NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1803174

Naval Weapons Industrial Reserve Plant Bethpage
Bethpage, New York

August 2019

"BP-TT-FRB11-20180924","Modified EPA 537","Initial","1803174-01","Vista","375-22-4","PFBA","5.43","ng/L","UU","2.97","LOD","","TRG","","","8.67","LOQ","YES","-99","","0.115","0.001","5.43",""
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","2706-90-3","PFPeA","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39",""
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","355-46-4","PFHxS","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39",""
"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","27619-97-2","6:2 FTS","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39",""
"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","335-67-1","PFOA","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39",""
"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","375-92-8","PFHpS","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39",""

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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","754-91-
6","PFOSA","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39","
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","1763-23-
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","39108-34-4","8:2
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","2355-31-
9","MeFOSAA","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.3
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","2991-50-
6","EtFOSAA","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39
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8","PFUnA","5.39","ng/L","UU","2.94","LOD","","TRG","","","8.59","LOQ","YES","-99","","0.116","0.001","5.39","
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","72629-94-
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FTS","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.116","0.001","-99",""
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PFOA","89.6","%R","","-99","NA","","IS","89.6","","-99","NA","YES","100","","0.116","0.001","-99",""
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PFDA","68.2","%R","","-99","NA","","IS","68.2","","-99","NA","YES","100","","0.116","0.001","-99",""
"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","13C2-8:2 FTS","13C2-8:2 FTS","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.116","0.001","-99",""
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"BP-TT-FRB12-20180925","Modified EPA 537","Initial","1803174-02","Vista","d5-EtFOSAA","d5-EtFOSAA","69.1","%R","","-99","NA","","IS","69.1","","-99","NA","YES","100","","0.116","0.001","-99",""
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"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","1763-23-1","PFOS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","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",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","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",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","2355-31-9","MeFOSAA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","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",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","2058-94-8","PFUnA","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30","
"
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","335-77-

3","PFDS","5.30","ng/L","UU","2.91","LOD","","TRG","","","8.49","LOQ","YES","-99","","0.118","0.001","5.30",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","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",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","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",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","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",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C3-PFBA","13C3-PFBA","98.5","%R","","-99","NA","","IS","98.5","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C3-PFPeA","13C3-PFPeA","97.2","%R","","-99","NA","","IS","97.2","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C3-PFBS","13C3-PFBS","101","%R","","-99","NA","","IS","101","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-PFHxA","13C2-PFHxA","98.0","%R","","-99","NA","","IS","98.0","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C4-PFHpA","13C4-PFHpA","96.6","%R","","-99","NA","","IS","96.6","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","18O2-PFHxS","18O2-PFHxS","102","%R","","-99","NA","","IS","102","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-6:2 FTS","13C2-6:2 FTS","110","%R","","-99","NA","","IS","110","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-PFOA","13C2-PFOA","86.0","%R","","-99","NA","","IS","86.0","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C5-PFNA","13C5-PFNA","77.0","%R","","-99","NA","","IS","77.0","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C8-PFOSA","13C8-PFOSA","13.7","%R","H","-99","NA","","IS","13.7","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C8-PFOS","13C8-PFOS","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-PFDA","13C2-PFDA","68.1","%R","","-99","NA","","IS","68.1","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-8:2 FTS","13C2-8:2 FTS","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","d3-MeFOSAA","d3-MeFOSAA","73.2","%R","","-99","NA","","IS","73.2","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","d5-EtFOSAA","d5-EtFOSAA","77.8","%R","","-99","NA","","IS","77.8","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-PFUnA","13C2-PFUnA","65.5","%R","","-99","NA","","IS","65.5","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-PFDoA","13C2-PFDoA","74.9","%R","","-99","NA","","IS","74.9","","-99","NA","YES","100","","0.118","0.001","-99",""
"BP-TT-FRB13-20180926","Modified EPA 537","Initial","1803174-03","Vista","13C2-PFTeDA","13C2-PFTeDA","73.4","%R","","-99","NA","","IS","73.4","","-99","NA","YES","100","","0.118","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",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","18O2-PFHxS","18O2-PFHxS","96.0","%R","","-99","NA","","IS","96.0","","-99","NA","YES","100","","0.125","0.001","-99",""

"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",""

"B8J0002-BS1","Modified EPA 537","Initial","B8J0002-BS1","Vista","13C2-PFOA","13C2-PFOA","92.0","%R","","-99","NA","","IS","92.0","","-99","NA","YES","100","","0.125","0.001","-99",""

"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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01","NM","","1.10","Modified EPA 537","METHOD","Initial","10/02/2018 08:30","10/18/2018
17:44","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8J0002","B8J0002","NA","S8J0052","1803174","09/28/2018 09:22","01/01/1900 00:00",""
"Bethpage","Bethpage","BP-TT-FRB12-20180925","09/25/2018 11:00","AQ","1803174-
02","NM","","1.10","Modified EPA 537","METHOD","Initial","10/02/2018 08:30","10/18/2018
17:55","Vista","COA","WET","NA","1","NA","NA","01/01/1900
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03","NM","","1.10","Modified EPA 537","METHOD","Initial","10/02/2018 08:30","10/18/2018
18:06","Vista","COA","WET","NA","1","NA","NA","01/01/1900
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537","METHOD","Initial","10/02/2018 08:30","10/18/2018
17:01","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B8J0002","B8J0002","NA","S8J0052","1803174","01/01/1900 00:00","01/01/1900 00:00",""
"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
16:40","Vista","COA","WET","NA","1","NA","NA","01/01/1900
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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 13, 2019
DATA REVIEWER(S): Thomas B. Granat
SDG NUMBER: 1803174
SAMPLING DATE(S): September 24-26, 2018

SAMPLES:

Client Sample ID	Laboratory ID	PFAS
BP-TT-FRB11-20180924	1803174-01	X
BP-TT-FRB12-20180925	1803174-02	X
BP-TT-FRB13-20180926	1803174-03	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: 1803174

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-FRB11-20180924	1803174-01	PFOSA	19.6	UJ	N
BP-TT-FRB12-20180925	1803174-02	PFOSA	18.4	UJ	N
BP-TT-FRB13-20180926	1803174-03	PFOSA	13.7	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-FRB11-20180924	9/24/2018 0:00	1803174-01	PFOSA	5.43	UU	5.43	UJ	N
BP-TT-FRB12-20180925	9/25/2018 0:00	1803174-02	PFOSA	5.39	UU	5.39	UJ	N
BP-TT-FRB13-20180926	9/26/2018 0:00	1803174-03	PFOSA	5.3	UU	5.3	UJ	N

SAMPLE_ID	SAMP_DATE	LAB_ID	PARAMETER	LAB_RES	LAB_QUAL	VAL_RES	VAL_QUAL	VAL_REASON_CODE
BP-TT-FRB11-20180924	9/24/2018 0:00	1803174-01	PFOSA	5.43	UU	5.43	UJ	N
BP-TT-FRB12-20180925	9/25/2018 0:00	1803174-02	PFOSA	5.39	UU	5.39	UJ	N
BP-TT-FRB13-20180926	9/26/2018 0:00	1803174-03	PFOSA	5.3	UU	5.3	UJ	N

Appendix B

Laboratory Sample Results

Vista
Analytical Laboratory

Sample ID: BP-TT-FRB11-20180924

PFAS Isotope Dilution Method

Client Data

Name:	Tetra Tech	Matrix:	QC Water	
Project:	Bethpage	Date Collected:	24-Sep-18 10:20	

Laboratory Data

Lab Sample:	1803174-01	Column:	BEH C18
Date Received:	28-Sep-18 09:22		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFPeA	2706-90-3	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFBS	375-73-5	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHxA	307-24-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHpA	375-85-9	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHxS	355-46-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
6:2 FTS	27619-97-2	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFOA	335-67-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHpS	375-92-8	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFNA	375-95-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFOSA	754-91-6	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFOS	1763-23-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFDA	335-76-2	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
8:2 FTS	39108-34-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
MeFOSAA	2355-31-9	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
EtFOSAA	2991-50-6	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFUnA	2058-94-8	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFDS	335-77-3	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFDoA	307-55-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFTrDA	72629-94-8	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFTeDA	376-06-7	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	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 17:44	1
13C3-PFPeA	IS	93.6	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C3-PFBS	IS	96.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFHxA	IS	96.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C4-PFHpA	IS	92.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
18O2-PFHxS	IS	95.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-6:2 FTS	IS	103	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFOA	IS	84.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C5-PFNA	IS	75.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C8-PFOSA	IS	19.6	50 - 150	H	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C8-PFOS	IS	93.5	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFDA	IS	61.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-8:2 FTS	IS	97.7	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
d3-MeFOSAA	IS	64.6	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
d5-EtFOSAA	IS	73.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFUnA	IS	60.0	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1

Sample ID: BP-TT-FRB11-20180924

PFAS Isotope Dilution Method

Client Data				**Laboratory Data**			
Name:	Tetra Tech	Matrix:	QC Water	Lab Sample:	1803174-01	Column:	BEH C18
Project:	Bethpage	Date Collected:	24-Sep-18 10:20	Date Received:	28-Sep-18 09:22		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFDoA	IS	63.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFTeDA	IS	68.6	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	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:	25-Sep-18 11:00

Laboratory Data

Lab Sample:	1803174-02	Column:	BEH C18
Date Received:	28-Sep-18 09:22		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFPeA	2706-90-3	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFBS	375-73-5	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHxA	307-24-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHpA	375-85-9	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHxS	355-46-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
6:2 FTS	27619-97-2	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFOA	335-67-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHpS	375-92-8	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFNA	375-95-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFOSA	754-91-6	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFOS	1763-23-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFDA	335-76-2	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
8:2 FTS	39108-34-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
MeFOSAA	2355-31-9	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
EtFOSAA	2991-50-6	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFUnA	2058-94-8	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFDS	335-77-3	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFDoA	307-55-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFTrDA	72629-94-8	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFTeDA	376-06-7	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	99.7	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C3-PFPeA	IS	94.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C3-PFBS	IS	102	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFHxA	IS	95.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C4-PFHpA	IS	96.3	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
18O2-PFHxS	IS	99.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-6:2 FTS	IS	102	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFOA	IS	89.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C5-PFNA	IS	81.1	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C8-PFOSA	IS	18.4	50 - 150	H	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C8-PFOS	IS	95.7	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFDA	IS	68.2	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-8:2 FTS	IS	104	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
d3-MeFOSAA	IS	64.1	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
d5-EtFOSAA	IS	69.1	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFUnA	IS	64.0	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1

Sample ID: BP-TT-FRB12-20180925

PFAS Isotope Dilution Method

Client Data					Laboratory Data				
Name:	Tetra Tech		Matrix:	QC Water	Lab Sample:	1803174-02		Column:	BEH C18
Project:	Bethpage		Date Collected:	25-Sep-18 11:00	Date Received:	28-Sep-18 09:22			

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFDoA	IS	66.2	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFTeDA	IS	68.3	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	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.

Sample ID: BP-TT-FRB13-20180926

PFAS Isotope Dilution Method

Client Data

Name:	Tetra Tech	Matrix:	QC Water
Project:	Bethpage	Date Collected:	26-Sep-18 09:30

Laboratory Data

Lab Sample:	1803174-03	Column:	BEH C18
Date Received:	28-Sep-18 09:22		

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	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFPeA	2706-90-3	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFBS	375-73-5	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHxA	307-24-4	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHpA	375-85-9	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHxS	355-46-4	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
6:2 FTS	27619-97-2	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFOA	335-67-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHpS	375-92-8	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFNA	375-95-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFOSA	754-91-6	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFOS	1763-23-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFDA	335-76-2	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
8:2 FTS	39108-34-4	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
MeFOSAA	2355-31-9	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
EtFOSAA	2991-50-6	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFUnA	2058-94-8	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFDS	335-77-3	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFDoA	307-55-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFTrDA	72629-94-8	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFTeDA	376-06-7	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	98.5	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C3-PFPeA	IS	97.2	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C3-PFBS	IS	101	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFHxA	IS	98.0	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C4-PFHpA	IS	96.6	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
18O2-PFHxS	IS	102	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-6:2 FTS	IS	110	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFOA	IS	86.0	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C5-PFNA	IS	77.0	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C8-PFOSA	IS	13.7	50 - 150	H	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C8-PFOS	IS	103	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFDA	IS	68.1	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-8:2 FTS	IS	108	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
d3-MeFOSAA	IS	73.2	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
d5-EtFOSAA	IS	77.8	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFUnA	IS	65.5	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1

Vista
Analytical Laboratory

Sample ID: BP-TT-FRB13-20180926

PFAS Isotope Dilution Method

Client Data

				Laboratory Data			
Name:	Tetra Tech	Matrix:	QC Water	Lab Sample:	1803174-03	Column:	BEH C18
Project:	Bethpage	Date Collected:	26-Sep-18 09:30	Date Received:	28-Sep-18 09:22		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFDoA	IS	74.9	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFTeDA	IS	73.4	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1

DL - Detection Limit   LOD - Limit of Detection   Results reported to the DL.

LOQ - Limit of quantitation

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

Appendix C

Support Documents

A. Documents Supporting Qualifications

Client Data

Name:	Tetra Tech		Matrix:	QC Water			
Project:	Bethpage		Date Collected:	24-Sep-18 10:20			

Laboratory Data

Lab Sample:	1803174-01	Column:	BEH C18
Date Received:	28-Sep-18 09:22		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFPeA	2706-90-3	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFBS	375-73-5	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHxA	307-24-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHpA	375-85-9	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHxS	355-46-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
6:2 FTS	27619-97-2	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFOA	335-67-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFHpS	375-92-8	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFNA	375-95-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFOSA	754-91-6	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFOS	1763-23-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFDA	335-76-2	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
8:2 FTS	39108-34-4	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
MeFOSAA	2355-31-9	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
EtFOSAA	2991-50-6	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFUnA	2058-94-8	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFDS	335-77-3	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFDoA	307-55-1	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFTrDA	72629-94-8	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
PFTeDA	376-06-7	ND	2.97	5.43	8.67	U	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	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 17:44	1
13C3-PFPeA	IS	93.6	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C3-PFBS	IS	96.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFHxA	IS	96.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C4-PFHpA	IS	92.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
18O2-PFHxS	IS	95.2	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-6:2 FTS	IS	103	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFOA	IS	84.9	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C5-PFNA	IS	75.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C8-PFOSA	IS	19.6	50 - 150	H	B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C8-PFOS	IS	93.5	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFDA	IS	61.4	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-8:2 FTS	IS	97.7	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
d3-MeFOSAA	IS	64.6	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
d5-EtFOSAA	IS	73.1	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1
13C2-PFUnA	IS	60.0	50 - 150		B8J0002	02-Oct-18	0.115 L	18-Oct-18 17:44	1

Sample ID: BP-TT-FRB12-20180925

PFAS Isotope Dilution Method

Client Data

Name:	Tetra Tech	Matrix:	QC Water
Project:	Bethpage	Date Collected:	25-Sep-18 11:00

Laboratory Data

Lab Sample:	1803174-02	Column:	BEH C18
Date Received:	28-Sep-18 09:22		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFPeA	2706-90-3	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFBS	375-73-5	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHxA	307-24-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHpA	375-85-9	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHxS	355-46-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
6:2 FTS	27619-97-2	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFOA	335-67-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFHpS	375-92-8	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFNA	375-95-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFOSA	754-91-6	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFOS	1763-23-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFDA	335-76-2	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
8:2 FTS	39108-34-4	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
MeFOSAA	2355-31-9	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
EtFOSAA	2991-50-6	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFUnA	2058-94-8	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFDS	335-77-3	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFDoA	307-55-1	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFTrDA	72629-94-8	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
PFTeDA	376-06-7	ND	2.94	5.39	8.59	U	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	99.7	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C3-PFPeA	IS	94.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C3-PFBS	IS	102	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFHxA	IS	95.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C4-PFHpA	IS	96.3	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
18O2-PFHxS	IS	99.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-6:2 FTS	IS	102	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFOA	IS	89.6	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C5-PFNA	IS	81.1	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C8-PFOSA	IS	18.4	50 - 150	H	B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C8-PFOS	IS	95.7	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFDA	IS	68.2	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-8:2 FTS	IS	104	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
d3-MeFOSAA	IS	64.1	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
d5-EtFOSAA	IS	69.1	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1
13C2-PFUnA	IS	64.0	50 - 150		B8J0002	02-Oct-18	0.116 L	18-Oct-18 17:55	1

Client Data

Name:	Tetra Tech	Matrix:	QC Water		
Project:	Bethpage	Date Collected:	26-Sep-18 09:30		

Laboratory Data

Lab Sample:	1803174-03	Column:	BEH C18
Date Received:	28-Sep-18 09:22		

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	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFPeA	2706-90-3	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFBS	375-73-5	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHxA	307-24-4	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHpA	375-85-9	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHxS	355-46-4	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
6:2 FTS	27619-97-2	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFOA	335-67-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFHpS	375-92-8	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFNA	375-95-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFOSA	754-91-6	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFOS	1763-23-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFDA	335-76-2	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
8:2 FTS	39108-34-4	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
MeFOSAA	2355-31-9	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
EtFOSAA	2991-50-6	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFUnA	2058-94-8	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFDS	335-77-3	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFDoA	307-55-1	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFTrDA	72629-94-8	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
PFTeDA	376-06-7	ND	2.91	5.30	8.49	U	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	98.5	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C3-PFPeA	IS	97.2	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C3-PFBS	IS	101	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFHxA	IS	98.0	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C4-PFHpA	IS	96.6	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
18O2-PFHxS	IS	102	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-6:2 FTS	IS	110	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFOA	IS	86.0	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C5-PFNA	IS	77.0	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C8-PFOSA	IS	13.7	50 - 150	H	B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C8-PFOS	IS	103	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFDA	IS	68.1	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-8:2 FTS	IS	108	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
d3-MeFOSAA	IS	73.2	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
d5-EtFOSAA	IS	77.8	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	1
13C2-PFUnA	IS	65.5	50 - 150		B8J0002	02-Oct-18	0.118 L	18-Oct-18 18:06	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

1803174 1.1°C

Client Contact	Regulatory Program: ☐DW ☐NPDES ☐RCRA ☑Other	COC No:
TetraTech	Project Manager: David Brayack	Site Contact: Chuck Meyer	Date: 9/26/2018
5700 Lake Wright Dr Suite 102	Tel/Fax: (757) 466-4909	Lab Contact: Jade White	Carrier: FedEx
Norfolk, VA 23502	**Analysis Turnaround Time**	
(757) 466-4909	☐ CALENDAR DAYS ☐ WORKING DAYS	

COC No:
1 of 1 COCs
Chuck Meyer

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Project Name: Bethpage
Site:
PO #

Job / SDG No.:

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:
BPS1-TT-MW303I1-R-20180924	9/24/2018	1050	G	GW	2	N	N	X	
BPS1-TT-MW303I2-R-20180924	9/24/2018	1040	G	GW	2	N	N	X	
BPS1-TT-MW303D-R-20180924	9/24/2018	1050	G	GW	2	N	N	X	
BPS1-TT-MW307I-R-20180924	9/24/2018	1340	G	GW	2	N	N	X	
BPS1-TT-MW307S-R-20180924	9/24/2018	1330	G	GW	2	N	N	X	
BPS1-TT-DUP07-R-20180924	9/24/2018	1200	G	GW	2	N	N	X	Duplicate
BP-TT-FRB11-20180924	9/24/2018	1020	G	QC	2	N	N	X	Field Reagent Blank
BP-TT-AOC22-MW09-R-20180924	9/24/2018	1330	G	GW	2	N	N	X	
BP-TT-AOC22-MW08-R-20180925	9/25/2018	0910	G	GW	2	N	N	X	
BPS1-TT-MW303S-R-20180925	9/25/2018	1125	G	GW	2	N	N	X	
BP-TT-AOC22-MW07-R-20180925	9/25/2018	1305	G	GW	2	N	N	X	Rinsate Blank
BP-TT-EB01-R-20180925	9/25/2018	1510	G	QC	2	N	N	X	MS/MSD
BPS1-TT-MW305D-R-20180925	9/25/2018	0930	G	GW	6	N	N	X	Field Reagent Blank
BP-TT-FRB12-20180925	9/25/2018	1100	G	QC	2	N	N	X	Duplicate
BPS1-TT-DUP12-R-20180925	9/25/2018	1600	G	GW	2	N	N	X	
BPS1-MW305I-R-20180925	9/25/2018	0930	G	GW	2	N	N	X	
BPS1-TT-MW302I1-R-20180925	9/25/2018	1405	G	GW	2	N	N	X	
BPS1-TT-MW302I2-R-20180925	9/25/2018	1215	G	GW	2	N	N	X	
BPS1-TT-MW302D-R-20180925	9/25/2018	1200	G	GW	2	N	N	X	
BPS1-TT-MW302S-R-20180925	9/25/2018	1405	G	GW	2	N	N	X	
BPS1-TT-MW306D-R-20180926	9/26/2018	1010	G	GW	2	N	N	X	Field Reagent Blank
BP-TT-FRB13-20180926	9/26/2018	0930	G	QC	2	N	N	X	
BP-TT-AOC22-MW06-R-20180926	9/26/2018	0900	G	GW	2	N	N	X	
						N	N		

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Fed Ex Tracking:
*WO# 1803172

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:			
Relinquished by:	Company: Tetra Tech	Date/Time: 9/26/2018 11:00	Received by: WSpar1b	Company: Vah
Relinquished by:	Company:	Date/Time:	Received by:	Company:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:

Cooler Temp. (°C): Obs'd _____ Corr'd _____
Therm ID No.: _____
Date/Time: 09/28/18 0927

Appendix C

Support Documents

C. Calculations for Stage 4

The results for the 3 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	1803174							N6247016D9008	WE13	TETRA TECH NUS, INC.	BP-TT-FRB11-20180924	Water for QC samples	Field Reagent Blank	24-Sep-18	537_MOD	Perfluoroalkyl Compounds
MID_ATLANTIC	BETHPAGE_NWIRP	1803174							N6247016D9008	WE13	TETRA TECH NUS, INC.	BP-TT-FRB12-20180925	Water for QC samples	Field Reagent Blank	25-Sep-18	537_MOD	Perfluoroalkyl Compounds
MID_ATLANTIC	BETHPAGE_NWIRP	1803174							N6247016D9008	WE13	TETRA TECH NUS, INC.	BP-TT-FRB13-20180926	Water for QC samples	Field Reagent Blank	26-Sep-18	537_MOD	Perfluoroalkyl Compounds