NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1803122

Naval Weapons Industrial Reserve Plant Bethpage
Bethpage, New York

August 2019

"BP-TT-FRB08-20180918","Modified EPA 537","Initial","1803122-01","Vista","375-22-4","PFBA","5.43","ng/L","UU","2.98","LOD","","TRG","","","8.69","LOQ","YES","-99","","0.115","0.001","5.43",""
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"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","1763-23-1","PFOS","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","335-76-2","PFDA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","39108-34-4","8:2 FTS","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","2355-31-9","MeFOSAA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","2991-50-6","EtFOSAA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34","",
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","2058-94-8","PFUnA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34","
"
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","335-77-

3","PFDS","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","307-55-1","PFDoA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""

"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","72629-94-8","PFTrDA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""

"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","376-06-7","PFTeDA","5.34","ng/L","UU","2.93","LOD","","TRG","","","8.56","LOQ","YES","-99","","0.117","0.001","5.34",""

"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C3-PFBA","13C3-PFBA","98.3","%R","","-99","NA","","IS","98.3","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C3-PFPeA","13C3-PFPeA","96.6","%R","","-99","NA","","IS","96.6","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C3-PFBS","13C3-PFBS","98.0","%R","","-99","NA","","IS","98.0","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-PFHxA","13C2-PFHxA","98.3","%R","","-99","NA","","IS","98.3","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C4-PFHpA","13C4-PFHpA","93.6","%R","","-99","NA","","IS","93.6","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","18O2-PFHxS","18O2-PFHxS","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-6:2 FTS","13C2-6:2 FTS","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-PFOA","13C2-PFOA","90.1","%R","","-99","NA","","IS","90.1","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C5-PFNA","13C5-PFNA","81.6","%R","","-99","NA","","IS","81.6","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C8-PFOSA","13C8-PFOSA","25.5","%R","H","-99","NA","","IS","25.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C8-PFOS","13C8-PFOS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-PFDA","13C2-PFDA","67.5","%R","","-99","NA","","IS","67.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-8:2 FTS","13C2-8:2 FTS","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","d3-MeFOSAA","d3-MeFOSAA","79.5","%R","","-99","NA","","IS","79.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","d5-EtFOSAA","d5-EtFOSAA","85.6","%R","","-99","NA","","IS","85.6","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-PFUnA","13C2-PFUnA","68.5","%R","","-99","NA","","IS","68.5","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-PFDoA","13C2-PFDoA","73.1","%R","","-99","NA","","IS","73.1","","-99","NA","YES","100","","0.117","0.001","-99",""
"BP-TT-FRB10-20180920","Modified EPA 537","Initial","1803122-03","Vista","13C2-PFTeDA","13C2-PFTeDA","76.9","%R","","-99","NA","","IS","76.9","","-99","NA","YES","100","","0.117","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""

"

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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","
"

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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","
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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","
"

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","2355-31-9","MeFOSAA","5.00","ng/L","UU","2.74","LOD","","TRG","","","8.00","LOQ","YES","-99","","0.125","0.001","5.00",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
,
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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","
"

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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","
"

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",
""

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-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",
""

"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C3-PFBA","13C3-PFBA","99.0","%R","","-99","NA","","IS","99.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C3-PFPeA","13C3-PFPeA","96.1","%R","","-99","NA","","IS","96.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C3-PFBS","13C3-PFBS","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-PFHxA","13C2-PFHxA","96.7","%R","","-99","NA","","IS","96.7","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C4-PFHpA","13C4-PFHpA","93.1","%R","","-99","NA","","IS","93.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","18O2-PFHxS","18O2-

PFHxS","99.9","%R","","-99","NA","","IS","99.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-6:2 FTS","13C2-6:2
FTS","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-PFOA","13C2-
PFOA","91.1","%R","","-99","NA","","IS","91.1","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C5-PFNA","13C5-
PFNA","83.7","%R","","-99","NA","","IS","83.7","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C8-PFOSA","13C8-
PFOSA","19.3","%R","H","-99","NA","","IS","19.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C8-PFOS","13C8-
PFOS","99.6","%R","","-99","NA","","IS","99.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-PFDA","13C2-
PFDA","72.0","%R","","-99","NA","","IS","72.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-8:2 FTS","13C2-8:2
FTS","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","63.6","%R","","-99","NA","","IS","63.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","72.0","%R","","-99","NA","","IS","72.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","64.4","%R","","-99","NA","","IS","64.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","65.4","%R","","-99","NA","","IS","65.4","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BLK1","Modified EPA 537","Initial","B8J0002-BLK1","Vista","13C2-PFTeDA","13C2-
PFTeDA","73.5","%R","","-99","NA","","IS","73.5","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","375-22-
4","PFBA","68.5","ng/L","","2.74","LOD","","TRG","85.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","2706-90-
3","PFPeA","69.9","ng/L","","2.74","LOD","","TRG","87.3","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","375-73-
5","PFBS","70.4","ng/L","","2.74","LOD","","TRG","88.0","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","307-24-
4","PFHxA","72.8","ng/L","","2.74","LOD","","TRG","91.0","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","375-85-
9","PFHpA","70.7","ng/L","","2.74","LOD","","TRG","88.4","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","355-46-
4","PFHxS","71.7","ng/L","","2.74","LOD","","TRG","89.7","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","27619-97-2","6:2
FTS","75.8","ng/L","","2.74","LOD","","TRG","94.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","335-67-
1","PFOA","67.6","ng/L","","2.74","LOD","","TRG","84.5","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","375-92-
8","PFHpS","75.1","ng/L","","2.74","LOD","","TRG","93.9","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",
""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","375-95-
1","PFNA","70.4","ng/L","","2.74","LOD","","TRG","88.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00","
"

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","754-91-6","PFOSA","66.2","ng/L","Q","2.74","LOD","","TRG","82.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","1763-23-1","PFOS","70.7","ng/L","","2.74","LOD","","TRG","88.4","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","335-76-2","PFDA","69.7","ng/L","","2.74","LOD","","TRG","87.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","39108-34-4","8:2 FTS","83.9","ng/L","","2.74","LOD","","TRG","105","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","2355-31-9","MeFOSAA","68.9","ng/L","","2.74","LOD","","TRG","86.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","2991-50-6","EtFOSAA","68.5","ng/L","","2.74","LOD","","TRG","85.6","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","2058-94-8","PFUnA","68.8","ng/L","","2.74","LOD","","TRG","86.0","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","335-77-3","PFDS","69.7","ng/L","","2.74","LOD","","TRG","87.2","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","307-55-1","PFDoA","71.6","ng/L","","2.74","LOD","","TRG","89.5","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","72629-94-8","PFTrDA","77.4","ng/L","","2.74","LOD","","TRG","96.8","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","376-06-7","PFTeDA","71.3","ng/L","","2.74","LOD","","TRG","89.1","","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C3-PFBA","13C3-PFBA","96.7","%R","","-99","NA","","IS","96.7","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C3-PFPeA","13C3-PFPeA","94.3","%R","","-99","NA","","IS","94.3","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C3-PFBS","13C3-PFBS","95.0","%R","","-99","NA","","IS","95.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-PFHxA","13C2-PFHxA","95.0","%R","","-99","NA","","IS","95.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C4-PFHpA","13C4-PFHpA","93.7","%R","","-99","NA","","IS","93.7","","-99","NA","YES","100","","0.125","0.001","-99",""
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"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-6:2 FTS","13C2-6:2 FTS","105","%R","","-99","NA","","IS","105","","-99","NA","YES","100","","0.125","0.001","-99",""
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"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C5-PFNA","13C5-PFNA","82.8","%R","","-99","NA","","IS","82.8","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C8-PFOSA","13C8-PFOSA","18.8","%R","H","-99","NA","","IS","18.8","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C8-PFOS","13C8-PFOS","99.0","%R","","-99","NA","","IS","99.0","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-PFDA","13C2-PFDA","69.2","%R","","-99","NA","","IS","69.2","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-8:2 FTS","13C2-8:2 FTS","89.2","%R","","-99","NA","","IS","89.2","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","d3-MeFOSAA","d3-MeFOSAA","76.6","%R","","-99","NA","","IS","76.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","d5-EtFOSAA","d5-EtFOSAA","84.9","%R","","-99","NA","","IS","84.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-PFUnA","13C2-PFUnA","65.0","%R","","-99","NA","","IS","65.0","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-PFDoA","13C2-PFDoA","74.2","%R","","-99","NA","","IS","74.2","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-PFTeDA","13C2-PFTeDA","75.9","%R","","-99","NA","","IS","75.9","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","375-22-4","PFBA","70.0","ng/L","","2.74","LOD","","TRG","87.5","2.14","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","2706-90-3","PFPeA","69.7","ng/L","","2.74","LOD","","TRG","87.1","0.257","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","375-73-5","PFBS","68.8","ng/L","","2.74","LOD","","TRG","86.1","2.26","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","307-24-4","PFHxA","74.4","ng/L","","2.74","LOD","","TRG","93.0","2.11","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","375-85-9","PFHpA","70.6","ng/L","","2.74","LOD","","TRG","88.3","0.143","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","355-46-4","PFHxS","74.4","ng/L","","2.74","LOD","","TRG","93.0","3.58","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","27619-97-2","6:2 FTS","82.6","ng/L","","2.74","LOD","","TRG","103","8.52","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","335-67-1","PFOA","72.1","ng/L","","2.74","LOD","","TRG","90.1","6.45","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","375-92-8","PFHpS","66.5","ng/L","","2.74","LOD","","TRG","83.2","12.1","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","375-95-1","PFNA","67.5","ng/L","","2.74","LOD","","TRG","84.3","4.35","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","754-91-6","PFOSA","74.3","ng/L","","2.74","LOD","","TRG","92.9","11.5","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","1763-23-1","PFOS","71.7","ng/L","","2.74","LOD","","TRG","89.7","1.43","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","335-76-2","PFDA","72.8","ng/L","","2.74","LOD","","TRG","91.0","4.37","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","39108-34-4","8:2 FTS","71.8","ng/L","","2.74","LOD","","TRG","89.8","15.5","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","2355-31-9","MeFOSAA","74.7","ng/L","","2.74","LOD","","TRG","93.4","8.14","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","2991-50-6","EtFOSAA","76.0","ng/L","","2.74","LOD","","TRG","94.9","10.3","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","2058-94-8","PFUnA","72.3","ng/L","","2.74","LOD","","TRG","90.4","4.98","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","335-77-3","PFDS","62.6","ng/L","","2.74","LOD","","TRG","78.3","10.7","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","307-55-1","PFDoA","74.4","ng/L","","2.74","LOD","","TRG","93.1","3.86","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","72629-94-8","PFTrDA","79.5","ng/L","","2.74","LOD","","TRG","99.4","2.67","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","376-06-7","PFTeDA","75.9","ng/L","","2.74","LOD","","TRG","94.9","6.28","8.00","LOQ","YES","80.0","","0.125","0.001","5.00",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C3-PFBA","13C3-PFBA","99.7","%R","","-99","NA","","IS","99.7","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C3-PFPeA","13C3-PFPeA","98.4","%R","","-99","NA","","IS","98.4","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C3-PFBS","13C3-PFBS","98.1","%R","","-99","NA","","IS","98.1","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-PFHxA","13C2-PFHxA","99.2","%R","","-99","NA","","IS","99.2","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C4-PFHpA","13C4-PFHpA","95.9","%R","","-99","NA","","IS","95.9","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","18O2-PFHxS","18O2-PFHxS","99.9","%R","","-99","NA","","IS","99.9","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-6:2 FTS","13C2-6:2 FTS","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-PFOA","13C2-PFOA","91.3","%R","","-99","NA","","IS","91.3","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C5-PFNA","13C5-PFNA","81.2","%R","","-99","NA","","IS","81.2","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C8-PFOSA","13C8-PFOSA","20.4","%R","H","-99","NA","","IS","20.4","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C8-PFOS","13C8-PFOS","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-PFDA","13C2-PFDA","69.0","%R","","-99","NA","","IS","69.0","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-8:2 FTS","13C2-8:2 FTS","119","%R","","-99","NA","","IS","119","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","d3-MeFOSAA","d3-MeFOSAA","65.9","%R","","-99","NA","","IS","65.9","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","d5-EtFOSAA","d5-EtFOSAA","68.5","%R","","-99","NA","","IS","68.5","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-PFUnA","13C2-PFUnA","61.0","%R","","-99","NA","","IS","61.0","","-99","NA","YES","100","","0.125","0.001","-99",""

"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-PFDoA","13C2-

PFDoA","64.6","%R","","-99","NA","","IS","64.6","","-99","NA","YES","100","","0.125","0.001","-99",""
"B8J0002-BSD1","Modified EPA 537","Initial","B8J0002-BSD1","Vista","13C2-PFTeDA","13C2-
PFTeDA","71.3","%R","","-99","NA","","IS","71.3","","-99","NA","YES","100","","0.125","0.001","-99",""
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17:12","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8J0002","B8J0002","NA","S8J0052","1803122","09/21/2018 09:09","01/01/1900 00:00",""
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17:23","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8J0002","B8J0002","NA","S8J0052","1803122","09/21/2018 09:09","01/01/1900 00:00",""
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537","METHOD","Initial","10/02/2018 08:30","10/18/2018
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"Bethpage","Bethpage","B8J0002-BS1","01/01/1900 00:00","AQ","B8J0002-BS1","LCS","","-99","Modified EPA
537","METHOD","Initial","10/02/2018 08:30","10/18/2018
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16:51","Vista","COA","WET","NA","1","NA","NA","01/01/1900
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VALIDATA
Chemical Services, Inc.

DATA VALIDATION SUMMARY REPORT - RADIOCHEMISTRY

COMPANY: Tetra Tech, Inc., Norfolk, VA
PROJECT NAME: Basewide Radiological Groundwater Investigation, Naval
                                Weapons Industrial Reserve Plant (NWIRP), Bethpage, NY
SITE NAME: CTO-WE09
CONTRACTED LAB: Vista Analytical Laboratory
CONTRACT NO.:   N62470-16-D-9008
QA/QC LEVEL: EPA Stage 4
ANALYTICAL METHODS: EPA 537 Modified
VALIDATION GUIDELINES: Sampling and Analysis Plan for Per- and polyfluoroalkyl
                                Substances Investigation, February 2018, QSM 5.1, and
                                Professional Judgment
SAMPLE MATRIX: Water
TYPES OF ANALYSES: Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid
                                Chromatography Tandem Mass Spectrometry (LC/MS/MS)
DATA VALIDATION DATE: March 12, 2019
DATA REVIEWER(S):   Thomas B. Granat
SDG NUMBER: 1803122
SAMPLING DATE(S):   September 18-20, 2018

SAMPLES:

Client Sample ID	Laboratory ID	PFAS
BP-TT-FRB08-20180918	1803122-01	X
BP-TT-FRB09-20180919	1803122-02	X
BP-TT-FRB10-20180920	1803122-03	X

Qualifier	Definition
No qualifier	Confirmed identification. The analyte was positively identified at the reported value. The reported concentration is within the calibrated range of the instrument and the result is not affected by any deficiencies in the associated quality control criteria.
J	The analyte was detected at the reported concentration; the quantitation is an estimate.
J-	The analyte was detected at the reported concentration; the quantitation is an estimate and may be biased low.
J+	The analyte was detected at the reported concentration; the quantitation is an estimate and may be biased high.
U	Not considered detected. The associated number is the reported concentration.
UJ	Not considered detected. The associated number is the reported concentration, which may be inaccurate.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

DATA VALIDATION SUMMARY

Vista Analytical Laboratory – SDG: 1803122

PFAS (Per- and polyfluoroalkyl substances)

SUMMARY

I.)   General:

The samples were extracted and analyzed by LC/MS/MS 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.

II.)   Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no major problems for this fraction of the SDG.

MINOR ISSUES

I.)   Laboratory Data Package:

The required documentation was present and complete. The laboratory presented a complete and accurate case narrative in the data package. The data package contains results for all samples and method types listed on the COC.

II.)   Sample Receipt, Preservation, and Holding Times:

The samples were received intact with proper COC documentation and signatures. The samples were received within the method temperature requirements and were stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were extracted and analyzed within the method hold times.

III.)   LC-MS Tune:

All LC-MS Tune criteria were met. No data qualification was necessary.

IV.)   Initial Calibration (ICAL) and Initial Calibration Verification (ICV):

All Initial Calibration and Initial Calibration Verification criteria were met. No data qualification was

necessary.

V.)   Continuing Calibration (CCV):

All Continuing Calibration Verification criteria were met. No data qualification was necessary.

VI.)   CRDL / CRQL standards:

All CRDL / CRQL standards criteria were met. No data qualification was necessary.

VII.)   Blanks:

Calibration Blanks:

There were no detections in the calibration blanks. No data qualification was necessary.

Preparation Blanks:

There were no detections in the preparation blanks. No data qualification was necessary.

Equipment Blanks:

There were no equipment blanks identified in this SDG. No data qualification was necessary.

Field Blanks:

The three SDG samples were field reagent blanks. There were no detections in the field reagent blanks. No data qualification was necessary.

VIII.)   Matrix Spike / Matrix Spike Duplicate (MS / MSD):

Since the only SDG samples were field QC samples, MS / MSD analyses were not performed. No data qualification was necessary.

IV.)   Duplicate Sample Analysis:

Since the only SDG samples were field QC samples, MD analysis was not performed. No data qualification was necessary.

X.)   Laboratory Control Samples (LCS):

All LCS/LCSD Recovery and RPD criteria were met. No data qualification was necessary.

XI.)   Field Duplicates:

There were no field duplicates identified in the SDG. No data qualification was necessary.

XII.)   Internal Standards Performance (ISTD):

ISTD percent recoveries (%R) for 13C8-PFOSA were below the QC lower limit of 50%. Below are the associated analytes:

Client Sample ID	Lab ID	Analyte	ISTD %R	Qualifier	Code
BP-TT-FRB08-20180918	1803122-01	PFOSA	16.1	UJ	N
BP-TT-FRB09-20180919	1803122-02	PFOSA	20.8	UJ	N
BP-TT-FRB10-20180920	1803122-03	PFOSA	25.5	UJ	N

The above associated analyte results were qualified as estimated (UJ) with reason code N.

XIII.)   Ion Transitions:

Proper Ion transitions were used to quantify the analytes. No data qualification was necessary.

XIV.)   Ion Ratio:

There were no detections in the SDG samples. No data qualification was necessary.

XV.)   Reporting limits (RLs):

All LOQs were less than the project quantitation limits for the applicable analytes. No data qualification was necessary.

XVI.)   Instrument Performance criteria (Stage 4):

All Instrument Performance criteria were met. No data qualification was necessary.

XVII.)   Sample Calculation Verification (Stage 4):

All analyte results were non-detects.

Appendix A

Data Qualification Summary Table (DQST) with Qualification Codes

SAMPLE_ID	SAMP_DATE	LAB_ID	PARAMETER	LAB_RES	LAB_QUAL	VAL_RES	VAL_QUAL	VAL_REASON_CODE
BP-TT-FRB08-20180918	9/18/2018 0:00	1803122-01	PFOSA	5.43	UU	5.43	UJ	N
BP-TT-FRB09-20180919	9/19/2018 0:00	1803122-02	PFOSA	5.21	UU	5.21	UJ	N
BP-TT-FRB10-20180920	9/20/2018 0:00	1803122-03	PFOSA	5.34	UU	5.34	UJ	N

Appendix B

Laboratory Sample Results

Vista
Analytical Laboratory

Sample ID: BP-TT-FRB08-20180918   **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	Tetra Tech	Matrix:	QC Water	Lab Sample:	1803122-01	Column:	BEH C18
Project:	Bethpage	Date Collected:	18-Sep-18 07:30	Date Received:	21-Sep-18 09:09		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFPeA	2706-90-3	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFBS	375-73-5	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHxA	307-24-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHpA	375-85-9	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHxS	355-46-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
6:2 FTS	27619-97-2	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFOA	335-67-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHpS	375-92-8	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFNA	375-95-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFOSA	754-91-6	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFOS	1763-23-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFDA	335-76-2	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
8:2 FTS	39108-34-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
MeFOSAA	2355-31-9	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
EtFOSAA	2991-50-6	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFUnA	2058-94-8	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFDS	335-77-3	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFDoA	307-55-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFTrDA	72629-94-8	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFTeDA	376-06-7	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	96.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C3-PFPeA	IS	96.0	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C3-PFBS	IS	96.7	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFHxA	IS	96.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C4-PFHpA	IS	95.3	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
18O2-PFHxS	IS	98.0	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-6:2 FTS	IS	107	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFOA	IS	85.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C5-PFNA	IS	77.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C8-PFOSA	IS	16.1	50 - 150	H	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C8-PFOS	IS	99.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFDA	IS	65.3	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-8:2 FTS	IS	112	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
d3-MeFOSAA	IS	68.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
d5-EtFOSAA	IS	69.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFUnA	IS	66.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1

Sample ID: BP-TT-FRB08-20180918

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	Tetra Tech	Matrix:	QC Water	Lab Sample:	1803122-01	Column:	BEH C18
Project:	Bethpage	Date Collected:	18-Sep-18 07:30	Date Received:	21-Sep-18 09:09		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFDoA	IS	64.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFTeDA	IS	71.8	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

Results reported to the DL.

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

Client Data

Name:	Tetra Tech		Matrix:	QC Water
Project:	Bethpage		Date Collected:	19-Sep-18 09:30

Laboratory Data

Lab Sample:	1803122-02	Column:	BEH C18
Date Received:	21-Sep-18 09:09		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFPeA	2706-90-3	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFBS	375-73-5	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHxA	307-24-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHpA	375-85-9	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHxS	355-46-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
6:2 FTS	27619-97-2	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFOA	335-67-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHpS	375-92-8	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFNA	375-95-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFOSA	754-91-6	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFOS	1763-23-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFDA	335-76-2	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
8:2 FTS	39108-34-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
MeFOSAA	2355-31-9	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
EtFOSAA	2991-50-6	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFUnA	2058-94-8	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFDS	335-77-3	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFDoA	307-55-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFTrDA	72629-94-8	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFTeDA	376-06-7	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	97.8	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C3-PFPeA	IS	96.5	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C3-PFBS	IS	96.0	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFHxA	IS	93.8	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C4-PFHpA	IS	94.3	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
18O2-PFHxS	IS	99.2	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-6:2 FTS	IS	99.9	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFOA	IS	85.8	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C5-PFNA	IS	80.9	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C8-PFOSA	IS	20.8	50 - 150	H	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C8-PFOS	IS	90.9	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFDA	IS	66.2	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-8:2 FTS	IS	103	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
d3-MeFOSAA	IS	70.0	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
d5-EtFOSAA	IS	73.1	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFUnA	IS	60.1	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1

Sample ID: BP-TT-FRB09-20180919

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	Tetra Tech	Matrix:	QC Water	Lab Sample:	1803122-02	Column:	BEH C18
Project:	Bethpage	Date Collected:	19-Sep-18 09:30	Date Received:	21-Sep-18 09:09		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFDoA	IS	65.3	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFTeDA	IS	71.4	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

Results reported to the DL.

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

Client Data

Name:	Tetra Tech	
Project:	Bethpage	

Matrix: QC Water
Date Collected: 20-Sep-18 09:30

Laboratory Data

Lab Sample: 1803122-03
Date Received: 21-Sep-18 09:09

Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFPeA	2706-90-3	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFBS	375-73-5	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHxA	307-24-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHpA	375-85-9	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHxS	355-46-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
6:2 FTS	27619-97-2	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFOA	335-67-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHpS	375-92-8	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFNA	375-95-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFOSA	754-91-6	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFOS	1763-23-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFDA	335-76-2	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
8:2 FTS	39108-34-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
MeFOSAA	2355-31-9	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
EtFOSAA	2991-50-6	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFUnA	2058-94-8	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFDS	335-77-3	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFDoA	307-55-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFTrDA	72629-94-8	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFTeDA	376-06-7	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	98.3	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C3-PFPeA	IS	96.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C3-PFBS	IS	98.0	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFHxA	IS	98.3	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C4-PFHpA	IS	93.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
18O2-PFHxS	IS	101	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-6:2 FTS	IS	109	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFOA	IS	90.1	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C5-PFNA	IS	81.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C8-PFOSA	IS	25.5	50 - 150	H	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C8-PFOS	IS	105	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFDA	IS	67.5	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-8:2 FTS	IS	102	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
d3-MeFOSAA	IS	79.5	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
d5-EtFOSAA	IS	85.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFUnA	IS	68.5	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1

Sample ID: BP-TT-FRB10-20180920

PFAS Isotope Dilution Method

Client Data

				Laboratory Data			
Name:	Tetra Tech	Matrix:	QC Water	Lab Sample:	1803122-03	Column:	BEH C18
Project:	Bethpage	Date Collected:	20-Sep-18 09:30	Date Received:	21-Sep-18 09:09		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFDoA	IS	73.1	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFTeDA	IS	76.9	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1

DL - Detection Limit   LOD - Limit of Detection   Results reported to the DL.   When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both
LOQ - Limit of quantitation   linear and branched isomers. Only the linear isomer is reported for all other
analytes.

Appendix C

Support Documents

A. Documents Supporting Qualifications

Vista
Analytical Laboratory

Sample ID: BP-TT-FRB08-20180918   **PFAS Isotope Dilution Method**

Client Data					Laboratory Data			
Name:	Tetra Tech		Matrix:	QC Water	Lab Sample:	1803122-01	Column:	BEH C18
Project:	Bethpage		Date Collected:	18-Sep-18 07:30	Date Received:	21-Sep-18 09:09		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFPeA	2706-90-3	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFBS	375-73-5	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHxA	307-24-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHpA	375-85-9	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHxS	355-46-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
6:2 FTS	27619-97-2	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFOA	335-67-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFHpS	375-92-8	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFNA	375-95-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFOSA	754-91-6	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFOS	1763-23-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFDA	335-76-2	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
8:2 FTS	39108-34-4	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
MeFOSAA	2355-31-9	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
EtFOSAA	2991-50-6	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFUnA	2058-94-8	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFDS	335-77-3	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFDoA	307-55-1	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFTrDA	72629-94-8	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
PFTeDA	376-06-7	ND	2.98	5.43	8.69	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	96.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C3-PFPeA	IS	96.0	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C3-PFBS	IS	96.7	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFHxA	IS	96.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C4-PFHpA	IS	95.3	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
18O2-PFHxS	IS	98.0	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-6:2 FTS	IS	107	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFOA	IS	85.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C5-PFNA	IS	77.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C8-PFOSA	IS	16.1	50 - 150	H	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C8-PFOS	IS	99.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFDA	IS	65.3	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-8:2 FTS	IS	112	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
d3-MeFOSAA	IS	68.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
d5-EtFOSAA	IS	69.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1
13C2-PFUnA	IS	66.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:12	1

Client Data

Name:	Tetra Tech	Matrix:	QC Water		**Laboratory Data**			
Project:	Bethpage	Date Collected:	19-Sep-18 09:30		Lab Sample:	1803122-02	Column:	BEH C18
					Date Received:	21-Sep-18 09:09		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFPeA	2706-90-3	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFBS	375-73-5	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHxA	307-24-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHpA	375-85-9	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHxS	355-46-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
6:2 FTS	27619-97-2	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFOA	335-67-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFHpS	375-92-8	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFNA	375-95-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFOSA	754-91-6	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFOS	1763-23-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFDA	335-76-2	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
8:2 FTS	39108-34-4	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
MeFOSAA	2355-31-9	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
EtFOSAA	2991-50-6	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFUnA	2058-94-8	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFDS	335-77-3	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFDoA	307-55-1	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFTrDA	72629-94-8	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
PFTeDA	376-06-7	ND	2.84	5.21	8.30	U	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	97.8	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C3-PFPeA	IS	96.5	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C3-PFBS	IS	96.0	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFHxA	IS	93.8	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C4-PFHpA	IS	94.3	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
18O2-PFHxS	IS	99.2	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-6:2 FTS	IS	99.9	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFOA	IS	85.8	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C5-PFNA	IS	80.9	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C8-PFOSA	IS	20.8	50 - 150	H	B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C8-PFOS	IS	90.9	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFDA	IS	66.2	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-8:2 FTS	IS	103	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
d3-MeFOSAA	IS	70.0	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
d5-EtFOSAA	IS	73.1	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1
13C2-PFUnA	IS	60.1	50 - 150		B8J0002	02-Oct-18	0.120 L	18-Oct-18 17:23	1

Client Data

Name:	Tetra Tech	Matrix:	QC Water			
Project:	Bethpage	Date Collected:	20-Sep-18 09:30			

Laboratory Data

Lab Sample:	1803122-03	Column: BEH C18
Date Received:	21-Sep-18 09:09	

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFPeA	2706-90-3	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFBS	375-73-5	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHxA	307-24-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHpA	375-85-9	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHxS	355-46-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
6:2 FTS	27619-97-2	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFOA	335-67-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFHpS	375-92-8	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFNA	375-95-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFOSA	754-91-6	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFOS	1763-23-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFDA	335-76-2	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
8:2 FTS	39108-34-4	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
MeFOSAA	2355-31-9	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
EtFOSAA	2991-50-6	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFUnA	2058-94-8	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFDS	335-77-3	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFDoA	307-55-1	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFTrDA	72629-94-8	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
PFTeDA	376-06-7	ND	2.93	5.34	8.56	U	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	98.3	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C3-PFPeA	IS	96.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C3-PFBS	IS	98.0	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFHxA	IS	98.3	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C4-PFHpA	IS	93.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
18O2-PFHxS	IS	101	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-6:2 FTS	IS	109	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFOA	IS	90.1	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C5-PFNA	IS	81.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C8-PFOSA	IS	25.5	50 - 150	H	B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C8-PFOS	IS	105	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFDA	IS	67.5	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-8:2 FTS	IS	102	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
d3-MeFOSAA	IS	79.5	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
d5-EtFOSAA	IS	85.6	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1
13C2-PFUnA	IS	68.5	50 - 150		B8J0002	02-Oct-18	0.117 L	18-Oct-18 17:34	1

Appendix C

Support Documents

B. Chain of Custody (COC)

Chain of Custody Record

Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916)673-0106

Vista Analytical Laboratory 6.0°C

Client Contact	Project Manager: David Brayack	Site Contact: Chuck Meyer	Date:	COC No:
TetraTech	Tel/Fax: (757) 466-4909	Lab Contact: Jade White	Carrier: FedEx	Page 1 of 1
5700 Lake Wright Dr Suite 102				Chuck Meyer
Norfolk, VA 23502				For Lab Use Only:
(757) 466-4909				Walk-in Client:
				Lab Sampling:
Project Name: Bethpage				
Site:				Job / SDG No.:
P O #				

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☑Other:

Analysis Turnaround Time: ☐CALENDAR DAYS ☐WORKING DAYS — TAT if different from Below 21

☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PFAS (NYSDEC 21-Compound List) EPA 537 Modified	Sample Specific Notes:
✱ BP-TT-FRB08-20180918	9/18/2018	7:30	G	QC	2	N	N	X	Field Reagent Blank
BPSI-TT-MW301S-20180918	9/18/2018	10:45	G	GW	2	N	N	X	
BB-TT-DUP05-20180918	9/18/2018	12:00	G	QC	2	N	N	X	Duplicate
BP-HN-MW27I-20180918	9/18/2018	8:55	G	GW	2	N	N	X	
BPSI-TT-MW301D-20180918	9/18/2018	12:10	G	GW	2	N	N	X	
BPSI-TT-MW301I-20180918	9/18/2018	10:40	G	GW	2	N	N	X	
BP-MH-SW4001-20180918	9/18/2018	12:15	G	GW	2	N	N	X	
BP-TT-SW4004-20180918	9/18/2018	12:50	G	GW	2	N	N	X	
BP-TT-SW4002-20180918	9/18/2018	13:20	G	GW	2	N	N	X	
BPSI-TT-MW312I-20180918	9/18/2018	16:00	G	GW	2	N	N	X	
BPSI-TT-MW312S-20180918	9/18/2018	15:25	G	GW	2	N	N	X	
✱ BP-TT-FRB09-20180919	9/19/2019	9:30	G	QC	2	N	N	X	Field Reagent Blank
BPSI-TT-MW310S-20180919	9/19/2018	10:30	G	GW	2	N	N	X	
BPSI-TT-MW311S-20180919	9/19/2018	11:10	G	GW	2	N	N	X	
BPSI-TT-MW311I-20180919	9/19/2018	11:10	G	GW	6	N	Y	X	
BPSI-TT-MW314S-20180919	9/19/2018	14:40	G	GW	2	N	N	X	
BPSI-TT-MW314D-20180919	9/19/2018	16:20	G	GW	2	N	N	X	
BP-TT-EB03-20180919	9/19/2018	15:00	G	AQ	2	N	Y	X	
BPSI-TT-MW313S-2018020	9/20/2018	9:45	G	GW	2	N	N	X	
BB-TT-DUP06-20180920	9/20/2018	12:00	G	GW	2	N	N	X	Duplicate
BP-TT-FRB10-20180920	920/2019	9:30	G	QC	2	N	N	X	Field Reagent Blank
BPSI-TT-MW307D-2018020	920/2019	15:20	G	GW	2	N	N	X	

EXACT COPY OF THE ORIGINAL
INT KG 09/24/18

WO# 1803120
✱ ONLY FRB'S THIS WO#

Total # Containers: 48

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5= NaOH, 6= Other: Trizma

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Fed Ex Tracking: 7732 8315 7719

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Corr'd:	Therm ID No.:
Relinquished by:	Company: Tetra Tech	Date/Time 8:30 9/20/18	Received by:	Company: VAL	Date/Time: 09/21/18 1034
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Appendix C

Support Documents

C. Calculations for Stage 4

The results for the 4 SDG field reagent blanks were all non-detects.

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC
MID_ATLANTIC	BETHPAGE_NWIRP	1803122							N6247016D9008	WE13	TETRA TECH NUS, INC.	BP-TT-FRB08-20180918	Water for QC samples	Field Reagent Blank	18-Sep-18	537_MOD	Perfluoroalkyl Compounds
MID_ATLANTIC	BETHPAGE_NWIRP	1803122							N6247016D9008	WE13	TETRA TECH NUS, INC.	BP-TT-FRB09-20180919	Water for QC samples	Field Reagent Blank	19-Sep-18	537_MOD	Perfluoroalkyl Compounds
MID_ATLANTIC	BETHPAGE_NWIRP	1803122							N6247016D9008	WE13	TETRA TECH NUS, INC.	BP-TT-FRB10-20180920	Water for QC samples	Field Reagent Blank	20-Sep-18	537_MOD	Perfluoroalkyl Compounds