	23-Oct-18	11:51:31
12	12 181023G1_12	1803361-01 CAL-DW15-20181017 0.26097	23-Oct-18	12:04:32
13	13 181023G1_13	1803361-02 CAL-DW15-FRB-20181017 0.26209	23-Oct-18	12:17:30
14	14 181023G1_14	B8J0164-BS1 LFB 0.25	23-Oct-18	12:30:27
15	15 181023G1_15	IPA	23-Oct-18	12:43:29
16	16 181023G1_16	ST181023G1-2 PFC CS1 537 18J1806	23-Oct-18	12:56:32

Dataset: X:\G1.PRO\Results\2018\181023G1\181023G1-16.qld

Last Altered: Tuesday, October 23, 2018 13:32:56 Pacific Daylight Time

Printed: Tuesday, October 23, 2018 13:33:28 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1023.mdb 23 Oct 2018 10:31:22

Calibration: X:\G1.pro\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Name: 181023G1_16, Date: 23-Oct-2018, Time: 12:56:32, ID: ST181023G1-2 PFC CS1 537 18J1806, Description: PFC CS1 537 18J1806

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	3.43e3	1.43e4	1.00		2.92	2.91	6.87	8.05	91.1
2	2 PFHxA	312.8 > 269.0	7.24e3	9.76e3	1.00		3.28	3.28	7.41	8.57	85.7
3	3 PFHpA	362.8 > 319.0	8.58e3	9.76e3	1.00		3.79	3.79	8.79	9.44	94.4
4	4 PFHxS	398.7 > 80.2	3.59e3	1.43e4	1.00		3.92	3.91	7.18	8.24	90.4
5	5 PFOA	412.7 > 368.9	8.77e3	9.76e3	1.00		4.21	4.21	8.99	9.76	97.6
6	6 PFNA	462.8 > 419.0	8.11e3	9.76e3	1.00		4.57	4.57	8.31	9.45	94.5
7	7 PFOS	498.7 > 80.2	1.43e3	1.43e4	1.00		4.64	4.64	2.86	9.73	105.3
8	8 PFDA	512.8 > 468.9	1.16e4	9.76e3	1.00		4.88	4.89	11.9	9.25	92.5
9	9 N-MeFOSAA	569.8 > 419.0	3.19e3	2.13e4	1.00		5.01	5.01	5.99	8.39	83.9
10	10 N-EtFOSAA	583.8 > 419.0	3.28e3	2.13e4	1.00		5.14	5.10	6.16	9.44	94.4
11	11 PFUnA	562.7 > 518.9	1.17e4	9.76e3	1.00		5.15	5.11	12.0	10.1	101.2
12	12 PFDoA	612.8 > 569.0	1.24e4	9.76e3	1.00		5.33	5.32	12.7	11.8	118.3
13	13 PFTrDA	662.8 > 619.0	1.21e4	9.76e3	1.00		5.54	5.53	12.4	10.7	107.4
14	14 PFTeDA	712.8 > 669.0	1.13e4	9.76e3	1.00		5.73	5.72	11.6	9.10	91.0
15	15 13C2-PFHxA	314.9 > 270.0	8.43e3	9.76e3	1.00	0.899	3.28	3.28	8.64	9.60	96.0
16	16 13C2-PFDA	514.8 > 470.0	1.13e4	9.76e3	1.00	1.108	4.84	4.89	11.5	10.4	104.1
17	17 d5-N-EtFOSAA	588.8 > 419.0	2.00e4	2.13e4	1.00	0.885	5.14	5.10	37.6	42.5	106.3
18	18 13C2-PFOA	414.8 > 370.0	9.76e3	9.76e3	1.00	1.000	4.21	4.21	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.43e4	1.43e4	1.00	1.000	4.64	4.64	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	2.13e4	2.13e4	1.00	1.000	5.01	5.01	40.0	40.0	100.0

✓ 10/23/18
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Dataset: X:\G1.PRO\Results\2018\181023G1\181023G1-IIS.qld

Last Altered: Tuesday, October 23, 2018 13:17:34 Pacific Daylight Time

Printed: Tuesday, October 23, 2018 13:31:30 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1023.mdb 23 Oct 2018 10:31:22

Calibration: X:\G1.pro\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Compound name: PFBS

	# Name	ID	Acq.Date	Acq.Time
1	1 181023G1_1	IPA	23-Oct-18	09:05:43
2	2 181023G1_2	ST181023G1-1 PFC CS-1 537 18J1804	23-Oct-18	09:17:47
3	3 181023G1_3	B8J0164-BS1 LFB 0.25	23-Oct-18	10:07:51
4	4 181023G1_4	B8J0164-BSD1 LFBD 0.25	23-Oct-18	10:19:54
5	5 181023G1_5	B8J0164-BLK1 LRB 0.25	23-Oct-18	10:32:49
6	6 181023G1_6	1803348-01 WR1810151430SK 0.25438	23-Oct-18	10:45:47
7	7 181023G1_7	1803352-01 WT1810151115SK 0.26001	23-Oct-18	11:00:35
8	8 181023G1_8	1803352-02 WT1810160815SK 0.25151	23-Oct-18	11:12:37
9	9 181023G1_9	1803352-03 WR1810160830SK 0.25498	23-Oct-18	11:25:36
10	10 181023G1_10	1803355-01 GWIN1810151325MK 0.26239	23-Oct-18	11:38:33
11	11 181023G1_11	1803356-01 GWNT1810151640MK 0.26227	23-Oct-18	11:51:31
12	12 181023G1_12	1803361-01 CAL-DW15-20181017 0.26097	23-Oct-18	12:04:32
13	13 181023G1_13	1803361-02 CAL-DW15-FRB-20181017 0.26209	23-Oct-18	12:17:30
14	14 181023G1_14	B8J0164-BS1 LFB 0.25	23-Oct-18	12:30:27
15	15 181023G1_15	IPA	23-Oct-18	12:43:29
16	16 181023G1_16	ST181023G1-2 PFC CS1 537 18J1806	23-Oct-18	12:56:32

Dataset: X:\G1.PRO\Results\2018\181012G1\181012G1-CRV.qld

Last Altered: Friday, October 19, 2018 14:08:41 Pacific Daylight Time

Printed: Friday, October 19, 2018 14:40:21 Pacific Daylight Time

low pt
PFOS = 0.464
EtFOSAA = 1.0

high pt
PFBS = 66.4
PFOS = 46.2
PFPA = 75.0
MeFOSAA = 50.0

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1012.mdb 13 Oct 2018 10:00:33
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

ICAL

Compound name: PFBS

Coefficient of Determination: $R^2 = 0.997391$

Calibration curve: $0.8536 * x$

Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

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	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.222	2.91	50.822	10961.452	0.133	0.2	-29.8	NO	0.997	NO	bb
2	2 181012G1_3	Standard	0.444	2.91	132.390	10733.885	0.354	0.4	-6.6	NO	0.997	NO	bb
3	3 181012G1_4	Standard	0.888	2.91	231.040	11055.601	0.600	0.7	-20.9	NO	0.997	NO	MM
4	4 181012G1_5	Standard	1.780	2.91	533.993	10243.249	1.496	1.8	-1.5	NO	0.997	NO	bb
5	5 181012G1_6	Standard	4.440	2.91	1418.462	10615.488	3.835	4.5	1.2	NO	0.997	NO	bd
6	6 181012G1_7	Standard	8.840	2.91	2559.946	10454.304	7.028	8.2	-6.9	NO	0.997	NO	bb
7	7 181012G1_8	Standard	22.100	2.91	6339.059	10482.066	17.356	20.3	-8.0	NO	0.997	NO	bb
8	8 181012G1_9	Standard	44.200	2.91	14071.610	10164.512	39.732	46.5	5.3	NO	0.997	NO	bb
9	9 181012G1_10	Standard	66.400	2.91	20993.633	10585.264	56.920	66.7	0.4	NO	0.997	NO	bd
10	10 181012G1_11	Standard	88.500	2.91	27362.133	9208.750	85.277	99.9	12.9	NO	0.997	NO	bbX

Compound name: PFHxA

Coefficient of Determination: $R^2 = 0.998578$

Calibration curve: $0.864434 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	3.28	194.622	7287.516	0.267	0.3	23.6	NO	0.999	NO	MM
2	2 181012G1_3	Standard	0.500	3.28	334.864	7502.357	0.446	0.5	3.3	NO	0.999	NO	MM
3	3 181012G1_4	Standard	1.000	3.28	604.417	7275.093	0.831	1.0	-3.9	NO	0.999	NO	bd
4	4 181012G1_5	Standard	2.000	3.28	1092.342	7324.141	1.491	1.7	-13.7	NO	0.999	NO	bd
5	5 181012G1_6	Standard	5.000	3.28	3126.738	7359.364	4.249	4.9	-1.7	NO	0.999	NO	bb
6	6 181012G1_7	Standard	10.000	3.28	5539.606	7378.302	7.508	8.7	-13.1	NO	0.999	NO	bd
7	7 181012G1_8	Standard	25.000	3.28	14481.354	6923.033	20.918	24.2	-3.2	NO	0.999	NO	bd
8	8 181012G1_9	Standard	50.000	3.28	30107.676	6934.462	43.417	50.2	0.5	NO	0.999	NO	bb
9	9 181012G1_10	Standard	75.000	3.28	44318.762	6587.745	67.275	77.8	3.8	NO	0.999	NO	bb
10	10 181012G1_11	Standard	100.000	3.28	57812.789	6729.085	85.915	99.4	-0.6	NO	0.999	NO	bb

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Dataset: X:\G1.PRO\Results\2018\181012G1\181012G1-CRV.qld

Last Altered: Friday, October 19, 2018 14:08:41 Pacific Daylight Time
Printed: Friday, October 19, 2018 14:40:21 Pacific Daylight Time

Compound name: PFHpA

Coefficient of Determination: $R^2 = 0.998631$

Calibration curve: $0.931705 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	3.79	150.313	7287.516	0.206	0.2	-11.4	NO	0.999	NO	MM
2	2 181012G1_3	Standard	0.500	3.79	307.132	7502.357	0.409	0.4	-12.1	NO	0.999	NO	MM
3	3 181012G1_4	Standard	1.000	3.79	622.542	7275.093	0.856	0.9	-8.2	NO	0.999	NO	bb
4	4 181012G1_5	Standard	2.000	3.79	1352.980	7324.141	1.847	2.0	-0.9	NO	0.999	NO	bb
5	5 181012G1_6	Standard	5.000	3.79	3268.180	7359.364	4.441	4.8	-4.7	NO	0.999	NO	bb
6	6 181012G1_7	Standard	10.000	3.79	5935.082	7378.302	8.044	8.6	-13.7	NO	0.999	NO	bd
7	7 181012G1_8	Standard	25.000	3.79	15254.787	6923.033	22.035	23.7	-5.4	NO	0.999	NO	bd
8	8 181012G1_9	Standard	50.000	3.79	32575.789	6934.462	46.977	50.4	0.8	NO	0.999	NO	bb
9	9 181012G1_10	Standard	75.000	3.79	47305.066	6587.745	71.808	77.1	2.8	NO	0.999	NO	bd
10	10 181012G1_11	Standard	100.000	3.79	63100.730	6729.085	93.773	100.6	0.6	NO	0.999	NO	bb

Compound name: PFHxS

Coefficient of Determination: $R^2 = 0.995793$

Calibration curve: $0.871435 * x$

Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.228	3.92	53.617	10961.452	0.140	0.2	-29.3	NO	0.996	NO	MM
2	2 181012G1_3	Standard	0.456	3.91	132.535	10733.885	0.354	0.4	-10.8	NO	0.996	NO	MM
3	3 181012G1_4	Standard	0.912	3.91	290.721	11055.601	0.755	0.9	-5.0	NO	0.996	NO	MM
4	4 181012G1_5	Standard	1.820	3.91	596.958	10243.249	1.673	1.9	5.5	NO	0.996	NO	MM
5	5 181012G1_6	Standard	4.560	3.91	1345.935	10615.488	3.639	4.2	-8.4	NO	0.996	NO	MM
6	6 181012G1_7	Standard	9.120	3.91	2573.084	10454.304	7.064	8.1	-11.1	NO	0.996	NO	MM
7	7 181012G1_8	Standard	22.800	3.91	6736.241	10482.066	18.444	21.2	-7.2	NO	0.996	NO	MM
8	8 181012G1_9	Standard	45.500	3.91	14510.866	10164.512	40.972	47.0	3.3	NO	0.996	NO	MM
9	9 181012G1_10	Standard	68.200	3.91	20545.674	10585.264	55.706	63.9	-6.3	NO	0.996	NO	MM
10	10 181012G1_11	Standard	91.000	3.91	27081.709	9208.750	84.403	96.9	6.4	NO	0.996	NO	MM

Dataset: X:\G1.PRO\Results\2018\181012G1\181012G1-CRV.qld

Last Altered: Friday, October 19, 2018 14:08:41 Pacific Daylight Time

Printed: Friday, October 19, 2018 14:40:21 Pacific Daylight Time

Compound name: PFOA

Coefficient of Determination: $R^2 = 0.998596$

Calibration curve: $0.92091 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	4.20	135.344	7287.516	0.186	0.2	-19.3	NO	0.999	NO	MM
2	2 181012G1_3	Standard	0.500	4.20	267.650	7502.357	0.357	0.4	-22.5	NO	0.999	NO	MM
3	3 181012G1_4	Standard	1.000	4.21	634.473	7275.093	0.872	0.9	-5.3	NO	0.999	NO	MM
4	4 181012G1_5	Standard	2.000	4.21	1257.036	7324.141	1.716	1.9	-6.8	NO	0.999	NO	bb
5	5 181012G1_6	Standard	5.000	4.20	3191.042	7359.364	4.336	4.7	-5.8	NO	0.999	NO	MM
6	6 181012G1_7	Standard	10.000	4.20	6103.780	7378.302	8.273	9.0	-10.2	NO	0.999	NO	bd
7	7 181012G1_8	Standard	25.000	4.20	15213.040	6923.033	21.975	23.9	-4.6	NO	0.999	NO	bd
8	8 181012G1_9	Standard	50.000	4.20	32495.289	6934.462	46.861	50.9	1.8	NO	0.999	NO	bb
9	9 181012G1_10	Standard	75.000	4.20	47296.340	6587.745	71.794	78.0	3.9	NO	0.999	NO	bb
10	10 181012G1_11	Standard	100.000	4.20	61319.184	6729.085	91.126	99.0	-1.0	NO	0.999	NO	bb

Compound name: PFNA

Coefficient of Determination: $R^2 = 0.999144$

Calibration curve: $0.879145 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	4.56	137.880	7287.516	0.189	0.2	-13.9	NO	0.999	NO	MM
2	2 181012G1_3	Standard	0.500	4.56	268.170	7502.357	0.357	0.4	-18.7	NO	0.999	NO	MM
3	3 181012G1_4	Standard	1.000	4.56	649.342	7275.093	0.893	1.0	1.5	NO	0.999	NO	MM
4	4 181012G1_5	Standard	2.000	4.57	1292.978	7324.141	1.765	2.0	0.4	NO	0.999	NO	MM
5	5 181012G1_6	Standard	5.000	4.57	3264.363	7359.364	4.436	5.0	0.9	NO	0.999	NO	bd
6	6 181012G1_7	Standard	10.000	4.57	6014.600	7378.302	8.152	9.3	-7.3	NO	0.999	NO	bd
7	7 181012G1_8	Standard	25.000	4.57	14975.424	6923.033	21.631	24.6	-1.6	NO	0.999	NO	bb
8	8 181012G1_9	Standard	50.000	4.57	31123.209	6934.462	44.882	51.1	2.1	NO	0.999	NO	bd
9	9 181012G1_10	Standard	75.000	4.56	44759.055	6587.745	67.943	77.3	3.0	NO	0.999	NO	MM
10	10 181012G1_11	Standard	100.000	4.56	57884.945	6729.085	86.022	97.8	-2.2	NO	0.999	NO	bd

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Compound name: PFOS

Coefficient of Determination: $R^2 = 0.998631$

Calibration curve: $0.00226202 * x^2 + 0.272168 * x$

Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: Null, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.232	4.64	25.908	10961.452	0.068	0.2	7.2	NO	0.999	NO	MMX
2	2 181012G1_3	Standard	0.464	4.64	24.564	10733.885	0.066	0.2	-48.1	NO	0.999	NO	MM
3	3 181012G1_4	Standard	0.928	4.63	112.005	11055.601	0.291	1.1	14.1	NO	0.999	NO	MM
4	4 181012G1_5	Standard	1.860	4.65	167.493	10243.249	0.469	1.7	-8.6	NO	0.999	NO	MM
5	5 181012G1_6	Standard	4.640	4.64	612.917	10615.488	1.657	5.8	25.2	NO	0.999	NO	MM
6	6 181012G1_7	Standard	9.240	4.64	1099.377	10454.304	3.018	10.2	10.6	NO	0.999	NO	MM
7	7 181012G1_8	Standard	23.100	4.64	2621.337	10482.066	7.177	22.3	-3.7	NO	0.999	NO	MM
8	8 181012G1_9	Standard	46.200	4.64	6185.718	10164.512	17.466	46.3	0.3	NO	0.999	NO	MM
9	9 181012G1_10	Standard	69.400	4.64	9179.451	10585.264	24.888	60.8	-12.4	NO	0.999	NO	MMX
10	10 181012G1_11	Standard	92.500	4.64	11395.384	9208.750	35.515	78.8	-14.8	NO	0.999	NO	MMX

Compound name: PFDA

Coefficient of Determination: $R^2 = 0.998617$

Calibration curve: $1.28204 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	4.85	217.457	7287.516	0.298	0.2	-6.9	NO	0.999	NO	bb
2	2 181012G1_3	Standard	0.500	4.84	416.491	7502.357	0.555	0.4	-13.4	NO	0.999	NO	MM
3	3 181012G1_4	Standard	1.000	4.85	1004.212	7275.093	1.380	1.1	7.7	NO	0.999	NO	bb
4	4 181012G1_5	Standard	2.000	4.84	1914.705	7324.141	2.614	2.0	2.0	NO	0.999	NO	MM
5	5 181012G1_6	Standard	5.000	4.85	4435.024	7359.364	6.026	4.7	-6.0	NO	0.999	NO	bd
6	6 181012G1_7	Standard	10.000	4.85	8823.827	7378.302	11.959	9.3	-6.7	NO	0.999	NO	bd
7	7 181012G1_8	Standard	25.000	4.85	20842.146	6923.033	30.106	23.5	-6.1	NO	0.999	NO	bb
8	8 181012G1_9	Standard	50.000	4.85	45348.004	6934.462	65.395	51.0	2.0	NO	0.999	NO	bd
9	9 181012G1_10	Standard	75.000	4.86	64566.648	6587.745	98.010	76.4	1.9	NO	0.999	NO	bb
10	10 181012G1_11	Standard	100.000	4.86	77397.063	6729.085	115.019	89.7	-10.3	NO	0.999	NO	bdX

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Compound name: N-MeFOSAA

Coefficient of Determination: $R^2 = 0.998276$

Calibration curve: $0.0062362 * x^2 + 0.661452 * x$

Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	4.97	35.021	14579.463	0.096	0.1	-42.0	NO	0.998	NO	MM
2	2 181012G1_3	Standard	0.500	4.97	96.463	14745.471	0.262	0.4	-21.2	NO	0.998	NO	MM
3	3 181012G1_4	Standard	1.000	4.97	216.533	16061.930	0.539	0.8	-19.1	NO	0.998	NO	MM
4	4 181012G1_5	Standard	2.000	4.98	578.433	14582.292	1.587	2.3	17.3	NO	0.998	NO	MM
5	5 181012G1_6	Standard	5.000	4.97	1584.845	16456.383	3.852	5.5	10.7	NO	0.998	NO	MM
6	6 181012G1_7	Standard	10.000	4.97	2782.559	15426.291	7.215	10.0	-0.3	NO	0.998	NO	MM
7	7 181012G1_8	Standard	25.000	4.97	7609.345	15339.765	19.842	24.4	-2.4	NO	0.998	NO	MM
8	8 181012G1_9	Standard	50.000	4.97	17591.414	14384.174	48.919	50.2	0.4	NO	0.998	NO	MM
9	9 181012G1_10	Standard	75.000	4.97	22830.396	15192.734	60.109	58.6	-21.9	NO	0.998	NO	MMX
10	10 181012G1_11	Standard	100.000	4.97	30941.729	14145.150	87.498	76.7	-23.3	NO	0.998	NO	MMX

Compound name: N-EtFOSAA

Coefficient of Determination: $R^2 = 0.998936$

Calibration curve: $0.652928 * x$

Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	5.11	10.636	14579.463	0.029	0.0	-82.1	NO	0.999	NO	MMX
2	2 181012G1_3	Standard	0.500	5.11	51.246	14745.471	0.139	0.2	-57.4	NO	0.999	NO	MMX
3	3 181012G1_4	Standard	1.000	5.11	220.663	16061.930	0.550	0.8	-15.8	NO	0.999	NO	MM
4	4 181012G1_5	Standard	2.000	5.11	415.621	14582.292	1.140	1.7	-12.7	NO	0.999	NO	MM
5	5 181012G1_6	Standard	5.000	5.10	1194.501	16456.383	2.903	4.4	-11.1	NO	0.999	NO	MM
6	6 181012G1_7	Standard	10.000	5.10	2439.479	15426.291	6.326	9.7	-3.1	NO	0.999	NO	MM
7	7 181012G1_8	Standard	25.000	5.10	6354.236	15339.765	16.569	25.4	1.5	NO	0.999	NO	MM
8	8 181012G1_9	Standard	50.000	5.10	12188.456	14384.174	33.894	51.9	3.8	NO	0.999	NO	MM
9	9 181012G1_10	Standard	75.000	5.10	18168.141	15192.734	47.834	73.3	-2.3	NO	0.999	NO	MM
10	10 181012G1_11	Standard	100.000	5.10	23257.846	14145.150	65.769	100.7	0.7	NO	0.999	NO	MM

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Compound name: PFUnA

Coefficient of Determination: $R^2 = 0.999391$

Calibration curve: $1.18136 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	5.11	239.052	7287.516	0.328	0.3	11.1	NO	0.999	NO	bb
2	2 181012G1_3	Standard	0.500	5.11	433.147	7502.357	0.577	0.5	-2.3	NO	0.999	NO	bb
3	3 181012G1_4	Standard	1.000	5.11	791.736	7275.093	1.088	0.9	-7.9	NO	0.999	NO	bb
4	4 181012G1_5	Standard	2.000	5.12	1507.537	7324.141	2.058	1.7	-12.9	NO	0.999	NO	bb
5	5 181012G1_6	Standard	5.000	5.11	4249.854	7359.364	5.775	4.9	-2.2	NO	0.999	NO	bb
6	6 181012G1_7	Standard	10.000	5.11	8036.162	7378.302	10.892	9.2	-7.8	NO	0.999	NO	bb
7	7 181012G1_8	Standard	25.000	5.12	21070.439	6923.033	30.435	25.8	3.1	NO	0.999	NO	bd
8	8 181012G1_9	Standard	50.000	5.11	41858.672	6934.462	60.363	51.1	2.2	NO	0.999	NO	bd
9	9 181012G1_10	Standard	75.000	5.11	58048.910	6587.745	88.117	74.6	-0.5	NO	0.999	NO	bd
10	10 181012G1_11	Standard	100.000	5.12	79307.680	6729.085	117.858	99.8	-0.2	NO	0.999	NO	bd

Compound name: PFDoA

Coefficient of Determination: $R^2 = 0.998466$

Calibration curve: $1.07077 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	5.36	143.991	7287.516	0.198	0.2	-26.2	NO	0.998	NO	MM
2	2 181012G1_3	Standard	0.500	5.36	425.784	7502.357	0.568	0.5	6.0	NO	0.998	NO	bb
3	3 181012G1_4	Standard	1.000	5.36	767.326	7275.093	1.055	1.0	-1.5	NO	0.998	NO	MM
4	4 181012G1_5	Standard	2.000	5.36	1560.235	7324.141	2.130	2.0	-0.5	NO	0.998	NO	bd
5	5 181012G1_6	Standard	5.000	5.36	4016.459	7359.364	5.458	5.1	1.9	NO	0.998	NO	bd
6	6 181012G1_7	Standard	10.000	5.36	7440.234	7378.302	10.084	9.4	-5.8	NO	0.998	NO	bd
7	7 181012G1_8	Standard	25.000	5.36	17685.680	6923.033	25.546	23.9	-4.6	NO	0.998	NO	bd
8	8 181012G1_9	Standard	50.000	5.36	38140.914	6934.462	55.002	51.4	2.7	NO	0.998	NO	bd
9	9 181012G1_10	Standard	75.000	5.36	55306.934	6587.745	83.954	78.4	4.5	NO	0.998	NO	bd
10	10 181012G1_11	Standard	100.000	5.36	69830.617	6729.085	103.774	96.9	-3.1	NO	0.998	NO	bb

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Compound name: PFTTrDA

Coefficient of Determination: $R^2 = 0.998726$

Calibration curve: $1.1578 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	5.57	214.451	7287.516	0.294	0.3	1.7	NO	0.999	NO	MM
2	2 181012G1_3	Standard	0.500	5.57	413.600	7502.357	0.551	0.5	-4.8	NO	0.999	NO	MM
3	3 181012G1_4	Standard	1.000	5.56	802.027	7275.093	1.102	1.0	-4.8	NO	0.999	NO	bd
4	4 181012G1_5	Standard	2.000	5.57	1709.790	7324.141	2.334	2.0	0.8	NO	0.999	NO	bb
5	5 181012G1_6	Standard	5.000	5.56	4053.267	7359.364	5.508	4.8	-4.9	NO	0.999	NO	bd
6	6 181012G1_7	Standard	10.000	5.57	7636.000	7378.302	10.349	8.9	-10.6	NO	0.999	NO	bb
7	7 181012G1_8	Standard	25.000	5.57	19327.982	6923.033	27.918	24.1	-3.5	NO	0.999	NO	bd
8	8 181012G1_9	Standard	50.000	5.57	41288.547	6934.462	59.541	51.4	2.9	NO	0.999	NO	bb
9	9 181012G1_10	Standard	75.000	5.56	59224.844	6587.745	89.902	77.6	3.5	NO	0.999	NO	bd
10	10 181012G1_11	Standard	100.000	5.56	76482.398	6729.085	113.659	98.2	-1.8	NO	0.999	NO	bb

Compound name: PFTeDA

Coefficient of Determination: $R^2 = 0.999036$

Calibration curve: $1.27395 * x$

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	0.250	5.75	219.187	7287.516	0.301	0.2	-5.6	NO	0.999	NO	bb
2	2 181012G1_3	Standard	0.500	5.75	409.687	7502.357	0.546	0.4	-14.3	NO	0.999	NO	bb
3	3 181012G1_4	Standard	1.000	5.74	903.637	7275.093	1.242	1.0	-2.5	NO	0.999	NO	bd
4	4 181012G1_5	Standard	2.000	5.74	1786.627	7324.141	2.439	1.9	-4.3	NO	0.999	NO	bb
5	5 181012G1_6	Standard	5.000	5.74	4334.276	7359.364	5.889	4.6	-7.5	NO	0.999	NO	bd
6	6 181012G1_7	Standard	10.000	5.74	8477.535	7378.302	11.490	9.0	-9.8	NO	0.999	NO	bb
7	7 181012G1_8	Standard	25.000	5.75	21755.270	6923.033	31.424	24.7	-1.3	NO	0.999	NO	bb
8	8 181012G1_9	Standard	50.000	5.74	45070.465	6934.462	64.995	51.0	2.0	NO	0.999	NO	bb
9	9 181012G1_10	Standard	75.000	5.74	64796.629	6587.745	98.359	77.2	2.9	NO	0.999	NO	dd
10	10 181012G1_11	Standard	100.000	5.74	84575.695	6729.085	125.687	98.7	-1.3	NO	0.999	NO	bd

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Compound name: 13C2-PFHxA

Response Factor: 0.899387

RRF SD: 0.0325421, Relative SD: 3.61826

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	10.000	3.28	6620.930	7287.516	9.085	10.1	1.0	NO		NO	bd
2	2 181012G1_3	Standard	10.000	3.28	6584.518	7502.357	8.777	9.8	-2.4	NO		NO	bb
3	3 181012G1_4	Standard	10.000	3.28	6675.907	7275.093	9.176	10.2	2.0	NO		NO	bd
4	4 181012G1_5	Standard	10.000	3.28	6419.309	7324.141	8.765	9.7	-2.5	NO		NO	bb
5	5 181012G1_6	Standard	10.000	3.28	6552.305	7359.364	8.903	9.9	-1.0	NO		NO	bb
6	6 181012G1_7	Standard	10.000	3.28	6244.213	7378.302	8.463	9.4	-5.9	NO		NO	bb
7	7 181012G1_8	Standard	10.000	3.28	6340.167	6923.033	9.158	10.2	1.8	NO		NO	bb
8	8 181012G1_9	Standard	10.000	3.27	6137.649	6934.462	8.851	9.8	-1.6	NO		NO	bb
9	9 181012G1_10	Standard	10.000	3.28	6374.668	6587.745	9.677	10.8	7.6	NO		NO	bd
10	10 181012G1_11	Standard	10.000	3.28	6112.649	6729.085	9.084	10.1	1.0	NO		NO	bd

Compound name: 13C2-PFDA

Response Factor: 1.10763

RRF SD: 0.0330808, Relative SD: 2.98664

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	10.000	4.85	8104.396	7287.516	11.121	10.0	0.4	NO		NO	bd
2	2 181012G1_3	Standard	10.000	4.85	8415.529	7502.357	11.217	10.1	1.3	NO		NO	bd
3	3 181012G1_4	Standard	10.000	4.85	8471.849	7275.093	11.645	10.5	5.1	NO		NO	bb
4	4 181012G1_5	Standard	10.000	4.85	7882.361	7324.141	10.762	9.7	-2.8	NO		NO	bb
5	5 181012G1_6	Standard	10.000	4.85	8428.619	7359.364	11.453	10.3	3.4	NO		NO	bb
6	6 181012G1_7	Standard	10.000	4.85	8018.845	7378.302	10.868	9.8	-1.9	NO		NO	bd
7	7 181012G1_8	Standard	10.000	4.85	7344.146	6923.033	10.608	9.6	-4.2	NO		NO	bb
8	8 181012G1_9	Standard	10.000	4.85	7846.356	6934.462	11.315	10.2	2.2	NO		NO	bd
9	9 181012G1_10	Standard	10.000	4.86	7212.570	6587.745	10.948	9.9	-1.2	NO		NO	bb
10	10 181012G1_11	Standard	10.000	4.86	7283.875	6729.085	10.824	9.8	-2.3	NO		NO	bd

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Compound name: d5-N-EtFOSAA

Response Factor: 0.884627

RRF SD: 0.0479775, Relative SD: 5.42347

Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	40.000	5.10	13722.670	14579.463	37.649	42.6	6.4	NO		NO	bd
2	2 181012G1_3	Standard	40.000	5.10	13275.893	14745.471	36.013	40.7	1.8	NO		NO	bd
3	3 181012G1_4	Standard	40.000	5.10	14076.699	16061.930	35.056	39.6	-0.9	NO		NO	bb
4	4 181012G1_5	Standard	40.000	5.10	13744.498	14582.292	37.702	42.6	6.5	NO		NO	bb
5	5 181012G1_6	Standard	40.000	5.10	14260.790	16456.383	34.663	39.2	-2.0	NO		NO	bd
6	6 181012G1_7	Standard	40.000	5.10	14135.111	15426.291	36.652	41.4	3.6	NO		NO	bd
7	7 181012G1_8	Standard	40.000	5.10	13278.067	15339.765	34.624	39.1	-2.2	NO		NO	bd
8	8 181012G1_9	Standard	40.000	5.10	13178.369	14384.174	36.647	41.4	3.6	NO		NO	bd
9	9 181012G1_10	Standard	40.000	5.10	12459.869	15192.734	32.805	37.1	-7.3	NO		NO	bd
10	10 181012G1_11	Standard	40.000	5.10	11330.048	14145.150	32.039	36.2	-9.5	NO		NO	bd

Compound name: 13C2-PFOA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	10.000	4.20	7287.516	7287.516	10.000	10.0	0.0	NO		NO	bd
2	2 181012G1_3	Standard	10.000	4.20	7502.357	7502.357	10.000	10.0	0.0	NO		NO	bd
3	3 181012G1_4	Standard	10.000	4.20	7275.093	7275.093	10.000	10.0	0.0	NO		NO	bb
4	4 181012G1_5	Standard	10.000	4.21	7324.141	7324.141	10.000	10.0	0.0	NO		NO	bb
5	5 181012G1_6	Standard	10.000	4.20	7359.364	7359.364	10.000	10.0	0.0	NO		NO	bb
6	6 181012G1_7	Standard	10.000	4.20	7378.302	7378.302	10.000	10.0	0.0	NO		NO	bd
7	7 181012G1_8	Standard	10.000	4.20	6923.033	6923.033	10.000	10.0	0.0	NO		NO	bd
8	8 181012G1_9	Standard	10.000	4.20	6934.462	6934.462	10.000	10.0	0.0	NO		NO	bd
9	9 181012G1_10	Standard	10.000	4.20	6587.745	6587.745	10.000	10.0	0.0	NO		NO	bd
10	10 181012G1_11	Standard	10.000	4.20	6729.085	6729.085	10.000	10.0	0.0	NO		NO	bd

Dataset: X:\G1.PRO\Results\2018\181012G1\181012G1-CRV.qld

Last Altered: Friday, October 19, 2018 14:08:41 Pacific Daylight Time
Printed: Friday, October 19, 2018 14:40:21 Pacific Daylight Time

Compound name: 13C4-PFOS

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	28.700	4.64	10961.452	10961.452	28.700	28.7	0.0	NO		NO	bb
2	2 181012G1_3	Standard	28.700	4.64	10733.885	10733.885	28.700	28.7	0.0	NO		NO	bd
3	3 181012G1_4	Standard	28.700	4.63	11055.601	11055.601	28.700	28.7	0.0	NO		NO	MM
4	4 181012G1_5	Standard	28.700	4.64	10243.249	10243.249	28.700	28.7	0.0	NO		NO	bd
5	5 181012G1_6	Standard	28.700	4.64	10615.488	10615.488	28.700	28.7	0.0	NO		NO	bd
6	6 181012G1_7	Standard	28.700	4.64	10454.304	10454.304	28.700	28.7	0.0	NO		NO	bb
7	7 181012G1_8	Standard	28.700	4.64	10482.066	10482.066	28.700	28.7	0.0	NO		NO	bd
8	8 181012G1_9	Standard	28.700	4.64	10164.512	10164.512	28.700	28.7	0.0	NO		NO	bb
9	9 181012G1_10	Standard	28.700	4.64	10585.264	10585.264	28.700	28.7	0.0	NO		NO	bd
10	10 181012G1_11	Standard	28.700	4.64	9208.750	9208.750	28.700	28.7	0.0	NO		NO	bb

Compound name: d3-N-MeFOSAA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 181012G1_2	Standard	40.000	4.96	14579.463	14579.463	40.000	40.0	0.0	NO		NO	bd
2	2 181012G1_3	Standard	40.000	4.96	14745.471	14745.471	40.000	40.0	0.0	NO		NO	bd
3	3 181012G1_4	Standard	40.000	4.96	16061.930	16061.930	40.000	40.0	0.0	NO		NO	bd
4	4 181012G1_5	Standard	40.000	4.97	14582.292	14582.292	40.000	40.0	0.0	NO		NO	bd
5	5 181012G1_6	Standard	40.000	4.96	16456.383	16456.383	40.000	40.0	0.0	NO		NO	bd
6	6 181012G1_7	Standard	40.000	4.97	15426.291	15426.291	40.000	40.0	0.0	NO		NO	bd
7	7 181012G1_8	Standard	40.000	4.96	15339.765	15339.765	40.000	40.0	0.0	NO		NO	bd
8	8 181012G1_9	Standard	40.000	4.97	14384.174	14384.174	40.000	40.0	0.0	NO		NO	MM
9	9 181012G1_10	Standard	40.000	4.97	15192.734	15192.734	40.000	40.0	0.0	NO		NO	bb
10	10 181012G1_11	Standard	40.000	4.97	14145.150	14145.150	40.000	40.0	0.0	NO		NO	bd

Dataset: X:\G1.PRO\Results\2018\181012G1\181012G1-CRV.qld

Last Altered: Friday, October 19, 2018 14:08:41 Pacific Daylight Time

Printed: Friday, October 19, 2018 14:41:34 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1012.mdb 13 Oct 2018 10:00:33

Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Name: 181012G1_2, Date: 12-Oct-2018, Time: 17:10:23, ID: ST181012G1-1 PFC CS-4 537 18J1104, Description: PFC CS-4 537 18J1104

	# Name	IS#	CoD	CoD Flag	%RSD
1	1 PFBS	19	0.9974	NO	
2	2 PFHxA	18	0.9986	NO	
3	3 PFHpA	18	0.9986	NO	
4	4 PFHxS	19	0.9958	NO	
5	5 PFOA	18	0.9986	NO	
6	6 PFNA	18	0.9991	NO	
7	7 PFOS	19	0.9986	NO	
8	8 PFDA	18	0.9986	NO	
9	9 N-MeFOSAA	20	0.9983	NO	
10	10 N-EtFOSAA	20	0.9989	NO	
11	11 PFUnA	18	0.9994	NO	
12	12 PFDoA	18	0.9985	NO	
13	13 PFTTrDA	18	0.9987	NO	
14	14 PFTeDA	18	0.9990	NO	
15	15 13C2-PFHxA	18		NO	3.618
16	16 13C2-PFDA	18		NO	2.987
17	17 d5-N-EtFOSAA	20		NO	5.423
18	18 13C2-PFOA	18		NO	0.000
19	19 13C4-PFOS	19		NO	0.000
20	20 d3-N-MeFOSAA	20		NO	0.000

ICAL

Compound 18: 13C2-PFOA

high	7502.36	RPD
low	6587.75	12.98

ID	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Flags
1 ST181012G1-1 PFC CS-4 537 18J1104	181012G1_2	Standard	10	4.20	7287.52	7287.52	10 bd	
2 ST181012G1-2 PFC CS-3 537 18J1105	181012G1_3	Standard	10	4.20	7502.36	7502.36	10 bd	
3 ST181012G1-3 PFC CS-2 537 18J1106	181012G1_4	Standard	10	4.20	7275.09	7275.09	10 bb	
4 ST181012G1-4 PFC CS-1 537 18J1107	181012G1_5	Standard	10	4.21	7324.14	7324.14	10 bb	
5 ST181012G1-5 PFC CS0 537 18J1108	181012G1_6	Standard	10	4.20	7359.36	7359.36	10 bb	
6 ST181012G1-6 PFC CS1 537 18J1109	181012G1_7	Standard	10	4.20	7378.30	7378.30	10 bd	
7 ST181012G1-7 PFC CS2 537 18J1110	181012G1_8	Standard	10	4.20	6923.03	6923.03	10 bd	
8 ST181012G1-8 PFC CS3 537 18J1111	181012G1_9	Standard	10	4.20	6934.46	6934.46	10 bd	
9 ST181012G1-9 PFC CS4 537 18J1112	181012G1_10	Standard	10	4.20	6587.75	6587.75	10 bd	
10 ST181012G1-10 PFC CS5 537 18J1113	181012G1_11	Standard	10	4.20	6729.09	6729.09	10 bd	

Average:
7130.11

Compound 19: 13C4-PFOS

high	11055.60	RPD
low	9208.75	18.23

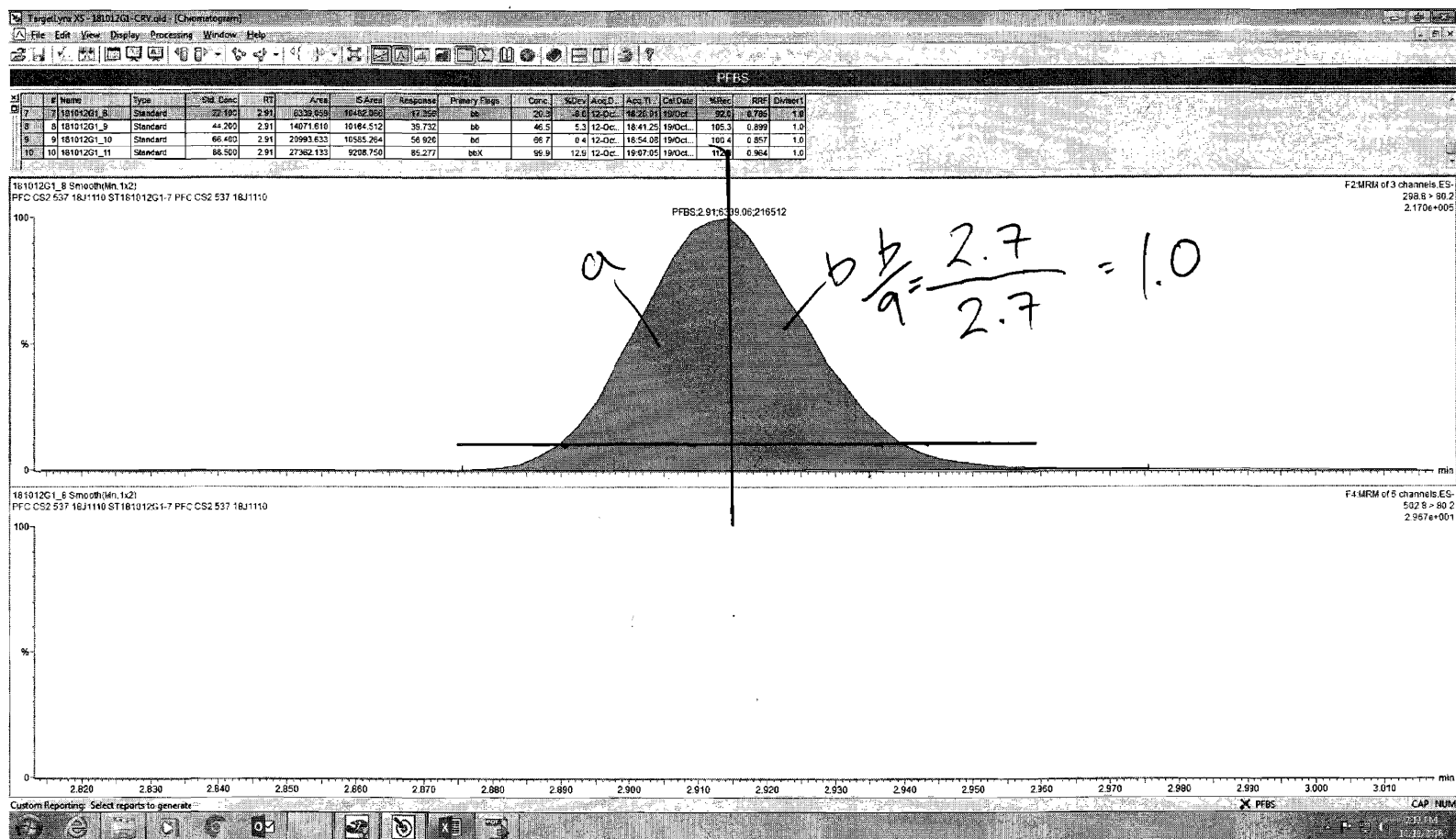
ID	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Flags
1 ST181012G1-1 PFC CS-4 537 18J1104	181012G1_2	Standard	28.7	4.64	10961.45	10961.45	28.7 bb	
2 ST181012G1-2 PFC CS-3 537 18J1105	181012G1_3	Standard	28.7	4.64	10733.89	10733.89	28.7 bd	
3 ST181012G1-3 PFC CS-2 537 18J1106	181012G1_4	Standard	28.7	4.63	11055.60	11055.60	28.7 MM	
4 ST181012G1-4 PFC CS-1 537 18J1107	181012G1_5	Standard	28.7	4.64	10243.25	10243.25	28.7 bd	
5 ST181012G1-5 PFC CS0 537 18J1108	181012G1_6	Standard	28.7	4.64	10615.49	10615.49	28.7 bd	
6 ST181012G1-6 PFC CS1 537 18J1109	181012G1_7	Standard	28.7	4.64	10454.30	10454.30	28.7 bb	
7 ST181012G1-7 PFC CS2 537 18J1110	181012G1_8	Standard	28.7	4.64	10482.07	10482.07	28.7 bd	
8 ST181012G1-8 PFC CS3 537 18J1111	181012G1_9	Standard	28.7	4.64	10164.51	10164.51	28.7 bb	
9 ST181012G1-9 PFC CS4 537 18J1112	181012G1_10	Standard	28.7	4.64	10585.26	10585.26	28.7 bd	
10 ST181012G1-10 PFC CS5 537 18J1113	181012G1_11	Standard	28.7	4.64	9208.75	9208.75	28.7 bb	

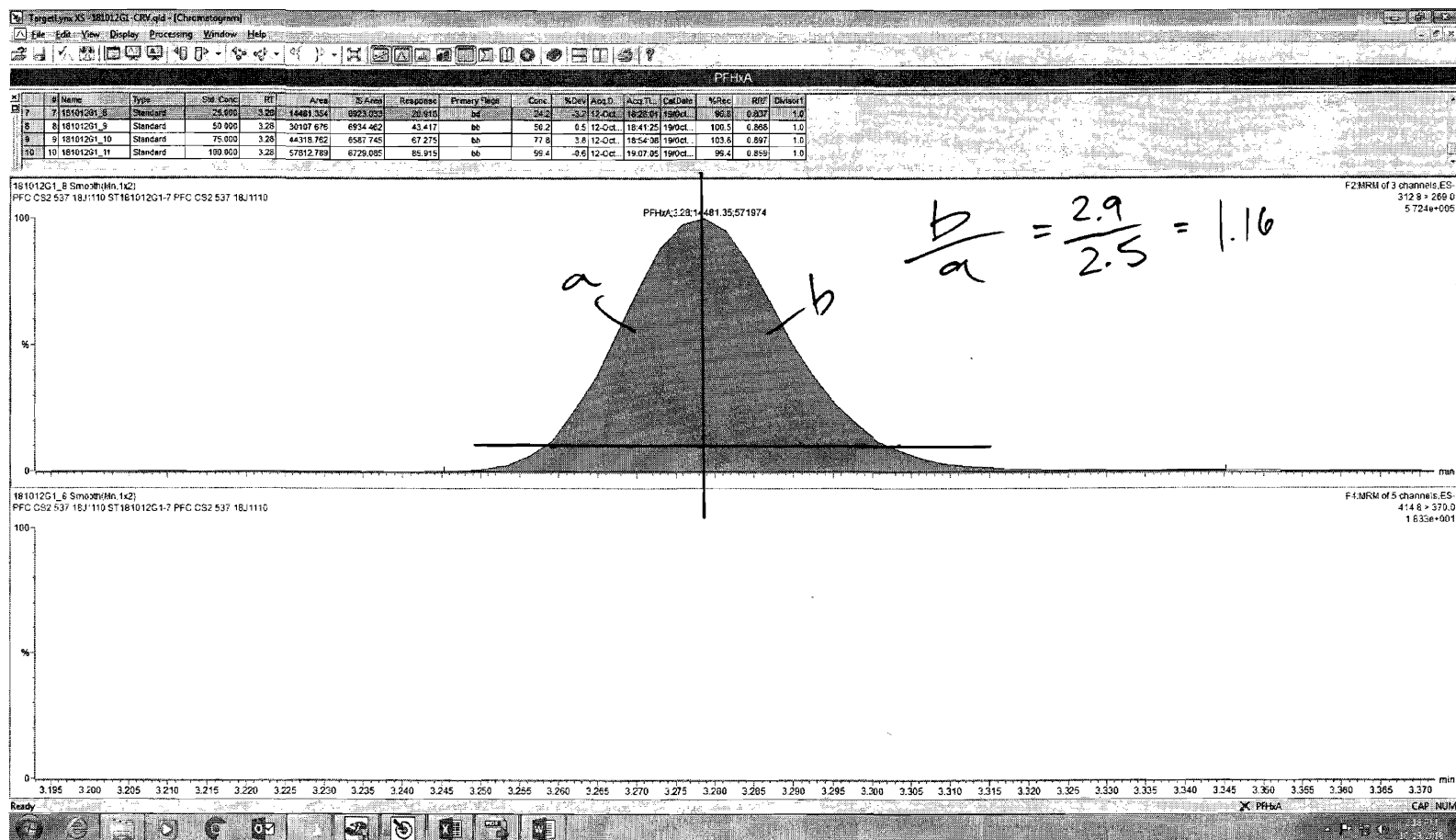
Average:
10450.46

KBF 10/19/2018

Compound 20: d3-N-MeFOSAAhigh
low16456.38 RPD
14145.15 15.11

ID	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Flags
1 ST181012G1-1 PFC CS-4 537 18J1104	181012G1_2	Standard	40	4.96	14579.46	14579.46	40	bd
2 ST181012G1-2 PFC CS-3 537 18J1105	181012G1_3	Standard	40	4.96	14745.47	14745.47	40	bd
3 ST181012G1-3 PFC CS-2 537 18J1106	181012G1_4	Standard	40	4.96	16061.93	16061.93	40	bd
4 ST181012G1-4 PFC CS-1 537 18J1107	181012G1_5	Standard	40	4.97	14582.29	14582.29	40	bd
5 ST181012G1-5 PFC CS0 537 18J1108	181012G1_6	Standard	40	4.96	16456.38	16456.38	40	bd
6 ST181012G1-6 PFC CS1 537 18J1109	181012G1_7	Standard	40	4.97	15426.29	15426.29	40	bd
7 ST181012G1-7 PFC CS2 537 18J1110	181012G1_8	Standard	40	4.96	15339.77	15339.77	40	bd
8 ST181012G1-8 PFC CS3 537 18J1111	181012G1_9	Standard	40	4.97	14384.17	14384.17	40	MM
9 ST181012G1-9 PFC CS4 537 18J1112	181012G1_10	Standard	40	4.97	15192.73	15192.73	40	bb
10 ST181012G1-10 PFC CS5 537 18J1113	181012G1_11	Standard	40	4.97	14145.15	14145.15	40	bd
Average:							15091.37	





Dataset: Untitled

Last Altered: Friday, October 19, 2018 14:42:48 Pacific Daylight Time

Printed: Friday, October 19, 2018 14:42:58 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1012.mdb 13 Oct 2018 10:00:33

Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Compound name: PFBS

	#	Name	ID	Acq.Date	Acq.Time
1	1	181012G1_1	IPA	12-Oct-18	16:58:09
2	2	181012G1_2	ST181012G1-1 PFC CS-4 537 18J1104	12-Oct-18	17:10:23
3	3	181012G1_3	ST181012G1-2 PFC CS-3 537 18J1105	12-Oct-18	17:23:12
4	4	181012G1_4	ST181012G1-3 PFC CS-2 537 18J1106	12-Oct-18	17:36:11
5	5	181012G1_5	ST181012G1-4 PFC CS-1 537 18J1107	12-Oct-18	17:49:08
6	6	181012G1_6	ST181012G1-5 PFC CS0 537 18J1108	12-Oct-18	18:02:06
7	7	181012G1_7	ST181012G1-6 PFC CS1 537 18J1109	12-Oct-18	18:15:03
8	8	181012G1_8	ST181012G1-7 PFC CS2 537 18J1110	12-Oct-18	18:28:01
9	9	181012G1_9	ST181012G1-8 PFC CS3 537 18J1111	12-Oct-18	18:41:25
10	10	181012G1_10	ST181012G1-9 PFC CS4 537 18J1112	12-Oct-18	18:54:08
11	11	181012G1_11	ST181012G1-10 PFC CS5 537 18J1113	12-Oct-18	19:07:05
12	12	181012G1_12	IPA	12-Oct-18	19:20:02
13	13	181012G1_13	ST181012G1-1 PFC ICV 537 18J1114	12-Oct-18	19:33:02
14	14	181012G1_14	IPA	12-Oct-18	19:46:05

Dataset: X:\G1.PRO\Results\2018\181012G1\181012G1-ICV.qld

ICV

Last Altered: Friday, October 19, 2018 15:02:58 Pacific Daylight Time
Printed: Friday, October 19, 2018 15:03:24 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1012.mdb 13 Oct 2018 10:00:33

Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Name: 181012G1_13, Date: 12-Oct-2018, Time: 19:33:02, ID: ST181012G1-1 PFC ICV 537 18J1114, Description: PFC ICV 537 18J1114

	# Name	Trace	Area	IS Area	WL/Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	3.21e3	1.07e4	1.00		2.91	2.91	8.62	10.1	101.0
2	2 PFHxA	312.8 > 269.0	5.83e3	7.04e3	1.00		3.28	3.28	8.28	9.58	95.8
3	3 PFHpA	362.8 > 319.0	6.60e3	7.04e3	1.00		3.79	3.79	9.36	10.1	100.5
4	4 PFHxS	398.7 > 80.2	3.11e3	1.07e4	1.00		3.91	3.91	8.36	9.59	95.9
5	5 PFOA	412.7 > 368.9	6.57e3	7.04e3	1.00		4.20	4.20	9.32	10.1	101.2
6	6 PFNA	462.8 > 419.0	6.36e3	7.04e3	1.00		4.57	4.56	9.03	10.3	102.7
7	7 PFOS	498.7 > 80.2	1.26e3	1.07e4	1.00		4.64	4.64	3.38	11.4	113.6
8	8 PFDA	512.8 > 468.9	8.46e3	7.04e3	1.00		4.85	4.87	12.0	9.37	93.7
9	9 N-MeFOSAA	569.8 > 419.0	2.97e3	1.58e4	1.00		4.98	4.98	7.51	10.3	103.4
10	10 N-EtFOSAA	583.8 > 419.0	2.51e3	1.58e4	1.00		5.11	5.10	6.34	9.71	97.1
11	11 PFUnA	562.7 > 518.9	8.37e3	7.04e3	1.00		5.12	5.11	11.9	10.1	100.6
12	12 PFDoA	612.8 > 569.0	7.86e3	7.04e3	1.00		5.36	5.35	11.2	10.4	104.3
13	13 PFTriDA	662.8 > 619.0	8.08e3	7.04e3	1.00		5.57	5.56	11.5	9.91	99.1
14	14 PFTeDA	712.8 > 669.0	8.99e3	7.04e3	1.00		5.75	5.74	12.8	10.0	100.2
15	15 13C2-PFHxA	314.9 > 270.0	6.50e3	7.04e3	1.00	0.899	3.27	3.27	9.23	10.3	102.7
16	16 13C2-PFDA	514.8 > 470.0	8.27e3	7.04e3	1.00	1.108	4.83	4.86	11.7	10.6	106.0
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.51e4	1.58e4	1.00	0.885	5.10	5.10	38.2	43.2	108.1
18	18 13C2-PFOA	414.8 > 370.0	7.04e3	7.04e3	1.00	1.000	4.20	4.20	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.07e4	1.07e4	1.00	1.000	4.64	4.64	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.58e4	1.58e4	1.00	1.000	4.96	4.97	40.0	40.0	100.0

10/19/18
10/19/18

CAL-DW15-20181017

SAMPLE CALCULATION

Compound

Pentadecafluorooctanoic acid (PFOA)

Sample volume (L)

0.261

Internal standard concentration

10

Concentration using quadratic/calibration curve

$$935 * (10 / 8440)$$

1.10782

Curve

Calibration curve $(y)=0.92091 \cdot x$
 $1.10782=0.92091 \cdot x$

x= 1.202962

PFBS result Conc = x/wt
result reported

4.609051 ng/L
4.61 ng/L

LABELED STANDARD (SURROGATE) CALCULATION

Compound

13C2-PFHxA

Sample volume (L)

0.261

Internal standard concentration

10

Concentration using quadratic/calibration curve

$$7430 * (10 / 8440) / 0.899$$

9.792344

PFDA result Conc = x/wt
result reported

37.51856 ng/L
37.5 ng/L

% Rec

$$\frac{\text{Area} \times (\text{IS concentration}) / (\text{IS area}) (\text{Recovery standard concentration}) / \text{RRF}}{(7430 \times 10) / (8440 \times 10 \times 0.899)} \times 100$$

97.92344

% recovery reported

97.9 %

LFBD %R

B8J0164-BS1

PFOA

Spike amount

LCS concentration

121.75 %

80

97.4

MM 10/23/2018

Dataset: X:\G1.PRO\Results\2018\181023G1\181023G1-12.qld

Last Altered: Tuesday, October 23, 2018 15:41:05 Pacific Daylight Time

Printed: Tuesday, October 23, 2018 15:42:11 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1023.mdb 23 Oct 2018 10:31:22

Calibration: X:\G1.pro\CurveDB\C18_537_Q1_10-12-18_L14.cdb 19 Oct 2018 14:08:41

Name: 181023G1_12, Date: 23-Oct-2018, Time: 12:04:32, ID: 1803361-01 CAL-DW15-20181017 0.26097, Description: CAL-DW15-20181017

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	1.03e2	1.37e4	0.261		2.92	2.92	0.214	0.962	
2	2 PFHxA	312.8 > 269.0	5.71e2	8.44e3	0.261		3.29	3.28	0.676	3.00	
3	3 PFHpA	362.8 > 319.0	3.54e2	8.44e3	0.261		3.79	3.79	0.419	1.72	
4	4 PFHxS	398.7 > 80.2	1.16e2	1.37e4	0.261		3.91	3.91	0.243	1.07	
5	5 PFOA	412.7 > 368.9	9.35e2	8.44e3	0.261		4.21	4.21	1.11	4.61	
6	6 PFNA	462.8 > 419.0	5.53e1	8.44e3	0.261		4.57	4.57	0.0655	0.286	
7	7 PFOS	498.7 > 80.2		1.37e4	0.261		4.64				
8	8 PFDA	512.8 > 468.9	6.65e1	8.44e3	0.261		4.88	4.88	0.0787	0.235	
9	9 N-MeFOSAA	569.8 > 419.0		2.05e4	0.261		5.01				
10	10 N-EtFOSAA	583.8 > 419.0		2.05e4	0.261		5.14				
11	11 PFUnA	562.7 > 518.9		8.44e3	0.261		5.15				
12	12 PFDoA	612.8 > 569.0	1.28e1	8.44e3	0.261		5.34	5.32	0.0152	0.0543	
13	13 PFTrDA	662.8 > 619.0		8.44e3	0.261		5.55				
14	14 PFTeDA	712.8 > 669.0		8.44e3	0.261		5.73				
15	15 13C2-PFHxA	314.9 > 270.0	7.43e3	8.44e3	0.261	0.899	3.28	3.28	8.80	37.5	97.9
16	16 13C2-PFDA	514.8 > 470.0	9.48e3	8.44e3	0.261	1.108	4.85	4.88	11.2	38.9	101.4
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.43e4	2.05e4	0.261	0.885	5.14	5.11	27.9	121	78.8
18	18 13C2-PFOA	414.8 > 370.0	8.44e3	8.44e3	0.261	1.000	4.21	4.21	10.0	38.3	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.37e4	1.37e4	0.261	1.000	4.64	4.64	28.7	110	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	2.05e4	2.05e4	0.261	1.000	5.01	5.01	40.0	153	100.0

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DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC
MID_ATLANTIC	CALVERTON_NWIRP	1803361	OFFSITE_RW	SITE 0006A	CAL-DW15	Domestic well	1328618.302	270871.7501	N6247016D9008	WE05	TETRA TECH, INC.	CAL-DW15-20181017	Drinking water	Normal (Regular)	17-Oct-18	537	Perfluoroalkyl Compounds
MID_ATLANTIC	CALVERTON_NWIRP	1803361							N6247016D9008	WE05	TETRA TECH, INC.	CAL-DW15-FRB-20181017	Water for QC samples	Field Reagent Blank	17-Oct-18	537	Perfluoroalkyl Compounds