



**Off-Base Drinking Water Sample Results,  
Electronic Data Deliverable, Data Validation Report,  
and the Sample Location Figure, SDG 1803199**

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

August 2019

"CAL-DW11-20180928","EPA Method 537","Initial","1803199-01","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-DW11-20180928","EPA Method 537","Initial","1803199-01","Vista","307-24-4","PFHxA","9.88","ng/L","","2.91","LOD","","TRG","","","9.58","LOQ","YES",-99","","","0.261","0.001","4.79",""  
"CAL-DW11-20180928","EPA Method 537","Initial","1803199-01","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-DW11-20180928","EPA Method 537","Initial","1803199-01","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-DW11-20180928","EPA Method 537","Initial","1803199-01","Vista","335-67-1","PFOA","6.65","ng/L","J","2.91","LOD","","TRG","","","9.58","LOQ","YES",-99","","","0.261","0.001","4.79",""  
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"CAL-DW11-20180928","EPA Method 537","Initial","1803199-01","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-DW11-20180928","EPA Method 537","Initial","1803199-01","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-DW11-20180928","EPA Method 537","Initial","1803199-01","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"  
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"CAL-DW11-20180928","EPA Method 537","Initial","1803199-01","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",  
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"CAL-DW11-20180928","EPA Method 537","Initial","1803199-01","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",""  
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"CAL-DW11-20180928","EPA Method 537","Initial","1803199-01","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",""  
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"CAL-DW11-FRB-20180928","EPA Method 537","Initial","1803199-02","Vista","375-85-9","PFHpA","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES",-99","","","0.259","0.001","4.83",""  
"CAL-DW11-FRB-20180928","EPA Method 537","Initial","1803199-02","Vista","355-46-4","PFHxS","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES",-99","","","0.259","0.001","4.83",""  
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9","MeFOSAA","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES","-99","","0.259","0.001","4.83",  
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"CAL-DW11-FRB-20180928","EPA Method 537","Initial","1803199-02","Vista","2991-50-  
6","EtFOSAA","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES","-99","","0.259","0.001","4.83",  
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8","PFUnA","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES","-99","","0.259","0.001","4.83",  
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1","PFDoA","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES","-99","","0.259","0.001","4.83",  
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7","PFTeDA","4.83","ng/L","U","2.93","LOD","","TRG","","","9.65","LOQ","YES","-99","","0.259","0.001","4.83",  
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"CAL-DW09-20180929","EPA Method 537","Initial","1803199-03","Vista","375-73-  
5","PFBS","4.70","ng/L","U","2.86","LOD","","TRG","","","9.41","LOQ","YES","-99","","0.266","0.001","4.70",  
"CAL-DW09-20180929","EPA Method 537","Initial","1803199-03","Vista","307-24-  
4","PFHxA","5.99","ng/L","J","2.86","LOD","","TRG","","","9.41","LOQ","YES","-99","","0.266","0.001","4.70",  
"CAL-DW09-20180929","EPA Method 537","Initial","1803199-03","Vista","375-85-  
9","PFHpA","3.28","ng/L","J","2.86","LOD","","TRG","","","9.41","LOQ","YES","-99","","0.266","0.001","4.70",  
"CAL-DW09-20180929","EPA Method 537","Initial","1803199-03","Vista","355-46-  
4","PFHxS","4.70","ng/L","U","2.86","LOD","","TRG","","","9.41","LOQ","YES","-99","","0.266","0.001","4.70",  
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1","PFOA","11.2","ng/L","","2.86","LOD","","TRG","","","9.41","LOQ","YES","-99","","0.266","0.001","4.70",  
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"CAL-DW09-20180929","EPA Method 537","Initial","1803199-03","Vista","2991-50-  
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"CAL-DW09-FRB-20180929", "EPA Method 537", "Initial", "1803199-04", "Vista", "376-06-7", "PFTeDA", "4.77", "ng/L", "U", "2.91", "LOD", "", "TRG", "", "", "9.56", "LOQ", "YES", "-99", "", "0.262", "0.001", "4.77", ""  
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"CAL-DW09-FRB-20180929", "EPA Method 537", "Initial", "1803199-04", "Vista", "d5-EtFOSAA", "d5-EtFOSAA", "108", "%R", "", "-99", "NA", "", "SURR", "108", "", "-99", "NA", "YES", "100", "", "0.262", "0.001", "-99", ""  
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"CAL-DW08-20181001", "EPA Method 537", "Initial", "1803199-05", "Vista", "355-46-4", "PFHxS", "4.79", "ng/L", "U", "2.92", "LOD", "", "TRG", "", "", "9.59", "LOQ", "YES", "-99", "", "0.261", "0.001", "4.79", ""  
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PFDA","106","%R","","-99","NA","","SURR","106","","-99","NA","YES","100","","0.261","0.001","-99",  
"CAL-DW08-20181001","EPA Method 537","Initial","1803199-05","Vista","d5-EtFOSAA","d5-  
EtFOSAA","123","%R","","-99","NA","","SURR","123","","-99","NA","YES","100","","0.261","0.001","-99",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","375-73-  
5","PFBS","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","307-24-  
4","PFHxA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","375-85-  
9","PFHpA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","355-46-  
4","PFHxS","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","335-67-  
1","PFOA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","375-95-  
1","PFNA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","1763-23-  
1","PFOS","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","335-76-  
2","PFDA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","2355-31-  
9","MeFOSAA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
,"  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","2991-50-  
6","EtFOSAA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
,"  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","2058-94-  
8","PFUnA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","307-55-  
1","PFDoA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","72629-94-  
8","PFTTrDA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","376-06-  
7","PFTeDA","4.88","ng/L","U","2.97","LOD","","TRG","","","9.77","LOQ","YES","-99","","0.256","0.001","4.88",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","13C2-PFHxA","13C2-  
PFHxA","106","%R","","-99","NA","","SURR","106","","-99","NA","YES","100","","0.256","0.001","-99",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","13C2-PFDA","13C2-  
PFDA","106","%R","","-99","NA","","SURR","106","","-99","NA","YES","100","","0.256","0.001","-99",  
"CAL-DW08-FRB-20181001","EPA Method 537","Initial","1803199-06","Vista","d5-EtFOSAA","d5-

EtFOSAA", "81.4", "%R", "", "-99", "NA", "", "SURR", "81.4", "", "-99", "NA", "YES", "100", "", "0.256", "0.001", "-99", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-BLK1", "Vista", "307-55-  
1", "PFDoA", "5.00", "ng/L", "U", "3.04", "LOD", "", "TRG", "", "", "10.0", "LOQ", "YES", "-99", "", "0.250", "0.001", "5.00", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-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", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-BLK1", "Vista", "13C2-PFHxA", "13C2-  
PFHxA", "104", "%R", "", "-99", "NA", "", "SUR", "104", "", "-99", "NA", "YES", "100", "", "0.250", "0.001", "-99", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-BLK1", "Vista", "13C2-PFDA", "13C2-  
PFDA", "111", "%R", "", "-99", "NA", "", "SUR", "111", "", "-99", "NA", "YES", "100", "", "0.250", "0.001", "-99", ""  
"B8J0030-BLK1", "EPA Method 537", "Initial", "B8J0030-BLK1", "Vista", "d5-EtFOSAA", "d5-  
EtFOSAA", "114", "%R", "", "-99", "NA", "", "SUR", "114", "", "-99", "NA", "YES", "100", "", "0.250", "0.001", "-99", ""  
"B8J0030-BS1", "EPA Method 537", "Initial", "B8J0030-BS1", "Vista", "375-73-  
5", "PFBS", "41.4", "ng/L", "", "3.04", "LOD", "", "TRG", "117", "", "10.0", "LOQ", "YES", "35.4", "", "0.250", "0.001", "5.00", ""  
"B8J0030-BS1", "EPA Method 537", "Initial", "B8J0030-BS1", "Vista", "307-24-  
4", "PFHxA", "46.4", "ng/L", "", "3.04", "LOD", "", "TRG", "116", "", "10.0", "LOQ", "YES", "40.0", "", "0.250", "0.001", "5.00", ""  
"B8J0030-BS1", "EPA Method 537", "Initial", "B8J0030-BS1", "Vista", "375-85-  
9", "PFHpA", "46.4", "ng/L", "", "3.04", "LOD", "", "TRG", "116", "", "10.0", "LOQ", "YES", "40.0", "", "0.250", "0.001", "5.00", ""  
"B8J0030-BS1", "EPA Method 537", "Initial", "B8J0030-BS1", "Vista", "355-46-  
4", "PFHxS", "44.5", "ng/L", "", "3.04", "LOD", "", "TRG", "122", "", "10.0", "LOQ", "YES", "36.4", "", "0.250", "0.001", "5.00", ""  
"B8J0030-BS1", "EPA Method 537", "Initial", "B8J0030-BS1", "Vista", "335-67-  
1", "PFOA", "44.6", "ng/L", "", "3.04", "LOD", "", "TRG", "112", "", "10.0", "LOQ", "YES", "40.0", "", "0.250", "0.001", "5.00", ""  
"B8J0030-BS1", "EPA Method 537", "Initial", "B8J0030-BS1", "Vista", "375-95-  
1", "PFNA", "46.9", "ng/L", "", "3.04", "LOD", "", "TRG", "117", "", "10.0", "LOQ", "YES", "40.0", "", "0.250", "0.001", "5.00", ""

"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","1763-23-1","PFOS","42.4","ng/L","3.04","LOD","TRG","115","10.0","LOQ","YES","37.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","335-76-2","PFDA","46.1","ng/L","3.04","LOD","TRG","115","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","2355-31-9","MeFOSAA","42.2","ng/L","3.04","LOD","TRG","106","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","2991-50-6","EtFOSAA","44.9","ng/L","3.04","LOD","TRG","112","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","2058-94-8","PFUnA","44.2","ng/L","3.04","LOD","TRG","110","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","307-55-1","PFDoA","39.2","ng/L","3.04","LOD","TRG","98.0","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","72629-94-8","PFTrDA","43.8","ng/L","3.04","LOD","TRG","109","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","376-06-7","PFTeDA","42.2","ng/L","3.04","LOD","TRG","106","10.0","LOQ","YES","40.0","0.250","0.001","5.00","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","13C2-PFHxA","13C2-PFHxA","107","%R","-99","NA","SUR","107","-99","NA","YES","100","0.250","0.001","-99","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","13C2-PFDA","13C2-PFDA","112","%R","-99","NA","SUR","112","-99","NA","YES","100","0.250","0.001","-99","  
"B8J0030-BS1","EPA Method 537","Initial","B8J0030-BS1","Vista","d5-EtFOSAA","d5-EtFOSAA","100","%R","-99","NA","SUR","100","-99","NA","YES","100","0.250","0.001","-99","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","375-73-5","PFBS","41.0","ng/L","3.05","LOD","TRG","113","10.0","LOQ","YES","35.6","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","307-24-4","PFHxA","51.0","ng/L","3.05","LOD","TRG","112","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","375-85-9","PFHpA","50.1","ng/L","3.05","LOD","TRG","116","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","355-46-4","PFHxS","46.3","ng/L","3.05","LOD","TRG","120","10.0","LOQ","YES","36.6","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","335-67-1","PFOA","59.3","ng/L","3.05","LOD","TRG","120","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","375-95-1","PFNA","45.0","ng/L","3.05","LOD","TRG","110","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","1763-23-1","PFOS","50.4","ng/L","3.05","LOD","TRG","120","10.0","LOQ","YES","37.2","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","335-76-2","PFDA","45.0","ng/L","3.05","LOD","TRG","111","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02","  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","2355-31-

9","MeFOSAA","46.1","ng/L","","3.05","LOD","","TRG","115","","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","2991-50-6","EtFOSAA","40.5","ng/L","","3.05","LOD","","TRG","101","","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","2058-94-8","PFUnA","40.0","ng/L","","3.05","LOD","","TRG","99.4","","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","307-55-1","PFDoA","42.3","ng/L","","3.05","LOD","","TRG","105","","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","72629-94-8","PFTTrDA","47.1","ng/L","","3.05","LOD","","TRG","117","","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","376-06-7","PFTeDA","38.1","ng/L","","3.05","LOD","","TRG","94.7","","10.0","LOQ","YES","40.2","CAL-DW09-20180929","0.249","0.001","5.02",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","13C2-PFHxA","13C2-PFHxA","111","%R","","-99","NA","","SUR","111","","-99","NA","YES","100","CAL-DW09-20180929","0.249","0.001","-99",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","13C2-PFDA","13C2-PFDA","106","%R","","-99","NA","","SUR","106","","-99","NA","YES","100","CAL-DW09-20180929","0.249","0.001","-99",""  
"B8J0030-MS1","EPA Method 537","Initial","B8J0030-MS1","Vista","d5-EtFOSAA","d5-EtFOSAA","103","%R","","-99","NA","","SUR","103","","-99","NA","YES","100","CAL-DW09-20180929","0.249","0.001","-99",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","375-73-5","PFBS","38.9","ng/L","","2.86","LOD","","TRG","115","1.75","9.39","LOQ","YES","33.3","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","307-24-4","PFHxA","48.3","ng/L","","2.86","LOD","","TRG","112","0","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","375-85-9","PFHpA","47.1","ng/L","","2.86","LOD","","TRG","117","0.858","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","355-46-4","PFHxS","42.9","ng/L","","2.86","LOD","","TRG","118","1.68","9.39","LOQ","YES","34.2","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","335-67-1","PFOA","50.6","ng/L","","2.86","LOD","","TRG","105","13.3","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","375-95-1","PFNA","43.0","ng/L","","2.86","LOD","","TRG","112","1.80","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","1763-23-1","PFOS","44.4","ng/L","","2.86","LOD","","TRG","111","7.79","9.39","LOQ","YES","34.8","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","335-76-2","PFDA","43.8","ng/L","","2.86","LOD","","TRG","116","4.41","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","2355-31-9","MeFOSAA","37.5","ng/L","","2.86","LOD","","TRG","99.8","14.2","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","2991-50-



6","EtFOSAA","37.7","ng/L","","2.86","LOD","","TRG","100","0.995","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","2058-94-8","PFUnA","36.9","ng/L","","2.86","LOD","","TRG","98.2","1.21","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","307-55-1","PFDoA","39.4","ng/L","","2.86","LOD","","TRG","105","0","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","72629-94-8","PFTrDA","41.1","ng/L","","2.86","LOD","","TRG","109","7.08","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","376-06-7","PFTeDA","37.6","ng/L","","2.86","LOD","","TRG","100","5.44","9.39","LOQ","YES","37.6","CAL-DW09-20180929","0.266","0.001","4.70",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","13C2-PFHxA","13C2-PFHxA","107","%R","","-99","NA","","SUR","107","","-99","NA","YES","100","CAL-DW09-20180929","0.266","0.001","-99",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","13C2-PFDA","13C2-PFDA","113","%R","","-99","NA","","SUR","113","","-99","NA","YES","100","CAL-DW09-20180929","0.266","0.001","-99",""  
"B8J0030-MSD1","EPA Method 537","Initial","B8J0030-MSD1","Vista","d5-EtFOSAA","d5-EtFOSAA","111","%R","","-99","NA","","SUR","111","","-99","NA","YES","100","CAL-DW09-20180929","0.266","0.001","-99",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","CAL-DW11-20180928","09/28/2018 18:05","AQ","1803199-01","NM","","1.10","EPA Method 537","METHOD","Initial","10/04/2018 09:15","10/08/2018 18:34","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","10/02/2018 09:03","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","CAL-DW11-FRB-20180928","09/28/2018 18:05","AQ","1803199-02","NM","","1.10","EPA Method 537","METHOD","Initial","10/04/2018 09:15","10/08/2018 18:47","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","10/02/2018 09:03","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","CAL-DW09-20180929","09/29/2018 11:04","AQ","1803199-03","NM","","1.10","EPA Method 537","METHOD","Initial","10/04/2018 09:15","10/09/2018 11:39","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","10/02/2018 09:03","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","CAL-DW09-FRB-20180929","09/29/2018 11:04","AQ","1803199-04","NM","","1.10","EPA Method 537","METHOD","Initial","10/04/2018 09:15","10/08/2018 19:13","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","10/02/2018 09:03","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","CAL-DW08-20181001","10/01/2018 10:06","AQ","1803199-05","NM","","1.10","EPA Method 537","METHOD","Initial","10/04/2018 09:15","10/08/2018 19:26","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","10/02/2018 09:03","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","CAL-DW08-FRB-20181001","10/01/2018 10:06","AQ","1803199-06","NM","","1.10","EPA Method 537","METHOD","Initial","10/04/2018 09:15","10/08/2018 19:39","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","10/02/2018 09:03","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","B8J0030-

BLK1","01/01/1900 00:00","AQ","B8J0030-BLK1","MB",,"",-99","EPA Method  
537","METHOD","Initial","10/04/2018 09:15","10/08/2018  
17:55","Vista","COA","WET","NA","1","NA","NA","01/01/1900  
00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","01/01/1900 00:00","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","B8J0030-  
BS1","01/01/1900 00:00","AQ","B8J0030-BS1","LCS",,"",-99","EPA Method 537","METHOD","Initial","10/04/2018  
09:15","10/08/2018 17:43","Vista","COA","WET","NA","1","NA","NA","01/01/1900  
00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","01/01/1900 00:00","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","B8J0030-  
MS1","01/01/1900 00:00","AQ","B8J0030-MS1","MS",,"",-99","EPA Method 537","METHOD","Initial","10/04/2018  
09:15","10/08/2018 18:08","Vista","COA","WET","NA","1","NA","NA","01/01/1900  
00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","01/01/1900 00:00","01/01/1900 00:00",""  
"Calverton Off Base DW Sampling","Calverton Off Base DW Sampling 112G08005-WE05","B8J0030-  
MSD1","01/01/1900 00:00","AQ","B8J0030-MSD1","MSD",,"",-99","EPA Method  
537","METHOD","Initial","10/04/2018 09:15","10/08/2018  
18:21","Vista","COA","WET","NA","1","NA","NA","01/01/1900  
00:00","100","B8J0030","B8J0030","NA","S8J0024","1803199","01/01/1900 00:00","01/01/1900 00:00",""



**TO:** K. FRANCISCO **DATE:** OCTOBER 19, 2018  
**FROM:** MICHELLE L. WOEBER **COPIES:** DV FILE  
**SUBJECT:** ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)  
 NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), CALVERTON  
 SAMPLE DELIVERY GROUP (SDG) 1803199

**SAMPLES:** 3/Drinking Water/PFAS  
 CAL-DW08-20181001 CAL-DW09-20180929 CAL-DW11-20180928  
 3/Field Reagent Blank (FRB)/PFAS  
 CAL-DW08-FRB-20181001 CAL-DW09-FRB-20180929 CAL-DW11-FRB-20180928

**Overview**

The sample set for NWIRP Calverton, SDG 1803199 consisted of three (3) drinking water samples and three (3) FRB samples. All samples were analyzed for polyfluoroalkyl substances (PFAS). No field duplicate sample pair was included in this SDG.

The samples were collected by Tetra Tech, Inc. on September 28, 29, and October 1, 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 via EPA 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 Results
- \* • Matrix Spike/Matrix Spike 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**

The injection internal standard, 13C4-perfluorooctanesulfonic acid (13C4-PFOS), had Percent Recoveries (%Rs) below the 70% quality control limit in samples CAL-DW11-FRB-20180928 and CAL-DW09-FRB-20180929 based the Continuing Calibration Verification (CCV) response. In addition, the %R for the injection internal standard, 13C2-pentadecafluorooctanic acid (13C2-PFOA), was below 70% in sample CAL-DW09-FRB-20180929 as compared to the CCV. As stated in the case narrative, the sample extracts were reinjected with similar results. The samples were not re-extracted. The results from the initial analysis were reported by the laboratory. The non-detected results reported for the compounds associated with these internal standards were qualified as estimated, (UJ).

Detected results reported below the Limit of Quantitation (LOQ) but above the Method Detection Limit (MDL) were qualified as estimated, (J). Non-detected results were reported to the limit of detection (LOD).

### **Additional Comments**

It was noted by the laboratory on the sample login checklist that the preservative Trizma was listed on the sample bottles but not on the Chain of Custody (COC). The data reviewer will advise the project team to include a reference on the COC that Trizma was added to each sample.

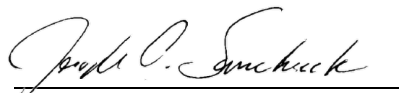
The FRBs were free of contamination.

### **Executive Summary**

**Laboratory Performance Issues:** Injection internal standards had low %Rs in two samples.

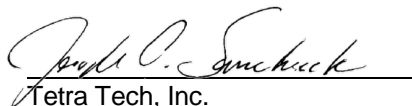
**Other Factors Affecting Data Quality:** Detected results below the LOQ were estimated.

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.  
Michelle L. Woeber  
Chemist/Data Validator

for



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.

<b>U</b>	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
<b>J</b>	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).
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>UJ</b>	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
<b>NJ</b>	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
<b>R</b>	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.
<b>UR</b>	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.
<b>X</b>	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 ( $< 2 \times$  IDL for inorganics and  $<$ 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

<b>PROJ_NO: 08005-WE05</b> <b>SDG: 1803199</b> <b>FRACTION: PFAS</b> <b>MEDIA: WATER</b>	NSAMPLE	CAL-DW08-20181001			CAL-DW08-FRB-20181001			CAL-DW09-20180929			CAL-DW09-FRB-20180929		
	LAB_ID	1803199-05			1803199-06			1803199-03			1803199-04		
	SAMP_DATE	10/1/2018			10/1/2018			9/29/2018			9/29/2018		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NEFOSA)	4.79	U		4.88	U		4.7	U		4.77	U		
N-METHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NMFOSA)	4.79	U		4.88	U		4.7	U		4.77	U		
PENTADEC AFLUOROOCCTANOIC ACID (PFOA)	4.79	U		4.88	U		11.2			4.77	UJ	N	
PERFLUOROBUTANESULFONIC ACID (PFBS)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUORODECANOIC ACID (PFDA)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUORODODECANOIC ACID (PFDOA)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUOROHEPTANOIC ACID (PFHPA)	4.79	U		4.88	U		3.28	J	P	4.77	UJ	N	
PERFLUOROHEXANESULFONIC ACID (PFHXS)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUOROHEXANOIC ACID (PFHXA)	4.79	U		4.88	U		5.99	J	P	4.77	UJ	N	
PERFLUORONONANOIC ACID (PFNA)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUOROOCCTANESULFONIC ACID (PFOS)	4.79	U		4.88	U		5.63	J	P	4.77	UJ	N	
PERFLUOROTETRADECANOIC ACID (PFTEA)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUOROTRIDECANOIC ACID (PFTRIA)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	
PERFLUOROUNDECANOIC ACID (PFUNA)	4.79	U		4.88	U		4.7	U		4.77	UJ	N	



<b>PROJ_NO: 08005-WE05</b> <b>SDG: 1803199</b> <b>FRACTION: PFAS</b> <b>MEDIA: WATER</b>	NSAMPLE	CAL-DW11-20180928			CAL-DW11-FRB-20180928		
	LAB_ID	1803199-01			1803199-02		
	SAMP_DATE	9/28/2018			9/28/2018		
	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-ETHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NEFOSA)	4.79	U		4.83	U		
N-METHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NMFOSA)	4.79	U		4.83	U		
PENTADEC AFLUOROOCCTANOIC ACID (PFOA)	6.65	J	P	4.83	U		
PERFLUOROBUTANESULFONIC ACID (PFBS)	4.79	U		4.83	UJ	N	
PERFLUORODECANOIC ACID (PFDA)	4.79	U		4.83	U		
PERFLUORODODECANOIC ACID (PFDOA)	4.79	U		4.83	U		
PERFLUOROHEPTANOIC ACID (PFHPA)	4.79	U		4.83	U		
PERFLUOROHEXANESULFONIC ACID (PFHXS)	4.79	U		4.83	UJ	N	
PERFLUOROHEXANOIC ACID (PFHXA)	9.88			4.83	U		
PERFLUORONONANOIC ACID (PFNA)	4.79	U		4.83	U		
PERFLUOROOCCTANESULFONIC ACID (PFOS)	4.79	U		4.83	UJ	N	
PERFLUOROTETRADECANOIC ACID (PFTEA)	4.79	U		4.83	U		
PERFLUOROTRIDECANOIC ACID (PFTRIA)	4.79	U		4.83	U		
PERFLUOROUNDECANOIC ACID (PFUNA)	4.79	U		4.83	U		

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**

**Sample ID: CAL-DW11-20180928**

**EPA Method 537**

Client Data					Laboratory Data						
Name:	Tetra Tech	Matrix:	Drinking Water		Lab Sample:	1803199-01	Column:	BEH C18			
Project:	Calverton Off Base DW Sampling 112G08005-WE05			Date Collected:	28-Sep-18 18:05		Date Received:	02-Oct-18 09:03			
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		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFHxA	307-24-4	9.88	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFHpA	375-85-9	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFHxS	355-46-4	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFOA	335-67-1	6.65	2.91	4.79	9.58	J	B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFNA	375-95-1	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFOS	1763-23-1	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFDA	335-76-2	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
MeFOSAA	2355-31-9	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
EtFOSAA	2991-50-6	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PfUnA	2058-94-8	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFDoA	307-55-1	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFTrDA	72629-94-8	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
PFTeDA	376-06-7	ND	2.91	4.79	9.58		B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	120	70 - 130			B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1	
13C2-PFDA	SURR	114	70 - 130			B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	1	
d5-EtFOSAA	SURR	110	70 - 130			B8J0030	04-Oct-18	0.261 L	08-Oct-18 18:34	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-DW11-FRB-20180928** **EPA Method 537**

Client Data					Laboratory Data							
Name:	Tetra Tech		Matrix:	QC Water	Lab Sample:	1803199-02	Column:	BEH C18				
Project:	Calverton Off Base DW Sampling 112G08005-WE05				Date Collected:	28-Sep-18 18:05		Date Received:	02-Oct-18 09:03			
SDG:	# WE05											

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFHxA	307-24-4	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFHpA	375-85-9	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFHxS	355-46-4	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFOA	335-67-1	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFNA	375-95-1	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFOS	1763-23-1	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFDA	335-76-2	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
MeFOSAA	2355-31-9	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
EtFOSAA	2991-50-6	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFOA	2058-94-8	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFDoA	307-55-1	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFTriDA	72629-94-8	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
PFTeDA	376-06-7	ND	2.93	4.83	9.65		B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	116	70 - 130			B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1	
13C2-PFDA	SURR	114	70 - 130			B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	1	
d5-EtFOSAA	SURR	109	70 - 130			B8J0030	04-Oct-18	0.259 L	08-Oct-18 18:47	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-DW09-20180929**

**EPA Method 537**

Client Data					Laboratory Data						
Name:	Tetra Tech	Matrix:	Drinking Water		Lab Sample:	1803199-03	Column:	BEH C18			
Project:	Calverton Off Base DW Sampling 112G08005-WE05			Date Collected:	29-Sep-18 11:04		Date Received:	02-Oct-18 09:03			
SDG:	# WE05										

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFHxA	307-24-4	5.99	2.86	4.70	9.41	J	B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFHpA	375-85-9	3.28	2.86	4.70	9.41	J	B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFHxS	355-46-4	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFOA	335-67-1	11.2	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFNA	375-95-1	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFOS	1763-23-1	5.63	2.86	4.70	9.41	J	B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFDA	335-76-2	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
MeFOSAA	2355-31-9	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
EtFOSAA	2991-50-6	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFOA	2058-94-8	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFDoA	307-55-1	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFTriDA	72629-94-8	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
PFTeDA	376-06-7	ND	2.86	4.70	9.41		B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	113	70 - 130			B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1	
13C2-PFDA	SURR	109	70 - 130			B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	1	
d5-EtFOSAA	SURR	107	70 - 130			B8J0030	04-Oct-18	0.266 L	09-Oct-18 11:39	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-DW09-FRB-20180929** **EPA Method 537**

Client Data					Laboratory Data							
Name:	Tetra Tech		Matrix:	QC Water	Lab Sample:	1803199-04	Column:	BEH C18				
Project:	Calverton Off Base DW Sampling 112G08005-WE05				Date Collected:	29-Sep-18 11:04		Date Received:	02-Oct-18 09:03			
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	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFHxA	307-24-4	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFHpA	375-85-9	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFHxS	355-46-4	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFOA	335-67-1	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFNA	375-95-1	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFOS	1763-23-1	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFDA	335-76-2	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
MeFOSAA	2355-31-9	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
EtFOSAA	2991-50-6	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PfUnA	2058-94-8	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFDoA	307-55-1	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFTriDA	72629-94-8	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
PFTeDA	376-06-7	ND	2.91	4.77	9.56		B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	126	70 - 130			B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1	
13C2-PFDA	SURR	118	70 - 130			B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	1	
d5-EtFOSAA	SURR	108	70 - 130			B8J0030	04-Oct-18	0.262 L	08-Oct-18 19:13	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-DW08-20181001**

**EPA Method 537**

Client Data					Laboratory Data						
Name:	Tetra Tech	Matrix:	Drinking Water		Lab Sample:	1803199-05	Column:	BEH C18			
Project:	Calverton Off Base DW Sampling 112G08005-WE05			Date Collected:	01-Oct-18 10:06		Date Received:	02-Oct-18 09:03			
SDG:	# WE05										

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFHxA	307-24-4	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFHpA	375-85-9	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFHxS	355-46-4	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFOA	335-67-1	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFNA	375-95-1	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFOS	1763-23-1	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFDA	335-76-2	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
MeFOSAA	2355-31-9	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
EtFOSAA	2991-50-6	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFUnA	2058-94-8	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFDoA	307-55-1	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFTriDA	72629-94-8	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
PFTeDA	376-06-7	ND	2.92	4.79	9.59		B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	103	70 - 130			B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1	
13C2-PFDA	SURR	106	70 - 130			B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	1	
d5-EtFOSAA	SURR	123	70 - 130			B8J0030	04-Oct-18	0.261 L	08-Oct-18 19:26	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-DW08-FRB-20181001** **EPA Method 537**

Client Data					Laboratory Data							
Name:	Tetra Tech		Matrix:	QC Water	Lab Sample:	1803199-06	Column:	BEH C18				
Project:	Calverton Off Base DW Sampling 112G08005-WE05				Date Collected:	01-Oct-18 10:06		Date Received:	02-Oct-18 09:03			
SDG:	# WE05											

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFHxA	307-24-4	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFHpA	375-85-9	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFHxS	355-46-4	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFOA	335-67-1	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFNA	375-95-1	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFOS	1763-23-1	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFDA	335-76-2	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
MeFOSAA	2355-31-9	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
EtFOSAA	2991-50-6	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PfUnA	2058-94-8	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFDoA	307-55-1	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFTriDA	72629-94-8	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
PFTeDA	376-06-7	ND	2.97	4.88	9.77		B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	106	70 - 130			B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1	
13C2-PFDA	SURR	106	70 - 130			B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	1	
d5-EtFOSAA	SURR	81.4	70 - 130			B8J0030	04-Oct-18	0.256 L	08-Oct-18 19:39	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.



**APPENDIX C**

**SUPPORT DOCUMENTATION**

NWIRP CALVERTON  
SDG 1803199

SAMPLE IDENTIFICATION

CAL-DW09-20180929

**SAMPLE CALCULATION**

Compound

PENTADECAFLUOROOCCTANOIC ACID (PFOA)

SAMPLE VOLUME (L)

0.26566

INTERNAL STANDARD CONCENTRATION

10

CONCENTRATION USING CALIBRATION CURVE

Area\*(IS concentration/IS area)  
 $1.34E3*(10/4.34E3)$

3.087557604

PFOA CURVE

Calibration curve (y)=1.03308\*x  
 $3.087558=1.03308*x$

x=

2.988692066

PFOA RESULT CONCENTRATION = x/SAMPLE VOLUME  
RESULT REPORTED

11.25006424 ng/L  
11.2 ng/L

**LABELED STANDARD (SURROGATE) CALCULATION**

SURROGATE

13C2-PFHxA

SAMPLE VOLUME (L)

0.26566

INTERNAL STANDARD CONCENTRATION

10

CONCENTRATION USING CALIBRATION CURVE

Area\*(IS concentration/IS area)/RRF  
 $5.41E3*(10/4.34E3)/1.102$

11.31164954

13C2-PFHxA RESULT CONCENTRATION = x/SAMPLE VOLUME

42.57942308 ng/L

RESULT REPORTED

42.6 ng/L

TRUE VALUE

37.6 ng/L

%R

113.2431465

REPORTED %R

113

**MS/MSD %Rs**

CAL-DW09-20180929 MS/MSD

SAMPLE CONCENTRATION

MS SPIKE AMOUNT

MS RESULT

MS %R

REPORTED %R

MSD SPIKE AMOUNT

MSD RESULT

MSD %R

REPORTED %R

RPD

REPORTED RPD

PERFLUOROBUTANESULFONIC ACID (PFBS)

ND

35.6

41

115

113

33.3

38.9

117

115

1.42

1.75

%R QC LIMITS - 70%-130%

RPD LIMIT - 30

Dataset: X:\G1.PRO\Results\2018\181009G2\181009G2-4.qld

Last Altered: Tuesday, October 09, 2018 13:30:20 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 13:30:59 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1009.mdb 09 Oct 2018 13:12:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Name: 181009G2\_4, Date: 09-Oct-2018, Time: 11:39:39, ID: 1803199-03 CAL-DW09-20180929 0.26566, Description: CAL-DW09-20180929

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	4.24e1	1.02e4	0.266		2.90	2.91	0.119	0.601	
2	2 PFHxA	312.8 > 269.0	7.13e2	4.34e3	0.266		3.28	3.28	1.64	5.99	
3	3 PFHpA	362.8 > 319.0	4.06e2	4.34e3	0.266		3.79	3.79	0.937	3.28	
4	4 PFHxS	398.7 > 80.2	1.71e2	1.02e4	0.266		3.90	3.92	0.479	2.52	
5	5 PFOA	412.7 > 368.9	1.34e3	4.34e3	0.266		4.22	4.23	3.08	11.2	
6	6 PFNA	462.8 > 419.0	9.08e1	4.34e3	0.266		4.59	4.59	0.209	0.813	
7	7 PFOS	498.7 > 80.2	2.01e2	1.02e4	0.266		4.63	4.64	0.562	5.63	
8	8 PFDA	512.8 > 468.9	4.76e1	4.34e3	0.266		4.83	4.85	0.110	0.320	
9	9 N-MeFOSAA	569.8 > 419.0	1.48e0	1.17e4	0.266		4.97	4.97	0.00508	0.0273	
10	10 N-EtFOSAA	583.8 > 419.0		1.17e4	0.266		5.11				
11	11 PFUnA	562.7 > 518.9	1.35e0	4.34e3	0.266		5.11	5.11	0.00311	0.00822	
12	12 PFDoA	612.8 > 569.0		4.34e3	0.266		5.36				
13	13 PFTrDA	662.8 > 619.0		4.34e3	0.266		5.58				
14	14 PFTeDA	712.8 > 669.0		4.34e3	0.266		5.75				
15	15 13C2-PFHxA	314.9 > 270.0	5.41e3	4.34e3	0.266	1.102	3.29	3.28	12.5	42.6	113.1
16	16 13C2-PFDA	514.8 > 470.0	5.64e3	4.34e3	0.266	1.199	4.86	4.83	13.0	40.8	108.5
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.02e4	1.17e4	0.266	0.820	5.09	5.09	35.1	161	106.9
18	18 13C2-PFOA	414.8 > 370.0	4.34e3	4.34e3	0.266	1.000	4.22	4.22	10.0	37.6	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.02e4	1.02e4	0.266	1.000	4.65	4.63	28.7	108	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.17e4	1.17e4	0.266	1.000	4.96	4.97	40.0	151	100.0

Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:42:07 Pacific Daylight Time

**Compound name: PFOA**

Coefficient of Determination: R<sup>2</sup> = 0.997085

Calibration curve: 1.03308 \* 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 181005G3_2	Standard	0.250	4.26	100.437	5750.953	0.175	0.2	-32.4	NO	0.997	NO	MM
2	2 181005G3_3	Standard	0.500	4.24	298.241	6289.390	0.474	0.5	-8.2	NO	0.997	NO	MM
3	3 181005G3_4	Standard	1.000	4.25	472.692	5792.523	0.816	0.8	-21.0	NO	0.997	NO	MM
4	4 181005G3_5	Standard	2.000	4.25	1130.231	5555.693	2.034	2.0	-1.5	NO	0.997	NO	MM
5	5 181005G3_6	Standard	5.000	4.25	3177.579	5865.877	5.417	5.2	4.9	NO	0.997	NO	bb
6	6 181005G3_7	Standard	10.000	4.25	5597.691	5593.660	10.007	9.7	-3.1	NO	0.997	NO	bd
7	7 181005G3_8	Standard	25.000	4.25	13515.015	5723.753	23.612	22.9	-8.6	NO	0.997	NO	bd
8	8 181005G3_9	Standard	50.000	4.25	29153.088	5320.454	54.794	53.0	6.1	NO	0.997	NO	bb
9	9 181005G3_10	Standard	75.000	4.24	43866.152	5696.708	77.003	74.5	-0.6	NO	0.997	NO	bd
10	10 181005G3_11	Standard	100.000	4.25	56620.234	5059.471	111.909	108.3	8.3	NO	0.997	NO	bdX

**Compound name: PFNA**

Coefficient of Determination: R<sup>2</sup> = 0.997889

Calibration curve: 0.969177 \* 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 181005G3_2	Standard	0.250	4.55	101.443	5750.953	0.176	0.2	-27.2	NO	0.998	NO	MM
2	2 181005G3_3	Standard	0.500	4.56	285.927	6289.390	0.455	0.5	-6.2	NO	0.998	NO	MM
3	3 181005G3_4	Standard	1.000	4.56	442.730	5792.523	0.764	0.8	-21.1	NO	0.998	NO	MM
4	4 181005G3_5	Standard	2.000	4.56	1159.673	5555.693	2.087	2.2	7.7	NO	0.998	NO	bb
5	5 181005G3_6	Standard	5.000	4.56	2729.900	5865.877	4.654	4.8	-4.0	NO	0.998	NO	MM
6	6 181005G3_7	Standard	10.000	4.56	5465.954	5593.660	9.772	10.1	0.8	NO	0.998	NO	MM
7	7 181005G3_8	Standard	25.000	4.56	12902.569	5723.753	22.542	23.3	-7.0	NO	0.998	NO	bb
8	8 181005G3_9	Standard	50.000	4.56	27084.033	5320.454	50.905	52.5	5.0	NO	0.998	NO	bb
9	9 181005G3_10	Standard	75.000	4.56	41126.078	5696.708	72.193	74.5	-0.7	NO	0.998	NO	bd
10	10 181005G3_11	Standard	100.000	4.56	52465.574	5059.471	103.698	107.0	7.0	NO	0.998	NO	bbX



# CHAIN OF CUSTODY

1 of 1

**For Laboratory Use Only**  
 Work Order #: 1803199 Temp: 1.0 °C  
 Storage ID: WE-2 Storage Secured: Yes  No

Project ID: 112608005-WE05 PO#: \_\_\_\_\_ Sampler: Lauren Dorston / James Cook

TAT (check one):  21 days  14 days  7 days Specify: \_\_\_\_\_  
 Standard: \_\_\_\_\_ Rush (surcharge may apply)

Invoice to: Name \_\_\_\_\_ Company Tetra Tech Address 5700 Lake Wriant Dr. Suite 102 Norfolk VA City \_\_\_\_\_ State \_\_\_\_\_ Ph# \_\_\_\_\_ Fax# \_\_\_\_\_

Relinquished by (printed name and signature) Lauren Dorston Lauren Dorston Date 10/01/18 Time \_\_\_\_\_ Received by (printed name and signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by (printed name and signature) FedEx Date \_\_\_\_\_ Time \_\_\_\_\_ Received by (printed name and signature) B. Benedict B. Benedict Date 10/2/18 Time 0949

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>		Add Analysis(es) Requested										Comments		
ATTN: <u>Sample Custodian</u>				Tracking No.:		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	PFOS/PFOA	UCMRA PFAS List 8	PFAS List 14			
CAL-DW11-20180928	9/28/18	1805		2	P	NW								2				
CAL-DW11-FRB-20180928	9/28/18	1805		2	P	QA								2				FRB
CAL-DW09-20180929	9/29/18	1104		6	P	DW								6				MS/MSD
CAL-DW09-FRB-20180929	9/29/18	1104		2	P	QA								2				FRB
CAL-DW08-20181001	10/01/18	1006		2	P	DW								2				
CAL-DW08-FRB-20181001	10/01/18	1006		2	P	QA								2				FRB

Special Instructions/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SEND DOCUMENTATION AND RESULTS TO:  
 Name: Megan Ved  
 Company: Tetra Tech  
 Address: Foster Plaza VII 661 Anderson Dr  
 City: Pittsburan 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 # 1803199 of 1  
 WO# 1803199  
 SDG# -  
 TAT RUSH 7

Section 1: Container Receipt			
Delivered By: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> On Trac <input type="checkbox"/> GSO <input type="checkbox"/> DHL <input type="checkbox"/> Hand Delivered <input type="checkbox"/> Other:			
Number of Containers	Arrival Date	Arrival time	Cooler Received LR-SLC Initiated By/Date
1	10/2/18	0903	<u>CBAB</u> 10/2/18 <u>CBAB</u>

Section 2: Sample Receipt Condition and Initial Storage					
Container Condition	Chain of Custody	Preservation Type	Temperature	Storage Location	Initials/Date
<input checked="" type="checkbox"/> Shipping container intact <input checked="" type="checkbox"/> Shipping seals intact <input checked="" type="checkbox"/> Custody Seals present <input checked="" type="checkbox"/> Custody seals intact	<input checked="" type="checkbox"/> COC present <input checked="" type="checkbox"/> Multiple COC's: <u>2</u> <input checked="" type="checkbox"/> "Relinquished By" Section complete	<input checked="" type="checkbox"/> Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> Other	Thermometer ID: <u>IR-4</u> <input type="checkbox"/> Probe used Temp (uncorrected): <u>1.1</u> °C Temp (corrected): <u>1.0</u> °C	<input checked="" type="checkbox"/> WR2 <input type="checkbox"/> WF2 <input type="checkbox"/> NA	<u>CBAB</u> <u>10/2/18</u>

Section 3: Sample Log In	
Airbill/Trk #	<u>8126 08 08 9800</u>
Shipping container <input checked="" type="checkbox"/> Vista <input type="checkbox"/> Client <input checked="" type="checkbox"/> Retain <input type="checkbox"/> Return <input type="checkbox"/> Dispose	By/date
Log In Time: <u>1250</u>	<u>KE</u> 10/2/18
COC clearly identifies: <ul style="list-style-type: none"> <li>Sample name</li> <li>Sample matrix</li> <li>Test method</li> <li>Sample collection date or time</li> <li>Collector's name</li> <li>Preservation type</li> </ul>	<input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Not acceptable - anomaly form required  <u>KE</u> 10/2/18
All samples present and accounted for on COC	<u>KE</u> 10/2/18
Sample IDs are legible	<u>KE</u> 10/2/18
Samples conform to the description on the COC	<u>KE</u> 10/2/18
Samples are intact and suitable for testing	<u>KE</u> 10/2/18
Preservation documented as required: <input type="checkbox"/> NA <input type="checkbox"/> Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> <input checked="" type="checkbox"/> Trizma <input type="checkbox"/> Other _____	<u>KE</u> 10/2/18
Samples stored <input checked="" type="checkbox"/> WR2 Shelf: <u>A3/B4</u> <input type="checkbox"/> WF2 Shelf: _____ <input type="checkbox"/> R1 Shelf: _____	<u>KE</u> 10/2/18
Comments: <u>TRIZMA LABELS ARE ON SAMPLE CONTAINERS.</u> <u>KE</u> 10/2/18	

**SDG Number # WE05**

**Vista Work Order No. 1803199**

**Case Narrative**

**Sample Condition on Receipt:**

Three drinking water samples and three QC water samples 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.

A Laboratory Fortified Blank (LFB) and 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 recoveries were within the method acceptance criteria.

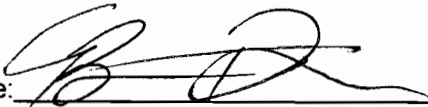
The response area of 13C4-PFOS in samples "CAL-DW11-FRB-20180928" and "CAL-DW09-FRB-20180929" were less than 70 percent of the response area in the CCV, and within the required response limits as compared to the ICAL. In addition, the response area of 13C2-PFOA in sample "CAL-DW09-FRB-20180929" was less than 70 percent as compared to the CCV, and within the required response limits as compared to the ICAL. The extracts were re-injected and results were similar.

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

A Laboratory Fortified Sample Matrix (LFSM) and Laboratory Fortified Sample Matrix Duplicate (LFSMD) were performed on sample "CAL-DW09-20180929". The analyte recoveries and RPDs were within the method acceptance criteria.

In addition, the laboratory QC officer must read and sign a copy of the Quality Assurance Review Form displayed on the next page of this Attachment. Electronic deliverables are not considered to be complete without the accompanying Quality Assurance Review Form.

I Brianna Davis, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (916) 673-1520 If there are any questions or problems with the enclosed electronic deliverables.

Signature:  Title: QA Manager Date: 10/09/18



## **DATA QUALIFIERS & ABBREVIATIONS**

<b>B</b>	<b>This compound was also detected in the method blank</b>
<b>Conc.</b>	<b>Concentration</b>
<b>D</b>	<b>Dilution</b>
<b>DL</b>	<b>Detection limit</b>
<b>E</b>	<b>The associated compound concentration exceeded the calibration range of the instrument</b>
<b>H</b>	<b>Recovery and/or RPD was outside laboratory acceptance limits</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Reporting Limit/LOQ</b>
<b>LOD</b>	<b>Limits of Detection</b>
<b>LOQ</b>	<b>Limits of Quantitation</b>
<b>M</b>	<b>Estimated Maximum Possible Concentration (CA Region 2 projects only)</b>
<b>NA</b>	<b>Not applicable</b>
<b>ND</b>	<b>Not Detected</b>
<b>Q</b>	<b>Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>
<b>U</b>	<b>Not Detected (specific projects only)</b>
<b>*</b>	<b>See Cover Letter</b>

**Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.**

# Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1803199-01	CAL-DW11-20180928	28-Sep-18 18:05	02-Oct-18 09:03	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1803199-02	CAL-DW11-FRB-20180928	28-Sep-18 18:05	02-Oct-18 09:03	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1803199-03	CAL-DW09-20180929	MS/MSD29-Sep-18 11:04	02-Oct-18 09:03	HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1803199-04	CAL-DW09-FRB-20180929	29-Sep-18 11:04	02-Oct-18 09:03	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1803199-05	CAL-DW08-20181001	01-Oct-18 10:06	02-Oct-18 09:03	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1803199-06	CAL-DW08-FRB-20181001	01-Oct-18 10:06	02-Oct-18 09:03	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

**Sample ID: LRB** **EPA Method 537**

<b>Client Data</b>					<b>Laboratory Data</b>						
Name:	Tetra Tech	Matrix:	Aqueous		Lab Sample:	B8J0030-BLK1		Column:	BEH C18		
Project:	Calverton Off Base DW Sampling 112G08005-WE05										

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		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFHxA	307-24-4	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFHpA	375-85-9	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFHxS	355-46-4	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFOA	335-67-1	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFNA	375-95-1	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFOS	1763-23-1	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFDA	335-76-2	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
MeFOSAA	2355-31-9	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
EtFOSAA	2991-50-6	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PfUnA	2058-94-8	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFDoA	307-55-1	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFTrDA	72629-94-8	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
PFTeDA	376-06-7	ND	3.04	5.00	10.0		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	104	70 - 130			B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1	
13C2-PFDA	SURR	111	70 - 130			B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	1	
d5-EtFOSAA	SURR	114	70 - 130			B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:55	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: LFB**

**EPA Method 537**

Client Data					Laboratory Data						
Name:	Tetra Tech		Matrix:	Aqueous	Lab Sample:	B8J0030-BS1	Column:	BEH C18			
Project:	Calverton Off Base DW Sampling 112G08005-WE										

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	41.4	35.4	117	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFHxA	307-24-4	46.4	40.0	116	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFHpA	375-85-9	46.4	40.0	116	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFHxS	355-46-4	44.5	36.4	122	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFOA	335-67-1	44.6	40.0	112	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFNA	375-95-1	46.9	40.0	117	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFOS	1763-23-1	42.4	37.0	115	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFDA	335-76-2	46.1	40.0	115	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
MeFOSAA	2355-31-9	42.2	40.0	106	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
EtFOSAA	2991-50-6	44.9	40.0	112	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFOxA	2058-94-8	44.2	40.0	110	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFDoA	307-55-1	39.2	40.0	98.0	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFTTrDA	72629-94-8	43.8	40.0	109	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
PFTeDA	376-06-7	42.2	40.0	106	70 - 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA		SURR		107	70- 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
13C2-PFDA		SURR		112	70- 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1
d5-EtFOSAA		SURR		100	70- 130		B8J0030	04-Oct-18	0.250 L	08-Oct-18 17:43	1

**Sample ID: CAL-DW09-20180929**

**EPA Method 537**

Name:	Tetra Tech	Lab Sample:	B8J0030-MS1/B8J0030-MSD1	Source Lab Sample:	1803199-03
Project:	Calverton Off Base DW Sampling 112G08005-WF	QC Batch:	B8J0030	Date Extracted:	04-Oct-18
Matrix:	Aqueous	Samp Size:	0.249/0.266 L	Column:	BEH C18

Analyte	CAS Number	Sample (ng/L)	LFSM (ng/L)	LFSM Spike Amt	LFSM % Rec	LFSM Quals	LFSMD (ng/L)	LFSMD Spike Amt	LFSMD % Rec	RPD	LFSMD Quals	%Rec Limits	RPD Limits	LFSM Analyzed	LFSM Dil	LFSMD Analyzed	LFS MD
PFBS	375-73-5	ND	41.0	35.6	113		38.9	33.3	115	1.75		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFHxA	307-24-4	5.99	51.0	40.2	112		48.3	37.6	112	0		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFHpA	375-85-9	3.28	50.1	40.2	116		47.1	37.6	117	0.858		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFHxS	355-46-4	ND	46.3	36.6	120		42.9	34.2	118	1.68		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFOA	335-67-1	11.2	59.3	40.2	120		50.6	37.6	105	13.3		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFNA	375-95-1	ND	45.0	40.2	110		43.0	37.6	112	1.80		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFOS	1763-23-1	5.63	50.4	37.2	120		44.4	34.8	111	7.79		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFDA	335-76-2	ND	45.0	40.2	111		43.8	37.6	116	4.41		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
MeFOSAA	2355-31-9	ND	46.1	40.2	115		37.5	37.6	99.8	14.2		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
EtFOSAA	2991-50-6	ND	40.5	40.2	101		37.7	37.6	100	0.995		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFUnA	2058-94-8	ND	40.0	40.2	99.4		36.9	37.6	98.2	1.21		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFDoA	307-55-1	ND	42.3	40.2	105		39.4	37.6	105	0		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFTTrDA	72629-94-8	ND	47.1	40.2	117		41.1	37.6	109	7.08		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1
PFTeDA	376-06-7	ND	38.1	40.2	94.7		37.6	37.6	100	5.44		70-130	30	08-Oct-18 18:08	1	08-Oct-18 18:21	1

Labeled Standards	Type	LFSM % Rec	LFSM Quals	LFSMD % Rec	LFSMD Quals	Limits	LFSM Analyzed	LFSM Dil	LFSMD Analyzed	LFS MD
13C2-PFHxA	SURR	111		107		70-130	08-Oct-18 18:08	1	08-Oct-18 18:21	1
13C2-PFDA	SURR	106		113		70-130	08-Oct-18 18:08	1	08-Oct-18 18:21	1
d5-EtFOSAA	SURR	103		111		70-130	08-Oct-18 18:08	1	08-Oct-18 18:21	1



Process Sheet  
 Workorder: **1803199**

Prep Expiration: 2018-Oct-12  
 Client: Tetra Tech

Workorder Due: **09-Oct-18 00:00**  
 TAT: 7

Method: **537 PFAS DW DoD Unmodified**  
 Matrix: **Aqueous**

Prep Batch: B8J0030

Version: 14 Analyte DW (Full List)  
 DoD: DoD QSM 5.1

Prep Data Entered: 10/5/18 rc  
Date and Initials

Initial Sequence: 58J0024

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1803199-01	"A"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL-DW11-20180928		WR-2 A-3	HDPE Bottle, 250 mL
1803199-02	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL-DW11-FRB-20180928	✓ ✓	WR-2 A-3	HDPE Bottle, 250 mL
1803199-03	"ABC"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL-DW09-20180929	<b>MS/MSD</b>	WR-2 A-3	HDPE Bottle, 250 mL
1803199-04	"A"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL-DW09-FRB-20180929		WR-2 A-3	HDPE Bottle, 250 mL
1803199-05	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL-DW08-20181001		WR-2 A-3	HDPE Bottle, 250 mL
1803199-06	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL-DW08-FRB-20181001		WR-2 A-3	HDPE Bottle, 250 mL

WO Comments: ~~Provide all analytical runs.~~ @ 10/3/18  
**MS/MSD per batch, if MS/MSD is not provided - LCS/LCSD.**

Pre-Prep Check Out: HB 10/3/18  
 Pre-Prep Check In: HB 10/3/18

Prep Check Out: rc 10/4/18  
 Prep Check In: NA

Prep Reconciled Initials/Date: HB 10/3/18  
 Spike Reconciled Initials/Date: rc 10/4/18  
 VialBoxID: Bailwinkle

# Internal Chain of Custody 1803199



Client: Tetra Tech

Project Number: Calverton Off Base DW

Received: 02-Oct-18 09:03

Received By: Bettina Benedict

Vista Sample ID	Bottle	Sample				Extract	
		Initials Date/Time	Initials Date/Time	Initials Date/Time	Initials Date/Time	Initials Date/Time	Initials Date/Time
		New Location	New Location	New Location	New Location	New Location	New Location
1803199-01	"A" ↓	HB 10/3/18 10:30 Preplab 1	HB 10/3/18 10:45 WR-2 backwall	→C 10/4/18 0900 prep lab 2	→C 10/4/18 0230 R-7	→C 10/5/18 0815 Prep lab 2	→C 10/5/18 1540 R-7
1803199-02	↓	↓	↓	↓	↓	↓	↓
1803199-03	↓	↓	↓	↓	↓	↓	↓
1803199-04	↓	↓	↓	↓	↓	↓	↓
1803199-05	↓	↓	↓	↓	↓	↓	↓
1803199-06	↓	↓	↓	↓	↓	↓	↓

Note in grid if sample or extract are depleted. See Login Checklist for initial location.

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DW DoD Unmodified

B8J0030

Chemist:       

Prep Date: 10/4/18

Prep Time: 0915

Prepared using: LCMS - SPE Extraction-LCMS

BalanceID: HRMS-8

Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
<input type="checkbox"/>	B8J0030-BLK1 (A)	NA	NA	(0.150)	✓ AD 10/4/18	✓	✓ AE 10/5/18
<input type="checkbox"/>	B8J0030-BS1	↓	↓	(0.150)	✓	↓	↓
<input type="checkbox"/>	B8J0030-MS1 1803199-03	286.49	37.57	0.24892	✓	↓	↓
<input type="checkbox"/>	B8J0030-MSD1 1803199-03	303.72	37.58	0.26614	✓	↓	↓
<input type="checkbox"/>	1803199-01	298.70	37.66	0.26104	✓	↓	↓
<input type="checkbox"/>	1803199-02	296.43	37.41	0.25902	✓	↓	↓
<input type="checkbox"/>	1803199-03	303.39	37.73	0.26566	✓	↓	↓
<input type="checkbox"/>	1803199-04	299.03	37.51	0.26152	✓	↓	↓
<input type="checkbox"/>	1803199-05	298.41	37.72	0.26069	✓	↓	↓
<input type="checkbox"/>	1803199-06	293.13	37.23	0.25590	✓	↓	↓

SS/IS: <u>18H1309, 20<sub>uL</sub> (V3)</u> NS: <u>18H1211, 10<sub>uL</sub> (V4)</u> IS/RS: <u>18H1310, 20<sub>uL</sub> (V1)</u>	SPE Chem: <u>Strata X 33<sub>um</sub> <math>\frac{500 \text{ mg}}{6 \text{ mL}}</math></u> Lot#: <u>512-004378</u> Ele SOLV: <u>MeOH</u> Lot#: <u>38069209</u> Final Volume(s) <u>1 mL</u>	Notes: (A) 1.15g triethyl added to GCs. HB 10/3/18
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Comments: Assume 1 g = 1 mL

Cen = Centrifuged



Batch: B8J0030

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1803199-01	0.26104 ✓	NA	NA	1000	04-Oct-18 09:15	MAC			Drinking Water	537 PFAS DW DoD Unmod
1803199-02	0.25902 ✓	↓	↓	1000	04-Oct-18 09:15	MAC			QC Water	537 PFAS DW DoD Unmod
1803199-03	0.26566 ✓	↓	↓	1000	04-Oct-18 09:15	MAC			Drinking Water	537 PFAS DW DoD Unmod
1803199-04	0.26152 ✓	↓	↓	1000	04-Oct-18 09:15	MAC			QC Water	537 PFAS DW DoD Unmod
1803199-05	0.26069 ✓	↓	↓	1000	04-Oct-18 09:15	MAC			Drinking Water	537 PFAS DW DoD Unmod
1803199-06	0.2559 ✓	↓	↓	1000	04-Oct-18 09:15	MAC			QC Water	537 PFAS DW DoD Unmod
B8J0030-BLK1	0.25 ✓	↓	↓	1000	04-Oct-18 09:15	MAC				QC
B8J0030-BS1	0.25 ✓	↓	↓	1000	04-Oct-18 09:15	MAC	18H1311 ✓	10 ✓		QC
B8J0030-MS1	0.24892 ✓	↓	↓	1000	04-Oct-18 09:15	MAC	18H1311 ✓	10 ✓		QC
B8J0030-MSD1	0.26614 ✓	↓	↓	1000	04-Oct-18 09:15	MAC	18H1311 ✓	10 ✓		QC

-C 10/5/18

# ICAL

## Compound 18: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	% Area
1	IPA	Analyte	10			5732.11	0.00
2	ST181008G1-1 PFC CS-1 537 18J0404	Analyte	10	4.22	5618.47	5732.11	98.02
3	B8J0030-BS1 LFB 0.25	Analyte	10	4.22	4662.97	5732.11	81.35
4	B8J0030-BLK1 LRB 0.25	Analyte	10	4.22	5318.61	5732.11	92.79
5	B8J0030-MS1 LFSM 0.24892	Analyte	10	4.22	4664.15	5732.11	81.37
6	B8J0030-MSD1 LFSMD 0.26614	Analyte	10	4.22	4928.01	5732.11	85.97
7	1803199-01 CAL-DW11-20180928 0.26104	Analyte	10	4.22	4394.57	5732.11	76.67
8	1803199-02 CAL-DW11-FRB-20180928 0.25902	Analyte	10	4.22	4324.48	5732.11	75.44
9	1803199-03 CAL-DW09-20180929 0.26566	Analyte	10	4.22	3879.07	5732.11	67.67
10	1803199-04 CAL-DW09-FRB-20180929 0.26152	Analyte	10	4.22	3833.82	5732.11	66.88
11	1803199-05 CAL-DW08-20181001 0.26069	Analyte	10	4.22	4696.73	5732.11	81.94
12	1803199-06 CAL-DW08-FRB-20181001 0.2559	Analyte	10	4.22	4782.96	5732.11	83.44
13	IPA	Analyte	10			5732.11	0.00
14	ST181008G1-2 PFC CS1 537 18J0406	Analyte	10	4.22	5976.84	5732.11	104.27
15	IPA	Analyte	10			5732.11	0.00

## Compound 19: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	% Area
1	IPA	Analyte	28.7			13457.00	0.00
2	ST181008G1-1 PFC CS-1 537 18J0404	Analyte	28.7	4.64	14554.19	13457.00	108.15
3	B8J0030-BS1 LFB 0.25	Analyte	28.7	4.63	11010.75	13457.00	81.82
4	B8J0030-BLK1 LRB 0.25	Analyte	28.7	4.63	12860.54	13457.00	95.57
5	B8J0030-MS1 LFSM 0.24892	Analyte	28.7	4.63	10754.31	13457.00	79.92
6	B8J0030-MSD1 LFSMD 0.26614	Analyte	28.7	4.63	11430.03	13457.00	84.94
7	1803199-01 CAL-DW11-20180928 0.26104	Analyte	28.7	4.63	11340.50	13457.00	84.27
8	1803199-02 CAL-DW11-FRB-20180928 0.25902	Analyte	28.7	4.63	9846.20	13457.00	73.17

9	1803199-03 CAL-DW09-20180929 0.26566	181008G1_9	Analyte	28.7	4.64	10064.31	13457.00	74.79
10	1803199-04 CAL-DW09-FRB-20180929 0.26152	181008G1_10	Analyte	28.7	4.64	9862.12	13457.00	73.29
11	1803199-05 CAL-DW08-20181001 0.26069	181008G1_11	Analyte	28.7	4.65	10601.65	13457.00	78.78
12	1803199-06 CAL-DW08-FRB-20181001 0.2559	181008G1_12	Analyte	28.7	4.64	11134.09	13457.00	82.74
13	IPA	181008G1_13	Analyte	28.7			13457.00	0.00
14	ST181008G1-2 PFC CS1 537 18J0406	181008G1_14	Analyte	28.7	4.64	14460.89	13457.00	107.46
15	IPA	181008G1_15	Analyte	28.7			13457.00	0.00

**Compound 20: d3-N-MeFOSAA**

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	% Area	
1	IPA	181008G1_1	Analyte	40		14928.39	0.00	
2	ST181008G1-1 PFC CS-1 537 18J0404	181008G1_2	Analyte	40	4.95	13440.23	14928.39	90.03
3	B8J0030-BS1 LFB 0.25	181008G1_3	Analyte	40	4.95	11986.22	14928.39	80.29
4	B8J0030-BLK1 LRB 0.25	181008G1_4	Analyte	40	4.95	13361.06	14928.39	89.50
5	B8J0030-MS1 LFSM 0.24892	181008G1_5	Analyte	40	4.94	11674.84	14928.39	78.21
6	B8J0030-MSD1 LFSMD 0.26614	181008G1_6	Analyte	40	4.94	12246.88	14928.39	82.04
7	1803199-01 CAL-DW11-20180928 0.26104	181008G1_7	Analyte	40	4.95	11117.25	14928.39	74.47
8	1803199-02 CAL-DW11-FRB-20180928 0.25902	181008G1_8	Analyte	40	4.95	11194.07	14928.39	74.99
9	1803199-03 CAL-DW09-20180929 0.26566	181008G1_9	Analyte	40	4.94	10154.01	14928.39	68.02
10	1803199-04 CAL-DW09-FRB-20180929 0.26152	181008G1_10	Analyte	40	4.95	10505.31	14928.39	70.37
11	1803199-05 CAL-DW08-20181001 0.26069	181008G1_11	Analyte	40	4.95	11383.84	14928.39	76.26
12	1803199-06 CAL-DW08-FRB-20181001 0.2559	181008G1_12	Analyte	40	4.94	13128.14	14928.39	87.94
13	IPA	181008G1_13	Analyte	40			14928.39	0.00
14	ST181008G1-2 PFC CS1 537 18J0406	181008G1_14	Analyte	40	4.95	15606.94	14928.39	104.55
15	IPA	181008G1_15	Analyte	40			14928.39	0.00

**CCAL**

**Compound 18: 13C2-PFOA**

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	% Area
1	IPA	181008G1_1	Analyte	10		5618.47	0.00

<b>2</b>	<b>ST181008G1-1 PFC CS-1 537 18J0404</b>	<b>181008G1_2</b>	<b>Analyte</b>	<b>10</b>	<b>4.22</b>	<b>5618.47</b>	<b>5618.47</b>	<b>100.00</b>
3	B8J0030-BS1 LFB 0.25	181008G1_3	Analyte	10	4.22	4662.97	5618.47	82.99
4	B8J0030-BLK1 LRB 0.25	181008G1_4	Analyte	10	4.22	5318.61	5618.47	94.66
5	B8J0030-MS1 LFSM 0.24892	181008G1_5	Analyte	10	4.22	4664.15	5618.47	83.01
6	B8J0030-MSD1 LFSMD 0.26614	181008G1_6	Analyte	10	4.22	4928.01	5618.47	87.71
7	1803199-01 CAL-DW11-20180928 0.26104	181008G1_7	Analyte	10	4.22	4394.57	5618.47	78.22
8	1803199-02 CAL-DW11-FRB-20180928 0.25902	181008G1_8	Analyte	10	4.22	4324.48	5618.47	76.97
<b>9</b>	<b>1803199-03 CAL-DW09-20180929 0.26566</b>	<b>181008G1_9</b>	<b>Analyte</b>	<b>10</b>	<b>4.22</b>	<b>3879.07</b>	<b>5618.47</b>	<b>69.04</b>
<b>10</b>	<b>1803199-04 CAL-DW09-FRB-20180929 0.26152</b>	<b>181008G1_10</b>	<b>Analyte</b>	<b>10</b>	<b>4.22</b>	<b>3833.82</b>	<b>5618.47</b>	<b>68.24</b>
11	1803199-05 CAL-DW08-20181001 0.26069	181008G1_11	Analyte	10	4.22	4696.73	5618.47	83.59
12	1803199-06 CAL-DW08-FRB-20181001 0.2559	181008G1_12	Analyte	10	4.22	4782.96	5618.47	85.13
13	IPA	181008G1_13	Analyte	10			5618.47	0.00
14	ST181008G1-2 PFC CS1 537 18J0406	181008G1_14	Analyte	10	4.22	5976.84	5618.47	106.38
15	IPA	181008G1_15	Analyte	10			5618.47	0.00

reported run

#### Compound 19: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	% Area	
1	IPA	181008G1_1	Analyte	28.7		14554.19	0.00	
<b>2</b>	<b>ST181008G1-1 PFC CS-1 537 18J0404</b>	<b>181008G1_2</b>	<b>Analyte</b>	<b>28.7</b>	<b>4.64</b>	<b>14554.19</b>	<b>14554.19</b>	<b>100.00</b>
3	B8J0030-BS1 LFB 0.25	181008G1_3	Analyte	28.7	4.63	11010.75	14554.19	75.65
4	B8J0030-BLK1 LRB 0.25	181008G1_4	Analyte	28.7	4.63	12860.54	14554.19	88.36
5	B8J0030-MS1 LFSM 0.24892	181008G1_5	Analyte	28.7	4.63	10754.31	14554.19	73.89
6	B8J0030-MSD1 LFSMD 0.26614	181008G1_6	Analyte	28.7	4.63	11430.03	14554.19	78.53
7	1803199-01 CAL-DW11-20180928 0.26104	181008G1_7	Analyte	28.7	4.63	11340.50	14554.19	77.92
<b>8</b>	<b>1803199-02 CAL-DW11-FRB-20180928 0.25902</b>	<b>181008G1_8</b>	<b>Analyte</b>	<b>28.7</b>	<b>4.63</b>	<b>9846.20</b>	<b>14554.19</b>	<b>67.65</b>
<b>9</b>	<b>1803199-03 CAL-DW09-20180929 0.26566</b>	<b>181008G1_9</b>	<b>Analyte</b>	<b>28.7</b>	<b>4.64</b>	<b>10064.31</b>	<b>14554.19</b>	<b>69.15</b>
<b>10</b>	<b>1803199-04 CAL-DW09-FRB-20180929 0.26152</b>	<b>181008G1_10</b>	<b>Analyte</b>	<b>28.7</b>	<b>4.64</b>	<b>9862.12</b>	<b>14554.19</b>	<b>67.76</b>
11	1803199-05 CAL-DW08-20181001 0.26069	181008G1_11	Analyte	28.7	4.65	10601.65	14554.19	72.84
12	1803199-06 CAL-DW08-FRB-20181001 0.2559	181008G1_12	Analyte	28.7	4.64	11134.09	14554.19	76.50
13	IPA	181008G1_13	Analyte	28.7			14554.19	0.00
14	ST181008G1-2 PFC CS1 537 18J0406	181008G1_14	Analyte	28.7	4.64	14460.89	14554.19	99.36
15	IPA	181008G1_15	Analyte	28.7			14554.19	0.00

reported run

reported run

**Compound 20: d3-N-MeFOSAA**

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	% Area	
1	IPA	181008G1_1	Analyte	40		13440.23	0.00	
<b>2</b>	<b>ST181008G1-1 PFC CS-1 537 18J0404</b>	<b>181008G1_2</b>	<b>Analyte</b>	<b>40</b>	<b>4.95</b>	<b>13440.23</b>	<b>13440.23</b>	<b>100.00</b>
3	B8J0030-BS1 LFB 0.25	181008G1_3	Analyte	40	4.95	11986.22	13440.23	89.18
4	B8J0030-BLK1 LRB 0.25	181008G1_4	Analyte	40	4.95	13361.06	13440.23	99.41
5	B8J0030-MS1 LFSM 0.24892	181008G1_5	Analyte	40	4.94	11674.84	13440.23	86.86
6	B8J0030-MSD1 LFSMD 0.26614	181008G1_6	Analyte	40	4.94	12246.88	13440.23	91.12
7	1803199-01 CAL-DW11-20180928 0.26104	181008G1_7	Analyte	40	4.95	11117.25	13440.23	82.72
8	1803199-02 CAL-DW11-FRB-20180928 0.25902	181008G1_8	Analyte	40	4.95	11194.07	13440.23	83.29
9	1803199-03 CAL-DW09-20180929 0.26566	181008G1_9	Analyte	40	4.94	10154.01	13440.23	75.55
10	1803199-04 CAL-DW09-FRB-20180929 0.26152	181008G1_10	Analyte	40	4.95	10505.31	13440.23	78.16
11	1803199-05 CAL-DW08-20181001 0.26069	181008G1_11	Analyte	40	4.95	11383.84	13440.23	84.70
12	1803199-06 CAL-DW08-FRB-20181001 0.2559	181008G1_12	Analyte	40	4.94	13128.14	13440.23	97.68
13	IPA	181008G1_13	Analyte	40		13440.23	0.00	
14	ST181008G1-2 PFC CS1 537 18J0406	181008G1_14	Analyte	40	4.95	15606.94	13440.23	116.12
15	IPA	181008G1_15	Analyte	40		13440.23	0.00	

# LC Calibration Standards Review Checklist

Q1

Calibration ID:	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
ST181008G1-1 (L) M H	<del>NA</del>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
↓ -2 (L) M H	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____ (L) M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

~~NA~~

Full Mass Cal. Date: 9/25/18

- Run Log Present:
- # of Samples per Sequence Checked:
- Instrument Blank Saved:  NA
- IIS Area Saved:
- Reviewed By: MTT 10/9/18  
Initials/Date

**Comments:**

DW L14

Dataset: X:\G1.PRO\Results\2018\181008G1\181008G1-2.qld

Last Altered: Tuesday, October 09, 2018 11:20:51 Pacific Daylight Time  
Printed: Tuesday, October 09, 2018 11:22:06 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09  
Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

*WJT  
10/9/18*

Name: 181008G1\_2, Date: 08-Oct-2018, Time: 17:27:29, ID: ST181008G1-1 PFC CS-1 537 18J0404, Description: PFC CS-1 537 18J0404

#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	5.95e2	1.46e4	1.00		2.92	2.91	1.17	1.58	88.6
2	2 PFHxA	312.8 > 269.0	1.23e3	5.62e3	1.00		3.25	3.28	2.19	2.12	106.2
3	3 PFHpA	362.8 > 319.0	1.31e3	5.62e3	1.00		3.78	3.80	2.34	2.17	108.7
4	4 PFHxS	398.7 > 80.2	5.87e2	1.46e4	1.00		3.93	3.93	1.16	1.62	88.8
5	5 PFOA	412.7 > 368.9	1.20e3	5.62e3	1.00		4.22	4.22	2.14	2.07	103.6
6	6 PFNA	462.8 > 419.0	1.03e3	5.62e3	1.00		4.55	4.58	1.82	1.88	94.1
7	7 PFOS	498.7 > 80.2	3.06e2	1.46e4	1.00		4.64	4.64	0.603	1.60	86.1
8	8 PFDA	512.8 > 468.9	1.46e3	5.62e3	1.00		4.83	4.83	2.59	2.01	100.5
9	9 N-MeFOSAA	569.8 > 419.0	4.44e2	1.34e4	1.00		4.96	4.96	1.32	1.88	94.2
10	10 N-EtFOSAA	583.8 > 419.0	3.32e2	1.34e4	1.00		5.09	5.09	0.987	1.52	76.2
11	11 PFUnA	562.7 > 518.9	1.60e3	5.62e3	1.00		5.09	5.10	2.84	2.00	99.9
12	12 PFDoA	612.8 > 569.0	1.30e3	5.62e3	1.00		5.34	5.36	2.32	1.92	95.8
13	13 PFTTrDA	662.8 > 619.0	1.36e3	5.62e3	1.00		5.56	5.58	2.42	1.96	98.1
14	14 PFTeDA	712.8 > 669.0	1.64e3	5.62e3	1.00		5.74	5.76	2.91	2.23	111.4
15	15 13C2-PFHxA	314.9 > 270.0	6.37e3	5.62e3	1.00	1.102	3.29	3.28	11.3	10.3	102.9
16	16 13C2-PFDA	514.8 > 470.0	6.46e3	5.62e3	1.00	1.199	4.86	4.83	11.5	9.59	95.9
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.10e4	1.34e4	1.00	0.820	5.08	5.09	32.6	39.8	99.4
18	18 13C2-PFOA	414.8 > 370.0	5.62e3	5.62e3	1.00	1.000	4.26	4.22	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.46e4	1.46e4	1.00	1.000	4.65	4.64	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.34e4	1.34e4	1.00	1.000	4.99	4.95	40.0	40.0	100.0

*KBF 10/9/18*

Dataset: Untitled

Last Altered: Tuesday, October 09, 2018 11:25:51 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 11:26:02 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Compound name: PFBS

	# Name	ID	Acq.Date	Acq.Time
1	1 181008G1_1	IPA	08-Oct-18	17:15:25
2	2 181008G1_2	ST181008G1-1 PFC CS-1 537 18J0404	08-Oct-18	17:27:29 ✓
3	3 181008G1_3	B8J0030-BS1 LFB 0.25	08-Oct-18	17:43:14
4	4 181008G1_4	B8J0030-BLK1 LRB 0.25	08-Oct-18	17:55:15
5	5 181008G1_5	B8J0030-MS1 LFSM 0.24892	08-Oct-18	18:08:17
6	6 181008G1_6	B8J0030-MSD1 LFSMD 0.26614	08-Oct-18	18:21:14
7	7 181008G1_7	1803199-01 CAL-DW11-20180928 0.26...	08-Oct-18	18:34:11
8	8 181008G1_8	1803199-02 CAL-DW11-FRB-2018092...	08-Oct-18	18:47:09
9	9 181008G1_9	1803199-03 CAL-DW09-20180929 0.26...	08-Oct-18	19:00:06
10	10 181008G1_10	1803199-04 CAL-DW09-FRB-2018092...	08-Oct-18	19:13:04
11	11 181008G1_11	1803199-05 CAL-DW08-20181001 0.26...	08-Oct-18	19:26:10
12	12 181008G1_12	1803199-06 CAL-DW08-FRB-2018100...	08-Oct-18	19:39:10
13	13 181008G1_13	IPA	08-Oct-18	19:52:08
14	14 181008G1_14	ST181008G1-2 PFC CS1 537 18J0406 ✓	08-Oct-18	20:05:08
15	15 181008G1_15	IPA	08-Oct-18	20:18:12



Dataset: X:\G1.PRO\Results\2018\181008G1\181008G1-14.qld

Last Altered: Tuesday, October 09, 2018 11:23:42 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 11:24:06 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Name: 181008G1\_14, Date: 08-Oct-2018, Time: 20:05:08, ID: ST181008G1-2 PFC CS1 537 18J0406, Description: PFC CS1 537 18J0406

*MTT*  
*10/9/18*

#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	2.99e3	1.45e4	1.00		2.93	2.91	5.94	7.98	90.3
2	2 PFHxA	312.8 > 269.0	5.83e3	5.98e3	1.00		3.26	3.29	9.75	9.45	94.5
3	3 PFHpA	362.8 > 319.0	6.12e3	5.98e3	1.00		3.78	3.80	10.2	9.51	95.1
4	4 PFHxS	398.7 > 80.2	3.14e3	1.45e4	1.00		3.94	3.93	6.23	8.69	95.3
5	5 PFOA	412.7 > 368.9	5.75e3	5.98e3	1.00		4.22	4.23	9.62	9.31	93.1
6	6 PFNA	462.8 > 419.0	5.33e3	5.98e3	1.00		4.56	4.58	8.92	9.20	92.0
7	7 PFOS	498.7 > 80.2	1.49e3	1.45e4	1.00		4.64	4.64	2.95	7.84	84.9
8	8 PFDA	512.8 > 468.9	7.42e3	5.98e3	1.00		4.84	4.83	12.4	9.62	96.2
9	9 N-MeFOSAA	569.8 > 419.0	2.55e3	1.56e4	1.00		4.95	4.95	6.55	9.34	93.4
10	10 N-EtFOSAA	583.8 > 419.0	2.28e3	1.56e4	1.00		5.08	5.08	5.84	9.02	90.2
11	11 PFUnA	562.7 > 518.9	7.34e3	5.98e3	1.00		5.10	5.09	12.3	8.63	86.3
12	12 PFDoA	612.8 > 569.0	6.80e3	5.98e3	1.00		5.34	5.36	11.4	9.39	93.9
13	13 PFTTrDA	662.8 > 619.0	7.64e3	5.98e3	1.00		5.57	5.58	12.8	10.4	103.7
14	14 PFTeDA	712.8 > 669.0	7.70e3	5.98e3	1.00		5.75	5.76	12.9	9.86	98.6
15	15 13C2-PFHxA	314.9 > 270.0	6.41e3	5.98e3	1.00	1.102	3.29	3.29	10.7	9.74	97.4
16	16 13C2-PFDA	514.8 > 470.0	7.61e3	5.98e3	1.00	1.199	4.86	4.84	12.7	10.6	106.2
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.35e4	1.56e4	1.00	0.820	5.08	5.08	34.5	42.1	105.2
18	18 13C2-PFOA	414.8 > 370.0	5.98e3	5.98e3	1.00	1.000	4.26	4.22	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.45e4	1.45e4	1.00	1.000	4.65	4.64	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.56e4	1.56e4	1.00	1.000	4.99	4.95	40.0	40.0	100.0

*VBF* 10/9/18

Dataset: Untitled

Last Altered: Tuesday, October 09, 2018 11:25:51 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 11:26:02 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Compound name: PFBS

	# Name	ID	Acq.Date	Acq.Time
1	1 181008G1_1	IPA	08-Oct-18	17:15:25
2	2 181008G1_2	ST181008G1-1 PFC CS-1 537 18J0404	08-Oct-18	17:27:29
3	3 181008G1_3	B8J0030-BS1 LFB 0.25	08-Oct-18	17:43:14
4	4 181008G1_4	B8J0030-BLK1 LRB 0.25	08-Oct-18	17:55:15
5	5 181008G1_5	B8J0030-MS1 LFSM 0.24892	08-Oct-18	18:08:17
6	6 181008G1_6	B8J0030-MSD1 LFSMD 0.26614	08-Oct-18	18:21:14
7	7 181008G1_7	1803199-01 CAL-DW11-20180928 0.26...	08-Oct-18	18:34:11
8	8 181008G1_8	1803199-02 CAL-DW11-FRB-2018092...	08-Oct-18	18:47:09
9	9 181008G1_9	1803199-03 CAL-DW09-20180929 0.26...	08-Oct-18	19:00:06
10	10 181008G1_10	1803199-04 CAL-DW09-FRB-2018092...	08-Oct-18	19:13:04
11	11 181008G1_11	1803199-05 CAL-DW08-20181001 0.26...	08-Oct-18	19:26:10
12	12 181008G1_12	1803199-06 CAL-DW08-FRB-2018100...	08-Oct-18	19:39:10
13	13 181008G1_13	IPA	08-Oct-18	19:52:08
14	14 181008G1_14	ST181008G1-2 PFC CS1 537 18J0406	08-Oct-18	20:05:08
15	15 181008G1_15	IPA	08-Oct-18	20:18:12

# ICAL

## Compound 18: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	Area %
1 IPA	181009G2_1	Analyte	10			5732.11	0.00
2 ST181009G2-1 PFC CS-1 537 18J0404	181009G2_2	Analyte	10	4.22	6089.11	5732.11	106.23
3 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_3	Analyte	10	4.22	4137.24	5732.11	72.18
4 1803199-03 CAL-DW09-20180929 0.26566	181009G2_4	Analyte	10	4.22	4337.23	5732.11	75.67
5 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_5	Analyte	10	4.22	4209.83	5732.11	73.44
6 IPA	181009G2_6	Analyte	10			5732.11	0.00
7 ST181009G2-2 PFC CS1 537 18J0406	181009G2_7	Analyte	10	4.23	5560.46	5732.11	97.01
8 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_8	Analyte	10	4.23	4070.21	5732.11	71.01
9 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_9	Analyte	10	4.23	4212.77	5732.11	73.49
10 IPA	181009G2_10	Analyte	10			5732.11	0.00
11 ST181009G2-3 PFC CS2 537 18J0407	181009G2_11	Analyte	10	4.23	5753.82	5732.11	100.38

## Compound 19: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	IS Area	Area %
1 IPA	181009G2_1	Analyte	28.7			13457.00	0.00
2 ST181009G2-1 PFC CS-1 537 18J0404	181009G2_2	Analyte	28.7	4.65	13772.44	13457.00	102.34
3 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_3	Analyte	28.7	4.65	10245.26	13457.00	76.13
4 1803199-03 CAL-DW09-20180929 0.26566	181009G2_4	Analyte	28.7	4.63	10232.77	13457.00	76.04
5 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_5	Analyte	28.7	4.64	10137.07	13457.00	75.33
6 IPA	181009G2_6	Analyte	28.7			13457.00	0.00
7 ST181009G2-2 PFC CS1 537 18J0406	181009G2_7	Analyte	28.7	4.63	14316.51	13457.00	106.39
8 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_8	Analyte	28.7	4.63	10899.05	13457.00	80.99
9 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_9	Analyte	28.7	4.63	9932.69	13457.00	73.81
10 IPA	181009G2_10	Analyte	28.7			13457.00	0.00
11 ST181009G2-3 PFC CS2 537 18J0407	181009G2_11	Standard	28.7	4.63	13987.27	13457.00	103.94

**Compound 20: d3-N-MeFOSAA**

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	Area %
1 IPA	181009G2_1	Analyte	40			14928.39	0.00
2 ST181009G2-1 PFC CS-1 537 18J0404	181009G2_2	Analyte	40	4.96	13491.66	14928.39	90.38
3 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_3	Analyte	40	4.96	10275.78	14928.39	68.83
4 1803199-03 CAL-DW09-20180929 0.26566	181009G2_4	Analyte	40	4.97	11689.33	14928.39	78.30
5 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_5	Analyte	40	4.96	11920.15	14928.39	79.85
6 IPA	181009G2_6	Analyte	40			14928.39	0.00
7 ST181009G2-2 PFC CS1 537 18J0406	181009G2_7	Analyte	40	4.96	16141.82	14928.39	108.13
8 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_8	Analyte	40	4.97	9913.38	14928.39	66.41
9 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_9	Analyte	40	4.98	10269.62	14928.39	68.79
10 IPA	181009G2_10	Analyte	40			14928.39	0.00
11 ST181009G2-3 PFC CS2 537 18J0407	181009G2_11	Standard	40	4.97	15905.60	14928.39	106.55

**CCAL**

CONFIRMATION FOR CCVs OUT - PINK HIGHLIGHTED NOT REPORTED

**Compound 18: 13C2-PFOA**

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	Area %
1 IPA	181009G2_1	Analyte	10			6089.11	0.00
<b>2 ST181009G2-1 PFC CS-1 537 18J0404</b>	<b>181009G2_2</b>	<b>Analyte</b>	<b>10</b>	<b>4.22</b>	<b>6089.11</b>	<b>6089.11</b>	<b>100.00</b>
3 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_3	Analyte	10	4.22	4137.24	6089.11	67.94
4 1803199-03 CAL-DW09-20180929 0.26566	181009G2_4	Analyte	10	4.22	4337.23	6089.11	71.23
5 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_5	Analyte	10	4.22	4209.83	6089.11	69.14
6 IPA	181009G2_6	Analyte	10			6089.11	0.00
7 ST181009G2-2 PFC CS1 537 18J0406	181009G2_7	Analyte	10	4.23	5560.46	6089.11	91.32
<b>7 ST181009G2-2 PFC CS1 537 18J0406</b>	<b>181009G2_7</b>	<b>Analyte</b>	<b>10</b>	<b>4.23</b>	<b>5560.46</b>	<b>5560.46</b>	<b>100.00</b>
8 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_8	Analyte	10	4.23	4070.21	5560.46	73.20
9 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_9	Analyte	10	4.23	4212.77	5560.46	75.76
10 IPA	181009G2_10	Analyte	10			5560.46	0.00
11 ST181009G2-3 PFC CS2 537 18J0407	181009G2_11	Analyte	10	4.23	5753.82	5560.46	103.48

reported run

**Compound 19: 13C4-PFOS**

ID	Name	Type	Std. Conc	RT	Area	CCAL Area	Area %
1 IPA	181009G2_1	Analyte	28.7			13772.44	0.00
<b>2 ST181009G2-1 PFC CS-1 537 18J0404</b>	<b>181009G2_2</b>	<b>Analyte</b>	<b>28.7</b>	<b>4.65</b>	<b>13772.44</b>	<b>13772.44</b>	<b>100.00</b>
3 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_3	Analyte	28.7	4.65	10245.26	13772.44	74.39
4 1803199-03 CAL-DW09-20180929 0.26566	181009G2_4	Analyte	28.7	4.63	10232.77	13772.44	74.30
5 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_5	Analyte	28.7	4.64	10137.07	13772.44	73.60
6 IPA	181009G2_6	Analyte	28.7			13772.44	0.00
7 ST181009G2-2 PFC CS1 537 18J0406	181009G2_7	Analyte	28.7	4.63	14316.51	13772.44	103.95
<b>7 ST181009G2-2 PFC CS1 537 18J0406</b>	<b>181009G2_7</b>	<b>Analyte</b>	<b>28.7</b>	<b>4.63</b>	<b>14316.51</b>	<b>14316.51</b>	<b>100.00</b>
8 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_8	Analyte	28.7	4.63	10899.05	14316.51	76.13
9 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_9	Analyte	28.7	4.63	9932.69	14316.51	69.38
10 IPA	181009G2_10	Analyte	28.7			14316.51	0.00
11 ST181009G2-3 PFC CS2 537 18J0407	181009G2_11	Standard	28.7	4.63	13987.27	14316.51	97.70

reported run

**Compound 20: d3-N-MeFOSAA**

ID	Name	Type	Std. Conc	RT	Area	ICAL Area	Area %
1 IPA	181009G2_1	Analyte	40			13491.66	0.00
<b>2 ST181009G2-1 PFC CS-1 537 18J0404</b>	<b>181009G2_2</b>	<b>Analyte</b>	<b>40</b>	<b>4.96</b>	<b>13491.66</b>	<b>13491.66</b>	<b>100.00</b>
3 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_3	Analyte	40	4.96	10275.78	13491.66	76.16
4 1803199-03 CAL-DW09-20180929 0.26566	181009G2_4	Analyte	40	4.97	11689.33	13491.66	86.64
5 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_5	Analyte	40	4.96	11920.15	13491.66	88.35
6 IPA	181009G2_6	Analyte	40			13491.66	0.00
7 ST181009G2-2 PFC CS1 537 18J0406	181009G2_7	Analyte	40	4.96	16141.82	13491.66	119.64
<b>7 ST181009G2-2 PFC CS1 537 18J0406</b>	<b>181009G2_7</b>	<b>Analyte</b>	<b>40</b>	<b>4.96</b>	<b>16141.82</b>	<b>16141.82</b>	<b>100.00</b>
8 1803199-02 CAL-DW11-FRB-20180928 0.25902	181009G2_8	Analyte	40	4.97	9913.38	16141.82	61.41
9 1803199-04 CAL-DW09-FRB-20180929 0.26152	181009G2_9	Analyte	40	4.98	10269.62	16141.82	63.62
10 IPA	181009G2_10	Analyte	40			16141.82	0.00

reported run

11 ST181009G2-3 PFC CS2 537 18J0407

181009G2\_11 Standard

40

4.97 15905.60 16141.82

98.54



Dataset: X:\G1.PRO\Results\2018\181009G2\181009G2-2.qld

Last Altered: Tuesday, October 09, 2018 13:12:12 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 13:12:26 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1009.mdb 09 Oct 2018 13:12:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Name: 181009G2\_2, Date: 09-Oct-2018, Time: 11:08:35, ID: ST181009G2-1 PFC CS-1 537 18J0404, Description: PFC CS-1 537 18J0404

*MTT*  
*10/9/18*

#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	6.21e2	1.38e4	1.00		2.91	2.91	1.29	1.74	97.6
2	2 PFHxA	312.8 > 269.0	1.18e3	6.09e3	1.00		3.28	3.28	1.94	1.88	94.0
3	3 PFHpA	362.8 > 319.0	1.29e3	6.09e3	1.00		3.79	3.79	2.13	1.97	98.7
4	4 PFHxS	398.7 > 80.2	6.27e2	1.38e4	1.00		3.91	3.91	1.31	1.82	100.1
5	5 PFOA	412.7 > 368.9	1.19e3	6.09e3	1.00		4.22	4.22	1.95	1.89	94.6
6	6 PFNA	462.8 > 419.0	1.17e3	6.09e3	1.00		4.59	4.59	1.92	1.99	99.3
7	7 PFOS	498.7 > 80.2	2.92e2	1.38e4	1.00		4.64	4.64	0.609	1.62	87.0
8	8 PFDA	512.8 > 468.9	1.45e3	6.09e3	1.00		4.83	4.83	2.38	1.84	92.2
9	9 N-MeFOSAA	569.8 > 419.0	4.65e2	1.35e4	1.00		4.97	4.97	1.38	1.97	98.4
10	10 N-EiFOSAA	583.8 > 419.0	4.03e2	1.35e4	1.00		5.10	5.10	1.20	1.85	92.4
11	11 PFUnA	562.7 > 518.9	1.56e3	6.09e3	1.00		5.11	5.11	2.57	1.81	90.3
12	12 PFDoA	612.8 > 569.0	1.33e3	6.09e3	1.00		5.36	5.36	2.18	1.80	90.1
13	13 PFTrDA	662.8 > 619.0	1.37e3	6.09e3	1.00		5.58	5.58	2.25	1.83	91.3
14	14 PFTeDA	712.8 > 669.0	1.48e3	6.09e3	1.00		5.75	5.75	2.42	1.86	92.8
15	15 13C2-PFHxA	314.9 > 270.0	5.99e3	6.09e3	1.00	1.102	3.29	3.28	9.84	8.93	89.3
16	16 13C2-PFDA	514.8 > 470.0	6.97e3	6.09e3	1.00	1.199	4.86	4.83	11.4	9.55	95.5
17	17 d5-N-EiFOSAA	588.8 > 419.0	1.30e4	1.35e4	1.00	0.820	5.08	5.10	38.4	46.9	117.2
18	18 13C2-PFOA	414.8 > 370.0	6.09e3	6.09e3	1.00	1.000	4.22	4.22	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.38e4	1.38e4	1.00	1.000	4.65	4.65	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.35e4	1.35e4	1.00	1.000	4.96	4.96	40.0	40.0	100.0

*VBF* 10/9/18



Dataset: Untitled

Last Altered: Tuesday, October 09, 2018 13:55:05 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 13:55:15 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1009.mdb 09 Oct 2018 13:12:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Compound name: PFBS

#	Name	ID	Acq.Date	Acq.Time
1	1 181009G2_1	IPA	09-Oct-18	10:56:32
2	2 181009G2_2	ST181009G2-1 PFC CS-1 537 18J0404 ✓	09-Oct-18	11:08:35
3	3 181009G2_3	1803199-02 CAL-DW11-FRB-2018092...	09-Oct-18	11:27:36
4	4 181009G2_4	1803199-03 CAL-DW09-20180929 0.26...	09-Oct-18	11:39:39
5	5 181009G2_5	1803199-04 CAL-DW09-FRB-2018092...	09-Oct-18	11:52:44
6	6 181009G2_6	IPA	09-Oct-18	12:05:50
7	7 181009G2_7	ST181009G2-2 PFC CS1 537 18J0406 ✓	09-Oct-18	12:18:46
8	8 181009G2_8	1803199-02 CAL-DW11-FRB-2018092...	09-Oct-18	12:40:59
9	9 181009G2_9	1803199-04 CAL-DW09-FRB-2018092...	09-Oct-18	12:53:04
10	10 181009G2_10	IPA	09-Oct-18	13:06:12
11	11 181009G2_11	ST181009G2-3 PFC CS2 537 18J0407 ✓	09-Oct-18	13:19:12

Dataset: X:\G1.PRO\Results\2018\181009G2\181009G2-7.qld

Last Altered: Tuesday, October 09, 2018 13:14:05 Pacific Daylight Time  
Printed: Tuesday, October 09, 2018 13:14:27 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1009.mdb 09 Oct 2018 13:12:09  
Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

*MTT*  
*10/9/18*

Name: 181009G2\_7, Date: 09-Oct-2018, Time: 12:18:46, ID: ST181009G2-2 PFC CS1 537 18J0406, Description: PFC CS1 537 18J0406

#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	3.26e3	1.43e4	1.00		2.90	2.91	6.53	8.77	99.2
2	2 PFHxA	312.8 > 269.0	5.93e3	5.56e3	1.00		3.29	3.28	10.7	10.3	103.3
3	3 PFHpA	362.8 > 319.0	6.22e3	5.56e3	1.00		3.80	3.79	11.2	10.4	103.9
4	4 PFHxS	398.7 > 80.2	3.01e3	1.43e4	1.00		3.90	3.92	6.03	8.41	92.2
5	5 PFOA	412.7 > 368.9	5.34e3	5.56e3	1.00		4.22	4.23	9.60	9.29	92.9
6	6 PFNA	462.8 > 419.0	5.54e3	5.56e3	1.00		4.59	4.58	9.96	10.3	102.8
7	7 PFOS	498.7 > 80.2	1.64e3	1.43e4	1.00		4.63	4.64	3.29	8.75	94.7
8	8 PFDA	512.8 > 468.9	7.31e3	5.56e3	1.00		4.83	4.83	13.2	10.2	101.9
9	9 N-MeFOSAA	569.8 > 419.0	2.63e3	1.61e4	1.00		4.97	4.97	6.52	9.29	92.9
10	10 N-EtFOSAA	583.8 > 419.0	2.16e3	1.61e4	1.00		5.10	5.10	5.36	8.28	82.8
11	11 PFUnA	562.7 > 518.9	7.30e3	5.56e3	1.00		5.11	5.11	13.1	9.24	92.4
12	12 PFDoA	612.8 > 569.0	6.62e3	5.56e3	1.00		5.36	5.37	11.9	9.83	98.3
13	13 PFTrDA	662.8 > 619.0	6.98e3	5.56e3	1.00		5.58	5.58	12.6	10.2	101.8
14	14 PFTeDA	712.8 > 669.0	7.63e3	5.56e3	1.00		5.75	5.75	13.7	10.5	105.0
15	15 13C2-PFHxA	314.9 > 270.0	6.82e3	5.56e3	1.00	1.102	3.29	3.28	12.3	11.1	111.3
16	16 13C2-PFDA	514.8 > 470.0	7.15e3	5.56e3	1.00	1.199	4.86	4.84	12.9	10.7	107.3
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.18e4	1.61e4	1.00	0.820	5.09	5.10	29.3	35.7	89.3
18	18 13C2-PFOA	414.8 > 370.0	5.56e3	5.56e3	1.00	1.000	4.22	4.23	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.43e4	1.43e4	1.00	1.000	4.65	4.63	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.61e4	1.61e4	1.00	1.000	4.96	4.96	40.0	40.0	100.0

*KBF* 10/9/18

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, October 09, 2018 13:55:05 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 13:55:15 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1009.mdb 09 Oct 2018 13:12:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Compound name: PFBS

	# Name	ID	Acq.Date	Acq.Time
1	1 181009G2_1	IPA	09-Oct-18	10:56:32
2	2 181009G2_2	ST181009G2-1 PFC CS-1 537 18J0404	09-Oct-18	11:08:35
3	3 181009G2_3	1803199-02 CAL-DW11-FRB-2018092...	09-Oct-18	11:27:36
4	4 181009G2_4	1803199-03 CAL-DW09-20180929 0.26...	09-Oct-18	11:39:39
5	5 181009G2_5	1803199-04 CAL-DW09-FRB-2018092...	09-Oct-18	11:52:44
6	6 181009G2_6	IPA	09-Oct-18	12:05:50
7	7 181009G2_7	ST181009G2-2 PFC CS1 537 18J0406	09-Oct-18	12:18:46
8	8 181009G2_8	1803199-02 CAL-DW11-FRB-2018092...	09-Oct-18	12:40:59
9	9 181009G2_9	1803199-04 CAL-DW09-FRB-2018092...	09-Oct-18	12:53:04
10	10 181009G2_10	IPA	09-Oct-18	13:06:12
11	11 181009G2_11	ST181009G2-3 PFC CS2 537 18J0407	09-Oct-18	13:19:12

Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time  
 Printed: Tuesday, October 09, 2018 10:42:07 Pacific Daylight Time

Low pt  
 PFOS = 0.464  
 EtFOSAA = 1.0

High pt  
 PFHxA = 75  
 MeFOSAA = 25  
 EtFOSAA ↓  
 PFOA  
 PFNA  
 PFDA  
 PFUnA  
 PFDoA  
 PFT<sub>2</sub>DA  
 PFT<sub>1</sub>DA  
 ↓  
 ✓ 10/9/18

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09  
 Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

**Compound name: PFBS**

Coefficient of Determination: R<sup>2</sup> = 0.999081  
 Calibration curve: 0.744632 \* 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 181005G3_2	Standard	0.222	2.93	62.733	14224.786	0.127	0.2	-23.4	NO	0.999	NO	bb
2	2 181005G3_3	Standard	0.444	2.93	146.427	13024.970	0.323	0.4	-2.4	NO	0.999	NO	bb
3	3 181005G3_4	Standard	0.888	2.93	303.388	14070.765	0.619	0.8	-6.4	NO	0.999	NO	bb
4	4 181005G3_5	Standard	1.780	2.93	657.534	14081.617	1.340	1.8	1.1	NO	0.999	NO	bb
5	5 181005G3_6	Standard	4.440	2.93	1534.146	14864.415	2.962	4.0	-10.4	NO	0.999	NO	bb
6	6 181005G3_7	Standard	8.840	2.93	2817.001	13089.380	6.177	8.3	-6.2	NO	0.999	NO	bd
7	7 181005G3_8	Standard	22.100	2.93	7487.047	13387.591	16.051	21.6	-2.5	NO	0.999	NO	bb
8	8 181005G3_9	Standard	44.200	2.93	15305.433	12750.208	34.452	46.3	4.7	NO	0.999	NO	bd
9	9 181005G3_10	Standard	66.400	2.92	21674.318	12622.959	49.279	66.2	-0.3	NO	0.999	NO	bb
10	10 181005G3_11	Standard	88.500	2.93	28531.990	12453.261	65.755	88.3	-0.2	NO	0.999	NO	bb

**Compound name: PFHxA**

Coefficient of Determination: R<sup>2</sup> = 0.998629  
 Calibration curve: 1.03224 \* 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 181005G3_2	Standard	0.250	3.29	186.167	5750.953	0.324	0.3	25.4	NO	0.999	NO	bb
2	2 181005G3_3	Standard	0.500	3.29	342.566	6289.390	0.545	0.5	5.5	NO	0.999	NO	bb
3	3 181005G3_4	Standard	1.000	3.28	631.665	5792.523	1.090	1.1	5.6	NO	0.999	NO	bb
4	4 181005G3_5	Standard	2.000	3.28	1220.053	5555.693	2.196	2.1	6.4	NO	0.999	NO	bb
5	5 181005G3_6	Standard	5.000	3.28	3019.632	5865.877	5.148	5.0	-0.3	NO	0.999	NO	bd
6	6 181005G3_7	Standard	10.000	3.28	5624.349	5593.660	10.055	9.7	-2.6	NO	0.999	NO	bd
7	7 181005G3_8	Standard	25.000	3.28	13917.297	5723.753	24.315	23.6	-5.8	NO	0.999	NO	bd
8	8 181005G3_9	Standard	50.000	3.28	28629.891	5320.454	53.811	52.1	4.3	NO	0.999	NO	bb
9	9 181005G3_10	Standard	75.000	3.28	43697.902	5696.708	76.707	74.3	-0.9	NO	0.999	NO	bd
10	10 181005G3_11	Standard	100.000	3.28	54433.914	5059.471	107.588	104.2	4.2	NO	0.999	NO	bbX

✓ 10/9/18

Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time  
 Printed: Tuesday, October 09, 2018 10:42:07 Pacific Daylight Time

**Compound name: PFHpA**

Coefficient of Determination: R<sup>2</sup> = 0.998832

Calibration curve: 1.07676 \* 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 181005G3_2	Standard	0.250	3.81	130.943	5750.953	0.228	0.2	-15.4	NO	0.999	NO	bb
2	2 181005G3_3	Standard	0.500	3.81	322.857	6289.390	0.513	0.5	-4.7	NO	0.999	NO	bb
3	3 181005G3_4	Standard	1.000	3.80	580.985	5792.523	1.003	0.9	-6.9	NO	0.999	NO	bb
4	4 181005G3_5	Standard	2.000	3.80	1306.926	5555.693	2.352	2.2	9.2	NO	0.999	NO	bb
5	5 181005G3_6	Standard	5.000	3.81	3218.410	5865.877	5.487	5.1	1.9	NO	0.999	NO	bb
6	6 181005G3_7	Standard	10.000	3.81	6242.474	5593.660	11.160	10.4	3.6	NO	0.999	NO	bb
7	7 181005G3_8	Standard	25.000	3.80	14793.167	5723.753	25.845	24.0	-4.0	NO	0.999	NO	bd
8	8 181005G3_9	Standard	50.000	3.81	29748.197	5320.454	55.913	51.9	3.9	NO	0.999	NO	bb
9	9 181005G3_10	Standard	75.000	3.80	45118.750	5696.708	79.201	73.6	-1.9	NO	0.999	NO	bb
10	10 181005G3_11	Standard	100.000	3.81	57904.727	5059.471	114.448	106.3	6.3	NO	0.999	NO	bbX

**Compound name: PFHxS**

Coefficient of Determination: R<sup>2</sup> = 0.999312

Calibration curve: 0.716646 \* 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 181005G3_2	Standard	0.228	3.93	62.383	14224.786	0.126	0.2	-23.0	NO	0.999	NO	MM
2	2 181005G3_3	Standard	0.456	3.93	140.388	13024.970	0.309	0.4	-5.3	NO	0.999	NO	MM
3	3 181005G3_4	Standard	0.912	3.93	281.891	14070.765	0.575	0.8	-12.0	NO	0.999	NO	MM
4	4 181005G3_5	Standard	1.820	3.94	618.664	14081.617	1.261	1.8	-3.3	NO	0.999	NO	MM
5	5 181005G3_6	Standard	4.560	3.94	1624.240	14864.415	3.136	4.4	-4.0	NO	0.999	NO	MM
6	6 181005G3_7	Standard	9.120	3.93	3064.151	13089.380	6.719	9.4	2.8	NO	0.999	NO	MM
7	7 181005G3_8	Standard	22.800	3.93	7268.626	13387.591	15.582	21.7	-4.6	NO	0.999	NO	MM
8	8 181005G3_9	Standard	45.500	3.93	14813.804	12750.208	33.345	46.5	2.3	NO	0.999	NO	MM
9	9 181005G3_10	Standard	68.200	3.93	21944.377	12622.959	49.894	69.6	2.1	NO	0.999	NO	MM
10	10 181005G3_11	Standard	91.000	3.93	27918.807	12453.261	64.342	89.8	-1.3	NO	0.999	NO	MM

Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:42:07 Pacific Daylight Time

**Compound name: PFOA**

Coefficient of Determination: R<sup>2</sup> = 0.997085

Calibration curve: 1.03308 \* 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 181005G3_2	Standard	0.250	4.26	100.437	5750.953	0.175	0.2	-32.4	NO	0.997	NO	MM
2	2 181005G3_3	Standard	0.500	4.24	298.241	6289.390	0.474	0.5	-8.2	NO	0.997	NO	MM
3	3 181005G3_4	Standard	1.000	4.25	472.692	5792.523	0.816	0.8	-21.0	NO	0.997	NO	MM
4	4 181005G3_5	Standard	2.000	4.25	1130.231	5555.693	2.034	2.0	-1.5	NO	0.997	NO	MM
5	5 181005G3_6	Standard	5.000	4.25	3177.579	5865.877	5.417	5.2	4.9	NO	0.997	NO	bb
6	6 181005G3_7	Standard	10.000	4.25	5597.691	5593.660	10.007	9.7	-3.1	NO	0.997	NO	bd
7	7 181005G3_8	Standard	25.000	4.25	13515.015	5723.753	23.612	22.9	-8.6	NO	0.997	NO	bd
8	8 181005G3_9	Standard	50.000	4.25	29153.088	5320.454	54.794	53.0	6.1	NO	0.997	NO	bb
9	9 181005G3_10	Standard	75.000	4.24	43866.152	5696.708	77.003	74.5	-0.6	NO	0.997	NO	bd
10	10 181005G3_11	Standard	100.000	4.25	56620.234	5059.471	111.909	108.3	8.3	NO	0.997	NO	bdX

**Compound name: PFNA**

Coefficient of Determination: R<sup>2</sup> = 0.997889

Calibration curve: 0.969177 \* 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 181005G3_2	Standard	0.250	4.55	101.443	5750.953	0.176	0.2	-27.2	NO	0.998	NO	MM
2	2 181005G3_3	Standard	0.500	4.56	285.927	6289.390	0.455	0.5	-6.2	NO	0.998	NO	MM
3	3 181005G3_4	Standard	1.000	4.56	442.730	5792.523	0.764	0.8	-21.1	NO	0.998	NO	MM
4	4 181005G3_5	Standard	2.000	4.56	1159.673	5555.693	2.087	2.2	7.7	NO	0.998	NO	bb
5	5 181005G3_6	Standard	5.000	4.56	2729.900	5865.877	4.654	4.8	-4.0	NO	0.998	NO	MM
6	6 181005G3_7	Standard	10.000	4.56	5465.954	5593.660	9.772	10.1	0.8	NO	0.998	NO	MM
7	7 181005G3_8	Standard	25.000	4.56	12902.569	5723.753	22.542	23.3	-7.0	NO	0.998	NO	bb
8	8 181005G3_9	Standard	50.000	4.56	27084.033	5320.454	50.905	52.5	5.0	NO	0.998	NO	bb
9	9 181005G3_10	Standard	75.000	4.56	41126.078	5696.708	72.193	74.5	-0.7	NO	0.998	NO	bd
10	10 181005G3_11	Standard	100.000	4.56	52465.574	5059.471	103.698	107.0	7.0	NO	0.998	NO	bbX

Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time  
 Printed: Tuesday, October 09, 2018 10:42:07 Pacific Daylight Time

**Compound name: PFOS**

Coefficient of Determination: R<sup>2</sup> = 0.996669

Calibration curve: 0.37602 \* 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 181005G3_2	Standard	0.232	4.61	7.787	14224.786	0.016	0.0	-82.0	NO	0.997	NO	MMX
2	2 181005G3_3	Standard	0.464	4.62	60.454	13024.970	0.133	0.4	-23.7	NO	0.997	NO	MM
3	3 181005G3_4	Standard	0.928	4.61	125.885	14070.765	0.257	0.7	-26.4	NO	0.997	NO	MM
4	4 181005G3_5	Standard	1.860	4.61	270.434	14081.617	0.551	1.5	-21.2	NO	0.997	NO	MM
5	5 181005G3_6	Standard	4.640	4.61	777.120	14864.415	1.500	4.0	-14.0	NO	0.997	NO	MM
6	6 181005G3_7	Standard	9.240	4.61	1438.374	13089.380	3.154	8.4	-9.2	NO	0.997	NO	MM
7	7 181005G3_8	Standard	23.100	4.62	3630.333	13387.591	7.783	20.7	-10.4	NO	0.997	NO	MM
8	8 181005G3_9	Standard	46.200	4.61	7690.533	12750.208	17.311	46.0	-0.4	NO	0.997	NO	MM
9	9 181005G3_10	Standard	69.400	4.61	11607.759	12622.959	26.392	70.2	1.1	NO	0.997	NO	MM
10	10 181005G3_11	Standard	92.500	4.61	15749.727	12453.261	36.297	96.5	4.4	NO	0.997	NO	MM

**Compound name: PFDA**

Coefficient of Determination: R<sup>2</sup> = 0.993505

Calibration curve: 1.29047 \* 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 181005G3_2	Standard	0.250	4.85	188.673	5750.953	0.328	0.3	1.7	NO	0.994	NO	MM
2	2 181005G3_3	Standard	0.500	4.85	284.905	6289.390	0.453	0.4	-29.8	NO	0.994	NO	MM
3	3 181005G3_4	Standard	1.000	4.85	779.928	5792.523	1.346	1.0	4.3	NO	0.994	NO	bb
4	4 181005G3_5	Standard	2.000	4.86	1606.105	5555.693	2.891	2.2	12.0	NO	0.994	NO	bb
5	5 181005G3_6	Standard	5.000	4.86	4177.451	5865.877	7.122	5.5	10.4	NO	0.994	NO	MM
6	6 181005G3_7	Standard	10.000	4.86	7281.195	5593.660	13.017	10.1	0.9	NO	0.994	NO	bd
7	7 181005G3_8	Standard	25.000	4.85	17274.590	5723.753	30.181	23.4	-6.5	NO	0.994	NO	bd
8	8 181005G3_9	Standard	50.000	4.86	37924.234	5320.454	71.280	55.2	10.5	NO	0.994	NO	MM
9	9 181005G3_10	Standard	75.000	4.84	51925.504	5696.708	91.150	70.6	-5.8	NO	0.994	NO	bd
10	10 181005G3_11	Standard	100.000	4.85	67462.273	5059.471	133.339	103.3	3.3	NO	0.994	NO	bbX

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**Compound name: N-MeFOSAA**

Coefficient of Determination: R<sup>2</sup> = 0.994919

Calibration curve: 0.701045 \* 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 181005G3_2	Standard	0.250	4.99	46.380	14384.714	0.129	0.2	-26.4	NO	0.995	NO	MM
2	2 181005G3_3	Standard	0.500	4.99	120.021	15125.046	0.317	0.5	-9.4	NO	0.995	NO	MM
3	3 181005G3_4	Standard	1.000	4.99	211.569	16107.638	0.525	0.7	-25.1	NO	0.995	NO	MM
4	4 181005G3_5	Standard	2.000	4.98	497.402	16215.109	1.227	1.8	-12.5	NO	0.995	NO	MM
5	5 181005G3_6	Standard	5.000	4.98	1344.375	13816.685	3.892	5.6	11.0	NO	0.995	NO	MM
6	6 181005G3_7	Standard	10.000	4.99	2546.825	15078.015	6.756	9.6	-3.6	NO	0.995	NO	MM
7	7 181005G3_8	Standard	25.000	4.99	6136.417	13771.519	17.824	25.4	1.7	NO	0.995	NO	MM
8	8 181005G3_9	Standard	50.000	4.98	15266.173	13206.061	46.240	66.0	31.9	NO	0.995	NO	MMX
9	9 181005G3_10	Standard	75.000	4.98	20135.230	13175.728	61.128	87.2	16.3	NO	0.995	NO	MMX
10	10 181005G3_11	Standard	100.000	4.98	26385.873	14530.470	72.636	103.6	3.6	NO	0.995	NO	MMX

**Compound name: N-EtFOSAA**

Coefficient of Determination: R<sup>2</sup> = 0.990622

Calibration curve: 0.647387 \* 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 181005G3_2	Standard	0.250	5.12	37.074	14384.714	0.103	0.2	-36.3	NO	0.991	NO	MMX
2	2 181005G3_3	Standard	0.500	5.11	52.971	15125.046	0.140	0.2	-56.7	NO	0.991	NO	MMX
3	3 181005G3_4	Standard	1.000	5.12	202.425	16107.638	0.503	0.8	-22.4	NO	0.991	NO	MM
4	4 181005G3_5	Standard	2.000	5.12	444.695	16215.109	1.097	1.7	-15.3	NO	0.991	NO	MM
5	5 181005G3_6	Standard	5.000	5.12	1326.652	13816.685	3.841	5.9	18.7	NO	0.991	NO	MM
6	6 181005G3_7	Standard	10.000	5.12	2332.617	15078.015	6.188	9.6	-4.4	NO	0.991	NO	MM
7	7 181005G3_8	Standard	25.000	5.12	5580.601	13771.519	16.209	25.0	0.2	NO	0.991	NO	MM
8	8 181005G3_9	Standard	50.000	5.12	12258.305	13206.061	37.129	57.4	14.7	NO	0.991	NO	MMX
9	9 181005G3_10	Standard	75.000	5.11	19870.506	13175.728	60.325	93.2	24.2	NO	0.991	NO	MMX
10	10 181005G3_11	Standard	100.000	5.11	21989.418	14530.470	60.533	93.5	-6.5	NO	0.991	NO	MMX



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**Compound name: PFUnA**

Coefficient of Determination: R<sup>2</sup> = 0.997347

Calibration curve: 1.422 \* 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 181005G3_2	Standard	0.250	5.14	186.869	5750.953	0.325	0.2	-8.6	NO	0.997	NO	MM
2	2 181005G3_3	Standard	0.500	5.13	356.018	6289.390	0.566	0.4	-20.4	NO	0.997	NO	bb
3	3 181005G3_4	Standard	1.000	5.13	744.950	5792.523	1.286	0.9	-9.6	NO	0.997	NO	bb
4	4 181005G3_5	Standard	2.000	5.13	1636.588	5555.693	2.946	2.1	3.6	NO	0.997	NO	bb
5	5 181005G3_6	Standard	5.000	5.13	4110.102	5865.877	7.007	4.9	-1.5	NO	0.997	NO	bb
6	6 181005G3_7	Standard	10.000	5.13	7913.447	5593.660	14.147	9.9	-0.5	NO	0.997	NO	bb
7	7 181005G3_8	Standard	25.000	5.13	18624.023	5723.753	32.538	22.9	-8.5	NO	0.997	NO	bb
8	8 181005G3_9	Standard	50.000	5.13	40225.367	5320.454	75.605	53.2	6.3	NO	0.997	NO	bb
9	9 181005G3_10	Standard	75.000	5.12	60124.441	5696.708	105.542	74.2	-1.0	NO	0.997	NO	bb
10	10 181005G3_11	Standard	100.000	5.12	73444.273	5059.471	145.162	102.1	2.1	NO	0.997	NO	bbX

**Compound name: PFDoA**

Coefficient of Determination: R<sup>2</sup> = 0.995011

Calibration curve: 1.21116 \* 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 181005G3_2	Standard	0.250	5.37	140.094	5750.953	0.244	0.2	-19.5	NO	0.995	NO	bb
2	2 181005G3_3	Standard	0.500	5.37	392.005	6289.390	0.623	0.5	2.9	NO	0.995	NO	bb
3	3 181005G3_4	Standard	1.000	5.36	661.895	5792.523	1.143	0.9	-5.7	NO	0.995	NO	bb
4	4 181005G3_5	Standard	2.000	5.37	1462.169	5555.693	2.632	2.2	8.6	NO	0.995	NO	bd
5	5 181005G3_6	Standard	5.000	5.36	3614.083	5865.877	6.161	5.1	1.7	NO	0.995	NO	bd
6	6 181005G3_7	Standard	10.000	5.36	7434.696	5593.660	13.291	11.0	9.7	NO	0.995	NO	bd
7	7 181005G3_8	Standard	25.000	5.36	17457.275	5723.753	30.500	25.2	0.7	NO	0.995	NO	bd
8	8 181005G3_9	Standard	50.000	5.36	34733.887	5320.454	65.284	53.9	7.8	NO	0.995	NO	bd
9	9 181005G3_10	Standard	75.000	5.37	48140.523	5696.708	84.506	69.8	-7.0	NO	0.995	NO	bb
10	10 181005G3_11	Standard	100.000	5.36	63080.652	5059.471	124.678	102.9	2.9	NO	0.995	NO	bbX

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**Compound name: PFTrDA**

Coefficient of Determination: R<sup>2</sup> = 0.999100

Calibration curve: 1.23315 \* 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 181005G3_2	Standard	0.250	5.57	219.012	5750.953	0.381	0.3	23.5	NO	0.999	NO	bb
2	2 181005G3_3	Standard	0.500	5.58	385.214	6289.390	0.612	0.5	-0.7	NO	0.999	NO	bb
3	3 181005G3_4	Standard	1.000	5.57	620.404	5792.523	1.071	0.9	-13.1	NO	0.999	NO	MM
4	4 181005G3_5	Standard	2.000	5.57	1327.018	5555.693	2.389	1.9	-3.2	NO	0.999	NO	bb
5	5 181005G3_6	Standard	5.000	5.58	3456.570	5865.877	5.893	4.8	-4.4	NO	0.999	NO	bd
6	6 181005G3_7	Standard	10.000	5.57	6829.920	5593.660	12.210	9.9	-1.0	NO	0.999	NO	bb
7	7 181005G3_8	Standard	25.000	5.57	17181.029	5723.753	30.017	24.3	-2.6	NO	0.999	NO	bb
8	8 181005G3_9	Standard	50.000	5.57	34058.375	5320.454	64.014	51.9	3.8	NO	0.999	NO	bb
9	9 181005G3_10	Standard	75.000	5.57	52128.582	5696.708	91.507	74.2	-1.1	NO	0.999	NO	bb
10	10 181005G3_11	Standard	100.000	5.57	66306.430	5059.471	131.054	106.3	6.3	NO	0.999	NO	bbX

**Compound name: PFTeDA**

Coefficient of Determination: R<sup>2</sup> = 0.997908

Calibration curve: 1.30639 \* 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 181005G3_2	Standard	0.250	5.76	174.105	5750.953	0.303	0.2	-7.3	NO	0.998	NO	bb
2	2 181005G3_3	Standard	0.500	5.77	359.291	6289.390	0.571	0.4	-12.5	NO	0.998	NO	bb
3	3 181005G3_4	Standard	1.000	5.76	670.953	5792.523	1.158	0.9	-11.3	NO	0.998	NO	bd
4	4 181005G3_5	Standard	2.000	5.76	1504.940	5555.693	2.709	2.1	3.7	NO	0.998	NO	bb
5	5 181005G3_6	Standard	5.000	5.76	3883.065	5865.877	6.620	5.1	1.3	NO	0.998	NO	bd
6	6 181005G3_7	Standard	10.000	5.76	7365.802	5593.660	13.168	10.1	0.8	NO	0.998	NO	bd
7	7 181005G3_8	Standard	25.000	5.76	18058.844	5723.753	31.551	24.2	-3.4	NO	0.998	NO	bd
8	8 181005G3_9	Standard	50.000	5.76	36970.469	5320.454	69.487	53.2	6.4	NO	0.998	NO	bb
9	9 181005G3_10	Standard	75.000	5.76	54054.086	5696.708	94.887	72.6	-3.2	NO	0.998	NO	bb
10	10 181005G3_11	Standard	100.000	5.77	66708.547	5059.471	131.849	100.9	0.9	NO	0.998	NO	bbX

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**Compound name: 13C2-PFHxA**

Response Factor: 1.10164

RRF SD: 0.0539755, Relative SD: 4.89954

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 181005G3_2	Standard	10.000	3.28	6204.534	5750.953	10.789	9.8	-2.1	NO		NO	bd
2	2 181005G3_3	Standard	10.000	3.28	6379.967	6289.390	10.144	9.2	-7.9	NO		NO	bd
3	3 181005G3_4	Standard	10.000	3.28	6101.985	5792.523	10.534	9.6	-4.4	NO		NO	bd
4	4 181005G3_5	Standard	10.000	3.28	6344.475	5555.693	11.420	10.4	3.7	NO		NO	bb
5	5 181005G3_6	Standard	10.000	3.28	6547.506	5865.877	11.162	10.1	1.3	NO		NO	bd
6	6 181005G3_7	Standard	10.000	3.28	6500.032	5593.660	11.620	10.5	5.5	NO		NO	bb
7	7 181005G3_8	Standard	10.000	3.28	6459.735	5723.753	11.286	10.2	2.4	NO		NO	bb
8	8 181005G3_9	Standard	10.000	3.28	6207.448	5320.454	11.667	10.6	5.9	NO		NO	bb
9	9 181005G3_10	Standard	10.000	3.28	5996.309	5696.708	10.526	9.6	-4.5	NO		NO	bd
10	10 181005G3_11	Standard	10.000	3.28	5922.341	5059.471	11.705	10.6	6.3	NO		NO	bbX

**Compound name: 13C2-PFDA**

Response Factor: 1.19855

RRF SD: 0.0638028, Relative SD: 5.32332

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 181005G3_2	Standard	10.000	4.86	6716.737	5750.953	11.679	9.7	-2.6	NO		NO	bb
2	2 181005G3_3	Standard	10.000	4.86	7031.245	6289.390	11.180	9.3	-6.7	NO		NO	bb
3	3 181005G3_4	Standard	10.000	4.85	6702.071	5792.523	11.570	9.7	-3.5	NO		NO	bb
4	4 181005G3_5	Standard	10.000	4.85	6320.592	5555.693	11.377	9.5	-5.1	NO		NO	bb
5	5 181005G3_6	Standard	10.000	4.85	7592.240	5865.877	12.943	10.8	8.0	NO		NO	bb
6	6 181005G3_7	Standard	10.000	4.86	6826.515	5593.660	12.204	10.2	1.8	NO		NO	bb
7	7 181005G3_8	Standard	10.000	4.85	7300.034	5723.753	12.754	10.6	6.4	NO		NO	bd
8	8 181005G3_9	Standard	10.000	4.85	6664.819	5320.454	12.527	10.5	4.5	NO		NO	bd
9	9 181005G3_10	Standard	10.000	4.84	6628.669	5696.708	11.636	9.7	-2.9	NO		NO	bd
10	10 181005G3_11	Standard	10.000	4.85	6568.925	5059.471	12.983	10.8	8.3	NO		NO	bdX

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**Compound name: d5-N-EtFOSAA**

Response Factor: 0.819843  
 RRF SD: 0.0602762, Relative SD: 7.35217  
 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 181005G3_2	Standard	40.000	5.12	12147.907	14384.714	33.780	41.2	3.0	NO		NO	bd
2	2 181005G3_3	Standard	40.000	5.12	11551.193	15125.046	30.549	37.3	-6.8	NO		NO	bd
3	3 181005G3_4	Standard	40.000	5.12	12529.479	16107.638	31.114	38.0	-5.1	NO		NO	bd
4	4 181005G3_5	Standard	40.000	5.11	12020.289	16215.109	29.652	36.2	-9.6	NO		NO	bd
5	5 181005G3_6	Standard	40.000	5.12	12454.481	13816.685	36.056	44.0	9.9	NO		NO	bd
6	6 181005G3_7	Standard	40.000	5.12	13225.704	15078.015	35.086	42.8	7.0	NO		NO	bb
7	7 181005G3_8	Standard	40.000	5.12	11471.155	13771.519	33.318	40.6	1.6	NO		NO	bb
8	8 181005G3_9	Standard	40.000	5.11	11087.588	13206.061	33.583	41.0	2.4	NO		NO	bbX
9	9 181005G3_10	Standard	40.000	5.11	10315.094	13175.728	31.315	38.2	-4.5	NO		NO	bdX
10	10 181005G3_11	Standard	40.000	5.11	10672.975	14530.470	29.381	35.8	-10.4	NO		NO	bbX

**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 181005G3_2	Standard	10.000	4.25	5750.953	5750.953	10.000	10.0	0.0	NO		NO	bb
2	2 181005G3_3	Standard	10.000	4.25	6289.390	6289.390	10.000	10.0	0.0	NO		NO	MM
3	3 181005G3_4	Standard	10.000	4.25	5792.523	5792.523	10.000	10.0	0.0	NO		NO	bd
4	4 181005G3_5	Standard	10.000	4.25	5555.693	5555.693	10.000	10.0	0.0	NO		NO	MM
5	5 181005G3_6	Standard	10.000	4.25	5865.877	5865.877	10.000	10.0	0.0	NO		NO	bb
6	6 181005G3_7	Standard	10.000	4.25	5593.660	5593.660	10.000	10.0	0.0	NO		NO	MM
7	7 181005G3_8	Standard	10.000	4.25	5723.753	5723.753	10.000	10.0	0.0	NO		NO	MM
8	8 181005G3_9	Standard	10.000	4.25	5320.454	5320.454	10.000	10.0	0.0	NO		NO	bd
9	9 181005G3_10	Standard	10.000	4.25	5696.708	5696.708	10.000	10.0	0.0	NO		NO	bd
10	10 181005G3_11	Standard	10.000	4.24	5059.471	5059.471	10.000	10.0	0.0	NO		NO	bdX

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**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 181005G3_2	Standard	28.700	4.62	14224.786	14224.786	28.700	28.7	0.0	NO		NO	MM
2	2 181005G3_3	Standard	28.700	4.62	13024.970	13024.970	28.700	28.7	0.0	NO		NO	MM
3	3 181005G3_4	Standard	28.700	4.61	14070.765	14070.765	28.700	28.7	0.0	NO		NO	bd
4	4 181005G3_5	Standard	28.700	4.61	14081.617	14081.617	28.700	28.7	0.0	NO		NO	bd
5	5 181005G3_6	Standard	28.700	4.62	14864.415	14864.415	28.700	28.7	0.0	NO		NO	MM
6	6 181005G3_7	Standard	28.700	4.62	13089.380	13089.380	28.700	28.7	0.0	NO		NO	bd
7	7 181005G3_8	Standard	28.700	4.62	13387.591	13387.591	28.700	28.7	0.0	NO		NO	bd
8	8 181005G3_9	Standard	28.700	4.61	12750.208	12750.208	28.700	28.7	0.0	NO		NO	MM
9	9 181005G3_10	Standard	28.700	4.61	12622.959	12622.959	28.700	28.7	0.0	NO		NO	bd
10	10 181005G3_11	Standard	28.700	4.61	12453.261	12453.261	28.700	28.7	0.0	NO		NO	bd

**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 181005G3_2	Standard	40.000	4.98	14384.714	14384.714	40.000	40.0	0.0	NO		NO	bd
2	2 181005G3_3	Standard	40.000	4.98	15125.046	15125.046	40.000	40.0	0.0	NO		NO	bd
3	3 181005G3_4	Standard	40.000	4.98	16107.638	16107.638	40.000	40.0	0.0	NO		NO	bd
4	4 181005G3_5	Standard	40.000	4.98	16215.109	16215.109	40.000	40.0	0.0	NO		NO	bd
5	5 181005G3_6	Standard	40.000	4.98	13816.685	13816.685	40.000	40.0	0.0	NO		NO	bd
6	6 181005G3_7	Standard	40.000	4.98	15078.015	15078.015	40.000	40.0	0.0	NO		NO	bd
7	7 181005G3_8	Standard	40.000	4.98	13771.519	13771.519	40.000	40.0	0.0	NO		NO	MM
8	8 181005G3_9	Standard	40.000	4.98	13206.061	13206.061	40.000	40.0	0.0	NO		NO	bdX
9	9 181005G3_10	Standard	40.000	4.98	13175.728	13175.728	40.000	40.0	0.0	NO		NO	MMX
10	10 181005G3_11	Standard	40.000	4.97	14530.470	14530.470	40.000	40.0	0.0	NO		NO	bdX

Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:04 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Name: 181005G3\_2, Date: 05-Oct-2018, Time: 17:37:20, ID: ST181005G3-1 PFC CS-4 537 18J0401, Description: PFC CS-4 537 18J0401

#	Name	IS#	CoD	CoD Flag	%RSD
1	1 PFBS	19	0.9991	NO	
2	2 PFHxA	18	0.9986	NO	
3	3 PFHpA	18	0.9988	NO	
4	4 PFHxS	19	0.9993	NO	
5	5 PFOA	18	0.9971	NO	
6	6 PFNA	18	0.9979	NO	
7	7 PFOS	19	0.9967	NO	
8	8 PFDA	18	0.9935	NO	
9	9 N-MeFOSAA	20	0.9949	NO	
10	10 N-EtFOSAA	20	0.9906	NO	
11	11 PFUnA	18	0.9973	NO	
12	12 PFDoA	18	0.9950	NO	
13	13 PFTrDA	18	0.9991	NO	
14	14 PFTeDA	18	0.9979	NO	
15	15 13C2-PFHxA	18		NO	4.900
16	16 13C2-PFDA	18		NO	5.323
17	17 d5-N-EtFOSAA	20		NO	7.352
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 6289.39 RPD  
 low 5320.45 16.69

ID	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Flags
1	ST181005G3-1 PFC CS-4 537 18J0401	181005G3_2	Analyte	10	4.25	5750.95	5750.95	10 bb
2	ST181005G3-2 PFC CS-3 537 18J0402	181005G3_3	Analyte	10	4.25	6289.39	6289.39	10 MM
3	ST181005G3-3 PFC CS-2 537 18J0403	181005G3_4	Analyte	10	4.25	5792.52	5792.52	10 bd
4	ST181005G3-4 PFC CS-1 537 18J0404	181005G3_5	Analyte	10	4.25	5555.69	5555.69	10 MM
5	ST181005G3-5 PFC CS0 537 18J0405	181005G3_6	Analyte	10	4.25	5865.88	5865.88	10 bb
6	ST181005G3-6 PFC CS1 537 18J0406	181005G3_7	Analyte	10	4.25	5593.66	5593.66	10 MM
7	ST181005G3-7 PFC CS2 537 18J0407	181005G3_8	Analyte	10	4.25	5723.75	5723.75	10 MM
8	ST181005G3-8 PFC CS3 537 18J0408	181005G3_9	Analyte	10	4.25	5320.45	5320.45	10 bd
9	ST181005G3-9 PFC CS4 537 18J0409	181005G3_10	Analyte	10	4.25	5696.71	5696.71	10 bd
10	ST181005G3-10 PFC CS5 537 18J0410	181005G3_11	Analyte	10	4.24	5059.47	5059.47	10 bdX

Average:  
5732.11

**Compound 19: 13C4-PFOS** high 14864.42 RPD  
 low 12453.26 17.65

ID	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Flags
1	ST181005G3-1 PFC CS-4 537 18J0401	181005G3_2	Analyte	28.7	4.62	14224.79	14224.79	28.7 MM
2	ST181005G3-2 PFC CS-3 537 18J0402	181005G3_3	Analyte	28.7	4.62	13024.97	13024.97	28.7 MM
3	ST181005G3-3 PFC CS-2 537 18J0403	181005G3_4	Analyte	28.7	4.61	14070.77	14070.77	28.7 bd
4	ST181005G3-4 PFC CS-1 537 18J0404	181005G3_5	Analyte	28.7	4.61	14081.62	14081.62	28.7 bd
5	ST181005G3-5 PFC CS0 537 18J0405	181005G3_6	Analyte	28.7	4.62	14864.42	14864.42	28.7 MM
6	ST181005G3-6 PFC CS1 537 18J0406	181005G3_7	Analyte	28.7	4.62	13089.38	13089.38	28.7 bd
7	ST181005G3-7 PFC CS2 537 18J0407	181005G3_8	Analyte	28.7	4.62	13387.59	13387.59	28.7 bd
8	ST181005G3-8 PFC CS3 537 18J0408	181005G3_9	Analyte	28.7	4.61	12750.21	12750.21	28.7 MM
9	ST181005G3-9 PFC CS4 537 18J0409	181005G3_10	Analyte	28.7	4.61	12622.96	12622.96	28.7 bd
10	ST181005G3-10 PFC CS5 537 18J0410	181005G3_11	Analyte	28.7	4.61	12453.26	12453.26	28.7 bd

Average:  
13457.00

**Compound 20: d3-N-MeFOSAA**

high 16215.11 RPD  
low 13771.52 16.30

ID	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Flags
1 ST181005G3-1 PFC CS-4 537 18J0401	181005G3_2	Analyte	40	4.98	14384.71	14384.71	40	bd
2 ST181005G3-2 PFC CS-3 537 18J0402	181005G3_3	Analyte	40	4.98	15125.05	15125.05	40	bd
3 ST181005G3-3 PFC CS-2 537 18J0403	181005G3_4	Analyte	40	4.98	16107.64	16107.64	40	bd
4 ST181005G3-4 PFC CS-1 537 18J0404	181005G3_5	Analyte	40	4.98	16215.11	16215.11	40	bd
5 ST181005G3-5 PFC CS0 537 18J0405	181005G3_6	Analyte	40	4.98	13816.69	13816.69	40	bd
6 ST181005G3-6 PFC CS1 537 18J0406	181005G3_7	Analyte	40	4.98	15078.02	15078.02	40	bd
7 ST181005G3-7 PFC CS2 537 18J0407	181005G3_8	Analyte	40	4.98	13771.52	13771.52	40	MM
8 ST181005G3-8 PFC CS3 537 18J0408	181005G3_9	Analyte	40	4.98	13206.06	13206.06	40	bdX
9 ST181005G3-9 PFC CS4 537 18J0409	181005G3_10	Analyte	40	4.98	13175.73	13175.73	40	MMX
10 ST181005G3-10 PFC CS5 537 18J0410	181005G3_11	Analyte	40	4.97	14530.47	14530.47	40	bdX

Average:  
14928.39



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, October 09, 2018 10:47:47 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:48:29 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09

Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Compound name: PFBS

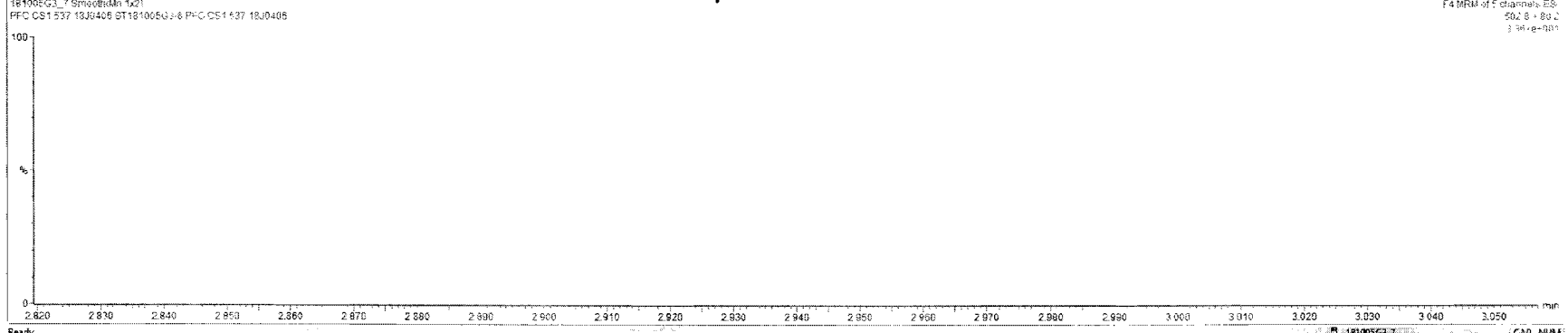
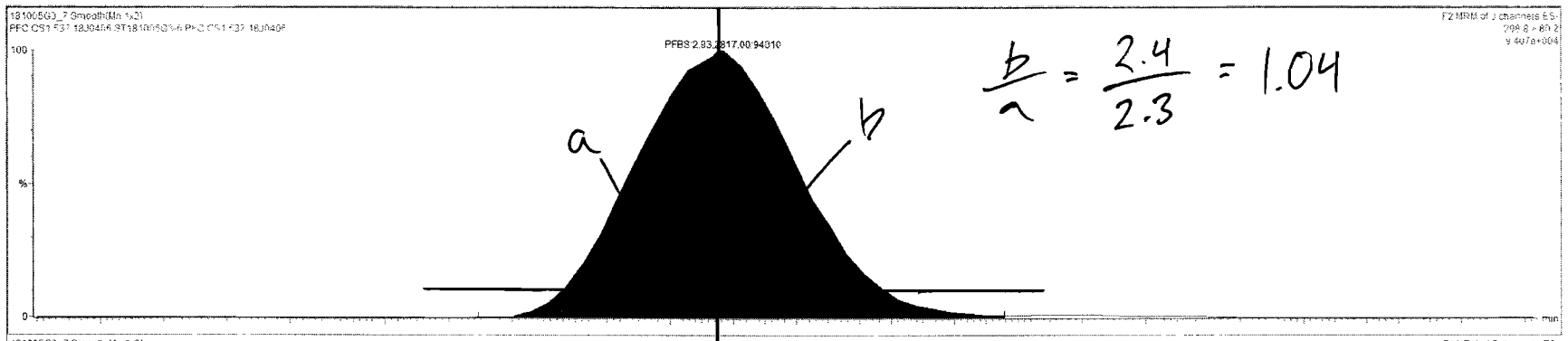
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3	3 181005G3_3	ST181005G3-2 PFC CS-3 537 18J0402	05-Oct-18	17:50:14
4	4 181005G3_4	ST181005G3-3 PFC CS-2 537 18J0403	05-Oct-18	18:03:11
5	5 181005G3_5	ST181005G3-4 PFC CS-1 537 18J0404	05-Oct-18	18:16:09
6	6 181005G3_6	ST181005G3-5 PFC CS0 537 18J0405	05-Oct-18	18:29:06
7	7 181005G3_7	ST181005G3-6 PFC CS1 537 18J0406	05-Oct-18	18:42:04
8	8 181005G3_8	ST181005G3-7 PFC CS2 537 18J0407	05-Oct-18	18:55:02
9	9 181005G3_9	ST181005G3-8 PFC CS3 537 18J0408	05-Oct-18	19:07:59
10	10 181005G3_10	ST181005G3-9 PFC CS4 537 18J0409	05-Oct-18	19:20:57
11	11 181005G3_11	ST181005G3-10 PFC CS5 537 18J0410	05-Oct-18	19:33:50
12	12 181005G3_12	IPA	05-Oct-18	19:46:47
13	13 181005G3_13	ST181005G3-1 PFC ICV 537 18J0411	05-Oct-18	19:59:53
14	14 181005G3_14	IPA	05-Oct-18	20:12:50

TargetLynx XS - 181005G3.CHY - [Chromatogram]

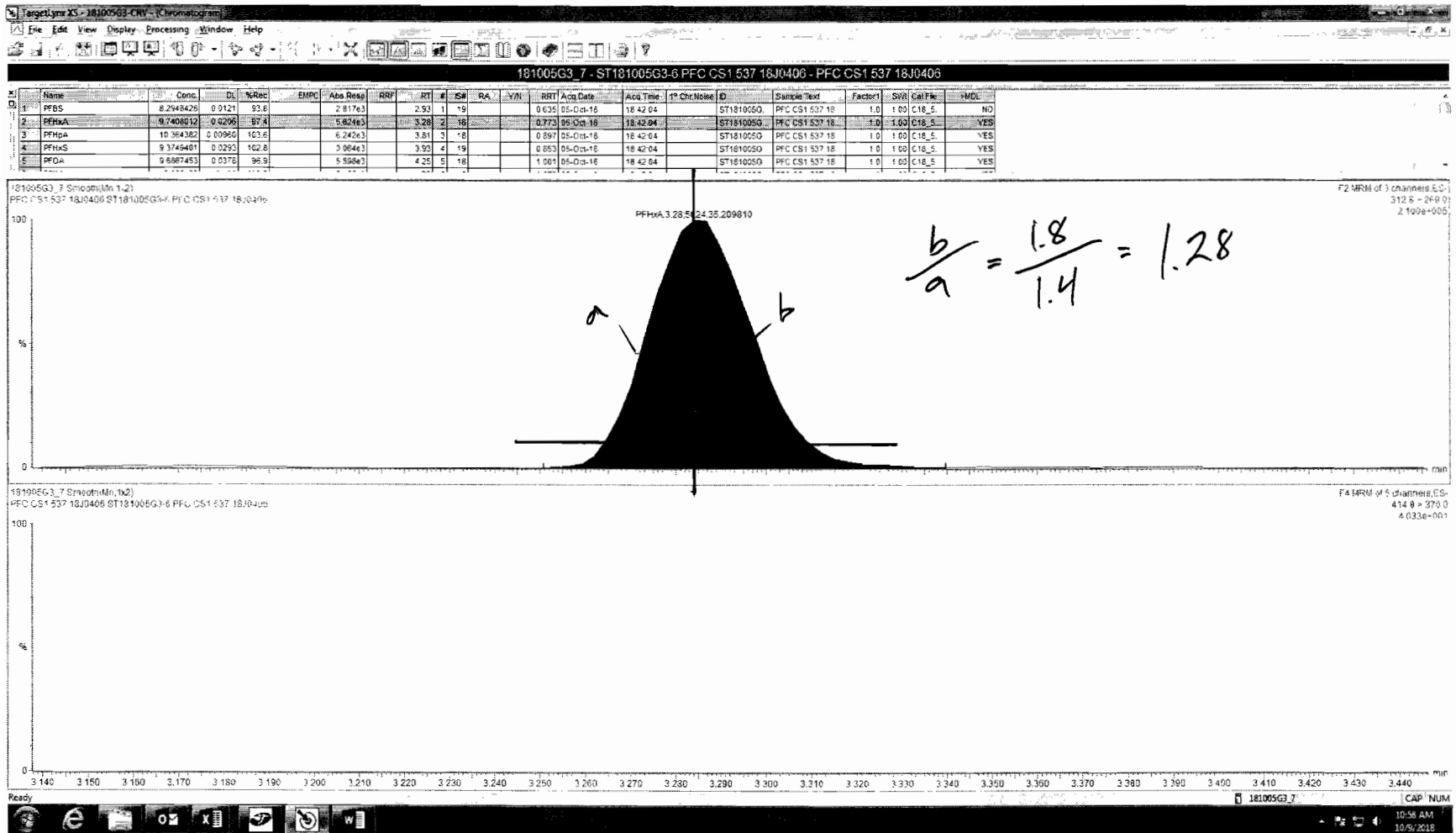
File Edit View Display Processing Window Help

181005G3\_7 - ST181005G3-6 PFC CS1 537 18J0406 - PFC CS1 537 18J0406

ID	Name	Conc	DL	%Rec	ENPC	Abs Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq Date	Acq Time	1% ChrNoise	D	Sample Text	Factor1	SW1	Cal File	%MDL
1	PFBs	8.2949426	0.0121	93.0		2.817e3		2.93	1	19			0.635	05-Oct-18	18:42:04		S*181005G3	PFC CS1 537 18	1.0	1.00	C18_5	NO
2	PFOA	9.7420012	0.0206	97.4		6.824e3		3.26	2	19			0.773	05-Oct-18	18:42:04		ST181005G3	PFC CS1 537 18	1.0	1.00	C18_5	YES
3	PFOA	10.354363	0.05965	103.6		6.242e3		3.81	3	18			0.891	05-Oct-18	18:42:04		ST181005G3	PFC CS1 537 18	1.0	1.00	C18_5	YES
4	PFOA	9.3749401	0.0253	102.6		3.854e3		3.93	4	19			0.853	05-Oct-18	18:42:04		S*181005G3	PFC CS1 537 18	1.0	1.00	C18_5	YES
5	PFOA	9.6887453	0.0378	98.9		5.986e3		4.25	5	18			1.001	05-Oct-18	18:42:04		ST181005G3	PFC CS1 537 18	1.0	1.00	C18_5	YES



Ready 181005G3\_7 CAP NUM 10:57 AM 10/9/2018



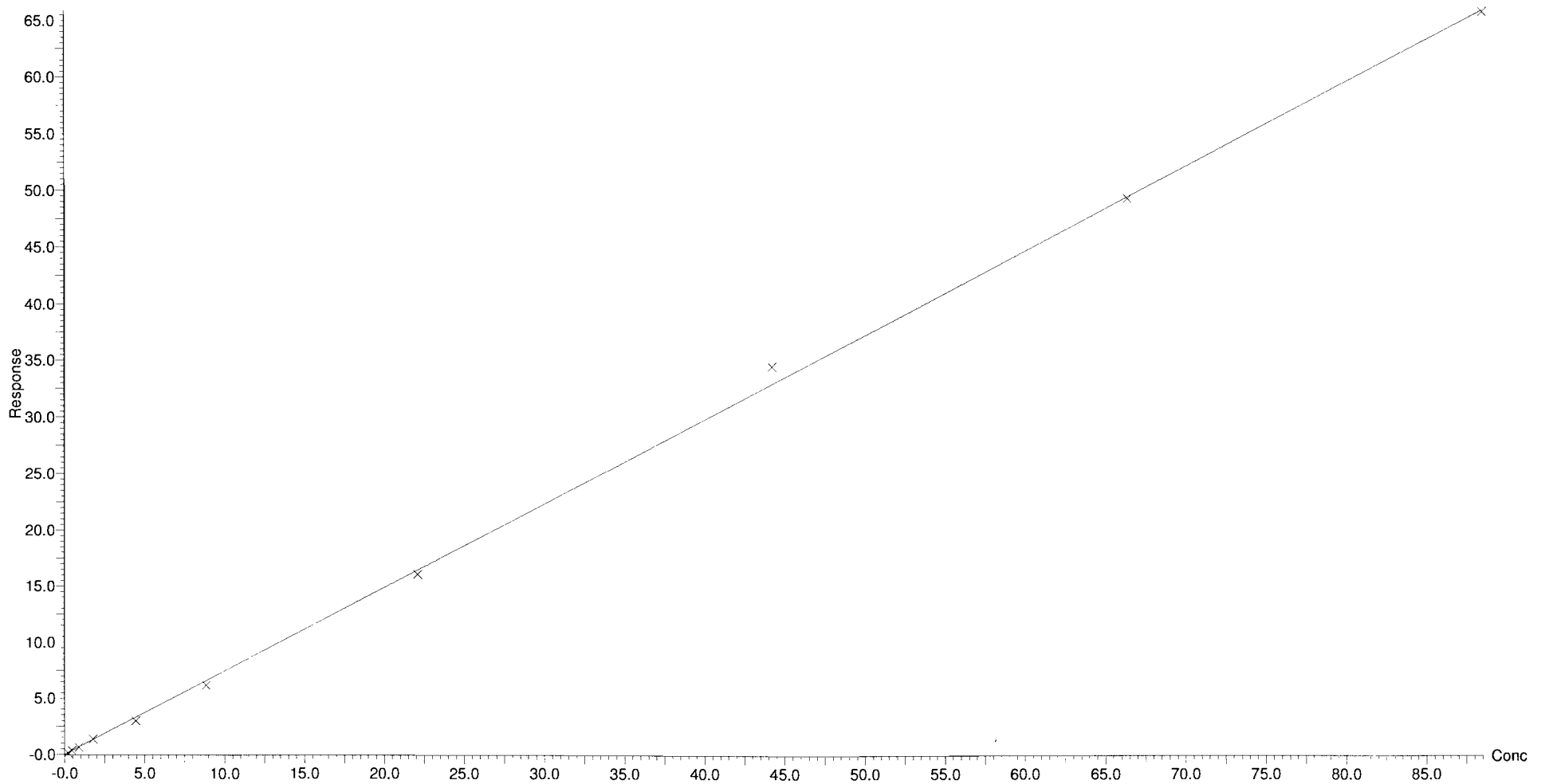
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Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09  
Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

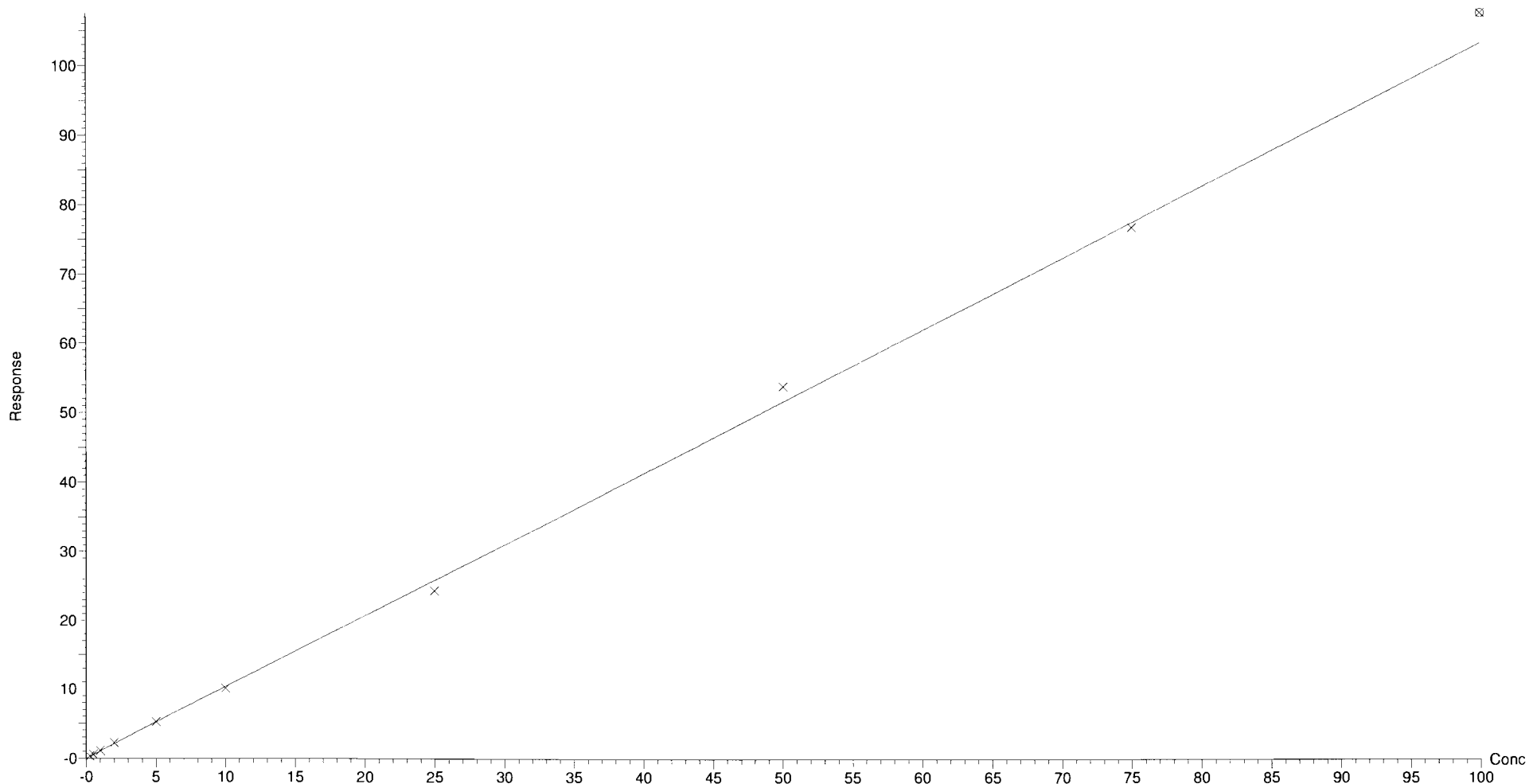
Compound name: PFBS  
Coefficient of Determination:  $R^2 = 0.999081$   
Calibration curve:  $0.744632 * x$   
Response type: Internal Std ( Ref 19 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time  
Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

Compound name: PFHxA  
Coefficient of Determination:  $R^2 = 0.998629$   
Calibration curve:  $1.03224 * x$   
Response type: Internal Std ( Ref 18 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

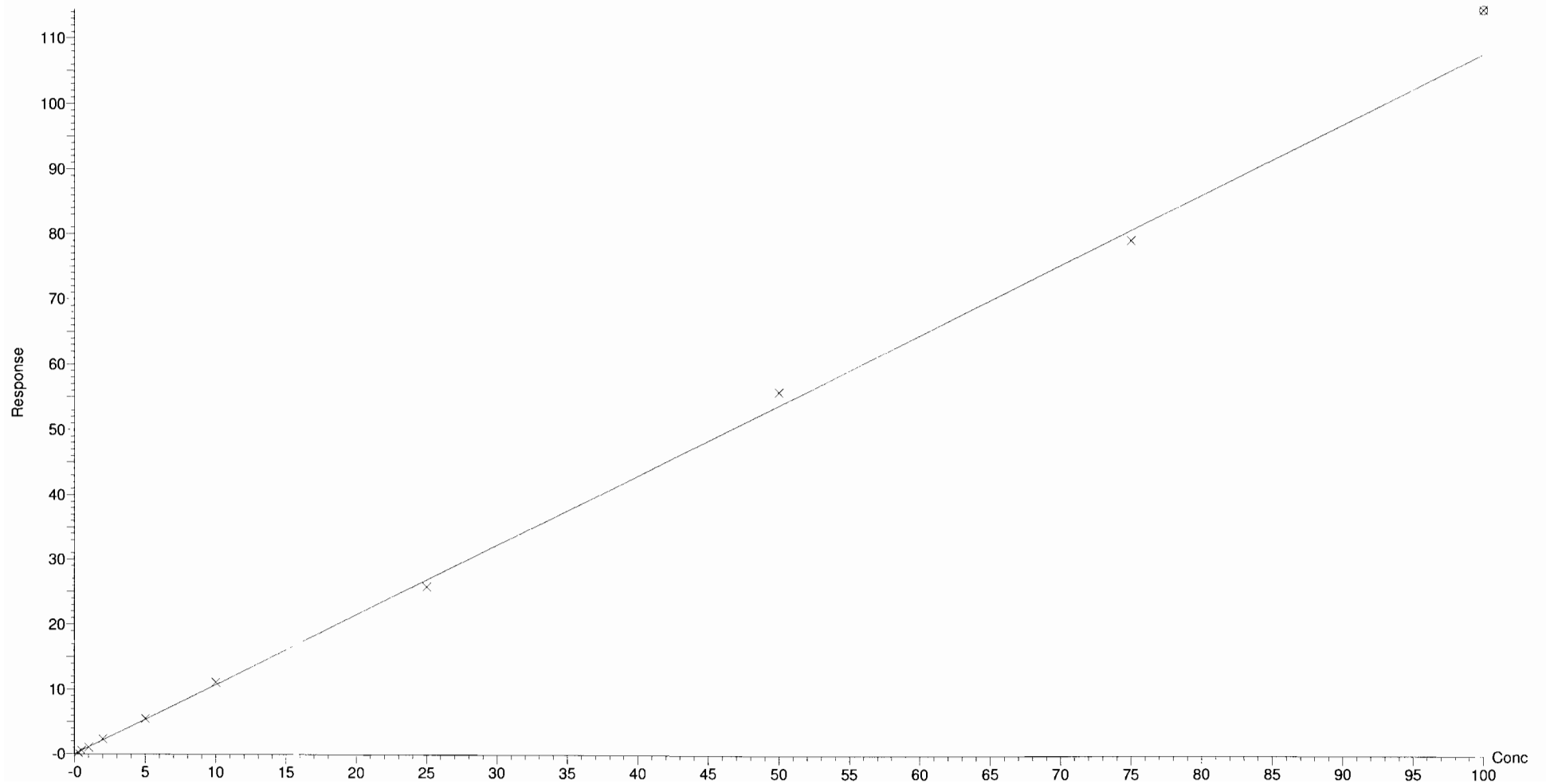
Compound name: PFHpA

Coefficient of Determination:  $R^2 = 0.998832$

Calibration curve:  $1.07676 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

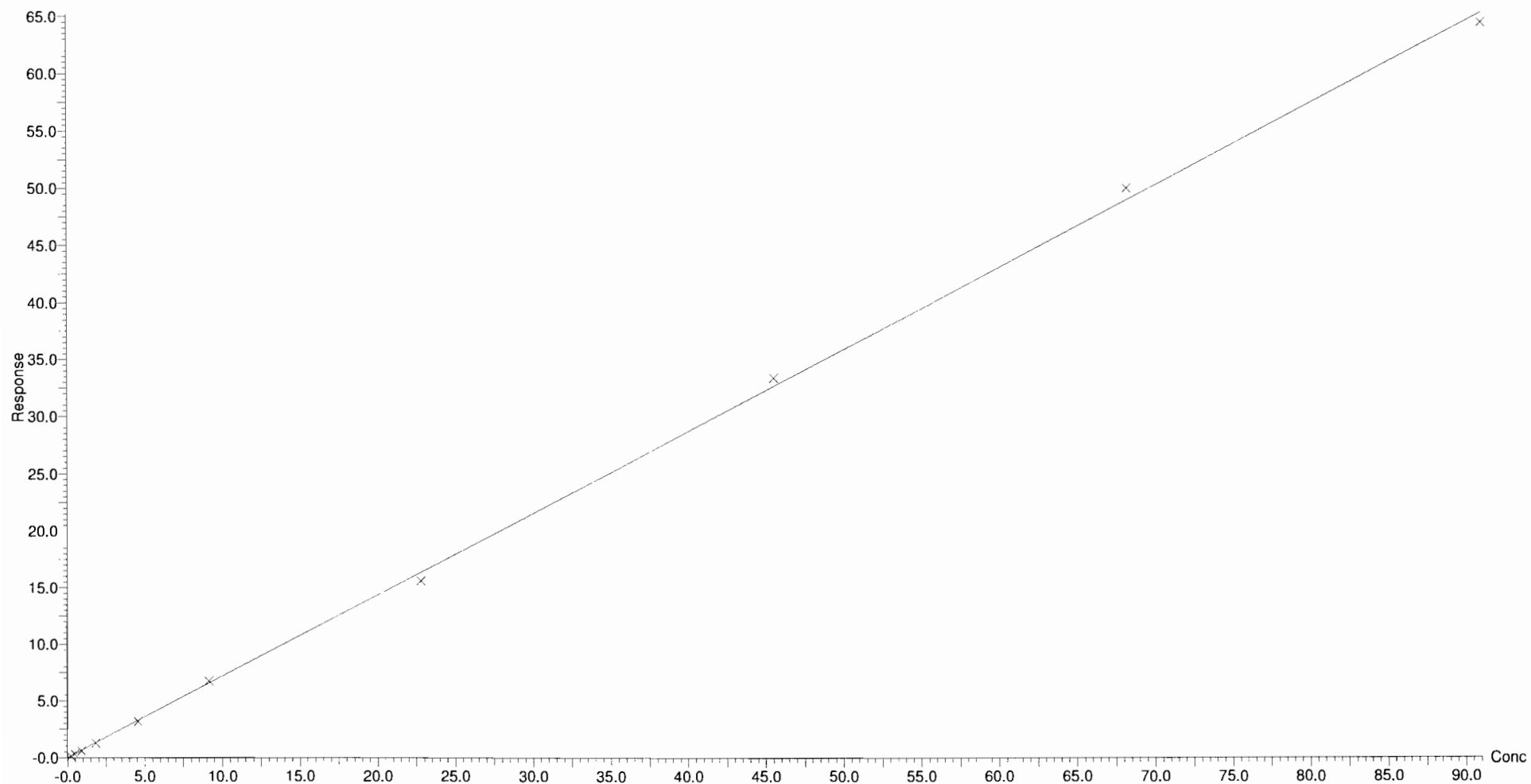
Compound name: PFHxS

Coefficient of Determination:  $R^2 = 0.999312$

Calibration curve:  $0.716646 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

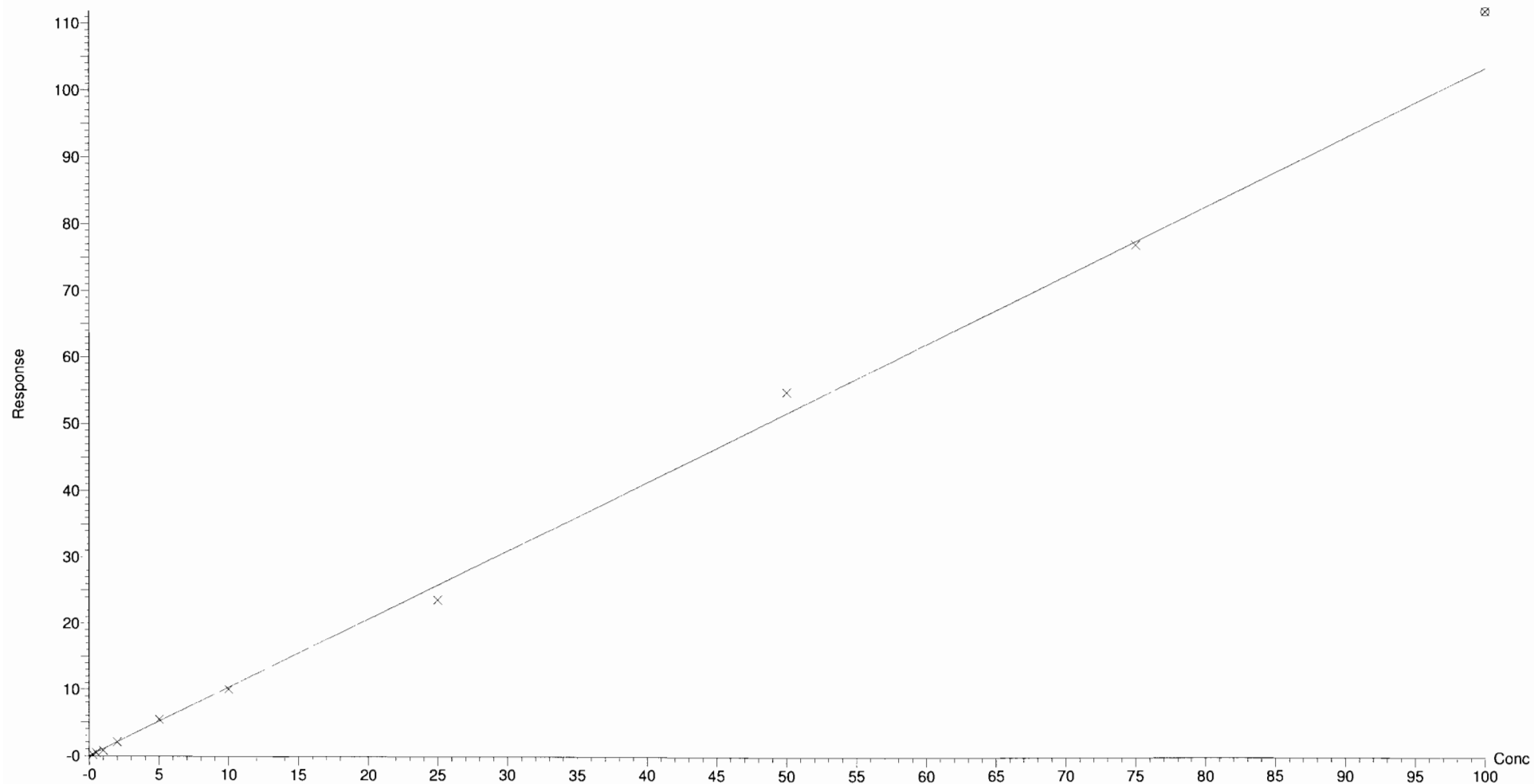
Compound name: PFOA

Coefficient of Determination:  $R^2 = 0.997085$

Calibration curve:  $1.03308 * x$

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

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

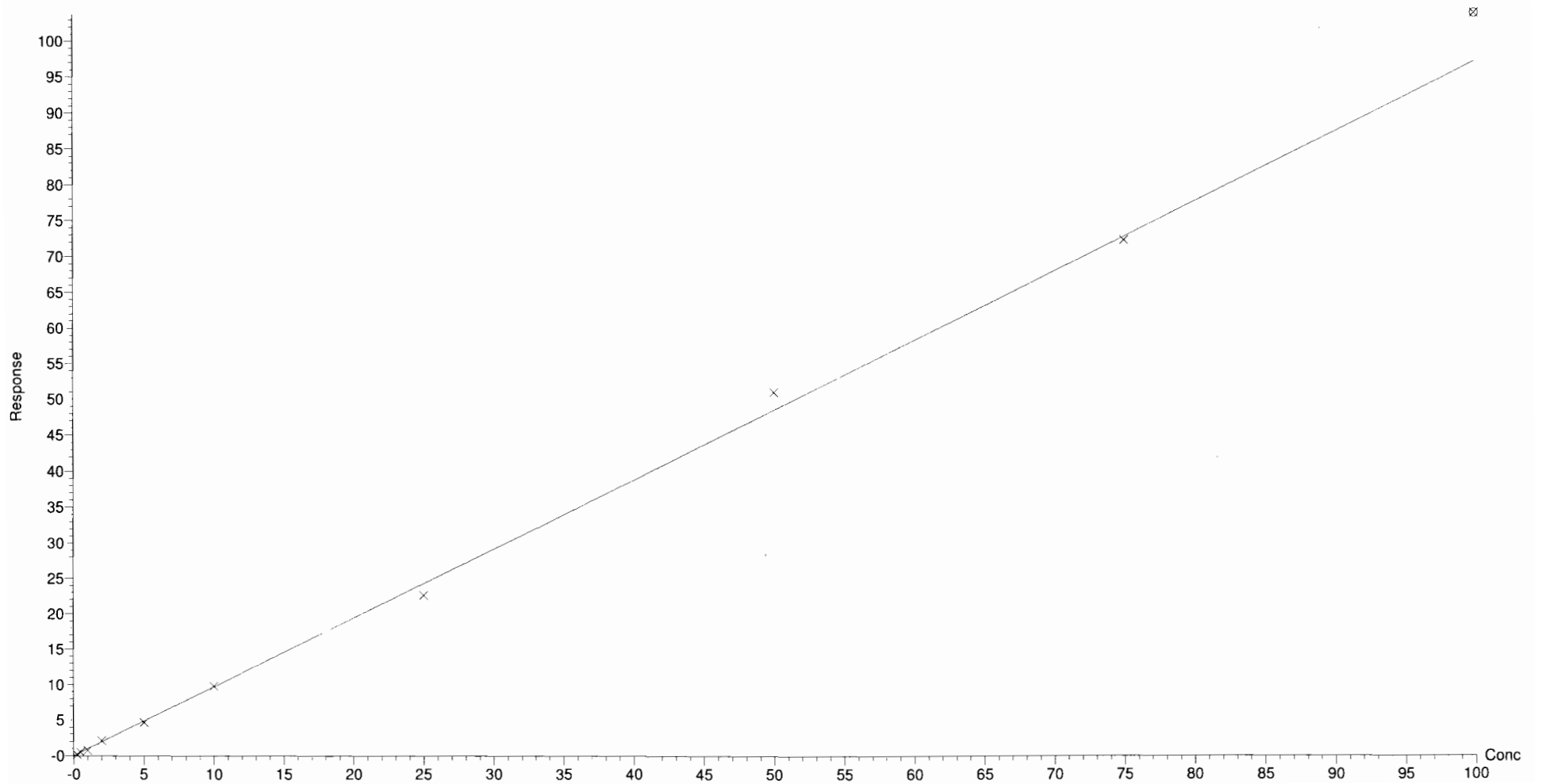




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Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time  
Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

Compound name: PFNA  
Coefficient of Determination:  $R^2 = 0.997889$   
Calibration curve:  $0.969177 * x$   
Response type: Internal Std ( Ref 18 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

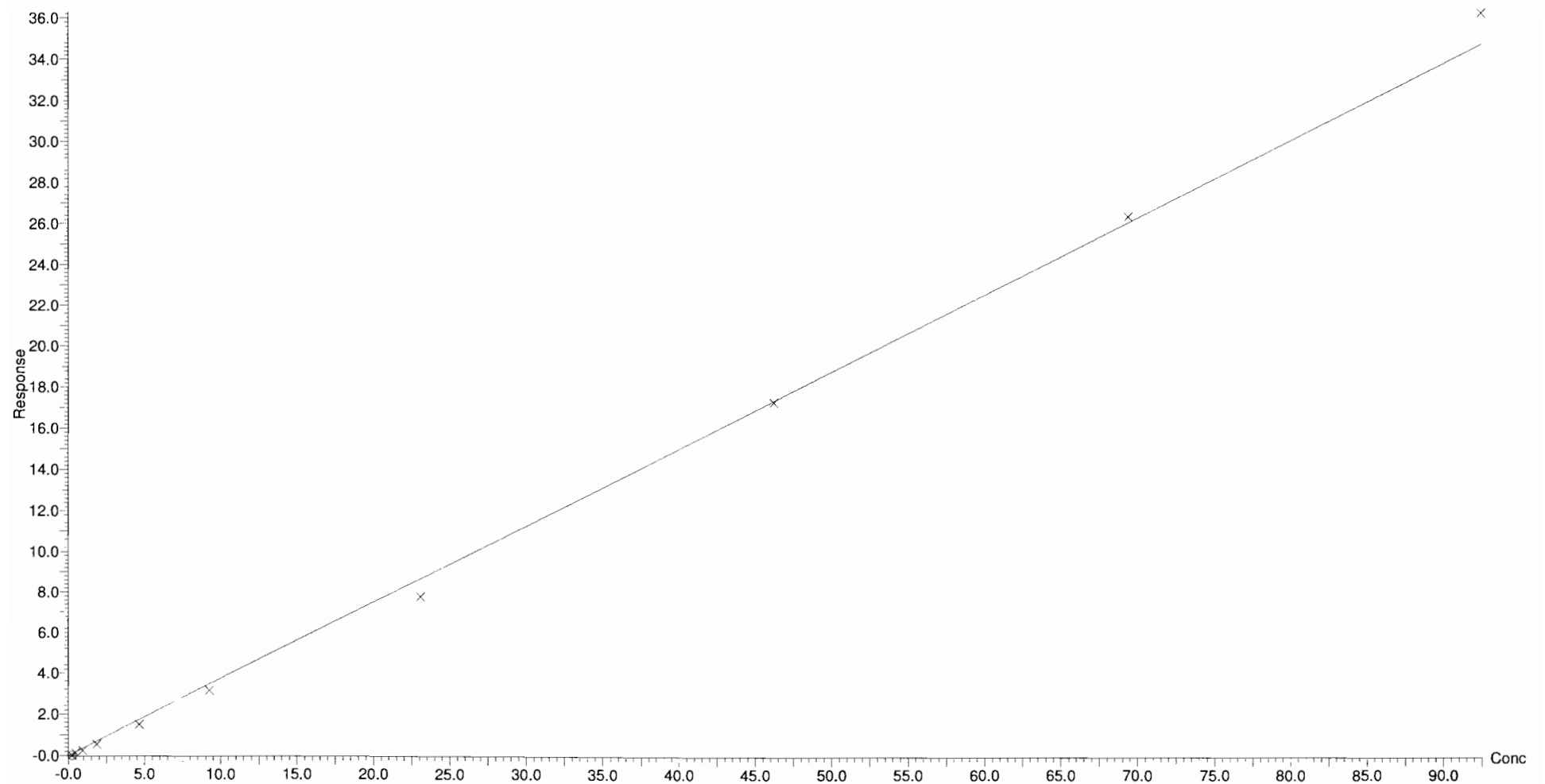
Compound name: PFOS

Coefficient of Determination:  $R^2 = 0.996669$

Calibration curve:  $0.37602 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

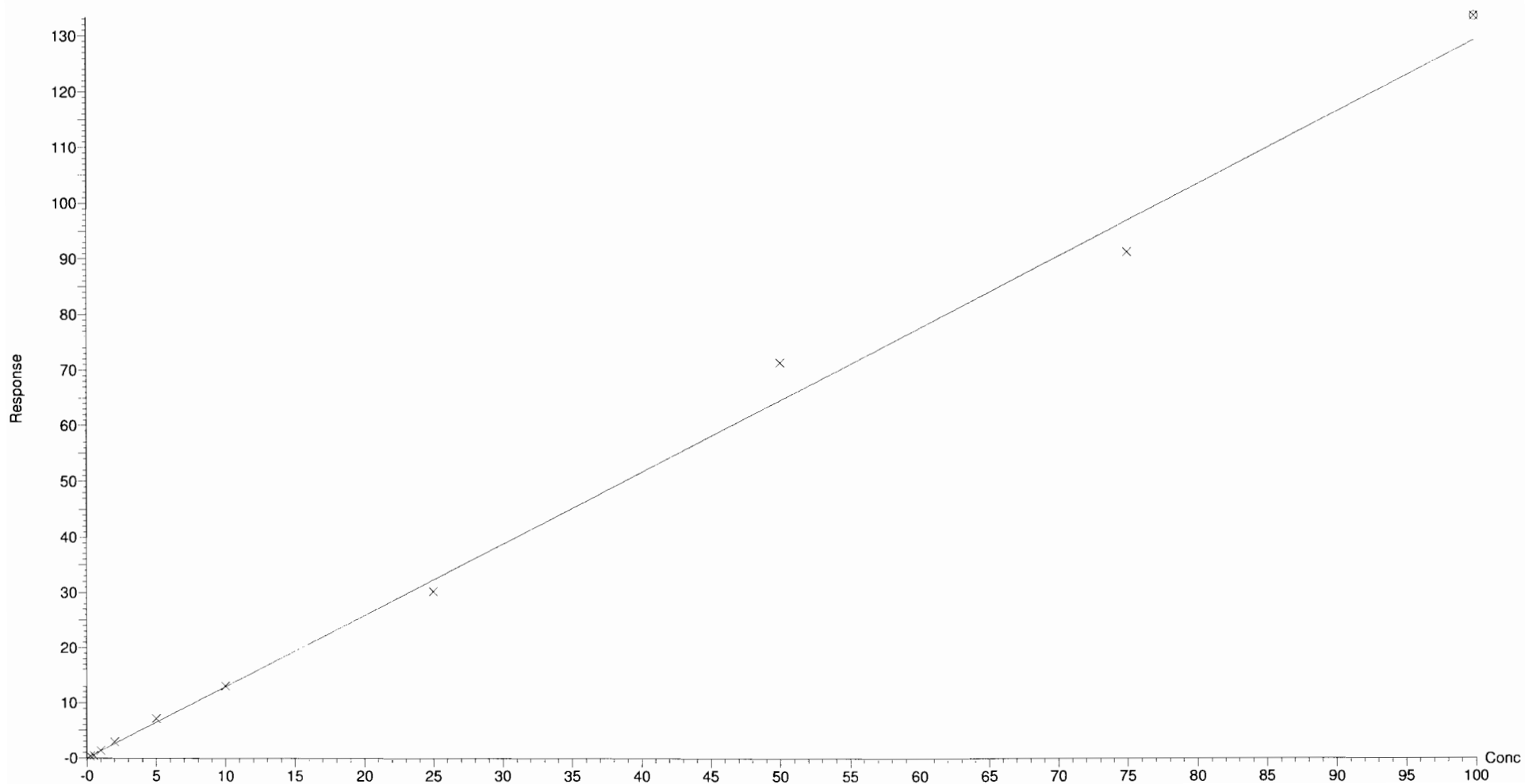
Compound name: PFDA

Coefficient of Determination:  $R^2 = 0.993505$

Calibration curve:  $1.29047 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

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Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

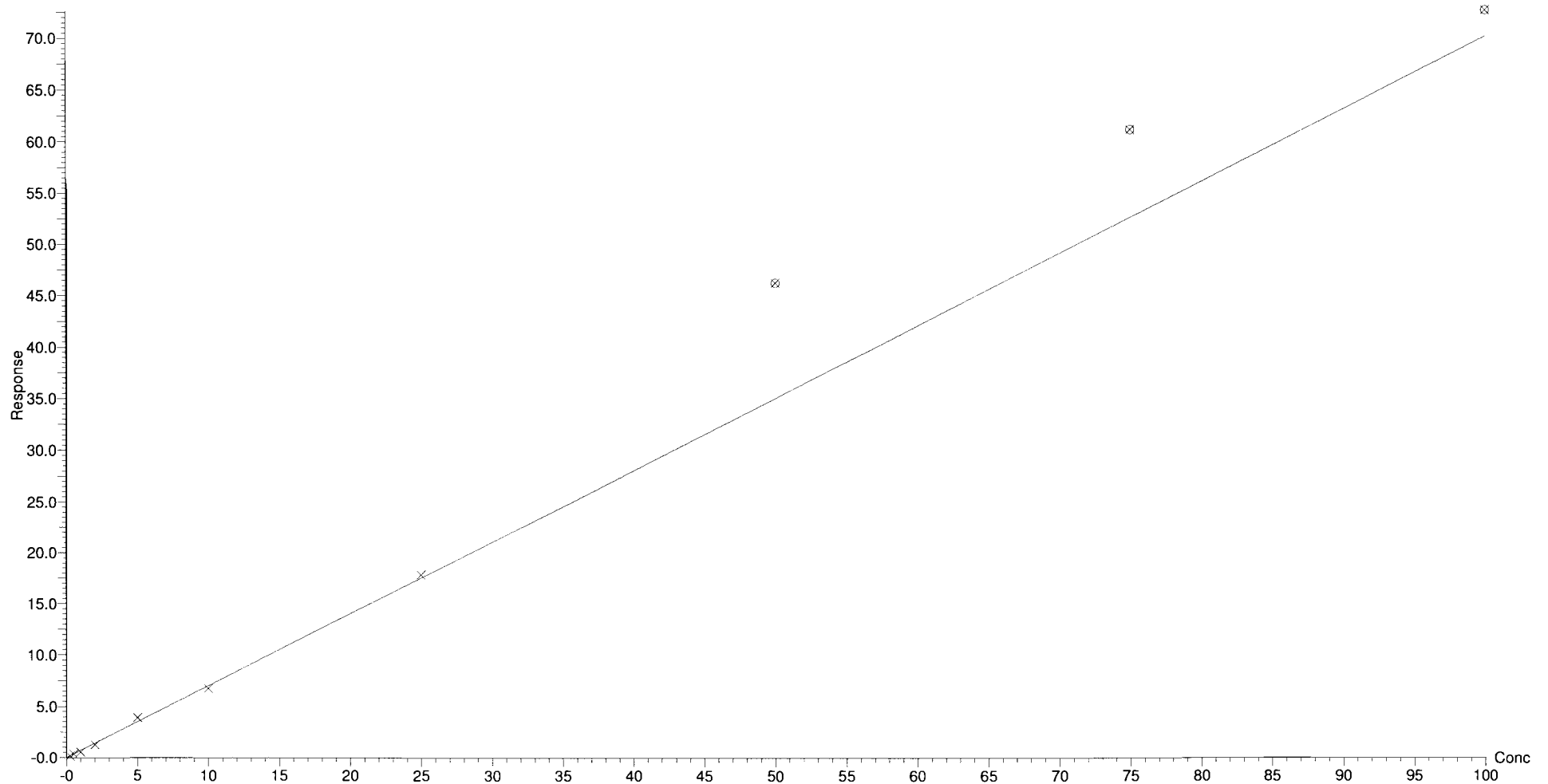
Compound name: N-MeFOSAA

Coefficient of Determination:  $R^2 = 0.994919$

Calibration curve:  $0.701045 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

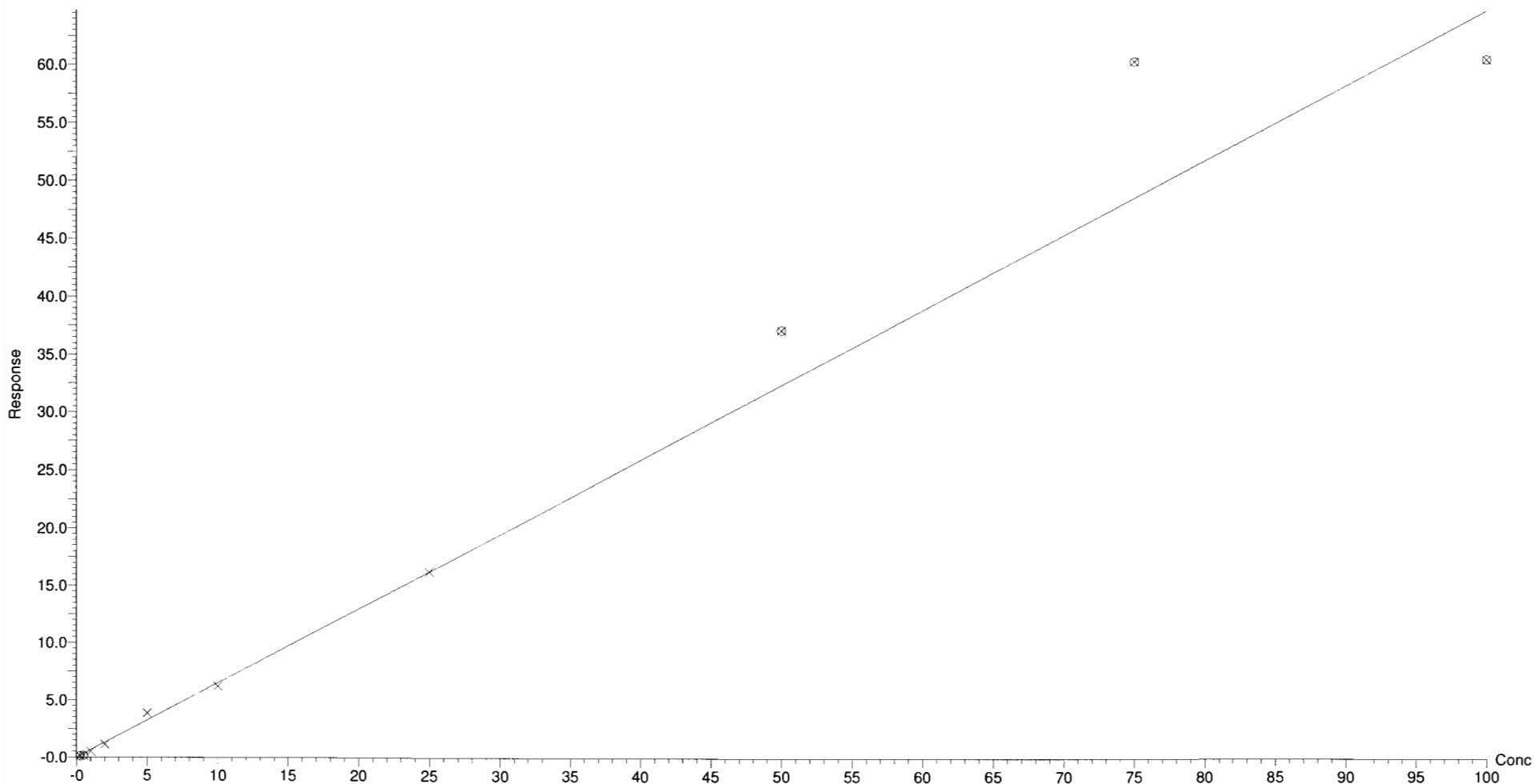
Compound name: N-EtFOSAA

Coefficient of Determination:  $R^2 = 0.990622$

Calibration curve:  $0.647387 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

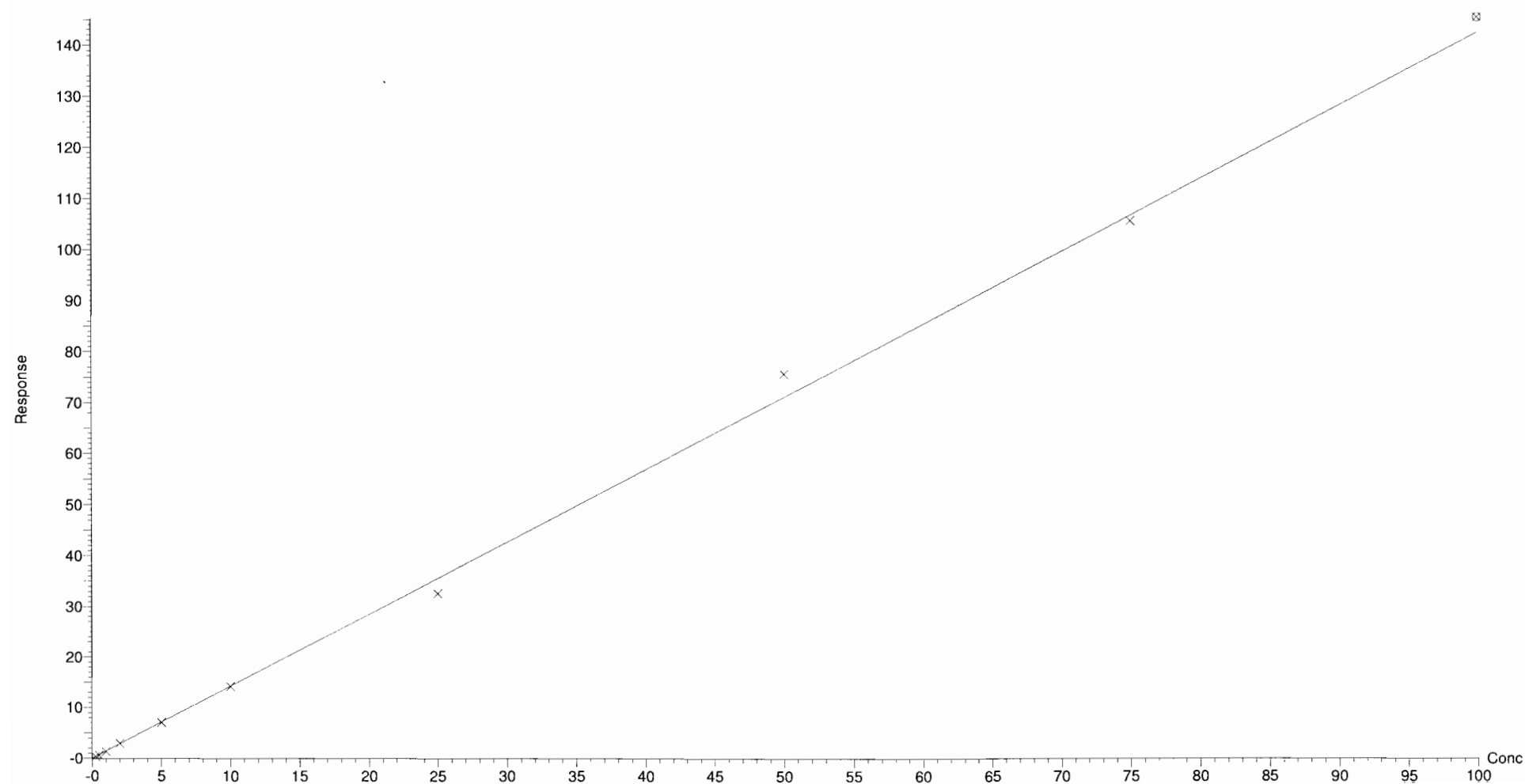
Compound name: PFUnA

Coefficient of Determination:  $R^2 = 0.997347$

Calibration curve:  $1.422 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

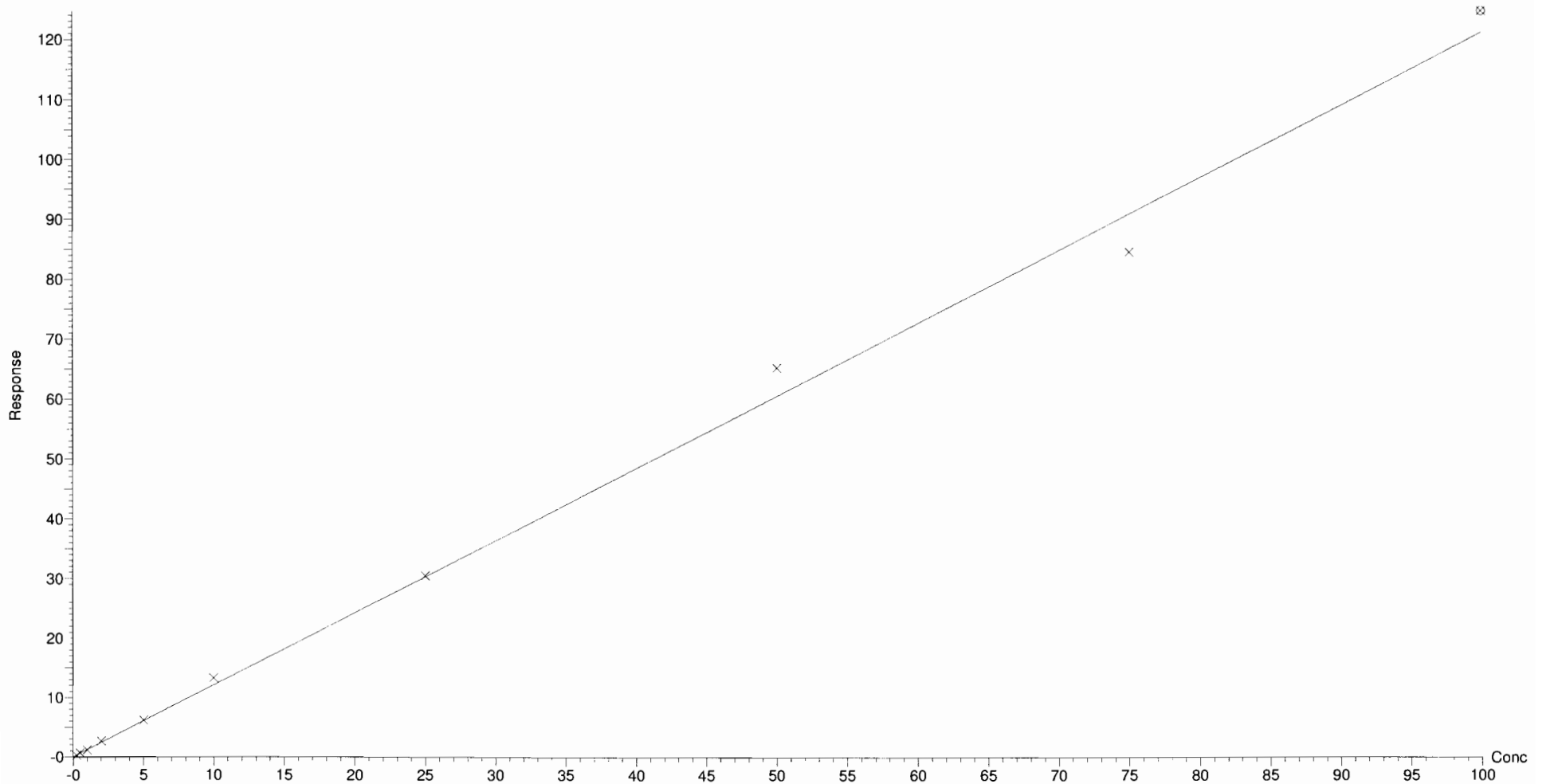
Compound name: PFDoA

Coefficient of Determination:  $R^2 = 0.995011$

Calibration curve:  $1.21116 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

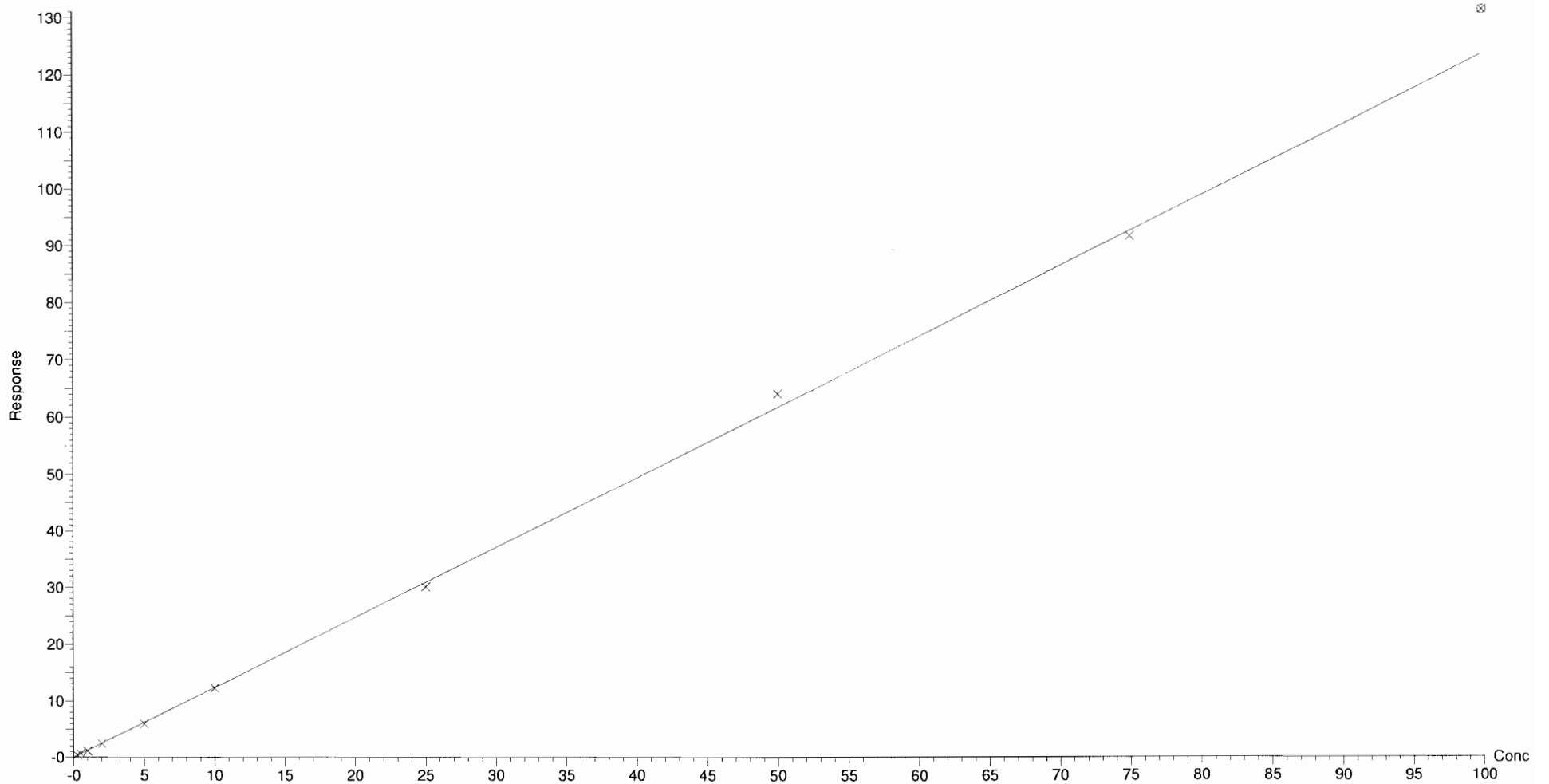
Compound name: PFTrDA

Coefficient of Determination:  $R^2 = 0.999100$

Calibration curve:  $1.23315 * x$

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

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





Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-CRV.qld

Last Altered: Tuesday, October 09, 2018 10:37:25 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:43:34 Pacific Daylight Time

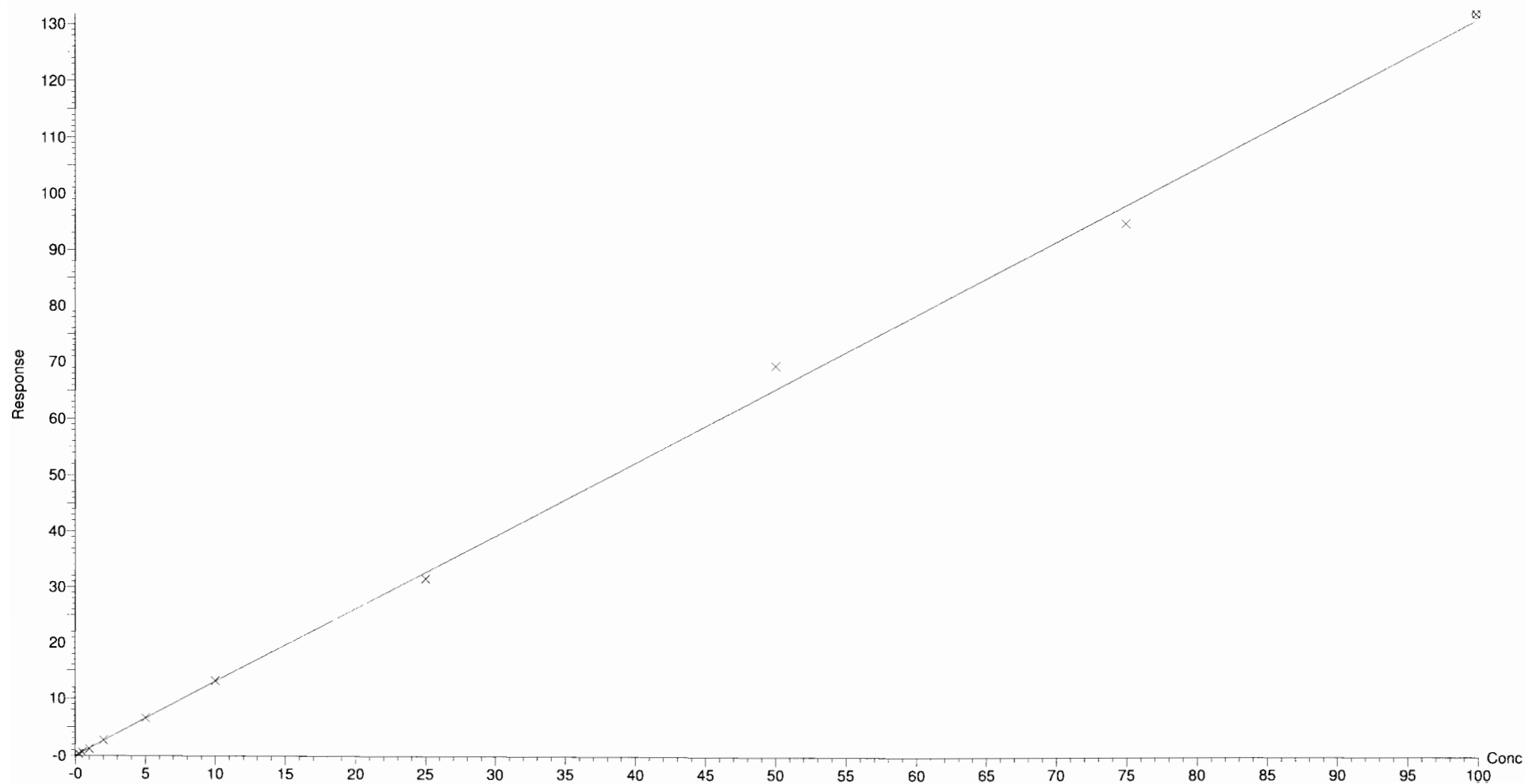
Compound name: PFTeDA

Coefficient of Determination:  $R^2 = 0.997908$

Calibration curve:  $1.30639 * x$

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

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



Dataset: X:\G1.PRO\Results\2018\181005G3\181005G3-ICV.qld

Last Altered: Tuesday, October 09, 2018 10:46:00 Pacific Daylight Time

Printed: Tuesday, October 09, 2018 10:46:17 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS\_DW\_L14\_1005.mdb 06 Oct 2018 09:05:09

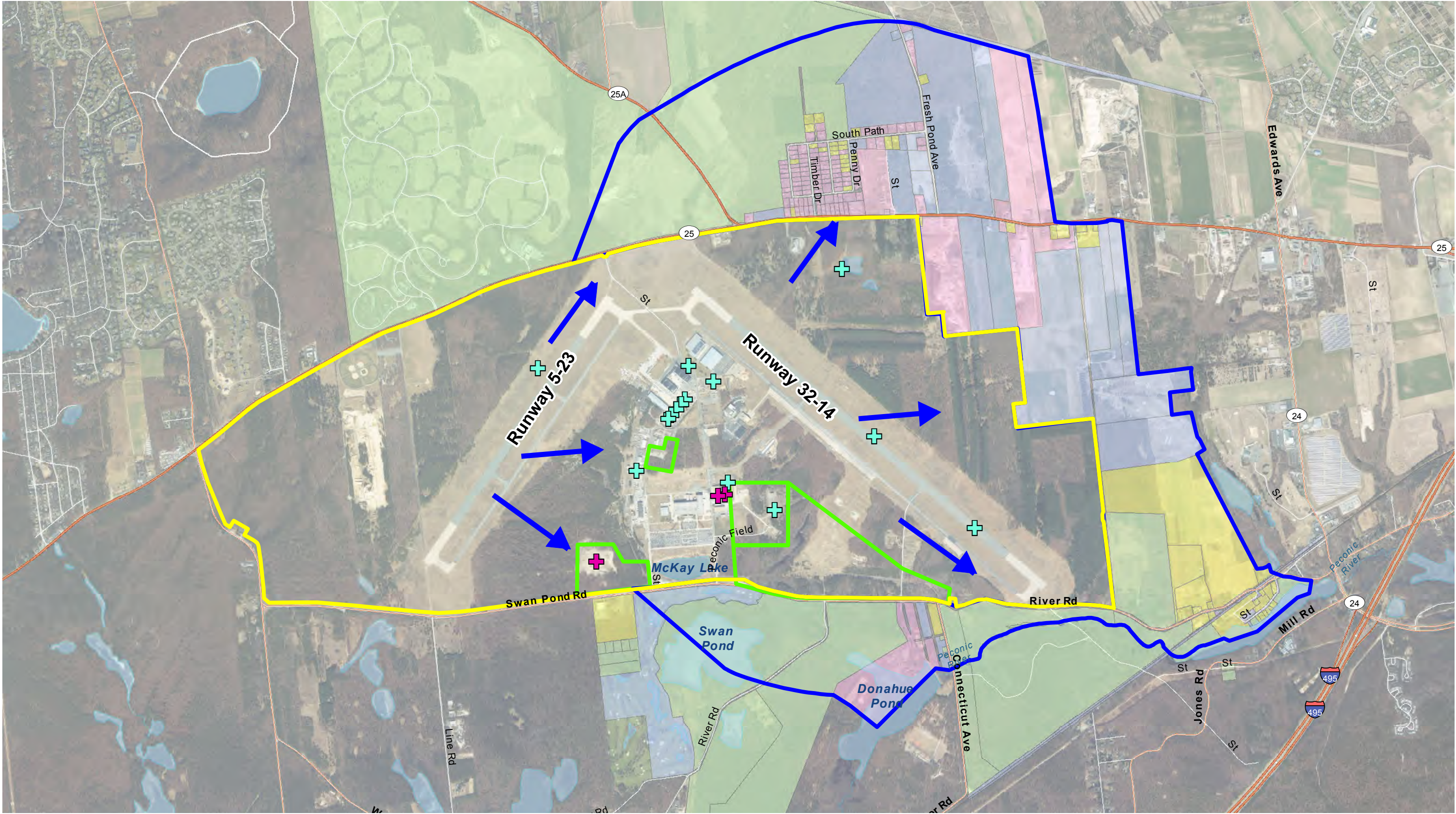
Calibration: X:\G1.PRO\CurveDB\C18\_537\_Q1\_10-05-18\_L14.cdb 09 Oct 2018 10:37:25

Name: 181005G3\_13, Date: 05-Oct-2018, Time: 19:59:53, ID: ST181005G3-1 PFC ICV 537 18J0411, Description: PFC ICV 537 18J0411

#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.8 > 80.2	3.74e3	1.40e4	1.00		2.90	2.93	7.66	10.3	102.9
2	2 PFHxA	312.8 > 269.0	5.96e3	5.74e3	1.00		3.28	3.28	10.4	10.0	100.5
3	3 PFHpA	362.8 > 319.0	6.59e3	5.74e3	1.00		3.81	3.81	11.5	10.7	106.6
4	4 PFHxS	398.7 > 80.2	3.39e3	1.40e4	1.00		3.91	3.94	6.94	9.68	96.8
5	5 PFOA	412.7 > 368.9	5.65e3	5.74e3	1.00		4.24	4.24	9.84	9.52	95.2
6	6 PFNA	462.8 > 419.0	5.86e3	5.74e3	1.00		4.58	4.56	10.2	10.5	105.2
7	7 PFOS	498.7 > 80.2	1.62e3	1.40e4	1.00		4.61	4.61	3.31	8.80	88.0
8	8 PFDA	512.8 > 468.9	8.12e3	5.74e3	1.00		4.86	4.85	14.1	11.0	109.6
9	9 N-MeFOSAA	569.8 > 419.0	2.50e3	1.62e4	1.00		4.98	4.98	6.18	8.82	88.2
10	10 N-EtFOSAA	583.8 > 419.0	2.06e3	1.62e4	1.00		5.11	5.11	5.09	7.87	78.7
11	11 PFUnA	562.7 > 518.9	7.78e3	5.74e3	1.00		5.12	5.13	13.5	9.52	95.2
12	12 PFDoA	612.8 > 569.0	6.57e3	5.74e3	1.00		5.37	5.37	11.4	9.44	94.4
13	13 PFTTrDA	662.8 > 619.0	6.86e3	5.74e3	1.00		5.59	5.57	11.9	9.68	96.8
14	14 PFTeDA	712.8 > 669.0	7.80e3	5.74e3	1.00		5.77	5.76	13.6	10.4	104.0
15	15 13C2-PFHxA	314.9 > 270.0	6.30e3	5.74e3	1.00	1.102	3.31	3.28	11.0	9.95	99.5
16	16 13C2-PFDA	514.8 > 470.0	7.02e3	5.74e3	1.00	1.199	4.89	4.85	12.2	10.2	102.0
17	17 d5-N-EtFOSAA	588.8 > 419.0	1.27e4	1.62e4	1.00	0.820	5.11	5.11	31.3	38.1	95.3
18	18 13C2-PFOA	414.8 > 370.0	5.74e3	5.74e3	1.00	1.000	4.26	4.25	10.0	10.0	100.0
19	19 13C4-PFOS	502.8 > 80.2	1.40e4	1.40e4	1.00	1.000	4.65	4.61	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.0	1.62e4	1.62e4	1.00	1.000	4.99	4.98	40.0	40.0	100.0

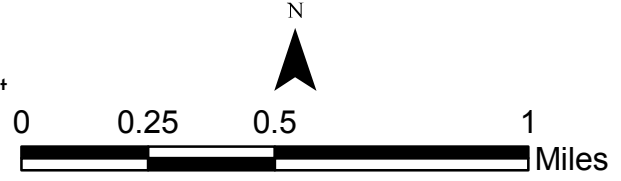
*KBF* 10/9/18  
✓ *Cath*  
10/9/18





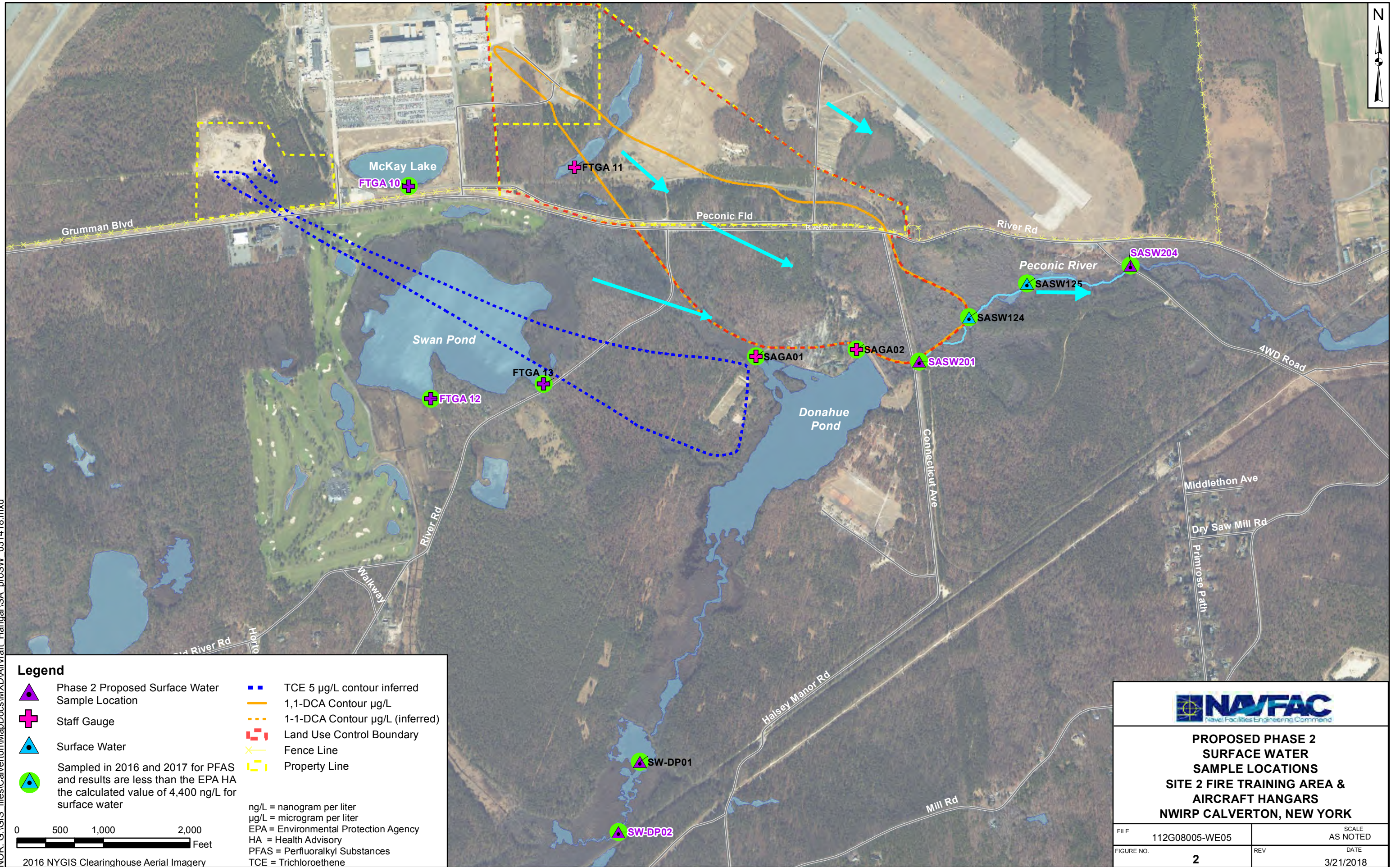
**Legend**

- Location of Known PFAS Release
- Groundwater Flow Direction
- Former NWIRP Calverton
- Government Parcels
- Parcels Serviced by Riverhead Water District\*
- Location of Potential PFAS Release
- Designated Area for Sampling
- Current Navy Property
- Other Parcels
- Suspected Vacant or Unknown Parcels













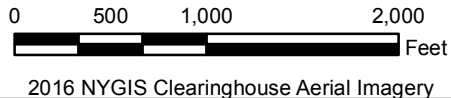


NOR: G:\GIS\_files\Calverton\MapDocs\MXD\Air\craft\_Hangar\SA\_proSW\_031418.mxd



**Legend**

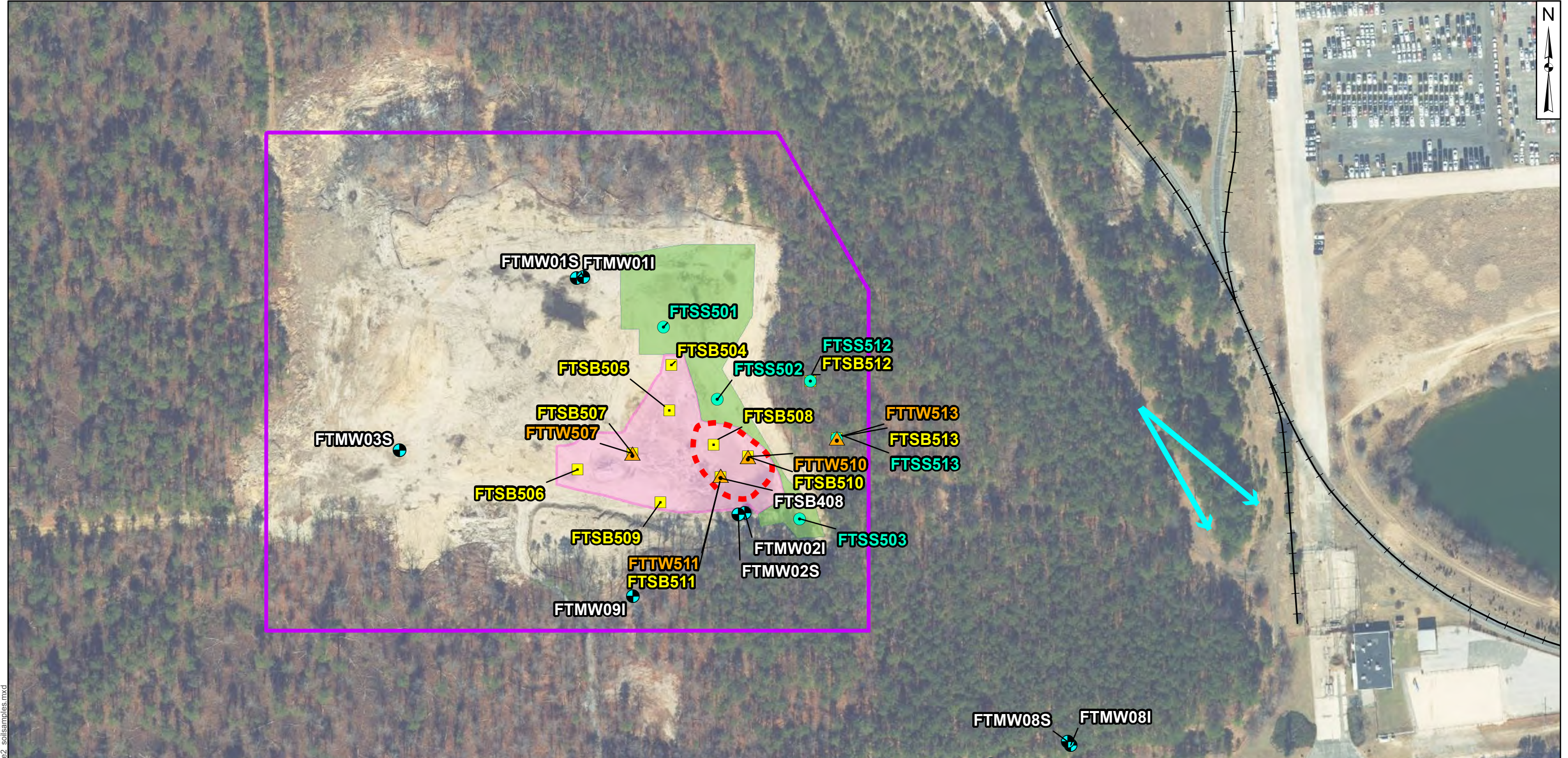
-  Phase 2 Proposed Surface Water Sample Location
  -  Staff Gauge
  -  Surface Water
  -  Sampled in 2016 and 2017 for PFAS and results are less than the EPA HA the calculated value of 4,400 ng/L for surface water
  -  TCE 5 µg/L contour inferred
  -  1,1-DCA Contour µg/L
  -  1-1-DCA Contour µg/L (inferred)
  -  Land Use Control Boundary
  -  Fence Line
  -  Property Line
- ng/L = nanogram per liter  
 µg/L = microgram per liter  
 EPA = Environmental Protection Agency  
 HA = Health Advisory  
 PFAS = Perfluoralkyl Substances  
 TCE = Trichloroethene



**PROPOSED PHASE 2  
SURFACE WATER  
SAMPLE LOCATIONS  
SITE 2 FIRE TRAINING AREA &  
AIRCRAFT HANGARS  
NWIRP CALVERTON, NEW YORK**

FILE	112G08005-WE05	SCALE	AS NOTED
FIGURE NO.	<b>2</b>	REV	DATE
			3/21/2018





**Legend**

- Proposed Soil boring
- Proposed Surface Soil Sample Location
- ▲ Proposed Temporary Well
- Monitoring Well
- ➔ Groundwater Flow
- Manually Cleared MEC Area
- 2008/2009 Excavation Area
- Subsurface Petroleum Contamination
- Site 2 Boundary [2016]

0 75 150 300 Feet

2016 NYGIS Clearinghouse Aerial Imagery

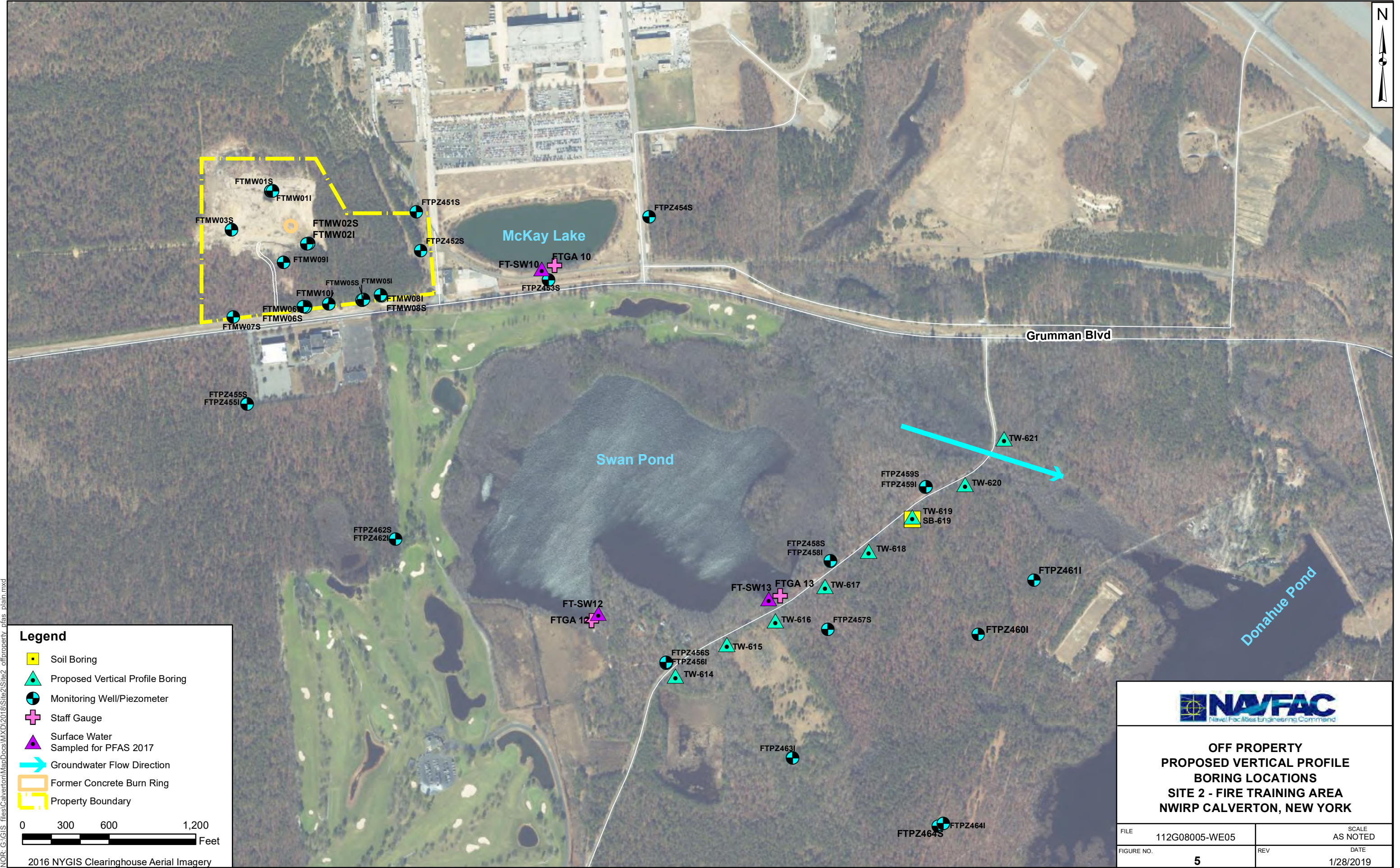
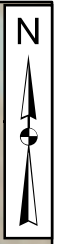
**NAVFAC**  
Naval Facilities Engineering Command

**PROPOSED 2017 SOIL BORING AND  
TEMPORARY WELL LOCATIONS FOR  
2017 PFAS INVESTIGATION  
SITE 2 - FIRE TRAINING AREA  
NWIRP CALVERTON  
CALVERTON, NEW YORK**

FILE	112G08005-WE05	SCALE	AS NOTED
FIGURE NO.	<b>5</b>	REV	DATE
			10/19/2017

NOR: G:\GIS\files\Calverton\MapDocs\MXD\2016\Site2\Site2\_soilsamples.mxd





**Legend**

- Soil Boring
- Proposed Vertical Profile Boring
- Monitoring Well/Piezometer
- Staff Gauge
- Surface Water Sampled for PFAS 2017
- Groundwater Flow Direction
- Former Concrete Burn Ring
- Property Boundary

0 300 600 1,200 Feet

2016 NYGIS Clearinghouse Aerial Imagery

**NAVFAC**  
Naval Facilities Engineering Command

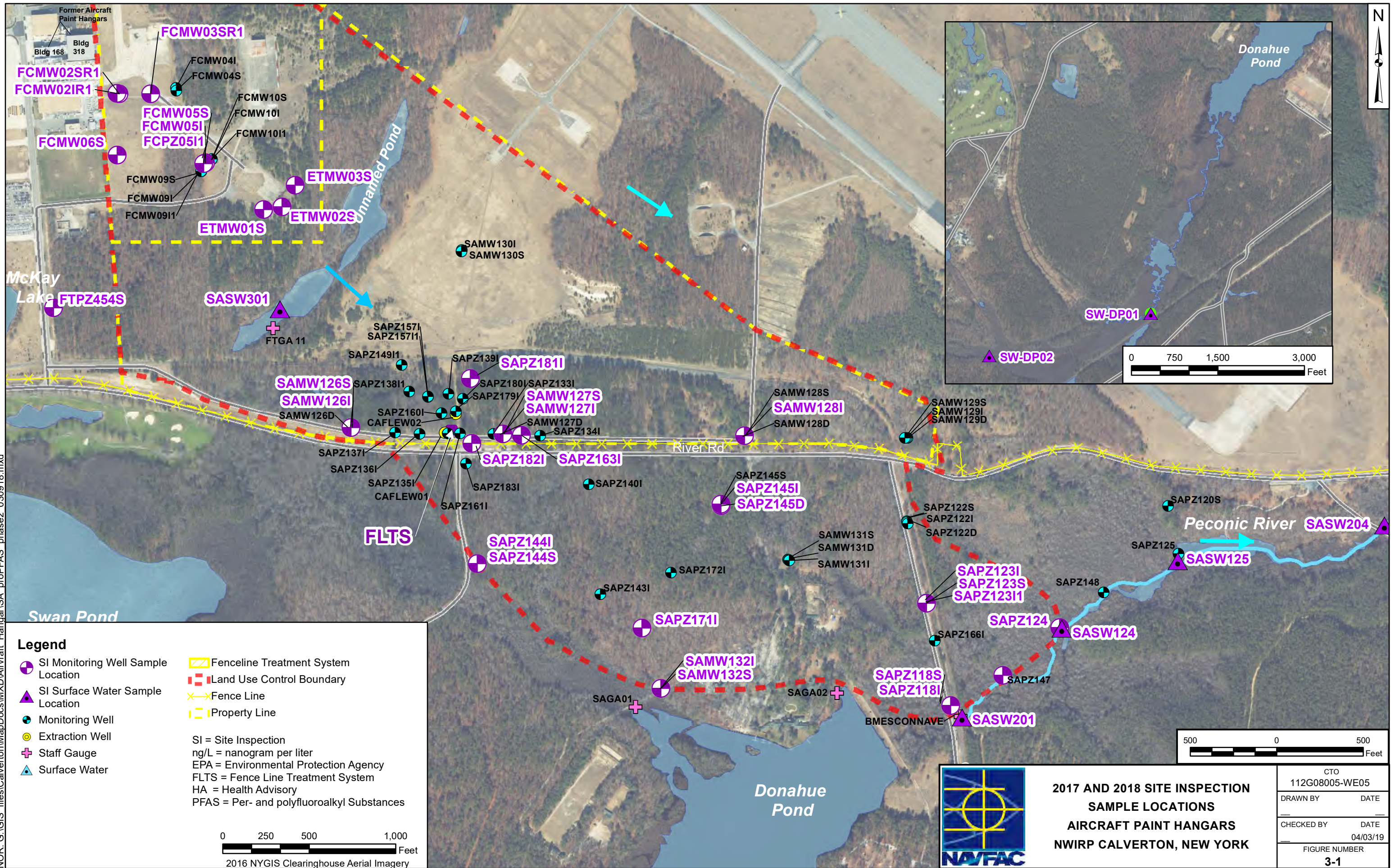
**OFF PROPERTY  
PROPOSED VERTICAL PROFILE  
BORING LOCATIONS  
SITE 2 - FIRE TRAINING AREA  
NWIRP CALVERTON, NEW YORK**

FILE	112G08005-WE05	SCALE	AS NOTED
FIGURE NO.	<b>5</b>	REV	DATE
			1/28/2019

NOR: G:\GIS\_files\Calverton\MapDocs\MXD\2018\Site2\Site2\_offproperty\_pfias\_plain.mxd

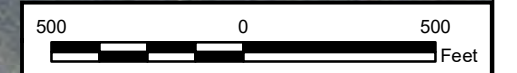


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**Legend**

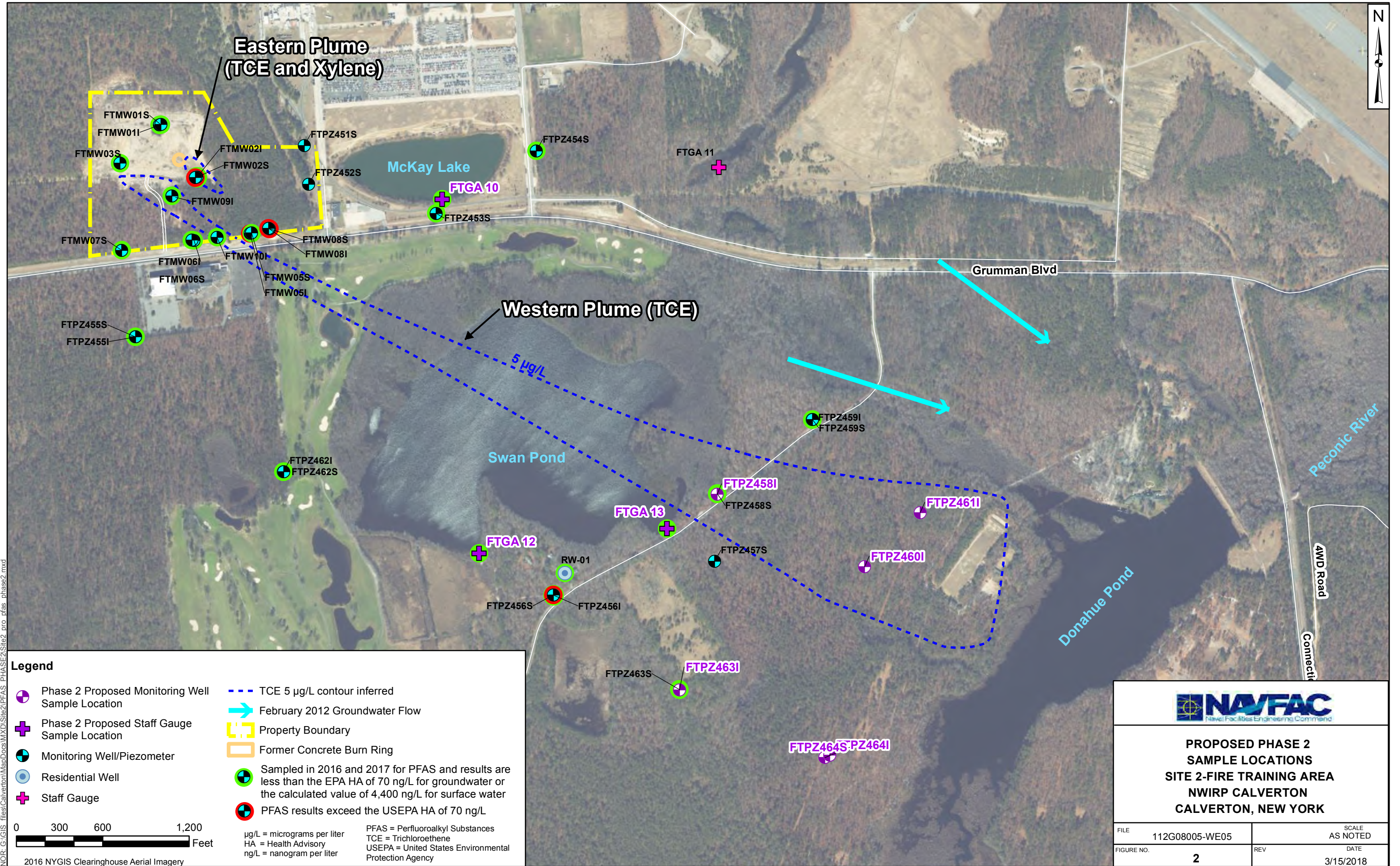
- SI Monitoring Well Sample Location
  - SI Surface Water Sample Location
  - Monitoring Well
  - Extraction Well
  - Staff Gauge
  - Surface Water
  - Fenceline Treatment System
  - Land Use Control Boundary
  - Fence Line
  - Property Line
- SI = Site Inspection  
 ng/L = nanogram per liter  
 EPA = Environmental Protection Agency  
 FLTS = Fence Line Treatment System  
 HA = Health Advisory  
 PFAS = Per- and polyfluoroalkyl Substances



**2017 AND 2018 SITE INSPECTION  
 SAMPLE LOCATIONS  
 AIRCRAFT PAINT HANGARS  
 NWIRP CALVERTON, NEW YORK**

CTO 112G08005-WE05	
DRAWN BY	DATE
CHECKED BY	DATE 04/03/19
FIGURE NUMBER <b>3-1</b>	





**Eastern Plume  
(TCE and Xylene)**

**Western Plume (TCE)**

McKay Lake

Swan Pond

Donahue Pond

Grumman Blvd

Peconic River

4WD Road

Connecticut

NOR: G:\GIS - files\Calverton\MapDocs\MXD\Site2\PFAS - PHASE2\Site2 pro pfas phase2.mxd

**Legend**

- Phase 2 Proposed Monitoring Well Sample Location
- + Phase 2 Proposed Staff Gauge Sample Location
- Monitoring Well/Piezometer
- Residential Well
- + Staff Gauge
- TCE 5 µg/L contour inferred
- February 2012 Groundwater Flow
- Property Boundary
- Former Concrete Burn Ring
- Sampled in 2016 and 2017 for PFAS and results are less than the EPA HA of 70 ng/L for groundwater or the calculated value of 4,400 ng/L for surface water
- PFAS results exceed the USEPA HA of 70 ng/L

0    300    600    1,200  
 Feet

2016 NYGIS Clearinghouse Aerial Imagery

µg/L = micrograms per liter  
 HA = Health Advisory  
 ng/L = nanogram per liter

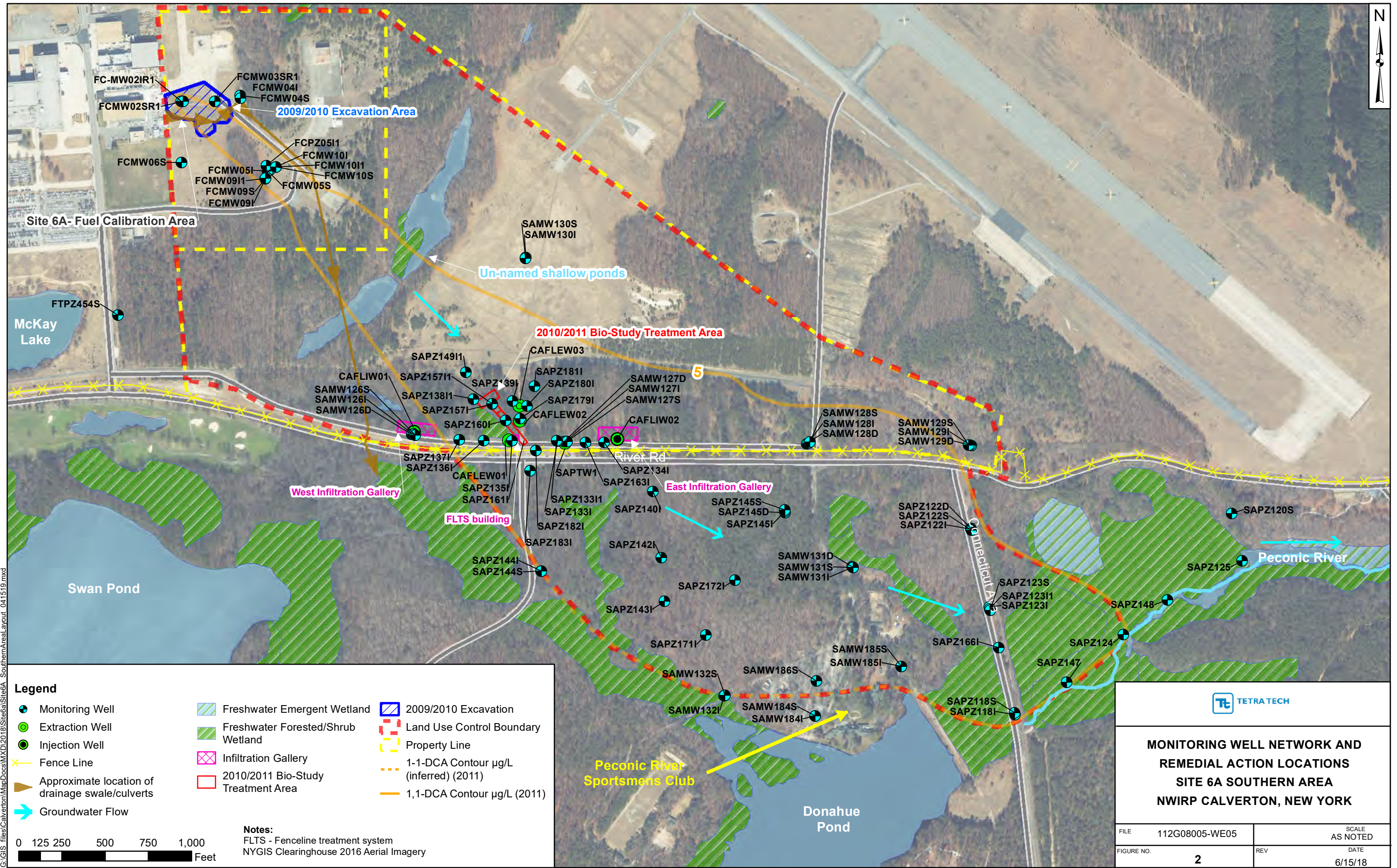
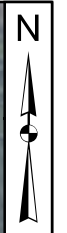
PFAS = Perfluoroalkyl Substances  
 TCE = Trichloroethene  
 USEPA = United States Environmental Protection Agency



**PROPOSED PHASE 2  
 SAMPLE LOCATIONS  
 SITE 2-FIRE TRAINING AREA  
 NWIRP CALVERTON  
 CALVERTON, NEW YORK**

FILE 112G08005-WE05	SCALE AS NOTED
FIGURE NO. <b>2</b>	REV DATE 3/15/2018





G:\GIS\Calverton\MapDocs\WXD\2018\Site6a\SouthernAreaLayout\_041519.mxd

**Legend**

- Monitoring Well
- Extraction Well
- Injection Well
- Fence Line
- Approximate location of drainage swale/culverts
- Groundwater Flow
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Infiltration Gallery
- 2010/2011 Bio-Study Treatment Area
- 2009/2010 Excavation
- Land Use Control Boundary
- Property Line
- 1,1-DCA Contour  $\mu\text{g/L}$  (inferred) (2011)
- 1,1-DCA Contour  $\mu\text{g/L}$  (2011)

**Notes:**  
 FLTS - Fenceline treatment system  
 NYGIS Clearinghouse 2016 Aerial Imagery

TETRA TECH

**MONITORING WELL NETWORK AND  
 REMEDIAL ACTION LOCATIONS  
 SITE 6A SOUTHERN AREA  
 NWIRP CALVERTON, NEW YORK**

FILE	112G08005-WE05	SCALE	AS NOTED
FIGURE NO.	2	REV	DATE
			6/15/18