Groundwater Sample Results, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1803078<br>Naval Weapons Industrial Reserve Plant Calverton<br>Riverhead, New York<br>August 2019

"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","375-22-
4","PFBA","5.13","ng/L","J","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","2706-90-3","PFPeA","9.79","ng/L","","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","375-73-5","PFBS","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","307-24-4","PFHxA","10.8","ng/L","","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","375-85-9","PFHpA","9.53","ng/L","","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","355-46-4","PFHxS","23.6","ng/L","","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","27619-97-2","6:2
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"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","1763-23-
1","PFOS","13.3","ng/L","","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","335-76-
2","PFDA","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","39108-34-4","8:2 FTS","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39",""
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9","MeFOSAA","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.3 9",""
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6","EtFOSAA","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39 " ""
"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","2058-94-
8","PFUnA","4.65","ng/L","J","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","335-77-
3","PFDS","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","307-55-
1","PFDoA","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39","
"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","72629-94-
8","PFTrDA","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39", ""
"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","376-06-
7","PFTeDA","5.39","ng/L","UU","2.95","LOD","","TRG","","","8.61","LOQ","YES","-99","","0.116","0.001","5.39", ""
"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C3-PFBA","13C3-
PFBA","98.4","\%R","","-99","NA","","IS","98.4","","-99","NA","YES","100","","0.116","0.001","-99",""
"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C3-PFPeA","13C3-
PFPeA","94.8","\%R","","-99","NA","","IS","94.8","","-99","NA","YES","100","","0.116","0.001","-99",""
"FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C3-PFBS","13C3-

PFBS","102","\%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C2-PFHxA","13C2-PFHxA","94.2","\%R","","-99","NA","","IS","94.2","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C4-PFHpA","13C4-PFHpA","92.8","\%R","","-99","NA","","IS","92.8","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","18O2-PFHxS","18O2-PFHxS","93.6","\%R","","-99","NA","","IS","93.6","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C2-PFOA","13C2-PFOA","84.8","\%R","","-99","NA","","IS","84.8","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C5-PFNA","13C5-PFNA","70.2","\%R","","-99","NA","","IS","70.2","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C8-PFOSA","13C8-PFOSA","48.8","\%R","H","-99","NA","","IS","48.8","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C8-PFOS","13C8-PFOS","93.3","\%R","","-99","NA","","IS","93.3","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C2-PFDA","13C2-PFDA","63.6","\%R","","-99","NA","","IS","63.6","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","d3-MeFOSAA","d3-MeFOSAA","69.6","\%R","","-99","NA","","IS","69.6","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","d5-EtFOSAA","d5-EtFOSAA","80.1","\%R","","-99","NA","","IS","80.1","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C2-PFUnA","13C2-PFUnA","66.3","\%R","","-99","NA","","IS","66.3","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C2-PFDoA","13C2-PFDoA","74.6","\%R","","-99","NA","","IS","74.6","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-20180917","Modified EPA 537","Initial","1803078-01","Vista","13C2-PFTeDA","13C2-
PFTeDA","81.3","\%R","","-99","NA","","IS","81.3","","-99","NA","YES","100","","0.116","0.001","-99","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","375-22-4","PFBA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","2706-90-
3","PFPeA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","375-73-
5","PFBS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","307-24-4","PFHxA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","375-85-9","PFHpA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","
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4","PFHxS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","27619-97-2","6:2
FTS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","335-67-
1","PFOA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","375-92-8","PFHpS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","375-95-1","PFNA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","754-91-6","PFOSA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","
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1","PFOS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","335-76-
2","PFDA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","39108-34-4","8:2
FTS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","2355-31-
9","MeFOSAA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.3 0",""
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","2991-50-
6","EtFOSAA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30 " ""
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3","PFDS","5.30","ng/L","UU","2.91","LOD",","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","" "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","307-55-1","PFDoA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30"," "FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","72629-94-
8","PFTrDA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30", ""
"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","376-06-
7","PFTeDA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30", ""
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"FT-PZ463I-FRB-20180917","Modified EPA 537","Initial","1803078-02","Vista","13C2-PFTeDA","13C2-
PFTeDA","78.7","\%R","","-99","NA","","IS","78.7","","-99","NA","YES","100","","0.118","0.001","-99",""
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4","PFBA","5.34","ng/L","J","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","2706-90-
3","PFPeA","12.6","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","375-73-
5","PFBS","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","307-24-
4","PFHxA","13.3","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","375-85-
9","PFHpA","11.1","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
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4","PFHxS","23.5","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","27619-97-2","6:2
FTS","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","335-67-
1","PFOA","34.3","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","375-92-
8","PFHpS","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","375-95-1","PFNA","97.7","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","754-91-6","PFOSA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53"," "
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","1763-23-
1","PFOS","15.0","ng/L","","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","335-76-2","PFDA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","39108-34-4","8:2
FTS","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","2355-31-
9","MeFOSAA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.5 3",""
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6","EtFOSAA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53 " ""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","2058-94-8","PFUnA","4.73","ng/L","J, Q","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","335-77-
3","PFDS","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","307-55-
1","PFDoA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53"," "
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","72629-94-
8","PFTrDA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53", ""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","376-06-
7","PFTeDA","5.53","ng/L","UU","3.03","LOD","","TRG","","","8.84","LOQ","YES","-99","","0.113","0.001","5.53", ""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C3-PFBA","13C3-
PFBA","95.0","\%R","","-99","NA","","IS","95.0","","-99","NA","YES","100","","0.113","0.001","-99",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C3-PFPeA","13C3-
PFPeA","94.4","\%R","","-99","NA","","IS","94.4","","-99","NA","YES","100","","0.113","0.001","-99",""
"FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C3-PFBS","13C3-PFBS","104","\%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C2-PFHxA","13C2-PFHxA","93.9","\%R","","-99","NA","","IS","93.9","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C4-PFHpA","13C4-PFHpA","96.8","\%R","","-99","NA","","IS","96.8","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","18O2-PFHxS","18O2-PFHxS","96.3","\%R","","-99","NA","","IS","96.3","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C2-PFOA","13C2-PFOA","89.6","\%R","","-99","NA","","IS","89.6","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C5-PFNA","13C5-PFNA","79.2","\%R","","-99","NA","","IS","79.2","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C8-PFOSA","13C8-PFOSA","52.5","\%R","","-99","NA","","IS","52.5","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C8-PFOS","13C8-PFOS","96.9","\%R","","-99","NA","","IS","96.9","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C2-PFDA","13C2-PFDA","71.7","\%R","","-99","NA","","IS","71.7","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","d3-MeFOSAA","d3-MeFOSAA","77.2","\%R","","-99","NA","","IS","77.2","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","d5-EtFOSAA","d5-EtFOSAA","78.6","\%R","","-99","NA","","IS","78.6","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C2-PFUnA","13C2-PFUnA","73.0","\%R","","-99","NA","","IS","73.0","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C2-PFDoA","13C2-PFDoA","76.8","\%R","","-99","NA","","IS","76.8","","-99","NA","YES","100","","0.113","0.001","-99","" "FT-PZ464I-20180917","Modified EPA 537","Initial","1803078-03","Vista","13C2-PFTeDA","13C2-
PFTeDA","84.7","\%R","","-99","NA","","IS","84.7","","-99","NA","YES","100","","0.113","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","375-22-4","PFBA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","2706-90-3","PFPeA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","375-73-5","PFBS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","307-24-4","PFHxA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","375-85-
9","PFHpA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00"," "
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","355-46-4","PFHxS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","27619-97-2","6:2
FTS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","335-67-
1","PFOA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","375-92-8","PFHpS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","375-95-
1","PFNA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","754-91-
6","PFOSA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00"," "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","1763-23-

1","PFOS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","335-76-
2","PFDA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","39108-34-4","8:2
FTS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","2355-31-
9","MeFOSAA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.0 0",""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","2991-50-
6","EtFOSAA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00 " ""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","2058-94-
8","PFUnA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00"," "
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","335-77-
3","PFDS","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","307-55-
1","PFDoA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00"," "
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","72629-94-
8","PFTrDA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00", ""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","376-06-
7","PFTeDA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00", ""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C3-PFBA","13C3-
PFBA","99.1","\%R","","-99","NA","","IS","99.1","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C3-PFPeA","13C3-PFPeA","97.3","\%R","","-99","NA","","IS","97.3","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C3-PFBS","13C3-PFBS","109","\%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C2-PFHxA","13C2-PFHxA","94.1","\%R","","-99","NA","","IS","94.1","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C4-PFHpA","13C4-PFHpA","94.4","\%R","","-99","NA","","IS","94.4","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","18O2-PFHxS","18O2-PFHxS","98.7","\%R","","-99","NA","","IS","98.7","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C2-PFOA","13C2-PFOA","90.1","\%R","","-99","NA","","IS","90.1","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C5-PFNA","13C5-PFNA","77.9","\%R","","-99","NA","","IS","77.9","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C8-PFOSA","13C8-PFOSA","40.7","\%R","H","-99","NA","","IS","40.7","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C8-PFOS","13C8-PFOS","99.7","\%R","","-99","NA","","IS","99.7","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C2-PFDA","13C2-PFDA","64.7","\%R","","-99","NA","","IS","64.7","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","d3-MeFOSAA","d3-MeFOSAA","68.4","\%R","","-99","NA","","IS","68.4","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","d5-EtFOSAA","d5-EtFOSAA","67.9","\%R","","-99","NA","","IS","67.9","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C2-PFUnA","13C2-PFUnA","62.4","\%R","","-99","NA","","IS","62.4","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C2-PFDoA","13C2-

PFDoA","59.4","\%R","","-99","NA","","IS","59.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BLK1","Modified EPA 537","Initial","B8I0142-BLK1","Vista","13C2-PFTeDA","13C2-
PFTeDA","72.2","\%R","","-99","NA","","IS","72.2","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","375-22-
4","PFBA","75.2","ng/L","","2.74","LOD","","TRG","94.0","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","2706-90-
3","PFPeA","74.6","ng/L","","2.74","LOD","","TRG","93.3","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00", ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","375-73-
5","PFBS","79.3","ng/L","","2.74","LOD","","TRG","99.2","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","307-24-
4","PFHxA","77.5","ng/L","","2.74","LOD","","TRG","96.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00", ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","375-85-
9","PFHpA","74.4","ng/L","","2.74","LOD","","TRG","92.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00", ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","355-46-
4","PFHxS","81.0","ng/L","","2.74","LOD","","TRG","101","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","27619-97-2","6:2
FTS","82.3","ng/L","","2.74","LOD","","TRG","103","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","335-67-
1","PFOA","74.3","ng/L","","2.74","LOD","","TRG","92.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","375-92-
8","PFHpS","76.4","ng/L","","2.74","LOD","","TRG","95.5","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00", ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","375-95-
1","PFNA","73.4","ng/L","","2.74","LOD","","TRG","91.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","754-91-
6","PFOSA","77.5","ng/L","Q","2.74","LOD","","TRG","96.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0 0",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","1763-23-
1","PFOS","75.9","ng/L","","2.74","LOD","","TRG","94.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","335-76-
2","PFDA","72.8","ng/L","","2.74","LOD","","TRG","91.0","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00"," "
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","39108-34-4","8:2
FTS","71.8","ng/L","","2.74","LOD","","TRG","89.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","2355-31-
9","MeFOSAA","66.5","ng/L","","2.74","LOD","","TRG","83.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","2991-50-
6","EtFOSAA","75.4","ng/L","","2.74","LOD","","TRG","94.2","","8.00","LOQ","YES","80.0","","0.125","0.001","5.0 0",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","2058-94-
8","PFUnA","80.2","ng/L","","2.74","LOD","","TRG","100","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00", ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","335-77-
3","PFDS","69.8","ng/L","","2.74","LOD","","TRG","87.2","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","307-55-
1","PFDoA","75.7","ng/L","","2.74","LOD","","TRG","94.6","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00", ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","72629-94-
8","PFTrDA","80.4","ng/L","","2.74","LOD","","TRG","100","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00" ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","376-06-
7","PFTeDA","76.1","ng/L","","2.74","LOD","","TRG","95.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00 " ""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C3-PFBA","13C3-
PFBA","99.6","\%R","","-99","NA","","IS","99.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C3-PFPeA","13C3-
PFPeA","97.9","\%R","","-99","NA","","IS","97.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C3-PFBS","13C3-
PFBS","104","\%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","93.3","\%R","","-99","NA","","IS","93.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C4-PFHpA","13C4-
PFHpA","97.4","\%R","","-99","NA","","IS","97.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","18O2-PFHxS","18O2-
PFHxS","99.6","\%R","","-99","NA","","IS","99.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C2-PFOA","13C2-
PFOA","84.0","\%R","","-99","NA","","IS","84.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C5-PFNA","13C5-
PFNA","72.3","\%R","","-99","NA","","IS","72.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C8-PFOSA","13C8-
PFOSA","46.0","\%R","H","-99","NA","","IS","46.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C8-PFOS","13C8-
PFOS","91.9","\%R","","-99","NA","","IS","91.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C2-PFDA","13C2-
PFDA","61.0","\%R","","-99","NA","","IS","61.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","66.7","\%R","","-99","NA","","IS","66.7","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","64.3","\%R","","-99","NA","","IS","64.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C2-PFUnA","13C2-
PFUnA","58.0","\%R","","-99","NA","","IS","58.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C2-PFDoA","13C2-
PFDoA","62.4","\%R","","-99","NA","","IS","62.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BS1","Modified EPA 537","Initial","B8I0142-BS1","Vista","13C2-PFTeDA","13C2-
PFTeDA","76.8","\%R","","-99","NA","","IS","76.8","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","375-22-
4","PFBA","79.2","ng/L","","2.74","LOD","","TRG","99.0","5.21","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","2706-90-
3","PFPeA","77.3","ng/L","","2.74","LOD","","TRG","96.6","3.51","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","375-73-
5","PFBS","81.8","ng/L","","2.74","LOD","","TRG","102","3.03","8.00","LOQ","YES","80.0","","0.125","0.001","5.0 0",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","307-24-
4","PFHxA","76.4","ng/L","","2.74","LOD","","TRG","95.5","1.48","8.00","LOQ","YES","80.0","","0.125","0.001","5 .00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","375-85-
9","PFHpA","79.1","ng/L","","2.74","LOD","","TRG","98.9","6.24","8.00","LOQ","YES","80.0","","0.125","0.001","5 .00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","355-46-
4","PFHxS","77.6","ng/L","","2.74","LOD","","TRG","97.0","4.31","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","27619-97-2","6:2
FTS","79.1","ng/L","","2.74","LOD","","TRG","98.9","3.90","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","335-67-
1","PFOA","78.9","ng/L","","2.74","LOD","","TRG","98.6","5.99","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","375-92-
8","PFHpS","80.3","ng/L","","2.74","LOD","","TRG","100","5.03","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","375-95-
1","PFNA","76.3","ng/L","","2.74","LOD","","TRG","95.3","3.85","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","754-91-
6","PFOSA","76.5","ng/L","","2.74","LOD","","TRG","95.6","1.35","8.00","LOQ","YES","80.0","","0.125","0.001","5 .00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","1763-23-
1","PFOS","77.5","ng/L","","2.74","LOD","","TRG","96.9","2.06","8.00","LOQ","YES","80.0","","0.125","0.001","5.0 0",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","335-76-
2","PFDA","78.2","ng/L","","2.74","LOD","","TRG","97.7","7.14","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","39108-34-4","8:2
FTS","83.9","ng/L","","2.74","LOD","","TRG","105","15.6","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","2355-31-
9","MeFOSAA","79.2","ng/L","","2.74","LOD","","TRG","99.0","17.5","8.00","LOQ","YES","80.0","","0.125","0.001 ","5.00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","2991-50-
6","EtFOSAA","79.2","ng/L","","2.74","LOD","","TRG","99.0","4.98","8.00","LOQ","YES","80.0","","0.125","0.001" ,"5.00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","2058-94-
8","PFUnA","78.7","ng/L","","2.74","LOD","","TRG","98.3","1.91","8.00","LOQ","YES","80.0","","0.125","0.001","5 .00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","335-77-
3","PFDS","66.8","ng/L","","2.74","LOD","","TRG","83.5","4.40","8.00","LOQ","YES","80.0","","0.125","0.001","5.0 0",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","307-55-
1","PFDoA","83.9","ng/L","","2.74","LOD","","TRG","105","10.3","8.00","LOQ","YES","80.0","","0.125","0.001","5. 00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","72629-94-
8","PFTrDA","84.0","ng/L","","2.74","LOD","","TRG","105","4.36","8.00","LOQ","YES","80.0","","0.125","0.001"," 5.00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","376-06-
7","PFTeDA","78.9","ng/L","","2.74","LOD","","TRG","98.6","3.65","8.00","LOQ","YES","80.0","","0.125","0.001"," 5.00",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C3-PFBA","13C3-
PFBA","96.0","\%R","","-99","NA","","IS","96.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C3-PFPeA","13C3-
PFPeA","93.9","\%R","","-99","NA","","IS","93.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C3-PFBS","13C3-

PFBS","99.0","\%R","","-99","NA","","IS","99.0","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C2-PFHxA","13C2-
PFHxA","96.6","\%R","","-99","NA","","IS","96.6","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C4-PFHpA","13C4-PFHpA","95.7","\%R","","-99","NA","","IS","95.7","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","18O2-PFHxS","18O2-PFHxS","101","\%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C2-PFOA","13C2-PFOA","86.8","\%R","","-99","NA","","IS","86.8","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C5-PFNA","13C5-PFNA","70.5","\%R","","-99","NA","","IS","70.5","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C8-PFOSA","13C8-PFOSA","37.5","\%R","H","-99","NA","","IS","37.5","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C8-PFOS","13C8-PFOS","94.9","\%R","","-99","NA","","IS","94.9","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C2-PFDA","13C2-PFDA","59.6","\%R","","-99","NA","","IS","59.6","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","d3-MeFOSAA","d3-MeFOSAA","58.7","\%R","","-99","NA","","IS","58.7","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","d5-EtFOSAA","d5-EtFOSAA","62.3","\%R","","-99","NA","","IS","62.3","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C2-PFUnA","13C2-PFUnA","56.6","\%R","","-99","NA","","IS","56.6","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C2-PFDoA","13C2-PFDoA","60.2","\%R","","-99","NA","","IS","60.2","","-99","NA","YES","100","","0.125","0.001","-99","" "B8I0142-BSD1","Modified EPA 537","Initial","B8I0142-BSD1","Vista","13C2-PFTeDA","13C2-
PFTeDA","74.5","\%R","","-99","NA","","IS","74.5","","-99","NA","YES","100","","0.125","0.001","-99","" "NWIRP Calverton","NWIRP Calverton","FT-PZ463I-20180917","09/17/2018 13:00","AQ","180307801","NM","","1.00","Modified EPA 537","METHOD","Initial","09/20/2018 10:05","09/22/2018 01:52","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8I0142","B8I0142","NA","S8I0065","1803078","09/18/2018 09:55","01/01/1900 00:00","" "NWIRP Calverton","NWIRP Calverton","FT-PZ463I-FRB-20180917","09/17/2018 13:00","AQ","180307802","NM","","1.00","Modified EPA 537","METHOD","Initial","09/20/2018 10:05","09/22/2018 02:03","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B8I0142","B8I0142","NA","S8I0065","1803078","09/18/2018 09:55","01/01/1900 00:00","" "NWIRP Calverton","NWIRP Calverton","FT-PZ464I-20180917","09/17/2018 14:22","AQ","1803078-
03","NM","","1.00","Modified EPA 537","METHOD","Initial","09/20/2018 10:05","09/22/2018 02:13","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8I0142","B8I0142","NA","S8I0065","1803078","09/18/2018 09:55","01/01/1900 00:00",""
"NWIRP Calverton","NWIRP Calverton","B8I0142-BLK1","01/01/1900 00:00","AQ","B8I0142-
BLK1","MB","","-99","Modified EPA 537","METHOD","Initial","09/20/2018 10:05","09/22/2018
01:20","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8I0142","B8I0142","NA","S8I0065","1803078","01/01/1900 00:00","01/01/1900 00:00",""
"NWIRP Calverton","NWIRP Calverton","B8I0142-BS1","01/01/1900 00:00","AQ","B8I0142-
BS1","LCS","","-99","Modified EPA 537","METHOD","Initial","09/20/2018 10:05","09/22/2018
01:31","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8I0142","B8I0142","NA","S8I0065","1803078","01/01/1900 00:00","01/01/1900 00:00",""
"NWIRP Calverton","NWIRP Calverton","B8I0142-BSD1","01/01/1900 00:00","AQ","B8I0142-
BSD1","LCSD","","-99","Modified EPA 537","METHOD","Initial","09/20/2018 10:05","09/22/2018 01:41","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8I0142","B8I0142","NA","S8I0065","1803078","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) |  |  |
|  | ORAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), CALVERTON |  |  |
|  |  | FORMER FIRE TRAINING AREA |  |

SAMPLES: 3/Groundwater/PFAS
FT-PZ463I-20180917 FT-PZ463I-FRB-20180917 FT-PZ464I-20180917

## Overview

The sample set for NWIRP Calverton, SDG 1803078 consisted of two (2) groundwater environmental samples and one (1) Field Reagent Blank (FRB). All three (3) 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 17, 2018 and analyzed by Vista Analytical Laboratory. All analyses were conducted in accordance with EPA 537 Modified 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 |
| * | - | LC/MS/MS System Tuning and Performance |
| * | - | lon Transition Check |
|  | - | lon Ratio Recoveries |
| * | - | Initial/Continuing Calibrations |
| * | - | Laboratory Method Blank Results |
|  | Field Reagent Blank Results |  |
| * | - | Extraction Internal Standard Recoveries |
| * | - | Injection Internal Standard Recoveries |
| * | - | Oboratory Control Sample Recoveries |
| * | Ongoing Precision Recovery (OPR) Results |  |
| * | Compound Identification |  |
| * | - $\quad$ 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.

## PEAS

The Percent Recoveries (\%Rs) for the extraction internal standard compound, 13C8perfluorooctane sulfonamide (13C8-PFOSA) were below the $50 \%$ quality control limit in samples FT-PZ463I-20180917 and FT-PZ463I-FRB-20180917. The non-detected results reported for the associated PFAS compound (FOSA) in these samples were qualified as estimated, (UJ).

The ion ratio was outside the laboratory quality control limits ( $70 \%-100 \%$ ) for perfluoroundecanoic acid (PFUnA) in sample FT-PZ464I-20180917. The detected result reported for this compound in this sample was qualified as estimated, (J).

## Additional Comments

The time of collection was missing from the sample Chain of Custody (COC). The laboratory used the time indicated on the sample containers.

The FRB was free of contamination.
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 LOD.

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

## Executive Summary

Laboratory Performance Issues: Two samples had low \%Rs for the extraction internal standards. The ion ratio for one PFUnA result was outside quality control criteria.

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), EPA Method 537 Modified, 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.

## Manille 天. Coder

Tetra Tech, Inc.
Michelle L. Woeber
Chemist/Data Validator


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

## Attachments:

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

## Data Qualifier Definitions

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

| $\mathbf{U}$ | The analyte was analyzed for, but was not detected at a level greater than or equal to <br> the level of the adjusted detection limit. |
| :---: | :--- |
| $\mathbf{J}$ | The result is an estimated quantity. The associated numerical value is the <br> approximate concentration of the analyte in the sample (due either to the quality of <br> the data generated because certain quality control criteria were not met, or the <br> concentration of the analyte was below the reporting limit). |
| $\mathbf{J +}$ | The result is an estimated quantity, but the result may be biased high. |$|$| $\mathbf{J -}$ | The result is an estimated quantity, but the result may be biased low. |
| :---: | :--- |

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
$\mathrm{G}=$ Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
$J=$ ICP PDS Recovery Noncompliance; MSA's $r<0.995$
$\mathrm{K}=$ ICP Interference - includes ICS \% R Noncompliance
L = Instrument Calibration Range Exceedance
$\mathrm{M}=$ Sample Preservation Noncompliance
$\mathrm{N}=$ 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 x IDL for inorganics and <CRQL for organics)
$\mathrm{Q}=$ Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
$\mathrm{S}=$ Pesticide/PCB Resolution
T = \% Breakdown Noncompliance for DDT and Endrin
$\mathrm{U}=$ RPD between columns/detectors $>40 \%$ for positive results determined via GC/HPLC
$\mathrm{V}=$ Non-linear calibrations; correlation coefficient $\mathrm{r}<0.995$
$\mathrm{W}=$ EMPC result
$\mathrm{X}=$ Signal to noise response drop
$Y=$ Percent solids $<30 \%$
$Z \quad=$ Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

| PROJ_NO: 08005-WE05 | NSAMPLE | FT-PZ4631-201 | 8091 |  | FT-PZ4631-FRB | B-201 | 917 | FT-PZ464I-201 | 18091 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SDG: 1803078 | LAB_ID | 1803078-01 |  |  | 1803078-02 |  |  | 1803078-03 |  |  |
| FRACTION: PFAS | SAMP_DATE | 9/17/2018 |  |  | 9/17/2018 |  |  | 9/17/2018 |  |  |
| MEDIA: WATER | QC_TYPE | NM |  |  | NM |  |  | NM |  |  |
|  | UNITS | NG/L |  |  | NG/L |  |  | NG/L |  |  |
|  | PCT_SOLIDS | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  |
|  | DUP_OF |  |  |  |  |  |  |  |  |  |
| PARAMETER |  | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| 6:2 FLUOROTELOMER | LFONATE | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 8:2 FLUOROTELOMER SUL | LFONATE | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| N-ETHYLPERFLUOROO | ANE | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| SULFONAMIDOACETATE | NEFOSA) |  |  |  |  |  |  |  |  |  |
| N-METHYLPERFLUOROO | CTANE | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| SULFONAMIDOACETATE | NMFOSA) |  |  |  |  |  |  |  |  |  |
| PENTADECAFLUOROOC | ANOIC ACID | 28.5 |  |  | 5.3 | U |  | 34.3 |  |  |
| PERFLUOROBUTANESUL | FONIC ACID | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| (PFBS) |  |  |  |  |  |  |  |  |  |  |
| PERFLUOROBUTANOIC | CID (PFBA) | 5.13 | J | P | 5.3 | U |  | 5.34 | J | P |
| PERFLUORODECANESUL | FONIC ACID | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| PERFLUORODECANOIC | CID (PFDA) | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| PERFLUORODODECANO | C ACID | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| PERFLUOROHEPTANESU | LFONIC ACID | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| (PFHPS) |  |  |  |  |  |  |  |  |  |  |
| PERFLUOROHEPTANOIC | ACID (PFHPA) | 9.53 |  |  | 5.3 | U |  | 11.1 |  |  |
| PERFLUOROHEXANESUL | FONIC ACID | 23.6 |  |  | 5.3 | U |  | 23.5 |  |  |
| (PERFLUOROHEXANOIC | CID (PFHXA) | 10.8 |  |  | 5.3 | U |  | 13.3 |  |  |
| PERFLUORONONANOIC | CID (PFNA) | 53.9 |  |  | 5.3 | U |  | 97.7 |  |  |
| PERFLUOROOCTANE SUL | FONAMIDE | 5.39 | UJ | N | 5.3 | UJ | N | 5.53 | U |  |
| PERFLUOROOCTANESUL | FONIC ACID | 13.3 |  |  | 5.3 | U |  | 15 |  |  |
| (PFOS) |  |  |  |  |  |  |  |  |  |  |
| PERFLUOROPENTANOIC | ACID (PFPEA) | 9.79 |  |  | 5.3 | U |  | 12.6 |  |  |
| PERFLUOROTETRADECA | NOIC ACID | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| (PFTEA) |  |  |  |  |  |  |  |  |  |  |
| PERFLUOROTRIDECANO | C ACID | 5.39 | U |  | 5.3 | U |  | 5.53 | U |  |
| (PFTRIA) |  |  |  |  |  |  |  |  |  |  |
| PERFLUOROUNDECANO | ACID | 4.65 | J | P | 5.3 | U |  | 4.73 | J | P |

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

| Sample ID: FT-PZ463I-20180917 |  |  |  |  |  |  |  |  | PFAS Isotope Dilution Method |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Client Data  <br> Name: Tetra Tech <br> Project: NWIRP Calverton <br> SDG: \# WE05 |  | Matrix <br> Date | d: | ter 13:00 |  | tory Data mple: eceived: | $\begin{aligned} & 1803078- \\ & 18 \text {-Sep- } \end{aligned}$ | 09:55 | Column: | BEH C18 |  |
| Analyte | CAS Number | Conc. (ng/L) | DL | LOD | LOQ | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| PFBA | 375-22-4 | 5.13 | 2.95 | 5.39 | 8.61 | J | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFPeA | 2706-90-3 | 9.79 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFBS | 375-73-5 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHxA | 307-24-4 | 10.8 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHpA | 375-85-9 | 9.53 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHxS | 355-46-4 | 23.6 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 6:2 FTS | 27619-97-2 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFOA | 335-67-1 | 28.5 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHpS | 375-92-8 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFNA | 375-95-1 | 53.9 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFOSA | 754-91-6 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFOS | 1763-23-1 | 13.3 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFDA | 335-76-2 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 8:2 FTS | 39108-34-4 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| MeFOSAA | 2355-31-9 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| EtFOSAA | 2991-50-6 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFUnA | 2058-94-8 | 4.65 | 2.95 | 5.39 | 8.61 | J | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFDS | 335-77-3 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFDoA | 307-55-1 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFTrDA | 72629-94-8 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFTeDA | 376-06-7 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| Labeled Standards | Type | \% Recovery |  | Limits |  | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| 13C3-PFBA | IS | 98.4 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C3-PFPeA | IS | 94.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C3-PFBS | IS | 102 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C2-PFHxA | IS | 94.2 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C4-PFHpA | IS | 92.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 1802-PFHxS | IS | 93.6 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C2-PFOA | IS | 84.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C5-PFNA | IS | 70.2 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C8-PFOSA | IS | 48.8 |  | 50-150 |  | H | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C8-PFOS | IS | 93.3 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C2-PFDA | IS | 63.6 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| d3-MeFOSAA | IS | 69.6 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |

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| Sample ID: FT-PZ463I-FRB-20180917 |  |  |  |  |  |  |  |  | PFAS Isotope Dilution Method |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Client Data  <br> Name: Tetra Tech <br> Project: NWIRP Calverton <br> SDG: \# WE05 |  | Matrix: Date C | d: | ter 13:00 |  | tory Data mple: eceived: | $\begin{aligned} & 1803078-1 \\ & \text { 18-Sep-18 } \end{aligned}$ | 09:55 | Column: | BEH C18 |  |
| Analyte | CAS Number | Conc. (ng/L) | DL | LOD | LOQ | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| PFBA | 375-22-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFPeA | 2706-90-3 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFBS | 375-73-5 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHxA | 307-24-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHpA | 375-85-9 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHxS | 355-46-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 6:2 FTS | 27619-97-2 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFOA | 335-67-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHpS | 375-92-8 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFNA | 375-95-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFOSA | 754-91-6 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFOS | 1763-23-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFDA | 335-76-2 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 8:2 FTS | 39108-34-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| MeFOSAA | 2355-31-9 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| EtFOSAA | 2991-50-6 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFUnA | 2058-94-8 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFDS | 335-77-3 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFDoA | 307-55-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFTrDA | 72629-94-8 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFTeDA | 376-06-7 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| Labeled Standards | Type | \% Recovery |  | Limits |  | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| 13C3-PFBA | IS | 101 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C3-PFPeA | IS | 97.9 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C3-PFBS | IS | 109 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C2-PFHxA | IS | 94.0 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C4-PFHpA | IS | 96.4 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 1802-PFHxS | IS | 104 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C2-PFOA | IS | 90.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C5-PFNA | IS | 74.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C8-PFOSA | IS | 38.9 |  | 50-150 |  | H | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C8-PFOS | IS | 94.9 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C2-PFDA | IS | 59.0 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| d3-MeFOSAA | IS | 67.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |

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APPENDIX C
SUPPORT DOCUMENTATION

## NWIRP CALVERTON

SDG 1803078

## SAMPLE ID <br> COMPOUND

## FT-PZ464I-20180917 (1803078-03)

PFNA

INTERNAL STANDARD (IS) CONCENTRATION
AREA
IS AREA
WEIGHT/VOLUME (WT)
0.11306
$y=$ AREA $*(I S C O N C / I S$ AREA $)$

INITIAL CALIBRATION CURVE $(y)=2.43776 E-005^{*} x^{\wedge} 2+1.07358^{*} x+0.0200697$
QUADRATIC EQUATION: $\quad x=\frac{-b \pm \sqrt{b^{2}-4 a c}}{2 a} \quad \mathrm{x}=\quad 11.09255849$
$2.43776 \mathrm{E}-05 * x^{\wedge} 2+1.07358 * x+0.0200697=11.93181818$
$2.43776 \mathrm{E}-05 \mathrm{x}^{\wedge} 2+1.07358^{*} \mathrm{x}-11.91174848=0$

Where:

| $a$ | $2.44 \mathrm{E}-05$ |
| :--- | ---: |
| b | 1.07358 |
| c | -11.91174848 |
| $b^{\wedge} 2-4 \mathrm{ac}$ | 1.153735536 |
| SQRT(b^2-4ac) | 1.07412082 |
|  |  |
| CONCENTRATION (x/WT) | $98.11213947 \mathrm{ng} / \mathrm{L}$ |
| REPORTED CONCENTRATION | $97.7 \mathrm{ng} / \mathrm{L}$ |

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: PFHpS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999917$
Calibration curve: $5.68869 e-005^{*} x^{\wedge} 2+0.840017^{*} x+-0.00313784$
Response type: Internal Std (Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Sta. Conc | RT | Area | IS Area | Pesponse | Conc: | $\%$ Dev | Conc. Flag | CoD | CoD fla | $x$-oxcluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 4.32 | 57.299 | 3497.765 | 0.205 | 0.2 | -1.0 | NO | 1.000 | NO | bb |
| 2 | 2 180921M2_3 | Standard | 0.500 | 4.31 | 136.321 | 3608.782 | 0.472 | 0.6 | 13.2 | NO | 1.000 | NO | bb |
| 3 | $3180921 \mathrm{M} 2 \_4$ | Standard | 1.000 | 4.32 | 207.275 | 3564.966 | 0.727 | 0.9 | -13.1 | NO | 1.000 | NO | bb |
| 4 | 4 180921M2_5 | Standard | 2.000 | 4.32 | 433.868 | 3483.791 | 1.557 | 1.9 | -7.2 | NO | 1.000 | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \_6$ | Standard | 5.000 | 4.32 | 1245.729 | 3555.873 | 4.379 | 5.2 | 4.3 | NO | 1.000 | NO | bb |
| 6 | 6180921 M 2 _7 | Standard | 10.000 | 4.32 | 2425.336 | 3483.118 | 8.704 | 10.4 | 3.6 | NO | 1.000 | NO | bb |
| 7. ${ }^{\text {\% }}$ | $7180921 \mathrm{M} 2 \_8$ | Standard | 50.000 | 4.32 | 12121.194 | 3548.718 | 42.696 | 50.7 | 1.3 | NO | 1.000 | NO | bb |
| 8 | $8180921 \mathrm{M} 2 \ldots 9$ | Standard | 100.000 | 4.32 | 24109.754 | 3602.021 | 83.667 | 98.9 | -1.1 | NO | 1.000 | NO | MM |
| 9 \% ${ }^{\text {athen }}$ | 9180921 M 2 _10 | Standard | 250.000 | 4.32 | 58130.211 | 3404.979 | 213.402 | 249.8 | -0.1 | NO | 1.000 | NO | bb |
| 10 | $10180921 \mathrm{M2}$ _11 | Standard | 500.000 | 4.32 | 108575.688 | 3124.142 | 434.422 | 500.2 | 0.0 | NO | 1.000 | NO | bb |

## Compound name: PFNA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999973$
Calibration curve: $2.43776 e-005{ }^{*} x^{\wedge} 2+1.07358{ }^{*} x+0.0200697$
Response type: Internal Std (Ref 45 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Name: 180921M2_79, Date: 22-Sep-2018, Time: 02:13:45, ID: 1803078-03 FT-PZ464I-20180917 0.11306, Description: FT-PZ464I-20180917

|  | \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 PFBA | 213.0 > 16... | 4.17 e 2 | 8.24e3 | 0.113 | 0.000 | 1.24 | 0.633 | 5.3400 |  |  |  |
| 2 | 2 PFPeA | 263.1 > $21 . .$. | 1.18 e 3 | 1.05 e 4 | 0.113 | 0.000 | 2.24 | 1.42 | 12.6038 |  |  |  |
| 3 | 3 PFBS | $299.0>79.7$ | 2.17 e 1 | 1.63 e 3 | 0.113 | 0.000 | 2.56 | 0.166 | 0.8241 |  | 2.38 | NO |
| 4 | 5 PFHxA | $313>269$ | 2.22 e 3 | 7.21 e3 | 0.113 | 0.000 | 3.05 | 1.54 | 13.3326 |  | 14.8 | NO |
| 5 | 7 PFHpA | $363.0>31 \ldots$ | 1.26 e 3 | 1.02 e 4 | 0.113 | 0.000 | 3.67 | 1.54 | 11.0813 |  | 13.0 | NO |
| 6 | 36 13C3-PFBA | $216.1>17 \ldots$ | 8.24 e 3 | 1.15 e 4 | 0.113 | 0.715 | 1.24 | 8.94 | 105.0207 | 95.0 |  |  |
| 7 | 37 13C3-PFPeA | 266. $>221.8$ | 1.05 e 4 | 2.04 e 4 | 0.113 | 0.514 | 2.25 | 6.42 | 104.3701 | 94.4 |  |  |
| 8 | 38 13C3-PFBS | 302. $>98.8$ | 1.63 e 3 | 3.10 e 3 | 0.113 | 0.527 | 2.55 | 6.58 | 115.4168 | 104.4 |  |  |
| 9 | 40 13C2-PFHxA | $315>270$ | 7.21 e 3 | 2.04 e 4 | 0.113 | 0.885 | 3.05 | 4.43 | 41.5081 | 93.9 |  |  |
| 10 | 41 13C4-PFHpA | 367.2 > 32... | 1.02 e 4 | 2.04 e 4 | 0.113 | 0.500 | 3.68 | 6.25 | 106.9876 | 96.8 |  |  |
| 11 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 8 L-PFHxS | $398.9>79.6$ | 4.99 e 2 | 1.36 e 3 | 0.113 | 0.000 | 3.83 | 4.60 | 23.5488 |  | 1.65 | NO |
| 13 | 68 Total PFHxS | $398.9>79.6$ | 4.99 e 2 | 1.36 e 3 | 0.113 |  |  | 4.60 | 23.5488 |  |  |  |
| 14 | 10 6:2 FTS | 427.1 > 407 |  | 1.82 e 3 | 0.113 |  |  |  |  |  |  |  |
| 15 | 11 L-PFOA | $412.8>36 \ldots$ | 7.25 e 3 | 1.68 e 4 | 0.113 | 0.000 | 4.20 | 5.39 | 32.1995 |  | 3.38 | NO |
| 16 | 69 Total PFOA | $412.8>36 \ldots$ | 7.89 e 3 | 1.68 e 4 | 0.113 |  |  | 5.86 | 34.2782 |  |  |  |
| 17 | 42 18O2-PFHxS | 403.0 > 10... | 1.36 e 3 | 3.10 e 3 | 0.113 | 0.437 | 3.83 | 5.46 | 106.4707 | 96.3 |  |  |
| 18 | 42 18O2-PFHxS | 403.0 > 10... | 1.36 e 3 | 3.10 e 3 | 0.113 | 0.437 | 3.83 | 5.46 | 106.4707 | 96.3 |  |  |
| 19 | 43 13C2-6:2 FTS | 429.1 > 40... | 1.82 e 3 | 3.21 e 3 | 0.113 | 0.567 | 4.14 | 7.09 | 86.9586 | 78.7 |  |  |
| 20 | 44 13C2-PFOA | $414.9>36 \ldots$ | 1.68 e 4 | 2.83 e 4 | 0.113 | 0.595 | 4.20 | 7.43 | 99.0251 | 89.6 |  |  |
| 21 | 44 13C2-PFOA | $414.9>36 \ldots$ | 1.68 e 4 | 2.83 e 4 | 0.113 | 0.595 | 4.20 | 7.43 | 99.0251 | 89.6 |  |  |
| 22 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 23 | 13 PFHpS | $449>80.0$ | 9.18 e 0 | 3.35 e 3 | 0.113 | 0.000 | 4.34 | 0.0343 | 0.3941 |  | 6.84 | YES |
| 24 | 14 PFNA | $463.0>41 \ldots$ | 1.47 e 4 | 1.54 e 4 | 0.113 | 0.000 | 4.64 | 11.9 | 97.6946 |  | 4.28 | NO |
| 25 | 15 PFOSA | $497.9>77.9$ |  | 1.96 e 3 | 0.113 |  |  |  |  |  |  |  |
| 26 | 16 L-PFOS | $498.9>79.9$ | 4.57 e 2 | 3.35 e 3 | 0.113 | 0.000 | 4.73 | 1.71 | 14.9506 |  | 1.84 | NO |
| 27 | 70 Total PFOS | $498.9>79.9$ | 4.57 e 2 | 3.35 e 3 | 0.113 |  |  | 1.71 | 14.9506 |  |  |  |
| 28 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 29 | 45 13C5-PFNA | $468.2>42 \ldots$ | 1.54 e 4 | 2.02 e 4 | 0.113 | 0.765 | 4.64 | 9.56 | 87.5738 | 79.2 |  |  |
| 30 | 46 13C8-PFOSA | $506.1>77.7$ | 1.96 e 3 | 2.73 e 4 | 0.113 | 0.0719 | 4.70 | 0.899 | 58.0649 | 52.5 |  |  |
| 31 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 32 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 33 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 34 | 18 PFDA | $513>468.8$ | 3.76 e 2 | 1.36 e 4 | 0.113 | 0.000 | 5.02 | 0.344 | 2.2482 |  | 6.32 | NO |
| 35 | 19 8:2 FTS | $527>506.9$ |  | 1.53 e 3 | 0.113 |  |  |  |  |  |  |  |
| 36 | 21 L-MeFOSAA | $570>419$ |  | 4.25 e 3 | 0.113 |  |  |  |  |  |  |  |
| 37 |  | 570. $>419$ | 0.00e0 | 4.25 e 3 | 0.113 |  |  | 0.000 |  |  |  |  |

Monday, September 24, 2018 10:00:06 Pacific Daylight Time

## Name: 180921M2_79, Date: 22-Sep-2018, Time: 02:13:45, ID: 1803078-03 FT-PZ464I-20180917 0.11306, Description: FT-PZ464I-20180917

|  | \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | 25 PFUdA | 563.0 > 51... | 8.19 e 2 | 1.83 e 4 | 0.113 | 0.000 | 5.35 | 0.561 | 4.7340 |  | 11.1 | YES |
| 39 | 48 13C2-PFDA | $515.1>46$... | 1.36 e 4 | 2.04 e 4 | 0.113 | 0.669 | 5.02 | 8.36 | 79.3180 | 71.7 |  |  |
| 40 | 49 13C2-8:2 FTS | $529.1>50 \ldots$ | 1.53 e 3 | 3.21 e 3 | 0.113 | 0.477 | 4.99 | 5.96 | 92.9032 | 84.0 |  |  |
| 41 | $50 \mathrm{~d} 3-\mathrm{N}-\mathrm{MeFOSAA}$ | $573.3>419$ | 4.25 e 3 | 2.73 e 4 | 0.113 | 0.156 | 5.17 | 1.95 | 85.3949 | 77.2 |  |  |
| 42 | $50 \mathrm{~d} 3-\mathrm{N}-\mathrm{MeFOSAA}$ | $573.3>419$ | 4.25 e3 | 2.73 e4 | 0.113 | 0.156 | 5.17 | 1.95 | 85.3949 | 77.2 |  |  |
| 43 | 51 13C2-PFUdA | $565>519.8$ | 1.83 e 4 | 2.73 e 4 | 0.113 | 0.670 | 5.35 | 8.37 | 80.6703 | 73.0 |  |  |
| 44 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 45 | 23 L-EtFOSAA | $584.1>419$ |  | 4.86 e 3 | 0.113 |  |  |  |  |  |  |  |
| 46 | 72 Total N-EtFOSAA | $584.1>419$ | 0.00e0 | 4.86 e 3 | 0.113 |  |  | 0.000 |  |  |  |  |
| 47 | 26 PFDS | $598.8>79.9$ |  | 3.35 e 3 | 0.113 |  |  |  |  |  |  |  |
| 48 | 27 PFDoA | $612.9>56 \ldots$ |  | 1.71 e 4 | 0.113 |  |  |  |  |  |  |  |
| 49 | 29 PFTrDA | $662.9>61$... |  | 1.71 e 4 | 0.113 |  |  |  |  |  |  |  |
| 50 | $52 \mathrm{d5}-\mathrm{N}$-EtFOSAA | $589.3>419$ | 4.86 e 3 | 2.73 e4 | 0.113 | 0.178 | 5.33 | 2.23 | 86.8960 | 78.6 |  |  |
| 51 | $52 \mathrm{~d} 5-\mathrm{N}$-EtFOSAA | $589.3>419$ | 4.86 e 3 | 2.73 e 4 | 0.113 | 0.178 | 5.33 | 2.23 | 86.8960 | 78.6 |  |  |
| 52 | 51 13C2-PFUdA | $565>519.8$ | 1.83 e 4 | 2.73 e 4 | 0.113 | 0.670 | 5.35 | 8.37 | 80.6703 | 73.0 |  |  |
| 53 | 53 13C2-PFDoA | $615.0>56 \ldots$ | 1.71 e 4 | 2.04 e 4 | 0.113 | 0.838 | 5.63 | 10.5 | 84.9411 | 76.8 |  |  |
| 54 | 53 13C2-PFDoA | $615.0>56 \ldots$ | 1.71 e 4 | 2.04 e 4 | 0.113 | 0.838 | 5.63 | 10.5 | 84.9411 | 76.8 |  |  |
| 55 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 56 | 30 PFTeDA | $712.8>66 \ldots$ | 3.71 e 1 | 1.36 e 4 | 0.113 | 0.000 | 6.10 | 0.0342 |  |  | 129 | YES |
| 57 | 73 TCDA | $498.3>106.9$ |  |  | 0.113 |  |  |  |  |  |  |  |
| 58 | 60 13C4-PFBA | 217. $>172$ | 1.15e4 | 1.15 e 4 | 0.113 | 1.00 | 1.25 | 12.5 | 110.5608 | 100.0 |  |  |
| 59 | 61 13C5-PFHxA | $318>272.9$ | 2.04 e 4 | 2.04 e 4 | 0.113 | 1.00 | 3.05 | 12.5 | 110.5608 | 100.0 |  |  |
| 60 | 62 13C3-PFHxS | $401.8>79.9$ | 3.10 e 3 | 3.10 e 3 | 0.113 | 1.00 | 3.83 | 12.5 | 110.5608 | 100.0 |  |  |
| 61 | 55 13C2-PFTeDA | $714.8>66 \ldots$ | 1.36 e 4 | 2.73 e 4 | 0.113 | 0.497 | 6.10 | 6.21 | 93.6141 | 84.7 |  |  |
| 62 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 63 | 63 13C8-PFOA | $420.9>376$ | 2.83 e 4 | 2.83 e 4 | 0.113 | 1.00 | 4.20 | 12.5 | 110.5608 | 100.0 |  |  |
| 64 | 64 13C9-PFNA | $472.2>42 \ldots$ | 2.02 e 4 | 2.02 e 4 | 0.113 | 1.00 | 4.64 | 12.5 | 110.5608 | 100.0 |  |  |
| 65 | 65 13C4-PFOS | $503>79.9$ | 3.21 e 3 | 3.21 e 3 | 0.113 | 1.00 | 4.73 | 12.5 | 110.5608 | 100.0 |  |  |
| 66 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 67 | 66 13C6-PFDA | $519.1>47 \ldots$ | 2.04 e 4 | 2.04 e 4 | 0.113 | 1.00 | 5.02 | 12.5 | 110.5608 | 100.0 |  |  |
| 68 | $67.13 C 7-P F U d A$ | $570.1>52 \ldots$. | 2.73 e4 | 2.73 e 4 | 0.113 | 1.00 | 5.35 | 12.5 | 110.5608 | 100.0 |  |  |

Analytical Laboratory


Container Types: $\mathrm{P}=$ HDPE, $\mathrm{PJ}=$ HDPE Jar $\mathrm{O}=\mathrm{Other}$ :

Bottle Preservation Type: $T=$ Thiosulfate, TZ = Trizma: $\qquad$

Matrix Types: $\mathrm{AQ}=$ Aqueous, $\mathrm{DW}=$ Drinking Water, $\mathrm{EF}=$ Effluent, $\mathrm{PP}=$ Pulp/Paper, $\mathrm{SD}=$ Sediment, $S L=$ Sludge, $S O=$ Soil, $W W=$ Wastewater, $B=$ Blood/Serum, $O=$ Other:

Sample Log in Checklist


| Section 1: Container Receipt |  |  |  |
| :---: | :---: | :---: | :---: |
| Delivered By: ¢¢F FedEx $\square$ UPS $\square$ On Trac $\square$ GSO $\square$ DHL $\square$ Hand Delivered $\square$ Other: |  |  |  |
| Number of Containers | Arrival Date | Arrival time | Cooler Received LR-SLC Initiated By/Date |
| 1 | $9 / 18 / 18$ | 0955 | YRSB 9/18/18 |


| Section 2: Sample Receipt Condition and Initial Storage |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Container Condition C | Chain of Custody | Preservation Type | Temperature | Storage Location | Initials/ Date |
| * Shipping container intact <br> * Shipping seals intact <br> $\$$ Custody Seals present <br> 4 Custody seals intact | $X$ cOC present <br> $\square$ Multiple <br> COC's: <br>  <br>  <br> $\square$ "Relinquished <br> By" Section <br> Complete | Xice <br> $\square$ Blue Ice <br> $\square$ Dry Ice <br> $\square$ Other | Thermometer ID: IR-4 $\square$ Probe used Temp (uncorrected): $\frac{1.1}{\circ}{ }^{\circ} \mathrm{C}$ Temp (corrected): $1.0^{\circ} \mathrm{C}$ | XWR2 <br> -WF2 <br> $\square N A$ | MAB $9 / 18 / 8$ |



# Chain of Custody Anomaly/Sample Acceptance Form 

Client: Tetra Tech
Workorder Number: 1803078
Contact: Ernie Wu
Email: Ernie.Wu@tetratech.com
Phone: (757) 466-4901
Date Received: 18-Sep-18 09:55
Documented by/date: K. Elric 09/24/18

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Meier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

$\left.\begin{array}{lll|l}\square & \text { Complete Chain-of-Custody } & \square & \text { Preservative }\end{array}\right)$| Collector's Name |
| :--- |
| Test Method Requested |

The following anomalies were noted. Authorization is needed to proceed with analysis.


Samples Affected:
Temperature $\qquad$ ${ }^{\circ} \mathrm{C} \quad$ Ice Present?

Yes
No Melted


Sample ID Discrepancy
Sample Holding Time Missed
Custody Seals Broken


Insufficient Sample Size
Sample Container (s) Broken
Incorrect Container Type

## Comments:

COC does not have sample collection times.
Container labels collection times were used for $\log \mathrm{in}$.


## SDG Number \# WE05

## Vista Work Order No. 1803078

Case Narrative

## Sample Condition on Receipt:

Three groundwater 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. The sample collection times were not listed on the CoC and were reported using information from the sample container labels.

## Analytical Notes:

## PFAS Isotope Dilution Method

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method (Modified EPA Method 537). The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

## 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 Method Blank and Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above $1 / 2$ of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

| LabNumber | SampleName | Analysis | Analyte | Flag |
| :--- | :--- | :--- | :--- | :--- |
| $1803078-01$ | FT-PZ463I-20180917 | PFAS Isotope Dilution Method | 13C8-PFOSA | H |
| $1803078-02$ | FT-PZ463I-FRB-20180917 | PFAS Isotope Dilution Method | 13C8-PFOSA | 48.8 |
| B8I0142-BLK1 | B8I0142-BLK1 | PFAS Isotope Dilution Method | 13C8-PFOSA | 38.9 |
| B8I0142-BS1 | B8I0142-BS1 | PFAS Isotope Dilution Method | 13C8-PFOSA | H |
| B8I0142-BSD1 | B8I0142-BSD1 | PFAS Isotope Dilution Method | 13C8-PFOSA | H |

$\mathrm{H}=$ Recovery was outside laboratory 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.

- Martha Wares _, as the designated Qualty Assurance Offcer, hereby attest that 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) 673-15 0 ) If there are any questions or problems with the enclosed electronic deliverábles.

Revision 9
ISG
08/18/16

## DATA QUALIFIERS \& ABBREVIATIONS

B This compound was also detected in the method blank
Conc. Concentration
D Dilution
DL Detection limit
E The associated compound concentration exceeded the calibration range of the instrument

H Recovery and/or RPD was outside laboratory acceptance limits
Chemical Interference
J The amount detected is below the Reporting Limit/LOQ
LOD Limits of Detection
LOQ Limits of Quantitation
M Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA Not applicable
ND Not Detected

Q Ion ratio outside of $\mathbf{7 0 - 1 3 0 \%}$ of Standard Ratio. (DOD PFAS projects only)
TEQ Toxic Equivalency
U Not Detected (specific projects only)

* See Cover Letter

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

## Sample Inventory Report

| Vista <br> Sample ID | Client <br> Sample ID | Sampled | Received | Components/Containers |
| :--- | :--- | :--- | :--- | :--- |
| 1803078-01 | FT-PZ463I-20180917 | 17-Sep-18 13:00 | 18-Sep-18 09:55 | HDPE Bottle, 125 mL |
| $1803078-02$ | FT-PZ463I-FRB-20180917 |  |  | HDPE Bottle, 125 mL |
| $1803078-03$ | FT-PZ464I-20180917 | 17-Sep-18 13:00 | 18-Sep-18 09:55 | HDPE Bottle, 125 mL |
|  |  |  |  | HDPE Bottle, 125 mL |
|  |  |  |  | HDPE Bottle, 125 mL |
|  |  |  | HDPE Bottle, 125 mL |  |


| Sample ID: FT-PZ463I-20180917 |  |  |  |  |  |  |  |  | PFAS Isotope Dilution Method |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Client Data  <br> Name: Tetra Tech <br> Project: NWIRP Calverton <br> SDG: \# WE05 |  | Matrix <br> Date | d: | ter 13:00 |  | tory Data mple: eceived: | $\begin{aligned} & 1803078-1 \\ & \text { 18-Sep-18 } \end{aligned}$ | 09:55 | Column: | BEH C18 |  |
| Analyte | CAS Number | Conc. (ng/L) | DL | LOD | LOQ | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| PFBA | 375-22-4 | 5.13 | 2.95 | 5.39 | 8.61 | J | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFPeA | 2706-90-3 | 9.79 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFBS | 375-73-5 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHxA | 307-24-4 | 10.8 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHpA | 375-85-9 | 9.53 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHxS | 355-46-4 | 23.6 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 6:2 FTS | 27619-97-2 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFOA | 335-67-1 | 28.5 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFHpS | 375-92-8 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFNA | 375-95-1 | 53.9 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFOSA | 754-91-6 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFOS | 1763-23-1 | 13.3 | 2.95 | 5.39 | 8.61 |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFDA | 335-76-2 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 8:2 FTS | 39108-34-4 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| MeFOSAA | 2355-31-9 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| EtFOSAA | 2991-50-6 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFUnA | 2058-94-8 | 4.65 | 2.95 | 5.39 | 8.61 | J | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFDS | 335-77-3 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFDoA | 307-55-1 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFTrDA | 72629-94-8 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| PFTeDA | 376-06-7 | ND | 2.95 | 5.39 | 8.61 | U | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| Labeled Standards | Type | \% Recovery |  | Limits |  | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| 13C3-PFBA | IS | 98.4 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C3-PFPeA | IS | 94.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C3-PFBS | IS | 102 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C2-PFHxA | IS | 94.2 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C4-PFHpA | IS | 92.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 1802-PFHxS | IS | 93.6 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C2-PFOA | IS | 84.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C5-PFNA | IS | 70.2 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C8-PFOSA | IS | 48.8 |  | 50-150 |  | H | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C8-PFOS | IS | 93.3 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| 13C2-PFDA | IS | 63.6 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |
| d3-MeFOSAA | IS | 69.6 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.116 L | 22-Sep-18 01:52 | 1 |


| Sample ID: FT-PZ463I-FRB-20180917 |  |  |  |  |  |  |  |  | PFAS Isotope Dilution Method |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Client Data  <br> Name: Tetra Tech <br> Project: NWIRP Calverton <br> SDG: \# WE05 |  | Matrix: Date C | d: | ter 13:00 |  | tory Data mple: eceived: | $\begin{aligned} & 1803078-1 \\ & \text { 18-Sep-18 } \end{aligned}$ | 09:55 | Column: | BEH C18 |  |
| Analyte | CAS Number | Conc. (ng/L) | DL | LOD | LOQ | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| PFBA | 375-22-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFPeA | 2706-90-3 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFBS | 375-73-5 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHxA | 307-24-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHpA | 375-85-9 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHxS | 355-46-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 6:2 FTS | 27619-97-2 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFOA | 335-67-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFHpS | 375-92-8 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFNA | 375-95-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFOSA | 754-91-6 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFOS | 1763-23-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFDA | 335-76-2 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 8:2 FTS | 39108-34-4 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| MeFOSAA | 2355-31-9 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| EtFOSAA | 2991-50-6 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFUnA | 2058-94-8 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFDS | 335-77-3 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFDoA | 307-55-1 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFTrDA | 72629-94-8 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| PFTeDA | 376-06-7 | ND | 2.91 | 5.30 | 8.49 | U | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| Labeled Standards | Type | \% Recovery |  | Limits |  | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| 13C3-PFBA | IS | 101 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C3-PFPeA | IS | 97.9 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C3-PFBS | IS | 109 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C2-PFHxA | IS | 94.0 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C4-PFHpA | IS | 96.4 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 1802-PFHxS | IS | 104 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C2-PFOA | IS | 90.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C5-PFNA | IS | 74.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C8-PFOSA | IS | 38.9 |  | 50-150 |  | H | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C8-PFOS | IS | 94.9 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| 13C2-PFDA | IS | 59.0 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |
| d3-MeFOSAA | IS | 67.8 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.118 L | 22-Sep-18 02:03 | 1 |

Process Sheet
Workorder: 1803078

Prep Expiration: 2018-Oct-01
Client: Tetra Tech
Method: 537M PFAS DOD (LOQ as mRS)
Matrix: Aqueous

Version: Bethpage (21 Analyses)
DoD: DoD QSM 5.1


TAT: 7
Prep Batch:


Prep Data Entered:


Initial Sequence: $\qquad$
Comments
Location
Container
WR-2 E-4 HDPE Bottle, 125 mL
WR-2 E-4 HDPE Bottle, 125 mL
WR-2 E-4 HDPE Bottle, 125 mL

## WO Comments: Provide all analytical runs. MS/MSD per batch, if MS/MSD is not provided - LCS/LCSD.

Pre-Prep Check Out: JR $9 / 20 / 18$ Prep Check Out: $\quad$ NA
Pre-Prep Check In: $\qquad$ NA

Prep Check In: $\qquad$

Prep Reconciled Initals/Date: Spike Reconciled Initals/Date
 VialBoxID: $\qquad$

# PREPARATION BENCH SHEET 

Matrix: Aqueous
B8I0142
Method: 537M PFAS DOD (LOQ as mRL)
-

Chemist: JR
Prep Date: $9 / 20 / 18$
Prep Time: 1005

| Datelnitas: $3 / 20 / \sqrt{5}-7$ |  |  |  |  |  | Balancel: HRMS 10 |  |  |  | SPE | $\begin{gathered} \text { RS } \\ \substack{\text { CHEM/WIT } \\ \text { DATE }} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cen | VISTA Sample ID | $\left\lvert\, \begin{aligned} & \mathrm{pH} \\ & \text { Before } \end{aligned}\right.$ | $\underset{\text { After }}{\substack{\text { Aft }}}$ | Chlorine <br> (Cl) | Drops HCl ${ }^{\mathrm{HCl}}$ Added | Bottle <br> Sample <br> (g) |  | $\begin{gathered} \text { Sample } \\ \text { Amt. } \\ \underbrace{\text { LI) }} \text { ghalde } \end{gathered}$ | $\begin{gathered} \text { ISNS } \\ \text { CHEM/WIT } \\ \text { DATE } \end{gathered}$ |  |  |
| $\square$ | B810142-BLK1 | 5 | 2 | $\varnothing$ | 2 | NA | NA | (0.125) | $18-1$ | 18. 9200/6 | se iy gropie |
| $\square$ | B810142-BSI | 5 | 2 | $\gamma$ | 2 | T | T | (0.125) | / T | T | - |
| $\square$ | B810142-BSDI | 5 | 2 | $\varnothing$ | 2 | $\downarrow$ | $\downarrow$ | (0.125) |  |  |  |
| $\square$ | 1803078-01 | 7 | 2 | $\varnothing$ | 2 | 142.76 | 26.57 | 0.1619 |  |  |  |
| $\square$ | 1803078-02 | 7 | 2 | $\theta$ | 2 | 144.38 | 26.66 | 0.11772 |  |  |  |
| $\square$ | 1803078-03 | 7 | 2 | $\varnothing$ | 2 | 139.76 | 26.70 | 0.113061 | $\downarrow$ | $\downarrow$ | $v$ |


| Is: $18 \mathrm{H} 1301,10 \mu(\sqrt{s})$ | SPE Chem: Strata $x-A W 33 \mathrm{~cm} \frac{200 \mathrm{mg}}{6 \mathrm{~mL}}$ | Notes: |
| :---: | :---: | :---: |
| IS SUP: NA | Ele SOLV: MeOt/O. S\& NHyOH in McOIt |  |
| NS: $18 \mathrm{HI} 304,10 \mu \mathrm{~L}(\sqrt{2})$ | Final Volume(s) $\qquad$ 1 mL |  |
| RS: $18 \mathrm{H} 1302,10 \mu 2(\mathrm{~V})$ |  |  |

## Internal Chain of Custody 1803078

Project Number: NWIRP Calverton
Received: 18-Sep-18 09:55

Analytical Laboratory
Received By: Bettina Benedict

|  |  | Sample |  |  |  | Extract |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vista <br> Sample ID | Bottle | Initials Date/Time | Initials Date/Time | Initials Date/Time <br> New Location | Initials Date/Time <br> New Location | Initials Date/Time | Initials Date/Time |
|  |  | New Location | New Location |  |  | New Location | New Location |
| 1803078-01 | "A"F | JR 9/20/18 1000 | JR 9/20/Es 1500 |  |  | JR 9/2ile 070 | ${ }^{2} C \quad 9 / 21 / 18,0923$ |
|  |  | Prep Labl | R-7 Consumed |  |  | Preplat 2 | i2-7 viated |
| 1803078-02 |  | T |  |  |  | T | $T$ |
|  |  |  |  |  |  |  |  |
| 1803078-03 |  |  |  |  |  |  |  |
|  | $\checkmark$ | $\downarrow$ | $\downarrow$ |  |  | $\downarrow$ | $\downarrow$ |

## Batch: B8I0142

## Matrix: Aqueous

| LabNumber | WetWeight (Initial) | $\begin{gathered} \text { \% Solids } \\ \text { (Extraction Solids) } \end{gathered}$ | DryWeight | Final | Extracted | Ext By | Spike | SpikeAmount | ClientMatrix | Analysis |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1803078-01 | 0.11619 V | $\triangle \int A$ | NA | 1000 | 20-Sep-18 10:05 | JMR |  |  | Groundwater | 537M PFAS DOD (LOQ as |
| 1803078-02 | 0.11772 |  | T | 1000 | 20-Sep-18 10:05 | JMR |  |  | Groundwater | 537M PFAS DOD (LOQ as |
| 1803078-03 | $0.11306 \checkmark$ |  |  | 1000 | 20-Sep-18 10:05 | JMR |  |  | Groundwater | 537M PFAS DOD (LOQ as |
| B8I0142-BLK1 | $0.125 \sim$ |  |  | 1000 | 20-Sep-18 10:05 | JMR |  |  |  | QC |
| B810142-BS1 | $0.125 \checkmark$ |  |  | 1000 | 20-Sep-18 10:05 | JMR | 18H1304 | $10 \checkmark$ |  | QC |
| B8I0142-BSD1 | $0.125 \checkmark$ | $\downarrow$ | $\checkmark$ | 1000 | 20-Sep-18 10:05 | JMR | 18H1304 | 10 $\nearrow$ |  | QC |
|  |  |  |  |  |  |  | $2$ | $3 / 2111$ |  |  |


| Sample ID: Method Blank |  |  |  |  |  |  |  |  | PFAS Isotope Dilution Method |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Client Data  <br> Name: Tetra Tech <br> Project: NWIRP Calverton |  | Matrix: |  |  |  | tory Data mple: | B8I0142- |  | Column: | BEH C18 |  |
| Analyte | CAS Number | Conc. (ng/L) | DL | LOD | LOQ | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| PFBA | 375-22-4 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFPeA | 2706-90-3 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFBS | 375-73-5 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFHxA | 307-24-4 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFHpA | 375-85-9 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFHxS | 355-46-4 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 6:2 FTS | 27619-97-2 | ND | 2.74 | 5.00 | 8.00 | U | B810142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFOA | 335-67-1 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFHpS | 375-92-8 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFNA | 375-95-1 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFOSA | 754-91-6 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFOS | 1763-23-1 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFDA | 335-76-2 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 8:2 FTS | 39108-34-4 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| MeFOSAA | 2355-31-9 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| EtFOSAA | 2991-50-6 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFUnA | 2058-94-8 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFDS | 335-77-3 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFDoA | 307-55-1 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFTrDA | 72629-94-8 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| PFTeDA | 376-06-7 | ND | 2.74 | 5.00 | 8.00 | U | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| Labeled Standards | Type | \% Recovery |  | Limits |  | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| 13C3-PFBA | IS | 99.1 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C3-PFPeA | IS | 97.3 |  | 50-150 |  |  | B810142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C3-PFBS | IS | 109 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C2-PFHxA | IS | 94.1 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C4-PFHpA | IS | 94.4 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 1802-PFHxS | IS | 98.7 |  | 50-150 |  |  | B810142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C2-PFOA | IS | 90.1 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C5-PFNA | IS | 77.9 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C8-PFOSA | IS | 40.7 |  | 50-150 |  | H | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C8-PFOS | IS | 99.7 |  | 50-150 |  |  | B810142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C2-PFDA | IS | 64.7 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| d3-MeFOSAA | IS | 68.4 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| d5-EtFOSAA | IS | 67.9 |  | 50-150 |  |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |

Analytical Laboratory

| Sample ID: Method Blank |  |  |  |  |  |  | PFAS Isotope Dilution Method |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Client Data  <br> Name: Tetra Tech <br> Project: NWIRP Calverton |  | Matrix: | Aqueous | Laboratory Data Lab Sample: | B8I0142-E |  | Column: | BEH C18 |  |
| Labeled Standards | Type | \% Recovery | Limits | Qualifiers | Batch | Extracted | Samp Size | Analyzed | Dilution |
| 13C2-PFUnA | IS | 62.4 | 50-150 |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C2-PFDoA | IS | 59.4 | 50-150 |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| 13C2-PFTeDA | IS | 72.2 | 50-150 |  | B8I0142 | 20-Sep-18 | 0.125 L | 22-Sep-18 01:20 | 1 |
| DL - Detection Limit L | $\begin{aligned} & \text { LOD - Limit of Detection } \\ & \text { LOQ - Limit of quantitation } \end{aligned}$ | 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. |  |  |  |  |  |



Work Order 1803078
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Analytical Laboratory


Method: F:IProjects\PFAS.PRO\MethDB\PFAS_FULL_80C_092118.mdb 22 Sep 2018 10:43:01 Calibration: F:IProjects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_09-21-18.cdb $22 \operatorname{Sep} 2018$ 10:41:06

## Compound name: PFBA

|  | \# Name | 1 D | Acq.Date | Acq. Time |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_1 | IPA | 21-Sep-18 | 12:26:16 |  |
| 2 | 2 180921M2_2 | ST180921M2-1 PFC CS-2 1811701 | 21-Sep-18 | 12:36:52 |  |
| 3 | 3 180921M2_3 | ST180921M2-2 PFC CS-1 1811702 | 21-Sep-18 | 12:47:30 |  |
| 4 | 4 180921M2_4 | ST180921M2-3 PFC CSO 1811703 | 21-Sep-18 | 12:58:03 |  |
| 5 | $5180921 \mathrm{M}_{2}{ }^{5}$ | ST180921M2-4 PFC CS1 1811704 | 21-Sep-18 | 13:08:41 |  |
| 6 | 6180921 M 2 _6 | ST180921M2-5 PFC CS2 1811705 | 21-Sep-18 | 13:19:15 |  |
| 7 | 7 180921M2_7 | ST 180921M2-6 PFC CS3 1811706 | 21-Sep-18 | 13:29:54 |  |
| 8 | 8 180921M2_8 | ST180921M2-7 PFC CS4 1811707 | 21-Sep-18 | 13:40:32 |  |
| 9 | 9 180921M2_9 | ST180921M2-8 PFC CS5 1811708 | 21-Sep-18 | 13:51:05 |  |
| 10 | 10 180921M2_10 | ST180921 M2-9 PFC CS6 1811709 | 21-Sep-18 | 14:01:44 |  |
| 11 | 11 180921M2_11 | ST180921M2-10 PFC CS7 1811710 | 21-Sep-18 | 14:12:16 |  |
| 12 | 12 180921M2_12 | IPA | 21-Sep-18 | 14:22:55 |  |
| 13 | 13 180921M2_13 | ICV180921M2-1 PFC ICV 1811711 | 21-Sep-18 | 14:33:28 |  |
| 14 | 14 180921M2_14 | 1802928-01 REEPDW1314 0.11375 | 21-Sep-18 | 14:44:09 |  |
| 15 | 15 180921M2_15 | 1802928-02 REEPDW1315 0.1105 | 21-Sep-18 | 14:54:45 |  |
| 16 | 16 180921M2_16 | 1802928-03 REEPDW1316 0.1167 | 21-Sep-18 | 15:05:23 |  |
| 17 | 17 180921M2_17 | B8H0237-BLK1 Method Blank 1 | 21-Sep-18 | 15:16:38 |  |
| 18 | 18 180921M2_18 | B8H0237-BS1 OPR 1 | 21-Sep-18 | 15:27:15 |  |
| 19 | 19 180921M2_19 | B8H0237-MS1 Matrix Spike 1.35 | 21-Sep-18 | 15:37:48 |  |
| 20 | 20 180921M2_20 | B8H0237-MSD1 Matrix Spike Dup 1.36 | 21-Sep-18 | 15:48:27 |  |
| 21. | 21 180921M2_21 | 1802726-01 DPT-10 (1.5-2.2) 1.09 | 21-Sep-18 | 15:59:00 |  |
| 22 | 22 180921M2_22 | 1802726-02 DPT-09 (0-1.2) 1.34 | 21-Sep-18 | 16:09:39 |  |
| 23 | 23 180921M2_23 | 1802726-03 DPT-09 (6.9-7.9) 1.13 | 21-Sep-18 | 16:20:12 |  |
| 24 | 24 180921M2_24 | 1802726-04 DPT-08 (1-2) 1.36 | 21-Sep-18 | 16:30:50 |  |
| 25 | 25 180921M2_25 | 1802726-05 DPT-08 (4.1-5.1) 1.24 | 21-Sep-18 | 16:41:24 |  |
| 26 | 26 180921M2_26 | 1802726-06 DPT-07 (0-1) 1.26 | 21-Sep-18 | 16:52:02 |  |
| 27 | 27 180921M2_27 | 1802726-07 DPT-08 (cover) 1.16 | 21-Sep-18 | 17:02:35 |  |
| 28 | 28 180921M2_28 | IPA | 21-Sep-18 | 17:13:14 |  |
| 29 | 29 180921M2_29 | ST180921M2-11 PFC CS3 1811716 | 21-Sep-18 | 17:23:52 |  |
| 30 | $30180921 \mathrm{M} 2 \_30$ | 1802726-08 DPT-05 (5-6) 1.4 | 21-Sep-18 | 17:34:25 |  |
| 31 | 31 180921M2_31 | 1802726-09 DPT-05 (8-9) 1.23 | 21-Sep-18 | 17:45:04 |  |
| 32 | 32 180921M2_32 | 1802726-10 DPT-03 (0-1) 1.12 | 21-Sep-18 | 17:55:37 |  |

Last Altered: $\quad$ Saturday, September 22, 2018 17:07:24 Pacific Daylight Time

## Printed:

Saturday, September 22, 2018 17:07:32 Pacific Daylight Time

## Compound name: PFBA



| Dataset: | Untitled |
| :--- | :--- |
|  |  |
| Last Altered: | Saturday, September 22, 2018 17:07:24 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 17:07:32 Pacific Daylight Time |

## Compound name: PFBA



## Dataset: <br> Untitled

Last Altered: $\quad$ Saturday, September 22, 2018 17:07:24 Pacific Daylight Time
Printed: Saturday, September 22, 2018 17:07:32 Pacific Daylight Time

## Compound name: PFBA



Quantify Sample Summary Report
Vista Analytical Laboratory
Dataset: F:\Projects\PFAS.PRO\Results\180921M2\180921M2-IIS AREAS_2.qld
Last Altered: $\quad$ Saturday, September 22, 2018 12:50:49 Pacific Daylight Time Printed: $\quad$ Saturday, September 22, 2018 12:51:28 Pacific Daylight Time

Name: 180921M2_75, Date: 22-Sep-2018, Time: 01:31:21, ID: B8I0142-BS1 OPR 0.125, Description: OPR

|  | \# Name | ID | Area | \%Rec | Area Out |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 13C4-PFBA | B8I0142-BS1 OPR 0.125 | 1.14 e 4 | 104.1 | NO |
| 2 | 2 13C5-PFHxA | B8I0142-BS1 OPR 0.125 | 2.05 e 4 | 85.3 | NO |
| 3 | 3 13C3-PFHxS | B8I0142-BS1 OPR 0.125 | 2.90 e 3 | 82.0 | NO |
| 4 | 4 13C8-PFOA | B8I0142-BS1 OPR 0.125 | 2.85 e 4 | 87.5 | NO |
| 5 | 5 13C9-PFNA | B8I0142-BS1 OPR 0.125 | 2.02 e 4 | 91.5 | NO |
| 6 | 6 13C4-PFOS | B8I0142-BS1 OPR 0.125 | 3.12 e 3 | 96.0 | NO |
| 7 | 7 13C6-PFDA | B8I0142-BS1 OPR 0.125 | 1.90 e 4 | 90.4 | NO |
| 8 | 8 13C7-PFUdA | B8I0142-BS1 OPR 0.125 | 2.54 e 4 | 87.1 | NO |

Name: 180921M2_76, Date: 22-Sep-2018, Time: 01:41:55, ID: B8I0142-BSD1 LCSD 0.125, Description: LCSD

|  | \# Name | ID | Area | \%Rec | Area Out |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | $113 C 4-P F B A$ | B8I0142-BSD1 LCSD 0.125 | 1.05 e 4 | 95.4 | NO |
| 2 | 2 13C5-PFHxA | B8I0142-BSD1 LCSD 0.125 | 1.95 e 4 | 81.2 | NO |
| 3 | $313 C 3-P F H x S$ | B8I0142-BSD1 LCSD 0.125 | 3.06 e 3 | 86.5 | NO |
| 4 | $413 C 8-P F O A$ | B8I0142-BSD1 LCSD 0.125 | $2.81 e 4$ | 86.2 | NO |
| 5 | $513 C 9-P F N A$ | B8I0142-BSD1 LCSD 0.125 | 2.08 e 4 | 93.9 | NO |
| 6 | $613 C 4-P F O S$ | B8I0142-BSD1 LCSD 0.125 | $3.27 e 3$ | 100.9 | NO |
| 7 | $713 C 6-P F D A$ | B8I0142-BSD1 LCSD 0.125 | 2.03 e 4 | 96.4 | NO |
| 8 | $813 C 7-P F U d A$ | B8I0142-BSD1 LCSD 0.125 | 2.65 e 4 | 91.0 | NO |

Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917

|  | \# Name | ID | Area | \%Rec | Area Out |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 13C4-PFBA | 1803078-01 FT-PZ463I-20180917 0.116... | 1.21 e 4 | 110.4 | NO |
| 2 | 2 13C5-PFHxA | 1803078-01 FT-PZ463I-20180917 0.116... | 2.17 e 4 | 90.5 | NO |
| 3 | 3 13C3-PFHxS | 1803078-01 FT-PZ463I-20180917 0.116... | 3.12 e 3 | 88.4 | NO |
| 4 | 4 13C8-PFOA | 1803078-01 FT-PZ463I-20180917 0.116... | 3.00 e 4 | 91.9 | NO |
| 5 | 5 13C9-PFNA | 1803078-01 FT-PZ463I-20180917 0.116... | 2.10 e 4 | 94.9 | NO |
| 6 | 6 13C4-PFOS | 1803078-01 FT-PZ463I-20180917 0.116... | 3.24 e 3 | 99.7 | NO |
| 7 | 7 13C6-PFDA | 1803078-01 FT-PZ463I-20180917 0.116... | 1.98 e 4 | 93.9 | NO |
| 8 | 8 13C7-PFUdA | 1803078-01 FT-PZ463I-20180917 0.116... | 2.60 e 4 | 89.4 | NO |

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772,
Description: FT-PZ463I-FRB-20180917

|  | \# Name | ID | Area | \%Rec | Area Out |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 13C4-PFBA | 1803078-02 FT-PZ463I-FRB-20180917 ... | 1.10 e 4 | 99.8 | NO |
| 2 | 2 13C5-PFHxA | 1803078-02 FT-PZ463I-FRB-20180917 ... | 2.00 e 4 | 83.5 | NO |
| 3 | 3 13C3-PFHxS | 1803078-02 FT-PZ463I-FRB-20180917 ... | 2.96 e 3 | 83.7 | NO |
| 4 | 4 13C8-PFOA | 1803078-02 FT-PZ463I-FRB-20180917 ... | 2.81 e 4 | 86.2 | NO |
| 5 | 5 13C9-PFNA | 1803078-02 FT-PZ463I-FRB-20180917 ... | 1.99 e 4 | 90.2 | NO |
| 6 | 6 13C4-PFOS | 1803078-02 FT-PZ463I-FRB-20180917 ... | 3.10 e 3 | 95.5 | NO |
| 7 | 7 13C6-PFDA | 1803078-02 FT-PZ463I-FRB-20180917 ... | 1.99 e 4 | 94.6 | NO |
| 8 | 8 13C7-PFUdA | 1803078-02 FT-PZ463I-FRB-20180917 ... | 2.61 e 4 | 89.7 | NO |

Quantify Sample Summary Report
Vista Analytical Laboratory
Dataset: F:\Projects\PFAS.PRO\Results\180921M2\180921M2-IIS AREAS_2.qld
Last Altered: $\quad$ Saturday, September 22, 2018 12:50:49 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:51:28 Pacific Daylight Time

Name: 180921M2_79, Date: 22-Sep-2018, Time: 02:13:45, ID: 1803078-03 FT-PZ464I-20180917 0.11306, Description: FT-PZ464I-20180917

|  | \# Name | ID | Area | \%Rec | Area Out |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 13C4-PFBA | 1803078-03 FT-PZ464I-20180917 0.113... | 1.15 e 4 | 105.0 | NO |
| 2 | 2 13C5-PFHxA | 1803078-03 FT-PZ464I-20180917 0.113... | 2.04 e 4 | 84.9 | NO |
| 3 | 3 13C3-PFHxS | 1803078-03 FT-PZ464I-20180917 0.113... | 3.10 e 3 | 87.9 | NO |
| 4 | 4 13C8-PFOA | 1803078-03 FT-PZ464I-20180917 0.113... | 2.83 e 4 | 86.7 | NO |
| 5 | 5 13C9-PFNA | 1803078-03 FT-PZ464I-20180917 0.113... | 2.02 e 4 | 91.3 | NO |
| 6 | 6 13C4-PFOS | 1803078-03 FT-PZ464I-20180917 0.113... | 3.21 e 3 | 98.9 | NO |
| 7 | 7 13C6-PFDA | 1803078-03 FT-PZ464I-20180917 0.113... | 2.04 e 4 | 97.0 | NO |
| 8 | 8 13C7-PFUdA | 1803078-03 FT-PZ464I-20180917 0.113... | 2.72 e 4 | 93.6 | NO |

Name: 180921M2_80, Date: 22-Sep-2018, Time: 02:24:23, ID: B8I0057-BLK1 Method Blank 1, Description: Method Blank

|  | \# Name | ID | Area | \%Rec | Area Out |
| :--- | :--- | :--- | ---: | ---: | ---: |
| 1 | $113 C 4-P F B A$ | B8I0057-BLK1 Method Blank 1 | 1.25 e 4 | 113.6 | NO |
| 2 | $213 C 5-P F H x A$ | B8I0057-BLK1 Method Blank 1 | $2.22 e 4$ | 92.7 | NO |
| 3 | $313 C 3-P F H x S$ | B8I0057-BLK1 Method Blank 1 | $3.72 e 3$ | 105.3 | NO |
| 4 | $413 C 8-P F O A$ | B8I0057-BLK1 Method Blank 1 | 3.18 e 4 | 97.5 | NO |
| 5 | $513 C 9-P F N A$ | B8I0057-BLK1 Method Blank 1 | 2.29 e 4 | 103.6 | NO |
| 6 | $613 C 4-P F O S$ | B8I0057-BLK1 Method Blank 1 | 3.66 e 3 | 112.7 | NO |
| 7 | $713 C 6-P F D A$ | B8I0057-BLK1 Method Blank 1 | 2.19 e 4 | 104.3 | NO |
| 8 | $813 C 7-P F U d A$ | B8I0057-BLK1 Method Blank 1 | 2.97 e 4 | 101.9 | NO |

Name: 180921M2_81, Date: 22-Sep-2018, Time: 02:34:56, ID: B8I0057-BS1 OPR 1, Description: OPR

|  | \# Name | ID | Area | \%Rec | Area Out |
| :--- | :--- | :--- | :--- | ---: | :--- |
| 1 | $113 C 4-P F B A$ | B8I0057-BS1 OPR 1 | 1.31 e 4 | 119.7 | NO |
| 2 | $213 C 5-P F H x A$ | B8I0057-BS1 OPR 1 | 2.33 e 4 | 97.2 | NO |
| 3 | $313 C 3-P F H x S$ | B8I0057-BS1 OPR 1 | 3.63 e 3 | 102.7 | NO |
| 4 | $413 C 8-P F O A$ | B8I0057-BS1 OPR 1 | 3.30 e 4 | 101.0 | NO |
| 5 | $513 C 9-P F N A$ | B8I0057-BS1 OPR 1 | 2.32 e 4 | 105.1 | NO |
| 6 | $613 C 4-P F O S$ | B8I0057-BS1 OPR 1 | 3.59 e 3 | 110.6 | NO |
| 7 | $713 C 6-P F D A$ | B8I0057-BS1 OPR 1 | 2.23 e 4 | 106.2 | NO |
| 8 | $813 C 7-P F U d A$ | B8I0057-BS1 OPR 1 | 2.90 e 4 | 99.6 | NO |

Name: 180921M2_82, Date: 22-Sep-2018, Time: 02:45:34, ID: IPA, Description: IPA

|  | \# Name | ID | Area | \%Rec |
| :--- | :--- | :--- | :--- | :--- |
| 1 | $113 C 4-P F B A$ | IPA | Area Out |  |
| 2 | $213 C 5-P F H x A$ | IPA | NO |  |
| 3 | $313 C 3-P F H x S$ | IPA | NO |  |
| 4 | $413 C 8-P F O A$ | IPA | NO |  |
| 5 | $513 C 9-P F N A$ | IPA | NO |  |
| 6 | $613 C 4-P F O S$ | IPA | NO |  |
| 7 | $713 C 6-P F D A$ | IPA | NO |  |
| 8 | $813 C 7-P F U d A$ | IPA | NO |  |


| Dataset: | Untitled |
| :--- | :--- |
| Last Altered: | Saturday, September 22, 2018 12:46:25 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 12:46:49 Pacific Daylight Time |

## Method: F:|Projects|PFAS.PRO\MethDB\PFAS_FULL_80C_092118.mdb 22 Sep 2018 10:43:01

## Calibration: F: $\operatorname{Projects} \backslash P F A S . P R O \backslash C u r v e D B I C 18 \_V A L-P F A \bar{S}$ _Q4_09-21-18.cdb 22 Sep 2018 10:41:06

Name: 180921M2_12, Date: 21-Sep-2018, Time: 14:22:55, ID: IPA, Description: IPA


## 4:2 FTS




13C2-4:2 FTS



## PFPeS



13C3-PFBS


Dataset:
F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qid
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:29:00 Pacific Daylight Time


Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_092118.mdb 22 Sep 2018 10:43:01
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFĀ_Q4_09-21-18.cdb 22 Sep 2018 10:44:17

## Compound name: PFBA

Correlation coefficient: $r=0.999961, r^{\wedge} 2=0.999922$
Calibration curve: $1.15065^{*} \times+-0.0615935$
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Compound name: PFPeA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999945$
Calibration curve: $-2.44535 \mathrm{e}-005^{*} x^{\wedge} 2+0.978238{ }^{*} x+0.0223519$
Response type: Internal Std ( Ref 37 ), Area * (IS Conc. / IS Area)
Curve type: and Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed
Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: PFBS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999849$
Calibration curve: $0.000177835^{*} x^{\wedge} 2+1.77825$ * $x+0.000357402$
Response type: Internal Std (Ref 38 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: $1 / x$, Axis trans: None


## Compound name: 4:2 FTS

Coefficient of Determination: R^2 $=0.999258$
Calibration curve: $-0.00277709^{*} x^{\wedge} 2+1.17621^{*} x+0.0207206$
Response type: Internal Std (Ref 39 ), Area* (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Std. Conc | RT | Area | 1SArea | Response | Conc. | \%Dev | Conc. Flag | COD | CoD Flag | $\mathrm{x}=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1) | 1 180921M2_2 | Standard | 0.250 | 2.96 | 50.332 | 2184.420 | 0.288 | 0.2 | -9.1 | NO | 0.999 | NO | bb |
| 2 | $2180921 \mathrm{M} 2 \ldots 3$ | Standard | 0.500 | 2.96 | 97.556 | 2120.828 | 0.575 | 0.5 | -5.6 | NO | 0.999 | NO | bb |
| 3 | 3 180921M2_4 | Standard | 1.000 | 2.96 | 224.458 | 2111.640 | 1.329 | 1.1 | 11.5 | NO | 0.999 | NO | bb |
| 4 4. | 4 180921M2_5 | Standard | 2.000 | 2.96 | 379.294 | 2042.779 | 2.321 | 2.0 | -1.8 | NO | 0.999 | NO | bb |
| 5 | 5 180921M2_6 | Standard | 5.000 | 2.96 | 983.806 | 2083.145 | 5.903 | 5.1 | 1.2 | NO | 0.999 | NO | bb |
| 6 | $6180921 \mathrm{M} 2 \_7$ | Standard | 10.000 | 2.96 | 2011.380 | 2066.814 | 12.165 | 10.6 | 5.9 | NO | 0.999 | NO | bb |
|  | 7 180921M2_8 | Standard | 50.000 | 2.96 | 9900.125 | 2450.548 | 50.500 | 48.5 | -3.1 | NO | 0.999 | NO | bb |
| 8 | 8 180921M2_9 | Standard | 100.000 | 2.96 | 19445.363 | 2685.948 | 90.496 | 101.0 | 1.0 | NO | 0.999 | NO | bb |
| 9 | 9 180921M2_10 | Standard | 250.000 | 2.96 | 46291.066 | 3733.522 | 154.985 |  |  | NO | 0.999 | NO | bbXI |
| 10. \% | $10180921 \mathrm{M} 2 \ldots 11$ | Standard | 500.000 | 2.96 | 85784.758 | 5133.953 | 208.866 |  |  | NO | 0.999 | NO | MMXI |

## Quantify Compound Summary Report MassLynx MassLynx V4.1 SCN945 SCN960

Vista Analytical Laboratory
Dataset:
F:IProjects\PFAS.PRO\Results\180921M21180921M2-CRV.qld
Last Altered:
Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: PFHxA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999871$
Calibration curve: $-0.000184215^{*} x^{\wedge} 2+1.00554^{*} x+0.0254901$
Response type: Internal Std (Ref 40 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


## Compound name: PFPes

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999925$
Calibration curve: $9.58996 \mathrm{e}-005^{*} x^{\wedge} 2+1.5156^{*} x+0.0200581$
Response type: Internal Std (Ref 38 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Last Altered:
Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: PFHpA

Correlation coefficient: $r=0.999856, r^{\wedge} 2=0.999712$
Calibration curve: $1.21703^{*} x+0.0200567$
Response type: Internal Std (Ref 41 ), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: $1 / \mathrm{x}$, Axis trans: None


## Compound name: L-PFHxS

Coefficient of Determination: R^2 $=0.999543$
Calibration curve: $-0.000271292^{*} x^{\wedge} 2+1.73959^{*} x+-0.0290897$
Response type: Internal Std (Ref 42 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: $1 / x$, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered:
Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: 6:2 FTS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999296$
Calibration curve: $-0.00411125^{*} x^{\wedge} 2+1.41518$ * $x+-0.05757$
Response type: Internal Std (Ref 43 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


## Compound name: L-PFOA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999857$
Calibration curve: $-7.11995 \mathrm{e}-005^{*} x^{\wedge} 2+1.44483^{*} x+0.128465$
Response type: Internal Std (Ref 44 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: PFHpS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999917$
Calibration curve: $5.68869 e-005^{*} x^{\wedge} 2+0.840017^{*} x+-0.00313784$
Response type: Internal Std (Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Sta. Conc | RT | Area | IS Area | Pesponse | Conc: | $\%$ Dev | Conc. Flag | CoD | CoD fla | $x$-oxcluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 4.32 | 57.299 | 3497.765 | 0.205 | 0.2 | -1.0 | NO | 1.000 | NO | bb |
| 2 | 2 180921M2_3 | Standard | 0.500 | 4.31 | 136.321 | 3608.782 | 0.472 | 0.6 | 13.2 | NO | 1.000 | NO | bb |
| 3 | $3180921 \mathrm{M} 2 \_4$ | Standard | 1.000 | 4.32 | 207.275 | 3564.966 | 0.727 | 0.9 | -13.1 | NO | 1.000 | NO | bb |
| 4 | 4 180921M2_5 | Standard | 2.000 | 4.32 | 433.868 | 3483.791 | 1.557 | 1.9 | -7.2 | NO | 1.000 | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \_6$ | Standard | 5.000 | 4.32 | 1245.729 | 3555.873 | 4.379 | 5.2 | 4.3 | NO | 1.000 | NO | bb |
| 6 | 6180921 M 2 _7 | Standard | 10.000 | 4.32 | 2425.336 | 3483.118 | 8.704 | 10.4 | 3.6 | NO | 1.000 | NO | bb |
| 7. ${ }^{\text {\% }}$ | $7180921 \mathrm{M} 2 \_8$ | Standard | 50.000 | 4.32 | 12121.194 | 3548.718 | 42.696 | 50.7 | 1.3 | NO | 1.000 | NO | bb |
| 8 | $8180921 \mathrm{M} 2 \ldots 9$ | Standard | 100.000 | 4.32 | 24109.754 | 3602.021 | 83.667 | 98.9 | -1.1 | NO | 1.000 | NO | MM |
| 9 \% ${ }^{\text {athen }}$ | 9180921 M 2 _10 | Standard | 250.000 | 4.32 | 58130.211 | 3404.979 | 213.402 | 249.8 | -0.1 | NO | 1.000 | NO | bb |
| 10 | $10180921 \mathrm{M2}$ _11 | Standard | 500.000 | 4.32 | 108575.688 | 3124.142 | 434.422 | 500.2 | 0.0 | NO | 1.000 | NO | bb |

## Compound name: PFNA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999973$
Calibration curve: $2.43776 e-005{ }^{*} x^{\wedge} 2+1.07358{ }^{*} x+0.0200697$
Response type: Internal Std (Ref 45 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


| Dataset: | F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qId |
| :--- | :--- |
| Last Altered: | Saturday, September 22, 2018 10:44:17 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 12:29:00 Pacific Daylight Time |

## Compound name: PFOSA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999833$
Calibration curve: $-7.40103 \mathrm{e}-005^{*} x^{\wedge} 2+1.07348{ }^{*} x+-0.0171345$
Response type: Internal Std ( Ref 46 ), Area * ( IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Std. Conc | RT | Area | IS Area | Response | Conc. | \%Der | Conc. Flae | Col | Cod flag | $\mathrm{x}=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 4.70 | 78.392 | 3878.424 | 0.253 | 0.3 | 0.5 | NO | 1.000 | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 0.500 | 4.71 | 172.082 | 3881.821 | 0.554 | 0.5 | 6.4 | NO | 1.000 | NO | bb |
| 3.1 | $3180921 \mathrm{M} 2 \_4$ | Standard | 1.000 | 4.71 | 347.317 | 4065.651 | 1.068 | 1.0 | 1.1 | NO | 1.000 | NO | bb |
| 4. | 4 180921M2 5 | Standard | 2.000 | 4.71 | 660.920 | 4096.554 | 2.017 | 1.9 | -5.3 | NO | 1.000 | NO | bb |
| $5$ | $5180921 \mathrm{M} 2 \ldots 6$ | Standard | 5.000 | 4.71 | 1560.457 | 3907.207 | 4.992 | 4.7 | -6.6 | NO | 1.000 | NO | bb |
| 6. | 6180921 M 2 _ 7 | Standard | 10.000 | 4.71 | 3313.393 | 3806.161 | 10.882 | 10.2 | 1.6 | NO | 1.000 | NO | MM |
| 7 | 7 180921M2_8 | Standard | 50.000 | 4.71 | 15926.793 | 3577.696 | 55.646 | 52.0 | 4.1 | NO | 1.000 | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 100.000 | 4.71 | 31676.313 | 3778.762 | 104.784 | 98.3 | -1.7 | NO | 1.000 | NO | bb |
| 9 \% | 9 180921M2_10 | Standard | 250.000 | 4.71 | 76238.156 | 3620.721 | 263.201 | 249.5 | -0.2 | NO | 1.000 | NO | bb |
| 10.1 \% | $10180921 \mathrm{M} 2 \_11$ | Standard | 500.000 | 4.71 | 138328.047 | 3334.010 | 518.625 | 500.4 | 0.1 | NO | 1.000 | NO | bb |

## Compound name: L-PFOS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999727$
Calibration curve: $0.00012253^{*} x^{\wedge} 2+1.017222^{*} x+-0.0126442$
Response type: Internal Std (Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Std Cone | RT | Area | IS Area | Response | Conc: | \%Dev | Conc. Flag | COD | Cob Frag | $x$-excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 1 180921M2_2 | Standard | 0.250 | 4.74 | 80.425 | 3497.765 | 0.287 | 0.3 | 18.0 | NO | 1.000 | NO | MM |
| 2 | 2180921 M 2 _3 | Standard | 0.500 | 4.73 | 107.022 | 3608.782 | 0.371 | 0.4 | -24.6 | NO | 1.000 | NO | MM |
| 3. | 3180921 M 2 _4 | Standard | 1.000 | 4.73 | 267.779 | 3564.966 | 0.939 | 0.9 | -6.5 | NO | 1.000 | NO | MM |
| 4 | 4 180921M2_5 | Standard | 2.000 | 4.73 | 591.612 | 3483.791 | 2.123 | 2.1 | 4.9 | NO | 1.000 | NO | MM |
| 5 | 5 180921M2_6 | Standard | 5.000 | 4.73 | 1342.065 | 3555.873 | 4.718 | 4.6 | -7.0 | NO | 1.000 | NO | MM |
| 6 | $6180921 \mathrm{M} 2 \_7$ | Standard | 10.000 | 4.73 | 3120.566 | 3483.118 | 11.199 | 11.0 | 10.1 | NO | 1.000 | NO | MM |
| 7.3 | $7180921 \mathrm{M} 2 \_8$ | Standard | 50.000 | 4.73 | 14871.297 | 3548.718 | 52.383 | 51.2 | 2.4 | NO | 1.000 | NO | MM |
| 8 | 8180921 M 2 _9 | Standard | 100.000 | 4.73 | 28918.961 | 3602.021 | 100.357 | 97.5 | -2.5 | NO | 1.000 | NO | MM |
| 9 | $9180921 \mathrm{M} 2 \_10$ | Standard | 250.000 | 4.73 | 71546.375 | 3404.979 | 262.654 | 250.7 | 0.3 | NO | 1.000 | NO | MM |
| 10.4 | 10180921 M 2 _11 | Standard | 500.000 | 4.73 | 134776.891 | 3124.142 | 539.256 | 500.0 | 0.0 | NO | 1.000 | NO | MM |

Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: PFDA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999853$
Calibration curve: $-0.000164539^{*} x^{\wedge} 2+1.30266{ }^{*} x+0.0132556$
Response type: Internal Std (Ref 48 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name. | Type | Sid. Conc | RT: | Area | IS Area | Response | Conc. | \% Dev | Conc. Flag | C. COD | CoD Flag | $x=$ excluided |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 5.02 | 565.561 | 20100.664 | 0.352 | 0.3 | 3.9 | NO | 1.000 | NO | MM |
| 2 2\% | 2 180921M2_3 | Standard | 0.500 | 5.02 | 978.198 | 20024.717 | 0.611 | 0.5 | -8.3 | NO | 1.000 | NO | bb |
| 3. | $3180921 \mathrm{M} 2 \_4$ | Standard | 1.000 | 5.02 | 2121.592 | 19922.803 | 1.331 | 1.0 | 1.2 | NO | 1.000 | NO | bb |
| $4$ | 4 180921M2_5 | Standard | 2.000 | 5.02 | 4492.276 | 20618.865 | 2.723 | 2.1 | 4.1 | NO | 1.000 | NO | bb |
| $5$ | $5180921 \mathrm{M} 2 \_6$ | Standard | 5.000 | 5.02 | 9782.878 | 19944.441 | 6.131 | 4.7 | -6.0 | NO | 1.000 | NO | bb |
| $6$ | 6180921 M 2.7 | Standard | 10.000 | 5.02 | 21325.609 | 19707.863 | 13.526 | 10.4 | 3.9 | NO | 1.000 | NO | bb |
| $17$ | $7180921 \mathrm{M} 2 \_8$ | Standard | 50.000 | 5.02 | 104015.570 | 19478.363 | 66.751 | 51.6 | 3.1 | NO | 1.000 | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 100.000 | 5.02 | 200496.672 | 19849.932 | 126.258 | 98.1 | -1.9 | NO | 1.000 | NO | bb |
| 9 | $9180921 \mathrm{M} 2+10$ | Standard | 250.000 | 5.02 | 483305.500 | 19166.721 | 315.198 | 249.8 | -0.1 | NO | 1.000 | NO | bb |
| 10.3 | [ 10 180921M2_11 | Standard | 500.000 | 5.02 | 885955.375 | 18137.766 | 610.574 | 500.3 | 0.1 | NO | 1.000 | NO | bb |

## Compound name: 8:2 FTS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.998075$
Calibration curve: $-0.00512938{ }^{*} x^{\wedge} 2+1.53318$ * $x+-0.0610602$
Response type: Internal Std (Ref 49 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | F.Std Conc | RT | Area | IS Area | Response | Conc | \%Dev | Conc.flag | Cob | CoD Flag | $x$-excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 1 180921M2_2 | Standard | 0.250 | 4.99 | 46.860 | 1835.738 | 0.319 | 0.2 | -0.7 | NO | 0.998 | NO | bb |
| 2 | 2 180921M2_3 | Standard | 0.500 | 4.99 | 67.099 | 1641.841 | 0.511 | 0.4 | -25.3 | NO | 0.998 | NO | bb |
|  | 3180921 M 2 _4 | Standard | 1.000 | 4.99 | 242.794 | 1700.109 | 1.785 | 1.2 | 20.9 | NO | 0.998 | NO | bb |
| 4 | $4180921 \mathrm{M} 2 \_5$ | Standard | 2.000 | 4.99 | 412.130 | 1692.512 | 3.044 | 2.0 | 2.0 | NO | 0.998 | NO | bb |
| 5. | 5 180921M2_6 | Standard | 5.000 | 4.99 | 1003.383 | 1711.605 | 7.328 | 4.9 | -2.0 | NO | 0.998 | NO | bb |
| 6 | 6180921 M 2 _7 | Standard | 10.000 | 4.99 | 2176.883 | 1712.829 | 15.887 | 10.8 | 7.9 | NO | 0.998 | NO | bb |
| 7 | 7 180921M2_8 | Standard | 50.000 | 4.99 | 10472.277 | 2122.640 | 61.670 | 48.0 | -4.1 | NO | 0.998 | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 100.000 | 4.99 | 19972.639 | 2426.075 | 102.906 | 101.9 | 1.9 | NO | 0.998 | NO | bb |
| 9 | 9 180921M2_10 | Standard | 250.000 | 4.99 | 48638.266 | 3371.629 | 180.322 |  |  | NO | 0.998 | NO | bbxI |
| 10\% | 10180921 M 2 _ 11 | Standard | 500.000 | 4.99 | 86527.367 | 5072.870 | 213.211 |  |  | NO | 0.998 | NO | bbXI |

Quantify Compound Summary Report MassLynx MassLynx V4.1 SCN94
Vista Analytical Laboratory

| Dataset: | F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.gld |
| :--- | :--- |
|  |  |
| Last Altered: | Saturday, September 22, 2018 10:44:17 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 12:29:00 Pacific Daylight Time |

## Compound name: PFNS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999825$
Calibration curve: $4.85404 \mathrm{e}-005^{*} x^{\wedge} 2+0.750619^{*} x+0.00744545$
Response type: Internal Std ( Ref 47 ), Area * ( IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: $1 / x$, Axis trans: None

| Wa, | \# Name | Type | Sid. Conc | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | Cod Flag | x-excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 5.09 | 65.918 | 3497.765 | 0.236 | 0.3 | 21.6 | NO | 1.000 | NO | bb |
| 2 | 2 180921M2_3 | Standard | 0.500 | 5.08 | 88.681 | 3608.782 | 0.307 | 0.4 | -20.1 | NO | 1.000 | NO | bb |
| 3 | 3 180921M2_4 | Standard | 1.000 | 5.09 | 174.292 | 3564.966 | 0.611 | 0.8 | -19.6 | NO | 1.000 | NO | MM |
| 4 | 4180921 M 2 _5 | Standard | 2.000 | 5.09 | 461.250 | 3483.791 | 1.655 | 2.2 | 9.7 | NO | 1.000 | NO | bd |
| 5 | 5180921 M 2 6 | Standard | 5.000 | 5.09 | 1119.01¢ | 3555.873 | 3.934 | 5.2 | 4.6 | NO | 1.000 | NO | bb |
| 6. | 6180921 M 27 | Standard | 10.000 | 5.09 | 2169.532 | 3483.118 | 7.786 | 10.4 | 3.6 | NO | 1.000 | NO | bb |
| $7$ | 7 180921M2_8 | Standard | 50.000 | 5.09 | 10909.487 | 3548.718 | 38.428 | 51.0 | 2.0 | NO | 1.000 | NO | bb |
| 8 | $8180921 \mathrm{M} 2 \ldots 9$ | Standard | 100.000 | 5.09 | 21379.086 | 3602.021 | 74.191 | 98.2 | -1.8 | NO | 1.000 | NO | bb |
| 9 | $9180921 \mathrm{M} 2 \ldots 10$ | Standard | 250.000 | 5.09 | 51947.293 | 3404.979 | 190.703 | 250.0 | 0.0 | NO | 1.000 | NO | bb |
| 10 | 10 180921M2_11 | Standard | 500.000 | 5.09 | 96882.641 | 3124.142 | 387.637 | 500.2 | 0.0 | NO | 1.000 | NO | bb |

## Compound name: L-MeFOSAA

Coefficient of Determination: R^2 $=0.999730$
Calibration curve: $-0.000181893 * x^{\wedge} 2+1.52342 \times x+-0.0582803$
Response type: Internal Std (Ref 50 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: $1 / x$, Axis trans: None

|  | \# Name | Type | Std. Conc | RT | Area | W IS Area | Fiesponse | Conc. | \%Dev | Conc. Flag | CoD | CoD Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 5.18 | 144.525 | 5448.326 | 0.332 | 0.3 | 2.4 | NO | 1.000 | NO | MM |
| 2.3 | 2 180921M2_3 | Standard | 0.500 | 5.17 | 229.675 | 5752.328 | 0.499 | 0.4 | -26.8 | NO | 1.000 | NO | MM |
| 3. | 3 180921M2_4 | Standard | 1.000 | 5.18 | 763.350 | 5749.403 | 1.660 | 1.1 | 12.8 | NO | 1.000 | NO | MM |
| 4 | 4 180921M2_5 | Standard | 2.000 | 5.18 | 1336.774 | 5773.740 | 2.894 | 1.9 | -3.1 | NO | 1.000 | NO | MM |
| 5 | 5 180921M2_6 | Standard | 5.000 | 5.18 | 3360.167 | 5498.305 | 7.639 | 5.1 | 1.1 | NO | 1.000 | NO | MM |
| $6$ | 6180921 M 2 _7 | Standard | 10.000 | 5.18 | 6791.831 | 5525.338 | 15.365 | 10.1 | 1.4 | NO | 1.000 | NO | MM |
| 7 | 7 180921M2_8 | Standard | 50.000 | 5.18 | 34000.945 | 5810.229 | 73.149 | 48.3 | -3.3 | NO | 1.000 | NO | MM |
| 8 | 8180921 M 2 _9 | Standard | 100.000 | 5.18 | 66582.633 | 5599.925 | 148.624 | 98.8 | -1.2 | NO | 1.000 | NO | MM |
| 9 9. | 9 180921M2_10 | Standard | 250.000 | 5.18 | 162430.844 | 5392.758 | 376.502 | 254.9 | 2.0 | NO | 1.000 | NO | MM |
| 10: | $10180921 \mathrm{M} 2 \_11$ | Standard | 500.000 | 5.18 | 302714.219 | 5305.163 | 713.254 | 497.8 | -0.4 | NO | 1.000 | NO | MM |

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qId
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:00 Pacific Daylight Time

## Compound name: L-EtFOSAA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999766$
Calibration curve: $8.56086 \mathrm{e}-005^{*} x^{\wedge} 2+1.07156^{*} x+-0.0471687$
Response type: Internal Std (Ref 52 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | W. Std. Cone | RT | Area | IS Area | Response | Conc. | \% Uev | Conc. Flag | CoD | CoD Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1$ | 1 180921M2_2 | Standard | 0.250 | 5.34 | 79.340 | 6568.083 | 0.151 | 0.2 | -26.0 | NO | 1.000 | NO | MM |
| 2: | 2 180921M2_3 | Standard | 0.500 | 5.34 | 264.031 | 6386.052 | 0.517 | 0.5 | 5.3 | NO | 1.000 | NO | MM |
| 3 | 3180921 M 2 _4 | Standard | 1.000 | 5.34 | 566.793 | 6446.870 | 1.099 | 1.1 | 7.0 | NO | 1.000 | NO | MM |
| $4$ | 4 180921M2_5 | Standard | 2.000 | 5.34 | 1178.187 | 6565.690 | 2.243 | 2.1 | 6.8 | NO | 1.000 | NO | MM |
| 5 | 5180921 M 2 _6 | Standard | 5.000 | 5.34 | 2782.255 | 6326.742 | 5.497 | 5.2 | 3.4 | NO | 1.000 | NO | MM |
| 6 | 6180921 M 2 _ 7 | Standard | 10.000 | 5.33 | 5699.301 | 6552.883 | 10.872 | 10.2 | 1.8 | NO | 1.000 | NO | MM |
| 7. ${ }^{\text {Prem }}$ | 7180921 M 2 _ 8 | Standard | 50.000 | 5.34 | 28078.664 | 6434.755 | 54.545 | 50.7 | 1.5 | NO | 1.000 | NO | MM |
| 8 | 8180921 M 2 _9 | Standard | 100.000 | 5.33 | 54688.383 | 6210.333 | 110.075 | 101.9 | 1.9 | NO | 1.000 | NO | MM |
| 9 | 9 180921M2_10 | Standard | 250.000 | 5.34 | 127753.719 | 5974.953 | 267.269 | 244.7 | -2.1 | NO | 1.000 | NO | MM |
| 00, | $10180921 \mathrm{M} 2 \_11$ | Standard | 500.000 | 5.34 | 238258.266 | 5322.207 | 559.585 | 502.1 | 0.4 | NO | 1.000 | NO | MM |

Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_092118.mdb 22 Sep 2018 10:43:01

 Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFĀS_Q4_09-21-18.cdb 22 Sep 2018 10:44:17
## Compound name: PFUdA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999889$
Calibration curve: $-6.18798 e-005$ * $x^{\wedge} 2+0.939815^{*} x+0.0575203$
Response type: Internal Std (Ref 51 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, 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 180921M2_2 | Standard | 0.250 | 5.35 | 630.298 | 26203.057 | 0.301 | 0.3 | 3.5 | NO | 1.000 | NO | bb |
| 2 | 2 180921M2_3 | Standard | 0.500 | 5.35 | 1061.203 | 26141.354 | 0.507 | 0.5 | -4.3 | NO | 1.000 | NO | bb |
| 3 | 3180921 M 2 _4 | Standard | 1.000 | 5.35 | 2080.356 | 26082.535 | 0.997 | 1.0 | -0.0 | NO | 1.000 | NO | bb |
| 4 | 4 180921M2_5 | Standard | 2.000 | 5.35 | 3896.269 | 26408.814 | 1.844 | 1.9 | -4.9 | NO | 1.000 | NO | MM |
| 5. | $5180921 \mathrm{M2} \mathrm{\_6}$ | Standard | 5.000 | 5.35 | 9720.513 | 24972.867 | 4.866 | 5.1 | 2.4 | NO | 1.000 | NO | bb |
| 6 6. | $6180921 \mathrm{M} 2 \_7$ | Standard | 10.000 | 5.35 | 20198.021 | 25251.992 | 9.998 | 10.6 | 5.8 | NO | 1.000 | NO | bb |
| 7 | $7180921 \mathrm{M} 2 \_8$ | Standard | 50.000 | 5.35 | 95417.188 | 26198.205 | 45.527 | 48.5 | -2.9 | NO | 1.000 | NO | bb |
| 8. | 8180921 M 2 _9 | Standard | 100.000 | 5.35 | 195122.891 | 26124.520 | 93.362 | 99.9 | -0.1 | NO | 1.000 | NO | bb |
| 9. | 9180921 M 2 _10 | Standard | 250.000 | 5.35 | 451538.375 | 24264.594 | 232.612 | 251.6 | 0.6 | NO | 1.000 | NO | bb |
| 10 近 | 10180921 M 2 _ 11 | Standard | 500.000 | 5.35 | 815603.375 | 22461.111 | 453.898 | 499.3 | -0.1 | NO | 1.000 | NO | bb |

## Compound name: PFDS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999890$
Calibration curve: $-3.7707 \mathrm{e}-006{ }^{*} x^{\wedge} 2+1.04727^{*} x+-0.0962577$
Response type: Internal Std (Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Dataset:

F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
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Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: PFDoA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999856$
Calibration curve: $-4.05078 \mathrm{e}-005{ }^{*} x^{\wedge} 2+1.23992$ * $x+0.0724267$
Response type: Internal Std (Ref 53 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Compound name: N-MeFOSA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999164$
Calibration curve: $-6.40159 e-005$ * $x^{\wedge} 2+0.994671^{*} x+-0.175063$
Response type: Internal Std (Ref 54 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


| Dataset: | F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld |
| :--- | :--- |
| Last Altered: | Saturday, September 22, 2018 10:44:17 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 12:29:58 Pacific Daylight Time |

## Compound name: PFTrDA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999979$
Calibration curve: $-0.000173636^{*} x^{\wedge} 2+1.34621^{*} x+0.0372811$
Response type: Internal Std (Ref 53 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Std. Cone | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | Cobflag | x=excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 0.250 | 5.88 | 672.119 | 23641.158 | 0.355 | 0.2 | -5.5 | NO | 1.000 | NO | MM |
| 2 | 2180921 M 2 _3 | Standard | 0.500 | 5.88 | 1335.456 | 22557.570 | 0.740 | 0.5 | 4.4 | NO | 1.000 | NO | bb |
| 3 | 3180921 M 2 _4 | Standard | 1.000 | 5.88 | 2581.646 | 23271.500 | 1.387 | 1.0 | 0.3 | NO | 1.000 | NO | bb |
| 4 | 4 180921M2_5 | Standard | 2.000 | 5.88 | 5318.491 | 23600.363 | 2.817 | 2.1 | 3.3 | NO | 1.000 | NO | bb |
|  | $5180921 \mathrm{M} 2 \_6$ | Standard | 5.000 | 5.88 | 12436.936 | 23406.586 | 6.642 | 4.9 | -1.8 | NO | 1.000 | NO | bb |
| 6 | 6180921 M 2 _7 | Standard | 10.000 | 5.88 | 25295.789 | 23423.684 | 13.499 | 10.0 | 0.1 | NO | 1.000 | NO | bb |
| 7 | 7 180921M2_8 | Standard | 50.000 | 5.88 | 125961.078 | 23726.387 | 66.361 | 49.6 | -0.8 | NO | 1.000 | NO | bb |
| $8$ | 8180921 M 2 _9 | Standard | 100.000 | 5.88 | 243463.281 | 22976.594 | 132.452 | 99.6 | -0.4 | NO | 1.000 | NO | bb |
| $9$ | $9180921 \mathrm{M} 2 \_10$ | Standard | 250.000 | 5.88 | 592316.000 | 22608.289 | 327.488 | 251.4 | 0.6 | NO | 1.000 | NO | bb |
| 10.4 | $10180921 \mathrm{M} 2 \_11$ | Standard | 500.000 | 5.88 | 1065426.375 | 21172.760 | 629.008 | 499.4 | -0.1 | NO | 1.000 | NO | bb |

## Compound name: PFTeDA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999882$
Calibration curve: $-0.000534082^{*} x^{\wedge} 2+1.74261^{*} x+0.164696$
Response type: Internal Std (Ref 55 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  |  |  | Name | Type | Trus | Std. Conc | RT. | Area | IS Área | Response | Conc. | \%Dev | Conc. Flag | CoD | CoD Flag | $x$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  | 180921M2_2 | Standard |  | 0.250 | 6.10 | 639.816 | 15238.077 | 0.525 | 0.2 | -17.3 | NO | 1.000 | NO | MM |
| 2 |  |  | 180921M2_3 | Standard |  | 0.500 | 6.10 | 1260.548 | 14145.991 | 1.114 | 0.5 | 9.0 | NO | 1.000 | NO | bb |
| 3 | $4$ |  | 180921M2_4 | Standard |  | 1.000 | 6.10 | 2371.430 | 15333.567 | 1.933 | 1.0 | 1.5 | NO | 1.000 | NO | bb |
| 4 |  |  | 180921M2_5 | Standard |  | 2.000 | 6.10 | 4793.508 | 16476.105 | 3.637 | 2.0 | -0.3 | NO | 1.000 | NO | bb |
| 5. |  |  | 180921M2_6 | Standard |  | 5.000 | 6.10 | 11446.149 | 15939.713 | 8.976 | 5.1 | 1.3 | NO | 1.000 | NO | MM |
| 6 |  |  | 180921M2_7 | Standard |  | 10.000 | 6.10 | 23782.791 | 16151.589 | 18.406 | 10.5 | 5.0 | NO | 1.000 | NO | bb |
| 7 |  |  | 180921M2_8 | Standard |  | 50.000 | 6.10 | 119040.211 | 16925.770 | 87.913 | 51.2 | 2.3 | NO | 1.000 | NO | bb |
| 8 |  |  | 180921M2_9 | Standard |  | 100.000 | 6.10 | 228604.578 | 17035.602 | 167.740 | 99.2 | -0.8 | NO | 1.000 | NO | bb |
| 9 | $4$ |  | $180921 \mathrm{M} 2 \_10$ | Standard |  | 250.000 | 6.10 | 540989.938 | 16943.498 | 399.113 | 247.7 | -0.9 | NO | 1.000 | NO | bb |
| 10. | + |  | $180921 \mathrm{M} 2 \_11$ | Standard |  | 500.000 | 6.10 | 1028748.250 | 17385.340 | 739.666 | 501.4 | 0.3 | NO | 1.000 | NO | bb |

Dataset:
F:IProjects\PFAS.PRO\Results\180921M21180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: N-EtFOSA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999977$
Calibration curve: $-2.15283 e-005$ * $x^{\wedge} 2+0.87729$ * $x+0.120377$
Response type: Internal Std (Ref 56 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

| 雨 | \# Name | Type | Std. Conc | RT | Area | IS Area | Response | Conc. | \%Dey | Conc. Flag | CoD | CoD Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1, | $1180921 \mathrm{M} 2 \ldots 2$ | Standard | 1.250 | 6.19 | 131.061 | 16948.025 | 1.160 | 1.2 | -5.2 | NO | 1.000 | NO | bb |
| 2 2. | 2180921 M 2 _3 | Standard | 2.500 | 6.19 | 278.732 | 17610.395 | 2.374 | 2.6 | 2.8 | NO | 1.000 | NO | bb |
| 3 L 3. | $3180921 \mathrm{M} 2 \_4$ | Standard | 5.000 | 6.20 | 531.477 | 17299.277 | 4.608 | 5.1 | 2.3 | NO | 1.000 | NO | bb |
| 4 H | 4 180921M2_5 | Standard | 10.000 | 6.19 | 1012.648 | 17760.760 | 8.552 | 9.6 | -3.9 | NO | 1.000 | NO | bb |
| $5$ | 5 180921M2_6 | Standard | 25.000 | 6.19 | 2521.792 | 16969.014 | 22.292 | 25.3 | 1.2 | NO | 1.000 | NO | bb |
| $6$ |  | Standard | 50.000 | 6.19 | 5100.286 | 16834.195 | 45.446 | 51.7 | 3.5 | NO | 1.000 | NO | MM |
| $7$ | 7 180921M2_8 | Standard | 250.000 | 6.20 | 25187.096 | 17395.268 | 217.189 | 249.0 | -0.4 | NO | 1.000 | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 500.000 | 6.19 | 49063.723 | 17030.574 | 432.138 | 498.5 | -0.3 | NO | 1.000 | NO | db |
| $9$ | 9180921 M 2 _10 | Standard | 1250.000 | 6.19 | 115814.641 | 16331.604 | 1063.716 | 1250.8 | 0.1 | NO | 1.000 | NO | db |
| 10.13\% | $10180921 \mathrm{M} 2 \_11$ | Standard | 2500.000 | 6.20 | 208530.906 | 15193.209 | 2058.791 | 2500.0 | -0.0 | NO | 1.000 | NO | db |

## Compound name: PFHxDA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999904$
Calibration curve: $-0.000307243^{*} x^{\wedge} 2+0.600161^{*} x+0.044965$
Response type: Internal Std (Ref 57 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Compound name: PFODA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999863$
Calibration curve: $-0.000348368{ }^{*} x^{\wedge} 2+0.826485 * x+0.00409336$
Response type: Internal Std ( Ref 57 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

|  |  | \# Name | Type | Std. Conc | RT | Area | IS Area | Response | Conc. | \% Dev | Conc. Flag | CoD | CoD Flag | $x=e x c l u d e d$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | 1 180921M2_2 | Standard | 0.250 | 6.68 | 412.073 | 9611.572 | 0.214 | 0.3 | 1.8 | NO | 1.000 | NO | bb |
| 2 |  | 2 180921M2_3 | Standard | 0.500 | 6.68 | 799.150 | 9459.648 | 0.422 | 0.5 | 1.2 | NO | 1.000 | NO | MM |
| 3 |  | 3180921 M 2 _4 | Standard | 1.000 | 6.68 | 1630.193 | 9737.623 | 0.837 | 1.0 | 0.8 | NO | 1.000 | NO | bb |
| 4 |  | 4 180921M2_5 | Standard | 2.000 | 6.68 | 3354.332 | 10150.446 | 1.652 | 2.0 | -0.2 | NO | 1.000 | NO | bb |
| 5. |  | 5 180921M2_6 | Standard | 5.000 | 6.68 | 8113.918 | 9814.616 | 4.134 | 5.0 | 0.1 | NO | 1.000 | NO | bb |
| 6. |  | 6180921 M 2 _7 | Standard | 10.000 | 6.68 | 16582.523 | 10103.219 | 8.207 | 10.0 | -0.3 | NO | 1.000 | NO | bb |
| 7 | \% | 7180921 M 2 _ 8 | Standard | 50.000 | 6.68 | 82904.961 | 10340.183 | 40.089 | 49.5 | -0.9 | NO | 1.000 | NO | bb |
| 8 | \% | 8180921 M 2 _9 | Standard | 100.000 | 6.68 | 159573.938 | 10264.574 | 77.730 | 98.1 | -1.9 | NO | 1.000 | NO | bb |
| 9 |  | 9 180921M2_10 | Standard | 250.000 | 6.68 | 378320.031 | 10070.517 | 187.835 | 254.6 | 1.8 | NO | 1.000 | NO | bb |
| 10 | \% | 10180921 M 2 _ 11 | Standard | 500.000 | 6.68 | 718250.750 | 11050.419 | 324.988 | 497.6 | -0.5 | NO | 1.000 | NO | bb |

## Compound name: N -MeFOSE

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999962$
Calibration curve: $-1.24276 \mathrm{e}-006{ }^{*} x^{\wedge} 2+0.915954 * x+0.18141$
Response type: Internal Std (Ref 58 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

|  | \# Name | Type | Std. Conc | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | Cob Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 1.250 | 6.38 | 97.628 | 10874.240 | 1.347 | 1.3 | 1.8 | NO | 1.000 | NO | bb |
| 2 | $2180921 \mathrm{M} 2 \ldots 3$ | Standard | 2.500 | 6.38 | 192.860 | 11386.687 | 2.541 | 2.6 | 3.0 | NO | 1.000 | NO | bb |
| 3 | 3 180921M2_4 | Standard | 5.000 | 6.38 | 365.889 | 11041.892 | 4.970 | 5.2 | 4.6 | NO | 1.000 | NO | bb |
| 4 4. | 4 180921M2_5 | Standard | 10.000 | 6.38 | 699.600 | 11649.089 | 9.008 | 9.6 | -3.6 | NO | 1.000 | NO | bb |
| 5 | 5 180921M2_6 | Standard | 25.000 | 6.38 | 1678.279 | 11267.946 | 22.341 | 24.2 | -3.2 | NO | 1.000 | NO | bb |
| 6 | 6180921 M 2 _ 7 | Standard | 50.000 | 6.38 | 3461.669 | 11608.692 | 44.729 | 48.6 | -2.7 | NO | 1.000 | NO | bb |
| 7 | $7180921 \mathrm{M} 2 \_8$ | Standard | 250.000 | 6.38 | 17486.254 | 11546.062 | 227.172 | 247.9 | -0.8 | NO | 1.000 | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 500.000 | 6.38 | 35717.664 | 11570.917 | 463.027 | 505.7 | 1.1 | NO | 1.000 | NO | bb |
| 9 | $9180921 \mathrm{M} 2 \_10$ | Standard | 1250.000 | 6.38 | 88517.836 | 11623.414 | 1142.321 | 1249.1 | -0.1 | NO | 1.000 | NO | bb |
| 10.isury | $10180921 \mathrm{M} 2 \_11$ | Standard | 2500.000 | 6.38 | 173345.250 | 11394.705 | 2281.918 | 2499.6 | -0.0 | NO | 1.000 | NO | bb |

# Quantify Compound Summary Report 

Last Altered:
Printed:
Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: N-EtFOSE

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999585$
Calibration curve: $-9.51159 \mathrm{e}-006^{\star} x^{\wedge} 2+1.07192^{*} x+-0.158053$
Response type: Internal Std (Ref 59 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Compound name: 13C3-PFBA

Response Factor: 0.753106
RRF SD: 0.00627001 , Relative SD: 0.832553
Response type: Internal Std (Ref 60), 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 180921M2_2 | Standard | 12.500 | 1.24 | 8067.294 | 10889.188 | 9.261 | 12.3 | -1.6 | NO | NO | bb |
| 4 | 2180921 M 2 _3 | Standard | 12.500 | 1.26 | 8039.033 | 10725.853 | 9.369 | 12.4 | -0.5 | NO | NO | bb |
| $\pm$ | 3180921 M 2 _ 4 | Standard | 12.500 | 1.26 | 8140.170 | 10805.495 | 9.417 | 12.5 | 0.0 | NO | NO | bb |
| 4 4.terity | 4 180921M2_5 | Standard | 12.500 | 1.26 | 8322.573 | 11144.171 | 9.335 | 12.4 | -0.8 | NO | NO | bb |
| 5. | $5180921 \mathrm{M} 2 \_6$ | Standard | 12.500 | 1.23 | 7932.853 | 10423.084 | 9.514 | 12.6 | 1.1 | NO | NO | bb |
|  | 6180921 M 2 _ 7 | Standard | 12.500 | 1.24 | 8234.953 | 10976.741 | 9.378 | 12.5 | -0.4 | NO | NO | bb |
| + | $7180921 \mathrm{M} 2 \_8$ | Standard | 12.500 | 1.25 | 8353.199 | 11001.029 | 9.491 | 12.6 | 0.8 | NO | NO | bb |
| 8. | 8180921 M 2 _9 | Standard | 12.500 | 1.25 | 8267.485 | 10928.560 | 9.456 | 12.6 | 0.5 | NO | NO | bb |
| $9$ | 9180921 M 2 _10 | Standard | 12.500 | 1.25 | 8346.380 | 11012.447 | 9.474 | 12.6 | 0.6 | NO | NO | bb |
| 10.tim | $10180921 \mathrm{M} 2 \ldots 11$ | Standard | 12.500 | 1.25 | 8408.255 | 11128.76E | 9.444 | 12.5 | 0.3 | NO | NO | bb |

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C3-PFPeA

## Response Factor: 0.54404

RRF SD: 0.0156485 , Relative SD: 2.87636
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name. | Type | Stid Cone | RT | Area | - IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | Cob Flag | $\mathrm{x}=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1+ | $1180921 \mathrm{M} 2 \_2$ | Standard | 12.500 | 2.25 | 12432.866 | 22723.090 | 6.839 | 12.6 | 0.6 | NO |  | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 2.25 | 12720.479 | 24225.912 | 6.563 | 12.1 | -3.5 | NO |  | NO | bb |
| 3 | 3180921 M 2 _4 | Standard | 12.500 | 2.25 | 12842.422 | 23428.533 | 6.852 | 12.6 | 0.8 | NO |  | NO | bb |
|  | 4 180921M2_5 | Standard | 12.500 | 2.25 | 12675.981 | 24041.977 | 6.591 | 12.1 | -3.1 | NO |  | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \_6$ | Standard | 12.500 | 2.25 | 12660.257 | 22975.465 | 6.888 | 12.7 | 1.3 | NO |  | NO | bb |
| $6$ | 6180921 M 2 _7 | Standard | 12.500 | 2.25 | 12516.354 | 23979.750 | 6.524 | 12.0 | -4.1 | NO |  | NO | bb |
| 7. | 7 180921M2_8 | Standard | 12.500 | 2.25 | 12759.445 | 23552.789 | 6.772 | 12.4 | -0.4 | NO |  | NO | bb |
| 8 | $8180921 \mathrm{M} 2 \ldots 9$ | Standard | 12.500 | 2.25 | 12627.998 | 23022.504 | 6.856 | 12.6 | 0.8 | NO |  | NO | bb |
| 9 | 9 180921M2_10 | Standard | 12.500 | 2.25 | 12074.863 | 21669.727 | 6.965 | 12.8 | 2.4 | NO |  | NO | bb |
| 10.5 | 10 180921M2_11 | Standard | 12.500 | 2.25 | 11716.563 | 20471.934 | 7.154 | 13.1 | 5.2 | NO |  | NO | bb |

## Compound name: 13C3-PFBS

Response Factor: 0.504553
RRF SD: 0.0199325, Relative SD: 3.95052
Response type: Internal Std (Ref 62 ), Area * (IS Conc. / IS Area)
Curve type: RF


Dataset:
F:IProjects\PFAS.PRO\Results1180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C2-4:2 FTS

Response Factor: 0.653687
RRF SD: 0.076347, Relative SD: 11.6794
Response type: Internal Std (Ref 62 ), Area * (IS Conc. / IS Area)
Curve type: RF

| KRTM, | \# Name | Type | Std. Conc | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | $x=e x c l u d e d$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 2.96 | 2184.420 | 3447.718 | 7.920 | 12.1 | -3.1 | NO | NO | bb |
| 2 | 2 180921M2_3 | Standard | 12.500 | 2.96 | 2120.828 | 3463.322 | 7.655 | 11.7 | -6.3 | NO | NO | MM |
|  | 3 180921M2_4 | Standard | 12.500 | 2.96 | 2111.64 | 3445.971 | 7.660 | 11.7 | -6.3 | NO | NO | bb |
| $4{ }^{4} \mathrm{H}$ | 4 180921M2_5 | Standard | 12.500 | 2.96 | 2042.779 | 3225.777 | 7.916 | 12.1 | -3.1 | NO | NO | bb |
| 5 | 5180921 M 2 _6 | Standard | 12.500 | 2.96 | 2083.145 | 3382.214 | 7.699 | 11.8 | -5.8 | NO | NO | bb |
| $6$ | 6180921 M 2 _7 | Standard | 12.500 | 2.96 | 2066.814 | 3531.811 | 7.315 | 11.2 | -10.5 | NO | NO | bb |
| 7 7.4.4. | $7180921 \mathrm{M} 2 \_8$ | Standard | 12.500 | 2.96 | 2450.548 | 3393.965 | 9.025 | 13.8 | 10.5 | NO | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 12.500 | 2.96 | 2685.948 | 3298.276 | 10.179 | 15.6 | 24.6 | NO | NO | bb |
| $9$ | $9180921 \mathrm{M} 2 \_10$ | Standard | 12.500 | 2.96 | 3733.522 | 3115.813 | 14.978 | 22.9 | 83.3 | NO | NO | $b b X$ |
| 10, | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 2.96 | 5133.953 | 2955.213 | 21.716 | 33.2 | 165.8 | NO | NO | MMX |

## Compound name: 13C2-PFHxA

## Response Factor: 0.943359

RRF SD: 0.0313678, Relative SD: 3.32511
Response type: Internal Std (Ref 61 ), Area * (IS Conc. / IS Area)
Curve type: RF


# Last Altered: 

Saturday, September 22, 2018 10:44:17 Pacific Daylight Time Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C4-PFHpA

## Response Factor: 0.516581

RRF SD: 0.00893092 , Relative SD: 1.72885
Response type: Internal Std ( Ref 61 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: 1802-PFHxS

## Response Factor: 0.453452

RRF SD: 0.0218451 , Relative SD: 4.8175
Response type: Internal Std (Ref 62 ), Area * (IS Conc. / IS Area)
Curve type: RF


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C2-6:2 FTS

Response Factor: 0.720884
RRF SD: 0.101546, Relative SD: 14.0863
Response type: Internal Std ( Ref 65 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | 4.t. Std, Cone | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | CoD Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% | 1 180921M2_2 | Standard | 12.500 | 4.14 | 2248.760 | 3108.617 | 9.042 | 12.5 | 0.3 | NO |  | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 4.14 | 2137.504 | 3262.280 | 8.190 | 11.4 | -9.1 | NO |  | NO | MM |
| 3 | $3180921 \mathrm{M} 2 \ldots 4$ | Standard | 12.500 | 4.14 | 2231.075 | 3249.910 | 8.581 | 11.9 | -4.8 | NO |  | NO | MM |
| 4 | 4180921 M 2 _5 | Standard | 12.500 | 4.14 | 2168.384 | 3290.812 | 8.237 | 11.4 | -8.6 | NO |  | NO | bb |
| 5 | 5180921 M 2 _6 | Standard | 12.500 | 4.14 | 2145.997 | 3410.561 | 7.865 | 10.9 | -12.7 | NO |  | NO | bb |
| 6. | 6180921 M 2 _7 | Standard | 12.500 | 4.14 | 2247.947 | 3245.308 | 8.658 | 12.0 | -3.9 | NO |  | NO | bb |
| $17$ | $7180921 \mathrm{M} 2 \_8$ | Standard | 12.500 | 4.15 | 2660.757 | 3432.925 | 9.688 | 13.4 | 7.5 | NO |  | NO | bb |
| $8$ | 8180921 M 2 _9 | Standard | 12.500 | 4.14 | 3008.499 | 3180.009 | 11.826 | 16.4 | 31.2 | NO |  | NO | bb |
| 9 9: | 9 180921M2_10 | Standard | 12.500 | 4.14 | 4252.966 | 3224.505 | 16.487 | 22.9 | 83.0 | NO |  | NO | bbX |
| 10. | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 4.15 | 5912.697 | 3013.748 | 24.524 | 34.0 | 172.2 | NO |  | NO | bbX |

## Compound name: 13C2-PFOA

Response Factor: 0.663863
RRF SD: 0.0158868 , Relative SD: 2.39308
Response type: Internal Std (Ref 63 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Dataset:

F:IProjects\PFAS.PRO\Results\180921M21180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C5-PFNA

Response Factor: 0.965786
RRF SD: 0.0261809, Relative SD: 2.71084
Response type: Internal Std (Ref 64 ), Area * (IS Conc. / IS Area )
Curve type: RF


## Compound name: 13C8-PFOSA

Response Factor: 0.136908
RRF SD: 0.00420142 , Relative SD: 3.06879
Response type: Internal Std (Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF

| \% | \# Name | Type | Sta. Conc | RT | Area | IS Area | Response | Cone. | \%Dev | Conc. Flag | Cob | CoD Flag | $x$-excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 4.70 | 3878.424 | 28013.750 | 1.731 | 12.6 | 1.1 | NO |  | NO | bb |
| 2 \#\#4 | 2 180921M2_3 | Standard | 12.500 | 4.70 | 3881.821 | 29356.715 | 1.653 | 12.1 | -3.4 | NO |  | NO | bb |
| 3 W | 3180921 M 2 _4 | Standard | 12.500 | 4.70 | 4065.651 | 29292.389 | 1.735 | 12.7 | 1.4 | NO |  | NO | bb |
| 4 | 4 180921M2_5 | Standard | 12.500 | 4.70 | 4096.554 | 29061.297 | 1.762 | 12.9 | 3.0 | NO |  | NO | bb |
| 5 | 5 180921M2_6 | Standard | 12.500 | 4.70 | 3907.207 | 28719.049 | 1.701 | 12.4 | -0.6 | NO |  | NO | bb |
| 6. | 6 180921M2_7 | Standard | 12.500 | 4.71 | 3806.161 | 29116.813 | 1.634 | 11.9 | -4.5 | NO |  | NO | bb |
|  | $7180921 \mathrm{M} 2 \_8$ | Standard | 12.500 | 4.71 | 3577.696 | 27300.400 | 1.638 | 12.0 | -4.3 | NO |  | NO | bb |
| 8: | 8 180921M2_9 | Standard | 12.500 | 4.70 | 3778.762 | 27053.967 | 1.746 | 12.8 | 2.0 | NO |  | NO | MM |
|  | 9 180921M2_10 | Standard | 12.500 | 4.70 | 3620.721 | 26096.305 | 1.734 | 12.7 | 1.3 | NO |  | NO | bb |
| 10 | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 4.71 | 3334.010 | 23411.988 | 1.780 | 13.0 | 4.0 | NO |  | NO | MM |

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C8-PFOS

## Response Factor: 1.07619

RRF SD: 0.036739, Relative SD: 3.4138
Response type: Internal Std (Ref 65 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: 13C2-PFDA

Response Factor: 0.932757
RRF SD: 0.0303066 , Relative SD: 3.24915
Response type: Internal Std (Ref 66 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Cone | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | Cod Fla | x=excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 5.02 | 20100.664 | 21594.553 | 11.635 | 12.5 | -0.2 | NO |  | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 5.02 | 20024.717 | 21003.809 | 11.917 | 12.8 | 2.2 | NO |  | NO | MM |
| 3 | 3180921 M 2 _4 | Standard | 12.500 | 5.02 | 19922.803 | 21299.535 | 11.692 | 12.5 | 0.3 | NO |  | NO | bb |
| 4 | 4 180921M2_5 | Standard | 12.500 | 5.02 | 20618.865 | 22777.082 | 11.316 | 12.1 | -2.9 | NO |  | NO | bb |
| $5$ | 5 180921M2_6 | Standard | 12.500 | 5.02 | 19944.441 | 21772.309 | 11.451 | 12.3 | -1.8 | NO |  | NO | bb |
| 6 | $618092.1 \mathrm{M2}$ _7 | Standard | 12.500 | 5.02 | 19707.863 | 21037.822 | 11.710 | 12.6 | 0.4 | NO |  | NO | bb |
| $7$ | 7 180921M2_8 | Standard | 12.500 | 5.02 | 19478.363 | 22406.164 | 10.867 | 11.7 | -6.8 | NO |  | NO | bb |
| $8$ | $8180921 \mathrm{M} 2 \_9$ | Standard | 12.500 | 5.02 | 19849.932 | 20903.607 | 11.870 | 12.7 | 1.8 | NO |  | NO | bb |
| 9 | 9 180921M2_10 | Standard | 12.500 | 5.02 | 19166.721 | 20118.260 | 11.909 | 12.8 | 2.1 | NO |  | NO | bb |
| 10 | 10180921 M 2 _ 11 | Standard | 12.500 | 5.02 | 18137.766 | 18540.150 | 12.229 | 13.1 | 4.9 | NO |  | NO | bb |

Dataset:
F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C2-8:2 FTS

Response Factor: 0.567766
RRF SD: 0.0895288 , Relative SD: 15.7686
Response type: Internal Std (Ref 65 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: d3-N-MeFOSAA

Response Factor: 0.201967
RRF SD: 0.011386 , Relative SD: 5.63755
Response type: Internal Std (Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
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## Compound name: 13C2-PFUdA

Response Factor: 0.917627
RRF SD: 0.0375355, Relative SD: 4.0905
Response type: Internal Sid ( Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF

| ¢ | \# Name | Type | - Sta. Cone | RT | Area | . IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | CoDFlag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $1180921 \mathrm{M} 2 \_2$ | Standard | 12.500 | 5.35 | 26203.057 | 28013.750 | 11.692 | 12.7 | 1.9 | NO |  | NO | bb |
| 2. | 2180921 M 2 _3 | Standard | 12.500 | 5.35 | 26141.354 | 29356.715 | 11.131 | 12.1 | -3.0 | NO |  | NO | bb |
| 3. | $3180921 \mathrm{M} 2 \_4$ | Standard | 12.500 | 5.35 | 26082.535 | 29292.389 | 11.130 | 12.1 | -3.0 | NO |  | NO | bb |
| 4. | 4180921 M 2 _5 | Standard | 12.500 | 5.35 | 26408.814 | 29061.297 | 11.359 | 12.4 | -1.0 | NO |  | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \ldots 6$ | Standard | 12.500 | 5.35 | 24972.867 | 28719.049 | 10.869 | 11.8 | -5.2 | NO |  | NO | bb |
| 6 | 6 180921M2_7 | Standard | 12.500 | 5.35 | 25251.992 | 29116.813 | 10.841 | 11.8 | -5.5 | NO |  | NO | bb |
| $7$ | 7 180921M2_8 | Standard | 12.500 | 5.35 | 26198.205 | 27300.400 | 11.995 | 13.1 | 4.6 | NO |  | NO | bb |
|  | 8180921 M 2 _9 | Standard | 12.500 | 5.35 | 26124.520 | 27053.967 | 12.071 | 13.2 | 5.2 | NO |  | NO | bb |
| 9 | 9 180921M2_10 | Standard | 12.500 | 5.35 | 24264.594 | 26096.305 | 11.623 | 12.7 | 1.3 | NO |  | NO | bb |
| 10 | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 5.35 | 22461.111 | 23411.988 | 11.992 | 13.1 | 4.6 | NO |  | NO | bb |

## Compound name: d5-N-EtFOSAA

Response Factor: 0.22649
RRF SD: 0.00602307, Relative SD: 2.65931
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Std. Conc | RT | Area | 15 Area | Response | Conc. | \%Dev | Conc. Flag | CoD | CoD Flag | $\mathrm{x}=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 5.33 | 6568.083 | 28013.750 | 2.931 | 12.9 | 3.5 | NO |  | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 5.33 | 6386.052 | 29356.715 | 2.719 | 12.0 | -4.0 | NO |  | NO | bb |
| 3. | $3180921 \mathrm{M} 2 \_4$ | Standard | 12.500 | 5.33 | 6446.870 | 29292.389 | 2.751 | 12.1 | -2.8 | NO |  | NO | bb |
| 4 | 4 180921M2_5 | Standard | 12.500 | 5.33 | 6565.690 | 29061.297 | 2.824 | 12.5 | -0.2 | NO |  | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \ldots 6$ | Standard | 12.500 | 5.33 | 6326.742 | 28719.049 | 2.754 | 12.2 | -2.7 | NO |  | NO | bb |
| 6 | 6180921 M 2 _7 | Standard | 12.500 | 5.33 | 6552.883 | 29116.813 | 2.813 | 12.4 | -0.6 | NO |  | NO | MM |
| 7 | 7 180921M2_8 | Standard | 12.500 | 5.33 | 6434.755 | 27300.400 | 2.946 | 13.0 | 4.1 | NO |  | NO | bb |
| 8. | 8 180921M2_9 | Standard | 12.500 | 5.33 | 6210.333 | 27053.967 | 2.869 | 12.7 | 1.4 | NO |  | NO | bb |
| 9 9 ${ }^{\text {a }}$ | 9 180921M2_10 | Standard | 12.500 | 5.33 | 5974.953 | 26096.305 | 2.862 | 12.6 | 1.1 | NO |  | NO | bb |
| 10.4 | 10 180921M2_11 | Standard | 12.500 | 5.33 | 5322.207 | 23411.988 | 2.842 | 12.5 | 0.4 | NO |  | NO | bb |

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Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C2-PFDoA

## Response Factor: 1.09098

RRF SD: 0.0313437 , Relative SD: 2.87298
Response type: Internal Std (Ref 66 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Std. Cone | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | CoD Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 5.63 | 23641.158 | 21594.553 | 13.685 | 12.5 | 0.3 | NO |  | NO | MM |
| $2$ | 2 180921M2_3 | Standard | 12.500 | 5.63 | 22557.570 | 21003.809 | 13.425 | 12.3 | -1.6 | NO |  | NO | bb |
| 3. | 3 180921M2_4 | Standard | 12.500 | 5.63 | 23271.500 | 21299.535 | 13.657 | 12.5 | 0.1 | NO |  | NO | bb |
| 4 | 4 180921M2_5 | Standard | 12.500 | 5.63 | 23600.363 | 22777.082 | 12.952 | 11.9 | -5.0 | NO |  | NO | bb |
| $5$ | 5 180921M2_6 | Standard | 12.500 | 5.63 | 23406.586 | 21772.309 | 13.438 | 12.3 | -1.5 | NO |  | NO | bb |
| 6.trit | 6180921 M 2 _7 | Standard | 12.500 | 5.63 | 23423.684 | 21037.822 | 13.918 | 12.8 | 2.1 | NO |  | NO | bb |
| 7. | 7 180921M2_8 | Standard | 12.500 | 5.64 | 23726.387 | 22406.164 | 13.237 | 12.1 | -2.9 | NO |  | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 12.500 | 5.63 | 22976.594 | 20903.607 | 13.740 | 12.6 | 0.8 | NO |  | NO | bb |
| 9 | $9180921 \mathrm{M} 2 \_10$ | Standard | 12.500 | 5.63 | 22608.289 | 20118.260 | 14.047 | 12.9 | 3.0 | NO |  | NO | bb |
| 10 \%tis | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 5.63 | 21172.760 | 18540.150 | 14.275 | 13.1 | 4.7 | NO |  | NO | bb |

## Compound name: d3-N-MeFOSA

## Response Factor: 0.0450039

RRF SD: 0.0032304 , Relative SD: 7.17804
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Std. Conc | RT | Area | IS Area | Fesponse | Conc. | $\%$ Dev | Conc. Flag | CoD ${ }^{\text {CoD Flag }}$ | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 1 180921M2_2 | Standard | 150.000 | 5.79 | 14821.109 | 28013.750 | 6.613 | 146.9 | -2.0 | NO | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 150.000 | 5.79 | 15091.529 | 29356.715 | 6.426 | 142.8 | -4.8 | NO | NO | bb |
| 3 | 3180921 M 2 _4 | Standard | 150.000 | 5.79 | 14706.486 | 29292.389 | 6.276 | 139.4 | -7.0 | NO | NO | bb |
| 4 Wintix | 4 180921M2_5 | Standard | 150.000 | 5.79 | 15201.056 | 29061.297 | 6.538 | 145.3 | -3.1 | NO | NO | bb |
| $5 .$. W | $5180921 \mathrm{M} 2 \_6$ | Standard | 150.000 | 5.79 | 14891.931 | 28719.049 | 6.482 | 144.0 | -4.0 | NO | NO | bb |
| 6 | 6180921 M 2 _7 | Standard | 150.000 | 5.80 | 15090.841 | 29116.813 | 6.479 | 144.0 | -4.0 | NO | NO | bb |
| 1 | 7 180921M2_8 | Standard | 150.000 | 5.80 | 15151.692 | 27300.400 | 6.937 | 154.2 | 2.8 | NO | NO | bb |
| 8 8. | 8 180921M2_9 | Standard | 150.000 | 5.79 | 15138.574 | 27053.967 | 6.995 | 155.4 | 3.6 | NO | NO | bb |
| 9 | $9180921 \mathrm{M} 2 \_10$ | Standard | 150.000 | 5.79 | 14185.364 | 26096.305 | 6.795 | 151.0 | 0.7 | NO | NO | bb |
| 10. | $10180921 \mathrm{M} 2 \_11$ | Standard | 150.000 | 5.80 | 14918.813 | 23411.988 | 7.965 | 177.0 | 18.0 | NO | NO | bb |

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Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered:
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Printed:
Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C2-PFTeDA

Response Factor: 0.586749
RRF SD: 0.0748355 , Relative SD: 12.7543
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: d5-N-ETFOSA

Response Factor: 0.0509755
RRF SD: 0.00191319 , Relative SD: 3.75316
Response type: Internal Std (Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | Fx | \# Name | Type | - Std. Conc | RT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD | CoD Flag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | $1180921 \mathrm{M} 2 \_2$ | Standard | 150.000 | 6.21 | 16948.025 | 28013.750 | 7.562 | 148.4 | -1.1 | NO |  | NO | bb |
| 2 |  | 2180921 M 2 _3 | Standard | 150.000 | 6.21 | 17610.395 | 29356.715 | 7.498 | 147.1 | -1.9 | NO |  | NO | bb |
| 3 |  | $3180921 \mathrm{M} 2 \_4$ | Standard | 150.000 | 6.21 | 17299.277 | 29292.389 | 7.382 | 144.8 | -3.5 | NO |  | NO | bb |
| 4 |  | 4 180921M2_5 | Standard | 150.000 | 6.21 | 17760.760 | 29061.297 | 7.639 | 149.9 | -0.1 | NO |  | NO | bb |
| $5$ |  | 5 180921M2_6 | Standard | 150.000 | 6.21 | 16969.014 | 28719.049 | 7.386 | 144.9 | -3.4 | NO |  | NO | bb |
| 6 | $4 \pi$ | 6180921 M 2 _7 | Standard | 150.000 | 6.21 | 16834.195 | 29116.813 | 7.227 | 141.8 | -5.5 | NO |  | NO | bb |
| 7 |  | 7 180921M2_8 | Standard | 150.000 | 6.21 | 17395.268 | 27300.400 | 7.965 | 156.2 | 4.2 | NO |  | NO | bb |
| 8 |  | 8180921 M 2 _9 | Standard | 150.000 | 6.21 | 17030.574 | 27053.967 | 7.869 | 154.4 | 2.9 | NO |  | NO | bb |
| 9 | \% | 9 180921M2_10 | Standard | 150.000 | 6.21 | 16331.604 | 26096.305 | 7.823 | 153.5 | 2.3 | NO |  | NO | bb |
| 10 | 4.3 | 10180921 M 2 _ 11 | Standard | 150.000 | 6.22 | 15193.209 | 23411.988 | 8.112 | 159.1 | 6.1 | NO |  | NO | bb |

## Dataset:

F:IProjects\PFAS.PRO\Results\180921M21180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time

## Printed:

Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C2-PFHxDA

Response Factor: 0.912959
RRF SD: 0.107896, Relative SD: 11.8183
Response type: Internal Std (Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: d7-N-MeFOSE

Response Factor: 0.0343969
RRF SD: 0.00279467 , Relative SD: 8.12478
Response type: Internal Std (Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF


Dataset: $\quad$ F:IProjects\PFAS.PRO\Results $1180921 \mathrm{M} 2 \backslash 180921 \mathrm{M} 2-\mathrm{CRV}$.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time

## Printed:

Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: d9-N-EtFOSE

Response Factor: 0.0361136
RRF SD: 0.00308819 , Relative SD: 8.55131
Response type: Internal Std (Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: 13C4-PFBA

Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 60 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Std Cone | RT | Area | IS Area | Response | Conc | \%Dev | Conc. Flag | Cob | Cod Flag | $\mathrm{x}=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1180921 M 2 _2 | Standard | 12.500 | 1.25 | 10889.188 | 10889.188 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 1.25 | 10725.853 | 10725.853 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 3 | $3180921 \mathrm{M} 2 \_4$ | Standard | 12.500 | 1.26 | 10805.495 | 10805.495 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 4 | 4 180921M2_5 | Standard | 12.500 | 1.26 | 11144.171 | 11144.171 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| $5$ | $5180921 \mathrm{M} 2 \ldots 6$ | Standard | 12.500 | 1.23 | 10423.084 | 10423.084 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 6 | $6180921 \mathrm{M} 2 \_7$ | Standard | 12.500 | 1.25 | 10976.741 | 10976.741 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 7 | 7 180921M2_8 | Standard | 12.500 | 1.25 | 11001.029 | 11001.029 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 12.500 | 1.25 | 10928.560 | 10928.560 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 9.3\%) | $9180921 \mathrm{M} 2 \_10$ | Standard | 12.500 | 1.25 | 11012.447 | 11012.447 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| $10 \%$ \% | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 1.25 | 11128.76E | 11128.766 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |

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Printed:

$$
\text { Saturday, September 22, } 2018 \text { 12:29:58 Pacific Daylight Time }
$$

## Compound name: 13C5-PFHxA

Response Factor: 1
RRF SD: 0 , Relative SD: 0
Response type: Internal Std (Ref 61 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Sid. Cone | RT | Area | IS Area | Fesponse | Conc. | \%Dev | Conc. Flag | CoD | CoD Fla | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 3.05 | 22723.090 | 22723.090 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 2 | 2 180921M2_3 | Standard | 12.500 | 3.05 | 24225.912 | 24225.912 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 3 L 3\% | 3180921 M 2 _ 4 | Standard | 12.500 | 3.05 | 23428.533 | 23428.533 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
|  | 4 180921M2_5 | Standard | 12.500 | 3.05 | 24041.977 | 24041.977 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \_6$ | Standard | 12.500 | 3.05 | 22975.465 | 22975.465 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 6. | 6180921 M 2 _7 | Standard | 12.500 | 3.05 | 23979.750 | 23979.750 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 7 | 7180921 Mz -8 | Standard | 12.500 | 3.05 | 23552.789 | 23552.789 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
|  | 8180921 M 2 _9 | Standard | 12.500 | 3.05 | 23022.504 | 23022.504 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 9 | 9 180921M2_10 | Standard | 12.500 | 3.05 | 21669.727 | 21669.727 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 10 \% | $10180921 \mathrm{M} 2 \ldots 11$ | Standard | 12.500 | 3.05 | 20471.934 | 20471.934 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |

## Compound name: 13C3-PFHxS

Response Factor: 1
RRF SD: 0 , Relative SD: 0
Response type: Internal Std (Ref 62 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Std Conc | RT | Area | IS Area | Response | Conc. | \%Der | Cone Flag | CoD CoDFlag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 3.83 | 3447.718 | 3447.718 | 12.500 | 12.5 | 0.0 | NO | NO | MM |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 3.83 | 3463.322 | 3463.322 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 3 | 3 180921M2_4 | Standard | 12.500 | 3.83 | 3445.971 | 3445.971 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 4 | $4180921 \mathrm{M} 2 \ldots 5$ | Standard | 12.500 | 3.83 | 3225.777 | 3225.777 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 5 | 5 180921M2_6 | Standard | 12.500 | 3.83 | 3382.214 | 3382.214 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 6 | 6 180921M2_7 | Standard | 12.500 | 3.83 | 3531.811 | 3531.811 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| $7$ | 7 180921M2_8 | Standard | 12.500 | 3.83 | 3393.965 | 3393.965 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 12.500 | 3.83 | 3298.276 | 3298.276 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 9.4\% | 9 180921M2_10 | Standard | 12.500 | 3.83 | 3115.813 | 3115.813 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 10:3 | $10180921 \mathrm{M} 2 \_11$ | Standard | 12.500 | 3.83 | 2955.213 | 2955.213 | 12.500 | 12.5 | 0.0 | NO | NO | bb |

## Dataset:

F:IProjects\PFAS.PRO\Results\180921M21180921M2-CRV.qld
Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
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Saturday, September 22, 2018 12:29:58 Pacific Daylight Time

## Compound name: 13C8-PFOA

Response Factor: 1
RRF SD: 0 , Relative SD: 0
Response type: Internal Std ( Ref 63 ), Area * (IS Conc. / IS Area )
Curve type: RF

|  | \# Name | Type | W2. Std. Conc | 3 RT. RT | -3. Area | IS Area | Response | Conc. | \%Dey | Conc. Flag | - CoD | CoDFlag | $x=$ excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 4.20 | 31737.531 | 31737.531 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 2 | 2180921 M 2 _3 | Standard | 12.500 | 4.20 | 33391.508 | 33391.508 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 3 | $3180921 \mathrm{M} 2 \_4$ | Standard | 12.500 | 4.20 | 33064.531 | 33064.531 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 4 \% | 4180921 M 2.5 | Standard | 12.500 | 4.20 | 33271.359 | 33271.359 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 5 | $5180921 \mathrm{M2}$ _6 | Standard | 12.500 | 4.20 | 33130.305 | 33130.305 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 6 | 6180921 M 2 _ 7 | Standard | 12.500 | 4.20 | 32636.809 | 32636.809 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| $7$ | 7180921 M 2 _8 | Standard | 12.500 | 4.20 | 32797.859 | 32797.859 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 12.500 | 4.20 | 32128.373 | 32128.373 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
| 9.1\% | 9 180921M2_10 | Standard | 12.500 | 4.20 | 30735.490 | 30735.490 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |
|  | $10180921 \mathrm{M} 2 \ldots 11$ | Standard | 12.500 | 4.20 | 28408.430 | 28408.430 | 12.500 | 12.5 | 0.0 | NO |  | NO | bb |

## Compound name: 13C9-PFNA

Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 64 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  | \# Name | Type | Strecone | PT | Area | IS Area | Response | Conc. | \%Dev | Conc. Flag | COD CoDFlag | $x=e x c l u d e d$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 180921M2_2 | Standard | 12.500 | 4.64 | 23644.119 | 23644.119 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 2\%Metmity | 2. 180921 M 2 _3 | Standard | 12.500 | 4.64 | 22998.842 | 22998.842 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 3 | 3180921 M 2 _4 | Standard | 12.500 | 4.64 | 22278.621 | 22278.621 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 4 | 4 180921M2_5 | Standard | 12.500 | 4.64 | 23572.631 | 23572.631 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 5 | $5180921 \mathrm{M} 2 \_6$ | Standard | 12.500 | 4.64 | 22793.822 | 22793.822 | 12.500 | 12.5 | 0.0 | NO | NO | MM |
| 6 . | 6180921 M 2 _ 7 | Standard | 12.500 | 4.64 | 22107.574 | 22107.574 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 7. | 7180921 M 2 _ 8 | Standard | 12.500 | 4.64 | 22719.037 | 22719.037 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 8 | 8180921 M 2 _9 | Standard | 12.500 | 4.64 | 22033.166 | 22033.166 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
|  | 9 180921M2_10 | Standard | 12.500 | 4.64 | 21040.479 | 21040.479 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 10.. | 10180921 M 2 _ 11 | Standard | 12.500 | 4.64 | 19407.861 | 19407.861 | 12.500 | 12.5 | 0.0 | NO | NO | bb |

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Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
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## Compound name: 13C4-PFOS

Response Factor: 1
RRF SD: 0 , Relative SD: 0
Response type: Internal Std (Ref 65 ), Area * (IS Conc. / IS Area)
Curve type: RF


## Compound name: 13C6-PFDA

## Response Factor: 1

RRF SD: 0 , Relative SD: 0
Response type: Internal Std (Ref 66 ), Area * (IS Conc. / IS Area)
Curve type: RF


# Quantify Compound Summary Report 

Vista Analytical Laboratory

| Dataset: | F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld |
| :--- | :--- |
| Last Altered: | Saturday, September 22, 2018 10:44:17 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 12:29:58 Pacific Daylight Time |

## Compound name: 13C7-PFUdA

Response Factor: 1
RRF SD: 0 , Relative SD: 0
Response type: Internal Std ( Ref 67 ), Area * (IS Conc. / IS Area)
Curve type: RF

|  |  | \# Name. | Type | Std. Conc | RT | Area | 1. IS Area | Response | Conc. | \%Dev | Conc. Flag | CoD CoD Flag | $x$-excluded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | 1 180921M2_2 | Standard | 12.500 | 5.35 | 28013.750 | 28013.750 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 2 |  | 2 180921M2_3 | Standard | 12.500 | 5.35 | 29356.715 | 29356.715 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 3 | TII | 3 180921M2_4 | Standard | 12.500 | 5.35 | 29292.389 | 29292.389 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 4 | \% | 4 180921M2_5 | Standard | 12.500 | 5.35 | 29061.297 | 29061.297 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 5 | . | 5 180921M2_6 | Standard | 12.500 | 5.35 | 28719.049 | 28719.049 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 6. |  | 6180921 M 2 _7 | Standard | 12.500 | 5.35 | 29116.813 | 29116.813 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 7 | $\sqrt{2},$ | 7180921 M 2 _8 | Standard | 12.500 | 5.35 | 27300.400 | 27300.400 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 8 |  | 8180921 M 2 _9 | Standard | 12.500 | 5.35 | 27053.967 | 27053.967 | 12.500 | 12.5 | 0.0 | NO | NO | bb |
| 9 | $1$ | 9 180921M2_10 | Standard | 12.500 | 5.35 | 26096.305 | 26096.305 | 12.500 | 12.5 | 0.0 | NO | NO | MM |
| 10 | \% | 10180921 M 2 _11 | Standard | 12.500 | 5.35 | 23411.988 | 23411.988 | 12.500 | 12.5 | 0.0 | NO | NO | bb |

Dataset: F:IProjects\PFAS.PRO\Results1180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: 4:2 FTS
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999258$
Calibration curve: $-0.00277709{ }^{*} x^{\wedge} 2+1.17621^{*} x+0.0207206$
Response type: Internal Std (Ref 39), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


| Dataset: | F:IProjects\PFAS.PRO\Results1180921M2\180921M2-CRV.ald |
| :--- | :--- |
| Last Altered: | Saturday, September 22, 2018 10:44:17 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 12:33:53 Pacific Daylight Time |

## Compound name: PFHxA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999871$
Calibration curve: $-0.000184215^{*} x^{\wedge} 2+1.00554^{*} x+0.0254901$
Response type: Internal Std (Ref 40 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: $1 / x$, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

## Compound name: PFPeS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999925$
Calibration curve: $9.58996 e-005$ * $x^{\wedge} 2+1.5156$ * $x+0.0200581$
Response type: Internal Std (Ref 38 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results1180921M2\180921M2-CRV.ald
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed:
Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: $\mathrm{r}=0.999856, \mathrm{r}^{\wedge} 2=0.999712$
Calibration curve: $1.21703^{*} x+0.0200567$
Response type: Internal Std (Ref 41 ), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qid

Last Altered:
Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999543$
Calibration curve: $-0.0002712922^{*} x^{\wedge} 2+1.73959$ * $x+-0.0290897$
Response type: Internal Std (Ref 42 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: 6:2 FTS
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999296$
Calibration curve: $-0.00411125{ }^{*} x^{\wedge} 2+1.41518{ }^{*} x+-0.05757$
Response type: Internal Std (Ref 43 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


## Vista Analytical Laboratory Q1

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: L-PFOA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999857$
Calibration curve: $-7.11995 \mathrm{e}-005^{*} x^{\wedge} 2+1.44483$ * $x+0.128465$
Response type: Internal Std (Ref 44 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Vista Analytical Laboratory Q1

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: PFHpS
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999917$
Calibration curve: $5.68869 e-005^{*} x^{\wedge} 2+0.840017^{*} x+-0.00313784$
Response type: Internal Std ( Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999973$
Calibration curve: $2.43776 \mathrm{e}-005^{*} \mathrm{x}^{\wedge} 2+1.07358^{*} \mathrm{x}+0.0200697$
Response type: Internal Std (Ref 45 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: PFOSA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999833$
Calibration curve: $-7.40103 \mathrm{e}-005^{*} x^{\wedge} 2+1.07348$ * x + -0.0171345
Response type: Internal Std (Ref 46 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: $1 / x$, Axis trans: None


## Vista Analytical Laboratory Q1

Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qid
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: L-PFOS
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999727$
Calibration curve: $0.00012253^{*} x^{\wedge} 2+1.017222^{*} x+-0.0126442$
Response type: Internal Std (Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


Dataset: F:\Projects\PFAS.PRO\Results\180921M21180921M2-CRV.qld
Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999853$
Calibration curve: $-0.000164539^{*} x^{\wedge} 2+1.30266^{*} x+0.0132556$
Response type: Internal Std (Ref 48 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset:
F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qId
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

## Compound name: 8:2 FTS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.998075$
Calibration curve: $-0.005129388^{*} x^{\wedge} 2+1.53318$ * x + -0.0610602
Response type: Internal Std (Ref 49 ), Area* (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Vista Analytical Laboratory Q

Dataset:
F:\Projects\PFAS.PRO\Results\180921M2\180921M2-CRV.qid
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

## Compound name: PFNS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999825$
Calibration curve: $4.85404 \mathrm{e}-005^{*} x^{\wedge} 2+0.750619^{*} x+0.00744545$
Response type: Internal Std (Ref 47 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld

Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

## Compound name: L-MeFOSAA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999730$
Calibration curve: -0.000181893 * $x^{\wedge} 2+1.52342^{*} x+-0.0582803$
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:33:53 Pacific Daylight Time

## Compound name: L-EtFOSAA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999766$
Calibration curve: $8.56086 \mathrm{e}-005^{*} x^{\wedge} 2+1.07156$ * $x+-0.0471687$
Response type: Internal Std (Ref 52 ), Area* (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Resultsl180921M21180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_092118.mdb 22 Sep 2018 10:43:01 Calibration: F:IProjects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_09-21-18.cdb 22 Sep 2018 10:44:17

Compound name: PFUdA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999889$
Calibration curve: $-6.18798 e-005{ }^{*} x^{\wedge} 2+0.939815^{*} x+0.0575203$
Response type: Internal Std (Ref 51 ), Area * IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

## Compound name: PFDS

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999890$
Calibration curve: $-3.7707 \mathrm{e}-006^{*} x^{\wedge} 2+1.04727^{*} x+-0.0962577$
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:\Projects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: PFDoA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999856$
Calibration curve: -4.05078e-005 * $x^{\wedge} 2+1.23992$ * $x+0.0724267$
Response type: Internal Std (Ref 53 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

## Compound name: N-MeFOSA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999164$
Calibration curve: -6.40159e-005 * x^2 + 0.994671 *x+-0.175063
Response type: Internal Std (Ref 54 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


Vista Analytical Laboratory Q1
Dataset: $\quad$ F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: PFTrDA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999979$
Calibration curve: $-0.000173636^{*} x^{\wedge} 2+1.34621^{*} x+0.0372811$
Response type: Internal Std (Ref 53 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Quantify Calibration Report

Vista Analytical Laboratory Q1
Dataset: $\quad$ F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.ald
Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999882$
Calibration curve: -0.000534082 * $x^{\wedge} 2+1.74261^{*} x+0.164696$
Response type: Internal Std (Ref 55 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld

Last Altered: Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: $\quad$ Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

## Compound name: N-EtFOSA

Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999977$
Calibration curve: $-2.15283 e-005$ * $x^{\wedge} 2+0.87729^{*} x+0.120377$
Response type: Internal Std (Ref 56 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld

Last Altered: Printed:

Saturday, September 22, 2018 10:44:17 Pacific Daylight Time Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: PFHxDA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999904$
Calibration curve: $-0.000307243^{*} x^{\wedge} 2+0.600161$ * $x+0.044965$
Response type: Internal Std (Ref 57 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2180921M2-CRV.qld
Last Altered: $\quad$ Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999863$
Calibration curve: -0.000348368 * $x^{\wedge} 2+0.826485$ * $x+0.00409336$
Response type: Internal Std (Ref 57 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None


Dataset: F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld

Last Altered:
Printed:

Saturday, September 22, 2018 10:44:17 Pacific Daylight Time Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: N-MeFOSE
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999962$
Calibration curve: $-1.24276 \mathrm{e}-006$ * $\mathrm{x}^{\wedge} 2+0.915954$ * $\mathrm{x}+0.18141$
Response type: Internal Std (Ref 58 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


## Dataset: <br> F:IProjects\PFAS.PRO\Results\180921M2\180921M2-CRV.qld

Last Altered:
Saturday, September 22, 2018 10:44:17 Pacific Daylight Time
Printed: Saturday, September 22, 2018 12:34:05 Pacific Daylight Time

Compound name: N-EtFOSE
Coefficient of Determination: $\mathrm{R}^{\wedge} 2=0.999585$
Calibration curve: $-9.51159 e-006$ * $x^{\wedge} 2+1.07192$ * $x+-0.158053$
Response type: Internal Std (Ref 59 ), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None


| Dataset: | F:\Projects\PFAS.PRO\Results\180921M21180921M2-ICV.qld |
| :--- | :--- |
| Last Altered: | Saturday, September 22, 2018 10:52:22 Pacific Daylight Time |
| Printed: | Saturday, September 22, 2018 10:52:29 Pacific Daylight Time |

Name: 180921M2_13, Date: 21-Sep-2018, Time: 14:33:28, ID: ICV180921M2-1 PFC ICV 1811711, Description: PFC ICV 1811711


## Vista Analytical Laboratory

Last Altered: Saturday, September 22, 2018 10:52:22 Pacific Daylight Time Printed: Saturday, September 22, 2018 10:52:29 Pacific Daylight Time

## (A) Compoords not present in ICV

Name: 180921M2_13, Date: 21-Sep-2018, Time: 14:33:28, ID: ICV180921M2-1 PFC ICV 1811711, Description: PFC ICV 1811711

|  |  | \# Name | Trace | Area | IS Area | wtivol | RT | Response | Conc. | \%Rec | Recovery . | lon Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 37. |  | 47 13C8-PFOS | $507.0>79.9$ | 3732.632 | 3258.284 | 1.00 | 4.73 | 14.320 | 13.3 | 106.4 | NO |  |  |
| 38 | , 4 | $50 \mathrm{d3}-\mathrm{N}-\mathrm{MeFOSAA}$ | $573.3>419$ | 5797.488 | 29561.982 | 1.00 | 5.17 | 2.451 | 12.1 | 97.1 | NO |  |  |
| 39 | \#\#\% | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 40 | \% | 23 L-EtFOSAA | $584.1>419$ | 6296.868 | 6529.733 | 1.00 | 5.34 | 12.054 | 11.3 | 112.8 | NO | 1.481 | NO |
| 41 | \% | 27 PFDoA | $612.9>569.0$ | 23750.889 | 24281.938 | 1.00 | 5.63 | 12.227 | 9.8 | 98.1 | NO | 8.593 | NO |
| 42 |  | 26 PFDS | $598.8>79.9$ | 2789.907 | 3732.632 | 1.00 | 5.40 | 9.343 | 9.0 | 90.1 | NO | 1.601 | NO |
| 43 |  | 25 PFUdA | $563.0>518.9$ | 20726.020 | 26762.334 | 1.00 | 5.35 | 9.681 | 10.2 | 102.5 | NO | 9.636 | NO |
| 44 |  | $28 \mathrm{~N}-\mathrm{MeFOSA}$ | $512.1>168.9$ |  | 15443.573 | 1.00 |  |  |  | (4) | NO |  |  |
| 45 |  | 29 PFTrDA | $662.9>618.9$ | 25268.254 | 24281.938 | 1.00 | 5.88 | 13.008 | 9.6 | 96.5 | NO | 24.913 | NO |
| 46 |  | $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 6529.733 | 29561.982 | 1.00 | 5.33 | 2.761 | 12.2 | 97.5 | NO |  |  |
| 47 | *! | 53 13C2-PFDOA | $615.0>569.7$ | 24281.938 | 21715.471 | 1.00 | 5.63 | 13.977 | 12.8 | 102.5 | NO |  |  |
| 48 |  | 47 13C8-PFOS | $507.0>79.9$ | 3732.632 | 3258.284 | 1.00 | 4.73 | 14.320 | 13.3 | 106.4 | NO |  |  |
| 49 | $15$ | 51 13C2-PFUdA | $565>519.8$ | 26762.334 | 29561.982 | 1.00 | 5.35 | 11.316 | 12.3 | 98.7 | NO |  |  |
| 50 |  | 54 d3-N-MeFOSA | $515.2>168.9$ | 15443.573 | 29561.982 | 1.00 | 5.79 | 6.530 | 145.1 | 96.7 | NO |  |  |
| 51 | (\%) | 53 13C2-PFDoA | $615.0>569.7$ | 24281.938 | 21715.471 | 1.00 | 5.63 | 13.977 | 12.8 | 102.5 | NO |  |  |
| 52 | W\% | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 53 | $1$ | 30 PFTeDA | $712.8>669.0$ | 23840.189 | 17299.611 | 1.00 | 6.10 | 17.226 | 9.8 | 98.2 | NO | 14.304 | NO |
| 54 |  | 31 N-EtFOSA | $526.1>168.9$ |  | 17974.150 | 1.00 |  |  |  | (4) | NO |  |  |
| 55 |  | 32 PFHxDA | $813.1>768.6$ |  | 10222.154 | 1.00 |  |  |  | ) | NO |  |  |
| 56 | ${ }^{2}$ | 33 PFODA | $913.1>868.8$ |  | 10222.154 | 1.00 |  |  |  |  | NO |  |  |
| 57 |  | $34 \mathrm{~N}-\mathrm{MeFOSE}$ | $616.1>58.9$ |  | 11477.148 | 1.00 |  |  |  |  | NO |  |  |
| 58 |  | $35 \mathrm{~N}-\mathrm{EtFOSE}$ | $630.1>58.9$ |  | 12196.354 | 1.00 |  |  |  | V | NO |  |  |
| 59 | T. | 55 13C2-PFTeDA | $714.8>669.6$ | 17299.611 | 29561.982 | 1.00 | 6.10 | 7.315 | 12.5 | 99.7 | NO |  |  |
| 60 |  | 56 d5-N-ETFOSA | $531.1>168.9$ | 17974.150 | 29561.982 | 1.00 | 6.21 | 7.600 | 149.1 | 99.4 | NO |  |  |
| 61 | + | 57 13C2-PFHxDA | $815>769.7$ | 10222.154 | 29561.982 | 1.00 | 6.45 | 4.322 | 4.7 | 94.7 | NO |  |  |
| 62 | TH. | 57 13C2-PFHxDA | $815>769.7$ | 10222.154 | 29561.982 | 1.00 | 6.45 | 4.322 | 4.7 | 94.7 | NO |  |  |
| 63 |  | $58 \mathrm{d7}-\mathrm{N}-\mathrm{MeFOSE}$ | $623.1>58.9$ | 11477.148 | 29561.982 | 1.00 | 6.37 | 4.853 | 141.1 | 94.1 | NO |  |  |
| 64 |  | $59 \mathrm{~d} 9-\mathrm{N}-\mathrm{EtFOSE}$ | $639.2>58.8$ | 12196.354 | 29561.982 | 1.00 | 6.52 | 5.157 | 142.8 | 95.2 | NO |  |  |
| 65 |  | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 66 | I! | 60 13C4-PFBA | 217. $>172$ | 11195.32: | 11195.32 § | 1.00 | 1.25 | 12.500 | 12.5 | 100.0 | NO |  |  |
| 67. |  | 61 13C5-PFHxA | $318>272.9$ | 24743.027 | 24743.027 | 1.00 | 3.05 | 12.500 | 12.5 | 100.0 | NO |  |  |
| 68 |  | 62 13C3-PFHxS | $401.8>79.9$ | 3405.422 | 3405.422 | 1.00 | 3.83 | 12.500 | 12.5 | 100.0 | NO |  |  |
| 69 | \% | 63 13C8-PFOA | $420.9>376$ | 34728.496 | 34728.496 | 1.00 | 4.20 | 12.500 | 12.5 | 100.0 | NO |  |  |
| 70 |  | 64 13C9-PFNA | $472.2>426.9$ | 23247.029 | 23247.029 | 1.00 | 4.64 | 12.500 | 12.5 | 100.0 | NO |  |  |
| 71 |  | 65 13C4-PFOS | $503>79.9$ | 3258.284 | 3258.284 | 1.00 | 4.73 | 12.500 | 12.5 | 100.0 | NO |  |  |
| 72 | +1\% | 66 13C6-PFDA | $519.1>473.7$ | 21715.471 | 21715.471 | 1.00 | 5.02 | 12.500 | 12.5 | 100.0 | NO |  |  |

Printed: $\quad$ Fri Sep 21 09:30:14 2018


Reference: c:Imasslynx|reflESI Calibration TQ ResCal.ref Mean residual $=0.0252 \mathrm{amu}$



## Calibration Report - MS1 Scanning

Printed: $\quad$ Fri Sep 21 09:31:23 2018


Printed: $\quad$ Fri Sep 21 09:32:34 2018

Data file: FASTMS1 - Calibrated


Printed: $\quad$ Fri Sep 21 09:33:43 2018
Data file: STATMS2 - Calibrated 22 matches of 23 tested references

Reference: c:\masslynx|refIESI Calibration TQ ResCal.ref
Mean residual $=0.0321 \mathrm{amu}$



Calibration Report - MS2 Scanning

## Printed: $\quad$ Fri Sep 21 09:34:51 2018



Residual $\quad$ Polynomial order $=4$
RMS residual $=0.108 \mathrm{amu}$


Calibration Report - MS2 Scan Speed Compensation

## Printed: $\quad$ Fri Sep 21 09:36:17 2018

Data file: FASTMS2 - Calibrated 23 matches of 23 tested references
Reference: c:Imasslynx\refIESI Calibration TQ ResCal.ref
Mean residual $=0.0533 \mathrm{amu}$



## Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917

|  | \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 PFBA | 213.0 > 16... | 4.48 e 2 | 8.97e3 | 0.116 | 0.000 | 1.25 | 0.624 | 5.1277 |  |  |  |
| 2 | 2 PFPeA | $263.1>21$... | 1.02 e 3 | 1.12 e 4 | 0.116 | 0.000 | 2.25 | 1.13 | 9.7863 |  |  |  |
| 3 | 3 PFBS | $299.0>79.7$ |  | 1.61 e 3 | 0.116 |  |  |  |  |  |  |  |
| 4 | 5 PFHxA | $313>269$ | 1.98 e 3 | 7.71 e 3 | 0.116 | 0.000 | 3.05 | 1.28 | 10.7538 |  | 13.8 | NO |
| 5 | 7 PFHpA | 363.0 > 31 ... | 1.14 e 3 | 1.04 e 4 | 0.116 | 0.000 | 3.67 | 1.37 | 9.5329 |  | 11.4 | NO |
| 6 | 36 13C3-PFBA | $216.1>17 \ldots$ | 8.97 e 3 | 1.21 e 4 | 0.116 | 0.741 | 1.25 | 9.26 | 105.8208 | 98.4 |  |  |
| 7 | 37 13C3-PFPeA | 266. $>221.8$ | 1.12 e 4 | 2.17 e 4 | 0.116 | 0.516 | 2.25 | 6.45 | 101.9860 | 94.8 |  |  |
| 8 | 38 13C3-PFBS | 302. > 98.8 | 1.61 e 3 | 3.12 e 3 | 0.116 | 0.516 | 2.55 | 6.45 | 110.0115 | 102.3 |  |  |
| 9 | 40 13C2-PFHxA | $315>270$ | 7.71 e 3 | 2.17 e 4 | 0.116 | 0.888 | 3.05 | 4.44 | 40.5296 | 94.2 |  |  |
| 10 | 41 13C4-PFHpA | 367.2 > 32. | 1.04e4 | 2.17 e 4 | 0.116 | 0.479 | 3.68 | 5.99 | 99.8333 | 92.8 |  |  |
| 11 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 8 L-PFHxS | $398.9>79.6$ | 5.01 e 2 | 1.33 e3 | 0.116 | 0.000 | 3.83 | 4.73 | 23.5512 |  | 1.85 | NO |
| 13 | 68 Total PFHxS | $398.9>79.6$ | 5.01 e 2 | 1.33 e3 | 0.116 |  |  | 4.73 | 23.5512 |  |  |  |
| 14 | 10 6:2 FTS | $427.1>407$ |  | 1.99 e 3 | 0.116 |  |  |  |  |  |  |  |
| 15 | 11 L-PFOA | 412.8 > $36 \ldots$ | 6.23 e3 | 1.69 e 4 | 0.116 | 0.000 | 4.20 | 4.62 | 26.7437 |  | 3.36 | NO |
| 16 | 69 Total PFOA | $412.8>36 \ldots$ | 6.81e3 | 1.69 e 4 | 0.116 |  |  | 5.04 | 28.5252 |  |  |  |
| 17 | 42 18O2-PFHxS | $403.0>10 \ldots$ | 1.33 e 3 | 3.12 e 3 | 0.116 | 0.425 | 3.83 | 5.31 | 100.7221 | 93.6 |  |  |
| 18 | 42 18O2-PFHxS | $403.0>10 \ldots$ | 1.33 e 3 | 3.12 e 3 | 0.116 | 0.425 | 3.83 | 5.31 | 100.7221 | 93.6 |  |  |
| 19 | 43 13C2-6:2 FTS | $429.1>40 \ldots$ | 1.99 e 3 | 3.24 e 3 | 0.116 | 0.615 | 4.14 | 7.68 | 91.7103 | 85.2 |  |  |
| 20 | 44 13C2-PFOA | $414.9>36 \ldots$ | 1.69 e 4 | 3.00 e 4 | 0.116 | 0.563 | 4.20 | 7.03 | 91.1809 | 84.8 |  |  |
| 21 | 44 13C2-PFOA | $414.9>36 \ldots$ | 1.69 e 4 | 3.00 e 4 | 0.116 | 0.563 | 4.20 | 7.03 | 91.1809 | 84.8 |  |  |
| 22 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 23 | 13 PFHpS | $449>80.0$ |  | 3.25 e 3 | 0.116 |  |  |  |  |  |  |  |
| 24 | 14 PFNA | $463.0>41 \ldots$ | 7.69e3 | 1.42 e 4 | 0.116 | 0.000 | 4.64 | 6.75 | 53.9500 |  | 3.86 | NO |
| 25 | 15 PFOSA | $497.9>77.9$ |  | 1.74 e 3 | 0.116 |  |  |  |  |  |  |  |
| 26 | 16 L-PFOS | $498.9>79.9$ | 4.07 e 2 | 3.25 e 3 | 0.116 | 0.000 | 4.73 | 1.56 | 13.3356 |  | 2.15 | NO |
| 27 | 70 Total PFOS | $498.9>79.9$ | 4.07 e 2 | 3.25 e 3 | 0.116 |  |  | 1.56 | 13.3356 |  |  |  |
| 28 | 47 13C8-PFOS | $507.0>79.9$ | 3.25 e3 | 3.24 e 3 | 0.116 | 1.00 | 4.73 | 12.6 | 100.4178 | 93.3 |  |  |
| 29 | 45 13C5-PFNA | 468.2 > 42... | 1.42 e 4 | 2.10 e 4 | 0.116 | 0.678 | 4.64 | 8.48 | 75.5741 | 70.2 |  |  |
| 30 | 46 13C8-PFOSA | $506.1>77.7$ | 1.74 e 3 | 2.60 e 4 | 0.116 | 0.0668 | 4.70 | 0.835 | 52.4827 | 48.8 |  |  |
| 31 | 47 13C8-PFOS | $507.0>79.9$ | 3.25 e 3 | 3.24 e 3 | 0.116 | 1.00 | 4.73 | 12.6 | 100.4178 | 93.3 |  |  |
| 32 | 47 13C8-PFOS | $507.0>79.9$ | 3.25 e3 | 3.24 e 3 | 0.116 | 1.00 | 4.73 | 12.6 | 100.4178 | 93.3 |  |  |
| 33 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 34 | 18 PFDA | $513>468.8$ | 3.09 e 2 | 1.17 e 4 | 0.116 | 0.000 | 5.02 | 0.330 | 2.0917 |  | 6.71 | NO |
| 35 | 19 8:2 FTS | $527>506.9$ |  | 1.54 e 3 | 0.116 |  |  |  |  |  |  |  |
| 36 | 21 L-MeFOSAA | $570>419$ |  | 3.66 e 3 | 0.116 |  |  |  |  |  |  |  |
| 37 |  | 570. $>419$ | 0.00e0 | 3.66 e 3 | 0.116 |  |  | 0.000 |  |  |  |  |

Monday, September 24, 2018 09:57:00 Pacific Daylight Time

## Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917

| \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 PFUdA | 563.0 > 51... | 7.16 e 2 | 1.58 e 4 | 0.116 | 0.000 | 5.35 | 0.565 | 4.6461 |  | 10.4 | NO |
| 48 13C2-PFDA | $515.1>46 \ldots$ | 1.17 e 4 | 1.98 e 4 | 0.116 | 0.594 | 5.02 | 7.42 | 68.4600 | 63.6 |  |  |
| 49 13C2-8:2 FTS | $529.1>50 \ldots$ | 1.54 e 3 | 3.24 e 3 | 0.116 | 0.475 | 4.99 | 5.94 | 90.0490 | 83.7 |  |  |
| 50 d3-N-MeFOSAA | $573.3>419$ | 3.66e3 | 2.60 e 4 | 0.116 | 0.141 | 5.17 | 1.76 | 74.9048 | 69.6 |  |  |
| 50 d3-N-MeFOSAA | $573.3>419$ | 3.66e3 | 2.60 e 4 | 0.116 | 0.141 | 5.17 | 1.76 | 74.9048 | 69.6 |  |  |
| 51 13C2-PFUdA | $565>519.8$ | 1.58 e 4 | 2.60 e 4 | 0.116 | 0.609 | 5.35 | 7.61 | 71.3462 | 66.3 |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |
| 23 L-EtFOSAA | $584.1>419$ |  | 4.72 e 3 | 0.116 |  |  |  |  |  |  |  |
| 72 Total N-EtFOSAA | $584.1>419$ | 0.00e0 | 4.72 e 3 | 0.116 |  |  | 0.000 |  |  |  |  |
| 26 PFDS | $598.8>79.9$ |  | 3.25 e 3 | 0.116 |  |  |  |  |  |  |  |
| 27 PFDoA | $612.9>56 \ldots$ | 5.21 e 1 | 1.61 e 4 | 0.116 | 0.000 | 5.64 | 0.0405 |  |  | 49.5 | YES |
| 29 PFTrDA | $662.9>61 \ldots$ |  | 1.61 e 4 | 0.116 |  |  |  |  |  |  |  |
| $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 4.72 e 3 | 2.60 e 4 | 0.116 | 0.181 | 5.33 | 2.27 | 86.1237 | 80.1 |  |  |
| $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 4.72 e 3 | 2.60 e 4 | 0.116 | 0.181 | 5.33 | 2.27 | 86.1237 | 80.1 |  |  |
| 51 13C2-PFUdA | $565>519.8$ | 1.58 e 4 | 2.60 e 4 | 0.116 | 0.609 | 5.35 | 7.61 | 71.3462 | 66.3 |  |  |
| 53 13C2-PFDoA | $615.0>56 \ldots$ | 1.61 e 4 | 1.98 e 4 | 0.116 | 0.814 | 5.63 | 10.2 | 80.2641 | 74.6 |  |  |
| 53 13C2-PFDoA | $615.0>56 \ldots$ | 1.61 e 4 | 1.98 e 4 | 0.116 | 0.814 | 5.63 | 10.2 | 80.2641 | 74.6 |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |
| 30 PFTeDA | $712.8>66 \ldots$ |  | 1.24 e 4 | 0.116 |  |  |  |  |  |  |  |
| 73 TCDA | $498.3>106.9$ |  |  | 0.116 |  |  |  |  |  |  |  |
| 60 13C4-PFBA | 217. > 172 | 1.21 e 4 | 1.21 e 4 | 0.116 | 1.00 | 1.25 | 12.5 | 107.5824 | 100.0 |  |  |
| 61 13C5-PFHxA | $318>272.9$ | 2.17 e 4 | 2.17 e 4 | 0.116 | 1.00 | 3.05 | 12.5 | 107.5824 | 100.0 |  |  |
| 62 13C3-PFHxS | $401.8>79.9$ | 3.12 e 3 | 3.12 e 3 | 0.116 | 1.00 | 3.83 | 12.5 | 107.5824 | 100.0 |  |  |
| 55 13C2-PFTeDA | $714.8>66 \ldots$ | 1.24 e 4 | 2.60 e 4 | 0.116 | 0.477 | 6.10 | 5.96 | 87.4517 | 81.3 |  |  |
| 47 13C8-PFOS | $507.0>79.9$ | 3.25 e 3 | 3.24 e 3 | 0.116 | 1.00 | 4.73 | 12.6 | 100.4178 | 93.3 |  |  |
| 63 13C8-PFOA | $420.9>376$ | 3.00 e 4 | 3.00 e 4 | 0.116 | 1.00 | 4.20 | 12.5 | 107.5824 | 100.0 |  |  |
| 64 13C9-PFNA | $472.2>42 \ldots$ | 2.10 e 4 | 2.10 e 4 | 0.116 | 1.00 | 4.64 | 12.5 | 107.5824 | 100.0 |  |  |
| 65 13C4-PFOS | $503>79.9$ | 3.24 e 3 | 3.24 e 3 | 0.116 | 1.00 | 4.73 | 12.5 | 107.5824 | 100.0 |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |
| 66 13C6-PFDA | $519.1>47 \ldots$ | 1.98 e 4 | 1.98 e 4 | 0.116 | 1.00 | 5.02 | 12.5 | 107.5824 | 100.0 |  |  |
| 67 13C7-PFUdA | $570.1>52 \ldots$ | 2.60 e 4 | 2.60 e 4 | 0.116 | 1.00 | 5.35 | 12.5 | 107.5824 | 100.0 |  |  |

## Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917



13C3-PFBA
F3:MRM of 1 channel,ES$216.1>171.8$ $1.144 \mathrm{e}+005$

## 13C3-PFPeA




13C3-PFBS



## 13C2-PFHxA

F10:MRM of 1 channel,ES $315>270$ $1.501 e+005$



13C4-PFHpA
F17:MRM of 1 channel,ES $367.2>321.8$ $1.956 \mathrm{e}+005$


Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917
L-PFHxS
F18:MRM of 2 channels, ES-
$398.9>79.6$
$8.373 \mathrm{e}+003$

F18:MRM of 2 channels,ES-


1802-PFHxS


## Total PFHxS




1802-PFHxS




13C2-6:2 FTS
F25:MRM of 1 channel,ES$429.1>408.9$ $4.289 \mathrm{e}+004$


## L-PFOA




13C2-PFOA
F22:MRM of 1 channel,ES-
$414.9>369.7$ $3.489 \mathrm{e}+005$


## Total PFOA

F21:MRM of 2 channels,ES



13C2-PFOA
F22:MRM of 1 channel,ES-
$414.9>369.7$ $3.489 e+005$


Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917



13C8-PFOS


## PFNA



13C5-PFNA
F28:MRM of 1 channel,ES-
$468.2>422.9$


## PFOSA



13C8-PFOSA


## L-PFOS



13C8-PFOS


## Total PFOS




13C8-PFOS
F35:MRM of 1 channel,ES $507.0>79.9$


Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917


37:MRM of 2 channels,ES-


13C2-PFDA


## 8:2 FTS



13C2-8:2 FTS

d3-N-MeFOSAA


Total N-MeFOSAA
F48:MRM of 2 channels,ES-
$570>419$



d3-N-MeFOSAA


## PFUdA



13C2-PFUdA
F47:MRM of 1 channel,ES
$565>519.8$ $2.886 \mathrm{e}+005$


## Name: 180921M2_77, Date: 22-Sep-2018, Time: 01:52:33, ID: 1803078-01 FT-PZ463I-20180917 0.11619, Description: FT-PZ463I-20180917



F51:MRM of 2 channels,ES-

d5-N-EtFOSAA
F52:MRM of 1 channel,ES-



d5-N-EtFOSAA




13C2-PFUdA
F47:MRM of 1 channel,ES-
$565>519.8$ $2.886 \mathrm{e}+005$


PFDoA



## 13C2-PFDoA

F55:MRM of 2 channels,ES-
$615.0>569.7$ $3.078 \mathrm{e}+005$


PFTrDA
F60:MRM of 2 channels,ES 662.9 > 618.9


13C2-PFDoA
F55:MRM of 2 channels,ES$615.0>569.7$ $3.078 \mathrm{e}+005$
PFTEDA
F61:MRM of 2 channels,ES-
$712.8>669.0$
PFTeDA $9.126 \mathrm{e}+002$

F61:MRM of 2 channels,ES-


13C2-PFTeDA


## TCDA



13C8-PFOS



13C8-PFOA
F23:MRM of 1 channel,ES-
420.9 > 376 $6.261 \mathrm{e}+005$


13C5-PFHxA
F11:MRM of 1 channel,ES-
$318>272.9$ $4.323 \mathrm{e}+005$


13C9-PFNA


13C3-PFHxS
F19:MRM of 1 channel,ES $401.8>79.9$


13C4-PFOS
F33:MRM of 1 channel,ES
$503>79.9$


## 13C6-PFDA

F40:MRM of 1 channel,ES$519.1>473.7$ $3.787 e+005$ 13C7-PFUdA

F49:MRM of 1 channel,ES-
$570.1>524.8$ $4.671 \mathrm{e}+005$


F:\Projects\PFAS.PRO\Results\180921M2\180921M2-78.qld

| Last Altered: | Saturday, September 22, 2018 15:40:40 Pacific Daylight Time |
| :--- | :--- |
| Printed: | Monday, September 24, 2018 11:11:31 Pacific Daylight Time |

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917

|  | \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 PFBA | 213.0 > 16... |  | 8.29 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 2 | 2 PFPeA | $263.1>21 . .$. |  | 1.07 e 4 | 0.118 |  |  |  |  |  |  |  |  |
| 3 | 3 PFBS | $299.0>79.7$ |  | 1.62 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 4 | 5 PFHxA | $313>269$ |  | 7.10 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 5 | 7 PFHpA | 363.0 > $31 \ldots$ |  | 9.97 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 6 | 36 13C3-PFBA | $216.1>17 . .$. | 8.29 e 3 | 1.10 e 4 | 0.118 | 0.757 | 1.23 | 9.46 | 106.6794 | 100.5 |  |  |  |
| 7 | 37 13C3-PFPeA | 266. $>221.8$ | 1.07 e 4 | 2.00 e 4 | 0.118 | 0.533 | 2.24 | 6.66 | 103.9708 | 97.9 |  |  |  |
| 8 | 38 13C3-PFBS | 302. > 98.8 | 1.62 e 3 | 2.96 e 3 | 0.118 | 0.548 | 2.55 | 6.85 | 115.3622 | 108.6 |  |  |  |
| 9 | 40 13C2-PFHxA | $315>270$ | 7.10 e 3 | 2.00 e 4 | 0.118 | 0.887 | 3.05 | 4.43 | 39.9240 | 94.0 |  |  |  |
| 10 | 41 13C4-PFHpA | 367.2 > 32... | 9.97 e 3 | 2.00 e4 | 0.118 | 0.498 | 3.68 | 6.23 | 102.3745 | 96.4 |  |  |  |
| 11 | -1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 8 L-PFHxS | $398.9>79.6$ | 7.96e0 | 1.40 e 3 | 0.118 | 0.000 | 3.83 | 0.0713 | 0.4901 |  | 2.33 | YES |  |
| 13 | 68 Total PFHxS | $398.9>79.6$ | 7.96e0 | 1.40 e 3 | 0.118 |  |  | 0.0713 | 0.4901 |  |  |  |  |
| 14 | 10 6:2 FTS | $427.1>407$ |  | 1.92 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 15 | 11 L-PFOA | $412.8>36 \ldots$ | 1.36 e 2 | 1.70 e 4 | 0.118 | 0.000 | 4.20 | 0.100 |  |  | 7.89 | YES |  |
| 16 | 69 Total PFOA | $412.8>36 \ldots$ | 1.36 e 2 | 1.70 e 4 | 0.118 |  |  | 0.000 |  |  |  |  |  |
| 17 | 42 18O2-PFHxS | $403.0>10 \ldots$ | 1.40 e 3 | 2.96 e 3 | 0.118 | 0.472 | 3.83 | 5.90 | 110.5274 | 104.1 |  |  |  |
| 18 | 42 18O2-PFHxS | $403.0>10 \ldots$ | 1.40 e 3 | 2.96 e 3 | 0.118 | 0.472 | 3.83 | 5.90 | 110.5274 | 104.1 |  |  |  |
| 19 | 43 13C2-6:2 FTS | $429.1>40$... | 1.92 e 3 | 3.10 e 3 | 0.118 | 0.620 | 4.14 | 7.76 | 91.3947 | 86.1 |  |  |  |
| 20 | 44 13C2-PFOA | $414.9>36 . .$. | 1.70 e 4 | 2.81e4 | 0.118 | 0.603 | 4.20 | 7.53 | 96.4136 | 90.8 |  |  |  |
| 21 | 44 13C2-PFOA | 414.9 > $36 \ldots$ | 1.70 e 4 | 2.81 e 4 | 0.118 | 0.603 | 4.20 | 7.53 | 96.4136 | 90.8 |  |  |  |
| 22 | -1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | 13 PFHpS | $449>80.0$ |  | 3.16 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 24 | 14 PFNA | $463.0>41 \ldots$ |  | 1.44 e 4 | 0.118 |  |  |  |  |  |  |  |  |
| 25 | 15 PFOSA | $497.9>77.9$ |  | 1.38 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 26 | 16 L-PFOS | $498.9>79.9$ |  | 3.16 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 27 | 70 Total PFOS | $498.9>79.9$ | 0.00 e 0 | 3.16 e 3 | 0.118 |  |  | 0.000 |  |  |  |  |  |
| 28 | 47 13C8-PFOS | $507.0>79.9$ | 3.16 e 3 | 3.10 e 3 | 0.118 | 1.02 | 4.73 | 12.8 | 100.7203 | 94.9 |  |  |  |
| 29 | 45 13C5-PFNA | $468.2>42 \ldots$ | 1.44 e 4 | 1.99 e 4 | 0.118 | 0.722 | 4.64 | 9.03 | 79.4123 | 74.8 |  |  |  |
| 30 | 46 13C8-PFOSA | $506.1>77.7$ | 1.38 e 3 | 2.60 e 4 | 0.118 | 0.0533 | 4.70 | 0.666 | 41.3182 | 38.9 |  |  |  |
| 31 | 47 13C8-PFOS | $507.0>79.9$ | 3.16 e 3 | 3.10 e 3 | 0.118 | 1.02 | 4.73 | 12.8 | 100.7203 | 94.9 |  |  |  |
| 32 | 47 13C8-PFOS | $507.0>79.9$ | 3.16 e 3 | 3.10 e 3 | 0.118 | 1.02 | 4.73 | 12.8 | 100.7203 | 94.9 |  |  |  |
| 33 | -1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 34 | 18 PFDA | $513>468.8$ |  | 1.10 e 4 | 0.118 |  |  |  |  |  |  |  |  |
| 35 | 19 8:2 FTS | $527>506.9$ |  | 1.42 e 3 | 0.118 |  |  |  |  |  |  |  |  |
| 36 | 21 L-MeFOSAA | $570>419$ |  | 3.55 e 3 | 0.118 |  |  |  |  |  |  |  | for HC 9/24/2018 |
| 37 |  | 570. > 419 | 0.00e0 | 3.55 e 3 | 0.118 |  |  | 0.000 |  |  |  |  | Page 66 of 306 |

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| Last Altered: | Saturday, September 22, 2018 15:40:40 Pacific Daylight Time |
| :--- | :--- |
| Printed: | Monday, September 24, 2018 11:11:31 Pacific Daylight Time |

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917

|  | \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | 25 PFUdA | $563.0>51 \ldots$ |  | 1.32 e 4 | 0.118 |  |  |  |  |  |  |  |
| 39 | 48 13C2-PFDA | $515.1>46 \ldots$ | 1.10 e 4 | 1.99 e 4 | 0.118 | 0.551 | 5.02 | 6.88 | 62.7016 | 59.0 |  |  |
| 40 | 49 13C2-8:2 FTS | $529.1>50 \ldots$ | 1.42 e 3 | 3.10 e 3 | 0.118 | 0.458 | 4.99 | 5.73 | 85.6559 | 80.7 |  |  |
| 41 | $50 \mathrm{~d} 3-\mathrm{N}-\mathrm{MeFOSAA}$ | $573.3>419$ | 3.55 e 3 | 2.60 e 4 | 0.118 | 0.137 | 5.17 | 1.71 | 71.9426 | 67.8 |  |  |
| 42 | 50 d3-N-MeFOSAA | $573.3>419$ | 3.55 e 3 | 2.60 e 4 | 0.118 | 0.137 | 5.17 | 1.71 | 71.9426 | 67.8 |  |  |
| 43 | 51 13C2-PFUdA | $565>519.8$ | 1.32 e 4 | 2.60 e 4 | 0.118 | 0.510 | 5.35 | 6.38 | 59.0409 | 55.6 |  |  |
| 44 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 45 | 23 L-EtFOSAA | $584.1>419$ |  | 3.92 e 3 | 0.118 |  |  |  |  |  |  |  |
| 46 | 72 Total N-EtFOSAA | $584.1>419$ | 0.00 e 0 | 3.92 e 3 | 0.118 |  |  | 0.000 |  |  |  |  |
| 47 | 26 PFDS | $598.8>79.9$ |  | 3.16 e 3 | 0.118 |  |  |  |  |  |  |  |
| 48 | 27 PFDoA | $612.9>56 \ldots$ |  | 1.30 e 4 | 0.118 |  |  |  |  |  |  |  |
| 49 | 29 PFTrDA | $662.9>61 \ldots$ |  | 1.30 e 4 | 0.118 |  |  |  |  |  |  |  |
| 50 | $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 3.92 e 3 | 2.60 e 4 | 0.118 | 0.151 | 5.33 | 1.89 | 70.8205 | 66.7 |  |  |
| 51 | $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 3.92 e 3 | 2.60 e 4 | 0.118 | 0.151 | 5.33 | 1.89 | 70.8205 | 66.7 |  |  |
| 52 | 51 13C2-PFUdA | $565>519.8$ | 1.32 e 4 | 2.60 e 4 | 0.118 | 0.510 | 5.35 | 6.38 | 59.0409 | 55.6 |  |  |
| 53 | 53 13C2-PFDoA | $615.0>56 . .$. | 1.30 e 4 | 1.99 e 4 | 0.118 | 0.653 | 5.63 | 8.16 | 63.5439 | 59.8 |  |  |
| 54 | 53 13C2-PFDoA | $615.0>56 \ldots$ | 1.30 e 4 | 1.99 e 4 | 0.118 | 0.653 | 5.63 | 8.16 | 63.5439 | 59.8 |  |  |
| 55 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 56 | 30 PFTeDA | $712.8>66 . .$. |  | 1.20 e 4 | 0.118 |  |  |  |  |  |  |  |
| 57 | 73 TCDA | $498.3>106.9$ |  |  | 0.118 |  |  |  |  |  |  |  |
| 58 | 60 13C4-PFBA | 217. $>172$ | 1.10 e 4 | 1.10 e 4 | 0.118 | 1.00 | 1.23 | 12.5 | 106.1842 | 100.0 |  |  |
| 59 | 61 13C5-PFHxA | $318>272.9$ | 2.00 e 4 | 2.00 e 4 | 0.118 | 1.00 | 3.05 | 12.5 | 106.1842 | 100.0 |  |  |
| 60 | 62 13C3-PFHxS | $401.8>79.9$ | 2.96 e 3 | 2.96 e 3 | 0.118 | 1.00 | 3.83 | 12.5 | 106.1842 | 100.0 |  |  |
| 61 | 55 13C2-PFTeDA | $714.8>66 \ldots$ | 1.20 e 4 | 2.60 e 4 | 0.118 | 0.462 | 6.10 | 5.77 | 83.6069 | 78.7 |  |  |
| 62 | 47 13C8-PFOS | $507.0>79.9$ | 3.16 e 3 | 3.10 e 3 | 0.118 | 1.02 | 4.73 | 12.8 | 100.7203 | 94.9 |  |  |
| 63 | 63 13C8-PFOA | $420.9>376$ | 2.81 e 4 | 2.81 e 4 | 0.118 | 1.00 | 4.20 | 12.5 | 106.1842 | 100.0 |  |  |
| 64 | 64 13C9-PFNA | $472.2>42 \ldots$ | 1.99 e 4 | 1.99 e 4 | 0.118 | 1.00 | 4.64 | 12.5 | 106.1842 | 100.0 |  |  |
| 65 | 65 13C4-PFOS | $503>79.9$ | 3.10 e 3 | 3.10 e 3 | 0.118 | 1.00 | 4.73 | 12.5 | 106.1842 | 100.0 |  |  |
| 66 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 67 | 66 13C6-PFDA | $519.1>47 \ldots$ | 1.99 e 4 | 1.99 e 4 | 0.118 | 1.00 | 5.02 | 12.5 | 106.1842 | 100.0 |  |  |
| 68 | 67 13C7-PFUdA | $570.1>52 \ldots$ | 2.60 e 4 | 2.60 e 4 | 0.118 | 1.00 | 5.35 | 12.5 | 106.1842 | 100.0 |  |  |



13C3-PFBA
F3:MRM of 1 channel,ES$216.1>171.8$ $1.088 \mathrm{e}+005$

## 13C3-PFPeA






13C3-PFBS



PFHxA


F9:MRM of 2 channels,ES-


## 13C2-PFHxA

F10:MRM of 1 channel,ES$315>270$ $1.398 \mathrm{e}+005$


## PFHpA

F16:MRM of 2 channels,ES




13C4-PFHpA
F17:MRM of 1 channel,ES
$367.2>321.8$
$1.913 e+005$


## Dataset: $\quad$ F:\Projects\PFAS.PRO\Results\180921M2\180921M2-78.qld

Last Altered: $\quad$ Saturday, September 22, 2018 15:40:40 Pacific Daylight Time
Printed:
Monday, September 24, 2018 11:11:31 Pacific Daylight Time

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917



1802-PFHxS


## Total PFHxS



1802-PFHxS


## 6:2 FTS




13C2-6:2 FTS
F25:MRM of 1 channel,ES$429.1>408.9$ $3.969 e+004$


## L-PFOA



21:MRM of 2 channels,ES $412.8>169$


13C2-PFOA
F22:MRM of 1 channel,ES-
414.9 > 369.7 $3.556 \mathrm{e}+005$


## Total PFOA

F21:MRM of 2 channels,ES 412.8 > 368.9


F21:MRM of 2 channels,ES 412.8 > 169


13C2-PFOA
F22:MRM of 1 channel,ES-
414.9 > 369.7 $3.556 \mathrm{e}+005$


## Dataset: F:IProjects\PFAS.PRO\Results1180921M2\180921M2-78.qld

Last Altered: Saturday, September 22, 2018 15:40:40 Pacific Daylight Time
Printed:
Monday, September 24, 2018 11:11:31 Pacific Daylight Time

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917

| F26:MRM of 2 channels,ES- |
| ---: |
| $449>80.0$ |
|  |
|  |



13C8-PFOS



13C5-PFNA
F28:MRM of 1 channel,ES-
468.2 > 422.9




## L-PFOS




13C8-PFOS


## Total PFOS



35:MRM of 1 channel,ES $507.0>79.9$


## Dataset: $\quad$ F:\Projects\PFAS.PRO\Results\180921M2\180921M2-78.qld

Last Altered: Saturday, September 22, 2018 15:40:40 Pacific Daylight Time
Printed:
Monday, September 24, 2018 11:11:31 Pacific Daylight Time

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917


F37:MRM of 2 channels,ES-


13C2-PFDA



13C2-8:2 FTS
F43:MRM of 1 channel,ES$529.1>508.7$


## L-MeFOSAA

48:MRM of 2 channels,ES
$570>419$


F48:MRM of 2 channels,ES
570. > 512

d3-N-MeFOSAA


Total N-MeFOSAA
F48:MRM of 2 channels,ES
$570>419$


d3-N-MeFOSAA
F50:MRM of 1 channel,ES$573.3>419$ $6.211 \mathrm{e}+004$


## PFUdA

F46:MRM of 2 channels,ES 563.0 > 518.9


F46:MRM of 2 channels,ES 563.0 > 269 $1.000 \mathrm{e}-003$


13C2-PFUdA
F47:MRM of 1 channel,ES
$565>519.8$ $2.401 \mathrm{e}+005$


## Dataset: F:IProjects\PFAS.PRO\Results1180921M2\180921M2-78.qld

Last Altered: Saturday, September 22, 2018 15:40:40 Pacific Daylight Time
Printed:
Monday, September 24, 2018 11:11:31 Pacific Daylight Time

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917
L-EtFOSAA
F51:MRM of 2 channels,ES-
$584.1>419$
$5.130 \mathrm{e}+001$

d5-N-EtFOSAA


Total N-EtFOSAA


F51:MRM of 2 channels,ES-

d5-N-EtFOSAA




13C2-PFUdA
F47:MRM of 1 channel,ES-
$565>519.8$ $2.401 \mathrm{e}+005$




## 13C2-PFDoA

F55:MRM of 2 channels,ES-
$615.0>569.7$ $2.429 \mathrm{e}+005$


## PFTrDA

F60:MRM of 2 channels,ES$662.9>618.9$


F60:MRM of 2 channels,ES $662.9>319$ $1.000 \mathrm{e}-003$


13C2-PFDoA
F55:MRM of 2 channels,ES $615.0>569.7$ $2.429 \mathrm{e}+005$

## Dataset: F:IProjects\PFAS.PRO\Results1180921M2\180921M2-78.qld

Last Altered: Saturday, September 22, 2018 15:40:40 Pacific Daylight Time
Printed:
Monday, September 24, 2018 11:11:31 Pacific Daylight Time

Name: 180921M2_78, Date: 22-Sep-2018, Time: 02:03:06, ID: 1803078-02 FT-PZ463I-FRB-20180917 0.11772, Description: FT-PZ463I-FRB-20180917


F61:MRM of 2 channels,ES$712.8>368.9$


13C2-PFTeDA


## TCDA



13C8-PFOS



13C8-PFOA
F23:MRM of 1 channel,ES-
420.9 > 376 $5.995 \mathrm{e}+005$


## 13C5-PFHxA

F11:MRM of 1 channel,ES-
$318>272.9$


13C9-PFNA
F29:MRM of 1 channel,ES-
$472.2>426.9$


## 13C3-PFHxS

F19:MRM of 1 channel,ES 401.8 > 79.9


13C4-PFOS
F33:MRM of 1 channel,ES
$503>79.9$


```
Dataset: F:\Projects\PFAS.PRO\Results\180921M2\180921M2-78.q|d
Last Altered: Saturday, September 22, 2018 15:40:40 Pacific Daylight Time
Printed:
Monday, September 24, 2018 11:11:31 Pacific Daylight Time
```

F40:MRM of 1 channel,ES$519.1>473.7$ $3.905 \mathrm{e}+005$


13C7-PFUdA

F49:MRM of 1 channel,ES-
$570.1>524.8$


## Name: 180921M2_79, Date: 22-Sep-2018, Time: 02:13:45, ID: 1803078-03 FT-PZ464I-20180917 0.11306, Description: FT-PZ464I-20180917

|  | \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 PFBA | 213.0 > 16... | 4.17 e 2 | 8.24e3 | 0.113 | 0.000 | 1.24 | 0.633 | 5.3400 |  |  |  |
| 2 | 2 PFPeA | $263.1>21 \ldots$ | 1.18 e 3 | 1.05 e 4 | 0.113 | 0.000 | 2.24 | 1.42 | 12.6038 |  |  |  |
| 3 | 3 PFBS | $299.0>79.7$ | 2.17 e 1 | 1.63 e 3 | 0.113 | 0.000 | 2.56 | 0.166 | 0.8241 |  | 2.38 | NO |
| 4 | 5 PFHxA | $313>269$ | 2.22 e 3 | 7.21 e3 | 0.113 | 0.000 | 3.05 | 1.54 | 13.3326 |  | 14.8 | NO |
| 5 | 7 PFHpA | $363.0>31 \ldots$ | 1.26 e 3 | 1.02 e 4 | 0.113 | 0.000 | 3.67 | 1.54 | 11.0813 |  | 13.0 | NO |
| 6 | 36 13C3-PFBA | $216.1>17 \ldots$ | 8.24 e 3 | 1.15 e 4 | 0.113 | 0.715 | 1.24 | 8.94 | 105.0207 | 95.0 |  |  |
| 7 | 37 13C3-PFPeA | 266. $>221.8$ | 1.05 e 4 | 2.04 e 4 | 0.113 | 0.514 | 2.25 | 6.42 | 104.3701 | 94.4 |  |  |
| 8 | 38 13C3-PFBS | 302. $>98.8$ | 1.63 e 3 | 3.10 e 3 | 0.113 | 0.527 | 2.55 | 6.58 | 115.4168 | 104.4 |  |  |
| 9 | 40 13C2-PFHxA | $315>270$ | 7.21 e 3 | 2.04 e 4 | 0.113 | 0.885 | 3.05 | 4.43 | 41.5081 | 93.9 |  |  |
| 10 | 41 13C4-PFHpA | $367.2>32 \ldots$ | 1.02 e 4 | 2.04 e 4 | 0.113 | 0.500 | 3.68 | 6.25 | 106.9876 | 96.8 |  |  |
| 11 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 8 L-PFHxS | $398.9>79.6$ | 4.99 e 2 | 1.36 e 3 | 0.113 | 0.000 | 3.83 | 4.60 | 23.5488 |  | 1.65 | NO |
| 13 | 68 Total PFHxS | $398.9>79.6$ | 4.99 e 2 | 1.36 e 3 | 0.113 |  |  | 4.60 | 23.5488 |  |  |  |
| 14 | 10 6:2 FTS | $427.1>407$ |  | 1.82 e 3 | 0.113 |  |  |  |  |  |  |  |
| 15 | 11 L-PFOA | $412.8>36 \ldots$ | 7.25 e 3 | 1.68 e 4 | 0.113 | 0.000 | 4.20 | 5.39 | 32.1995 |  | 3.38 | NO |
| 16 | 69 Total PFOA | $412.8>36 \ldots$ | 7.89 e 3 | 1.68 e 4 | 0.113 |  |  | 5.86 | 34.2782 |  |  |  |
| 17 | 42 18O2-PFHxS | 403.0 > 10... | 1.36 e 3 | 3.10 e 3 | 0.113 | 0.437 | 3.83 | 5.46 | 106.4707 | 96.3 |  |  |
| 18 | 42 18O2-PFHxS | 403.0 > 10... | 1.36 e 3 | 3.10 e 3 | 0.113 | 0.437 | 3.83 | 5.46 | 106.4707 | 96.3 |  |  |
| 19 | 43 13C2-6:2 FTS | 429.1 > 40... | 1.82 e 3 | 3.21 e 3 | 0.113 | 0.567 | 4.14 | 7.09 | 86.9586 | 78.7 |  |  |
| 20 | 44 13C2-PFOA | $414.9>36 \ldots$ | 1.68 e 4 | 2.83 e 4 | 0.113 | 0.595 | 4.20 | 7.43 | 99.0251 | 89.6 |  |  |
| 21 | 44 13C2-PFOA | $414.9>36 \ldots$ | 1.68 e 4 | 2.83 e 4 | 0.113 | 0.595 | 4.20 | 7.43 | 99.0251 | 89.6 |  |  |
| 22 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 23 | 13 PFHpS | $449>80.0$ | 9.18 e 0 | 3.35 e 3 | 0.113 | 0.000 | 4.34 | 0.0343 | 0.3941 |  | 6.84 | YES |
| 24 | 14 PFNA | $463.0>41 \ldots$ | 1.47 e 4 | 1.54 e 4 | 0.113 | 0.000 | 4.64 | 11.9 | 97.6946 |  | 4.28 | NO |
| 25 | 15 PFOSA | $497.9>77.9$ |  | 1.96 e 3 | 0.113 |  |  |  |  |  |  |  |
| 26 | 16 L-PFOS | $498.9>79.9$ | 4.57 e 2 | 3.35 e 3 | 0.113 | 0.000 | 4.73 | 1.71 | 14.9506 |  | 1.84 | NO |
| 27 | 70 Total PFOS | $498.9>79.9$ | 4.57 e 2 | 3.35 e 3 | 0.113 |  |  | 1.71 | 14.9506 |  |  |  |
| 28 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 29 | 45 13C5-PFNA | $468.2>42 \ldots$ | 1.54 e 4 | 2.02 e 4 | 0.113 | 0.765 | 4.64 | 9.56 | 87.5738 | 79.2 |  |  |
| 30 | 46 13C8-PFOSA | $506.1>77.7$ | 1.96 e 3 | 2.73 e 4 | 0.113 | 0.0719 | 4.70 | 0.899 | 58.0649 | 52.5 |  |  |
| 31 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 32 | 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 33 | -1 |  |  |  |  |  |  |  |  |  |  |  |
| 34 | 18 PFDA | $513>468.8$ | 3.76 e 2 | 1.36 e 4 | 0.113 | 0.000 | 5.02 | 0.344 | 2.2482 |  | 6.32 | NO |
| 35 | 19 8:2 FTS | $527>506.9$ |  | 1.53 e 3 | 0.113 |  |  |  |  |  |  |  |
| 36 | 21 L-MeFOSAA | $570>419$ |  | 4.25 e 3 | 0.113 |  |  |  |  |  |  |  |
| 37 | Ftorktat ${ }^{\text {ander }}$ | 570. $>419$ | 0.00 e 0 | 4.25 e 3 | 0.113 |  |  | 0.000 |  |  |  |  |

Monday, September 24, 2018 10:00:06 Pacific Daylight Time

## Name: 180921M2_79, Date: 22-Sep-2018, Time: 02:13:45, ID: 1803078-03 FT-PZ464I-20180917 0.11306, Description: FT-PZ464I-20180917

| \# Name | Trace | Area | IS Area | Wt/Vol | RRF | RT | Response | Conc. | \%Rec | Ion Ratio | Ratio Out? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 PFUdA | $563.0>51 . .$. | 8.19 e 2 | 1.83 e 4 | 0.113 | 0.000 | 5.35 | 0.561 | 4.7340 |  | 11.1 | YES |
| 48 13C2-PFDA | $515.1>46 \ldots$ | 1.36 e 4 | 2.04 e 4 | 0.113 | 0.669 | 5.02 | 8.36 | 79.3180 | 71.7 |  |  |
| 49 13C2-8:2 FTS | $529.1>50 . .$. | 1.53 e 3 | 3.21 e 3 | 0.113 | 0.477 | 4.99 | 5.96 | 92.9032 | 84.0 |  |  |
| 50 d3-N-MeFOSAA | $573.3>419$ | 4.25 e 3 | 2.73 e 4 | 0.113 | 0.156 | 5.17 | 1.95 | 85.3949 | 77.2 |  |  |
| 50 d3-N-MeFOSAA | $573.3>419$ | 4.25 e 3 | 2.73 e 4 | 0.113 | 0.156 | 5.17 | 1.95 | 85.3949 | 77.2 |  |  |
| 51 13C2-PFUdA | $565>519.8$ | 1.83 e 4 | 2.73 e 4 | 0.113 | 0.670 | 5.35 | 8.37 | 80.6703 | 73.0 |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |
| $23 \mathrm{~L}-\mathrm{EtFOSAA}$ | $584.1>419$ |  | 4.86 e 3 | 0.113 |  |  |  |  |  |  |  |
| 72 Total N-EtFOSAA | $584.1>419$ | 0.00 e 0 | 4.86 e 3 | 0.113 |  |  | 0.000 |  |  |  |  |
| 26 PFDS | $598.8>79.9$ |  | 3.35 e 3 | 0.113 |  |  |  |  |  |  |  |
| 27 PFDoA | $612.9>56 \ldots$ |  | 1.71 e 4 | 0.113 |  |  |  |  |  |  |  |
| 29 PFTrDA | $662.9>61 . .$. |  | 1.71 e 4 | 0.113 |  |  |  |  |  |  |  |
| $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 4.86 e 3 | 2.73 e 4 | 0.113 | 0.178 | 5.33 | 2.23 | 86.8960 | 78.6 |  |  |
| $52 \mathrm{~d} 5-\mathrm{N}-\mathrm{EtFOSAA}$ | $589.3>419$ | 4.86 e 3 | 2.73 e 4 | 0.113 | 0.178 | 5.33 | 2.23 | 86.8960 | 78.6 |  |  |
| 51 13C2-PFUdA | $565>519.8$ | 1.83 e 4 | 2.73 e 4 | 0.113 | 0.670 | 5.35 | 8.37 | 80.6703 | 73.0 |  |  |
| 53 13C2-PFDoA | $615.0>56 . .$. | 1.71 e 4 | 2.04 e 4 | 0.113 | 0.838 | 5.63 | 10.5 | 84.9411 | 76.8 |  |  |
| 53 13C2-PFDoA | $615.0>56 \ldots$ | 1.71 e 4 | 2.04 e 4 | 0.113 | 0.838 | 5.63 | 10.5 | 84.9411 | 76.8 |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |
| 30 PFTeDA | $712.8>66 \ldots$ | 3.71 e 1 | 1.36 e 4 | 0.113 | 0.000 | 6.10 | 0.0342 |  |  | 129 | YES |
| 73 TCDA | $498.3>106.9$ |  |  | 0.113 |  |  |  |  |  |  |  |
| 60 13C4-PFBA | 217. > 172 | 1.15 e 4 | 1.15 e 4 | 0.113 | 1.00 | 1.25 | 12.5 | 110.5608 | 100.0 |  |  |
| 61 13C5-PFHxA | $318>272.9$ | 2.04 e 4 | 2.04 e 4 | 0.113 | 1.00 | 3.05 | 12.5 | 110.5608 | 100.0 |  |  |
| 62 13C3-PFHxS | $401.8>79.9$ | 3.10 e 3 | 3.10 e 3 | 0.113 | 1.00 | 3.83 | 12.5 | 110.5608 | 100.0 |  |  |
| 55 13C2-PFTeDA | $714.8>66 \ldots$ | 1.36 e 4 | 2.73 e 4 | 0.113 | 0.497 | 6.10 | 6.21 | 93.6141 | 84.7 |  |  |
| 47 13C8-PFOS | $507.0>79.9$ | 3.35 e 3 | 3.21 e 3 | 0.113 | 1.04 | 4.73 | 13.0 | 107.1449 | 96.9 |  |  |
| 63 13C8-PFOA | $420.9>376$ | 2.83 e 4 | 2.83 e 4 | 0.113 | 1.00 | 4.20 | 12.5 | 110.5608 | 100.0 |  |  |
| 64 13C9-PFNA | $472.2>42 \ldots$ | 2.02 e 4 | 2.02 e 4 | 0.113 | 1.00 | 4.64 | 12.5 | 110.5608 | 100.0 |  |  |
| 65 13C4-PFOS | $503>79.9$ | 3.21 e 3 | 3.21 e 3 | 0.113 | 1.00 | 4.73 | 12.5 | 110.5608 | 100.0 |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |
| 66 13C6-PFDA | $519.1>47 \ldots$ | 2.04 e 4 | 2.04 e 4 | 0.113 | 1.00 | 5.02 | 12.5 | 110.5608 | 100.0 |  |  |
| 67.13C7-PFUdA | $570.1>52 \ldots$ | 2.73 e 4 | 2.73 e 4 | 0.113 | 1.00 | 5.35 | 12.5 | 110.5608 | 100.0 |  |  |

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13C3-PFBA
F3:MRM of 1 channel,ES$216.1>171.8$ $1.087 e+005$

## 13C3-PFPeA





13C3-PFBS




## 13C2-PFHxA

F10:MRM of 1 channel,ES $315>270$


## PFHpA



13C4-PFHpA
F17:MRM of 1 channel,ES
$367.2>321.8$
$1.948 \mathrm{e}+005$


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L-PFHxS
F18:MRM of 2 channels,ES-

$398.9>79.6$
$8.975 \mathrm{e}+003$


1802-PFHxS


18O2-PFHxS





13C2-6:2 FTS
F25:MRM of 1 channel,ES429.1 > 408.9 $3.937 \mathrm{e}+004$


## L-PFOA

F21:MRM of 2 channels,ES- $412.8>368.9$


## Total PFOA

F21:MRM of 2 channels,ES



13C2-PFOA
F22:MRM of 1 channel,ES-
$414.9>369.7$ $3.548 \mathrm{e}+005$


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| PFHpS |  |  |
| :---: | :---: | :---: |
| F26:MRM of 2 channels,ES- |  |  |
|  |  | $449>80.0$ |
| 100 | PFHpS | $2.535 \mathrm{e}+002$ |
|  | 4.34 |  |
|  | 9.18 |  |
|  | 9.18 e 0 |  |
| \%- 9.18 e |  |  |
|  | .14 |  |
|  |  | min |



13C8-PFOS


## PFNA



13C5-PFNA
F28:MRM of 1 channel,ES-
468.2 > 422.9


## PFOSA



13C8-PFOSA


## L-PFOS




13C8-PFOS


## Total PFOS

F32:MRM of 2 channels,ES
498.9 > 79.9



13C8-PFOS
F35:MRM of 1 channel,ES $507.0>79.9$




13C2-8:2 FTS


d3-N-MeFOSAA

## Total N-MeFOSAA

F48:MRM of 2 channels,ES
$570>419$


d3-N-MeFOSAA


## PFUdA



13C2-PFUdA
F47:MRM of 1 channel,ES-
$565>519.8$ $3.291 e+005$

L-EtFOSAA
F51:MRM of 2 channels,ES-
$584.1>419$
$1.000 \mathrm{e}-003$

d5-N-EtFOSAA



d5-N-EtFOSAA




13C2-PFUdA
F47:MRM of 1 channel,ES565 > 519.8 $3.291 \mathrm{e}+005$




## 13C2-PFDoA

F55:MRM of 2 channels,ES-
615.0 > 569.7 $3.259 \mathrm{e}+005$


PFTrDA


F60:MRM of 2 channels,ES 1.02 > 319


13C2-PFDoA
F55:MRM of 2 channels,ES $615.0>569.7$ $3.259 \mathrm{e}+005$


F61:MRM of 2 channels,ES-


13C2-PFTeDA


## TCDA



13C8-PFOS


13C4-PFBA
F4:MRM of 1 channel,ES-
217. > 172


13C8-PFOA


13C5-PFHxA
F11:MRM of 1 channel,ES-
$318>272.9$


13C9-PFNA


13C3-PFHxS
F19:MRM of 1 channel,ES $401.8>79.9$


13C4-PFOS
F33:MRM of 1 channel,ES


## 13C6-PFDA

F40:MRM of 1 channel,ES-
$519.1>473.7$ $3.937 e+005$

13C7-PFUdA

F49:MRM of 1 channel,ES-
$570.1>524.8$ $4.818 \mathrm{e}+005$


