NAVFAC
Naval Facilities Engineering Command

Off-Base Drinking Water Sample Results, Electronic Data Deliverable, Data Validation Report, and the Sample Location Figure, SDG 320-44774-1

Naval Air Station Willow Grove
Willow Grove, Pennsylvania

August 2019

"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","9.33","ng/L","H","0.911","DL","","TRG","","","4.79","LOQ","NO","-99","","260.8","10.00","1.92",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","16.3","ng/L","H M","2.59","DL","","TRG","","","6.71","LOQ","NO","-99","","260.8","10.00","5.75",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","5.47","ng/L","H","0.613","DL","","TRG","","","4.79","LOQ","NO","-99","","260.8","10.00","1.92",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","8.40","ng/L","H","0.767","DL","","TRG","","","4.79","LOQ","NO","-99","","260.8","10.00","1.92",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","3.98","ng/L","J H","1.25","DL","","TRG","","","4.79","LOQ","NO","-99","","260.8","10.00","2.88",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.68","ng/L","J H","0.451","DL","","TRG","","","4.79","LOQ","NO","-99","","260.8","10.00","0.959",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","STL00993","13C2 PFHxA","88.6","ng/L","","-99","DL","","SURR","92","","-99","LOQ","YES","95.9","","260.8","10.00","0",""
"WGNA-103018-RW-3136","537","RE","320-44774-1","TALSAC","STL00996","13C2 PFDA","95.6","ng/L","","-99","DL","","SURR","100","","-99","LOQ","YES","95.9","","260.8","10.00","0",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","7.01","ng/L","","0.891","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","1.88",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","11.7","ng/L","Q M","2.53","DL","","TRG","","","6.57","LOQ","YES","-99","","266.5","10.00","5.63",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","3.27","ng/L","J Q","0.600","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","1.88",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","5.28","ng/L","Q","0.750","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","1.88",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.81","ng/L","U Q M","1.22","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","2.81",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.938","ng/L","U Q M","0.441","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","0.938",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","STL00993","13C2 PFHxA","61.7","ng/L","Q","-99","DL","","SURR","66","","-99","LOQ","YES","93.8","","266.5","10.00","0",""
"WGNA-103018-RW-3136","537","RES","320-44774-1","TALSAC","STL00996","13C2 PFDA","66.1","ng/L","","-99","DL","","SURR","71","","-99","LOQ","YES","93.8","","266.5","10.00","0",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.89","ng/L","U H","0.899","DL","","TRG","","","4.73","LOQ","NO","-99","","264.2","10.00","1.89",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.68","ng/L","U H M","2.55","DL","","TRG","","","6.62","LOQ","NO","-99","","264.2","10.00","5.68",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.89","ng/L","U H","0.606","DL","","TRG","","","4.73","LOQ","NO","-99","","264.2","10.00","1.89",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.89","ng/L","U H","0.757","DL","","TRG","","","4.73","LOQ","NO","-99","","264.2","10.00","1.89",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.84","ng/L","U H M","1.23","DL","","TRG","","","4.73","LOQ","NO","-99","","264.2","10.00","2.84",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.946","ng/L","U H M","0.445","DL","","TRG","","","4.73","LOQ","NO","-99","","264.2","10.00","0.946",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","STL00993","13C2 PFHxA","102","ng/L","","-99","DL","","SURR","108","","-99","LOQ","YES","94.6","","264.2","10.00","0",""
"WGNA-103018-FRB-3493","537","RE","320-44774-10","TALSAC","STL00996","13C2 PFDA","98.6","ng/L","","-99","DL","","SURR","104","","-99","LOQ","YES","94.6","","264.2","10.00","0",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.85","ng/L","U M","0.880","DL","","TRG","","","4.63","LOQ","YES","-99","","270","10.00","1.85",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","335-67-1","Perfluorooctanoic acid

(PFOA)","5.56","ng/L","U Q","2.50","DL","","TRG","","","6.48","LOQ","YES","-99","","270","10.00","5.56",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.85","ng/L","U Q","0.593","DL","","TRG","","","4.63","LOQ","YES","-99","","270","10.00","1.85",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.85","ng/L","U Q","0.741","DL","","TRG","","","4.63","LOQ","YES","-99","","270","10.00","1.85",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.78","ng/L","U Q","1.20","DL","","TRG","","","4.63","LOQ","YES","-99","","270","10.00","2.78",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.926","ng/L","U Q","0.435","DL","","TRG","","","4.63","LOQ","YES","-99","","270","10.00","0.926",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","STL00993","13C2
PFHxA","30.9","ng/L","Q","-99","DL","","SURR","33","","-99","LOQ","YES","92.6","","270","10.00","0",""
"WGNA-103018-FRB-3493","537","RES","320-44774-10","TALSAC","STL00996","13C2
PFDA","38.0","ng/L","Q","-99","DL","","SURR","41","","-99","LOQ","YES","92.6","","270","10.00","0",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","8.80","ng/L","H","0.914","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","1.92",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","34.5","ng/L","H M","2.60","DL","","TRG","","","6.73","LOQ","NO","-99","","259.9","10.00","5.77",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.56","ng/L","J H","0.616","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","1.92",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","3.28","ng/L","J H","0.770","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","1.92",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","7.48","ng/L","H","1.25","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","2.89",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","2.38","ng/L","J H","0.452","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","0.962",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","STL00993","13C2
PFHxA","92.7","ng/L","","-99","DL","","SURR","96","","-99","LOQ","YES","96.2","","259.9","10.00","0",""
"NAWC-103018-RW-138","537","RE","320-44774-11","TALSAC","STL00996","13C2
PFDA","102","ng/L","","-99","DL","","SURR","107","","-99","LOQ","YES","96.2","","259.9","10.00","0",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","3.54","ng/L","J","0.908","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","1.91",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","10.7","ng/L","M Q","2.58","DL","","TRG","","","6.69","LOQ","YES","-99","","261.7","10.00","5.73",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","0.823","ng/L","J M
Q","0.611","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","1.91",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","0.985","ng/L","J Q","0.764","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","1.91",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.06","ng/L","J Q","1.24","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","2.87",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.955","ng/L","U M
Q","0.449","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","0.955",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","STL00993","13C2
PFHxA","26.4","ng/L","Q","-99","DL","","SURR","28","","-99","LOQ","YES","95.5","","261.7","10.00","0",""
"NAWC-103018-RW-138","537","RES","320-44774-11","TALSAC","STL00996","13C2
PFDA","29.9","ng/L","Q","-99","DL","","SURR","31","","-99","LOQ","YES","95.5","","261.7","10.00","0",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.90","ng/L","U H","0.905","DL","","TRG","","","4.76","LOQ","NO","-99","","262.5","10.00","1.90",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.71","ng/L","U H","2.57","DL","","TRG","","","6.67","LOQ","NO","-99","","262.5","10.00","5.71",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.90","ng/L","U H","0.610","DL","","TRG","","","4.76","LOQ","NO","-99","","262.5","10.00","1.90",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","375-73-5","Perfluorobutanesulfonic acid

(PFBS)","1.90","ng/L","U H","0.762","DL","","TRG","","","4.76","LOQ","NO","-99","","262.5","10.00","1.90",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.86","ng/L","U H M","1.24","DL","","TRG","","","4.76","LOQ","NO","-99","","262.5","10.00","2.86",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.952","ng/L","U H","0.448","DL","","TRG","","","4.76","LOQ","NO","-99","","262.5","10.00","0.952",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","STL00993","13C2
PFHxA","92.2","ng/L","","-99","DL","","SURR","97","","-99","LOQ","YES","95.2","","262.5","10.00","0",""
"NAWC-103018-FRB-138","537","RE","320-44774-12","TALSAC","STL00996","13C2
PFDA","101","ng/L","","-99","DL","","SURR","107","","-99","LOQ","YES","95.2","","262.5","10.00","0",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.81","ng/L","U","0.860","DL","","TRG","","","4.53","LOQ","YES","-99","","276.2","10.00","1.81",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.43","ng/L","U M Q","2.44","DL","","TRG","","","6.34","LOQ","YES","-99","","276.2","10.00","5.43",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.81","ng/L","U Q","0.579","DL","","TRG","","","4.53","LOQ","YES","-99","","276.2","10.00","1.81",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.81","ng/L","U Q","0.724","DL","","TRG","","","4.53","LOQ","YES","-99","","276.2","10.00","1.81",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.72","ng/L","U Q","1.18","DL","","TRG","","","4.53","LOQ","YES","-99","","276.2","10.00","2.72",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.905","ng/L","U Q","0.425","DL","","TRG","","","4.53","LOQ","YES","-99","","276.2","10.00","0.905",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","STL00993","13C2
PFHxA","31.1","ng/L","Q","-99","DL","","SURR","34","","-99","LOQ","YES","90.5","","276.2","10.00","0",""
"NAWC-103018-FRB-138","537","RES","320-44774-12","TALSAC","STL00996","13C2
PFDA","34.6","ng/L","Q","-99","DL","","SURR","38","","-99","LOQ","YES","90.5","","276.2","10.00","0",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","36.4","ng/L","H","0.942","DL","","TRG","","","4.96","LOQ","NO","-99","","252.2","10.00","1.98",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","13.4","ng/L","H M","2.68","DL","","TRG","","","6.94","LOQ","NO","-99","","252.2","10.00","5.95",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","24.6","ng/L","H","0.634","DL","","TRG","","","4.96","LOQ","NO","-99","","252.2","10.00","1.98",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","4.08","ng/L","J H","0.793","DL","","TRG","","","4.96","LOQ","NO","-99","","252.2","10.00","1.98",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","4.57","ng/L","J H","1.29","DL","","TRG","","","4.96","LOQ","NO","-99","","252.2","10.00","2.97",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.67","ng/L","J H","0.466","DL","","TRG","","","4.96","LOQ","NO","-99","","252.2","10.00","0.991",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","STL00993","13C2
PFHxA","71.8","ng/L","","-99","DL","","SURR","72","","-99","LOQ","YES","99.1","","252.2","10.00","0",""
"NAWC-103018-RW-177","537","RE","320-44774-13","TALSAC","STL00996","13C2
PFDA","68.4","ng/L","Q","-99","DL","","SURR","69","","-99","LOQ","YES","99.1","","252.2","10.00","0",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","33.7","ng/L","","0.908","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","1.91",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","10.7","ng/L","M Q","2.58","DL","","TRG","","","6.69","LOQ","YES","-99","","261.7","10.00","5.73",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","19.4","ng/L","Q","0.611","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","1.91",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.49","ng/L","J Q","0.764","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","1.91",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","4.32","ng/L","J Q","1.24","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","2.87",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.955","ng/L","U M
Q","0.449","DL","","TRG","","","4.78","LOQ","YES","-99","","261.7","10.00","0.955",""

"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","STL00993","13C2 PFHxA","45.9","ng/L","Q","-99","DL","","SURR","48","","-99","LOQ","YES","95.5","","261.7","10.00","0",""
"NAWC-103018-RW-177","537","RES","320-44774-13","TALSAC","STL00996","13C2 PFDA","56.8","ng/L","Q","-99","DL","","SURR","59","","-99","LOQ","YES","95.5","","261.7","10.00","0",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.98","ng/L","U H","0.941","DL","","TRG","","","4.95","LOQ","NO","-99","","252.3","10.00","1.98",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.95","ng/L","U H M","2.68","DL","","TRG","","","6.94","LOQ","NO","-99","","252.3","10.00","5.95",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.98","ng/L","U H","0.634","DL","","TRG","","","4.95","LOQ","NO","-99","","252.3","10.00","1.98",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.98","ng/L","U H","0.793","DL","","TRG","","","4.95","LOQ","NO","-99","","252.3","10.00","1.98",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.97","ng/L","U H M","1.29","DL","","TRG","","","4.95","LOQ","NO","-99","","252.3","10.00","2.97",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.991","ng/L","U H M","0.466","DL","","TRG","","","4.95","LOQ","NO","-99","","252.3","10.00","0.991",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","STL00993","13C2 PFHxA","91.5","ng/L","","-99","DL","","SURR","92","","-99","LOQ","YES","99.1","","252.3","10.00","0",""
"NAWC-103018-FRB-177","537","RE","320-44774-14","TALSAC","STL00996","13C2 PFDA","101","ng/L","","-99","DL","","SURR","102","","-99","LOQ","YES","99.1","","252.3","10.00","0",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.79","ng/L","U M","0.851","DL","","TRG","","","4.48","LOQ","YES","-99","","279","10.00","1.79",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.38","ng/L","U M Q","2.42","DL","","TRG","","","6.27","LOQ","YES","-99","","279","10.00","5.38",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.79","ng/L","U Q","0.573","DL","","TRG","","","4.48","LOQ","YES","-99","","279","10.00","1.79",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.79","ng/L","U Q","0.717","DL","","TRG","","","4.48","LOQ","YES","-99","","279","10.00","1.79",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.69","ng/L","U M Q","1.16","DL","","TRG","","","4.48","LOQ","YES","-99","","279","10.00","2.69",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.896","ng/L","U Q","0.421","DL","","TRG","","","4.48","LOQ","YES","-99","","279","10.00","0.896",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","STL00993","13C2 PFHxA","95.9","ng/L","","-99","DL","","SURR","107","","-99","LOQ","YES","89.6","","279","10.00","0",""
"NAWC-103018-FRB-177","537","RES","320-44774-14","TALSAC","STL00996","13C2 PFDA","94.9","ng/L","","-99","DL","","SURR","106","","-99","LOQ","YES","89.6","","279","10.00","0",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","29.3","ng/L","H","0.917","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","1.93",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","20.7","ng/L","H M","2.61","DL","","TRG","","","6.76","LOQ","NO","-99","","258.9","10.00","5.79",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","11.7","ng/L","H","0.618","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","1.93",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","9.01","ng/L","H","0.772","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","1.93",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","6.74","ng/L","H","1.26","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","2.90",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","3.31","ng/L","J H","0.454","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","0.966",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","STL00993","13C2 PFHxA","85.6","ng/L","","-99","DL","","SURR","89","","-99","LOQ","YES","96.6","","258.9","10.00","0",""
"WGNA-103018-RW-3118","537","RE","320-44774-15","TALSAC","STL00996","13C2 PFDA","93.7","ng/L","","-99","DL","","SURR","97","","-99","LOQ","YES","96.6","","258.9","10.00","0",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","1763-23-1","Perfluorooctanesulfonic acid

(PFOS)","21.2","ng/L","","0.890","DL","","TRG","","","4.68","LOQ","YES","-99","","266.9","10.00","1.87",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","14.1","ng/L","M Q","2.53","DL","","TRG","","","6.56","LOQ","YES","-99","","266.9","10.00","5.62",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","8.30","ng/L","Q","0.599","DL","","TRG","","","4.68","LOQ","YES","-99","","266.9","10.00","1.87",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","5.64","ng/L","Q","0.749","DL","","TRG","","","4.68","LOQ","YES","-99","","266.9","10.00","1.87",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","5.18","ng/L","Q","1.22","DL","","TRG","","","4.68","LOQ","YES","-99","","266.9","10.00","2.81",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","2.20","ng/L","J Q","0.440","DL","","TRG","","","4.68","LOQ","YES","-99","","266.9","10.00","0.937",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","STL00993","13C2
PFHxA","57.2","ng/L","Q","-99","DL","","SURR","61","","-99","LOQ","YES","93.7","","266.9","10.00","0",""
"WGNA-103018-RW-3118","537","RES","320-44774-15","TALSAC","STL00996","13C2
PFDA","64.0","ng/L","Q","-99","DL","","SURR","68","","-99","LOQ","YES","93.7","","266.9","10.00","0",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","1763-23-1","Perfluorooctanesulfonic
acid (PFOS)","108.1","ng/L","H","0.912","DL","","SPK","88","","4.80","LOQ","YES","89.1","WGNA-103018-RW-
3118","260.4","10.00","1.92",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","111.8","ng/L","H M","2.59","DL","","SPK","95","","6.72","LOQ","YES","96.1","WGNA-103018-RW-
3118","260.4","10.00","5.76",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","93.82","ng/L","H","0.614","DL","","SPK","94","","4.80","LOQ","YES","87.4","WGNA-103018-RW-
3118","260.4","10.00","1.92",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","95.49","ng/L","H","0.768","DL","","SPK","102","","4.80","LOQ","YES","84.9","WGNA-103018-RW-
3118","260.4","10.00","1.92",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","95.56","ng/L","H","1.25","DL","","SPK","93","","4.80","LOQ","YES","96.0","WGNA-103018-RW-
3118","260.4","10.00","2.88",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","93.27","ng/L","H","0.451","DL","","SPK","94","","4.80","LOQ","YES","96.0","WGNA-103018-RW-
3118","260.4","10.00","0.960",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","STL00993","13C2
PFHxA","93.09","ng/L","","-99","DL","","SURR","97","","-99","LOQ","YES","96.0","WGNA-103018-RW-
3118","260.4","10.00","0",""
"WGNA-103018-RW-3118MS","537","RE","320-44774-15MS","TALSAC","STL00996","13C2
PFDA","86.82","ng/L","","-99","DL","","SURR","90","","-99","LOQ","YES","96.0","WGNA-103018-RW-
3118","260.4","10.00","0",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","1763-23-1","Perfluorooctanesulfonic
acid (PFOS)","29.22","ng/L","4","0.828","DL","","SPK","249","","4.36","LOQ","YES","3.23","WGNA-103018-RW-
3118","286.9","10.00","1.74",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","20.51","ng/L","M 4","2.35","DL","","SPK","184","","6.10","LOQ","YES","3.49","WGNA-103018-RW-
3118","286.9","10.00","5.23",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","355-46-4","Perfluorohexanesulfonic
acid (PFHxS)","12.66","ng/L","","0.558","DL","","SPK","138","","4.36","LOQ","YES","3.17","WGNA-103018-RW-
3118","286.9","10.00","1.74",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","375-73-5","Perfluorobutanesulfonic
acid (PFBS)","9.658","ng/L","","0.697","DL","","SPK","131","","4.36","LOQ","YES","3.08","WGNA-103018-RW-
3118","286.9","10.00","1.74",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","8.373","ng/L","","1.13","DL","","SPK","92","","4.36","LOQ","YES","3.49","WGNA-103018-RW-
3118","286.9","10.00","2.61",""

"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","5.341","ng/L","","0.410","DL","","SPK","90","","4.36","LOQ","YES","3.49","WGNA-103018-RW-3118","286.9","10.00","0.871",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","STL00993","13C2 PFHxA","70.97","ng/L","","-99","DL","","SURR","81","","-99","LOQ","YES","87.1","WGNA-103018-RW-3118","286.9","10.00","0",""
"WGNA-103018-RW-3118MS","537","RES","320-44774-15MS","TALSAC","STL00996","13C2 PFDA","77.15","ng/L","","-99","DL","","SURR","89","","-99","LOQ","YES","87.1","WGNA-103018-RW-3118","286.9","10.00","0",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","117.3","ng/L","H","0.958","DL","","SPK","94","8","5.04","LOQ","YES","93.6","WGNA-103018-RW-3118","247.8","10.00","2.02",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","113.2","ng/L","H M","2.72","DL","","SPK","92","1","7.06","LOQ","YES","101","WGNA-103018-RW-3118","247.8","10.00","6.05",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","102.0","ng/L","H M","0.646","DL","","SPK","98","8","5.04","LOQ","YES","91.8","WGNA-103018-RW-3118","247.8","10.00","2.02",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","99.57","ng/L","H","0.807","DL","","SPK","102","4","5.04","LOQ","YES","89.2","WGNA-103018-RW-3118","247.8","10.00","2.02",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","96.34","ng/L","H","1.31","DL","","SPK","89","1","5.04","LOQ","YES","101","WGNA-103018-RW-3118","247.8","10.00","3.03",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","95.86","ng/L","H","0.474","DL","","SPK","92","3","5.04","LOQ","YES","101","WGNA-103018-RW-3118","247.8","10.00","1.01",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","STL00993","13C2 PFHxA","92.23","ng/L","","-99","DL","","SURR","91","","-99","LOQ","YES","101","WGNA-103018-RW-3118","247.8","10.00","0",""
"WGNA-103018-RW-3118MSD","537","RE","320-44774-15MSD","TALSAC","STL00996","13C2 PFDA","95.42","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","101","WGNA-103018-RW-3118","247.8","10.00","0",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","15.83","ng/L","M 4","0.839","DL","","SPK","-162","59","4.42","LOQ","YES","3.28","WGNA-103018-RW-3118","283","10.00","1.77",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","11.10","ng/L","M J1","2.39","DL","","SPK","-84","60","6.18","LOQ","YES","3.54","WGNA-103018-RW-3118","283","10.00","5.30",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","6.619","ng/L","J1","0.565","DL","","SPK","-52","63","4.42","LOQ","YES","3.22","WGNA-103018-RW-3118","283","10.00","1.77",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","5.153","ng/L","J1","0.707","DL","","SPK","-15","61","4.42","LOQ","YES","3.12","WGNA-103018-RW-3118","283","10.00","1.77",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","4.222","ng/L","J J1","1.15","DL","","SPK","-27","66","4.42","LOQ","YES","3.53","WGNA-103018-RW-3118","283","10.00","2.65",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","3.257","ng/L","J J1","0.415","DL","","SPK","30","48","4.42","LOQ","YES","3.53","WGNA-103018-RW-3118","283","10.00","0.883",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","STL00993","13C2 PFHxA","36.42","ng/L","Q","-99","DL","","SURR","41","","-99","LOQ","YES","88.3","WGNA-103018-RW-

3118","283","10.00","0",""
"WGNA-103018-RW-3118MSD","537","RES","320-44774-15MSD","TALSAC","STL00996","13C2
PFDA","39.60","ng/L","Q","-99","DL","","SURR","45","","-99","LOQ","YES","88.3","WGNA-103018-RW-
3118","283","10.00","0",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.91","ng/L","U H","0.906","DL","","TRG","","","4.77","LOQ","NO","-99","","262","10.00","1.91",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.73","ng/L","U H M","2.58","DL","","TRG","","","6.68","LOQ","NO","-99","","262","10.00","5.73",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.91","ng/L","U H","0.611","DL","","TRG","","","4.77","LOQ","NO","-99","","262","10.00","1.91",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.91","ng/L","U H","0.763","DL","","TRG","","","4.77","LOQ","NO","-99","","262","10.00","1.91",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.86","ng/L","U H","1.24","DL","","TRG","","","4.77","LOQ","NO","-99","","262","10.00","2.86",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.954","ng/L","U H","0.448","DL","","TRG","","","4.77","LOQ","NO","-99","","262","10.00","0.954",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","STL00993","13C2
PFHxA","83.6","ng/L","","-99","DL","","SURR","88","","-99","LOQ","YES","95.4","","262","10.00","0",""
"WGNA-103018-FRB-3118","537","RE","320-44774-16","TALSAC","STL00996","13C2
PFDA","89.5","ng/L","","-99","DL","","SURR","94","","-99","LOQ","YES","95.4","","262","10.00","0",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.88","ng/L","U M","0.891","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","1.88",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.63","ng/L","U M Q","2.53","DL","","TRG","","","6.57","LOQ","YES","-99","","266.5","10.00","5.63",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.88","ng/L","U Q","0.600","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","1.88",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.88","ng/L","U Q","0.750","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","1.88",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.81","ng/L","U Q","1.22","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","2.81",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.938","ng/L","U Q","0.441","DL","","TRG","","","4.69","LOQ","YES","-99","","266.5","10.00","0.938",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","STL00993","13C2
PFHxA","61.3","ng/L","Q","-99","DL","","SURR","65","","-99","LOQ","YES","93.8","","266.5","10.00","0",""
"WGNA-103018-FRB-3118","537","RES","320-44774-16","TALSAC","STL00996","13C2
PFDA","70.2","ng/L","","-99","DL","","SURR","75","","-99","LOQ","YES","93.8","","266.5","10.00","0",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","22.3","ng/L","H M","0.890","DL","","TRG","","","4.68","LOQ","NO","-99","","266.9","10.00","1.87",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","12.8","ng/L","H M","2.53","DL","","TRG","","","6.56","LOQ","NO","-99","","266.9","10.00","5.62",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","18.1","ng/L","H","0.599","DL","","TRG","","","4.68","LOQ","NO","-99","","266.9","10.00","1.87",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","4.13","ng/L","J H","0.749","DL","","TRG","","","4.68","LOQ","NO","-99","","266.9","10.00","1.87",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","4.23","ng/L","J H","1.22","DL","","TRG","","","4.68","LOQ","NO","-99","","266.9","10.00","2.81",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.70","ng/L","J H","0.440","DL","","TRG","","","4.68","LOQ","NO","-99","","266.9","10.00","0.937",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","STL00993","13C2
PFHxA","84.6","ng/L","","-99","DL","","SURR","90","","-99","LOQ","YES","93.7","","266.9","10.00","0",""
"NAWC-103018-RW-094","537","RE","320-44774-17","TALSAC","STL00996","13C2
PFDA","93.0","ng/L","","-99","DL","","SURR","99","","-99","LOQ","YES","93.7","","266.9","10.00","0",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","12.1","ng/L","","0.902","DL","","TRG","","","4.75","LOQ","YES","-99","","263.3","10.00","1.90",""

"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","6.71","ng/L","M Q","2.56","DL","","TRG","","","6.65","LOQ","YES","-99","","263.3","10.00","5.70",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","8.37","ng/L","Q","0.608","DL","","TRG","","","4.75","LOQ","YES","-99","","263.3","10.00","1.90",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","2.40","ng/L","J Q","0.760","DL","","TRG","","","4.75","LOQ","YES","-99","","263.3","10.00","1.90",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.28","ng/L","J Q","1.23","DL","","TRG","","","4.75","LOQ","YES","-99","","263.3","10.00","2.85",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.986","ng/L","J Q","0.446","DL","","TRG","","","4.75","LOQ","YES","-99","","263.3","10.00","0.949",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","STL00993","13C2 PFHxA","46.8","ng/L","Q","-99","DL","","SURR","49","","-99","LOQ","YES","94.9","","263.3","10.00","0",""
"NAWC-103018-RW-094","537","RES","320-44774-17","TALSAC","STL00996","13C2 PFDA","48.5","ng/L","Q","-99","DL","","SURR","51","","-99","LOQ","YES","94.9","","263.3","10.00","0",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.92","ng/L","U H","0.914","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","1.92",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.77","ng/L","U H M","2.60","DL","","TRG","","","6.73","LOQ","NO","-99","","259.9","10.00","5.77",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.92","ng/L","U H","0.616","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","1.92",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.92","ng/L","U H","0.770","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","1.92",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.89","ng/L","U H M","1.25","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","2.89",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.962","ng/L","U H","0.452","DL","","TRG","","","4.81","LOQ","NO","-99","","259.9","10.00","0.962",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","STL00993","13C2 PFHxA","83.1","ng/L","","-99","DL","","SURR","86","","-99","LOQ","YES","96.2","","259.9","10.00","0",""
"NAWC-103018-FRB-094","537","RE","320-44774-18","TALSAC","STL00996","13C2 PFDA","93.6","ng/L","","-99","DL","","SURR","97","","-99","LOQ","YES","96.2","","259.9","10.00","0",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.84","ng/L","U","0.874","DL","","TRG","","","4.60","LOQ","YES","-99","","271.6","10.00","1.84",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.52","ng/L","U M Q","2.49","DL","","TRG","","","6.44","LOQ","YES","-99","","271.6","10.00","5.52",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.84","ng/L","U Q","0.589","DL","","TRG","","","4.60","LOQ","YES","-99","","271.6","10.00","1.84",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.84","ng/L","U Q","0.736","DL","","TRG","","","4.60","LOQ","YES","-99","","271.6","10.00","1.84",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.76","ng/L","U M Q","1.20","DL","","TRG","","","4.60","LOQ","YES","-99","","271.6","10.00","2.76",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.920","ng/L","U Q","0.433","DL","","TRG","","","4.60","LOQ","YES","-99","","271.6","10.00","0.920",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","STL00993","13C2 PFHxA","38.0","ng/L","Q","-99","DL","","SURR","41","","-99","LOQ","YES","92.0","","271.6","10.00","0",""
"NAWC-103018-FRB-094","537","RES","320-44774-18","TALSAC","STL00996","13C2 PFDA","45.3","ng/L","Q","-99","DL","","SURR","49","","-99","LOQ","YES","92.0","","271.6","10.00","0",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.77","ng/L","J H","0.917","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","1.93",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","4.92","ng/L","J H M","2.61","DL","","TRG","","","6.76","LOQ","NO","-99","","258.9","10.00","5.79",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.85","ng/L","J H","0.618","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","1.93",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","3.68","ng/L","J H","0.772","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","1.93",""

"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","3.36","ng/L","J H","1.26","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","2.90",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.966","ng/L","U H M","0.454","DL","","TRG","","","4.83","LOQ","NO","-99","","258.9","10.00","0.966",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","STL00993","13C2 PFHxA","91.5","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","96.6","","258.9","10.00","0",""
"NAWC-103018-RW-127","537","RE","320-44774-19","TALSAC","STL00996","13C2 PFDA","97.8","ng/L","","-99","DL","","SURR","101","","-99","LOQ","YES","96.6","","258.9","10.00","0",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","2.00","ng/L","U Q","0.950","DL","","TRG","","","5.00","LOQ","YES","-99","","249.9","10.00","2.00",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","6.00","ng/L","U M Q","2.70","DL","","TRG","","","7.00","LOQ","YES","-99","","249.9","10.00","6.00",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","2.00","ng/L","U M Q","0.640","DL","","TRG","","","5.00","LOQ","YES","-99","","249.9","10.00","2.00",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.56","ng/L","J Q","0.800","DL","","TRG","","","5.00","LOQ","YES","-99","","249.9","10.00","2.00",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","3.00","ng/L","U M Q","1.30","DL","","TRG","","","5.00","LOQ","YES","-99","","249.9","10.00","3.00",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.00","ng/L","U Q","0.470","DL","","TRG","","","5.00","LOQ","YES","-99","","249.9","10.00","1.00",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","STL00993","13C2 PFHxA","37.7","ng/L","Q","-99","DL","","SURR","38","","-99","LOQ","YES","100","","249.9","10.00","0",""
"NAWC-103018-RW-127","537","RES","320-44774-19","TALSAC","STL00996","13C2 PFDA","46.0","ng/L","Q","-99","DL","","SURR","46","","-99","LOQ","YES","100","","249.9","10.00","0",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.84","ng/L","U H","0.876","DL","","TRG","","","4.61","LOQ","NO","-99","","271.1","10.00","1.84",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.53","ng/L","U H M","2.49","DL","","TRG","","","6.46","LOQ","NO","-99","","271.1","10.00","5.53",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.84","ng/L","U H","0.590","DL","","TRG","","","4.61","LOQ","NO","-99","","271.1","10.00","1.84",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.84","ng/L","U H","0.738","DL","","TRG","","","4.61","LOQ","NO","-99","","271.1","10.00","1.84",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.77","ng/L","U H","1.20","DL","","TRG","","","4.61","LOQ","NO","-99","","271.1","10.00","2.77",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.922","ng/L","U H","0.433","DL","","TRG","","","4.61","LOQ","NO","-99","","271.1","10.00","0.922",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","STL00993","13C2 PFHxA","86.0","ng/L","","-99","DL","","SURR","93","","-99","LOQ","YES","92.2","","271.1","10.00","0",""
"WGNA-103018-FRB-3136","537","RE","320-44774-2","TALSAC","STL00996","13C2 PFDA","91.8","ng/L","","-99","DL","","SURR","100","","-99","LOQ","YES","92.2","","271.1","10.00","0",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","2.02","ng/L","U M","0.958","DL","","TRG","","","5.04","LOQ","YES","-99","","247.8","10.00","2.02",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","6.05","ng/L","U Q M","2.72","DL","","TRG","","","7.06","LOQ","YES","-99","","247.8","10.00","6.05",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","2.02","ng/L","U Q","0.646","DL","","TRG","","","5.04","LOQ","YES","-99","","247.8","10.00","2.02",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","2.02","ng/L","U Q","0.807","DL","","TRG","","","5.04","LOQ","YES","-99","","247.8","10.00","2.02",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","3.03","ng/L","U Q M","1.31","DL","","TRG","","","5.04","LOQ","YES","-99","","247.8","10.00","3.03",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.01","ng/L","U Q","0.474","DL","","TRG","","","5.04","LOQ","YES","-99","","247.8","10.00","1.01",""

"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","STL00993","13C2 PFHxA","31.0","ng/L","Q","-99","DL","","SURR","31","","-99","LOQ","YES","101","","247.8","10.00","0",""
"WGNA-103018-FRB-3136","537","RES","320-44774-2","TALSAC","STL00996","13C2 PFDA","31.3","ng/L","Q","-99","DL","","SURR","31","","-99","LOQ","YES","101","","247.8","10.00","0",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.90","ng/L","U H","0.904","DL","","TRG","","","4.76","LOQ","NO","-99","","262.7","10.00","1.90",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.71","ng/L","U H M","2.57","DL","","TRG","","","6.66","LOQ","NO","-99","","262.7","10.00","5.71",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.90","ng/L","U H","0.609","DL","","TRG","","","4.76","LOQ","NO","-99","","262.7","10.00","1.90",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.90","ng/L","U H","0.761","DL","","TRG","","","4.76","LOQ","NO","-99","","262.7","10.00","1.90",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.85","ng/L","U H","1.24","DL","","TRG","","","4.76","LOQ","NO","-99","","262.7","10.00","2.85",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.952","ng/L","U H","0.447","DL","","TRG","","","4.76","LOQ","NO","-99","","262.7","10.00","0.952",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","STL00993","13C2 PFHxA","91.5","ng/L","","-99","DL","","SURR","96","","-99","LOQ","YES","95.2","","262.7","10.00","0",""
"NAWC-103018-FRB-127","537","RE","320-44774-20","TALSAC","STL00996","13C2 PFDA","99.2","ng/L","","-99","DL","","SURR","104","","-99","LOQ","YES","95.2","","262.7","10.00","0",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.79","ng/L","U Q","0.851","DL","","TRG","","","4.48","LOQ","YES","-99","","279.2","10.00","1.79",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.37","ng/L","U Q","2.42","DL","","TRG","","","6.27","LOQ","YES","-99","","279.2","10.00","5.37",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.79","ng/L","U Q","0.573","DL","","TRG","","","4.48","LOQ","YES","-99","","279.2","10.00","1.79",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.79","ng/L","U Q","0.716","DL","","TRG","","","4.48","LOQ","YES","-99","","279.2","10.00","1.79",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.69","ng/L","U Q","1.16","DL","","TRG","","","4.48","LOQ","YES","-99","","279.2","10.00","2.69",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.895","ng/L","U Q","0.421","DL","","TRG","","","4.48","LOQ","YES","-99","","279.2","10.00","0.895",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","STL00993","13C2 PFHxA","28.9","ng/L","Q","-99","DL","","SURR","32","","-99","LOQ","YES","89.5","","279.2","10.00","0",""
"NAWC-103018-FRB-127","537","RES","320-44774-20","TALSAC","STL00996","13C2 PFDA","31.5","ng/L","Q","-99","DL","","SURR","35","","-99","LOQ","YES","89.5","","279.2","10.00","0",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","21.6","ng/L","H","0.899","DL","","TRG","","","4.73","LOQ","NO","-99","","264.3","10.00","1.89",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","15.5","ng/L","M H","2.55","DL","","TRG","","","6.62","LOQ","NO","-99","","264.3","10.00","5.68",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","14.2","ng/L","H","0.605","DL","","TRG","","","4.73","LOQ","NO","-99","","264.3","10.00","1.89",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","7.58","ng/L","H","0.757","DL","","TRG","","","4.73","LOQ","NO","-99","","264.3","10.00","1.89",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","6.65","ng/L","H","1.23","DL","","TRG","","","4.73","LOQ","NO","-99","","264.3","10.00","2.84",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","2.19","ng/L","J H","0.445","DL","","TRG","","","4.73","LOQ","NO","-99","","264.3","10.00","0.946",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","STL00993","13C2 PFHxA","84.9","ng/L","","-99","DL","","SURR","90","","-99","LOQ","YES","94.6","","264.3","10.00","0",""
"NAWC-103018-RW-141","537","RE","320-44774-21","TALSAC","STL00996","13C2 PFDA","89.9","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","94.6","","264.3","10.00","0",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","16.1","ng/L","Q","0.861","DL","","TRG","","","4.53","LOQ","YES","-99","","276","10.00","1.81",""

"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","10.7","ng/L","M Q","2.45","DL","","TRG","","","6.34","LOQ","YES","-99","","276","10.00","5.43",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","9.38","ng/L","Q","0.580","DL","","TRG","","","4.53","LOQ","YES","-99","","276","10.00","1.81",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","5.00","ng/L","Q","0.725","DL","","TRG","","","4.53","LOQ","YES","-99","","276","10.00","1.81",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","4.65","ng/L","Q","1.18","DL","","TRG","","","4.53","LOQ","YES","-99","","276","10.00","2.72",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.34","ng/L","J Q","0.426","DL","","TRG","","","4.53","LOQ","YES","-99","","276","10.00","0.906",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","STL00993","13C2 PFHxA","59.8","ng/L","Q","-99","DL","","SURR","66","","-99","LOQ","YES","90.6","","276","10.00","0",""
"NAWC-103018-RW-141","537","RES","320-44774-21","TALSAC","STL00996","13C2 PFDA","64.6","ng/L","","-99","DL","","SURR","71","","-99","LOQ","YES","90.6","","276","10.00","0",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.86","ng/L","U H","0.885","DL","","TRG","","","4.66","LOQ","NO","-99","","268.4","10.00","1.86",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.59","ng/L","U M H","2.51","DL","","TRG","","","6.52","LOQ","NO","-99","","268.4","10.00","5.59",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.86","ng/L","U H","0.596","DL","","TRG","","","4.66","LOQ","NO","-99","","268.4","10.00","1.86",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.86","ng/L","U H","0.745","DL","","TRG","","","4.66","LOQ","NO","-99","","268.4","10.00","1.86",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.79","ng/L","U M H","1.21","DL","","TRG","","","4.66","LOQ","NO","-99","","268.4","10.00","2.79",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.931","ng/L","U M H","0.438","DL","","TRG","","","4.66","LOQ","NO","-99","","268.4","10.00","0.931",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","STL00993","13C2 PFHxA","93.2","ng/L","","-99","DL","","SURR","100","","-99","LOQ","YES","93.1","","268.4","10.00","0",""
"NAWC-103018-FRB-141","537","RE","320-44774-22","TALSAC","STL00996","13C2 PFDA","93.5","ng/L","","-99","DL","","SURR","100","","-99","LOQ","YES","93.1","","268.4","10.00","0",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.81","ng/L","U M Q","0.857","DL","","TRG","","","4.51","LOQ","YES","-99","","277","10.00","1.81",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.42","ng/L","U M Q","2.44","DL","","TRG","","","6.32","LOQ","YES","-99","","277","10.00","5.42",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.81","ng/L","U M Q","0.578","DL","","TRG","","","4.51","LOQ","YES","-99","","277","10.00","1.81",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.81","ng/L","U Q","0.722","DL","","TRG","","","4.51","LOQ","YES","-99","","277","10.00","1.81",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.71","ng/L","U M Q","1.17","DL","","TRG","","","4.51","LOQ","YES","-99","","277","10.00","2.71",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.903","ng/L","U Q","0.424","DL","","TRG","","","4.51","LOQ","YES","-99","","277","10.00","0.903",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","STL00993","13C2 PFHxA","51.7","ng/L","Q","-99","DL","","SURR","57","","-99","LOQ","YES","90.3","","277","10.00","0",""
"NAWC-103018-FRB-141","537","RES","320-44774-22","TALSAC","STL00996","13C2 PFDA","57.5","ng/L","Q","-99","DL","","SURR","64","","-99","LOQ","YES","90.3","","277","10.00","0",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","21.4","ng/L","H","0.900","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","1.89",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","22.6","ng/L","M H","2.56","DL","","TRG","","","6.63","LOQ","NO","-99","","264","10.00","5.68",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","6.89","ng/L","M H","0.606","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","1.89",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","375-73-5","Perfluorobutanesulfonic acid

(PFBS)","9.08","ng/L","H","0.758","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","1.89",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","6.61","ng/L","H","1.23","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","2.84",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","2.84","ng/L","J H","0.445","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","0.947",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","STL00993","13C2
PFHxA","87.1","ng/L","","-99","DL","","SURR","92","","-99","LOQ","YES","94.7","","264","10.00","0",""
"WGNA-103018-RW-0335","537","RE","320-44774-23","TALSAC","STL00996","13C2
PFDA","94.1","ng/L","","-99","DL","","SURR","99","","-99","LOQ","YES","94.7","","264","10.00","0",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","12.6","ng/L","M Q","0.852","DL","","TRG","","","4.48","LOQ","YES","-99","","278.8","10.00","1.79",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","10.7","ng/L","M Q","2.42","DL","","TRG","","","6.28","LOQ","YES","-99","","278.8","10.00","5.38",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.99","ng/L","J Q","0.574","DL","","TRG","","","4.48","LOQ","YES","-99","","278.8","10.00","1.79",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.65","ng/L","J Q","0.717","DL","","TRG","","","4.48","LOQ","YES","-99","","278.8","10.00","1.79",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.62","ng/L","J M Q","1.17","DL","","TRG","","","4.48","LOQ","YES","-99","","278.8","10.00","2.69",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.69","ng/L","J Q","0.421","DL","","TRG","","","4.48","LOQ","YES","-99","","278.8","10.00","0.897",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","STL00993","13C2
PFHxA","28.3","ng/L","Q","-99","DL","","SURR","32","","-99","LOQ","YES","89.7","","278.8","10.00","0",""
"WGNA-103018-RW-0335","537","RES","320-44774-23","TALSAC","STL00996","13C2
PFDA","57.3","ng/L","Q","-99","DL","","SURR","64","","-99","LOQ","YES","89.7","","278.8","10.00","0",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.89","ng/L","U H","0.900","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","1.89",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.68","ng/L","U M H","2.56","DL","","TRG","","","6.63","LOQ","NO","-99","","264","10.00","5.68",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.89","ng/L","U H","0.606","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","1.89",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.89","ng/L","U H","0.758","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","1.89",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.84","ng/L","U M H","1.23","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","2.84",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.947","ng/L","U H","0.445","DL","","TRG","","","4.73","LOQ","NO","-99","","264","10.00","0.947",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","STL00993","13C2
PFHxA","82.9","ng/L","","-99","DL","","SURR","88","","-99","LOQ","YES","94.7","","264","10.00","0",""
"WGNA-103018-FRB-0335","537","RE","320-44774-24","TALSAC","STL00996","13C2
PFDA","93.9","ng/L","","-99","DL","","SURR","99","","-99","LOQ","YES","94.7","","264","10.00","0",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.80","ng/L","U M Q","0.857","DL","","TRG","","","4.51","LOQ","YES","-99","","277.1","10.00","1.80",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.41","ng/L","U Q","2.44","DL","","TRG","","","6.32","LOQ","YES","-99","","277.1","10.00","5.41",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.80","ng/L","U Q","0.577","DL","","TRG","","","4.51","LOQ","YES","-99","","277.1","10.00","1.80",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.80","ng/L","U Q","0.722","DL","","TRG","","","4.51","LOQ","YES","-99","","277.1","10.00","1.80",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.71","ng/L","U Q","1.17","DL","","TRG","","","4.51","LOQ","YES","-99","","277.1","10.00","2.71",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.902","ng/L","U Q","0.424","DL","","TRG","","","4.51","LOQ","YES","-99","","277.1","10.00","0.902",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","STL00993","13C2

PFHxA","38.9","ng/L","Q","-99","DL","","SURR","43","","-99","LOQ","YES","90.2","","277.1","10.00","0",""
"WGNA-103018-FRB-0335","537","RES","320-44774-24","TALSAC","STL00996","13C2
PFDA","41.2","ng/L","Q","-99","DL","","SURR","46","","-99","LOQ","YES","90.2","","277.1","10.00","0",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","28.3","ng/L","H","0.976","DL","","TRG","","","5.14","LOQ","NO","-99","","243.4","10.00","2.05",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","8.50","ng/L","M H","2.77","DL","","TRG","","","7.19","LOQ","NO","-99","","243.4","10.00","6.16",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","10.4","ng/L","H","0.657","DL","","TRG","","","5.14","LOQ","NO","-99","","243.4","10.00","2.05",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","4.54","ng/L","J H","0.822","DL","","TRG","","","5.14","LOQ","NO","-99","","243.4","10.00","2.05",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","4.21","ng/L","J H","1.34","DL","","TRG","","","5.14","LOQ","NO","-99","","243.4","10.00","3.08",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","2.02","ng/L","J H","0.483","DL","","TRG","","","5.14","LOQ","NO","-99","","243.4","10.00","1.03",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","STL00993","13C2
PFHxA","98.7","ng/L","","-99","DL","","SURR","96","","-99","LOQ","YES","103","","243.4","10.00","0",""
"WGNA-103018-RW-3882","537","RE","320-44774-25","TALSAC","STL00996","13C2
PFDA","108","ng/L","","-99","DL","","SURR","105","","-99","LOQ","YES","103","","243.4","10.00","0",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","8.58","ng/L","M Q","0.960","DL","","TRG","","","5.05","LOQ","YES","-99","","247.4","10.00","2.02",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","6.06","ng/L","U M Q","2.73","DL","","TRG","","","7.07","LOQ","YES","-99","","247.4","10.00","6.06",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.88","ng/L","J Q","0.647","DL","","TRG","","","5.05","LOQ","YES","-99","","247.4","10.00","2.02",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.20","ng/L","J Q","0.808","DL","","TRG","","","5.05","LOQ","YES","-99","","247.4","10.00","2.02",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","1.48","ng/L","J Q","1.31","DL","","TRG","","","5.05","LOQ","YES","-99","","247.4","10.00","3.03",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.01","ng/L","U M Q","0.475","DL","","TRG","","","5.05","LOQ","YES","-99","","247.4","10.00","1.01",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","STL00993","13C2
PFHxA","26.6","ng/L","Q","-99","DL","","SURR","26","","-99","LOQ","YES","101","","247.4","10.00","0",""
"WGNA-103018-RW-3882","537","RES","320-44774-25","TALSAC","STL00996","13C2
PFDA","28.2","ng/L","Q","-99","DL","","SURR","28","","-99","LOQ","YES","101","","247.4","10.00","0",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.91","ng/L","U H","0.907","DL","","TRG","","","4.77","LOQ","NO","-99","","261.9","10.00","1.91",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.73","ng/L","U M H","2.58","DL","","TRG","","","6.68","LOQ","NO","-99","","261.9","10.00","5.73",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.91","ng/L","U H","0.611","DL","","TRG","","","4.77","LOQ","NO","-99","","261.9","10.00","1.91",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.91","ng/L","U H","0.764","DL","","TRG","","","4.77","LOQ","NO","-99","","261.9","10.00","1.91",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.86","ng/L","U M H","1.24","DL","","TRG","","","4.77","LOQ","NO","-99","","261.9","10.00","2.86",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.955","ng/L","U M
H","0.449","DL","","TRG","","","4.77","LOQ","NO","-99","","261.9","10.00","0.955",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","STL00993","13C2
PFHxA","88.3","ng/L","","-99","DL","","SURR","92","","-99","LOQ","YES","95.5","","261.9","10.00","0",""
"WGNA-103018-FRB-3882","537","RE","320-44774-26","TALSAC","STL00996","13C2
PFDA","89.8","ng/L","","-99","DL","","SURR","94","","-99","LOQ","YES","95.5","","261.9","10.00","0",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.75","ng/L","U Q","0.832","DL","","TRG","","","4.38","LOQ","YES","-99","","285.6","10.00","1.75",""

"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.25","ng/L","U M Q","2.36","DL","","TRG","","","6.13","LOQ","YES","-99","","285.6","10.00","5.25",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.75","ng/L","U M Q","0.560","DL","","TRG","","","4.38","LOQ","YES","-99","","285.6","10.00","1.75",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.75","ng/L","U Q","0.700","DL","","TRG","","","4.38","LOQ","YES","-99","","285.6","10.00","1.75",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.63","ng/L","U Q","1.14","DL","","TRG","","","4.38","LOQ","YES","-99","","285.6","10.00","2.63",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.875","ng/L","U Q","0.411","DL","","TRG","","","4.38","LOQ","YES","-99","","285.6","10.00","0.875",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","STL00993","13C2 PFHxA","27.7","ng/L","Q","-99","DL","","SURR","32","","-99","LOQ","YES","87.5","","285.6","10.00","0",""
"WGNA-103018-FRB-3882","537","RES","320-44774-26","TALSAC","STL00996","13C2 PFDA","27.6","ng/L","Q","-99","DL","","SURR","32","","-99","LOQ","YES","87.5","","285.6","10.00","0",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","29.9","ng/L","H","0.984","DL","","TRG","","","5.18","LOQ","NO","-99","","241.3","10.00","2.07",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","11.0","ng/L","M H","2.80","DL","","TRG","","","7.25","LOQ","NO","-99","","241.3","10.00","6.22",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","22.0","ng/L","H","0.663","DL","","TRG","","","5.18","LOQ","NO","-99","","241.3","10.00","2.07",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","3.55","ng/L","J H","0.829","DL","","TRG","","","5.18","LOQ","NO","-99","","241.3","10.00","2.07",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","4.28","ng/L","J H","1.35","DL","","TRG","","","5.18","LOQ","NO","-99","","241.3","10.00","3.11",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.71","ng/L","J H","0.487","DL","","TRG","","","5.18","LOQ","NO","-99","","241.3","10.00","1.04",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","STL00993","13C2 PFHxA","62.4","ng/L","Q","-99","DL","","SURR","60","","-99","LOQ","YES","104","","241.3","10.00","0",""
"WGNA-103018-DUP-50","537","RE","320-44774-27","TALSAC","STL00996","13C2 PFDA","56.4","ng/L","Q","-99","DL","","SURR","54","","-99","LOQ","YES","104","","241.3","10.00","0",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","24.8","ng/L","M Q","0.909","DL","","TRG","","","4.78","LOQ","YES","-99","","261.3","10.00","1.91",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","8.46","ng/L","M Q","2.58","DL","","TRG","","","6.70","LOQ","YES","-99","","261.3","10.00","5.74",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","15.2","ng/L","Q","0.612","DL","","TRG","","","4.78","LOQ","YES","-99","","261.3","10.00","1.91",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","2.36","ng/L","J Q","0.765","DL","","TRG","","","4.78","LOQ","YES","-99","","261.3","10.00","1.91",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.88","ng/L","J M Q","1.24","DL","","TRG","","","4.78","LOQ","YES","-99","","261.3","10.00","2.87",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.21","ng/L","J Q","0.450","DL","","TRG","","","4.78","LOQ","YES","-99","","261.3","10.00","0.957",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","STL00993","13C2 PFHxA","41.3","ng/L","Q","-99","DL","","SURR","43","","-99","LOQ","YES","95.7","","261.3","10.00","0",""
"WGNA-103018-DUP-50","537","RES","320-44774-27","TALSAC","STL00996","13C2 PFDA","43.3","ng/L","Q","-99","DL","","SURR","45","","-99","LOQ","YES","95.7","","261.3","10.00","0",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","24.6","ng/L","H","0.945","DL","","TRG","","","4.97","LOQ","NO","-99","","251.3","10.00","1.99",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","15.6","ng/L","H M","2.69","DL","","TRG","","","6.96","LOQ","NO","-99","","251.3","10.00","5.97",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","9.24","ng/L","H","0.637","DL","","TRG","","","4.97","LOQ","NO","-99","","251.3","10.00","1.99",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","375-73-5","Perfluorobutanesulfonic acid

(PFBS)","6.33","ng/L","H","0.796","DL","","TRG","","","4.97","LOQ","NO","-99","","251.3","10.00","1.99",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","3.67","ng/L","J H","1.29","DL","","TRG","","","4.97","LOQ","NO","-99","","251.3","10.00","2.98",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","2.00","ng/L","J H","0.468","DL","","TRG","","","4.97","LOQ","NO","-99","","251.3","10.00","0.995",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","STL00993","13C2
PFHxA","92.7","ng/L","","-99","DL","","SURR","93","","-99","LOQ","YES","99.5","","251.3","10.00","0",""
"NAWC-103018-RW-061","537","RE","320-44774-3","TALSAC","STL00996","13C2
PFDA","97.2","ng/L","","-99","DL","","SURR","98","","-99","LOQ","YES","99.5","","251.3","10.00","0",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","17.5","ng/L","","0.840","DL","","TRG","","","4.42","LOQ","YES","-99","","282.7","10.00","1.77",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","8.97","ng/L","Q M","2.39","DL","","TRG","","","6.19","LOQ","YES","-99","","282.7","10.00","5.31",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","4.68","ng/L","Q M","0.566","DL","","TRG","","","4.42","LOQ","YES","-99","","282.7","10.00","1.77",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.02","ng/L","J Q","0.707","DL","","TRG","","","4.42","LOQ","YES","-99","","282.7","10.00","1.77",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.42","ng/L","J Q","1.15","DL","","TRG","","","4.42","LOQ","YES","-99","","282.7","10.00","2.65",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.79","ng/L","J Q","0.416","DL","","TRG","","","4.42","LOQ","YES","-99","","282.7","10.00","0.884",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","STL00993","13C2
PFHxA","36.9","ng/L","Q","-99","DL","","SURR","42","","-99","LOQ","YES","88.4","","282.7","10.00","0",""
"NAWC-103018-RW-061","537","RES","320-44774-3","TALSAC","STL00996","13C2
PFDA","80.0","ng/L","","-99","DL","","SURR","91","","-99","LOQ","YES","88.4","","282.7","10.00","0",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.93","ng/L","U H","0.919","DL","","TRG","","","4.84","LOQ","NO","-99","","258.5","10.00","1.93",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.80","ng/L","U H M","2.61","DL","","TRG","","","6.77","LOQ","NO","-99","","258.5","10.00","5.80",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.93","ng/L","U H","0.619","DL","","TRG","","","4.84","LOQ","NO","-99","","258.5","10.00","1.93",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.93","ng/L","U H","0.774","DL","","TRG","","","4.84","LOQ","NO","-99","","258.5","10.00","1.93",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.90","ng/L","U H M","1.26","DL","","TRG","","","4.84","LOQ","NO","-99","","258.5","10.00","2.90",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.967","ng/L","U H
M","0.455","DL","","TRG","","","4.84","LOQ","NO","-99","","258.5","10.00","0.967",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","STL00993","13C2
PFHxA","90.7","ng/L","","-99","DL","","SURR","94","","-99","LOQ","YES","96.7","","258.5","10.00","0",""
"NAWC-103018-FRB-061","537","RE","320-44774-4","TALSAC","STL00996","13C2
PFDA","97.3","ng/L","","-99","DL","","SURR","101","","-99","LOQ","YES","96.7","","258.5","10.00","0",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.80","ng/L","U","0.857","DL","","TRG","","","4.51","LOQ","YES","-99","","277.2","10.00","1.80",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.41","ng/L","U Q","2.44","DL","","TRG","","","6.31","LOQ","YES","-99","","277.2","10.00","5.41",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.80","ng/L","U Q","0.577","DL","","TRG","","","4.51","LOQ","YES","-99","","277.2","10.00","1.80",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.80","ng/L","U Q","0.722","DL","","TRG","","","4.51","LOQ","YES","-99","","277.2","10.00","1.80",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.71","ng/L","U Q","1.17","DL","","TRG","","","4.51","LOQ","YES","-99","","277.2","10.00","2.71",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.902","ng/L","U Q","0.424","DL","","TRG","","","4.51","LOQ","YES","-99","","277.2","10.00","0.902",""

"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","STL00993","13C2
PFHxA","63.5","ng/L","","-99","DL","","SURR","70","","-99","LOQ","YES","90.2","","277.2","10.00","0",""
"NAWC-103018-FRB-061","537","RES","320-44774-4","TALSAC","STL00996","13C2
PFDA","67.9","ng/L","","-99","DL","","SURR","75","","-99","LOQ","YES","90.2","","277.2","10.00","0",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","8.01","ng/L","H","0.930","DL","","TRG","","","4.89","LOQ","NO","-99","","255.4","10.00","1.96",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","9.72","ng/L","H M","2.64","DL","","TRG","","","6.85","LOQ","NO","-99","","255.4","10.00","5.87",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","5.05","ng/L","H","0.626","DL","","TRG","","","4.89","LOQ","NO","-99","","255.4","10.00","1.96",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","3.70","ng/L","J H","0.783","DL","","TRG","","","4.89","LOQ","NO","-99","","255.4","10.00","1.96",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.22","ng/L","J H","1.27","DL","","TRG","","","4.89","LOQ","NO","-99","","255.4","10.00","2.94",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.949","ng/L","J H","0.460","DL","","TRG","","","4.89","LOQ","NO","-99","","255.4","10.00","0.979",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","STL00993","13C2
PFHxA","93.3","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","97.9","","255.4","10.00","0",""
"WGNA-103018-RW-3103","537","RE","320-44774-5","TALSAC","STL00996","13C2
PFDA","101","ng/L","","-99","DL","","SURR","103","","-99","LOQ","YES","97.9","","255.4","10.00","0",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","6.94","ng/L","","0.914","DL","","TRG","","","4.81","LOQ","YES","-99","","259.8","10.00","1.92",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","6.78","ng/L","Q M","2.60","DL","","TRG","","","6.74","LOQ","YES","-99","","259.8","10.00","5.77",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","3.64","ng/L","J Q","0.616","DL","","TRG","","","4.81","LOQ","YES","-99","","259.8","10.00","1.92",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.60","ng/L","J Q","0.770","DL","","TRG","","","4.81","LOQ","YES","-99","","259.8","10.00","1.92",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.29","ng/L","J Q M","1.25","DL","","TRG","","","4.81","LOQ","YES","-99","","259.8","10.00","2.89",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.962","ng/L","U Q
M","0.452","DL","","TRG","","","4.81","LOQ","YES","-99","","259.8","10.00","0.962",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","STL00993","13C2
PFHxA","59.3","ng/L","Q","-99","DL","","SURR","62","","-99","LOQ","YES","96.2","","259.8","10.00","0",""
"WGNA-103018-RW-3103","537","RES","320-44774-5","TALSAC","STL00996","13C2
PFDA","61.0","ng/L","Q","-99","DL","","SURR","63","","-99","LOQ","YES","96.2","","259.8","10.00","0",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","1.91","ng/L","U H","0.906","DL","","TRG","","","4.77","LOQ","NO","-99","","262.1","10.00","1.91",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","5.72","ng/L","U H M","2.58","DL","","TRG","","","6.68","LOQ","NO","-99","","262.1","10.00","5.72",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.91","ng/L","U H","0.610","DL","","TRG","","","4.77","LOQ","NO","-99","","262.1","10.00","1.91",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.91","ng/L","U H","0.763","DL","","TRG","","","4.77","LOQ","NO","-99","","262.1","10.00","1.91",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","2.86","ng/L","U H","1.24","DL","","TRG","","","4.77","LOQ","NO","-99","","262.1","10.00","2.86",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","0.954","ng/L","U H
M","0.448","DL","","TRG","","","4.77","LOQ","NO","-99","","262.1","10.00","0.954",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","STL00993","13C2
PFHxA","97.0","ng/L","","-99","DL","","SURR","102","","-99","LOQ","YES","95.4","","262.1","10.00","0",""
"WGNA-103018-FRB-3103","537","RE","320-44774-6","TALSAC","STL00996","13C2
PFDA","99.4","ng/L","","-99","DL","","SURR","104","","-99","LOQ","YES","95.4","","262.1","10.00","0",""

"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.85","ng/L","U M","0.877","DL","","TRG","","","4.62","LOQ","YES","-99","","270.8","10.00","1.85",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.54","ng/L","U Q M","2.49","DL","","TRG","","","6.46","LOQ","YES","-99","","270.8","10.00","5.54",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.85","ng/L","U Q","0.591","DL","","TRG","","","4.62","LOQ","YES","-99","","270.8","10.00","1.85",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.85","ng/L","U Q","0.739","DL","","TRG","","","4.62","LOQ","YES","-99","","270.8","10.00","1.85",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.77","ng/L","U Q","1.20","DL","","TRG","","","4.62","LOQ","YES","-99","","270.8","10.00","2.77",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.923","ng/L","U Q","0.434","DL","","TRG","","","4.62","LOQ","YES","-99","","270.8","10.00","0.923",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","STL00993","13C2 PFHxA","47.6","ng/L","Q","-99","DL","","SURR","52","","-99","LOQ","YES","92.3","","270.8","10.00","0",""
"WGNA-103018-FRB-3103","537","RES","320-44774-6","TALSAC","STL00996","13C2 PFDA","57.7","ng/L","Q","-99","DL","","SURR","63","","-99","LOQ","YES","92.3","","270.8","10.00","0",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","13.1","ng/L","H","0.912","DL","","TRG","","","4.80","LOQ","NO","-99","","260.5","10.00","1.92",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","25.1","ng/L","H M","2.59","DL","","TRG","","","6.72","LOQ","NO","-99","","260.5","10.00","5.76",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","11.2","ng/L","H","0.614","DL","","TRG","","","4.80","LOQ","NO","-99","","260.5","10.00","1.92",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","3.55","ng/L","J H","0.768","DL","","TRG","","","4.80","LOQ","NO","-99","","260.5","10.00","1.92",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","8.48","ng/L","H","1.25","DL","","TRG","","","4.80","LOQ","NO","-99","","260.5","10.00","2.88",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","3.21","ng/L","J H","0.451","DL","","TRG","","","4.80","LOQ","NO","-99","","260.5","10.00","0.960",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","STL00993","13C2 PFHxA","86.4","ng/L","","-99","DL","","SURR","90","","-99","LOQ","YES","96.0","","260.5","10.00","0",""
"WGNA-103018-RW-3325","537","RE","320-44774-7","TALSAC","STL00996","13C2 PFDA","93.9","ng/L","","-99","DL","","SURR","98","","-99","LOQ","YES","96.0","","260.5","10.00","0",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","5.24","ng/L","","0.841","DL","","TRG","","","4.42","LOQ","YES","-99","","282.5","10.00","1.77",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","9.25","ng/L","Q M","2.39","DL","","TRG","","","6.19","LOQ","YES","-99","","282.5","10.00","5.31",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","3.50","ng/L","J Q M","0.566","DL","","TRG","","","4.42","LOQ","YES","-99","","282.5","10.00","1.77",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.12","ng/L","J Q","0.708","DL","","TRG","","","4.42","LOQ","YES","-99","","282.5","10.00","1.77",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","3.02","ng/L","J Q M","1.15","DL","","TRG","","","4.42","LOQ","YES","-99","","282.5","10.00","2.65",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.46","ng/L","J Q","0.416","DL","","TRG","","","4.42","LOQ","YES","-99","","282.5","10.00","0.885",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","STL00993","13C2 PFHxA","29.8","ng/L","Q","-99","DL","","SURR","34","","-99","LOQ","YES","88.5","","282.5","10.00","0",""
"WGNA-103018-RW-3325","537","RES","320-44774-7","TALSAC","STL00996","13C2 PFDA","34.1","ng/L","Q","-99","DL","","SURR","39","","-99","LOQ","YES","88.5","","282.5","10.00","0",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.94","ng/L","U H","0.921","DL","","TRG","","","4.84","LOQ","NO","-99","","258","10.00","1.94",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.81","ng/L","U H M","2.62","DL","","TRG","","","6.78","LOQ","NO","-99","","258","10.00","5.81",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.94","ng/L","U H","0.620","DL","","TRG","","","4.84","LOQ","NO","-99","","258","10.00","1.94",""

"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.94","ng/L","U H","0.775","DL","","TRG","","","4.84","LOQ","NO","-99","","258","10.00","1.94",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.91","ng/L","U H","1.26","DL","","TRG","","","4.84","LOQ","NO","-99","","258","10.00","2.91",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.969","ng/L","U H","0.455","DL","","TRG","","","4.84","LOQ","NO","-99","","258","10.00","0.969",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","STL00993","13C2 PFHxA","96.2","ng/L","","-99","DL","","SURR","99","","-99","LOQ","YES","96.9","","258","10.00","0",""
"WGNA-103018-FRB-3325","537","RE","320-44774-8","TALSAC","STL00996","13C2 PFDA","101","ng/L","","-99","DL","","SURR","104","","-99","LOQ","YES","96.9","","258","10.00","0",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","1.86","ng/L","U M","0.883","DL","","TRG","","","4.65","LOQ","YES","-99","","268.9","10.00","1.86",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","5.58","ng/L","U Q M","2.51","DL","","TRG","","","6.51","LOQ","YES","-99","","268.9","10.00","5.58",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.86","ng/L","U Q M","0.595","DL","","TRG","","","4.65","LOQ","YES","-99","","268.9","10.00","1.86",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.86","ng/L","U Q M","0.744","DL","","TRG","","","4.65","LOQ","YES","-99","","268.9","10.00","1.86",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","2.79","ng/L","U Q M","1.21","DL","","TRG","","","4.65","LOQ","YES","-99","","268.9","10.00","2.79",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.930","ng/L","U Q M","0.437","DL","","TRG","","","4.65","LOQ","YES","-99","","268.9","10.00","0.930",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","STL00993","13C2 PFHxA","79.6","ng/L","","-99","DL","","SURR","86","","-99","LOQ","YES","93.0","","268.9","10.00","0",""
"WGNA-103018-FRB-3325","537","RES","320-44774-8","TALSAC","STL00996","13C2 PFDA","85.9","ng/L","","-99","DL","","SURR","92","","-99","LOQ","YES","93.0","","268.9","10.00","0",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","21.8","ng/L","H M","0.877","DL","","TRG","","","4.62","LOQ","NO","-99","","270.7","10.00","1.85",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","15.1","ng/L","H M","2.49","DL","","TRG","","","6.46","LOQ","NO","-99","","270.7","10.00","5.54",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","9.27","ng/L","H","0.591","DL","","TRG","","","4.62","LOQ","NO","-99","","270.7","10.00","1.85",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","12.3","ng/L","H","0.739","DL","","TRG","","","4.62","LOQ","NO","-99","","270.7","10.00","1.85",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","4.21","ng/L","J H","1.20","DL","","TRG","","","4.62","LOQ","NO","-99","","270.7","10.00","2.77",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","1.82","ng/L","J H","0.434","DL","","TRG","","","4.62","LOQ","NO","-99","","270.7","10.00","0.924",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","STL00993","13C2 PFHxA","85.8","ng/L","","-99","DL","","SURR","93","","-99","LOQ","YES","92.4","","270.7","10.00","0",""
"WGNA-103018-RW-3493","537","RE","320-44774-9","TALSAC","STL00996","13C2 PFDA","90.9","ng/L","","-99","DL","","SURR","98","","-99","LOQ","YES","92.4","","270.7","10.00","0",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","5.56","ng/L","","0.872","DL","","TRG","","","4.59","LOQ","YES","-99","","272.4","10.00","1.84",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","3.40","ng/L","J M Q","2.48","DL","","TRG","","","6.42","LOQ","YES","-99","","272.4","10.00","5.51",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","1.75","ng/L","J Q","0.587","DL","","TRG","","","4.59","LOQ","YES","-99","","272.4","10.00","1.84",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","1.97","ng/L","J Q","0.734","DL","","TRG","","","4.59","LOQ","YES","-99","","272.4","10.00","1.84",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","1.48","ng/L","J Q","1.19","DL","","TRG","","","4.59","LOQ","YES","-99","","272.4","10.00","2.75",""

"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","0.918","ng/L","U M
Q","0.431","DL","","TRG","","","4.59","LOQ","YES","-99","","272.4","10.00","0.918",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","STL00993","13C2 PFHxA","16.5","ng/L","Q","-99","DL","","SURR","18","","-99","LOQ","YES","91.8","","272.4","10.00","0",""
"WGNA-103018-RW-3493","537","RES","320-44774-9","TALSAC","STL00996","13C2 PFDA","21.1","ng/L","Q","-99","DL","","SURR","23","","-99","LOQ","YES","91.8","","272.4","10.00","0",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","80.39","ng/L","","0.950","DL","","SPK","87","","5.00","LOQ","YES","92.8","","250","10.00","2.00",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","87.96","ng/L","","2.70","DL","","SPK","88","","7.00","LOQ","YES","100","","250","10.00","6.00",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","73.81","ng/L","","0.640","DL","","SPK","81","","5.00","LOQ","YES","91.0","","250","10.00","2.00",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","74.53","ng/L","","0.800","DL","","SPK","84","","5.00","LOQ","YES","88.4","","250","10.00","2.00",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","84.39","ng/L","","1.30","DL","","SPK","84","","5.00","LOQ","YES","100","","250","10.00","3.00",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","91.31","ng/L","","0.470","DL","","SPK","91","","5.00","LOQ","YES","100","","250","10.00","1.00",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","STL00993","13C2 PFHxA","84.94","ng/L","","-99","DL","","SURR","85","","-99","LOQ","YES","100","","250","10.00","0",""
"LCS 320-258698/2-A","537","RES","LCS 320-258698/2-A","TALSAC","STL00996","13C2 PFDA","88.93","ng/L","","-99","DL","","SURR","89","","-99","LOQ","YES","100","","250","10.00","0",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","89.36","ng/L","","0.950","DL","","SPK","96","","5.00","LOQ","YES","92.8","","250.00","10.00","2.00",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","96.46","ng/L","","2.70","DL","","SPK","96","","7.00","LOQ","YES","100","","250.00","10.00","6.00",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","92.93","ng/L","","0.640","DL","","SPK","102","","5.00","LOQ","YES","91.0","","250.00","10.00","2.00","
"
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","86.94","ng/L","","0.800","DL","","SPK","98","","5.00","LOQ","YES","88.4","","250.00","10.00","2.00",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","86.51","ng/L","","1.30","DL","","SPK","87","","5.00","LOQ","YES","100","","250.00","10.00","3.00",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","98.10","ng/L","","0.470","DL","","SPK","98","","5.00","LOQ","YES","100","","250.00","10.00","1.00",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","STL00993","13C2 PFHxA","96.01","ng/L","","-99","DL","","SURR","96","","-99","LOQ","YES","100","","250.00","10.00","0",""
"LCS 320-262122/2-A","537","RES","LCS 320-262122/2-A","TALSAC","STL00996","13C2 PFDA","98.77","ng/L","","-99","DL","","SURR","99","","-99","LOQ","YES","100","","250.00","10.00","0",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","165.1","ng/L","","0.950","DL","","SPK","89","","5.00","LOQ","YES","186","","250.00","10.00","2.00",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","175.1","ng/L","","2.70","DL","","SPK","87","","7.00","LOQ","YES","200","","250.00","10.00","6.00",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","165.4","ng/L","","0.640","DL","","SPK","91","","5.00","LOQ","YES","182","","250.00","10.00","2.00",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","168.8","ng/L","","0.800","DL","","SPK","95","","5.00","LOQ","YES","177","","250.00","10.00","2.00",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","169.7","ng/L","","1.30","DL","","SPK","85","","5.00","LOQ","YES","200","","250.00","10.00","3.00",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","209.3","ng/L","","0.470","DL","","SPK","105","","5.00","LOQ","YES","200","","250.00","10.00","1.00",""
"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","STL00993","13C2 PFHxA","93.55","ng/L","","-99","DL","","SURR","94","","-99","LOQ","YES","100","","250.00","10.00","0",""

"LCS 320-262132/2-A","537","RES","LCS 320-262132/2-A","TALSAC","STL00996","13C2 PFDA","98.01","ng/L","","-99","DL","","SURR","98","","-99","LOQ","YES","100","","250.00","10.00","0",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","32.06","ng/L","Q","0.950","DL","","SPK","35","86","5.00","LOQ","YES","92.8","LCS 320-258698/2-A","250","10.00","2.00",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","30.09","ng/L","Q","2.70","DL","","SPK","30","98","7.00","LOQ","YES","100","LCS 320-258698/2-A","250","10.00","6.00",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","25.48","ng/L","Q","0.640","DL","","SPK","28","97","5.00","LOQ","YES","91.0","LCS 320-258698/2-A","250","10.00","2.00",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","23.02","ng/L","Q","0.800","DL","","SPK","26","106","5.00","LOQ","YES","88.4","LCS 320-258698/2-A","250","10.00","2.00",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","27.07","ng/L","Q","1.30","DL","","SPK","27","103","5.00","LOQ","YES","100","LCS 320-258698/2-A","250","10.00","3.00",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","30.30","ng/L","Q","0.470","DL","","SPK","30","100","5.00","LOQ","YES","100","LCS 320-258698/2-A","250","10.00","1.00",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","STL00993","13C2 PFHxA","25.55","ng/L","Q","-99","DL","","SURR","26","","-99","LOQ","YES","100","LCS 320-258698/2-A","250","10.00","0",""
"LCSD 320-258698/3-A","537","RES","LCSD 320-258698/3-A","TALSAC","STL00996","13C2 PFDA","36.78","ng/L","Q","-99","DL","","SURR","37","","-99","LOQ","YES","100","LCS 320-258698/2-A","250","10.00","0",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","165.4","ng/L","","0.950","DL","","SPK","89","0","5.00","LOQ","YES","186","LCS 320-262132/2-A","250.00","10.00","2.00",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","335-67-1","Perfluorooctanoic acid (PFOA)","170.7","ng/L","","2.70","DL","","SPK","85","3","7.00","LOQ","YES","200","LCS 320-262132/2-A","250.00","10.00","6.00",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid (PFHxS)","169.8","ng/L","","0.640","DL","","SPK","93","3","5.00","LOQ","YES","182","LCS 320-262132/2-A","250.00","10.00","2.00",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid (PFBS)","156.0","ng/L","","0.800","DL","","SPK","88","8","5.00","LOQ","YES","177","LCS 320-262132/2-A","250.00","10.00","2.00",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","375-85-9","Perfluoroheptanoic acid (PFHpA)","168.9","ng/L","","1.30","DL","","SPK","84","1","5.00","LOQ","YES","200","LCS 320-262132/2-A","250.00","10.00","3.00",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","375-95-1","Perfluorononanoic acid (PFNA)","182.2","ng/L","","0.470","DL","","SPK","91","14","5.00","LOQ","YES","200","LCS 320-262132/2-A","250.00","10.00","1.00",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","STL00993","13C2 PFHxA","84.15","ng/L","","-99","DL","","SURR","84","","-99","LOQ","YES","100","LCS 320-262132/2-A","250.00","10.00","0",""
"LCSD 320-262132/3-A","537","RES","LCSD 320-262132/3-A","TALSAC","STL00996","13C2 PFDA","95.35","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","100","LCS 320-262132/2-A","250.00","10.00","0",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid (PFOS)","2.183","ng/L","J","0.950","DL","","SPK","59","","5.00","LOQ","YES","3.71","","250","10.00","2.00",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","335-67-1","Perfluorooctanoic acid

(PFOA)","6.00","ng/L","U Q","2.70","DL","","SPK","34","","7.00","LOQ","YES","4.00","","250","10.00","6.00",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","1.450","ng/L","J Q","0.640","DL","","SPK","40","","5.00","LOQ","YES","3.64","","250","10.00","2.00",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","1.267","ng/L","J Q","0.800","DL","","SPK","36","","5.00","LOQ","YES","3.54","","250","10.00","2.00",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","3.00","ng/L","U Q","1.30","DL","","SPK","28","","5.00","LOQ","YES","4.00","","250","10.00","3.00",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.350","ng/L","J Q","0.470","DL","","SPK","34","","5.00","LOQ","YES","4.00","","250","10.00","1.00",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","STL00993","13C2
PFHxA","32.39","ng/L","Q","-99","DL","","SURR","32","","-99","LOQ","YES","100","","250","10.00","0",""
"LLCS 320-258695/2-A","537","RES","LLCS 320-258695/2-A","TALSAC","STL00996","13C2
PFDA","37.64","ng/L","Q","-99","DL","","SURR","38","","-99","LOQ","YES","100","","250","10.00","0",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","2.00","ng/L","U","0.950","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","2.00",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","6.00","ng/L","U","2.70","DL","","TRG","","","7.00","LOQ","YES","-99","","250","10.00","6.00",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.00","ng/L","U","0.640","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","2.00",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.00","ng/L","U","0.800","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","2.00",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","3.00","ng/L","U M","1.30","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","3.00",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.00","ng/L","U","0.470","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","1.00",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","STL00993","13C2
PFHxA","57.24","ng/L","Q","-99","DL","","SURR","57","","-99","LOQ","YES","100","","250","10.00","0",""
"MB 320-258695/1-A","537","RES","MB 320-258695/1-A","TALSAC","STL00996","13C2
PFDA","63.37","ng/L","Q","-99","DL","","SURR","63","","-99","LOQ","YES","100","","250","10.00","0",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","2.00","ng/L","U M","0.950","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","2.00",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","6.00","ng/L","U M","2.70","DL","","TRG","","","7.00","LOQ","YES","-99","","250","10.00","6.00",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.00","ng/L","U M","0.640","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","2.00",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.00","ng/L","U M","0.800","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","2.00",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","3.00","ng/L","U","1.30","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","3.00",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.00","ng/L","U M","0.470","DL","","TRG","","","5.00","LOQ","YES","-99","","250","10.00","1.00",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","STL00993","13C2
PFHxA","48.71","ng/L","Q","-99","DL","","SURR","49","","-99","LOQ","YES","100","","250","10.00","0",""
"MB 320-258698/1-A","537","RES","MB 320-258698/1-A","TALSAC","STL00996","13C2
PFDA","51.87","ng/L","Q","-99","DL","","SURR","52","","-99","LOQ","YES","100","","250","10.00","0",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","2.00","ng/L","U","0.950","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","2.00",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","6.00","ng/L","U M","2.70","DL","","TRG","","","7.00","LOQ","YES","-99","","250.00","10.00","6.00",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.00","ng/L","U","0.640","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","2.00",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.00","ng/L","U","0.800","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","2.00",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","375-85-9","Perfluoroheptanoic acid

(PFHpA)","3.00","ng/L","U M","1.30","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","3.00",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.00","ng/L","U","0.470","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","1.00",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","STL00993","13C2
PFHxA","94.76","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","100","","250.00","10.00","0",""
"MB 320-262122/1-A","537","RES","MB 320-262122/1-A","TALSAC","STL00996","13C2
PFDA","101.8","ng/L","","-99","DL","","SURR","102","","-99","LOQ","YES","100","","250.00","10.00","0",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","1763-23-1","Perfluorooctanesulfonic acid
(PFOS)","2.00","ng/L","U","0.950","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","2.00",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","335-67-1","Perfluorooctanoic acid
(PFOA)","6.00","ng/L","U M","2.70","DL","","TRG","","","7.00","LOQ","YES","-99","","250.00","10.00","6.00",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","355-46-4","Perfluorohexanesulfonic acid
(PFHxS)","2.00","ng/L","U","0.640","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","2.00",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","375-73-5","Perfluorobutanesulfonic acid
(PFBS)","2.00","ng/L","U","0.800","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","2.00",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","375-85-9","Perfluoroheptanoic acid
(PFHpA)","3.00","ng/L","U M","1.30","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","3.00",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","375-95-1","Perfluorononanoic acid
(PFNA)","1.00","ng/L","U M","0.470","DL","","TRG","","","5.00","LOQ","YES","-99","","250.00","10.00","1.00",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","STL00993","13C2
PFHxA","94.53","ng/L","","-99","DL","","SURR","95","","-99","LOQ","YES","100","","250.00","10.00","0",""
"MB 320-262132/1-A","537","RES","MB 320-262132/1-A","TALSAC","STL00996","13C2
PFDA","99.71","ng/L","","-99","DL","","SURR","100","","-99","LOQ","YES","100","","250.00","10.00","0",""
"Unknown","Unknown","WGNA-103018-RW-3136","10/30/2018 07:40","AQ","320-44774-
1","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
17:51","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259487","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3136","10/30/2018 07:40","AQ","320-44774-
1","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
09:03","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263191","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-3493","10/30/2018 09:35","AQ","320-44774-
10","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:13","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-3493","10/30/2018 09:35","AQ","320-44774-
10","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
10:25","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-RW-138","10/30/2018 10:10","AQ","320-44774-
11","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:20","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-RW-138","10/30/2018 10:10","AQ","320-44774-
11","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
10:32","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-FRB-138","10/30/2018 10:05","AQ","320-44774-
12","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:27","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-FRB-138","10/30/2018 10:05","AQ","320-44774-
12","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
10:39","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-

263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-RW-177","10/30/2018 10:40","AQ","320-44774-
13","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:35","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-RW-177","10/30/2018 10:40","AQ","320-44774-
13","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
10:47","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-FRB-177","10/30/2018 10:35","AQ","320-44774-
14","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:42","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-FRB-177","10/30/2018 10:35","AQ","320-44774-
14","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
10:54","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3118","10/30/2018 11:10","AQ","320-44774-
15","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:50","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3118","10/30/2018 11:10","AQ","320-44774-
15","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
11:02","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3118MS","10/30/2018 11:10","AQ","320-44774-
15MS","MS","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
19:57","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3118MS","10/30/2018 11:10","AQ","320-44774-
15MS","MS","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
11:09","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3118MSD","10/30/2018 11:10","AQ","320-44774-
15MSD","MSD","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
20:05","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3118MSD","10/30/2018 11:10","AQ","320-44774-
15MSD","MSD","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
11:17","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-3118","10/30/2018 11:05","AQ","320-44774-
16","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
20:12","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259489","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-3118","10/30/2018 11:05","AQ","320-44774-
16","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
11:24","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
263193","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-RW-094","10/30/2018 11:40","AQ","320-44774-
17","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
20:35","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259491","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","NAWC-103018-RW-094","10/30/2018 11:40","AQ","320-44774-

17","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
11:47","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262122","320-262122","NA","320-
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18","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
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"Unknown","Unknown","NAWC-103018-RW-127","10/30/2018 13:10","AQ","320-44774-
19","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
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"Unknown","Unknown","WGNA-103018-FRB-3136","10/30/2018 07:35","AQ","320-44774-
2","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
17:58","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258695","320-258695","NA","320-
259487","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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2","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
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263191","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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20","FB","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
21:34","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-
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20","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
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263195","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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21","NM","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
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21","NM","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
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262816","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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22","FB","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
21:49","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-
259573","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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22","FB","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
19:05","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262132","320-262132","NA","320-
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23","NM","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
21:57","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-

259573","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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23","NM","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
19:12","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262132","320-262132","NA","320-
262816","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-0335","10/30/2018 14:35","AQ","320-44774-
24","FB","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
22:04","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-
259573","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-0335","10/30/2018 14:35","AQ","320-44774-
24","FB","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
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262816","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3882","10/30/2018 15:40","AQ","320-44774-
25","NM","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
22:11","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-
259573","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-RW-3882","10/30/2018 15:40","AQ","320-44774-
25","NM","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
19:27","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262132","320-262132","NA","320-
262816","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-3882","10/30/2018 15:35","AQ","320-44774-
26","FB","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
22:34","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-
259574","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-FRB-3882","10/30/2018 15:35","AQ","320-44774-
26","FB","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
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262816","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-DUP-50","10/30/2018 07:00","AQ","320-44774-
27","NM","","0.8","537","METHOD","RES","11/12/2018 14:43","11/15/2018
22:41","TALSAC","COA","WET","NA","1","NA","NA","","100","320-258698","320-258698","NA","320-
259574","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
"Unknown","Unknown","WGNA-103018-DUP-50","10/30/2018 07:00","AQ","320-44774-
27","NM","","0.8","537","METHOD","RE","11/30/2018 08:13","12/03/2018
19:42","TALSAC","COA","WET","NA","1","NA","NA","","100","320-262132","320-262132","NA","320-
262816","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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3","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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263191","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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4","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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259487","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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5","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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5","NM","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
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263191","320-44774-1","10/31/2018 09:40","11/05/2018 09:30",""
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6","FB","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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6","FB","","0.8","537","METHOD","RE","11/30/2018 08:06","12/05/2018
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7","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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9","NM","","0.8","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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262816","320-44774-1","11/30/2018 08:13","11/05/2018 09:30",""
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A","LCS","","-99","537","METHOD","RES","11/12/2018 14:35","11/15/2018
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259487","320-44774-1","11/12/2018 14:35","11/05/2018 09:30",""
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263191","320-44774-1","11/30/2018 08:06","11/05/2018 09:30",""
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262816","320-44774-1","11/30/2018 08:13","11/05/2018 09:30",""

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **A. FREBOWITZ** **DATE:** **DECEMBER 14, 2018**

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

SUBJECT: **ORGANIC DATA VALIDATION –POLYFLUOROALKYL SUBSTANCES (PFAS)**
NAS JRB WILLOW GROVE
SAMPLE DELIVERY GROUP (SDG) 320-44774-1

SAMPLES: 13/Field Reagent Blank (FRB)

NAWC-103018-FRB-061	NAWC-103018-FRB-094
NAWC-103018-FRB-127	NAWC-103018-FRB-138
NAWC-103018-FRB-141	NAWC-103018-FRB-177
WGNA-103018-FRB-0335	WGNA-103018-FRB-3103
WGNA-103018-FRB-3118	WGNA-103018-FRB-3136
WGNA-103018-FRB-3325	WGNA-103018-FRB-3493
WGNA-103018-FRB-3882	

14/Drinking Water

NAWC-103018-RW-061	NAWC-103018-RW-094
NAWC-103018-RW-127	NAWC-103018-RW-138
NAWC-103018-RW-141	NAWC-103018-RW-177
WGNA-103018-DUP-50	WGNA-103018-RW-0335
WGNA-103018-RW-3103	WGNA-103018-RW-3118
WGNA-103018-RW-3136	WGNA-103018-RW-3325
WGNA-103018-RW-3493	WGNA-103018-RW-3882

Overview

The sample set for NAS JRB Willow Grove, SDG 320-44774-1, consisted of fourteen (14) drinking water samples and thirteen (13) FRB samples. All samples were analyzed for select perfluorinated alkyl acids including pentadecafluorooctanoic acid (PFOA), perfluorobutane sulfonic acid (PFBS), perfluoroheptanoic acid (PFHpA), perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA) and perfluorooctane sulfonic acid (PFOS). One field duplicate pair, NAWC-103018-RW-177 / WGNA-103018-DUP-50, was included in this SDG.

The samples were collected by Tetra Tech on October 30, 2018 and analyzed by Test America-Sacramento. All sample analyses were conducted in accordance with EPA Method 537 version 1.1 analytical and reporting protocols.

The data contained in this SDG was validated with regard to the following parameters: data completeness, holding times, mass calibration, mass spectral acquisition rate, instrument sensitivity check, initial/continuing calibrations, ion transitions, laboratory method/FRB results, surrogate spike recoveries, laboratory control sample / laboratory control sample duplicate results, low level laboratory control sample results, injected internal standard areas and recoveries, field duplicate results, chromatographic resolution, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major

None.

Minor

The following surrogate recoveries were below the 70% quality control limit.

Sample	Surrogate
NAWC-103018-FRB-094	13C2-PFHxA; 13C2-PFDA
NAWC-103018-FRB-127	13C2-PFHxA; 13C2-PFDA
NAWC-103018-FRB-138	13C2-PFHxA; 13C2-PFDA
NAWC-103018-FRB-141	13C2-PFHxA; 13C2-PFDA
NAWC-103018-RW-061	13C2-PFHxA
NAWC-103018-RW-094	13C2-PFHxA; 13C2-PFDA
NAWC-103018-RW-127	13C2-PFHxA; 13C2-PFDA
NAWC-103018-RW-138	13C2-PFHxA; 13C2-PFDA
NAWC-103018-RW-141	13C2-PFHxA
NAWC-103018-RW-177	13C2-PFHxA; 13C2-PFDA
WGNA-103018-DUP-50	13C2-PFHxA; 13C2-PFDA
WGNA-103018-FRB-0335	13C2-PFHxA; 13C2-PFDA
WGNA-103018-FRB-3103	13C2-PFHxA; 13C2-PFDA
WGNA-103018-FRB-3118	13C2-PFHxA
WGNA-103018-FRB-3136	13C2-PFHxA; 13C2-PFDA
WGNA-103018-FRB-3493	13C2-PFHxA; 13C2-PFDA
WGNA-103018-FRB-3882	13C2-PFHxA; 13C2-PFDA
WGNA-103018-RW-0335	13C2-PFHxA; 13C2-PFDA
WGNA-103018-RW-3103	13C2-PFHxA; 13C2-PFDA
WGNA-103018-RW-3118	13C2-PFHxA; 13C2-PFDA
WGNA-103018-RW-3136	13C2-PFHxA
WGNA-103018-RW-3325	13C2-PFHxA; 13C2-PFDA
WGNA-103018-RW-3493	13C2-PFHxA; 13C2-PFDA
WGNA-103018-RW-3882	13C2-PFHxA; 13C2-PFDA

The nondetected results reported for the affected samples were qualified as estimated (UJ). The detected results were qualified as estimated (J) as a result of conflicting noncompliances or estimated biased low (J-) as a result of several low recovery noncompliances.

All laboratory control sample duplicate (LCSD) percent recoveries (%Rs) were below the 70% quality control limit for preparation batch 320-258698. The laboratory control sample (LCS) %Rs were within quality control limits. All LCS/LCSD relative percent differences (RPDs) were greater than the 30% quality control limits. Samples NAWC-103018-FRB-127, NAWC-103018-FRB-141, NAWC-103018-RW-127, NAWC-103018-RW-141, WGNA-103018-DUP-50, WGNA-103018-FRB-0335, WGNA-103018-FRB-3882, WGNA-103018-RW-0335 and WGNA-103018-RW-3882 were affected. The detected and nondetected results reported for all compounds in the affected compounds were qualified as estimated (J) and (UJ), respectively.

All low level LCS %Rs, with the exception of PFOS were below the 70% quality control limit for preparation batch 320-258695. Samples NAWC-103018-FRB-061, NAWC-103018-FRB-094, NAWC-103018-FRB-138, NAWC-103018-FRB-177, NAWC-103018-RW-061, NAWC-103018-RW-094, NAWC-103018-RW-138, NAWC-103018-RW-177, WGNA-103018-FRB-3493, WGNA-103018-FRB-3136, WGNA-103018-FRB-3118 WGNA-103018-FRB-3103, WGNA-103018-FRB-3325, WGNA-103018-RW-3118, WGNA-103018-RW-3103 WGNA-103018-RW-3136, WGNA-103018-RW-3325 and WGNA-103018-RW-3493 were affected. The nondetected results reported for the affected samples were qualified as estimated (UJ). The detected results were qualified as estimated (J) as a result of conflicting noncompliances or estimated biased low (J-) as a result of several low recovery noncompliances.

The matrix spike (MS) %Rs for PFOS and PFOA were above the quality control limit for sample WGNA-103018-RW-3118. The matrix spike duplicate (MSD) %Rs for all compounds were below the quality control limits for sample WGNA-103018-RW-3118. All MS/MSD RPDs with the exception of PFNA were outside the quality control limits. The sample was spiked with concentrations below the limit of quantitation (LOQ). The detected results reported for all compounds in the affected sample were qualified as estimated (J).

The following internal standard recoveries were outside the quality control limits:

Sample	Internal Standard	Initial / Continuing Calibration Comparison	Percent Recovery	Qualification
NAWC-103018-FRB-177	13C2-PFOA	Initial	35.3	UJ
	13C4-PFOS	Initial	39.7	UJ
NAWC-103018-RW-061	13C2-PFOA	Continuing (open)	152	J
	13C4-PFOS	Continuing (open)	142	J
NAWC-103018-FRB-061	13C4-PFOS	Continuing (open)	64.6	UJ
WGNA-103018-FRB-3103	13C2-PFOA	Continuing (open)	153	no qualification; no detected results
WGNA-103018-FRB-3325	13C2-PFOA	Continuing (open)	68.8	UJ
	13C4-PFOS	Continuing (open)	66.4	UJ
NAWC-103018-RW-061	13C2-PFOA	Continuing (closing)	149	J
	13C4-PFOS	Continuing (closing)	152	J
NAWC-103018-FRB-061	13C4-PFOS	Continuing (closing)	69.2	UJ
WGNA-103018-FRB-3103	13C2-PFOA	Continuing (closing)	149	no qualification; no detected results
	13C4-PFOS	Continuing (closing)	149	no qualification; no detected results
WGNA-103018-FRB-3325	13C2-PFOA	Continuing (closing)	67.2	UJ
NAWC-103018-FRB-177	13C2-PFOA	Continuing (open)	38.8	UJ
	13C4-PFOS	Continuing (open)	43.0	UJ
WGNA-103018-RW-3493	13C4-PFOS	Continuing (closing)	158	J
NAWC-103018-FRB-177	13C2-PFOA	Continuing (closing)	42.6	UJ
	13C4-PFOS	Continuing (closing)	49.6	UJ
NAWC-103018-FRB-094	13C4-PFOS	Continuing (opening)	145	no qualification; no detected results
NAWC-103018-FRB-094	13C2-PFOA	Continuing (closing)	147	no qualification; no detected results
	13C4-PFOS	Continuing (closing)	148	no qualification; no detected results
NAWC-103018-RW-141	13C4-PFOS	Continuing (open)	142	J
WGNA-103018-RW-0335	13C2-PFOA	Continuing (open)	185	J
	13C4-PFOS	Continuing (open)	180	J
WGNA-103018-FRB-0335	13C2-PFOA	Continuing (open)	142	no qualification; no detected results
WGNA-103018-RW-0335	13C2-PFOA	Continuing (closing)	190	J
	13C4-PFOS	Continuing (closing)	173	J
WGNA-103018-FRB-0335	13C2-PFOA	Continuing (closing)	146	no qualification; no detected results
WGNA-103018-FRB-3882	13C2-PFOA	Continuing (open)	154	no qualification; no detected results
	13C4-PFOS	Continuing (open)	142	no qualification; no detected results
WGNA-103018-FRB-3882	13C2-PFOA	Continuing (closing)	145	no qualification; no detected results

Field duplicate imprecision (relative percent difference > 30%) was noted for PFOS for sample pair NAWC-103018-RW-177 / WGNA-103018-DUP-50. The detected results reported for PFOS in samples NAWC-103018-RW-177 and WGNA-103018-DUP-50 were qualified as estimated (J).

Notes

It is stated in the case narrative that the following sample IDs were listed as WGNA-103018-RW-141 and WGNA-103018-FRB-141 on the sample bottles and listed as NAWC-103018-RW-141and NAWC-103018-FRB-141 on the chain of custody. The laboratory reported the sample IDs from the chain of custody.

All samples were re-extracted 18 days past the 14 day hold time due to LCS/LCSD percent recoveries for all compounds below the 70% quality control limit and several surrogate and injected internal standard recoveries outside the quality control limits. The original results were used for validation as EPA Method 537 version 1.1 states that sample results are only valid if samples are extracted within sample holding time. No total sample results for PFOA and PFOS were above the 70 ng/L EPA advisory limit for either the original or re-extracted results.

Samples with detections and their associated FRBs are summarized below. No detected results were present in the FRBs.

Sample	Associated FRB
NAWC-103018-RW-061	NAWC-103018-FRB-061
NAWC-103018-RW-094	NAWC-103018-FRB-094
NAWC-103018-RW-127	NAWC-103018-FRB-127
NAWC-103018-RW-138	NAWC-103018-FRB-138
NAWC-103018-RW-141	NAWC-103018-FRB-141
NAWC-103018-RW-177	NAWC-103018-FRB-177
WGNA-103018-DUP-50	NAWC-103018-FRB-177
WGNA-103018-RW-0335	WGNA-103018-FRB-0335
WGNA-103018-RW-3103	WGNA-103018-FRB-3103
WGNA-103018-RW-3118	WGNA-103018-FRB-3118
WGNA-103018-RW-3136	WGNA-103018-FRB-3136
WGNA-103018-RW-3325	WGNA-103018-FRB-3325
WGNA-103018-RW-3493	WGNA-103018-FRB-3493
WGNA-103018-RW-3882	WGNA-103018-FRB-3882

Non-detected results were reported to the Limit of Detection (LOD).

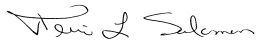
The buffering agent Trizma was added to all drinking water samples.

Executive Summary

Laboratory Performance: Several surrogate recoveries were below the quality control limit. Several LCS/LCSD percent recoveries and LCS/LCSD RPDs were outside the quality control limits. Several MS/MSD %Rs and MS/MSD RPDs were outside the quality control limits. Several internal standard areas were outside the quality control limits.

Other Factors Affecting Data Quality: Field duplicate imprecision was noted for sample pair NAWC-103018-RW-177 / WGNA-103018-DUP-50. Results below the RL were estimated.

The data for these analyses were reviewed with reference to the Environmental Protection Agency document EPA/600/R-08/092, Method 537, "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)", (September 2009), US EPA National Functional Guidelines for Organic Data Review (January 2017), and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (July 2013) as applicable. The text of this report has been formulated to address only those areas affecting data quality.



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

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

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

Data Qualifier Definitions

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

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

Appendix A

Qualified Analytical Results

Qualifier Codes:

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

PROJ_NO: 08005-WE04	NSAMPLE	NAWC-103018-FRB-061			NAWC-103018-FRB-094			NAWC-103018-FRB-127			NAWC-103018-FRB-138		
SDG: 320-44774-1	LAB_ID	320-44774-4			320-44774-18			320-44774-20			320-44774-12		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	FB			FB			FB			FB		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		5.41	UJ	EN	5.52	UJ	ER	5.37	UJ	ER	5.43	UJ	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.8	UJ	EN	1.84	UJ	ER	1.79	UJ	ER	1.81	UJ	ER
PERFLUOROHEPTANOIC ACID (PFHPA)		2.71	UJ	EN	2.76	UJ	ER	2.69	UJ	ER	2.72	UJ	ER
PERFLUOROHEXANESULFONIC ACID (PFHXS)		1.8	UJ	EN	1.84	UJ	ER	1.79	UJ	ER	1.81	UJ	ER
PERFLUORONONANOIC ACID (PFNA)		0.902	UJ	EN	0.92	UJ	ER	0.895	UJ	ER	0.905	UJ	ER
PERFLUOROOCTANESULFONIC ACID (PFOS)		1.8	UJ	N	1.84	UJ	R	1.79	UJ	ER	1.81	UJ	R

PROJ_NO: 08005-WE04	NSAMPLE	NAWC-103018-FRB-141			NAWC-103018-FRB-177			NAWC-103018-RW-061			NAWC-103018-RW-094		
SDG: 320-44774-1	LAB_ID	320-44774-22			320-44774-14			320-44774-3			320-44774-17		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	FB			FB			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		5.42	UJ	ER	5.38	UJ	EN	8.97	J	ENR	6.71	J-	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.81	UJ	ER	1.79	UJ	EN	2.02	J	ENPR	2.4	J	EPR
PERFLUOROHEPTANOIC ACID (PFHPA)		2.71	UJ	ER	2.69	UJ	EN	2.42	J	ENPR	2.28	J	EPR
PERFLUOROHEXANESULFONIC ACID (PFHXS)		1.81	UJ	ER	1.79	UJ	EN	4.68	J	ENR	8.37	J-	ER
PERFLUORONONANOIC ACID (PFNA)		0.903	UJ	ER	0.896	UJ	EN	1.79	J	ENPR	0.986	J	EPR
PERFLUOROOCTANESULFONIC ACID (PFOS)		1.81	UJ	ER	1.79	UJ	N	17.5	J	NR	12.1	J-	R

PROJ_NO: 08005-WE04	NSAMPLE	NAWC-103018-RW-127			NAWC-103018-RW-138			NAWC-103018-RW-141			NAWC-103018-RW-177		
SDG: 320-44774-1	LAB_ID	320-44774-19			320-44774-11			320-44774-21			320-44774-13		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		6	UJ	ER	10.7	J-	ER	10.7	J	ER	10.7	J-	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.56	J	EPR	0.985	J	EPR	5	J	ENR	2.49	J	EPR
PERFLUOROHEPTANOIC ACID (PFHPA)		3	UJ	ER	2.06	J	EPR	4.65	J	ER	4.32	J	EPR
PERFLUOROHEXANESULFONIC ACID (PFHXS)		2	UJ	ER	0.823	J	EPR	9.38	J	ENR	19.4	J-	ER
PERFLUORONONANOIC ACID (PFNA)		1	UJ	ER	0.955	UJ	ER	1.34	J	EPR	0.955	UJ	ER
PERFLUOROOCTANESULFONIC ACID (PFOS)		2	UJ	ER	3.54	J	PR	16.1	J	ENR	33.7	J	GR

PROJ_NO: 08005-WE04	NSAMPLE	WGNA-103018-DUP-50			WGNA-103018-FRB-0335			WGNA-103018-FRB-3103			WGNA-103018-FRB-3118		
SDG: 320-44774-1	LAB_ID	320-44774-27			320-44774-24			320-44774-6			320-44774-16		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	NM			FB			FB			FB		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF	NAWC-103018-RW-177											
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		8.46	J	ER	5.41	UJ	ER	5.54	UJ	ER	5.63	UJ	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		2.36	J	EPR	1.8	UJ	ER	1.85	UJ	ER	1.88	UJ	ER
PERFLUOROHEPTANOIC ACID (PFHPA)		2.88	J	EPR	2.71	UJ	ER	2.77	UJ	ER	2.81	UJ	ER
PERFLUOROHEXANESULFONIC ACID (PFHXS)		15.2	J	ER	1.8	UJ	ER	1.85	UJ	ER	1.88	UJ	ER
PERFLUORONONANOIC ACID (PFNA)		1.21	J	EPR	0.902	UJ	ER	0.923	UJ	ER	0.938	UJ	ER
PERFLUOROOCTANESULFONIC ACID (PFOS)		24.8	J	EGR	1.8	UJ	ER	1.85	UJ	R	1.88	UJ	R

PROJ_NO: 08005-WE04	NSAMPLE	WGNA-103018-FRB-3136			WGNA-103018-FRB-3325			WGNA-103018-FRB-3493			WGNA-103018-FRB-3882		
SDG: 320-44774-1	LAB_ID	320-44774-2			320-44774-8			320-44774-10			320-44774-26		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	FB			FB			FB			FB		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		6.05	UJ	ER	5.58	UJ	EN	5.56	UJ	ER	5.25	UJ	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		2.02	UJ	ER	1.86	UJ	EN	1.85	UJ	ER	1.75	UJ	ER
PERFLUOROHEPTANOIC ACID (PFHPA)		3.03	UJ	ER	2.79	UJ	EN	2.78	UJ	ER	2.63	UJ	ER
PERFLUOROHEXANESULFONIC ACID (PFHXS)		2.02	UJ	ER	1.86	UJ	EN	1.85	UJ	ER	1.75	UJ	ER
PERFLURONONANOIC ACID (PFNA)		1.01	UJ	ER	0.93	UJ	EN	0.926	UJ	ER	0.875	UJ	ER
PERFLUOROOCTANESULFONIC ACID (PFOS)		2.02	UJ	R	1.86	UJ	N	1.85	UJ	R	1.75	UJ	ER

PROJ_NO: 08005-WE04	NSAMPLE	WGNA-103018-RW-0335			WGNA-103018-RW-3103			WGNA-103018-RW-3118			WGNA-103018-RW-3136		
SDG: 320-44774-1	LAB_ID	320-44774-23			320-44774-5			320-44774-15			320-44774-1		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		10.7	J	ENR	6.78	J-	ER	14.1	J	DER	11.7	J	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		2.65	J	ENPR	2.6	J	EPR	5.64	J	DER	5.28	J	ER
PERFLUOROHEPTANOIC ACID (PFHPA)		2.62	J	ENPR	2.29	J	EPR	5.18	J	DER	2.81	UJ	ER
PERFLUOROHEXANESULFONIC ACID (PFHXS)		2.99	J	ENPR	3.64	J	EPR	8.3	J	DER	3.27	J	EPR
PERFLUORONONANOIC ACID (PFNA)		1.69	J	ENPR	0.962	UJ	ER	2.2	J	DEPR	0.938	UJ	ER
PERFLUOROOCTANESULFONIC ACID (PFOS)		12.6	J	ENR	6.94	J-	R	21.2	J	DR	7.01	J	R

PROJ_NO: 08005-WE04	NSAMPLE	WGNA-103018-RW-3325			WGNA-103018-RW-3493			WGNA-103018-RW-3882		
SDG: 320-44774-1	LAB_ID	320-44774-7			320-44774-9			320-44774-25		
FRACTION: PFAS	SAMP_DATE	10/30/2018			10/30/2018			10/30/2018		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PENTADECAFLUOROOCTANOIC ACID (PFOA)		9.25	J-	ER	3.4	J	EPR	6.06	UJ	ER
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.12	J	EPR	1.97	J	ENPR	1.2	J	EPR
PERFLUOROHEPTANOIC ACID (PFHPA)		3.02	J	EPR	1.48	J	EPR	1.48	J	EPR
PERFLUOROHEXANESULFONIC ACID (PFHXS)		3.5	J	EPR	1.75	J	ENPR	2.88	J	EPR
PERFLUORONONANOIC ACID (PFNA)		1.46	J	EPR	0.918	UJ	ER	1.01	UJ	ER
PERFLUOROOCTANESULFONIC ACID (PFOS)		5.24	J-	R	5.56	J	NR	8.58	J	ER

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3136 | Lab Sample ID: 320-44774-1

Matrix: Water | Lab File ID: 2018.11.15_537AA_026.d

Analysis Method: 537 | Date Collected: 10/30/2018 07:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 266.5(mL) | Date Analyzed: 11/15/2018 17:51

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.01	J	4.69	1.88	0.891
335-67-1	Perfluorooctanoic acid (PFOA)	11.7	~~Q M~~ J	6.57	5.63	2.53
375-95-1	Perfluorononanoic acid (PFNA)	0.938	~~U Q M~~ UJ	4.69	0.938	0.441
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.27	J ~~Q~~ J	4.69	1.88	0.600
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.81	~~U Q M~~ UJ	4.69	2.81	1.22
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.28	~~Q~~ J	4.69	1.88	0.750

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	66	Q	70-130
STL00996	13C2 PFDA	71		70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3136 | Lab Sample ID: 320-44774-2

Matrix: Water | Lab File ID: 2018.11.15_537AA_027.d

Analysis Method: 537 | Date Collected: 10/30/2018 07:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 247.8(mL) | Date Analyzed: 11/15/2018 17:58

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.02	~~U M~~ UJ	5.04	2.02	0.958
335-67-1	Perfluorooctanoic acid (PFOA)	6.05	~~U Q M~~ UJ	7.06	6.05	2.72
375-95-1	Perfluorononanoic acid (PFNA)	1.01	~~U Q~~ UJ	5.04	1.01	0.474
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.02	~~U Q~~ UJ	5.04	2.02	0.646
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.03	~~U Q M~~ UJ	5.04	3.03	1.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.02	~~U Q~~ UJ	5.04	2.02	0.807

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	31	Q	70-130
STL00996	13C2 PFDA	31	Q	70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-061 Lab Sample ID: 320-44774-3

Matrix: Water Lab File ID: 2018.11.15_537AA_028.d

Analysis Method: 537 Date Collected: 10/30/2018 08:10

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 282.7(mL) Date Analyzed: 11/15/2018 18:06

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	17.5	J	4.42	1.77	0.840
335-67-1	Perfluorooctanoic acid (PFOA)	8.97	~~Q M~~ J	6.19	5.31	2.39
375-95-1	Perfluorononanoic acid (PFNA)	1.79	J ~~Q~~	4.42	0.884	0.416
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.68	~~Q M~~ J	4.42	1.77	0.566
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.42	J ~~Q~~	4.42	2.65	1.15
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.02	J ~~Q~~	4.42	1.77	0.707

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	42	Q	70-130
STL00996	13C2 PFDA	91		70-130

Nori L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-061 | Lab Sample ID: 320-44774-4

Matrix: Water | Lab File ID: 2018.11.15_537AA_029.d

Analysis Method: 537 | Date Collected: 10/30/2018 08:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 277.2(mL) | Date Analyzed: 11/15/2018 18:13

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.80	~~U~~ UJ	4.51	1.80	0.857
335-67-1	Perfluorooctanoic acid (PFOA)	5.41	~~U Q~~ UJ	6.31	5.41	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.902	~~U Q~~ UJ	4.51	0.902	0.424
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.80	~~U Q~~ UJ	4.51	1.80	0.577
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.71	~~U Q~~ UJ	4.51	2.71	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.80	~~U Q~~ UJ	4.51	1.80	0.722

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	70		70-130
STL00996	13C2 PFDA	75		70-130

Toni L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3103 | Lab Sample ID: 320-44774-5

Matrix: Water | Lab File ID: 2018.11.15_537AA_030.d

Analysis Method: 537 | Date Collected: 10/30/2018 08:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 259.8(mL) | Date Analyzed: 11/15/2018 18:20

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	6.94	~~J~~ J-	4.81	1.92	0.914
335-67-1	Perfluorooctanoic acid (PFOA)	6.78	~~Q M~~ J-	6.74	5.77	2.60
375-95-1	Perfluorononanoic acid (PFNA)	0.962	~~U Q M~~ UJ	4.81	0.962	0.452
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.64	~~J Q~~ J	4.81	1.92	0.616
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.29	~~J Q M~~ J	4.81	2.89	1.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.60	~~J Q~~ J	4.81	1.92	0.770

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	62	Q	70-130
STL00996	13C2 PFDA	63	Q	70-130

Toni L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3103 | Lab Sample ID: 320-44774-6

Matrix: Water | Lab File ID: 2018.11.15_537AA_031.d

Analysis Method: 537 | Date Collected: 10/30/2018 08:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 270.8(mL) | Date Analyzed: 11/15/2018 18:28

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.85	~~U M~~ UJ	4.62	1.85	0.877
335-67-1	Perfluorooctanoic acid (PFOA)	5.54	~~U Q M~~ UJ	6.46	5.54	2.49
375-95-1	Perfluorononanoic acid (PFNA)	0.923	~~U Q~~ UJ	4.62	0.923	0.434
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.85	~~U Q~~ UJ	4.62	1.85	0.591
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.77	~~U Q~~ UJ	4.62	2.77	1.20
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.85	~~U Q~~ UJ	4.62	1.85	0.739

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	52	Q	70-130
STL00996	13C2 PFDA	63	Q	70-130

Toni L Salerno
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3325 | Lab Sample ID: 320-44774-7

Matrix: Water | Lab File ID: 2018.11.15_537AA_032.d

Analysis Method: 537 | Date Collected: 10/30/2018 09:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 282.5(mL) | Date Analyzed: 11/15/2018 18:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.24	J-	4.42	1.77	0.841
335-67-1	Perfluorooctanoic acid (PFOA)	9.25	~~Q M~~ J-	6.19	5.31	2.39
375-95-1	Perfluorononanoic acid (PFNA)	1.46	J ~~Q~~	4.42	0.885	0.416
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.50	J ~~Q M~~	4.42	1.77	0.566
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.02	J ~~Q M~~	4.42	2.65	1.15
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.12	J ~~Q~~	4.42	1.77	0.708

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	34	Q	70-130
STL00996	13C2 PFDA	39	Q	70-130

Terri L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3325 | Lab Sample ID: 320-44774-8

Matrix: Water | Lab File ID: 2018.11.15_537AA_033.d

Analysis Method: 537 | Date Collected: 10/30/2018 09:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 268.9(mL) | Date Analyzed: 11/15/2018 18:43

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.86	~~U M~~ UJ	4.65	1.86	0.883
335-67-1	Perfluorooctanoic acid (PFOA)	5.58	~~U Q M~~ UJ	6.51	5.58	2.51
375-95-1	Perfluorononanoic acid (PFNA)	0.930	~~U Q M~~ UJ	4.65	0.930	0.437
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.86	~~U Q M~~ UJ	4.65	1.86	0.595
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.79	~~U Q M~~ UJ	4.65	2.79	1.21
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.86	~~U Q M~~ UJ	4.65	1.86	0.744

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	86		70-130
STL00996	13C2 PFDA	92		70-130

Toni L Salerno
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3493 | Lab Sample ID: 320-44774-9

Matrix: Water | Lab File ID: 2018.11.15_537AA_036.d

Analysis Method: 537 | Date Collected: 10/30/2018 09:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 272.4(mL) | Date Analyzed: 11/15/2018 19:05

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.56	J	4.59	1.84	0.872
335-67-1	Perfluorooctanoic acid (PFOA)	3.40	J ~~M Q~~	6.42	5.51	2.48
375-95-1	Perfluorononanoic acid (PFNA)	0.918	~~U M Q~~ UJ	4.59	0.918	0.431
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.75	J ~~Q~~	4.59	1.84	0.587
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.48	J ~~Q~~	4.59	2.75	1.19
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.97	J ~~Q~~	4.59	1.84	0.734

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	18	Q	70-130
STL00996	13C2 PFDA	23	Q	70-130

Terri L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3493 | Lab Sample ID: 320-44774-10

Matrix: Water | Lab File ID: 2018.11.15_537AA_037.d

Analysis Method: 537 | Date Collected: 10/30/2018 09:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 270(mL) | Date Analyzed: 11/15/2018 19:13

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.85	~~U M~~ UJ	4.63	1.85	0.880
335-67-1	Perfluorooctanoic acid (PFOA)	5.56	~~U Q~~ UJ	6.48	5.56	2.50
375-95-1	Perfluorononanoic acid (PFNA)	0.926	~~U Q~~ UJ	4.63	0.926	0.435
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.85	~~U Q~~ UJ	4.63	1.85	0.593
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.78	~~U Q~~ UJ	4.63	2.78	1.20
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.85	~~U Q~~ UJ	4.63	1.85	0.741

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	33	Q	70-130
STL00996	13C2 PFDA	41	Q	70-130

Dori L Salemann
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-138 | Lab Sample ID: 320-44774-11

Matrix: Water | Lab File ID: 2018.11.15_537AA_038.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 261.7(mL) | Date Analyzed: 11/15/2018 19:20

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.54	J	4.78	1.91	0.908
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	~~M Q~~ J-	6.69	5.73	2.58
375-95-1	Perfluorononanoic acid (PFNA)	0.955	~~U M Q~~ UJ	4.78	0.955	0.449
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.823	J ~~M Q~~	4.78	1.91	0.611
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.06	J ~~Q~~	4.78	2.87	1.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.985	J ~~Q~~	4.78	1.91	0.764

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	28	Q	70-130
STL00996	13C2 PFDA	31	Q	70-130

12/17/2018

FORM I 537

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-138 | Lab Sample ID: 320-44774-12

Matrix: Water | Lab File ID: 2018.11.15_537AA_039.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 276.2(mL) | Date Analyzed: 11/15/2018 19:27

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.81	~~U~~ UJ	4.53	1.81	0.860
335-67-1	Perfluorooctanoic acid (PFOA)	5.43	~~U M Q~~ UJ	6.34	5.43	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.905	~~U Q~~ UJ	4.53	0.905	0.425
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.81	~~U Q~~ UJ	4.53	1.81	0.579
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.72	~~U Q~~ UJ	4.53	2.72	1.18
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.81	~~U Q~~ UJ	4.53	1.81	0.724

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	34	Q	70-130
STL00996	13C2 PFDA	38	Q	70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-177 | Lab Sample ID: 320-44774-13

Matrix: Water | Lab File ID: 2018.11.15_537AA_040.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 261.7(mL) | Date Analyzed: 11/15/2018 19:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	33.7	~~Q~~ J	4.78	1.91	0.908
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	~~M Q~~ J-	6.69	5.73	2.58
375-95-1	Perfluorononanoic acid (PFNA)	0.955	~~U M Q~~ UJ	4.78	0.955	0.449
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	19.4	~~Q~~ J-	4.78	1.91	0.611
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.32	J ~~Q~~	4.78	2.87	1.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.49	J ~~Q~~	4.78	1.91	0.764

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	48	Q	70-130
STL00996	13C2 PFDA	59	Q	70-130

Toni L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-177 | Lab Sample ID: 320-44774-14

Matrix: Water | Lab File ID: 2018.11.15_537AA_041.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 279(mL) | Date Analyzed: 11/15/2018 19:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	~~U M~~ UJ	4.48	1.79	0.851
335-67-1	Perfluorooctanoic acid (PFOA)	5.38	~~U M Q~~ UJ	6.27	5.38	2.42
375-95-1	Perfluorononanoic acid (PFNA)	0.896	~~U Q~~ UJ	4.48	0.896	0.421
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	~~U Q~~ UJ	4.48	1.79	0.573
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.69	~~U M Q~~ UJ	4.48	2.69	1.16
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	~~U Q~~ UJ	4.48	1.79	0.717

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	107		70-130
STL00996	13C2 PFDA	106		70-130

Toni L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3118 | Lab Sample ID: 320-44774-15

Matrix: Water | Lab File ID: 2018.11.15_537AA_042.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 266.9(mL) | Date Analyzed: 11/15/2018 19:50

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	21.2	J	4.68	1.87	0.890
335-67-1	Perfluorooctanoic acid (PFOA)	14.1	~~M Q~~ J	6.56	5.62	2.53
375-95-1	Perfluorononanoic acid (PFNA)	2.20	J ~~Q~~	4.68	0.937	0.440
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	8.30	~~Q~~ J	4.68	1.87	0.599
375-85-9	Perfluoroheptanoic acid (PFHpA)	5.18	~~Q~~ J	4.68	2.81	1.22
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.64	~~Q~~ J	4.68	1.87	0.749

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	61	Q	70-130
STL00996	13C2 PFDA	68	Q	70-130

Terri L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3118 | Lab Sample ID: 320-44774-16

Matrix: Water | Lab File ID: 2018.11.15_537AA_045.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 266.5(mL) | Date Analyzed: 11/15/2018 20:12

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.88	~~U M~~ UJ	4.69	1.88	0.891
335-67-1	Perfluorooctanoic acid (PFOA)	5.63	~~U M Q~~ UJ	6.57	5.63	2.53
375-95-1	Perfluorononanoic acid (PFNA)	0.938	~~U Q~~ UJ	4.69	0.938	0.441
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.88	~~U Q~~ UJ	4.69	1.88	0.600
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.81	~~U Q~~ UJ	4.69	2.81	1.22
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.88	~~U Q~~ UJ	4.69	1.88	0.750

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	65	Q	70-130
STL00996	13C2 PFDA	75		70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-094 | Lab Sample ID: 320-44774-17

Matrix: Water | Lab File ID: 2018.11.15_537AA_048.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 263.3(mL) | Date Analyzed: 11/15/2018 20:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259491 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	12.1	J-	4.75	1.90	0.902
335-67-1	Perfluorooctanoic acid (PFOA)	6.71	~~M Q~~ J-	6.65	5.70	2.56
375-95-1	Perfluorononanoic acid (PFNA)	0.986	J ~~Q~~	4.75	0.949	0.446
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	8.37	~~Q~~ J-	4.75	1.90	0.608
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.28	J ~~Q~~	4.75	2.85	1.23
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.40	J ~~Q~~	4.75	1.90	0.760

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	49	Q	70-130
STL00996	13C2 PFDA	51	Q	70-130

Terri L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-094 | Lab Sample ID: 320-44774-18

Matrix: Water | Lab File ID: 2018.11.15_537AA_049.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 271.6(mL) | Date Analyzed: 11/15/2018 20:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259491 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.84	~~U~~ UJ	4.60	1.84	0.874
335-67-1	Perfluorooctanoic acid (PFOA)	5.52	~~U M Q~~ UJ	6.44	5.52	2.49
375-95-1	Perfluorononanoic acid (PFNA)	0.920	~~U Q~~ UJ	4.60	0.920	0.433
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.84	~~U Q~~ UJ	4.60	1.84	0.589
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.76	~~U M Q~~ UJ	4.60	2.76	1.20
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.84	~~U Q~~ UJ	4.60	1.84	0.736

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	41	Q	70-130
STL00996	13C2 PFDA	49	Q	70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-127 | Lab Sample ID: 320-44774-19

Matrix: Water | Lab File ID: 2018.11.15_537AA_055.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 249.9(mL) | Date Analyzed: 11/15/2018 21:27

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	~~U Q~~ UJ	5.00	2.00	0.950
335-67-1	Perfluorooctanoic acid (PFOA)	6.00	~~U M Q~~ UJ	7.00	6.00	2.70
375-95-1	Perfluorononanoic acid (PFNA)	1.00	~~U Q~~ UJ	5.00	1.00	0.470
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	~~U M Q~~ UJ	5.00	2.00	0.640
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.00	~~U M Q~~ UJ	5.00	3.00	1.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.56	J ~~Q~~	5.00	2.00	0.800

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	38	Q	70-130
STL00996	13C2 PFDA	46	Q	70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-127 | Lab Sample ID: 320-44774-20

Matrix: Water | Lab File ID: 2018.11.15_537AA_056.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 279.2(mL) | Date Analyzed: 11/15/2018 21:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	~~U Q~~ UJ	4.48	1.79	0.851
335-67-1	Perfluorooctanoic acid (PFOA)	5.37	~~U Q~~ UJ	6.27	5.37	2.42
375-95-1	Perfluorononanoic acid (PFNA)	0.895	~~U Q~~ UJ	4.48	0.895	0.421
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	~~U Q~~ UJ	4.48	1.79	0.573
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.69	~~U Q~~ UJ	4.48	2.69	1.16
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	~~U Q~~ UJ	4.48	1.79	0.716

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	32	Q	70-130
STL00996	13C2 PFDA	35	Q	70-130

Dawn L Salerno
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-141 | Lab Sample ID: 320-44774-21

Matrix: Water | Lab File ID: 2018.11.15_537AA_057.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 276(mL) | Date Analyzed: 11/15/2018 21:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	16.1	~~Q~~ J	4.53	1.81	0.861
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	~~M Q~~ J	6.34	5.43	2.45
375-95-1	Perfluorononanoic acid (PFNA)	1.34	J ~~Q~~	4.53	0.906	0.426
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	9.38	~~Q~~ J	4.53	1.81	0.580
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.65	~~Q~~ J	4.53	2.72	1.18
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.00	~~Q~~ J	4.53	1.81	0.725

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	66	Q	70-130
STL00996	13C2 PFDA	71		70-130

Toni L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-141 | Lab Sample ID: 320-44774-22

Matrix: Water | Lab File ID: 2018.11.15_537AA_058.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 277(mL) | Date Analyzed: 11/15/2018 21:49

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.81	~~U M Q~~ UJ	4.51	1.81	0.857
335-67-1	Perfluorooctanoic acid (PFOA)	5.42	~~U M Q~~ UJ	6.32	5.42	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.903	~~U Q~~ UJ	4.51	0.903	0.424
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.81	~~U M Q~~ UJ	4.51	1.81	0.578
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.71	~~U M Q~~ UJ	4.51	2.71	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.81	~~U Q~~ UJ	4.51	1.81	0.722

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	57	Q	70-130
STL00996	13C2 PFDA	64	Q	70-130

Terri L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-0335 | Lab Sample ID: 320-44774-23

Matrix: Water | Lab File ID: 2018.11.15_537AA_059.d

Analysis Method: 537 | Date Collected: 10/30/2018 14:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 278.8(mL) | Date Analyzed: 11/15/2018 21:57

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	12.6	~~M Q~~ J	4.48	1.79	0.852
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	~~M Q~~ J	6.28	5.38	2.42
375-95-1	Perfluorononanoic acid (PFNA)	1.69	J ~~Q~~	4.48	0.897	0.421
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.99	J ~~Q~~	4.48	1.79	0.574
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.62	J ~~M Q~~	4.48	2.69	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.65	J ~~Q~~	4.48	1.79	0.717

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	32	Q	70-130
STL00996	13C2 PFDA	64	Q	70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-0335 | Lab Sample ID: 320-44774-24

Matrix: Water | Lab File ID: 2018.11.15_537AA_060.d

Analysis Method: 537 | Date Collected: 10/30/2018 14:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 277.1(mL) | Date Analyzed: 11/15/2018 22:04

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.80	~~U M Q~~ UJ	4.51	1.80	0.857
335-67-1	Perfluorooctanoic acid (PFOA)	5.41	~~U Q~~ UJ	6.32	5.41	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.902	~~U Q~~ UJ	4.51	0.902	0.424
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.80	~~U Q~~ UJ	4.51	1.80	0.577
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.71	~~U Q~~ UJ	4.51	2.71	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.80	~~U Q~~ UJ	4.51	1.80	0.722

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	43	Q	70-130
STL00996	13C2 PFDA	46	Q	70-130

Toni L Salomon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3882 | Lab Sample ID: 320-44774-25

Matrix: Water | Lab File ID: 2018.11.15_537AA_061.d

Analysis Method: 537 | Date Collected: 10/30/2018 15:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 247.4(mL) | Date Analyzed: 11/15/2018 22:11

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	8.58	~~M Q~~ J	5.05	2.02	0.960
335-67-1	Perfluorooctanoic acid (PFOA)	6.06	U ~~M Q~~ UJ	7.07	6.06	2.73
375-95-1	Perfluorononanoic acid (PFNA)	1.01	U ~~M Q~~ UJ	5.05	1.01	0.475
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.88	J ~~Q~~	5.05	2.02	0.647
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.48	J ~~Q~~	5.05	3.03	1.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.20	J ~~Q~~	5.05	2.02	0.808

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	26	Q	70-130
STL00996	13C2 PFDA	28	Q	70-130

Toni L Salemon
12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3882 | Lab Sample ID: 320-44774-26

Matrix: Water | Lab File ID: 2018.11.15_537AA_064.d

Analysis Method: 537 | Date Collected: 10/30/2018 15:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 285.6(mL) | Date Analyzed: 11/15/2018 22:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259574 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.75	~~U Q~~ UJ	4.38	1.75	0.832
335-67-1	Perfluorooctanoic acid (PFOA)	5.25	~~U M Q~~ UJ	6.13	5.25	2.36
375-95-1	Perfluorononanoic acid (PFNA)	0.875	~~U Q~~ UJ	4.38	0.875	0.411
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.75	~~U M Q~~ UJ	4.38	1.75	0.560
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.63	~~U Q~~ UJ	4.38	2.63	1.14
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.75	~~U Q~~ UJ	4.38	1.75	0.700

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	32	Q	70-130
STL00996	13C2 PFDA	32	Q	70-130

12/17/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-DUP-50 | Lab Sample ID: 320-44774-27

Matrix: Water | Lab File ID: 2018.11.15_537AA_065.d

Analysis Method: 537 | Date Collected: 10/30/2018 07:00

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 261.3(mL) | Date Analyzed: 11/15/2018 22:41

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259574 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	24.8	~~M Q~~ J	4.78	1.91	0.909
335-67-1	Perfluorooctanoic acid (PFOA)	8.46	~~M Q~~ J	6.70	5.74	2.58
375-95-1	Perfluorononanoic acid (PFNA)	1.21	J ~~Q~~	4.78	0.957	0.450
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15.2	~~Q~~ J	4.78	1.91	0.612
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.88	J ~~M Q~~	4.78	2.87	1.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.36	J ~~Q~~	4.78	1.91	0.765

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	43	Q	70-130
STL00996	13C2 PFDA	45	Q	70-130

Toni L Salomon
12/17/2018

Appendix B

Results as Reported by the Laboratory

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3136 Lab Sample ID: 320-44774-1

Matrix: Water Lab File ID: 2018.11.15_537AA_026.d

Analysis Method: 537 Date Collected: 10/30/2018 07:40

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 266.5(mL) Date Analyzed: 11/15/2018 17:51

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.01		4.69	1.88	0.891
335-67-1	Perfluorooctanoic acid (PFOA)	11.7	Q M	6.57	5.63	2.53
375-95-1	Perfluorononanoic acid (PFNA)	0.938	U Q M	4.69	0.938	0.441
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.27	J Q	4.69	1.88	0.600
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.81	U Q M	4.69	2.81	1.22
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.28	Q	4.69	1.88	0.750

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	66	Q	70-130
STL00996	13C2 PFDA	71		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3136 RE Lab Sample ID: 320-44774-1 RE

Matrix: Water Lab File ID: 2018.12.05_537A_018.d

Analysis Method: 537 Date Collected: 10/30/2018 07:40

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 260.8(mL) Date Analyzed: 12/05/2018 09:03

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*9.33*	*H*	*4.79*	1.92	*0.911*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*16.3*	*H M*	*6.71*	5.75	*2.59*
375-95-1	*Perfluorononanoic acid (PFNA)*	*1.68*	*J H*	*4.79*	0.959	*0.451*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*5.47*	*H*	*4.79*	1.92	*0.613*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*3.98*	*J H*	*4.79*	2.88	*1.25*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*8.40*	*H*	*4.79*	1.92	*0.767*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	92		70-130
STL00996	13C2 PFDA	100		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3136 Lab Sample ID: 320-44774-2

Matrix: Water Lab File ID: 2018.11.15_537AA_027.d

Analysis Method: 537 Date Collected: 10/30/2018 07:35

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 247.8(mL) Date Analyzed: 11/15/2018 17:58

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.02	U M	5.04	2.02	0.958
335-67-1	Perfluorooctanoic acid (PFOA)	6.05	U Q M	7.06	6.05	2.72
375-95-1	Perfluorononanoic acid (PFNA)	1.01	U Q	5.04	1.01	0.474
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.02	U Q	5.04	2.02	0.646
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.03	U Q M	5.04	3.03	1.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.02	U Q	5.04	2.02	0.807

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	31	Q	70-130
STL00996	13C2 PFDA	31	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3136 RE Lab Sample ID: 320-44774-2 RE

Matrix: Water Lab File ID: 2018.12.05_537A_019.d

Analysis Method: 537 Date Collected: 10/30/2018 07:35

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 271.1(mL) Date Analyzed: 12/05/2018 09:10

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.84*	*U H*	*4.61*	1.84	*0.876*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.53*	*U H M*	*6.46*	5.53	*2.49*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.922*	*U H*	*4.61*	0.922	*0.433*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.84*	*U H*	*4.61*	1.84	*0.590*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.77*	*U H*	*4.61*	2.77	*1.20*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.84*	*U H*	*4.61*	1.84	*0.738*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	93		70-130
STL00996	13C2 PFDA	100		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-061 | Lab Sample ID: 320-44774-3

Matrix: Water | Lab File ID: 2018.11.15_537AA_028.d

Analysis Method: 537 | Date Collected: 10/30/2018 08:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 282.7(mL) | Date Analyzed: 11/15/2018 18:06

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	17.5		4.42	1.77	0.840
335-67-1	Perfluorooctanoic acid (PFOA)	8.97	Q M	6.19	5.31	2.39
375-95-1	Perfluorononanoic acid (PFNA)	1.79	J Q	4.42	0.884	0.416
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.68	Q M	4.42	1.77	0.566
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.42	J Q	4.42	2.65	1.15
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.02	J Q	4.42	1.77	0.707

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	42	Q	70-130
STL00996	13C2 PFDA	91		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-061 RE | Lab Sample ID: 320-44774-3 RE

Matrix: Water | Lab File ID: 2018.12.05_537A_020.d

Analysis Method: 537 | Date Collected: 10/30/2018 08:10

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 251.3(mL) | Date Analyzed: 12/05/2018 09:18

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*24.6*	*H*	*4.97*	1.99	*0.945*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*15.6*	*H M*	*6.96*	5.97	*2.69*
375-95-1	*Perfluorononanoic acid (PFNA)*	*2.00*	*J H*	*4.97*	0.995	*0.468*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*9.24*	*H*	*4.97*	1.99	*0.637*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*3.67*	*J H*	*4.97*	2.98	*1.29*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*6.33*	*H*	*4.97*	1.99	*0.796*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	93		70-130
STL00996	13C2 PFDA	98		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-061 | Lab Sample ID: 320-44774-4

Matrix: Water | Lab File ID: 2018.11.15_537AA_029.d

Analysis Method: 537 | Date Collected: 10/30/2018 08:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 277.2(mL) | Date Analyzed: 11/15/2018 18:13

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.80	U	4.51	1.80	0.857
335-67-1	Perfluorooctanoic acid (PFOA)	5.41	U Q	6.31	5.41	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.902	U Q	4.51	0.902	0.424
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.80	U Q	4.51	1.80	0.577
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.71	U Q	4.51	2.71	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.80	U Q	4.51	1.80	0.722

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	70		70-130
STL00996	13C2 PFDA	75		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-061 RE Lab Sample ID: 320-44774-4 RE

Matrix: Water Lab File ID: 2018.12.05_537A_021.d

Analysis Method: 537 Date Collected: 10/30/2018 08:05

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 258.5(mL) Date Analyzed: 12/05/2018 09:25

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.93*	*U H*	*4.84*	1.93	*0.919*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.80*	*U H M*	*6.77*	5.80	*2.61*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.967*	*U H M*	*4.84*	0.967	*0.455*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.93*	*U H*	*4.84*	1.93	*0.619*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.90*	*U H M*	*4.84*	2.90	*1.26*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.93*	*U H*	*4.84*	1.93	*0.774*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	94		70-130
STL00996	13C2 PFDA	101		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3103 Lab Sample ID: 320-44774-5

Matrix: Water Lab File ID: 2018.11.15_537AA_030.d

Analysis Method: 537 Date Collected: 10/30/2018 08:40

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 259.8(mL) Date Analyzed: 11/15/2018 18:20

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	6.94		4.81	1.92	0.914
335-67-1	Perfluorooctanoic acid (PFOA)	6.78	Q M	6.74	5.77	2.60
375-95-1	Perfluorononanoic acid (PFNA)	0.962	U Q M	4.81	0.962	0.452
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.64	J Q	4.81	1.92	0.616
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.29	J Q M	4.81	2.89	1.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.60	J Q	4.81	1.92	0.770

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	62	Q	70-130
STL00996	13C2 PFDA	63	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3103 RE Lab Sample ID: 320-44774-5 RE

Matrix: Water Lab File ID: 2018.12.05_537A_022.d

Analysis Method: 537 Date Collected: 10/30/2018 08:40

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 255.4(mL) Date Analyzed: 12/05/2018 09:32

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*8.01*	*H*	*4.89*	1.96	*0.930*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*9.72*	*H M*	*6.85*	5.87	*2.64*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.949*	*J H*	*4.89*	0.979	*0.460*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*5.05*	*H*	*4.89*	1.96	*0.626*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.22*	*J H*	*4.89*	2.94	*1.27*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*3.70*	*J H*	*4.89*	1.96	*0.783*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	103		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3103 Lab Sample ID: 320-44774-6

Matrix: Water Lab File ID: 2018.11.15_537AA_031.d

Analysis Method: 537 Date Collected: 10/30/2018 08:35

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 270.8(mL) Date Analyzed: 11/15/2018 18:28

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.85	U M	4.62	1.85	0.877
335-67-1	Perfluorooctanoic acid (PFOA)	5.54	U Q M	6.46	5.54	2.49
375-95-1	Perfluorononanoic acid (PFNA)	0.923	U Q	4.62	0.923	0.434
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.85	U Q	4.62	1.85	0.591
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.77	U Q	4.62	2.77	1.20
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.85	U Q	4.62	1.85	0.739

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	52	Q	70-130
STL00996	13C2 PFDA	63	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3103 RE Lab Sample ID: 320-44774-6 RE

Matrix: Water Lab File ID: 2018.12.05_537A_023.d

Analysis Method: 537 Date Collected: 10/30/2018 08:35

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 262.1(mL) Date Analyzed: 12/05/2018 09:40

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.91*	*U H*	*4.77*	1.91	*0.906*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.72*	*U H M*	*6.68*	5.72	*2.58*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.954*	*U H M*	*4.77*	0.954	*0.448*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.91*	*U H*	*4.77*	1.91	*0.610*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.86*	*U H*	*4.77*	2.86	*1.24*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.91*	*U H*	*4.77*	1.91	*0.763*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	102		70-130
STL00996	13C2 PFDA	104		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3325 Lab Sample ID: 320-44774-7

Matrix: Water Lab File ID: 2018.11.15_537AA_032.d

Analysis Method: 537 Date Collected: 10/30/2018 09:10

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 282.5(mL) Date Analyzed: 11/15/2018 18:35

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.24		4.42	1.77	0.841
335-67-1	Perfluorooctanoic acid (PFOA)	9.25	Q M	6.19	5.31	2.39
375-95-1	Perfluorononanoic acid (PFNA)	1.46	J Q	4.42	0.885	0.416
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.50	J Q M	4.42	1.77	0.566
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.02	J Q M	4.42	2.65	1.15
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.12	J Q	4.42	1.77	0.708

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	34	Q	70-130
STL00996	13C2 PFDA	39	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3325 RE | Lab Sample ID: 320-44774-7 RE

Matrix: Water | Lab File ID: 2018.12.05_537A_024.d

Analysis Method: 537 | Date Collected: 10/30/2018 09:10

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 260.5(mL) | Date Analyzed: 12/05/2018 09:47

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*13.1*	*H*	*4.80*	1.92	*0.912*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*25.1*	*H M*	*6.72*	5.76	*2.59*
375-95-1	*Perfluorononanoic acid (PFNA)*	*3.21*	*J H*	*4.80*	0.960	*0.451*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*11.2*	*H*	*4.80*	1.92	*0.614*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*8.48*	*H*	*4.80*	2.88	*1.25*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*3.55*	*J H*	*4.80*	1.92	*0.768*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	90		70-130
STL00996	13C2 PFDA	98		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3325 Lab Sample ID: 320-44774-8

Matrix: Water Lab File ID: 2018.11.15_537AA_033.d

Analysis Method: 537 Date Collected: 10/30/2018 09:05

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 268.9(mL) Date Analyzed: 11/15/2018 18:43

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.86	U M	4.65	1.86	0.883
335-67-1	Perfluorooctanoic acid (PFOA)	5.58	U Q M	6.51	5.58	2.51
375-95-1	Perfluorononanoic acid (PFNA)	0.930	U Q M	4.65	0.930	0.437
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.86	U Q M	4.65	1.86	0.595
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.79	U Q M	4.65	2.79	1.21
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.86	U Q M	4.65	1.86	0.744

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	86		70-130
STL00996	13C2 PFDA	92		70-130

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LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3325 RE | Lab Sample ID: 320-44774-8 RE

Matrix: Water | Lab File ID: 2018.12.05_537A_025.d

Analysis Method: 537 | Date Collected: 10/30/2018 09:05

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 258(mL) | Date Analyzed: 12/05/2018 09:55

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.94*	*U H*	*4.84*	1.94	*0.921*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.81*	*U H M*	*6.78*	5.81	*2.62*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.969*	*U H*	*4.84*	0.969	*0.455*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.94*	*U H*	*4.84*	1.94	*0.620*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.91*	*U H*	*4.84*	2.91	*1.26*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.94*	*U H*	*4.84*	1.94	*0.775*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	99		70-130
STL00996	13C2 PFDA	104		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3493 Lab Sample ID: 320-44774-9

Matrix: Water Lab File ID: 2018.11.15_537AA_036.d

Analysis Method: 537 Date Collected: 10/30/2018 09:40

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 272.4(mL) Date Analyzed: 11/15/2018 19:05

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.56		4.59	1.84	0.872
335-67-1	Perfluorooctanoic acid (PFOA)	3.40	J M Q	6.42	5.51	2.48
375-95-1	Perfluorononanoic acid (PFNA)	0.918	U M Q	4.59	0.918	0.431
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.75	J Q	4.59	1.84	0.587
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.48	J Q	4.59	2.75	1.19
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.97	J Q	4.59	1.84	0.734

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	18	Q	70-130
STL00996	13C2 PFDA	23	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3493 RE Lab Sample ID: 320-44774-9 RE

Matrix: Water Lab File ID: 2018.12.05_537A_028.d

Analysis Method: 537 Date Collected: 10/30/2018 09:40

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 270.7(mL) Date Analyzed: 12/05/2018 10:17

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*21.8*	*H M*	*4.62*	1.85	*0.877*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*15.1*	*H M*	*6.46*	5.54	*2.49*
375-95-1	*Perfluorononanoic acid (PFNA)*	*1.82*	*J H*	*4.62*	0.924	*0.434*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*9.27*	*H*	*4.62*	1.85	*0.591*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*4.21*	*J H*	*4.62*	2.77	*1.20*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*12.3*	*H*	*4.62*	1.85	*0.739*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	93		70-130
STL00996	13C2 PFDA	98		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3493 Lab Sample ID: 320-44774-10

Matrix: Water Lab File ID: 2018.11.15_537AA_037.d

Analysis Method: 537 Date Collected: 10/30/2018 09:35

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 270(mL) Date Analyzed: 11/15/2018 19:13

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.85	U M	4.63	1.85	0.880
335-67-1	Perfluorooctanoic acid (PFOA)	5.56	U Q	6.48	5.56	2.50
375-95-1	Perfluorononanoic acid (PFNA)	0.926	U Q	4.63	0.926	0.435
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.85	U Q	4.63	1.85	0.593
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.78	U Q	4.63	2.78	1.20
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.85	U Q	4.63	1.85	0.741

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	33	Q	70-130
STL00996	13C2 PFDA	41	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3493 RE Lab Sample ID: 320-44774-10 RE

Matrix: Water Lab File ID: 2018.12.05_537A_029.d

Analysis Method: 537 Date Collected: 10/30/2018 09:35

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 264.2(mL) Date Analyzed: 12/05/2018 10:25

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.89*	*U H*	*4.73*	1.89	*0.899*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.68*	*U H M*	*6.62*	5.68	*2.55*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.946*	*U H M*	*4.73*	0.946	*0.445*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.89*	*U H*	*4.73*	1.89	*0.606*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.84*	*U H M*	*4.73*	2.84	*1.23*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.89*	*U H*	*4.73*	1.89	*0.757*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	104		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-138 | Lab Sample ID: 320-44774-11

Matrix: Water | Lab File ID: 2018.11.15_537AA_038.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 261.7(mL) | Date Analyzed: 11/15/2018 19:20

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.54	J	4.78	1.91	0.908
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	M Q	6.69	5.73	2.58
375-95-1	Perfluorononanoic acid (PFNA)	0.955	U M Q	4.78	0.955	0.449
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.823	J M Q	4.78	1.91	0.611
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.06	J Q	4.78	2.87	1.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.985	J Q	4.78	1.91	0.764

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	28	Q	70-130
STL00996	13C2 PFDA	31	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-138 RE Lab Sample ID: 320-44774-11 RE

Matrix: Water Lab File ID: 2018.12.05_537A_030.d

Analysis Method: 537 Date Collected: 10/30/2018 10:10

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 259.9(mL) Date Analyzed: 12/05/2018 10:32

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*8.80*	*H*	*4.81*	1.92	*0.914*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*34.5*	*H M*	*6.73*	5.77	*2.60*
375-95-1	*Perfluorononanoic acid (PFNA)*	*2.38*	*J H*	*4.81*	0.962	*0.452*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*2.56*	*J H*	*4.81*	1.92	*0.616*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*7.48*	*H*	*4.81*	2.89	*1.25*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*3.28*	*J H*	*4.81*	1.92	*0.770*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	96		70-130
STL00996	13C2 PFDA	107		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-138 Lab Sample ID: 320-44774-12

Matrix: Water Lab File ID: 2018.11.15_537AA_039.d

Analysis Method: 537 Date Collected: 10/30/2018 10:05

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 276.2(mL) Date Analyzed: 11/15/2018 19:27

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.81	U	4.53	1.81	0.860
335-67-1	Perfluorooctanoic acid (PFOA)	5.43	U M Q	6.34	5.43	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.905	U Q	4.53	0.905	0.425
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.81	U Q	4.53	1.81	0.579
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.72	U Q	4.53	2.72	1.18
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.81	U Q	4.53	1.81	0.724

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	34	Q	70-130
STL00996	13C2 PFDA	38	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-138 RE Lab Sample ID: 320-44774-12 RE

Matrix: Water Lab File ID: 2018.12.05_537A_031.d

Analysis Method: 537 Date Collected: 10/30/2018 10:05

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 262.5(mL) Date Analyzed: 12/05/2018 10:39

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.90*	*U H*	*4.76*	1.90	*0.905*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.71*	*U H*	*6.67*	5.71	*2.57*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.952*	*U H*	*4.76*	0.952	*0.448*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.90*	*U H*	*4.76*	1.90	*0.610*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.86*	*U H M*	*4.76*	2.86	*1.24*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.90*	*U H*	*4.76*	1.90	*0.762*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	97		70-130
STL00996	13C2 PFDA	107		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-177 | Lab Sample ID: 320-44774-13

Matrix: Water | Lab File ID: 2018.11.15_537AA_040.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 261.7(mL) | Date Analyzed: 11/15/2018 19:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	33.7		4.78	1.91	0.908
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	M Q	6.69	5.73	2.58
375-95-1	Perfluorononanoic acid (PFNA)	0.955	U M Q	4.78	0.955	0.449
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	19.4	Q	4.78	1.91	0.611
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.32	J Q	4.78	2.87	1.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.49	J Q	4.78	1.91	0.764

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	48	Q	70-130
STL00996	13C2 PFDA	59	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-177 RE | Lab Sample ID: 320-44774-13 RE

Matrix: Water | Lab File ID: 2018.12.05_537A_032.d

Analysis Method: 537 | Date Collected: 10/30/2018 10:40

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 252.2(mL) | Date Analyzed: 12/05/2018 10:47

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*36.4*	*H*	*4.96*	1.98	*0.942*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*13.4*	*H M*	*6.94*	5.95	*2.68*
375-95-1	*Perfluorononanoic acid (PFNA)*	*1.67*	*J H*	*4.96*	0.991	*0.466*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*24.6*	*H*	*4.96*	1.98	*0.634*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*4.57*	*J H*	*4.96*	2.97	*1.29*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*4.08*	*J H*	*4.96*	1.98	*0.793*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	72		70-130
STL00996	13C2 PFDA	69	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-177 Lab Sample ID: 320-44774-14

Matrix: Water Lab File ID: 2018.11.15_537AA_041.d

Analysis Method: 537 Date Collected: 10/30/2018 10:35

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 279(mL) Date Analyzed: 11/15/2018 19:42

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	U M	4.48	1.79	0.851
335-67-1	Perfluorooctanoic acid (PFOA)	5.38	U M Q	6.27	5.38	2.42
375-95-1	Perfluorononanoic acid (PFNA)	0.896	U Q	4.48	0.896	0.421
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	U Q	4.48	1.79	0.573
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.69	U M Q	4.48	2.69	1.16
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	U Q	4.48	1.79	0.717

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	107		70-130
STL00996	13C2 PFDA	106		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-177 RE Lab Sample ID: 320-44774-14 RE

Matrix: Water Lab File ID: 2018.12.05_537A_033.d

Analysis Method: 537 Date Collected: 10/30/2018 10:35

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 252.3(mL) Date Analyzed: 12/05/2018 10:54

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.98*	*U H*	*4.95*	1.98	*0.941*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.95*	*U H M*	*6.94*	5.95	*2.68*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.991*	*U H M*	*4.95*	0.991	*0.466*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.98*	*U H*	*4.95*	1.98	*0.634*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.97*	*U H M*	*4.95*	2.97	*1.29*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.98*	*U H*	*4.95*	1.98	*0.793*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	92		70-130
STL00996	13C2 PFDA	102		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3118 | Lab Sample ID: 320-44774-15

Matrix: Water | Lab File ID: 2018.11.15_537AA_042.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:10

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 266.9(mL) | Date Analyzed: 11/15/2018 19:50

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	21.2		4.68	1.87	0.890
335-67-1	Perfluorooctanoic acid (PFOA)	14.1	M Q	6.56	5.62	2.53
375-95-1	Perfluorononanoic acid (PFNA)	2.20	J Q	4.68	0.937	0.440
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	8.30	Q	4.68	1.87	0.599
375-85-9	Perfluoroheptanoic acid (PFHpA)	5.18	Q	4.68	2.81	1.22
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.64	Q	4.68	1.87	0.749

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	61	Q	70-130
STL00996	13C2 PFDA	68	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3118 RE Lab Sample ID: 320-44774-15 RE

Matrix: Water Lab File ID: 2018.12.05_537A_034.d

Analysis Method: 537 Date Collected: 10/30/2018 11:10

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 258.9(mL) Date Analyzed: 12/05/2018 11:02

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*29.3*	*H*	*4.83*	1.93	*0.917*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*20.7*	*H M*	*6.76*	5.79	*2.61*
375-95-1	*Perfluorononanoic acid (PFNA)*	*3.31*	*J H*	*4.83*	0.966	*0.454*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*11.7*	*H*	*4.83*	1.93	*0.618*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*6.74*	*H*	*4.83*	2.90	*1.26*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*9.01*	*H*	*4.83*	1.93	*0.772*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	89		70-130
STL00996	13C2 PFDA	97		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3118 Lab Sample ID: 320-44774-16

Matrix: Water Lab File ID: 2018.11.15_537AA_045.d

Analysis Method: 537 Date Collected: 10/30/2018 11:05

Extraction Method: 537 Date Extracted: 11/12/2018 14:35

Sample wt/vol: 266.5(mL) Date Analyzed: 11/15/2018 20:12

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259489 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.88	U M	4.69	1.88	0.891
335-67-1	Perfluorooctanoic acid (PFOA)	5.63	U M Q	6.57	5.63	2.53
375-95-1	Perfluorononanoic acid (PFNA)	0.938	U Q	4.69	0.938	0.441
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.88	U Q	4.69	1.88	0.600
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.81	U Q	4.69	2.81	1.22
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.88	U Q	4.69	1.88	0.750

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	65	Q	70-130
STL00996	13C2 PFDA	75		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3118 RE Lab Sample ID: 320-44774-16 RE

Matrix: Water Lab File ID: 2018.12.05_537A_037.d

Analysis Method: 537 Date Collected: 10/30/2018 11:05

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 262(mL) Date Analyzed: 12/05/2018 11:24

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263193 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.91*	*U H*	*4.77*	1.91	*0.906*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.73*	*U H M*	*6.68*	5.73	*2.58*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.954*	*U H*	*4.77*	0.954	*0.448*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.91*	*U H*	*4.77*	1.91	*0.611*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.86*	*U H*	*4.77*	2.86	*1.24*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.91*	*U H*	*4.77*	1.91	*0.763*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	88		70-130
STL00996	13C2 PFDA	94		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-094 | Lab Sample ID: 320-44774-17

Matrix: Water | Lab File ID: 2018.11.15_537AA_048.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 263.3(mL) | Date Analyzed: 11/15/2018 20:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259491 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	12.1		4.75	1.90	0.902
335-67-1	Perfluorooctanoic acid (PFOA)	6.71	M Q	6.65	5.70	2.56
375-95-1	Perfluorononanoic acid (PFNA)	0.986	J Q	4.75	0.949	0.446
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	8.37	Q	4.75	1.90	0.608
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.28	J Q	4.75	2.85	1.23
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.40	J Q	4.75	1.90	0.760

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	49	Q	70-130
STL00996	13C2 PFDA	51	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-094 RE | Lab Sample ID: 320-44774-17 RE

Matrix: Water | Lab File ID: 2018.12.05_537A_040.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:40

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 266.9(mL) | Date Analyzed: 12/05/2018 11:47

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263195 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*22.3*	*H M*	*4.68*	1.87	*0.890*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*12.8*	*H M*	*6.56*	5.62	*2.53*
375-95-1	*Perfluorononanoic acid (PFNA)*	*1.70*	*J H*	*4.68*	0.937	*0.440*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*18.1*	*H*	*4.68*	1.87	*0.599*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*4.23*	*J H*	*4.68*	2.81	*1.22*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*4.13*	*J H*	*4.68*	1.87	*0.749*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	90		70-130
STL00996	13C2 PFDA	99		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-094 | Lab Sample ID: 320-44774-18

Matrix: Water | Lab File ID: 2018.11.15_537AA_049.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 271.6(mL) | Date Analyzed: 11/15/2018 20:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259491 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.84	U	4.60	1.84	0.874
335-67-1	Perfluorooctanoic acid (PFOA)	5.52	U M Q	6.44	5.52	2.49
375-95-1	Perfluorononanoic acid (PFNA)	0.920	U Q	4.60	0.920	0.433
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.84	U Q	4.60	1.84	0.589
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.76	U M Q	4.60	2.76	1.20
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.84	U Q	4.60	1.84	0.736

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	41	Q	70-130
STL00996	13C2 PFDA	49	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-094 RE | Lab Sample ID: 320-44774-18 RE

Matrix: Water | Lab File ID: 2018.12.05_537A_041.d

Analysis Method: 537 | Date Collected: 10/30/2018 11:35

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 259.9(mL) | Date Analyzed: 12/05/2018 11:54

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263195 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.92*	*U H*	*4.81*	1.92	*0.914*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.77*	*U H M*	*6.73*	5.77	*2.60*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.962*	*U H*	*4.81*	0.962	*0.452*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.92*	*U H*	*4.81*	1.92	*0.616*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.89*	*U H M*	*4.81*	2.89	*1.25*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.92*	*U H*	*4.81*	1.92	*0.770*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	86		70-130
STL00996	13C2 PFDA	97		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-127 Lab Sample ID: 320-44774-19

Matrix: Water Lab File ID: 2018.11.15_537AA_055.d

Analysis Method: 537 Date Collected: 10/30/2018 13:10

Extraction Method: 537 Date Extracted: 11/12/2018 14:43

Sample wt/vol: 249.9(mL) Date Analyzed: 11/15/2018 21:27

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U Q	5.00	2.00	0.950
335-67-1	Perfluorooctanoic acid (PFOA)	6.00	U M Q	7.00	6.00	2.70
375-95-1	Perfluorononanoic acid (PFNA)	1.00	U Q	5.00	1.00	0.470
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U M Q	5.00	2.00	0.640
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.00	U M Q	5.00	3.00	1.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.56	J Q	5.00	2.00	0.800

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	38	Q	70-130
STL00996	13C2 PFDA	46	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-127 RE Lab Sample ID: 320-44774-19 RE

Matrix: Water Lab File ID: 2018.12.05_537A_042.d

Analysis Method: 537 Date Collected: 10/30/2018 13:10

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 258.9(mL) Date Analyzed: 12/05/2018 12:02

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263195 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.77*	*J H*	*4.83*	1.93	*0.917*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*4.92*	*J H M*	*6.76*	5.79	*2.61*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.966*	*U H M*	*4.83*	0.966	*0.454*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.85*	*J H*	*4.83*	1.93	*0.618*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*3.36*	*J H*	*4.83*	2.90	*1.26*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*3.68*	*J H*	*4.83*	1.93	*0.772*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	101		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-127 | Lab Sample ID: 320-44774-20

Matrix: Water | Lab File ID: 2018.11.15_537AA_056.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:05

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 279.2(mL) | Date Analyzed: 11/15/2018 21:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	U Q	4.48	1.79	0.851
335-67-1	Perfluorooctanoic acid (PFOA)	5.37	U Q	6.27	5.37	2.42
375-95-1	Perfluorononanoic acid (PFNA)	0.895	U Q	4.48	0.895	0.421
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	U Q	4.48	1.79	0.573
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.69	U Q	4.48	2.69	1.16
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	U Q	4.48	1.79	0.716

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	32	Q	70-130
STL00996	13C2 PFDA	35	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-127 RE Lab Sample ID: 320-44774-20 RE

Matrix: Water Lab File ID: 2018.12.05_537A_043.d

Analysis Method: 537 Date Collected: 10/30/2018 13:05

Extraction Method: 537 Date Extracted: 11/30/2018 08:06

Sample wt/vol: 262.7(mL) Date Analyzed: 12/05/2018 12:09

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 263195 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.90*	*U H*	*4.76*	1.90	*0.904*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.71*	*U H M*	*6.66*	5.71	*2.57*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.952*	*U H*	*4.76*	0.952	*0.447*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.90*	*U H*	*4.76*	1.90	*0.609*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.85*	*U H*	*4.76*	2.85	*1.24*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.90*	*U H*	*4.76*	1.90	*0.761*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	96		70-130
STL00996	13C2 PFDA	104		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-141 Lab Sample ID: 320-44774-21

Matrix: Water Lab File ID: 2018.11.15_537AA_057.d

Analysis Method: 537 Date Collected: 10/30/2018 13:40

Extraction Method: 537 Date Extracted: 11/12/2018 14:43

Sample wt/vol: 276(mL) Date Analyzed: 11/15/2018 21:42

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	16.1	Q	4.53	1.81	0.861
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	M Q	6.34	5.43	2.45
375-95-1	Perfluorononanoic acid (PFNA)	1.34	J Q	4.53	0.906	0.426
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	9.38	Q	4.53	1.81	0.580
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.65	Q	4.53	2.72	1.18
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.00	Q	4.53	1.81	0.725

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	66	Q	70-130
STL00996	13C2 PFDA	71		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-RW-141 RE | Lab Sample ID: 320-44774-21 RE

Matrix: Water | Lab File ID: 2018.12.03_537A_016.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:40

Extraction Method: 537 | Date Extracted: 11/30/2018 08:13

Sample wt/vol: 264.3(mL) | Date Analyzed: 12/03/2018 18:58

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*21.6*	*H*	*4.73*	1.89	*0.899*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*15.5*	*M H*	*6.62*	5.68	*2.55*
375-95-1	*Perfluorononanoic acid (PFNA)*	*2.19*	*J H*	*4.73*	0.946	*0.445*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*14.2*	*H*	*4.73*	1.89	*0.605*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*6.65*	*H*	*4.73*	2.84	*1.23*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*7.58*	*H*	*4.73*	1.89	*0.757*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	90		70-130
STL00996	13C2 PFDA	95		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-141 | Lab Sample ID: 320-44774-22

Matrix: Water | Lab File ID: 2018.11.15_537AA_058.d

Analysis Method: 537 | Date Collected: 10/30/2018 13:35

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 277(mL) | Date Analyzed: 11/15/2018 21:49

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.81	U M Q	4.51	1.81	0.857
335-67-1	Perfluorooctanoic acid (PFOA)	5.42	U M Q	6.32	5.42	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.903	U Q	4.51	0.903	0.424
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.81	U M Q	4.51	1.81	0.578
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.71	U M Q	4.51	2.71	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.81	U Q	4.51	1.81	0.722

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	57	Q	70-130
STL00996	13C2 PFDA	64	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: NAWC-103018-FRB-141 RE Lab Sample ID: 320-44774-22 RE

Matrix: Water Lab File ID: 2018.12.03_537A_017.d

Analysis Method: 537 Date Collected: 10/30/2018 13:35

Extraction Method: 537 Date Extracted: 11/30/2018 08:13

Sample wt/vol: 268.4(mL) Date Analyzed: 12/03/2018 19:05

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.86*	*U H*	*4.66*	1.86	*0.885*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.59*	*U M H*	*6.52*	5.59	*2.51*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.931*	*U M H*	*4.66*	0.931	*0.438*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.86*	*U H*	*4.66*	1.86	*0.596*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.79*	*U M H*	*4.66*	2.79	*1.21*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.86*	*U H*	*4.66*	1.86	*0.745*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	100		70-130
STL00996	13C2 PFDA	100		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-0335 | Lab Sample ID: 320-44774-23

Matrix: Water | Lab File ID: 2018.11.15_537AA_059.d

Analysis Method: 537 | Date Collected: 10/30/2018 14:40

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 278.8(mL) | Date Analyzed: 11/15/2018 21:57

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	12.6	M Q	4.48	1.79	0.852
335-67-1	Perfluorooctanoic acid (PFOA)	10.7	M Q	6.28	5.38	2.42
375-95-1	Perfluorononanoic acid (PFNA)	1.69	J Q	4.48	0.897	0.421
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.99	J Q	4.48	1.79	0.574
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.62	J M Q	4.48	2.69	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.65	J Q	4.48	1.79	0.717

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	32	Q	70-130
STL00996	13C2 PFDA	64	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-0335 RE | Lab Sample ID: 320-44774-23 RE

Matrix: Water | Lab File ID: 2018.12.03_537A_018.d

Analysis Method: 537 | Date Collected: 10/30/2018 14:40

Extraction Method: 537 | Date Extracted: 11/30/2018 08:13

Sample wt/vol: 264(mL) | Date Analyzed: 12/03/2018 19:12

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*21.4*	*H*	*4.73*	1.89	*0.900*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*22.6*	*M H*	*6.63*	5.68	*2.56*
375-95-1	*Perfluorononanoic acid (PFNA)*	*2.84*	*J H*	*4.73*	0.947	*0.445*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*6.89*	*M H*	*4.73*	1.89	*0.606*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*6.61*	*H*	*4.73*	2.84	*1.23*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*9.08*	*H*	*4.73*	1.89	*0.758*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	92		70-130
STL00996	13C2 PFDA	99		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-0335 Lab Sample ID: 320-44774-24

Matrix: Water Lab File ID: 2018.11.15_537AA_060.d

Analysis Method: 537 Date Collected: 10/30/2018 14:35

Extraction Method: 537 Date Extracted: 11/12/2018 14:43

Sample wt/vol: 277.1(mL) Date Analyzed: 11/15/2018 22:04

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.80	U M Q	4.51	1.80	0.857
335-67-1	Perfluorooctanoic acid (PFOA)	5.41	U Q	6.32	5.41	2.44
375-95-1	Perfluorononanoic acid (PFNA)	0.902	U Q	4.51	0.902	0.424
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.80	U Q	4.51	1.80	0.577
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.71	U Q	4.51	2.71	1.17
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.80	U Q	4.51	1.80	0.722

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	43	Q	70-130
STL00996	13C2 PFDA	46	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-0335 RE Lab Sample ID: 320-44774-24 RE

Matrix: Water Lab File ID: 2018.12.03_537A_019.d

Analysis Method: 537 Date Collected: 10/30/2018 14:35

Extraction Method: 537 Date Extracted: 11/30/2018 08:13

Sample wt/vol: 264(mL) Date Analyzed: 12/03/2018 19:20

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.89*	*U H*	*4.73*	1.89	*0.900*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.68*	*U M H*	*6.63*	5.68	*2.56*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.947*	*U H*	*4.73*	0.947	*0.445*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.89*	*U H*	*4.73*	1.89	*0.606*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.84*	*U M H*	*4.73*	2.84	*1.23*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.89*	*U H*	*4.73*	1.89	*0.758*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	88		70-130
STL00996	13C2 PFDA	99		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3882 Lab Sample ID: 320-44774-25

Matrix: Water Lab File ID: 2018.11.15_537AA_061.d

Analysis Method: 537 Date Collected: 10/30/2018 15:40

Extraction Method: 537 Date Extracted: 11/12/2018 14:43

Sample wt/vol: 247.4(mL) Date Analyzed: 11/15/2018 22:11

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	8.58	M Q	5.05	2.02	0.960
335-67-1	Perfluorooctanoic acid (PFOA)	6.06	U M Q	7.07	6.06	2.73
375-95-1	Perfluorononanoic acid (PFNA)	1.01	U M Q	5.05	1.01	0.475
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.88	J Q	5.05	2.02	0.647
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.48	J Q	5.05	3.03	1.31
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.20	J Q	5.05	2.02	0.808

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	26	Q	70-130
STL00996	13C2 PFDA	28	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-RW-3882 RE Lab Sample ID: 320-44774-25 RE

Matrix: Water Lab File ID: 2018.12.03_537A_020.d

Analysis Method: 537 Date Collected: 10/30/2018 15:40

Extraction Method: 537 Date Extracted: 11/30/2018 08:13

Sample wt/vol: 243.4(mL) Date Analyzed: 12/03/2018 19:27

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 14(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*28.3*	*H*	*5.14*	2.05	*0.976*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*8.50*	*M H*	*7.19*	6.16	*2.77*
375-95-1	*Perfluorononanoic acid (PFNA)*	*2.02*	*J H*	*5.14*	1.03	*0.483*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*10.4*	*H*	*5.14*	2.05	*0.657*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*4.21*	*J H*	*5.14*	3.08	*1.34*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*4.54*	*J H*	*5.14*	2.05	*0.822*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	96		70-130
STL00996	13C2 PFDA	105		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3882 Lab Sample ID: 320-44774-26

Matrix: Water Lab File ID: 2018.11.15_537AA_064.d

Analysis Method: 537 Date Collected: 10/30/2018 15:35

Extraction Method: 537 Date Extracted: 11/12/2018 14:43

Sample wt/vol: 285.6(mL) Date Analyzed: 11/15/2018 22:34

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259574 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.75	U Q	4.38	1.75	0.832
335-67-1	Perfluorooctanoic acid (PFOA)	5.25	U M Q	6.13	5.25	2.36
375-95-1	Perfluorononanoic acid (PFNA)	0.875	U Q	4.38	0.875	0.411
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.75	U M Q	4.38	1.75	0.560
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.63	U Q	4.38	2.63	1.14
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.75	U Q	4.38	1.75	0.700

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	32	Q	70-130
STL00996	13C2 PFDA	32	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-FRB-3882 RE | Lab Sample ID: 320-44774-26 RE

Matrix: Water | Lab File ID: 2018.12.03_537A_021.d

Analysis Method: 537 | Date Collected: 10/30/2018 15:35

Extraction Method: 537 | Date Extracted: 11/30/2018 08:13

Sample wt/vol: 261.9(mL) | Date Analyzed: 12/03/2018 19:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*1.91*	*U H*	*4.77*	1.91	*0.907*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*5.73*	*U M H*	*6.68*	5.73	*2.58*
375-95-1	*Perfluorononanoic acid (PFNA)*	*0.955*	*U M H*	*4.77*	0.955	*0.449*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*1.91*	*U H*	*4.77*	1.91	*0.611*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*2.86*	*U M H*	*4.77*	2.86	*1.24*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*1.91*	*U H*	*4.77*	1.91	*0.764*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	92		70-130
STL00996	13C2 PFDA	94		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-DUP-50 Lab Sample ID: 320-44774-27

Matrix: Water Lab File ID: 2018.11.15_537AA_065.d

Analysis Method: 537 Date Collected: 10/30/2018 07:00

Extraction Method: 537 Date Extracted: 11/12/2018 14:43

Sample wt/vol: 261.3(mL) Date Analyzed: 11/15/2018 22:41

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 259574 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	24.8	M Q	4.78	1.91	0.909
335-67-1	Perfluorooctanoic acid (PFOA)	8.46	M Q	6.70	5.74	2.58
375-95-1	Perfluorononanoic acid (PFNA)	1.21	J Q	4.78	0.957	0.450
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15.2	Q	4.78	1.91	0.612
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.88	J M Q	4.78	2.87	1.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.36	J Q	4.78	1.91	0.765

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	43	Q	70-130
STL00996	13C2 PFDA	45	Q	70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: WGNA-103018-DUP-50 RE | Lab Sample ID: 320-44774-27 RE

Matrix: Water | Lab File ID: 2018.12.03_537A_022.d

Analysis Method: 537 | Date Collected: 10/30/2018 07:00

Extraction Method: 537 | Date Extracted: 11/30/2018 08:13

Sample wt/vol: 241.3(mL) | Date Analyzed: 12/03/2018 19:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*29.9*	*H*	*5.18*	2.07	*0.984*
335-67-1	*Perfluorooctanoic acid (PFOA)*	*11.0*	*M H*	*7.25*	6.22	*2.80*
375-95-1	*Perfluorononanoic acid (PFNA)*	*1.71*	*J H*	*5.18*	1.04	*0.487*
355-46-4	*Perfluorohexanesulfonic acid (PFHxS)*	*22.0*	*H*	*5.18*	2.07	*0.663*
375-85-9	*Perfluoroheptanoic acid (PFHpA)*	*4.28*	*J H*	*5.18*	3.11	*1.35*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*3.55*	*J H*	*5.18*	2.07	*0.829*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	60	Q	70-130
STL00996	13C2 PFDA	54	Q	70-130

Appendix C

Support Documentation

ANALYTE	ORIGINAL 103018-RW-177	DUPLICATE 103018-DUP-50	RL	RPD	RPD > 30% Aqueous	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2XRL
PENTADECAFLUOROOCTANOIC ACID (PFOA)	10.7	8.46	6.69	23.38	FALSE	FALSE	FALSE	FALSE
PERFLUOROBUTANESULFONIC ACID (PFBS)	2.49	2.36	4.78	5.36	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEPTANOIC ACID (PFHPA)	4.32	2.88	4.78	40.00	TRUE	FALSE	FALSE	FALSE
PERFLUOROHEXANESULFONIC ACID (PFHXS)	19.4	15.2	4.78	24.28	FALSE	TRUE	TRUE	FALSE
PERFLUORONONANOIC ACID (PFNA)	0.955	1.21	4.78	23.56	FALSE	FALSE	FALSE	FALSE
PERFLUOROOCTANESULFONIC ACID (PFOS)	33.7	24.8	4.78	30.43	TRUE	TRUE	TRUE	FALSE

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605-1500
phone 916.373.5600 fax 303.467.7248

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

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

Client Contact	Project Manager: Andy Frebowitz	Site Contact: Mary Kay Bond	Date: 10/30/2018	COC No:
TetraTech	Tel/Fax: 610.382.2920	Lab Contact: Dave Ailtucker	Carrier: FedEx	1 of 1 COCs
234 Mall Boulevard Suite 260	Analysis Turnaround Time			Sampler: Mary Kay Bond
King of Prussia, PA 19406	☐CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
610-382-2924	TAT if different from Below 21			Walk-in:
610-491-9688	☑ 2 weeks			Lab ng:
Project Name: WE04	☐ 1 week			
Site: WE04	☐ 2 days			COC No.:
P O # 1132358 (through EarthToxics)	☐ 1 day			

320-44774 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y / N)	EPA 537 UCMR3	Sample Specific Notes:
WGNA-103018-RW-3136	10/30/2018	07:40	G	DW	2	N	N	Y	
WGNA-103018-FRB-3136	10/30/2018	07:35	G	DW	2	N	N	Y	Field Reagent Blank
NAWC-103018-RW-061	10/30/2018	08:10	G	DW	2	N	N	Y	
NAWC-103018-FRB-061	10/30/2018	08:05	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-RW-3103	10/30/2018	08:40	G	DW	2	N	N	Y	
WGNA-103018-FRB-3103	10/30/2018	08:35	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-RW-3325	10/30/2018	09:10	G	DW	2	N	N	Y	
WGNA-103018-FRB-3325	10/30/2018	09:05	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-RW-3493	10/30/2018	09:40	G	DW	2	N	N	Y	
WGNA-103018-FRB-3493	10/30/2018	09:35	G	DW	2	N	N	Y	Field Reagent Blank
NAWC-103018-RW-138	10/30/2018	10:10	G	DW	2	N	N	Y	
NAWC-103018-FRB-138	10/30/2018	10:05	G	DW	2	N	N	Y	Field Reagent Blank
NAWC-103018-RW-177	10/30/2018	10:40	G	DW	2	N	N	Y	
NAWC-103018-FRB-177	10/30/2018	10:35	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-RW-3118	10/30/2018	11:10	G	DW	6	N	Y	Y	
WGNA-103018-FRB-3118	10/30/2018	11:05	G	DW	2	N	N	Y	Field Reagent Blank
NAWC-103018-RW-094	10/30/2018	11:40	G	DW	2	N	N	Y	
NAWC-103018-FRB-094	10/30/2018	11:35	G	DW	2	N	N	Y	Field Reagent Blank
NAWC-103018-RW-127	10/30/2018	13:10	G	DW	2	N	N	Y	
NAWC-103018-FRB-127	10/30/2018	13:05	G	DW	2	N	N	Y	Field Reagent Blank
NAWC-103018-RW-141	10/30/2018	13:40	G	DW	2	N	N	Y	
NAWC-103018-FRB-141	10/30/2018	13:35	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-RW-0335	10/30/2018	14:40	G	DW	2	N	N	Y	
WGNA-103018-FRB-0335	10/30/2018	14:35	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-RW-3882	10/30/2018	15:40	G	DW	2	N	N	Y	
WGNA-103018-FRB-3882	10/30/2018	15:35	G	DW	2	N	N	Y	Field Reagent Blank
WGNA-103018-DUP-50	10/30/2018	07:00	G	DW	2	N	N	Y	Field Reagent Blank
								6	

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 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: 7735 9279 2606

0.8°C 0.8°C AK-3
0.3 Corr
0.1 0.8 AK-6

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:	Corr'd: 0.1	Therm ID No.: 0.8 AK-6
Relinquished by: Mary Kay Bond	Company: Tetra Tech	Date/Time: 10/30/2018 16:00	Received by:	Company: TA-Sac	Date/Time: 10-31-18 940
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

S:\WillowGrove PFOs Private Well\COCs TT\COC 20181030.xls

Form No. CA-C-WI-002, Rev. 4.11, dated 1/24/2017

Labeled WGNA-103018-RW-141 / WGNA-103018-FRB-141

Job Narrative
320-44774-1

Receipt
The samples were received on 10/31/2018 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 0.8º C.

Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): NAWC-103018-RW-141 (320-44774-21) and NAWC-103018-FRB-141 (320-44774-22). Sample#21 container label list WGNA-103018-RW-141, while COC list NAWC-103018-RW-141. Sample#22 container label list WGNA-103018-FRB-141, while COC list NAWC-103018-FRB-141. Labeled according to COC.

LCMS
Method(s) 537: The first level standard from the initial calibration curve is used to evaluate the tune criteria. The instrument mass windows are set at +/- 0.5amu; therefore, detection of the analyte serves as verification that the assigned mass is within +/- 0.5amu of the true value, which meets the DoD/DOE QSM tune criterion.

Method(s) 537: Surrogate recovery for the following sample was outside control limits: WGNA-103018-DUP-50 (320-44774-27). Re-extraction and re-analysis was performed with concurring results. Both sets of data are reported.

Method(s) 537: The laboratory control sample duplicate (LCSD) for preparation batch 320-258698 and analytical batch 320-259573 recovered outside control limits for all the target analytes. The failing LCSD caused the RPD between the LCS and LCSD to also be out of control. The associated samples were re-prepared and re-analyzed outside holding time. Both sets of data have been reported.

Method(s) 537: Surrogate recovery for the following samples was outside control limits: NAWC-103018-RW-127 (320-44774-19), NAWC-103018-FRB-127 (320-44774-20), NAWC-103018-RW-141 (320-44774-21), NAWC-103018-FRB-141 (320-44774-22), WGNA-103018-RW-0335 (320-44774-23), WGNA-103018-FRB-0335 (320-44774-24), WGNA-103018-RW-3882 (320-44774-25), WGNA-103018-FRB-3882 (320-44774-26), WGNA-103018-DUP-50 (320-44774-27), (LCSD 320-258698/3-A) and (MB 320-258698/1-A). Re-extraction and re-analysis was performed outside of holding time and the surrogate recoveries were within limits. Both sets of data have been reported..

Method(s) 537: Internal standard (ISTD) response for the following samples was outside control limits: NAWC-103018-RW-141 (320-44774-21), WGNA-103018-RW-0335 (320-44774-23), WGNA-103018-FRB-0335 (320-44774-24) and WGNA-103018-FRB-3882 (320-44774-26). The samples were re-extracted and re-analyzed outside of holding time and the ISTD response was within limits. Both sets of data have been reported.

Method(s) 537: The laboratory control sample (LCS) for preparation batch 320-258695 and analytical batch 320-259487 recovered outside control limits for several analytes. The associated samples were re-prepared outside holding time. Both sets of data have been reported.

Method(s) 537: Surrogate recovery for the following samples was outside control limits: WGNA-103018-RW-3136 (320-44774-1), WGNA-103018-FRB-3136 (320-44774-2), NAWC-103018-RW-061 (320-44774-3), WGNA-103018-RW-3103 (320-44774-5), WGNA-103018-FRB-3103 (320-44774-6), WGNA-103018-RW-3325 (320-44774-7), WGNA-103018-RW-3493 (320-44774-9), WGNA-103018-FRB-3493 (320-44774-10), NAWC-103018-RW-138 (320-44774-11), NAWC-103018-FRB-138 (320-44774-12), WGNA-103018-RW-3118 (320-44774-15), WGNA-103018-FRB-3118 (320-44774-16), NAWC-103018-RW-094 (320-44774-17), NAWC-103018-FRB-094 (320-44774-18), (LLCS 320-258695/2-A), (MB 320-258695/1-A) and (320-44774-B-15-C LMSD). Re-extraction and re-analysis was performed outside of holding time with surrogate recoveries within control limits. Both sets of data have been reported.

Method(s) 537: Internal standard (ISTD) response for the following samples was outside control limits: NAWC-103018-RW-061 (320-44774-3), NAWC-103018-FRB-061 (320-44774-4), WGNA-103018-FRB-3103 (320-44774-6), WGNA-103018-FRB-3325 (320-44774-8), NAWC-103018-FRB-177 (320-44774-14), NAWC-103018-FRB-094 (320-44774-18) and (320-44774-B-15-C LMSD). The samples were re-extracted and re-analyzed outside of holding time with the ISTD response within control limits. Both sets of data have been reported.

Method(s) 537: Surrogate recovery for the following sample was outside control limits: NAWC-103018-RW-177 (320-44774-13). Re-extraction and re-analysis was performed outside holding time with improved surrogate recovery; however, 13C2 PFDA was still below control limits. Both sets of data were reported.

Method(s) 537: The matrix spike duplicate (MSD) recoveries preparation batch 320-258695 and analytical batch 320-259489 were outside control limits. The MS and MSD RPD was also outside of control limits. The samples were re-extracted and re-analyzed outside of holding time and the MS/MSD recoveries and RPD were in control. Both sets of data were reported.

Method(s) 537: The concentration of Perfluorooctanesulfonic acid (PFOS) and/or Perfluorooctanoic acid (PFOA) in the parent sample was greater than four times the matrix spike / matrix spike duplicate (MS/MSD) concentration for preparation batch 320-258695 and analytical

batch 320-259489; therefore, the MS/MSD could not be evaluated for accuracy and precision for these analytes. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 537: Surrogate recovery for the following sample was outside control limits: NAWC-103018-RW-177 (320-44774-13). Re-analysis was performed with concurring results. 13C2 PFDA was also outside control limits in the original extraction and both sets of data were reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 537: The following sample was observed to have brown particulates floating around. NAWC-103018-RW-177 (320-44774-13)

Method(s) 537: The following sample: WGNA-103018-RW-3118 (320-44774-15) in preparation batch 320-262122 was observed to contain blue color sediment prior to extraction.

Method(s) 537: The following sample was observed to have brown particulates floating around. WGNA-103018-DUP-50 (320-44774-27)

Method(s) 537: The following samples were re-prepared outside of preparation holding time due to low LCS and surrogate recoveries: WGNA-103018-RW-3136 (320-44774-1), WGNA-103018-FRB-3136 (320-44774-2), NAWC-103018-RW-061 (320-44774-3), NAWC-103018-FRB-061 (320-44774-4), WGNA-103018-RW-3103 (320-44774-5), WGNA-103018-FRB-3103 (320-44774-6), WGNA-103018-RW-3325 (320-44774-7), WGNA-103018-FRB-3325 (320-44774-8), WGNA-103018-RW-3493 (320-44774-9), WGNA-103018-FRB-3493 (320-44774-10), NAWC-103018-RW-138 (320-44774-11), NAWC-103018-FRB-138 (320-44774-12), NAWC-103018-RW-177 (320-44774-13), NAWC-103018-FRB-177 (320-44774-14), WGNA-103018-RW-3118 (320-44774-15), WGNA-103018-RW-3118 (320-44774-15[MS]), WGNA-103018-RW-3118 (320-44774-15[MSD]), WGNA-103018-FRB-3118 (320-44774-16), NAWC-103018-RW-094 (320-44774-17), NAWC-103018-FRB-094 (320-44774-18), NAWC-103018-RW-127 (320-44774-19) and NAWC-103018-FRB-127 (320-44774-20) in preparation batch 320-262122.

Method(s) 537: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 320-262132.

Method(s) 537: The following samples were re-prepared outside of preparation holding time due to low LCS and surrogate recoveries: NAWC-103018-RW-141 (320-44774-21), NAWC-103018-FRB-141 (320-44774-22), WGNA-103018-RW-0335 (320-44774-23), WGNA-103018-FRB-0335 (320-44774-24), WGNA-103018-RW-3882 (320-44774-25), WGNA-103018-FRB-3882 (320-44774-26) and WGNA-103018-DUP-50 (320-44774-27) in preparation batch 320-262132.

Method(s) 537: Due to having non-settleable particulate matter in the sample: NAWC-103018-RW-177 (320-44774-13) in preparation batch 320-262122, it ended up plugging the solid phase extraction disk. The amount of sample remaining is recorded in the "Notes" field of the prep batch. The "Tare Weight" recorded is the weight of the emptied bottle. The reporting limits (RLs) have been adjusted proportionately.

Method(s) 537: Due to having non-settleable particulate matter in the sample: WGNA-103018-DUP-50 (320-44774-27) in preparation batch 320-262132, it ended up plugging the solid phase extraction disk. The amount of sample remaining is recorded in the "Notes" field of the prep batch. The "Tare Weight" recorded is the weight of the emptied bottle. The reporting limits (RLs) have been adjusted proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Tetra Tech, Inc. TestAmerica Job ID: 320-44774-1
Project/Site: Warminster: PFAS, NAS JRB Willow Grove

Qualifiers

LCMS

Qualifier	Qualifier Description
Q	One or more quality control criteria failed.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: Tetra Tech, Inc. TestAmerica Job ID: 320-44774-1
Project/Site: Warminster: PFAS, NAS JRB Willow Grove

Method	Method Description	Protocol	Laboratory
537	Perfluorinated Alkyl Acids (LC/MS)	EPA	TAL SAC
537	Extraction of Perfluorinated Alkyl Acids	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Tetra Tech, Inc. TestAmerica Job ID: 320-44774-1
Project/Site: Warminster: PFAS, NAS JRB Willow Grove

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-44774-1	WGNA-103018-RW-3136	Water	10/30/18 07:40	10/31/18 09:40
320-44774-2	WGNA-103018-FRB-3136	Water	10/30/18 07:35	10/31/18 09:40
320-44774-3	NAWC-103018-RW-061	Water	10/30/18 08:10	10/31/18 09:40
320-44774-4	NAWC-103018-FRB-061	Water	10/30/18 08:05	10/31/18 09:40
320-44774-5	WGNA-103018-RW-3103	Water	10/30/18 08:40	10/31/18 09:40
320-44774-6	WGNA-103018-FRB-3103	Water	10/30/18 08:35	10/31/18 09:40
320-44774-7	WGNA-103018-RW-3325	Water	10/30/18 09:10	10/31/18 09:40
320-44774-8	WGNA-103018-FRB-3325	Water	10/30/18 09:05	10/31/18 09:40
320-44774-9	WGNA-103018-RW-3493	Water	10/30/18 09:40	10/31/18 09:40
320-44774-10	WGNA-103018-FRB-3493	Water	10/30/18 09:35	10/31/18 09:40
320-44774-11	NAWC-103018-RW-138	Water	10/30/18 10:10	10/31/18 09:40
320-44774-12	NAWC-103018-FRB-138	Water	10/30/18 10:05	10/31/18 09:40
320-44774-13	NAWC-103018-RW-177	Water	10/30/18 10:40	10/31/18 09:40
320-44774-14	NAWC-103018-FRB-177	Water	10/30/18 10:35	10/31/18 09:40
320-44774-15	WGNA-103018-RW-3118	Water	10/30/18 11:10	10/31/18 09:40
320-44774-16	WGNA-103018-FRB-3118	Water	10/30/18 11:05	10/31/18 09:40
320-44774-17	NAWC-103018-RW-094	Water	10/30/18 11:40	10/31/18 09:40
320-44774-18	NAWC-103018-FRB-094	Water	10/30/18 11:35	10/31/18 09:40
320-44774-19	NAWC-103018-RW-127	Water	10/30/18 13:10	10/31/18 09:40
320-44774-20	NAWC-103018-FRB-127	Water	10/30/18 13:05	10/31/18 09:40
320-44774-21	NAWC-103018-RW-141	Water	10/30/18 13:40	10/31/18 09:40
320-44774-22	NAWC-103018-FRB-141	Water	10/30/18 13:35	10/31/18 09:40
320-44774-23	WGNA-103018-RW-0335	Water	10/30/18 14:40	10/31/18 09:40
320-44774-24	WGNA-103018-FRB-0335	Water	10/30/18 14:35	10/31/18 09:40
320-44774-25	WGNA-103018-RW-3882	Water	10/30/18 15:40	10/31/18 09:40
320-44774-26	WGNA-103018-FRB-3882	Water	10/30/18 15:35	10/31/18 09:40
320-44774-27	WGNA-103018-DUP-50	Water	10/30/18 07:00	10/31/18 09:40

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFHxA	#	PFDA	#
WGNA-103018-RW-3136	320-44774-1	66	Q	71	
WGNA-103018-RW-3136 RE	320-44774-1 RE	92		100	
WGNA-103018-FRB-3136	320-44774-2	31	Q	31	Q
WGNA-103018-FRB-3136 RE	320-44774-2 RE	93		100	
NAWC-103018-RW-061	320-44774-3	42	Q	91	
NAWC-103018-RW-061 RE	320-44774-3 RE	93		98	
NAWC-103018-FRB-061	320-44774-4	70		75	
NAWC-103018-FRB-061 RE	320-44774-4 RE	94		101	
WGNA-103018-RW-3103	320-44774-5	62	Q	63	Q
WGNA-103018-RW-3103 RE	320-44774-5 RE	95		103	
WGNA-103018-FRB-3103	320-44774-6	52	Q	63	Q
WGNA-103018-FRB-3103 RE	320-44774-6 RE	102		104	
WGNA-103018-RW-3325	320-44774-7	34	Q	39	Q
WGNA-103018-RW-3325 RE	320-44774-7 RE	90		98	
WGNA-103018-FRB-3325	320-44774-8	86		92	
WGNA-103018-FRB-3325 RE	320-44774-8 RE	99		104	
WGNA-103018-RW-3493	320-44774-9	18	Q	23	Q
WGNA-103018-RW-3493 RE	320-44774-9 RE	93		98	
WGNA-103018-FRB-3493	320-44774-10	33	Q	41	Q
WGNA-103018-FRB-3493 RE	320-44774-10 RE	108		104	
NAWC-103018-RW-138	320-44774-11	28	Q	31	Q
NAWC-103018-RW-138 RE	320-44774-11 RE	96		107	
NAWC-103018-FRB-138	320-44774-12	34	Q	38	Q
NAWC-103018-FRB-138 RE	320-44774-12 RE	97		107	
NAWC-103018-RW-177	320-44774-13	48	Q	59	Q

	QC LIMITS
PFHxA = 13C2 PFHxA	70-130
PFDA = 13C2 PFDA	70-130

Column to be used to flag recovery values

FORM II 537

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFHxA	#	PFDA	#
NAWC-103018-RW-177 RE	320-44774-13 RE	72		69	Q
NAWC-103018-FRB-17 7	320-44774-14	107		106	
NAWC-103018-FRB-17 7 RE	320-44774-14 RE	92		102	
WGNA-103018-RW-311 8	320-44774-15	61	Q	68	Q
WGNA-103018-RW-311 8 RE	320-44774-15 RE	89		97	
WGNA-103018-FRB-31 18	320-44774-16	65	Q	75	
WGNA-103018-FRB-31 18 RE	320-44774-16 RE	88		94	
NAWC-103018-RW-094	320-44774-17	49	Q	51	Q
NAWC-103018-RW-094 RE	320-44774-17 RE	90		99	
NAWC-103018-FRB-09 4	320-44774-18	41	Q	49	Q
NAWC-103018-FRB-09 4 RE	320-44774-18 RE	86		97	
NAWC-103018-RW-127	320-44774-19	38	Q	46	Q
NAWC-103018-RW-127 RE	320-44774-19 RE	95		101	
NAWC-103018-FRB-12 7	320-44774-20	32	Q	35	Q
NAWC-103018-FRB-12 7 RE	320-44774-20 RE	96		104	
NAWC-103018-RW-141	320-44774-21	66	Q	71	
NAWC-103018-RW-141 RE	320-44774-21 RE	90		95	
NAWC-103018-FRB-14 1	320-44774-22	57	Q	64	Q
NAWC-103018-FRB-14 1 RE	320-44774-22 RE	100		100	
WGNA-103018-RW-033 5	320-44774-23	32	Q	64	Q
WGNA-103018-RW-033 5 RE	320-44774-23 RE	92		99	
WGNA-103018-FRB-03 35	320-44774-24	43	Q	46	Q
WGNA-103018-FRB-03 35 RE	320-44774-24 RE	88		99	
WGNA-103018-RW-388 2	320-44774-25	26	Q	28	Q
WGNA-103018-RW-388 2 RE	320-44774-25 RE	96		105	

	QC LIMITS
PFHxA = 13C2 PFHxA	70-130
PFDA = 13C2 PFDA	70-130

Column to be used to flag recovery values

FORM II 537

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFHxA	#	PFDA	#
WGNA-103018-FRB-3882	320-44774-26	32	Q	32	Q
WGNA-103018-FRB-3882 RE	320-44774-26 RE	92		94	
WGNA-103018-DUP-50	320-44774-27	43	Q	45	Q
WGNA-103018-DUP-50 RE	320-44774-27 RE	60	Q	54	Q
	MB 320-258695/1-A	57	Q	63	Q
	MB 320-258698/1-A	49	Q	52	Q
	MB 320-262122/1-A	95		102	
	MB 320-262132/1-A	95		100	
	LCS 320-258698/2-A	85		89	
	LCS 320-262122/2-A	96		99	
	LCS 320-262132/2-A	94		98	
	LCSD 320-258698/3-A	26	Q	37	Q
	LCSD 320-262132/3-A	84		95	
	LLCS 320-258695/2-A	32	Q	38	Q
WGNA-103018-RW-3118 MS RE	320-44774-15 MS RE	97		90	
WGNA-103018-RW-3118 MSD RE	320-44774-15 MSD RE	91		95	
WGNA-103018-RW-3118 LMS	320-44774-15 LMS	81		89	
WGNA-103018-RW-3118 LMSD	320-44774-15 LMSD	41	Q	45	Q

	QC LIMITS
PFHxA = 13C2 PFHxA	70-130
PFDA = 13C2 PFDA	70-130

Column to be used to flag recovery values

FORM II 537

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.11.15_537AA_053.d

Lab ID: LCS 320-258698/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	92.8	80.39	87	70-130	
Perfluorooctanoic acid (PFOA)	100	87.96	88	70-130	
Perfluorononanoic acid (PFNA)	100	91.31	91	70-130	
Perfluorohexanesulfonic acid (PFHxS)	91.0	73.81	81	70-130	
Perfluoroheptanoic acid (PFHpA)	100	84.39	84	70-130	
Perfluorobutanesulfonic acid (PFBS)	88.4	74.53	84	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.12.05_537A_017.d

Lab ID: LCS 320-262122/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	92.8	89.36	96	70-130	
Perfluorooctanoic acid (PFOA)	100	96.46	96	70-130	
Perfluorononanoic acid (PFNA)	100	98.10	98	70-130	
Perfluorohexanesulfonic acid (PFHxS)	91.0	92.93	102	70-130	
Perfluoroheptanoic acid (PFHpA)	100	86.51	87	70-130	
Perfluorobutanesulfonic acid (PFBS)	88.4	86.94	98	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.12.03_537A_014.d

Lab ID: LCS 320-262132/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	186	165.1	89	70-130	
Perfluorooctanoic acid (PFOA)	200	175.1	87	70-130	
Perfluorononanoic acid (PFNA)	200	209.3	105	70-130	
Perfluorohexanesulfonic acid (PFHxS)	182	165.4	91	70-130	
Perfluoroheptanoic acid (PFHpA)	200	169.7	85	70-130	
Perfluorobutanesulfonic acid (PFBS)	177	168.8	95	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.11.15_537AA_054.d

Lab ID: LCSD 320-258698/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	92.8	32.06	35	86	30	70-130	Q
Perfluorooctanoic acid (PFOA)	100	30.09	30	98	30	70-130	Q
Perfluorononanoic acid (PFNA)	100	30.30	30	100	30	70-130	Q
Perfluorohexanesulfonic acid (PFHxS)	91.0	25.48	28	97	30	70-130	Q
Perfluoroheptanoic acid (PFHpA)	100	27.07	27	103	30	70-130	Q
Perfluorobutanesulfonic acid (PFBS)	88.4	23.02	26	106	30	70-130	Q

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.12.03_537A_015.d

Lab ID: LCSD 320-262132/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	186	165.4	89	0	30	70-130	
Perfluorooctanoic acid (PFOA)	200	170.7	85	3	30	70-130	
Perfluorononanoic acid (PFNA)	200	182.2	91	14	30	70-130	
Perfluorohexanesulfonic acid (PFHxS)	182	169.8	93	3	30	70-130	
Perfluoroheptanoic acid (PFHpA)	200	168.9	84	1	30	70-130	
Perfluorobutanesulfonic acid (PFBS)	177	156.0	88	8	30	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LOW LEVEL CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.11.15_537AA_025.d

Lab ID: LLCS 320-258695/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LLCS CONCENTRATION (ng/L)	LLCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	3.71	2.183 J	59	50-150	
Perfluorooctanoic acid (PFOA)	4.00	6.00 U	34	50-150	Q
Perfluorononanoic acid (PFNA)	4.00	1.350 J	34	50-150	Q
Perfluorohexanesulfonic acid (PFHxS)	3.64	1.450 J	40	50-150	Q
Perfluoroheptanoic acid (PFHpA)	4.00	3.00 U	28	50-150	Q
Perfluorobutanesulfonic acid (PFBS)	3.54	1.267 J	36	50-150	Q

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.12.05_537A_035.d

Lab ID: 320-44774-15 MS RE Client ID: WGNA-103018-RW-3118 MS RE

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	89.1	29.3	108.1	88	70-130	H
Perfluorooctanoic acid (PFOA)	96.1	20.7	111.8	95	70-130	H M
Perfluorononanoic acid (PFNA)	96.0	3.31 J	93.27	94	70-130	H
Perfluorohexanesulfonic acid (PFHxS)	87.4	11.7	93.82	94	70-130	H
Perfluoroheptanoic acid (PFHpA)	96.0	6.74	95.56	93	70-130	H
Perfluorobutanesulfonic acid (PFBS)	84.9	9.01	95.49	102	70-130	H

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.12.05_537A_036.d

Lab ID: 320-44774-15 MSD RE Client ID: WGNA-103018-RW-3118 MSD RE

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	93.6	117.3	94	8	30	70-130	H
Perfluorooctanoic acid (PFOA)	101	113.2	92	1	30	70-130	H M
Perfluorononanoic acid (PFNA)	101	95.86	92	3	30	70-130	H
Perfluorohexanesulfonic acid (PFHxS)	91.8	102.0	98	8	30	70-130	H M
Perfluoroheptanoic acid (PFHpA)	101	96.34	89	1	30	70-130	H
Perfluorobutanesulfonic acid (PFBS)	89.2	99.57	102	4	30	70-130	H

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LOW LEVEL MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.11.15_537AA_043.d

Lab ID: 320-44774-15 LMS Client ID: WGNA-103018-RW-3118 LMS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	LMS CONCENTRATION (ng/L)	LMS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	3.23	21.2	29.22	249	50-150	4
Perfluorooctanoic acid (PFOA)	3.49	14.1	20.51	184	50-150	M 4
Perfluorononanoic acid (PFNA)	3.49	2.20 J	5.341	90	50-150	
Perfluorohexanesulfonic acid (PFHxS)	3.17	8.30	12.66	138	50-150	
Perfluoroheptanoic acid (PFHpA)	3.49	5.18	8.373	92	50-150	
Perfluorobutanesulfonic acid (PFBS)	3.08	5.64	9.658	131	50-150	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LOW LEVEL MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2018.11.15_537AA_044.d

Lab ID: 320-44774-15 LMSD Client ID: WGNA-103018-RW-3118 LMSD

COMPOUND	SPIKE ADDED (ng/L)	LMSD CONCENTRATION (ng/L)	LMSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	3.28	15.83	-162	59	50	50-150	M 4
Perfluorooctanoic acid (PFOA)	3.54	11.10	-84	60	50	50-150	M J1
Perfluorononanoic acid (PFNA)	3.53	3.257 J	30	48	50	50-150	J1
Perfluorohexanesulfonic acid (PFHxS)	3.22	6.619	-52	63	50	50-150	J1
Perfluoroheptanoic acid (PFHpA)	3.53	4.222 J	-27	66	50	50-150	J1
Perfluorobutanesulfonic acid (PFBS)	3.12	5.153	-15	61	50	50-150	J1

Column to be used to flag recovery and RPD values

FORM III 537

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab File ID: 2018.11.15_537AA_024.d Lab Sample ID: MB 320-258695/1-A

Matrix: Water Date Extracted: 11/12/2018 14:35

Instrument ID: A8_N Date Analyzed: 11/15/2018 17:36

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LLCS 320-258695/2-A	2018.11.15_537AA_025.d	11/15/2018 17:43
WGNA-103018-RW-3136	320-44774-1	2018.11.15_537AA_026.d	11/15/2018 17:51
WGNA-103018-FRB-3136	320-44774-2	2018.11.15_537AA_027.d	11/15/2018 17:58
NAWC-103018-RW-061	320-44774-3	2018.11.15_537AA_028.d	11/15/2018 18:06
NAWC-103018-FRB-061	320-44774-4	2018.11.15_537AA_029.d	11/15/2018 18:13
WGNA-103018-RW-3103	320-44774-5	2018.11.15_537AA_030.d	11/15/2018 18:20
WGNA-103018-FRB-3103	320-44774-6	2018.11.15_537AA_031.d	11/15/2018 18:28
WGNA-103018-RW-3325	320-44774-7	2018.11.15_537AA_032.d	11/15/2018 18:35
WGNA-103018-FRB-3325	320-44774-8	2018.11.15_537AA_033.d	11/15/2018 18:43
WGNA-103018-RW-3493	320-44774-9	2018.11.15_537AA_036.d	11/15/2018 19:05
WGNA-103018-FRB-3493	320-44774-10	2018.11.15_537AA_037.d	11/15/2018 19:13
NAWC-103018-RW-138	320-44774-11	2018.11.15_537AA_038.d	11/15/2018 19:20
NAWC-103018-FRB-138	320-44774-12	2018.11.15_537AA_039.d	11/15/2018 19:27
NAWC-103018-RW-177	320-44774-13	2018.11.15_537AA_040.d	11/15/2018 19:35
NAWC-103018-FRB-177	320-44774-14	2018.11.15_537AA_041.d	11/15/2018 19:42
WGNA-103018-RW-3118	320-44774-15	2018.11.15_537AA_042.d	11/15/2018 19:50
WGNA-103018-RW-3118 LMS	320-44774-15 LMS	2018.11.15_537AA_043.d	11/15/2018 19:57
WGNA-103018-RW-3118 LMSD	320-44774-15 LMSD	2018.11.15_537AA_044.d	11/15/2018 20:05
WGNA-103018-FRB-3118	320-44774-16	2018.11.15_537AA_045.d	11/15/2018 20:12
NAWC-103018-RW-094	320-44774-17	2018.11.15_537AA_048.d	11/15/2018 20:35
NAWC-103018-FRB-094	320-44774-18	2018.11.15_537AA_049.d	11/15/2018 20:42

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-258695/1-A

Matrix: Water | Lab File ID: 2018.11.15_537AA_024.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 11/12/2018 14:35

Sample wt/vol: 250(mL) | Date Analyzed: 11/15/2018 17:36

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259487 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	5.00	2.00	0.950
335-67-1	Perfluorooctanoic acid (PFOA)	6.00	U	7.00	6.00	2.70
375-95-1	Perfluorononanoic acid (PFNA)	1.00	U	5.00	1.00	0.470
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U	5.00	2.00	0.640
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.00	U	5.00	3.00	1.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	5.00	2.00	0.800

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	57	Q	70-130
STL00996	13C2 PFDA	63	Q	70-130

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab File ID: 2018.11.15_537AA_052.d Lab Sample ID: MB 320-258698/1-A

Matrix: Water Date Extracted: 11/12/2018 14:43

Instrument ID: A8_N Date Analyzed: 11/15/2018 21:04

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-258698/2-A	2018.11.15_537AA_053.d	11/15/2018 21:12
	LCSD 320-258698/3-A	2018.11.15_537AA_054.d	11/15/2018 21:19
NAWC-103018-RW-127	320-44774-19	2018.11.15_537AA_055.d	11/15/2018 21:27
NAWC-103018-FRB-127	320-44774-20	2018.11.15_537AA_056.d	11/15/2018 21:34
NAWC-103018-RW-141	320-44774-21	2018.11.15_537AA_057.d	11/15/2018 21:42
NAWC-103018-FRB-141	320-44774-22	2018.11.15_537AA_058.d	11/15/2018 21:49
WGNA-103018-RW-0335	320-44774-23	2018.11.15_537AA_059.d	11/15/2018 21:57
WGNA-103018-FRB-0335	320-44774-24	2018.11.15_537AA_060.d	11/15/2018 22:04
WGNA-103018-RW-3882	320-44774-25	2018.11.15_537AA_061.d	11/15/2018 22:11
WGNA-103018-FRB-3882	320-44774-26	2018.11.15_537AA_064.d	11/15/2018 22:34
WGNA-103018-DUP-50	320-44774-27	2018.11.15_537AA_065.d	11/15/2018 22:41

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-258698/1-A

Matrix: Water | Lab File ID: 2018.11.15_537AA_052.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 11/12/2018 14:43

Sample wt/vol: 250(mL) | Date Analyzed: 11/15/2018 21:04

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 259573 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	5.00	2.00	0.950
335-67-1	Perfluorooctanoic acid (PFOA)	6.00	U	7.00	6.00	2.70
375-95-1	Perfluorononanoic acid (PFNA)	1.00	U	5.00	1.00	0.470
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U	5.00	2.00	0.640
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.00	U	5.00	3.00	1.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	5.00	2.00	0.800

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	49	Q	70-130
STL00996	13C2 PFDA	52	Q	70-130

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab File ID: 2018.12.05_537A_016.d Lab Sample ID: MB 320-262122/1-A

Matrix: Water Date Extracted: 11/30/2018 08:06

Instrument ID: A8_N Date Analyzed: 12/05/2018 08:48

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-262122/2-A	2018.12.05_537A_017.d	12/05/2018 08:55
WGNA-103018-RW-3136 RE	320-44774-1 RE	2018.12.05_537A_018.d	12/05/2018 09:03
WGNA-103018-FRB-3136 RE	320-44774-2 RE	2018.12.05_537A_019.d	12/05/2018 09:10
NAWC-103018-RW-061 RE	320-44774-3 RE	2018.12.05_537A_020.d	12/05/2018 09:18
NAWC-103018-FRB-061 RE	320-44774-4 RE	2018.12.05_537A_021.d	12/05/2018 09:25
WGNA-103018-RW-3103 RE	320-44774-5 RE	2018.12.05_537A_022.d	12/05/2018 09:32
WGNA-103018-FRB-3103 RE	320-44774-6 RE	2018.12.05_537A_023.d	12/05/2018 09:40
WGNA-103018-RW-3325 RE	320-44774-7 RE	2018.12.05_537A_024.d	12/05/2018 09:47
WGNA-103018-FRB-3325 RE	320-44774-8 RE	2018.12.05_537A_025.d	12/05/2018 09:55
WGNA-103018-RW-3493 RE	320-44774-9 RE	2018.12.05_537A_028.d	12/05/2018 10:17
WGNA-103018-FRB-3493 RE	320-44774-10 RE	2018.12.05_537A_029.d	12/05/2018 10:25
NAWC-103018-RW-138 RE	320-44774-11 RE	2018.12.05_537A_030.d	12/05/2018 10:32
NAWC-103018-FRB-138 RE	320-44774-12 RE	2018.12.05_537A_031.d	12/05/2018 10:39
NAWC-103018-RW-177 RE	320-44774-13 RE	2018.12.05_537A_032.d	12/05/2018 10:47
NAWC-103018-FRB-177 RE	320-44774-14 RE	2018.12.05_537A_033.d	12/05/2018 10:54
WGNA-103018-RW-3118 RE	320-44774-15 RE	2018.12.05_537A_034.d	12/05/2018 11:02
WGNA-103018-RW-3118 MS RE	320-44774-15 MS RE	2018.12.05_537A_035.d	12/05/2018 11:09
WGNA-103018-RW-3118 MSD RE	320-44774-15 MSD RE	2018.12.05_537A_036.d	12/05/2018 11:17
WGNA-103018-FRB-3118 RE	320-44774-16 RE	2018.12.05_537A_037.d	12/05/2018 11:24
NAWC-103018-RW-094 RE	320-44774-17 RE	2018.12.05_537A_040.d	12/05/2018 11:47
NAWC-103018-FRB-094 RE	320-44774-18 RE	2018.12.05_537A_041.d	12/05/2018 11:54
NAWC-103018-RW-127 RE	320-44774-19 RE	2018.12.05_537A_042.d	12/05/2018 12:02

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab File ID: 2018.12.05_537A_016.d Lab Sample ID: MB 320-262122/1-A

Matrix: Water Date Extracted: 11/30/2018 08:06

Instrument ID: A8_N Date Analyzed: 12/05/2018 08:48

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
NAWC-103018-FRB-127 RE	320-44774-20 RE	2018.12.05_537A_043.d	12/05/2018 12:09

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-262122/1-A

Matrix: Water | Lab File ID: 2018.12.05_537A_016.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 11/30/2018 08:06

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/05/2018 08:48

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 263191 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	5.00	2.00	0.950
335-67-1	Perfluorooctanoic acid (PFOA)	6.00	U	7.00	6.00	2.70
375-95-1	Perfluorononanoic acid (PFNA)	1.00	U	5.00	1.00	0.470
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U	5.00	2.00	0.640
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.00	U	5.00	3.00	1.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	5.00	2.00	0.800

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	102		70-130

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab File ID: 2018.12.03_537A_013.d Lab Sample ID: MB 320-262132/1-A

Matrix: Water Date Extracted: 11/30/2018 08:13

Instrument ID: A8_N Date Analyzed: 12/03/2018 18:35

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-262132/2-A	2018.12.03_537A_014.d	12/03/2018 18:43
	LCSD 320-262132/3-A	2018.12.03_537A_015.d	12/03/2018 18:50
NAWC-103018-RW-141 RE	320-44774-21 RE	2018.12.03_537A_016.d	12/03/2018 18:58
NAWC-103018-FRB-141 RE	320-44774-22 RE	2018.12.03_537A_017.d	12/03/2018 19:05
WGNA-103018-RW-0335 RE	320-44774-23 RE	2018.12.03_537A_018.d	12/03/2018 19:12
WGNA-103018-FRB-0335 RE	320-44774-24 RE	2018.12.03_537A_019.d	12/03/2018 19:20
WGNA-103018-RW-3882 RE	320-44774-25 RE	2018.12.03_537A_020.d	12/03/2018 19:27
WGNA-103018-FRB-3882 RE	320-44774-26 RE	2018.12.03_537A_021.d	12/03/2018 19:35
WGNA-103018-DUP-50 RE	320-44774-27 RE	2018.12.03_537A_022.d	12/03/2018 19:42

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-44774-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-262132/1-A

Matrix: Water | Lab File ID: 2018.12.03_537A_013.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 11/30/2018 08:13

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/03/2018 18:35

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 14(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 262816 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	5.00	2.00	0.950
335-67-1	Perfluorooctanoic acid (PFOA)	6.00	U	7.00	6.00	2.70
375-95-1	Perfluorononanoic acid (PFNA)	1.00	U	5.00	1.00	0.470
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U	5.00	2.00	0.640
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.00	U	5.00	3.00	1.30
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	5.00	2.00	0.800

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	100		70-130

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Calibration Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3(mm) Calibration End Date: 11/14/2018 16:18

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		2143224	3.19	1685078	3.57		
UPPER LIMIT		3214836	3.69	2527617	4.07		
LOWER LIMIT		1071612	2.69	842539	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 320-259204/10		2247447	3.17	1692246	3.56		
ICV 320-259204/12		2119637	3.19	1739951	3.57		
CCVL 320-259483/1		1949396	3.24	1646261	3.62		
CCV 320-259487/19 CCVIS		1909890	3.19	1666808	3.57		
MB 320-258695/1-A		1844499	3.19	1406507	3.57		
LLCS 320-258695/2-A		1989862	3.19	1490565	3.57		
320-44774-1	WGNA-103018-RW-3136	1455121	3.19	1265471	3.57		
320-44774-2	WGNA-103018-FRB-3136	2111745	3.17	1676420	3.56		
320-44774-3	NAWC-103018-RW-061	2905611Q	3.17	2368944Q	3.56		
320-44774-4	NAWC-103018-FRB-061	1443403	3.17	1076085Q	3.57		
320-44774-5	WGNA-103018-RW-3103	1950794	3.17	1492276	3.56		
320-44774-6	WGNA-103018-FRB-3103	2922805Q	3.17	2311312	3.56		
320-44774-7	WGNA-103018-RW-3325	1602576	3.17	1371193	3.56		
320-44774-8	WGNA-103018-FRB-3325	1313077Q	3.17	1107102Q	3.56		
CCV 320-259487/31 CCVIS		1952944	3.17	1554807	3.56		
CCV 320-259489/31 CCVIS		1952944	3.17	1554807	3.56		
320-44774-9	WGNA-103018-RW-3493	2460974	3.17	2136045	3.56		
320-44774-10	WGNA-103018-FRB-3493	1696121	3.17	1450681	3.56		
320-44774-11	NAWC-103018-RW-138	2193142	3.17	1795923	3.56		
320-44774-12	NAWC-103018-FRB-138	1771844	3.16	1535167	3.55		
320-44774-13	NAWC-103018-RW-177	1422315	3.19	1125751	3.57		
320-44774-14	NAWC-103018-FRB-177	757322Q	3.17	668597Q	3.57		
320-44774-15	WGNA-103018-RW-3118	1670775	3.19	1391917	3.57		
320-44774-15 LMS	WGNA-103018-RW-3118 LMS	1601478	3.14	1287708	3.53		
320-44774-15 LMSD	WGNA-103018-RW-3118 LMSD	4227828Q	3.16	3416458Q	3.54		
320-44774-16	WGNA-103018-FRB-3118	1972755	3.17	1625074	3.56		
CCV 320-259489/43 CCVIS		1775765	3.17	1348817	3.56		

13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Calibration Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3(mm) Calibration End Date: 11/14/2018 16:18

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		2143224	3.19	1685078	3.57		
UPPER LIMIT		3214836	3.69	2527617	4.07		
LOWER LIMIT		1071612	2.69	842539	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 320-259491/43 CCVIS		1775765	3.17	1348817	3.56		
320-44774-17	NAWC-103018-RW-094	2292328	3.17	1873036	3.56		
320-44774-18	NAWC-103018-FRB-094	2432027	3.19	1950720Q	3.57		
CCV 320-259491/47 CCVIS		1649275	3.17	1312995	3.56		
CCV 320-259573/47 CCVIS		1649275	3.17	1312995	3.56		
MB 320-258698/1-A		1218355	3.17	978463	3.57		
LCS 320-258698/2-A		1082391	3.16	920805	3.54		
LCSD 320-258698/3-A		2341394	3.17	1862882	3.56		
320-44774-19	NAWC-103018-RW-127	1848150	3.16	1357475	3.55		
320-44774-20	NAWC-103018-FRB-127	1778470	3.17	1380251	3.56		
320-44774-21	NAWC-103018-RW-141	2172633	3.17	1868563Q	3.56		
320-44774-22	NAWC-103018-FRB-141	1432192	3.17	1245927	3.56		
320-44774-23	WGNA-103018-RW-0335	3064439Q	3.17	2370053Q	3.56		
320-44774-24	WGNA-103018-FRB-0335	2350887Q	3.17	1762699	3.56		
320-44774-25	WGNA-103018-RW-3882	1901618	3.16	1636453	3.54		
CCV 320-259573/59 CCVIS		1606775	3.17	1371604	3.56		
CCV 320-259574/59 CCVIS		1606775	3.17	1371604	3.56		
320-44774-26	WGNA-103018-FRB-3882	2469525Q	3.17	1948752Q	3.56		
320-44774-27	WGNA-103018-DUP-50	2215040	3.17	1831818	3.56		
CCV 320-259574/63 CCVIS		1696836	3.16	1391887	3.54		

13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259487/19 Date Analyzed: 11/15/2018 17:21

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_02 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1909890	3.19	1666808	3.57		
UPPER LIMIT		2673846	3.69	2333531	4.07		
LOWER LIMIT		1336923	2.69	1166766	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-258695/1-A		1844499	3.19	1406507	3.57		
LLCS 320-258695/2-A		1989862	3.19	1490565	3.57		
320-44774-1	WGNA-103018-RW-3136	1455121	3.19	1265471	3.57		
320-44774-2	WGNA-103018-FRB-3136	2111745	3.17	1676420	3.56		
320-44774-3	NAWC-103018-RW-061	2905611Q	3.17	2368944Q	3.56		
320-44774-4	NAWC-103018-FRB-061	1443403	3.17	1076085Q	3.57		
320-44774-5	WGNA-103018-RW-3103	1950794	3.17	1492276	3.56		
320-44774-6	WGNA-103018-FRB-3103	2922805Q	3.17	2311312	3.56		
320-44774-7	WGNA-103018-RW-3325	1602576	3.17	1371193	3.56		
320-44774-8	WGNA-103018-FRB-3325	1313077Q	3.17	1107102Q	3.56		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259487/31 Date Analyzed: 11/15/2018 18:50

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_03 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1952944	3.17	1554807	3.56		
UPPER LIMIT		2734122	3.67	2176730	4.06		
LOWER LIMIT		1367061	2.67	1088365	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-258695/1-A		1844499	3.19	1406507	3.57		
LLCS 320-258695/2-A		1989862	3.19	1490565	3.57		
320-44774-1	WGNA-103018-RW-3136	1455121	3.19	1265471	3.57		
320-44774-2	WGNA-103018-FRB-3136	2111745	3.17	1676420	3.56		
320-44774-3	NAWC-103018-RW-061	2905611Q	3.17	2368944Q	3.56		
320-44774-4	NAWC-103018-FRB-061	1443403	3.17	1076085Q	3.57		
320-44774-5	WGNA-103018-RW-3103	1950794	3.17	1492276	3.56		
320-44774-6	WGNA-103018-FRB-3103	2922805Q	3.17	2311312	3.56		
320-44774-7	WGNA-103018-RW-3325	1602576	3.17	1371193	3.56		
320-44774-8	WGNA-103018-FRB-3325	1313077Q	3.17	1107102Q	3.56		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259489/31 Date Analyzed: 11/15/2018 18:50

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_03 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1952944	3.17	1554807	3.56		
UPPER LIMIT		2734122	3.67	2176730	4.06		
LOWER LIMIT		1367061	2.67	1088365	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-9	WGNA-103018-RW-3493	2460974	3.17	2136045	3.56		
320-44774-10	WGNA-103018-FRB-3493	1696121	3.17	1450681	3.56		
320-44774-11	NAWC-103018-RW-138	2193142	3.17	1795923	3.56		
320-44774-12	NAWC-103018-FRB-138	1771844	3.16	1535167	3.55		
320-44774-13	NAWC-103018-RW-177	1422315	3.19	1125751	3.57		
320-44774-14	NAWC-103018-FRB-177	757322Q	3.17	668597Q	3.57		
320-44774-15	WGNA-103018-RW-3118	1670775	3.19	1391917	3.57		
320-44774-15 LMS	WGNA-103018-RW-3118 LMS	1601478	3.14	1287708	3.53		
320-44774-15 LMSD	WGNA-103018-RW-3118 LMSD	4227828Q	3.16	3416458Q	3.54		
320-44774-16	WGNA-103018-FRB-3118	1972755	3.17	1625074	3.56		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259489/43 Date Analyzed: 11/15/2018 20:20

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_04 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1775765	3.17	1348817	3.56		
UPPER LIMIT		2486071	3.67	1888344	4.06		
LOWER LIMIT		1243036	2.67	944172	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-9	WGNA-103018-RW-3493	2460974	3.17	2136045	3.56		
320-44774-10	WGNA-103018-FRB-3493	1696121	3.17	1450681	3.56		
320-44774-11	NAWC-103018-RW-138	2193142	3.17	1795923	3.56		
320-44774-12	NAWC-103018-FRB-138	1771844	3.16	1535167	3.55		
320-44774-13	NAWC-103018-RW-177	1422315	3.19	1125751	3.57		
320-44774-14	NAWC-103018-FRB-177	757322Q	3.17	668597Q	3.57		
320-44774-15	WGNA-103018-RW-3118	1670775	3.19	1391917	3.57		
320-44774-15 LMS	WGNA-103018-RW-3118 LMS	1601478	3.14	1287708	3.53		
320-44774-15 LMSD	WGNA-103018-RW-3118 LMSD	4227828Q	3.16	3416458Q	3.54		
320-44774-16	WGNA-103018-FRB-3118	1972755	3.17	1625074	3.56		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259491/43 Date Analyzed: 11/15/2018 20:20

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_04 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1775765	3.17	1348817	3.56		
UPPER LIMIT		2486071	3.67	1888344	4.06		
LOWER LIMIT		1243036	2.67	944172	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-17	NAWC-103018-RW-094	2292328	3.17	1873036	3.56		
320-44774-18	NAWC-103018-FRB-094	2432027	3.19	1950720Q	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259491/47 Date Analyzed: 11/15/2018 20:50

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_05 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1649275	3.17	1312995	3.56		
UPPER LIMIT		2308985	3.67	1838193	4.06		
LOWER LIMIT		1154493	2.67	919097	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-17	NAWC-103018-RW-094	2292328	3.17	1873036	3.56		
320-44774-18	NAWC-103018-FRB-094	2432027	3.19	1950720Q	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259573/47 Date Analyzed: 11/15/2018 20:50

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_05 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1649275	3.17	1312995	3.56		
UPPER LIMIT		2308985	3.67	1838193	4.06		
LOWER LIMIT		1154493	2.67	919097	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-258698/1-A		1218355	3.17	978463	3.57		
LCS 320-258698/2-A		1082391	3.16	920805	3.54		
LCSD 320-258698/3-A		2341394	3.17	1862882	3.56		
320-44774-19	NAWC-103018-RW-127	1848150	3.16	1357475	3.55		
320-44774-20	NAWC-103018-FRB-127	1778470	3.17	1380251	3.56		
320-44774-21	NAWC-103018-RW-141	2172633	3.17	1868563Q	3.56		
320-44774-22	NAWC-103018-FRB-141	1432192	3.17	1245927	3.56		
320-44774-23	WGNA-103018-RW-0335	3064439Q	3.17	2370053Q	3.56		
320-44774-24	WGNA-103018-FRB-0335	2350887Q	3.17	1762699	3.56		
320-44774-25	WGNA-103018-RW-3882	1901618	3.16	1636453	3.54		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259573/59 Date Analyzed: 11/15/2018 22:19

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_06 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1606775	3.17	1371604	3.56		
UPPER LIMIT		2249485	3.67	1920246	4.06		
LOWER LIMIT		1124743	2.67	960123	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-258698/1-A		1218355	3.17	978463	3.57		
LCS 320-258698/2-A		1082391	3.16	920805	3.54		
LCSD 320-258698/3-A		2341394	3.17	1862882	3.56		
320-44774-19	NAWC-103018-RW-127	1848150	3.16	1357475	3.55		
320-44774-20	NAWC-103018-FRB-127	1778470	3.17	1380251	3.56		
320-44774-21	NAWC-103018-RW-141	2172633	3.17	1868563Q	3.56		
320-44774-22	NAWC-103018-FRB-141	1432192	3.17	1245927	3.56		
320-44774-23	WGNA-103018-RW-0335	3064439Q	3.17	2370053Q	3.56		
320-44774-24	WGNA-103018-FRB-0335	2350887Q	3.17	1762699	3.56		
320-44774-25	WGNA-103018-RW-3882	1901618	3.16	1636453	3.54		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259574/59 Date Analyzed: 11/15/2018 22:19

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_06 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1606775	3.17	1371604	3.56		
UPPER LIMIT		2249485	3.67	1920246	4.06		
LOWER LIMIT		1124743	2.67	960123	3.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-26	WGNA-103018-FRB-3882	2469525Q	3.17	1948752Q	3.56		
320-44774-27	WGNA-103018-DUP-50	2215040	3.17	1831818	3.56		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-259574/63 Date Analyzed: 11/15/2018 22:49

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.11.15_537AA_06 Heated Purge: (Y/N) N

Calibration ID: 42213

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1696836	3.16	1391887	3.54		
UPPER LIMIT		2375570	3.66	1948642	4.04		
LOWER LIMIT		1187785	2.66	974321	3.04		
LAB SAMPLE ID	CLIENT SAMPLE ID				140%		
320-44774-26	WGNA-103018-FRB-3882	2469525Q	3.17	1948752Q	3.56		
320-44774-27	WGNA-103018-DUP-50	2215040	3.17	1831818	3.56		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Calibration Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3(mm) Calibration End Date: 11/28/2018 13:51

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		3424979	3.19	2530065	3.59		
UPPER LIMIT		5137469	3.69	3795098	4.09		
LOWER LIMIT		1712490	2.69	1265033	3.09		
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 320-261708/10		3361485	3.19	2496845	3.57		
ICV 320-261708/12		3358714	3.20	2579571	3.59		
CCVL 320-262743/1		3465917	3.20	2524367	3.59		
CCV 320-262816/8 CCVIS		3297128	3.19	2374658	3.59		
MB 320-262132/1-A		3711253	3.20	2751273	3.59		
LCS 320-262132/2-A		3771104	3.19	2714734	3.57		
LCSD 320-262132/3-A		3812437	3.19	2673655	3.58		
320-44774-21 RE	NAWC-103018-RW-141 RE	3758847	3.19	2817283	3.57		
320-44774-22 RE	NAWC-103018-FRB-141 RE	3682874	3.17	2766606	3.57		
320-44774-23 RE	WGNA-103018-RW-0335 RE	3769753	3.17	2721232	3.58		
320-44774-24 RE	WGNA-103018-FRB-0335 RE	3884253	3.19	2803757	3.57		
320-44774-25 RE	WGNA-103018-RW-3882 RE	3649257	3.19	2781200	3.57		
320-44774-26 RE	WGNA-103018-FRB-3882 RE	3838012	3.19	2678034	3.57		
320-44774-27 RE	WGNA-103018-DUP-50 RE	3781554	3.19	2768672	3.57		
CCV 320-262816/20 CCVIS		3365294	3.19	2420397	3.57		
CCVL 320-263056/1		3470248	3.20	2421481	3.59		
CCV 320-263191/11 CCVIS		3404044	3.19	2677885	3.57		
MB 320-262122/1-A		3648218	3.19	2735029	3.57		
LCS 320-262122/2-A		3714549	3.17	2668642	3.57		
320-44774-1 RE	WGNA-103018-RW-3136 RE	3793430	3.17	2811470	3.57		
320-44774-2 RE	WGNA-103018-FRB-3136 RE	3659271	3.19	2881326	3.57		
320-44774-3 RE	NAWC-103018-RW-061 RE	3925563	3.19	2827766	3.58		
320-44774-4 RE	NAWC-103018-FRB-061 RE	3795158	3.19	2774168	3.57		
320-44774-5 RE	WGNA-103018-RW-3103 RE	3796178	3.19	2827444	3.57		

13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Calibration Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3(mm) Calibration End Date: 11/28/2018 13:51

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		3424979	3.19	2530065	3.59		
UPPER LIMIT		5137469	3.69	3795098	4.09		
LOWER LIMIT		1712490	2.69	1265033	3.09		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-6 RE	WGNA-103018-FRB-3103 RE	3540650	3.19	2743743	3.57		
320-44774-7 RE	WGNA-103018-RW-3325 RE	3828358	3.19	2727248	3.57		
320-44774-8 RE	WGNA-103018-FRB-3325 RE	3682923	3.19	2749715	3.57		
CCV 320-263191/23 CCVIS		3528135	3.19	2505709	3.57		
CCV 320-263193/23 CCVIS		3528135	3.19	2505709	3.57		
320-44774-9 RE	WGNA-103018-RW-3493 RE	3790141	3.19	2697356	3.57		
320-44774-10 RE	WGNA-103018-FRB-3493 RE	3674049	3.19	2799336	3.57		
320-44774-11 RE	NAWC-103018-RW-138 RE	3617945	3.19	2799869	3.57		
320-44774-12 RE	NAWC-103018-FRB-138 RE	3636607	3.19	2826716	3.57		
320-44774-13 RE	NAWC-103018-RW-177 RE	3893283	3.19	2860956	3.59		
320-44774-14 RE	NAWC-103018-FRB-177 RE	3682945	3.19	2776796	3.57		
320-44774-15 RE	WGNA-103018-RW-3118 RE	3941381	3.19	2970081	3.57		
320-44774-15 MS RE	WGNA-103018-RW-3118 MS RE	3855320	3.19	2872355	3.57		
320-44774-15 MSD RE	WGNA-103018-RW-3118 MSD RE	3780222	3.19	2795163	3.57		
320-44774-16 RE	WGNA-103018-FRB-3118 RE	3966310	3.19	2783422	3.57		
CCV 320-263193/35 CCVIS		3545047	3.19	2590778	3.57		
CCV 320-263195/35 CCVIS		3545047	3.19	2590778	3.57		
320-44774-17 RE	NAWC-103018-RW-094 RE	3808665	3.19	2707427	3.59		
320-44774-18 RE	NAWC-103018-FRB-094 RE	3881014	3.19	2776720	3.57		
320-44774-19 RE	NAWC-103018-RW-127 RE	3756221	3.19	2739454	3.57		
320-44774-20 RE	NAWC-103018-FRB-127 RE	3555217	3.19	2765473	3.57		
CCV 320-263195/41 CCVIS		3325770	3.19	2474420	3.57		

13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-262816/8 Date Analyzed: 12/03/2018 18:20

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.03_537A_011 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3297128	3.19	2374658	3.59		
UPPER LIMIT		4615979	3.69	3324521	4.09		
LOWER LIMIT		2307990	2.69	1662261	3.09		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-262132/1-A		3711253	3.20	2751273	3.59		
LCS 320-262132/2-A		3771104	3.19	2714734	3.57		
LCSD 320-262132/3-A		3812437	3.19	2673655	3.58		
320-44774-21 RE	NAWC-103018-RW-141 RE	3758847	3.19	2817283	3.57		
320-44774-22 RE	NAWC-103018-FRB-141 RE	3682874	3.17	2766606	3.57		
320-44774-23 RE	WGNA-103018-RW-0335 RE	3769753	3.17	2721232	3.58		
320-44774-24 RE	WGNA-103018-FRB-0335 RE	3884253	3.19	2803757	3.57		
320-44774-25 RE	WGNA-103018-RW-3882 RE	3649257	3.19	2781200	3.57		
320-44774-26 RE	WGNA-103018-FRB-3882 RE	3838012	3.19	2678034	3.57		
320-44774-27 RE	WGNA-103018-DUP-50 RE	3781554	3.19	2768672	3.57		

13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-262816/20 Date Analyzed: 12/03/2018 19:50

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.03_537A_023 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3365294	3.19	2420397	3.57		
UPPER LIMIT		4711412	3.69	3388556	4.07		
LOWER LIMIT		2355706	2.69	1694278	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-262132/1-A		3711253	3.20	2751273	3.59		
LCS 320-262132/2-A		3771104	3.19	2714734	3.57		
LCSD 320-262132/3-A		3812437	3.19	2673655	3.58		
320-44774-21 RE	NAWC-103018-RW-141 RE	3758847	3.19	2817283	3.57		
320-44774-22 RE	NAWC-103018-FRB-141 RE	3682874	3.17	2766606	3.57		
320-44774-23 RE	WGNA-103018-RW-0335 RE	3769753	3.17	2721232	3.58		
320-44774-24 RE	WGNA-103018-FRB-0335 RE	3884253	3.19	2803757	3.57		
320-44774-25 RE	WGNA-103018-RW-3882 RE	3649257	3.19	2781200	3.57		
320-44774-26 RE	WGNA-103018-FRB-3882 RE	3838012	3.19	2678034	3.57		
320-44774-27 RE	WGNA-103018-DUP-50 RE	3781554	3.19	2768672	3.57		

13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-263191/11 Date Analyzed: 12/05/2018 08:33

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.04_537A_014 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3404044	3.19	2677885	3.57		
UPPER LIMIT		4765662	3.69	3749039	4.07		
LOWER LIMIT		2382831	2.69	1874520	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-262122/1-A		3648218	3.19	2735029	3.57		
LCS 320-262122/2-A		3714549	3.17	2668642	3.57		
320-44774-1 RE	WGNA-103018-RW-3136 RE	3793430	3.17	2811470	3.57		
320-44774-2 RE	WGNA-103018-FRB-3136 RE	3659271	3.19	2881326	3.57		
320-44774-3 RE	NAWC-103018-RW-061 RE	3925563	3.19	2827766	3.58		
320-44774-4 RE	NAWC-103018-FRB-061 RE	3795158	3.19	2774168	3.57		
320-44774-5 RE	WGNA-103018-RW-3103 RE	3796178	3.19	2827444	3.57		
320-44774-6 RE	WGNA-103018-FRB-3103 RE	3540650	3.19	2743743	3.57		
320-44774-7 RE	WGNA-103018-RW-3325 RE	3828358	3.19	2727248	3.57		
320-44774-8 RE	WGNA-103018-FRB-3325 RE	3682923	3.19	2749715	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-263191/23 Date Analyzed: 12/05/2018 10:02

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.05_537A_026 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3528135	3.19	2505709	3.57		
UPPER LIMIT		4939389	3.69	3507993	4.07		
LOWER LIMIT		2469695	2.69	1753996	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-262122/1-A		3648218	3.19	2735029	3.57		
LCS 320-262122/2-A		3714549	3.17	2668642	3.57		
320-44774-1 RE	WGNA-103018-RW-3136 RE	3793430	3.17	2811470	3.57		
320-44774-2 RE	WGNA-103018-FRB-3136 RE	3659271	3.19	2881326	3.57		
320-44774-3 RE	NAWC-103018-RW-061 RE	3925563	3.19	2827766	3.58		
320-44774-4 RE	NAWC-103018-FRB-061 RE	3795158	3.19	2774168	3.57		
320-44774-5 RE	WGNA-103018-RW-3103 RE	3796178	3.19	2827444	3.57		
320-44774-6 RE	WGNA-103018-FRB-3103 RE	3540650	3.19	2743743	3.57		
320-44774-7 RE	WGNA-103018-RW-3325 RE	3828358	3.19	2727248	3.57		
320-44774-8 RE	WGNA-103018-FRB-3325 RE	3682923	3.19	2749715	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-263193/23 Date Analyzed: 12/05/2018 10:02

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.05_537A_026 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3528135	3.19	2505709	3.57		
UPPER LIMIT		4939389	3.69	3507993	4.07		
LOWER LIMIT		2469695	2.69	1753996	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-9 RE	WGNA-103018-RW-3493 RE	3790141	3.19	2697356	3.57		
320-44774-10 RE	WGNA-103018-FRB-3493 RE	3674049	3.19	2799336	3.57		
320-44774-11 RE	NAWC-103018-RW-138 RE	3617945	3.19	2799869	3.57		
320-44774-12 RE	NAWC-103018-FRB-138 RE	3636607	3.19	2826716	3.57		
320-44774-13 RE	NAWC-103018-RW-177 RE	3893283	3.19	2860956	3.59		
320-44774-14 RE	NAWC-103018-FRB-177 RE	3682945	3.19	2776796	3.57		
320-44774-15 RE	WGNA-103018-RW-3118 RE	3941381	3.19	2970081	3.57		
320-44774-15 MS RE	WGNA-103018-RW-3118 MS RE	3855320	3.19	2872355	3.57		
320-44774-15 MSD RE	WGNA-103018-RW-3118 MSD RE	3780222	3.19	2795163	3.57		
320-44774-16 RE	WGNA-103018-FRB-3118 RE	3966310	3.19	2783422	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-263193/35 Date Analyzed: 12/05/2018 11:32

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.05_537A_038 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3545047	3.19	2590778	3.57		
UPPER LIMIT		4963066	3.69	3627089	4.07		
LOWER LIMIT		2481533	2.69	1813545	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-9 RE	WGNA-103018-RW-3493 RE	3790141	3.19	2697356	3.57		
320-44774-10 RE	WGNA-103018-FRB-3493 RE	3674049	3.19	2799336	3.57		
320-44774-11 RE	NAWC-103018-RW-138 RE	3617945	3.19	2799869	3.57		
320-44774-12 RE	NAWC-103018-FRB-138 RE	3636607	3.19	2826716	3.57		
320-44774-13 RE	NAWC-103018-RW-177 RE	3893283	3.19	2860956	3.59		
320-44774-14 RE	NAWC-103018-FRB-177 RE	3682945	3.19	2776796	3.57		
320-44774-15 RE	WGNA-103018-RW-3118 RE	3941381	3.19	2970081	3.57		
320-44774-15 MS RE	WGNA-103018-RW-3118 MS RE	3855320	3.19	2872355	3.57		
320-44774-15 MSD RE	WGNA-103018-RW-3118 MSD RE	3780222	3.19	2795163	3.57		
320-44774-16 RE	WGNA-103018-FRB-3118 RE	3966310	3.19	2783422	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS
PFOS = 13C4 PFOS
Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-263195/35 Date Analyzed: 12/05/2018 11:32

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.05_537A_038 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3545047	3.19	2590778	3.57		
UPPER LIMIT		4963066	3.69	3627089	4.07		
LOWER LIMIT		2481533	2.69	1813545	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-17 RE	NAWC-103018-RW-094 RE	3808665	3.19	2707427	3.59		
320-44774-18 RE	NAWC-103018-FRB-094 RE	3881014	3.19	2776720	3.57		
320-44774-19 RE	NAWC-103018-RW-127 RE	3756221	3.19	2739454	3.57		
320-44774-20 RE	NAWC-103018-FRB-127 RE	3555217	3.19	2765473	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Sample No.: CCV 320-263195/41 Date Analyzed: 12/05/2018 12:16

Instrument ID: A8_N GC Column: GeminiC18 3x100 ID: 3(mm)

Lab File ID (Standard): 2018.12.05_537A_044 Heated Purge: (Y/N) N

Calibration ID: 42464

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		3325770	3.19	2474420	3.57		
UPPER LIMIT		4656078	3.69	3464188	4.07		
LOWER LIMIT		2328039	2.69	1732094	3.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-44774-17 RE	NAWC-103018-RW-094 RE	3808665	3.19	2707427	3.59		
320-44774-18 RE	NAWC-103018-FRB-094 RE	3881014	3.19	2776720	3.57		
320-44774-19 RE	NAWC-103018-RW-127 RE	3756221	3.19	2739454	3.57		
320-44774-20 RE	NAWC-103018-FRB-127 RE	3555217	3.19	2765473	3.57		

13PFOA = 13C2 PFOA
13PFOA = 13C2 PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1 Analy Batch No.: 259204

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 15:33 Calibration End Date: 11/14/2018 16:18 Calibration ID: 42213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-259204/2	2018.11.14_537ICAL_003.d
Level 2	IC 320-259204/3	2018.11.14_537ICAL_004.d
Level 3	IC 320-259204/4	2018.11.14_537ICAL_005.d
Level 4	IC 320-259204/5	2018.11.14_537ICAL_006.d
Level 5	IC 320-259204/6	2018.11.14_537ICAL_007.d
Level 6	IC 320-259204/7	2018.11.14_537ICAL_008.d
Level 7	IC 320-259204/8	2018.11.14_537ICAL_009.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanesulfonic acid (PFBS)	1.0268 1.2043	1.1593 1.2224	1.1117	1.1904	1.1308	Ave		1.1494				5.8		30.0			
Perfluoroheptanoic acid (PFHpA)	1.2764 1.0404	1.1086 1.0391	1.0063	1.1292	1.0633	Ave		1.0948				8.3		30.0			
Perfluorohexanesulfonic acid (PFHxS)	1.6242 1.5609	1.5040 1.5651	1.5324	1.6466	1.5544	Ave		1.5697				3.2		30.0			
Perfluorooctanoic acid (PFOA)	1.1148 1.0474	1.0737 1.1034	1.0751	1.0884	1.0505	Ave		1.0790				2.3		30.0			
Perfluorooctanesulfonic acid (PFOS)	1.1258 1.0952	1.0746 1.0960	1.1030	1.0826	1.0318	Ave		1.0870				2.7		30.0			
Perfluorononanoic acid (PFNA)	0.7515 0.8075	0.8542 0.8156	0.7826	0.8133	0.8069	Ave		0.8045				3.9		30.0			
13C2 PFHxA	0.9879 0.9250	0.9984 1.0062	1.0169	1.0143	0.9482	Ave		0.9853				3.6		30.0			
13C2 PFDA	0.6834 0.6881	0.6833 0.7143	0.6610	0.6769	0.7097	Ave		0.6881				2.7		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1 Analy Batch No.: 259204

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 15:33 Calibration End Date: 11/14/2018 16:18 Calibration ID: 42213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-259204/2	2018.11.14_537ICAL_003.d
Level 2	IC 320-259204/3	2018.11.14_537ICAL_004.d
Level 3	IC 320-259204/4	2018.11.14_537ICAL_005.d
Level 4	IC 320-259204/5	2018.11.14_537ICAL_006.d
Level 5	IC 320-259204/6	2018.11.14_537ICAL_007.d
Level 6	IC 320-259204/7	2018.11.14_537ICAL_008.d
Level 7	IC 320-259204/8	2018.11.14_537ICAL_009.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perfluorobutanesulfonic acid (PFBS)	PFOS	Ave	15683 3728477	37321 7505043	179783	740553	1712763	0.0221 4.42	0.0442 8.84	0.221	0.884	2.21
Perfluoroheptanoic acid (PFHpA)	13PF OA	Ave	26257 4596641	47614 8731320	223724	996215	2189863	0.0250 5.00	0.0500 10.0	0.250	1.00	2.50
Perfluorohexanesulfonic acid (PFHxS)	PFOS	Ave	25538 4974719	49844 9891630	255107	1054475	2423784	0.0228 4.55	0.0455 9.10	0.228	0.910	2.28
Perfluorooctanoic acid (PFOA)	13PF OA	Ave	22956 4631947	46160 9280287	239262	961167	2165714	0.0250 5.01	0.0501 10.0	0.250	1.00	2.50
Perfluorooctanesulfonic acid (PFOS)	PFOS	Ave	18051 3559497	36317 7063859	187257	707030	1640609	0.0232 4.64	0.0464 9.28	0.232	0.928	2.32
Perfluorononanoic acid (PFNA)	13PF OA	Ave	15459 3567485	36688 6853167	173995	717527	1661767	0.0250 5.00	0.0500 10.0	0.250	1.00	2.50
13C2 PFHxA	13PF OA	Ave	2032303 2043261	2144017 2113559	2260899	2237073	1952728	2.50 2.50	2.50 2.50	2.50	2.50	2.50
13C2 PFDA	13PF OA	Ave	1405792 1520095	1467447 1500447	1469552	1492981	1461716	2.50 2.50	2.50 2.50	2.50	2.50	2.50

Curve Type Legend:
Ave = Average ISTD

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1 Analy Batch No.: 259204

SDG No.:

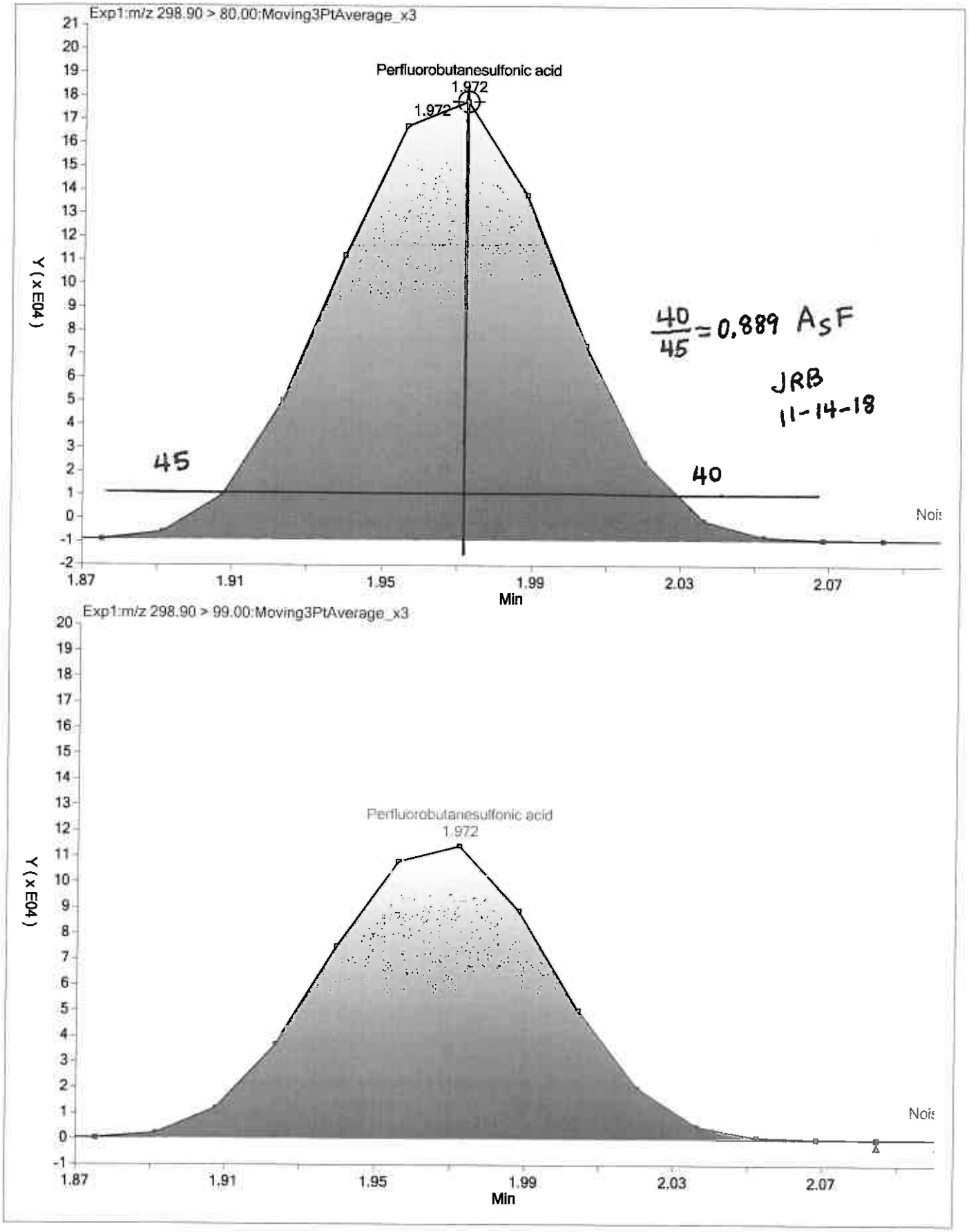
Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

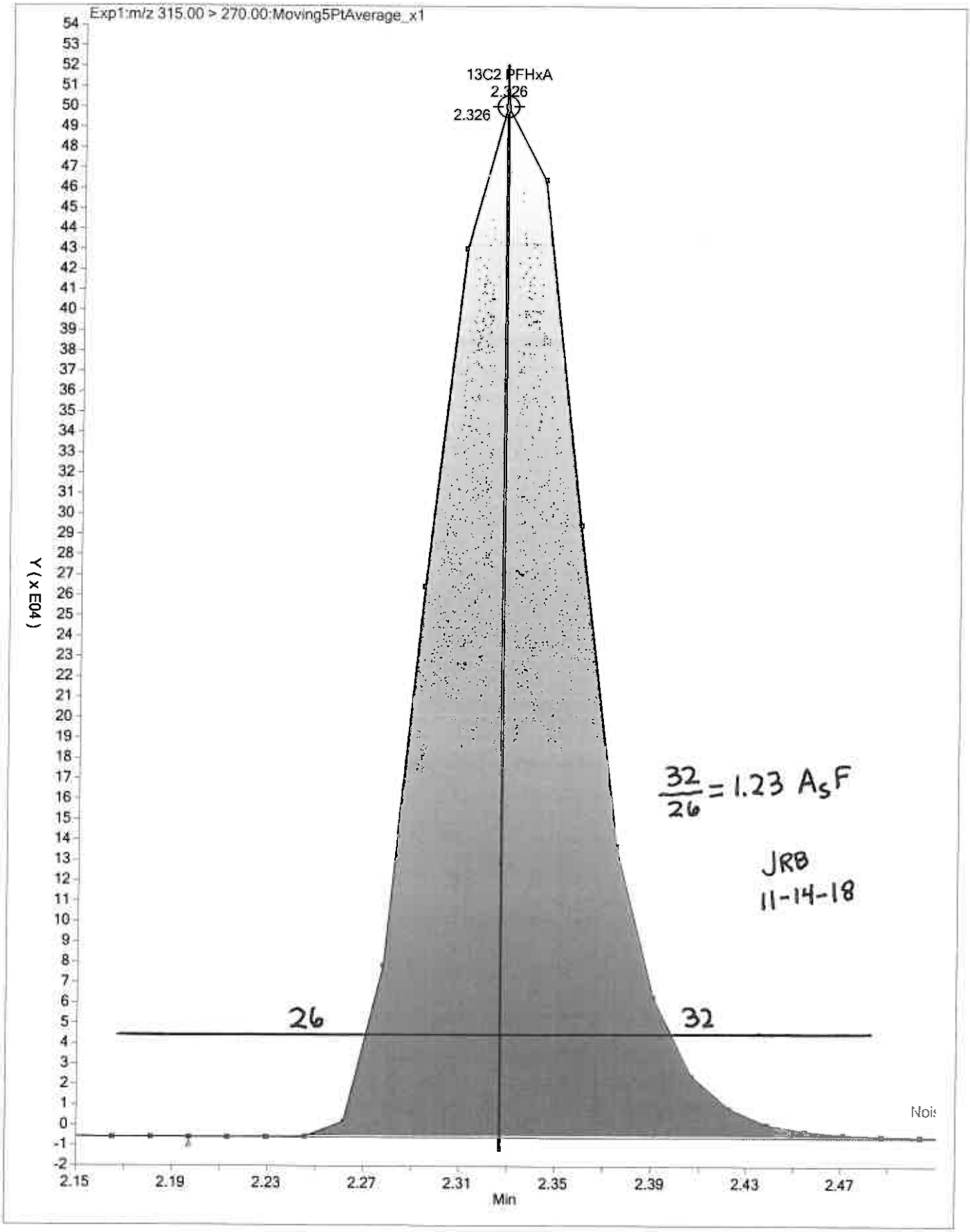
Calibration Start Date: 11/14/2018 15:33 Calibration End Date: 11/14/2018 16:18 Calibration ID: 42213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-259204/2	2018.11.14_537ICAL_003.d
Level 2	IC 320-259204/3	2018.11.14_537ICAL_004.d
Level 3	IC 320-259204/4	2018.11.14_537ICAL_005.d
Level 4	IC 320-259204/5	2018.11.14_537ICAL_006.d
Level 5	IC 320-259204/6	2018.11.14_537ICAL_007.d
Level 6	IC 320-259204/7	2018.11.14_537ICAL_008.d
Level 7	IC 320-259204/8	2018.11.14_537ICAL_009.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Perfluorobutanesulfonic acid (PFBS)	-10.7 6.4	0.9	-3.3	3.6	-1.6	4.8	50 30	30	30	30	30	30
Perfluoroheptanoic acid (PFHpA)	16.6 -5.1	1.3	-8.1	3.1	-2.9	-5.0	50 30	30	30	30	30	30
Perfluorohexanesulfonic acid (PFHxS)	3.5 -0.3	-4.2	-2.4	4.9	-1.0	-0.6	50 30	30	30	30	30	30
Perfluorooctanoic acid (PFOA)	3.3 2.3	-0.5	-0.4	0.9	-2.6	-2.9	50 30	30	30	30	30	30
Perfluorooctanesulfonic acid (PFOS)	3.6 0.8	-1.1	1.5	-0.4	-5.1	0.8	50 30	30	30	30	30	30
Perfluorononanoic acid (PFNA)	-6.6 1.4	6.2	-2.7	1.1	0.3	0.4	50 30	30	30	30	30	30
13C2 PFHxA	0.3 2.1	1.3	3.2	2.9	-3.8	-6.1	30 30	30	30	30	30	30
13C2 PFDA	-0.7 3.8	-0.7	-3.9	-1.6	3.1	0.0	30 30	30	30	30	30	30


Exp1:m/z 298.90 > 80.00:Moving3PtAverage_x3
Perfluorobutanesulfonic acid
1.972
1.972
Y (x E04)
Min
45
40
40/45 = 0.889 ASF
JRB
11-14-18
Exp1:m/z 298.90 > 99.00:Moving3PtAverage_x3
Perfluorobutanesulfonic acid
1.972
Y (x E04)
Min


Exp1:m/z 315.00 > 270.00:Moving5PtAverage_x1
13C2 PFHxA
2.326
2.326
Y (x E04)
Min
2.15
2.19
2.23
2.27
2.31
2.35
2.39
2.43
2.47
26
32
Nois
32/26 = 1.23 ASF
JRB
11-14-18

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1 Analy Batch No.: 261708

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/28/2018 13:06 Calibration End Date: 11/28/2018 13:51 Calibration ID: 42464

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-261708/2	2018.11.28_537ICALTPX_002.d
Level 2	IC 320-261708/3	2018.11.28_537ICALTPX_003.d
Level 3	IC 320-261708/4	2018.11.28_537ICALTPX_004.d
Level 4	IC 320-261708/5	2018.11.28_537ICALTPX_005.d
Level 5	IC 320-261708/6	2018.11.28_537ICALTPX_006.d
Level 6	IC 320-261708/7	2018.11.28_537ICALTPX_007.d
Level 7	IC 320-261708/8	2018.11.28_537ICALTPX_008.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanesulfonic acid (PFBS)	1.0388 1.1489	1.1365 1.1585	1.0547	1.1161	1.0610	Ave		1.1021				4.5		30.0			
Perfluoroheptanoic acid (PFHpA)	1.1785 1.0717	1.1773 1.0331	1.0436	1.0795	1.0602	Ave		1.0920				5.6		30.0			
Perfluorohexanesulfonic acid (PFHxS)	1.5510 1.5200	1.5154 1.5186	1.4306	1.6489	1.4266	Ave		1.5159				5.0		30.0			
Perfluorooctanoic acid (PFOA)	1.3708 1.0949	1.0876 1.0617	1.0316	1.0346	1.0862	Ave		1.1096				10.6		30.0			
Perfluorooctanesulfonic acid (PFOS)	1.3564 1.0553	1.1480 1.1008	1.0855	1.0475	1.0232	Ave		1.1167				10.1		30.0			
Perfluorononanoic acid (PFNA)	0.8532 0.8136	0.8026 0.7695	0.7938	0.7765	0.8213	Ave		0.8044				3.5		30.0			
13C2 PFHxA	1.0211 0.9588	0.9790 0.9541	0.9550	0.9581	0.9800	Ave		0.9723				2.5		30.0			
13C2 PFDA	0.7170 0.6883	0.7063 0.6634	0.6923	0.6499	0.7060	Ave		0.6890				3.5		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1 Analy Batch No.: 261708

SDG No.:

Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/28/2018 13:06 Calibration End Date: 11/28/2018 13:51 Calibration ID: 42464

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-261708/2	2018.11.28_537ICALTPX_002.d
Level 2	IC 320-261708/3	2018.11.28_537ICALTPX_003.d
Level 3	IC 320-261708/4	2018.11.28_537ICALTPX_004.d
Level 4	IC 320-261708/5	2018.11.28_537ICALTPX_005.d
Level 5	IC 320-261708/6	2018.11.28_537ICALTPX_006.d
Level 6	IC 320-261708/7	2018.11.28_537ICALTPX_007.d
Level 7	IC 320-261708/8	2018.11.28_537ICALTPX_008.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Perfluorobutanesulfonic acid (PFBS)	PFOS	Ave	24683 5388468	51738 10213970	251462	1046520	2596086	0.0221 4.42	0.0442 8.84	0.221	0.884	2.21
Perfluoroheptanoic acid (PFHpA)	13PF OA	Ave	40652 7139685	80331 13578406	368755	1552410	3571313	0.0250 5.00	0.0500 10.0	0.250	1.00	2.50
Perfluorohexanesulfonic acid (PFHxS)	PFOS	Ave	37936 7338783	71018 13781782	351103	1591569	3593335	0.0228 4.55	0.0455 9.10	0.228	0.910	2.28
Perfluorooctanoic acid (PFOA)	13PF OA	Ave	47331 7301376	74285 13968411	364884	1489386	3662288	0.0250 5.01	0.0501 10.0	0.250	1.00	2.50
Perfluorooctanesulfonic acid (PFOS)	PFOS	Ave	33833 5196086	54866 10188257	271684	1031103	2628210	0.0232 4.64	0.0464 9.28	0.232	0.928	2.32
Perfluorononanoic acid (PFNA)	13PF OA	Ave	29431 5420001	54763 10113962	280495	1116613	2766383	0.0250 5.00	0.0500 10.0	0.250	1.00	2.50
13C2 PFHxA	13PF OA	Ave	3522233 3193611	3340174 3135028	3374605	3444540	3300906	2.50 2.50	2.50 2.50	2.50	2.50	2.50
13C2 PFDA	13PF OA	Ave	2473031 2292639	2409794 2179789	2446341	2336562	2377959	2.50 2.50	2.50 2.50	2.50	2.50	2.50

Curve Type Legend:
Ave = Average ISTD

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1 Analy Batch No.: 261708

SDG No.:

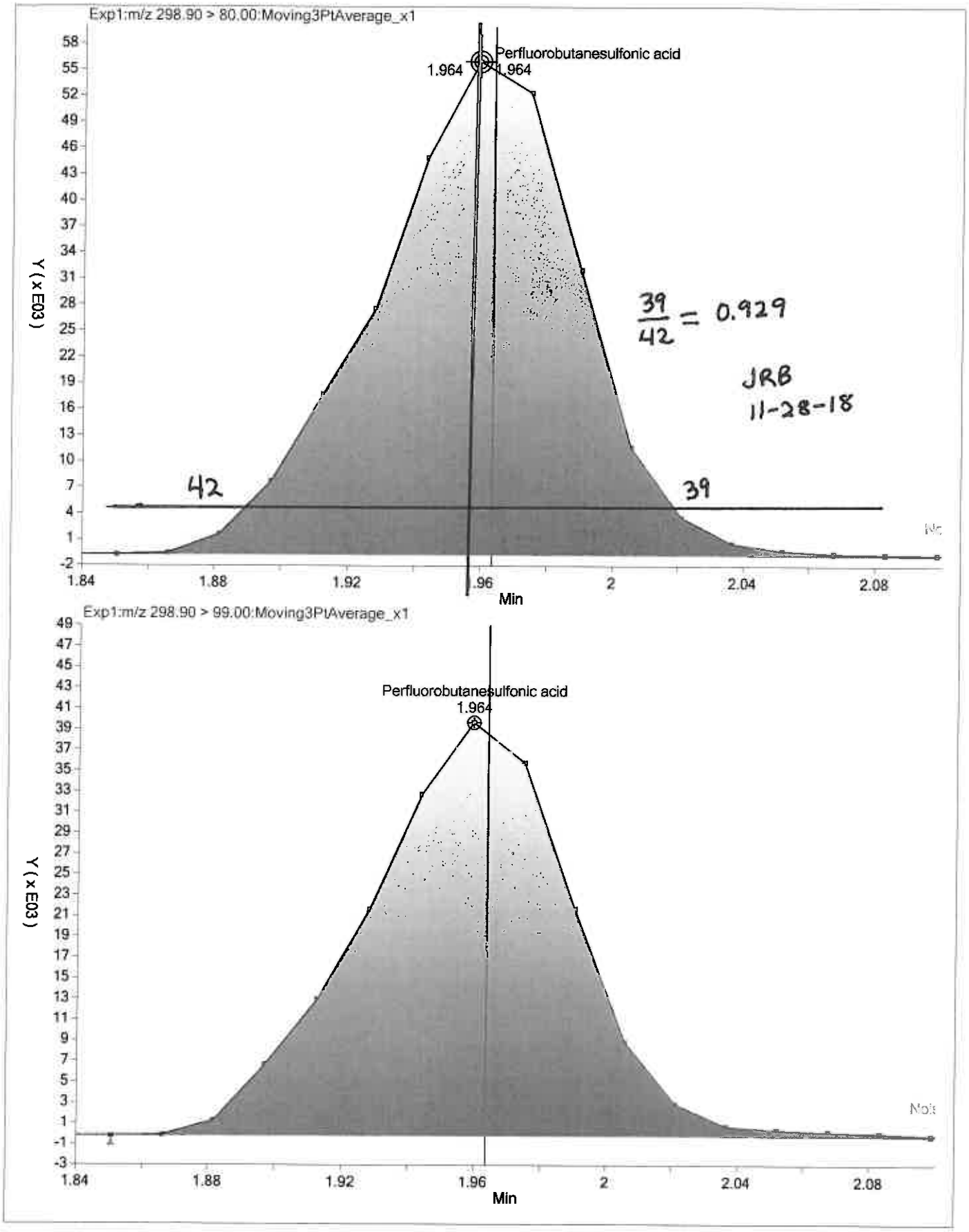
Instrument ID: A8_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/28/2018 13:06 Calibration End Date: 11/28/2018 13:51 Calibration ID: 42464

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-261708/2	2018.11.28_537ICALTPX_002.d
Level 2	IC 320-261708/3	2018.11.28_537ICALTPX_003.d
Level 3	IC 320-261708/4	2018.11.28_537ICALTPX_004.d
Level 4	IC 320-261708/5	2018.11.28_537ICALTPX_005.d
Level 5	IC 320-261708/6	2018.11.28_537ICALTPX_006.d
Level 6	IC 320-261708/7	2018.11.28_537ICALTPX_007.d
Level 7	IC 320-261708/8	2018.11.28_537ICALTPX_008.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Perfluorobutanesulfonic acid (PFBS)	-5.7 5.1	3.1	-4.3	1.3	-3.7	4.2	50 30	30	30	30	30	30
Perfluoroheptanoic acid (PFHpA)	7.9 -5.4	7.8	-4.4	-1.1	-2.9	-1.9	50 30	30	30	30	30	30
Perfluorohexanesulfonic acid (PFHxS)	2.3 0.2	0.0	-5.6	8.8	-5.9	0.3	50 30	30	30	30	30	30
Perfluorooctanoic acid (PFOA)	23.5 -4.3	-2.0	-7.0	-6.8	-2.1	-1.3	50 30	30	30	30	30	30
Perfluorooctanesulfonic acid (PFOS)	21.5 -1.4	2.8	-2.8	-6.2	-8.4	-5.5	50 30	30	30	30	30	30
Perfluorononanoic acid (PFNA)	6.1 -4.3	-0.2	-1.3	-3.5	2.1	1.1	50 30	30	30	30	30	30
13C2 PFHxA	5.0 -1.9	0.7	-1.8	-1.5	0.8	-1.4	30 30	30	30	30	30	30
13C2 PFDA	4.1 -3.7	2.5	0.5	-5.7	2.5	-0.1	30 30	30	30	30	30	30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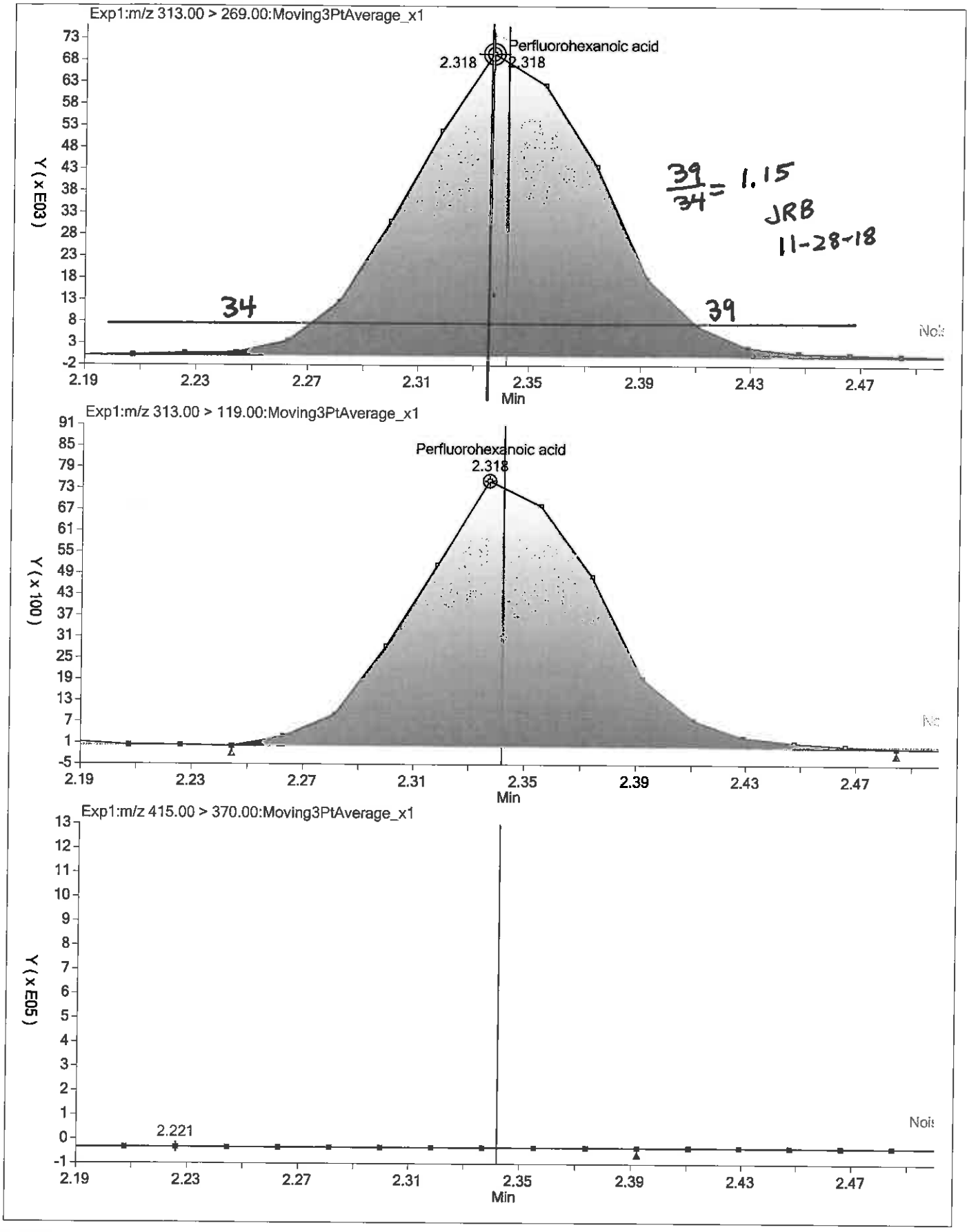
Perfluorobutanesulfonic acid
1.964
1.964
Y (x E03)
Min
42
39
39/42 = 0.929
JRB
11-28-18
Exp1:m/z 298.90 > 99.00:Moving3PtAverage_x1
Perfluorobutanesulfonic acid
1.964
Y (x E03)
Min


Exp1:m/z 313.00 > 269.00:Moving3PtAverage_x1
Perfluorohexanoic acid
2.318
2.318
Y (x E03)
34
39
39/34 = 1.15
JRB
11-28-18
Min
Exp1:m/z 313.00 > 119.00:Moving3PtAverage_x1
Perfluorohexanoic acid
2.318
Y (x 100)
Min
Exp1:m/z 415.00 > 370.00:Moving3PtAverage_x1
2.221
Y (x E05)
Min

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCVL 320-259204/10 Calibration Date: 11/14/2018 16:33

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.14_537ICAL_011.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.218		9.00	0.0442	5.9	50.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.278		1.00	0.0500	16.7	50.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.632		3.00	0.0455	4.0	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.331		2.00	0.0501	23.3	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.164		4.00	0.0464	7.1	50.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8920		5.00	0.0500	10.9	50.0
13C2 PFHxA	Ave	0.9853	1.046		2.66	2.50	6.2	30.0
13C2 PFDA	Ave	0.6881	0.6855		2.49	2.50	-0.4	30.0
d5-NEtFOSAA	Ave	1.055	1.053		2.50	2.50	-0.1	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: ICV 320-259204/12 Calibration Date: 11/14/2018 16:48

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.14_537ICAL_013.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.077		9.00	1.77	-6.3	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.022		1.87	2.00	-6.6	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.414		1.64	1.82	-9.9	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.058		1.96	2.00	-1.9	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.7944		5.00	2.00	-1.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.021		1.74	1.85	-6.0	30.0
13C2 PFHxA	Ave	0.9853	1.012		2.57	2.50	2.7	30.0
13C2 PFDA	Ave	0.6881	0.6742		2.45	2.50	-2.0	30.0
d5-NEtFOSAA	Ave	1.055	1.077		2.55	2.50	2.1	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCVL 320-259483/1 Calibration Date: 11/15/2018 15:07

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	0.9760		9.00	0.0442	-15.1	50.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	0.9373		1.00	0.0500	-14.4	50.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.500		3.00	0.0455	-4.4	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.129		2.00	0.0501	4.6	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.092		4.00	0.0464	0.4	50.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.7995		5.00	0.0500	-0.6	50.0
13C2 PFHxA	Ave	0.9853	0.9429		2.39	2.50	-4.3	30.0
13C2 PFDA	Ave	0.6881	0.6127		2.23	2.50	-11.0	30.0
d5-NEtFOSAA	Ave	1.055	1.132		2.68	2.50	7.3	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259487/19 Calibration Date: 11/15/2018 17:21

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_022.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.129		9.00	0.884	-1.8	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.078		0.984	1.00	-1.6	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.473		3.00	0.910	-6.1	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.062		0.986	1.00	-1.5	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8421		5.00	1.00	4.7	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.015		4.00	0.928	-6.6	30.0
13C2 PFHxA	Ave	0.9853	1.022		2.59	2.50	3.7	30.0
13C2 PFDA	Ave	0.6881	0.7148		2.60	2.50	3.9	30.0
d5-NEtFOSAA	Ave	1.055	1.113		2.64	2.50	5.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259487/31 Calibration Date: 11/15/2018 18:50

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_034.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.168		4.49	4.42	1.6	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.026		4.69	5.00	-6.3	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.616		4.69	4.55	3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.054		4.89	5.01	-2.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.072		4.58	4.64	-1.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8203		5.10	5.00	2.0	30.0
13C2 PFHxA	Ave	0.9853	0.9874		2.51	2.50	0.2	30.0
13C2 PFDA	Ave	0.6881	0.6693		2.43	2.50	-2.7	30.0
d5-NEtFOSAA	Ave	1.055	1.039		2.46	2.50	-1.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259489/31 Calibration Date: 11/15/2018 18:50

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_034.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.168		4.49	4.42	1.6	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.026		4.69	5.00	-6.3	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.616		4.69	4.55	3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.054		4.89	5.01	-2.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.072		4.58	4.64	-1.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8203		5.10	5.00	2.0	30.0
13C2 PFHxA	Ave	0.9853	0.9874		2.51	2.50	0.2	30.0
13C2 PFDA	Ave	0.6881	0.6693		2.43	2.50	-2.7	30.0
d5-NEtFOSAA	Ave	1.055	1.039		2.46	2.50	-1.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259489/43 Calibration Date: 11/15/2018 20:20

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_046.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.234		9.00	0.884	7.3	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.073		0.980	1.00	-2.0	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.591		3.00	0.910	1.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.030		0.955	1.00	-4.6	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.096		4.00	0.928	0.8	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.7871		5.00	1.00	-2.2	30.0
13C2 PFHxA	Ave	0.9853	0.9864		2.50	2.50	0.1	30.0
13C2 PFDA	Ave	0.6881	0.6713		2.44	2.50	-2.4	30.0
d5-NEtFOSAA	Ave	1.055	1.084		2.57	2.50	2.7	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259491/43 Calibration Date: 11/15/2018 20:20

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_046.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.234		9.00	0.884	7.3	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.073		0.980	1.00	-2.0	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.591		3.00	0.910	1.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.030		0.955	1.00	-4.6	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.096		4.00	0.928	0.8	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.7871		5.00	1.00	-2.2	30.0
13C2 PFHxA	Ave	0.9853	0.9864		2.50	2.50	0.1	30.0
13C2 PFDA	Ave	0.6881	0.6713		2.44	2.50	-2.4	30.0
d5-NEtFOSAA	Ave	1.055	1.084		2.57	2.50	2.7	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259491/47 Calibration Date: 11/15/2018 20:50

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.227		4.72	4.42	6.8	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.069		4.88	5.00	-2.4	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.573		4.56	4.55	0.2	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.087		5.04	5.01	0.7	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8359		5.20	5.00	3.9	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.060		4.52	4.64	-2.5	30.0
13C2 PFHxA	Ave	0.9853	0.9536		2.42	2.50	-3.2	30.0
13C2 PFDA	Ave	0.6881	0.6687		2.43	2.50	-2.8	30.0
d5-NEtFOSAA	Ave	1.055	1.122		2.66	2.50	6.4	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259573/47 Calibration Date: 11/15/2018 20:50

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.227		4.72	4.42	6.8	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.069		4.88	5.00	-2.4	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.573		4.56	4.55	0.2	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.087		5.04	5.01	0.7	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8359		5.20	5.00	3.9	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.060		4.52	4.64	-2.5	30.0
13C2 PFHxA	Ave	0.9853	0.9536		2.42	2.50	-3.2	30.0
13C2 PFDA	Ave	0.6881	0.6687		2.43	2.50	-2.8	30.0
d5-NEtFOSAA	Ave	1.055	1.122		2.66	2.50	6.4	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259573/59 Calibration Date: 11/15/2018 22:19

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_062.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.155		9.00	0.884	0.4	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.061		0.970	1.00	-3.1	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.532		3.00	0.910	-2.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.031		0.957	1.00	-4.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8311		5.00	1.00	3.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.090		4.00	0.928	0.3	30.0
13C2 PFHxA	Ave	0.9853	1.035		2.63	2.50	5.0	30.0
13C2 PFDA	Ave	0.6881	0.6723		2.44	2.50	-2.3	30.0
d5-NEtFOSAA	Ave	1.055	1.030		2.44	2.50	-2.4	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259574/59 Calibration Date: 11/15/2018 22:19

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_062.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.155		9.00	0.884	0.4	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.061		0.970	1.00	-3.1	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.532		3.00	0.910	-2.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.031		0.957	1.00	-4.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.8311		5.00	1.00	3.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.090		4.00	0.928	0.3	30.0
13C2 PFHxA	Ave	0.9853	1.035		2.63	2.50	5.0	30.0
13C2 PFDA	Ave	0.6881	0.6723		2.44	2.50	-2.3	30.0
d5-NEtFOSAA	Ave	1.055	1.030		2.44	2.50	-2.4	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-259574/63 Calibration Date: 11/15/2018 22:49

Instrument ID: A8_N Calib Start Date: 11/14/2018 15:33

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/14/2018 16:18

Lab File ID: 2018.11.15_537AA_066.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.149	1.298		4.99	4.42	12.9	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.095	1.088		4.97	5.00	-0.6	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.570	1.579		4.58	4.55	0.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.079	1.110		5.15	5.01	2.8	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.087	1.062		4.54	4.64	-2.3	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8045	0.7812		4.86	5.00	-2.9	30.0
13C2 PFHxA	Ave	0.9853	0.998		2.53	2.50	1.3	30.0
13C2 PFDA	Ave	0.6881	0.6800		2.47	2.50	-1.2	30.0
d5-NEtFOSAA	Ave	1.055	1.035		2.45	2.50	-1.9	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCVL 320-261708/10 Calibration Date: 11/28/2018 14:06

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.11.28_537ICALTPX_010.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.065		9.00	0.0442	-3.4	50.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.020		1.00	0.0500	-6.6	50.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.483		3.00	0.0455	-2.2	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.169		2.00	0.0501	5.4	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.236		4.00	0.0464	10.7	50.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8258		5.00	0.0500	2.7	50.0
13C2 PFHxA	Ave	0.9723	0.9667		2.49	2.50	-0.6	30.0
13C2 PFDA	Ave	0.6890	0.6934		2.52	2.50	0.6	30.0
d5-NEtFOSAA	Ave	1.060	1.054		2.49	2.50	-0.6	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: ICV 320-261708/12 Calibration Date: 11/28/2018 14:21

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.11.28_537ICALTPX_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.069		9.00	1.77	-3.0	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.104		2.02	2.00	1.1	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.504		1.81	1.82	-0.8	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.096		1.98	2.00	-1.2	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8428		2.10	2.00	4.8	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.005		4.00	1.85	-10.0	30.0
13C2 PFHxA	Ave	0.9723	0.9637		2.48	2.50	-0.9	30.0
13C2 PFDA	Ave	0.6890	0.7109		2.58	2.50	3.2	30.0
d5-NEtFOSAA	Ave	1.060	1.058		2.50	2.50	-0.2	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCVL 320-262743/1 Calibration Date: 12/03/2018 17:28

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.03_537A_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.046		9.00	0.0442	-5.0	50.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.017		1.00	0.0500	-6.9	50.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.526		3.00	0.0455	0.7	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.269		2.00	0.0501	14.4	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.140		4.00	0.0464	2.0	50.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.9779		5.00	0.0500	21.6	50.0
13C2 PFHxA	Ave	0.9723	0.9347		2.40	2.50	-3.9	30.0
13C2 PFDA	Ave	0.6890	0.7354		2.67	2.50	6.7	30.0
d5-NEtFOSAA	Ave	1.060	1.175		2.77	2.50	10.8	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-262816/8 Calibration Date: 12/03/2018 18:20

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.03_537A_011.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.204		4.83	4.42	9.3	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.131		5.18	5.00	3.6	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.601		4.81	4.55	5.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.100		4.96	5.01	-0.9	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8528		5.30	5.00	6.0	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.066		4.43	4.64	-4.5	30.0
13C2 PFHxA	Ave	0.9723	0.9751		2.51	2.50	0.3	30.0
13C2 PFDA	Ave	0.6890	0.7527		2.73	2.50	9.2	30.0
d5-NEtFOSAA	Ave	1.060	1.029		2.43	2.50	-2.9	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-262816/20 Calibration Date: 12/03/2018 19:50

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.03_537A_023.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.211		9.00	0.884	9.9	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.076		0.986	1.00	-1.4	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.540		3.00	0.910	1.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.070		0.966	1.00	-3.5	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.070		4.00	0.928	-4.2	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8142		5.00	1.00	1.2	30.0
13C2 PFHxA	Ave	0.9723	0.9530		2.45	2.50	-2.0	30.0
13C2 PFDA	Ave	0.6890	0.7617		2.76	2.50	10.5	30.0
d5-NEtFOSAA	Ave	1.060	1.081		2.55	2.50	1.9	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCVL 320-263056/1 Calibration Date: 12/05/2018 07:18

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.04_537A_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.210		9.00	0.0442	9.8	50.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.087		1.00	0.0500	-0.4	50.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.521		3.00	0.0455	0.3	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.211		2.00	0.0501	9.1	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.239		4.00	0.0464	11.0	50.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8360		5.00	0.0500	3.9	50.0
13C2 PFHxA	Ave	0.9723	0.9383		2.41	2.50	-3.5	30.0
13C2 PFDA	Ave	0.6890	0.7401		2.69	2.50	7.4	30.0
d5-NEtFOSAA	Ave	1.060	1.145		2.70	2.50	8.0	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-263191/11 Calibration Date: 12/05/2018 08:33

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.04_537A_014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.078		9.00	0.884	-2.1	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.158		1.06	1.00	6.1	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.418		3.00	0.910	-6.5	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.054		0.951	1.00	-5.0	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.012		4.00	0.928	-9.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8138		5.00	1.00	1.2	30.0
13C2 PFHxA	Ave	0.9723	0.9903		2.55	2.50	1.8	30.0
13C2 PFDA	Ave	0.6890	0.7240		2.63	2.50	5.1	30.0
d5-NEtFOSAA	Ave	1.060	1.062		2.50	2.50	0.2	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-263191/23 Calibration Date: 12/05/2018 10:02

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.05_537A_026.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.120		4.49	4.42	1.6	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.010		4.63	5.00	-7.5	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.507		4.52	4.55	-0.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.057		4.77	5.01	-4.7	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.056		4.39	4.64	-5.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.7999		4.97	5.00	-0.6	30.0
13C2 PFHxA	Ave	0.9723	0.9188		2.36	2.50	-5.5	30.0
13C2 PFDA	Ave	0.6890	0.6731		2.44	2.50	-2.3	30.0
d5-NEtFOSAA	Ave	1.060	1.065		2.51	2.50	0.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-263193/23 Calibration Date: 12/05/2018 10:02

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.05_537A_026.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.120		4.49	4.42	1.6	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.010		4.63	5.00	-7.5	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.507		4.52	4.55	-0.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.057		4.77	5.01	-4.7	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.056		4.39	4.64	-5.4	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.7999		4.97	5.00	-0.6	30.0
13C2 PFHxA	Ave	0.9723	0.9188		2.36	2.50	-5.5	30.0
13C2 PFDA	Ave	0.6890	0.6731		2.44	2.50	-2.3	30.0
d5-NEtFOSAA	Ave	1.060	1.065		2.51	2.50	0.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-263193/35 Calibration Date: 12/05/2018 11:32

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.05_537A_038.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.109		9.00	0.884	0.6	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.009		0.924	1.00	-7.6	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.524		3.00	0.910	0.5	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.043		0.941	1.00	-6.0	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.036		4.00	0.928	-7.3	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8123		5.00	1.00	1.0	30.0
13C2 PFHxA	Ave	0.9723	0.9531		2.45	2.50	-2.0	30.0
13C2 PFDA	Ave	0.6890	0.7336		2.66	2.50	6.5	30.0
d5-NEtFOSAA	Ave	1.060	1.065		2.51	2.50	0.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-263195/35 Calibration Date: 12/05/2018 11:32

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.05_537A_038.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.109		9.00	0.884	0.6	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.009		0.924	1.00	-7.6	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.524		3.00	0.910	0.5	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.043		0.941	1.00	-6.0	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.036		4.00	0.928	-7.3	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8123		5.00	1.00	1.0	30.0
13C2 PFHxA	Ave	0.9723	0.9531		2.45	2.50	-2.0	30.0
13C2 PFDA	Ave	0.6890	0.7336		2.66	2.50	6.5	30.0
d5-NEtFOSAA	Ave	1.060	1.065		2.51	2.50	0.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Lab Sample ID: CCV 320-263195/41 Calibration Date: 12/05/2018 12:16

Instrument ID: A8_N Calib Start Date: 11/28/2018 13:06

GC Column: GeminiC18 3x100 ID: 3.00(mm) Calib End Date: 11/28/2018 13:51

Lab File ID: 2018.12.05_537A_044.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	1.102	1.198		4.80	4.42	8.7	30.0
Perfluoroheptanoic acid (PFHpA)	Ave	1.092	1.059		4.85	5.00	-3.0	30.0
Perfluorohexanesulfonic acid (PFHxS)	Ave	1.516	1.528		4.59	4.55	0.8	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.110	1.086		4.90	5.01	-2.1	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.117	1.077		4.48	4.64	-3.5	30.0
Perfluorononanoic acid (PFNA)	Ave	0.8044	0.8502		5.29	5.00	5.7	30.0
13C2 PFHxA	Ave	0.9723	0.9524		2.45	2.50	-2.0	30.0
13C2 PFDA	Ave	0.6890	0.7304		2.65	2.50	6.0	30.0
d5-NEtFOSAA	Ave	1.060	1.025		2.42	2.50	-3.3	30.0

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/14/2018 15:33

Analysis Batch Number: 259204 End Date: 11/14/2018 16:55

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-259204/2		11/14/2018 15:33	1	2018.11.14_537I CAL 003.d	GeminiC18 3x100 3(mm)
IC 320-259204/3		11/14/2018 15:41	1	2018.11.14_537I CAL 004.d	GeminiC18 3x100 3(mm)
IC 320-259204/4		11/14/2018 15:48	1	2018.11.14_537I CAL 005.d	GeminiC18 3x100 3(mm)
IC 320-259204/5 ICISAV		11/14/2018 15:56	1	2018.11.14_537I CAL 006.d	GeminiC18 3x100 3(mm)
IC 320-259204/6		11/14/2018 16:03	1	2018.11.14_537I CAL 007.d	GeminiC18 3x100 3(mm)
IC 320-259204/7		11/14/2018 16:11	1	2018.11.14_537I CAL 008.d	GeminiC18 3x100 3(mm)
IC 320-259204/8		11/14/2018 16:18	1	2018.11.14_537I CAL 009.d	GeminiC18 3x100 3(mm)
CCVL 320-259204/10		11/14/2018 16:33	1	2018.11.14_537I CAL 011.d	GeminiC18 3x100 3(mm)
ICB 320-259204/11		11/14/2018 16:40	1		GeminiC18 3x100 3(mm)
ICV 320-259204/12		11/14/2018 16:48	1	2018.11.14_537I CAL 013.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/14/2018 16:55	1		GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/15/2018 15:07

Analysis Batch Number: 259483 End Date: 11/15/2018 16:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVL 320-259483/1		11/15/2018 15:07	1	2018.11.15_537A A 004.d	GeminiC18 3x100 3(mm)
CCV 320-259483/2 CCVIS		11/15/2018 15:14	1		GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 15:29	1		GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 15:37	1		GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 15:44	1		GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 15:52	1		GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 15:59	1		GeminiC18 3x100 3(mm)
CCV 320-259483/9 CCVIS		11/15/2018 16:06	1		GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/15/2018 17:21

Analysis Batch Number: 259487 End Date: 11/15/2018 18:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-259487/19 CCVIS		11/15/2018 17:21	1	2018.11.15_537A A 022.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 17:28	1		GeminiC18 3x100 3(mm)
MB 320-258695/1-A		11/15/2018 17:36	1	2018.11.15_537A A 024.d	GeminiC18 3x100 3(mm)
LLCS 320-258695/2-A		11/15/2018 17:43	1	2018.11.15_537A A 025.d	GeminiC18 3x100 3(mm)
320-44774-1		11/15/2018 17:51	1	2018.11.15_537A A 026.d	GeminiC18 3x100 3(mm)
320-44774-2		11/15/2018 17:58	1	2018.11.15_537A A 027.d	GeminiC18 3x100 3(mm)
320-44774-3		11/15/2018 18:06	1	2018.11.15_537A A 028.d	GeminiC18 3x100 3(mm)
320-44774-4		11/15/2018 18:13	1	2018.11.15_537A A 029.d	GeminiC18 3x100 3(mm)
320-44774-5		11/15/2018 18:20	1	2018.11.15_537A A 030.d	GeminiC18 3x100 3(mm)
320-44774-6		11/15/2018 18:28	1	2018.11.15_537A A 031.d	GeminiC18 3x100 3(mm)
320-44774-7		11/15/2018 18:35	1	2018.11.15_537A A 032.d	GeminiC18 3x100 3(mm)
320-44774-8		11/15/2018 18:43	1	2018.11.15_537A A 033.d	GeminiC18 3x100 3(mm)
CCV 320-259487/31 CCVIS		11/15/2018 18:50	1	2018.11.15_537A A 034.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/15/2018 18:50

Analysis Batch Number: 259489 End Date: 11/15/2018 20:20

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-259489/31 CCVIS		11/15/2018 18:50	1	2018.11.15_537A A 034.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 18:58	1		GeminiC18 3x100 3(mm)
320-44774-9		11/15/2018 19:05	1	2018.11.15_537A A 036.d	GeminiC18 3x100 3(mm)
320-44774-10		11/15/2018 19:13	1	2018.11.15_537A A 037.d	GeminiC18 3x100 3(mm)
320-44774-11		11/15/2018 19:20	1	2018.11.15_537A A 038.d	GeminiC18 3x100 3(mm)
320-44774-12		11/15/2018 19:27	1	2018.11.15_537A A 039.d	GeminiC18 3x100 3(mm)
320-44774-13		11/15/2018 19:35	1	2018.11.15_537A A 040.d	GeminiC18 3x100 3(mm)
320-44774-14		11/15/2018 19:42	1	2018.11.15_537A A 041.d	GeminiC18 3x100 3(mm)
320-44774-15		11/15/2018 19:50	1	2018.11.15_537A A 042.d	GeminiC18 3x100 3(mm)
320-44774-15 LMS		11/15/2018 19:57	1	2018.11.15_537A A 043.d	GeminiC18 3x100 3(mm)
320-44774-15 LMSD		11/15/2018 20:05	1	2018.11.15_537A A 044.d	GeminiC18 3x100 3(mm)
320-44774-16		11/15/2018 20:12	1	2018.11.15_537A A 045.d	GeminiC18 3x100 3(mm)
CCV 320-259489/43 CCVIS		11/15/2018 20:20	1	2018.11.15_537A A 046.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/15/2018 20:20

Analysis Batch Number: 259491 End Date: 11/15/2018 20:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-259491/43 CCVIS		11/15/2018 20:20	1	2018.11.15_537A A 046.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 20:27	1		GeminiC18 3x100 3(mm)
320-44774-17		11/15/2018 20:35	1	2018.11.15_537A A 048.d	GeminiC18 3x100 3(mm)
320-44774-18		11/15/2018 20:42	1	2018.11.15_537A A 049.d	GeminiC18 3x100 3(mm)
CCV 320-259491/47 CCVIS		11/15/2018 20:50	1	2018.11.15_537A A 050.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/15/2018 20:50

Analysis Batch Number: 259573 End Date: 11/15/2018 22:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-259573/47 CCVIS		11/15/2018 20:50	1	2018.11.15_537A A 050.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 20:57	1		GeminiC18 3x100 3(mm)
MB 320-258698/1-A		11/15/2018 21:04	1	2018.11.15_537A A 052.d	GeminiC18 3x100 3(mm)
LCS 320-258698/2-A		11/15/2018 21:12	1	2018.11.15_537A A 053.d	GeminiC18 3x100 3(mm)
LCSD 320-258698/3-A		11/15/2018 21:19	1	2018.11.15_537A A 054.d	GeminiC18 3x100 3(mm)
320-44774-19		11/15/2018 21:27	1	2018.11.15_537A A 055.d	GeminiC18 3x100 3(mm)
320-44774-20		11/15/2018 21:34	1	2018.11.15_537A A 056.d	GeminiC18 3x100 3(mm)
320-44774-21		11/15/2018 21:42	1	2018.11.15_537A A 057.d	GeminiC18 3x100 3(mm)
320-44774-22		11/15/2018 21:49	1	2018.11.15_537A A 058.d	GeminiC18 3x100 3(mm)
320-44774-23		11/15/2018 21:57	1	2018.11.15_537A A 059.d	GeminiC18 3x100 3(mm)
320-44774-24		11/15/2018 22:04	1	2018.11.15_537A A 060.d	GeminiC18 3x100 3(mm)
320-44774-25		11/15/2018 22:11	1	2018.11.15_537A A 061.d	GeminiC18 3x100 3(mm)
CCV 320-259573/59 CCVIS		11/15/2018 22:19	1	2018.11.15_537A A 062.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/15/2018 22:19

Analysis Batch Number: 259574 End Date: 11/15/2018 22:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-259574/59 CCVIS		11/15/2018 22:19	1	2018.11.15_537A A 062.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/15/2018 22:26	1		GeminiC18 3x100 3(mm)
320-44774-26		11/15/2018 22:34	1	2018.11.15_537A A 064.d	GeminiC18 3x100 3(mm)
320-44774-27		11/15/2018 22:41	1	2018.11.15_537A A 065.d	GeminiC18 3x100 3(mm)
CCV 320-259574/63 CCVIS		11/15/2018 22:49	1	2018.11.15_537A A 066.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 11/28/2018 13:06

Analysis Batch Number: 261708 End Date: 11/28/2018 14:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-261708/2		11/28/2018 13:06	1	2018.11.28_537I CALTPX_002.d	GeminiC18 3x100 3(mm)
IC 320-261708/3		11/28/2018 13:14	1	2018.11.28_537I CALTPX_003.d	GeminiC18 3x100 3(mm)
IC 320-261708/4		11/28/2018 13:21	1	2018.11.28_537I CALTPX_004.d	GeminiC18 3x100 3(mm)
IC 320-261708/5 ICISAV		11/28/2018 13:29	1	2018.11.28_537I CALTPX_005.d	GeminiC18 3x100 3(mm)
IC 320-261708/6		11/28/2018 13:36	1	2018.11.28_537I CALTPX_006.d	GeminiC18 3x100 3(mm)
IC 320-261708/7		11/28/2018 13:44	1	2018.11.28_537I CALTPX_007.d	GeminiC18 3x100 3(mm)
IC 320-261708/8		11/28/2018 13:51	1	2018.11.28_537I CALTPX_008.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/28/2018 13:59	1		GeminiC18 3x100 3(mm)
CCVL 320-261708/10		11/28/2018 14:06	1	2018.11.28_537I CALTPX_010.d	GeminiC18 3x100 3(mm)
ICB 320-261708/11		11/28/2018 14:13	1		GeminiC18 3x100 3(mm)
ICV 320-261708/12		11/28/2018 14:21	1	2018.11.28_537I CALTPX_012.d	GeminiC18 3x100 3(mm)
ZZZZZ		11/28/2018 14:28	1		GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 12/03/2018 17:28

Analysis Batch Number: 262743 End Date: 12/03/2018 18:20

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVL 320-262743/1		12/03/2018 17:28	1	2018.12.03_537A 004.d	GeminiC18 3x100 3(mm)
CCV 320-262743/2 CCVIS		12/03/2018 17:36	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/03/2018 17:43	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/03/2018 17:51	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/03/2018 17:58	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/03/2018 18:06	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/03/2018 18:13	1		GeminiC18 3x100 3(mm)
CCV 320-262743/8 CCVIS		12/03/2018 18:20	1		GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 12/03/2018 18:20

Analysis Batch Number: 262816 End Date: 12/03/2018 19:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-262816/8 CCVIS		12/03/2018 18:20	1	2018.12.03_537A_011.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/03/2018 18:28	1		GeminiC18 3x100 3(mm)
MB 320-262132/1-A		12/03/2018 18:35	1	2018.12.03_537A_013.d	GeminiC18 3x100 3(mm)
LCS 320-262132/2-A		12/03/2018 18:43	1	2018.12.03_537A_014.d	GeminiC18 3x100 3(mm)
LCSD 320-262132/3-A		12/03/2018 18:50	1	2018.12.03_537A_015.d	GeminiC18 3x100 3(mm)
320-44774-21 RE		12/03/2018 18:58	1	2018.12.03_537A_016.d	GeminiC18 3x100 3(mm)
320-44774-22 RE		12/03/2018 19:05	1	2018.12.03_537A_017.d	GeminiC18 3x100 3(mm)
320-44774-23 RE		12/03/2018 19:12	1	2018.12.03_537A_018.d	GeminiC18 3x100 3(mm)
320-44774-24 RE		12/03/2018 19:20	1	2018.12.03_537A_019.d	GeminiC18 3x100 3(mm)
320-44774-25 RE		12/03/2018 19:27	1	2018.12.03_537A_020.d	GeminiC18 3x100 3(mm)
320-44774-26 RE		12/03/2018 19:35	1	2018.12.03_537A_021.d	GeminiC18 3x100 3(mm)
320-44774-27 RE		12/03/2018 19:42	1	2018.12.03_537A_022.d	GeminiC18 3x100 3(mm)
CCV 320-262816/20 CCVIS		12/03/2018 19:50	1	2018.12.03_537A_023.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 12/05/2018 07:18

Analysis Batch Number: 263056 End Date: 12/05/2018 08:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVL 320-263056/1		12/05/2018 07:18	1	2018.12.04_537A 004.d	GeminiC18 3x100 3(mm)
CCV 320-263056/2 CCVIS		12/05/2018 07:26	1		GeminiC18 3x100 3(mm)
ZZZZZ		12/05/2018 07:33	1		GeminiC18 3x100 3(mm)
CCV 320-263056/8 CCVIS		12/05/2018 08:11	1		GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 12/05/2018 08:33

Analysis Batch Number: 263191 End Date: 12/05/2018 10:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-263191/11 CCVIS		12/05/2018 08:33	1	2018.12.04_537A_014.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/05/2018 08:40	1		GeminiC18 3x100 3(mm)
MB 320-262122/1-A		12/05/2018 08:48	1	2018.12.05_537A_016.d	GeminiC18 3x100 3(mm)
LCS 320-262122/2-A		12/05/2018 08:55	1	2018.12.05_537A_017.d	GeminiC18 3x100 3(mm)
320-44774-1 RE		12/05/2018 09:03	1	2018.12.05_537A_018.d	GeminiC18 3x100 3(mm)
320-44774-2 RE		12/05/2018 09:10	1	2018.12.05_537A_019.d	GeminiC18 3x100 3(mm)
320-44774-3 RE		12/05/2018 09:18	1	2018.12.05_537A_020.d	GeminiC18 3x100 3(mm)
320-44774-4 RE		12/05/2018 09:25	1	2018.12.05_537A_021.d	GeminiC18 3x100 3(mm)
320-44774-5 RE		12/05/2018 09:32	1	2018.12.05_537A_022.d	GeminiC18 3x100 3(mm)
320-44774-6 RE		12/05/2018 09:40	1	2018.12.05_537A_023.d	GeminiC18 3x100 3(mm)
320-44774-7 RE		12/05/2018 09:47	1	2018.12.05_537A_024.d	GeminiC18 3x100 3(mm)
320-44774-8 RE		12/05/2018 09:55	1	2018.12.05_537A_025.d	GeminiC18 3x100 3(mm)
CCV 320-263191/23 CCVIS		12/05/2018 10:02	1	2018.12.05_537A_026.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 12/05/2018 10:02

Analysis Batch Number: 263193 End Date: 12/05/2018 11:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-263193/23 CCVIS		12/05/2018 10:02	1	2018.12.05_537A_026.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/05/2018 10:10	1		GeminiC18 3x100 3(mm)
320-44774-9 RE		12/05/2018 10:17	1	2018.12.05_537A_028.d	GeminiC18 3x100 3(mm)
320-44774-10 RE		12/05/2018 10:25	1	2018.12.05_537A_029.d	GeminiC18 3x100 3(mm)
320-44774-11 RE		12/05/2018 10:32	1	2018.12.05_537A_030.d	GeminiC18 3x100 3(mm)
320-44774-12 RE		12/05/2018 10:39	1	2018.12.05_537A_031.d	GeminiC18 3x100 3(mm)
320-44774-13 RE		12/05/2018 10:47	1	2018.12.05_537A_032.d	GeminiC18 3x100 3(mm)
320-44774-14 RE		12/05/2018 10:54	1	2018.12.05_537A_033.d	GeminiC18 3x100 3(mm)
320-44774-15 RE		12/05/2018 11:02	1	2018.12.05_537A_034.d	GeminiC18 3x100 3(mm)
320-44774-15 MS RE		12/05/2018 11:09	1	2018.12.05_537A_035.d	GeminiC18 3x100 3(mm)
320-44774-15 MSD RE		12/05/2018 11:17	1	2018.12.05_537A_036.d	GeminiC18 3x100 3(mm)
320-44774-16 RE		12/05/2018 11:24	1	2018.12.05_537A_037.d	GeminiC18 3x100 3(mm)
CCV 320-263193/35 CCVIS		12/05/2018 11:32	1	2018.12.05_537A_038.d	GeminiC18 3x100 3(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Instrument ID: A8_N Start Date: 12/05/2018 11:32

Analysis Batch Number: 263195 End Date: 12/05/2018 12:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-263195/35 CCVIS		12/05/2018 11:32	1	2018.12.05_537A 038.d	GeminiC18 3x100 3(mm)
ZZZZZ		12/05/2018 11:39	1		GeminiC18 3x100 3(mm)
320-44774-17 RE		12/05/2018 11:47	1	2018.12.05_537A 040.d	GeminiC18 3x100 3(mm)
320-44774-18 RE		12/05/2018 11:54	1	2018.12.05_537A 041.d	GeminiC18 3x100 3(mm)
320-44774-19 RE		12/05/2018 12:02	1	2018.12.05_537A 042.d	GeminiC18 3x100 3(mm)
320-44774-20 RE		12/05/2018 12:09	1	2018.12.05_537A 043.d	GeminiC18 3x100 3(mm)
CCV 320-263195/41 CCVIS		12/05/2018 12:16	1	2018.12.05_537A 044.d	GeminiC18 3x100 3(mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 258695 Batch Start Date: 11/12/18 14:35 Batch Analyst: Hoang, Dalena T

Batch Method: 537 Batch End Date: 11/12/18 20:42

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00090
MB 320-258695/1		537, 537				250 mL	10.00 mL	7 SU	500 uL
LLCS 320-258695/2		537, 537				250 mL	10.00 mL	7 SU	500 uL
320-44774-A-1	WGNA-103018-RW-3136	537, 537	T	295.01 g	28.51 g	266.5 mL	10.00 mL	7 SU	500 uL
320-44774-B-2	WGNA-103018-FRB-3136	537, 537	T	275.96 g	28.13 g	247.8 mL	10.00 mL	7 SU	500 uL
320-44774-A-3	NAWC-103018-RW-061	537, 537	T	311.05 g	28.34 g	282.7 mL	10.00 mL	7 SU	500 uL
320-44774-B-4	NAWC-103018-FRB-061	537, 537	T	305.72 g	28.52 g	277.2 mL	10.00 mL	7 SU	500 uL
320-44774-B-5	WGNA-103018-RW-3103	537, 537	T	288.24 g	28.44 g	259.8 mL	10.00 mL	7 SU	500 uL
320-44774-B-6	WGNA-103018-FRB-3103	537, 537	T	299.25 g	28.47 g	270.8 mL	10.00 mL	7 SU	500 uL
320-44774-B-7	WGNA-103018-RW-3325	537, 537	T	311.28 g	28.80 g	282.5 mL	10.00 mL	7 SU	500 uL
320-44774-B-8	WGNA-103018-FRB-3325	537, 537	T	297.08 g	28.20 g	268.9 mL	10.00 mL	7 SU	500 uL
320-44774-B-9	WGNA-103018-RW-3493	537, 537	T	301.64 g	29.25 g	272.4 mL	10.00 mL	7 SU	500 uL
320-44774-B-10	WGNA-103018-FRB-3493	537, 537	T	298.01 g	28.05 g	270 mL	10.00 mL	7 SU	500 uL
320-44774-A-11	NAWC-103018-RW-138	537, 537	T	290.05 g	28.36 g	261.7 mL	10.00 mL	7 SU	500 uL
320-44774-A-12	NAWC-103018-FRB-138	537, 537	T	304.71 g	28.47 g	276.2 mL	10.00 mL	7 SU	500 uL
320-44774-B-13	NAWC-103018-RW-177	537, 537	T	290.80 g	29.15 g	261.7 mL	10.00 mL	7 SU	500 uL
320-44774-B-14	NAWC-103018-FRB-177	537, 537	T	307.13 g	28.10 g	279 mL	10.00 mL	7 SU	500 uL
320-44774-B-15	WGNA-103018-RW-3118	537, 537	T	295.63 g	28.75 g	266.9 mL	10.00 mL	7 SU	500 uL
320-44774-B-15 LMS	WGNA-103018-RW-3118	537, 537	T	315.88 g	28.97 g	286.9 mL	10.00 mL	7 SU	500 uL
320-44774-B-15 LMSD	WGNA-103018-RW-3118	537, 537	T	311.35 g	28.34 g	283 mL	10.00 mL	7 SU	500 uL
320-44774-B-16	WGNA-103018-FRB-3118	537, 537	T	294.49 g	28.02 g	266.5 mL	10.00 mL	7 SU	500 uL
320-44774-B-17	NAWC-103018-RW-094	537, 537	T	291.89 g	28.64 g	263.3 mL	10.00 mL	7 SU	500 uL
320-44774-B-18	NAWC-103018-FRB-094	537, 537	T	300.37 g	28.75 g	271.6 mL	10.00 mL	7 SU	500 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 258695 Batch Start Date: 11/12/18 14:35 Batch Analyst: Hoang, Dalena T

Batch Method: 537 Batch End Date: 11/12/18 20:42

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-SU 00084	LC537LSP 00002	AnalysisComment			
MB 320-258695/1		537, 537		500 uL		Chlorine ND			
LLCS 320-258695/2		537, 537		500 uL	500 uL	Chlorine ND			
320-44774-A-1	WGNA-103018-RW-3136	537, 537	T	500 uL		Chlorine ND			
320-44774-B-2	WGNA-103018-FRB-3136	537, 537	T	500 uL		Chlorine ND			
320-44774-A-3	NAWC-103018-RW-061	537, 537	T	500 uL		Chlorine ND			
320-44774-B-4	NAWC-103018-FRB-061	537, 537	T	500 uL		Chlorine ND			
320-44774-B-5	WGNA-103018-RW-3103	537, 537	T	500 uL		Chlorine ND			
320-44774-B-6	WGNA-103018-FRB-3103	537, 537	T	500 uL		Chlorine ND			
320-44774-B-7	WGNA-103018-RW-3325	537, 537	T	500 uL		Chlorine ND			
320-44774-B-8	WGNA-103018-FRB-3325	537, 537	T	500 uL		Chlorine ND			
320-44774-B-9	WGNA-103018-RW-3493	537, 537	T	500 uL		Chlorine ND			
320-44774-B-10	WGNA-103018-FRB-3493	537, 537	T	500 uL		Chlorine ND			
320-44774-A-11	NAWC-103018-RW-138	537, 537	T	500 uL		Chlorine ND			
320-44774-A-12	NAWC-103018-FRB-138	537, 537	T	500 uL		Chlorine ND			
320-44774-B-13	NAWC-103018-RW-177	537, 537	T	500 uL		Chlorine ND			
320-44774-B-14	NAWC-103018-FRB-177	537, 537	T	500 uL		Chlorine ND			
320-44774-B-15	WGNA-103018-RW-3118	537, 537	T	500 uL		Chlorine ND			
320-44774-B-15 LMS	WGNA-103018-RW-3118	537, 537	T	500 uL	500 uL	Chlorine ND			
320-44774-B-15 LMSD	WGNA-103018-RW-3118	537, 537	T	500 uL	500 uL	Chlorine ND			
320-44774-B-16	WGNA-103018-FRB-3118	537, 537	T	500 uL		Chlorine ND			
320-44774-B-17	NAWC-103018-RW-094	537, 537	T	500 uL		Chlorine ND			
320-44774-B-18	NAWC-103018-FRB-094	537, 537	T	500 uL		Chlorine ND			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 258695 Batch Start Date: 11/12/18 14:35 Batch Analyst: Hoang, Dalena T

Batch Method: 537 Batch End Date: 11/12/18 20:42

Batch Notes	
Analyst ID - Aliquot Step	DTH
Batch Comment	Client ID matches label: DTH 11/12/18
Analyst ID - Final Volume Step	DTH
Internal Standard ID#	1408098
Manifold ID	D
Methanol ID	1430699
pH Indicator ID	3718
Pipette ID	I46162G
Analyst ID - IS Reagent Drop	JER
Analyst ID - IS Reagent Drop Witness	DTH
Analyst ID - SU Reagent Drop	VPM
Analyst ID - SU Reagent Drop Witness	DTH
Analyst ID - TA Reagent Drop	VPM
Analyst ID - TA Reagent Drop Witness	DTH
SPE Cartridge Lot ID	64113968-03
Trizma ID	SLBR8241V
Reagent Water ID	11/12/18

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 258698 Batch Start Date: 11/12/18 14:43 Batch Analyst: Hoang, Dalena T

Batch Method: 537 Batch End Date: 11/12/18 20:42

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00090
MB 320-258698/1		537, 537				250 mL	10.00 mL	7 SU	500 uL
LCS 320-258698/2		537, 537				250 mL	10.00 mL	7 SU	500 uL
LCSD 320-258698/3		537, 537				250 mL	10.00 mL	7 SU	500 uL
320-44774-B-19	NAWC-103018-RW-127	537, 537	T	278.45 g	28.51 g	249.9 mL	10.00 mL	7 SU	500 uL
320-44774-B-20	NAWC-103018-FRB-127	537, 537	T	307.63 g	28.44 g	279.2 mL	10.00 mL	7 SU	500 uL
320-44774-B-21	NAWC-103018-RW-141	537, 537	T	304.33 g	28.37 g	276 mL	10.00 mL	7 SU	500 uL
320-44774-B-22	NAWC-103018-FRB-141	537, 537	T	306.23 g	29.26 g	277 mL	10.00 mL	7 SU	500 uL
320-44774-B-23	WGNA-103018-RW-0335	537, 537	T	307.31 g	28.52 g	278.8 mL	10.00 mL	7 SU	500 uL
320-44774-B-24	WGNA-103018-FRB-0335	537, 537	T	305.77 g	28.69 g	277.1 mL	10.00 mL	7 SU	500 uL
320-44774-B-25	WGNA-103018-RW-3882	537, 537	T	276.86 g	29.51 g	247.4 mL	10.00 mL	7 SU	500 uL
320-44774-B-26	WGNA-103018-FRB-3882	537, 537	T	313.50 g	27.89 g	285.6 mL	10.00 mL	7 SU	500 uL
320-44774-B-27	WGNA-103018-DUP-50	537, 537	T	290.01 g	28.69 g	261.3 mL	10.00 mL	7 SU	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-SU 00084	LC537MSP 00001	AnalysisComment			
MB 320-258698/1		537, 537		500 uL		Chlorine ND			
LCS 320-258698/2		537, 537		500 uL	500 uL	Chlorine ND			
LCSD 320-258698/3		537, 537		500 uL	500 uL	Chlorine ND			
320-44774-B-19	NAWC-103018-RW-127	537, 537	T	500 uL		Chlorine ND			
320-44774-B-20	NAWC-103018-FRB-127	537, 537	T	500 uL		Chlorine ND			
320-44774-B-21	NAWC-103018-RW-141	537, 537	T	500 uL		Chlorine ND			
320-44774-B-22	NAWC-103018-FRB-141	537, 537	T	500 uL		Chlorine ND			
320-44774-B-23	WGNA-103018-RW-0335	537, 537	T	500 uL		Chlorine ND			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 258698 Batch Start Date: 11/12/18 14:43 Batch Analyst: Hoang, Dalena T

Batch Method: 537 Batch End Date: 11/12/18 20:42

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-SU 00084	LC537MSP 00001	AnalysisComment			
320-44774-B-24	WGNA-103018-FRB-0335	537, 537	T	500 uL		Chlorine ND			
320-44774-B-25	WGNA-103018-RW-3882	537, 537	T	500 uL		Chlorine ND			
320-44774-B-26	WGNA-103018-FRB-3882	537, 537	T	500 uL		Chlorine ND			
320-44774-B-27	WGNA-103018-DUP-50	537, 537	T	500 uL		Chlorine ND			

Batch Notes	
Analyst ID - Aliquot Step	DTH
Batch Comment	Client ID matches label: DTH 11/12/18
Analyst ID - Final Volume Step	DTH
Internal Standard ID#	1408098
Manifold ID	P/Q
Methanol ID	1430699
pH Indicator ID	3718
Pipette ID	I46162G
Analyst ID - IS Reagent Drop	JER
Analyst ID - IS Reagent Drop Witness	DTH
Analyst ID - SU Reagent Drop	VPM
Analyst ID - SU Reagent Drop Witness	DTH
Analyst ID - TA Reagent Drop	VPM
Analyst ID - TA Reagent Drop Witness	DTH
SPE Cartridge Lot ID	64113968-03
Trizma ID	SLBR8241V
Reagent Water ID	11/12/18

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 262122 Batch Start Date: 11/30/18 08:05 Batch Analyst: Kouchari, Shamiran

Batch Method: 537 Batch End Date: 11/30/18 14:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00089
MB 320-262122/1		537, 537				250.00 mL	10.00 mL	7 SU	500 uL
LCS 320-262122/2		537, 537				250.00 mL	10.00 mL	7 SU	500 uL
320-44774-B-1	WGNA-103018-RW-3136	537, 537	T	288.98 g	28.21 g	260.8 mL	10.00 mL	7 SU	500 uL
320-44774-A-2	WGNA-103018-FRB-3136	537, 537	T	299.41 g	28.27 g	271.1 mL	10.00 mL	7 SU	500 uL
320-44774-B-3	NAWC-103018-RW-061	537, 537	T	280.13 g	28.80 g	251.3 mL	10.00 mL	7 SU	500 uL
320-44774-A-4	NAWC-103018-FRB-061	537, 537	T	286.73 g	28.22 g	258.5 mL	10.00 mL	7 SU	500 uL
320-44774-A-5	WGNA-103018-RW-3103	537, 537	T	284.38 g	28.95 g	255.4 mL	10.00 mL	7 SU	500 uL
320-44774-A-6	WGNA-103018-FRB-3103	537, 537	T	289.81 g	27.72 g	262.1 mL	10.00 mL	7 SU	500 uL
320-44774-A-7	WGNA-103018-RW-3325	537, 537	T	290.08 g	29.62 g	260.5 mL	10.00 mL	7 SU	500 uL
320-44774-A-8	WGNA-103018-FRB-3325	537, 537	T	285.87 g	27.89 g	258 mL	10.00 mL	7 SU	500 uL
320-44774-A-9	WGNA-103018-RW-3493	537, 537	T	299.64 g	28.95 g	270.7 mL	10.00 mL	7 SU	500 uL
320-44774-A-10	WGNA-103018-FRB-3493	537, 537	T	291.82 g	27.58 g	264.2 mL	10.00 mL	7 SU	500 uL
320-44774-B-11	NAWC-103018-RW-138	537, 537	T	287.97 g	28.10 g	259.9 mL	10.00 mL	7 SU	500 uL
320-44774-B-12	NAWC-103018-FRB-138	537, 537	T	290.10 g	27.56 g	262.5 mL	10.00 mL	7 SU	500 uL
320-44774-A-13	NAWC-103018-RW-177	537, 537	T	281.68 g	29.47 g	252.2 mL	10.00 mL	7 SU	500 uL
320-44774-A-14	NAWC-103018-FRB-177	537, 537	T	280.38 g	28.08 g	252.3 mL	10.00 mL	7 SU	500 uL
320-44774-A-15	WGNA-103018-RW-3118	537, 537	T	288.26 g	29.36 g	258.9 mL	10.00 mL	7 SU	500 uL
320-44774-A-15 MS	WGNA-103018-RW-3118	537, 537	T	289.64 g	29.27 g	260.4 mL	10.00 mL	7 SU	500 uL
320-44774-A-15 MSD	WGNA-103018-RW-3118	537, 537	T	276.13 g	28.29 g	247.8 mL	10.00 mL	7 SU	500 uL
320-44774-A-16	WGNA-103018-FRB-3118	537, 537	T	289.71 g	27.71 g	262 mL	10.00 mL	7 SU	500 uL
320-44774-A-17	NAWC-103018-RW-094	537, 537	T	295.22 g	28.29 g	266.9 mL	10.00 mL	7 SU	500 uL
320-44774-A-18	NAWC-103018-FRB-094	537, 537	T	287.21 g	27.34 g	259.9 mL	10.00 mL	7 SU	500 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 262122 Batch Start Date: 11/30/18 08:05 Batch Analyst: Kouchari, Shamiran

Batch Method: 537 Batch End Date: 11/30/18 14:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00089
320-44774-A-19	NAWC-103018-RW-127	537, 537	T	287.88 g	28.94 g	258.9 mL	10.00 mL	7 SU	500 uL
320-44774-A-20	NAWC-103018-FRB-127	537, 537	T	290.22 g	27.52 g	262.7 mL	10.00 mL	7 SU	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-SU 00087	LC537MSP 00001	AnalysisComment			
MB 320-262122/1		537, 537		500 uL		Chlorine, ND			
LCS 320-262122/2		537, 537		500 uL	500 uL	Chlorine, ND			
320-44774-B-1	WGNA-103018-RW-3136	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-2	WGNA-103018-FRB-3136	537, 537	T	500 uL		Chlorine, ND			
320-44774-B-3	NAWC-103018-RW-061	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-4	NAWC-103018-FRB-061	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-5	WGNA-103018-RW-3103	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-6	WGNA-103018-FRB-3103	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-7	WGNA-103018-RW-3325	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-8	WGNA-103018-FRB-3325	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-9	WGNA-103018-RW-3493	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-10	WGNA-103018-FRB-3493	537, 537	T	500 uL		Chlorine, ND			
320-44774-B-11	NAWC-103018-RW-138	537, 537	T	500 uL		Chlorine, ND			
320-44774-B-12	NAWC-103018-FRB-138	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-13	NAWC-103018-RW-177	537, 537	T	500 uL		Chlorine, ND, 63.24g weight remining.			
320-44774-A-14	NAWC-103018-FRB-177	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-15	WGNA-103018-RW-3118	537, 537	T	500 uL		Chlorine, ND			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 262122 Batch Start Date: 11/30/18 08:05 Batch Analyst: Kouchari, Shamiran

Batch Method: 537 Batch End Date: 11/30/18 14:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-SU 00087	LC537MSP 00001	AnalysisComment			
320-44774-A-15 MS	WGNA-103018-RW-3118	537, 537	T	500 uL	500 uL	Chlorine, ND			
320-44774-A-15 MSD	WGNA-103018-RW-3118	537, 537	T	500 uL	500 uL	Chlorine, ND			
320-44774-A-16	WGNA-103018-FRB-3118	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-17	NAWC-103018-RW-094	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-18	NAWC-103018-FRB-094	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-19	NAWC-103018-RW-127	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-20	NAWC-103018-FRB-127	537, 537	T	500 uL		Chlorine, ND			

Batch Notes	
Analyst ID - Aliquot Step	SKD
Batch Comment	Client labels match TA labels, SKD 11/30/18
Analyst ID - Final Volume Step	SKD
Internal Standard ID#	1408097
Manifold ID	Y, Q
Methanol ID	1447928
pH Indicator ID	3718
Pipette ID	I46162G
Analyst ID - IS Reagent Drop	SKD
Analyst ID - IS Reagent Drop Witness	TWL
Analyst ID - SU Reagent Drop	SKD
Analyst ID - SU Reagent Drop Witness	MNV
Analyst ID - TA Reagent Drop	SKD
Analyst ID - TA Reagent Drop Witness	MNV
SPE Cartridge Lot ID	6413968-05
Trizma ID	SLBR5241V
Reagent Water ID	11/30/18

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 262122 Batch Start Date: 11/30/18 08:05 Batch Analyst: Kouchari, Shamiran

Batch Method: 537 Batch End Date: 11/30/18 14:45

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 262132 Batch Start Date: 11/30/18 08:13 Batch Analyst: Kouchari, Shamiran

Batch Method: 537 Batch End Date: 11/30/18 14:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00089
MB 320-262132/1		537, 537				250.00 mL	10.00 mL	7 SU	500 uL
LCS 320-262132/2		537, 537				250.00 mL	10.00 mL	7 SU	500 uL
LCSD 320-262132/3		537, 537				250.00 mL	10.00 mL	7 SU	500 uL
320-44774-A-21	NAWC-103018-RW-141	537, 537	T	293.03 g	28.71 g	264.3 mL	10.00 mL	7 SU	500 uL
320-44774-A-22	NAWC-103018-FRB-141	537, 537	T	296.97 g	28.60 g	268.4 mL	10.00 mL	7 SU	500 uL
320-44774-A-23	WGNA-103018-RW-0335	537, 537	T	292.02 g	28.04 g	264 mL	10.00 mL	7 SU	500 uL
320-44774-A-24	WGNA-103018-FRB-0335	537, 537	T	291.45 g	27.45 g	264 mL	10.00 mL	7 SU	500 uL
320-44774-A-25	WGNA-103018-RW-3882	537, 537	T	272.66 g	29.31 g	243.4 mL	10.00 mL	7 SU	500 uL
320-44774-A-26	WGNA-103018-FRB-3882	537, 537	T	289.99 g	28.10 g	261.9 mL	10.00 mL	7 SU	500 uL
320-44774-A-27	WGNA-103018-DUP-50	537, 537	T	270.93 g	29.66 g	241.3 mL	10.00 mL	7 SU	500 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-SU 00087	LC537HSP 00001	AnalysisComment			
MB 320-262132/1		537, 537		500 uL		Chlorine, ND			
LCS 320-262132/2		537, 537		500 uL	500 uL	Chlorine, ND			
LCSD 320-262132/3		537, 537		500 uL	500 uL	Chlorine, ND			
320-44774-A-21	NAWC-103018-RW-141	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-22	NAWC-103018-FRB-141	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-23	WGNA-103018-RW-0335	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-24	WGNA-103018-FRB-0335	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-25	WGNA-103018-RW-3882	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-26	WGNA-103018-FRB-3882	537, 537	T	500 uL		Chlorine, ND			
320-44774-A-27	WGNA-103018-DUP-50	537, 537	T	500 uL		Chlorine, ND, 83.95g weight remaining.			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-44774-1

SDG No.:

Batch Number: 262132 Batch Start Date: 11/30/18 08:13 Batch Analyst: Kouchari, Shamiran

Batch Method: 537 Batch End Date: 11/30/18 14:50

Batch Notes	
Analyst ID - Aliquot Step	SKD
Batch Comment	Client labels match TA labels, SKD 11/30/18
Analyst ID - Final Volume Step	SKD
Internal Standard ID#	1408097
Manifold ID	F, K
Methanol ID	1447928
pH Indicator ID	3718
Pipette ID	I46162G
Analyst ID - IS Reagent Drop	SKD
Analyst ID - IS Reagent Drop Witness	TWL
Analyst ID - SU Reagent Drop	SKD
Analyst ID - SU Reagent Drop Witness	MNV
Analyst ID - TA Reagent Drop	SKD
Analyst ID - TA Reagent Drop Witness	MNV
SPE Cartridge Lot ID	6413968-05
Trizma ID	SLBR5241V
Reagent Water ID	11/30/18

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PFAS Calibration Calculations:

Initial Calibration 11/14/2018
Instrument A8_N

PFOA

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	Reported RRF
0.025	22956	2057108	2.5	1.11594	1.1148
0.0501	46160	2147485	2.5	1.07260	1.0737
0.25	239262	2223337	2.5	1.07614	1.0751
1	961167	2205500	2.5	1.08951	1.0884
2.5	2165714	2059493	2.5	1.05158	1.0505
5.01	4631947	2209049	2.5	1.04631	1.0474
10	9280287	2100598	2.5	1.10448	1.1034
			Average	1.07951	1.079
			Standard Deviation	0.0258	
			RSD	0.0239	
			%RSD	2.38944	2.3

Continuing Calibration 11/15/2018 @ 17:21
PFOA

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	%D	Reported RRF	Reported %D
1	812463	1909890	2.5	1.0635	-1.437026	1.062	-1.5

Sample Identification WGNA-103018-RW-3118
Compound PFOA

Compound Area	270951	Average RRF	1.079
Internal Standard Amount (ng)	2.5	Sample Volume(ml)	266.9
Dilution Factor	1	Volume Extract (ml)	10
Internal Standard Area	1670775		
Concentration	14.0781 ng/L		
Reported Result	14.1 ng/L		

MS/MSD %R WGNA-103018-RW-3118

PFOA MS %R	Spike amount	MS concentration	Sample Result
183.67	3.49	20.51	14.1

PFOA MSD %R	Spike amount	MSD concentration	Sample Result
-84.75	3.54	11.1	14.1

MS/MSD RPD
59.54

Surrogate PFHxA

Compound Area	1004721		
Internal Standard Amount (ng)	10		
Dilution Factor	1	Volume Extract (ml)	1
Internal Standard Area	1670775	Injection Volume (µl)	1
Average RRF	0.9853		
Concentration	6.1032		
Surrogate %R	61.03	Spike amount	10

LCS %R 320-258698/2-A

PFOA	Spike amount	LCS concentration
87.96	100	87.96

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20181115-67769.b\2018.11.15_537AA_042.d
Lims ID: 320-44774-B-15-A
Client ID: WGNA-103018-RW-3118
Sample Type: Client
Inject. Date: 15-Nov-2018 19:50:26 ALS Bottle#: 30 Worklist Smp#: 39
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 320-44774-b-15-a
Misc. Info.: Plate: 1 Rack: 2
Operator ID: SACINSTLCMS01 Instrument ID: A8_N

Method: \\ChromNa\Sacramento\ChromData\A8_N\20181115-67769.b\537_A8_N.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2018 14:21:42 Calib Date: 14-Nov-2018 16:18:35
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNa\Sacramento\ChromData\A8_N\20181114-67705.b\2018.11.14_537ICAL_009.d

Column 1 : Det: EXP1
Process Host: CTX0303

First Level Reviewer: barnettj Date: 06-Dec-2018 14:16:25
Ratio Calibration: None

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
1 Perfluorobutanesulfonic acid									
298.90 > 80.00	1.964	1.964	0.0	1.000	100676	0.1504	Target=1.62	58.5	
298.90 > 99.00	1.964	1.964	0.0	1.000	65335		1.54(0.00-0.00)	18.4	
13 Perfluorohexanoic acid									
313.00 > 269.00	2.318	2.318	0.0	0.727	106648	0.1723	Target=10.87	4.4	
313.00 > 119.00	2.318	2.318	0.0	0.727	12155		8.77(0.00-0.00)	4.5	
$ 2 13C2 PFHxA									
315.00 > 270.00	2.318	2.318	0.0	1.000	1004721	1.53		1197	
4 Perfluoroheptanoic acid									
363.00 > 319.00	2.769	2.752	0.017	1.000	101073	0.1381	Target=2.52	4.7	
363.00 > 169.00	2.752	2.752	0.0	0.994	39173		2.58(0.00-0.00)	8.2	
3 Perfluorohexanesulfonic acid									
399.00 > 80.00	2.769	2.769	0.0	1.000	202389	0.2214	Target=2.45	189	
399.00 > 99.00	2.769	2.769	0.0	1.000	69669		2.91(0.00-0.00)	18.6	
* 5 13C2 PFOA									
415.00 > 370.00	3.187	3.171	0.016		1670775	2.50		2686	
6 Perfluorooctanoic acid									M
413.00 > 369.00	3.187	3.171	0.016	1.000	270951	0.3757	Target=1.66	15.6	M
413.00 > 169.00	3.187	3.171	0.016	1.000	167846		1.61(0.00-0.00)	28.5	M
* 7 13C4 PFOS									
503.00 > 80.00	3.573	3.557	0.016		1391917	2.39		2181	
9 Perfluorononanoic acid									
463.00 > 419.00	3.590	3.573	0.017	1.000	31598	0.0588	Target=3.44	4.6	
463.00 > 169.00	3.590	3.573	0.017	1.000	9971		3.17(0.00-0.00)	9.6	
8 Perfluorooctanesulfonic acid									
499.00 > 80.00	3.573	3.574	-0.001	1.000	357392	0.5646	Target=3.26	270	
499.00 > 99.00	3.573	3.574	-0.001	1.000	67237		5.32(0.00-0.00)	30.4	

Report Date: 06-Dec-2018 14:21:57 Chrom Revision: 2.3 21-Nov-2018 13:56:44
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20181115-67769.b\2018.11.15_537AA_042.d
Ratio Calibration: None

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
$ 10 13C2 PFDA									
515.00 > 470.00	3.944	3.928	0.016	1.000	785150	1.71		2325	
* 12 d3-NMeFOSAA									
573.00 > 419.00	4.105	4.089	0.016		414355	2.50		1254	
$ 11 d5-NEtFOSAA									
589.00 > 419.00	4.266	4.250	0.016	1.039	325371	1.86		430	
16 N-ethylperfluorooctanesulfonamidoa									M
584.00 > 419.00	4.266	4.266	0.0	1.039	2182	0.0138		6.3	M

QC Flag Legend

Review Flags

M - Manually Integrated

Preliminary Data - For Official Use Only

C:\All_Projects\112G08005\WE04\FS.DR.03\WGNA_201901.mxd MKB 2/14/2019

N

NSDALE

UPPER GWYNEDD

MONTGOMERY

WARRINGTON

WARWICK

NORTHAMPTON

IVYLAND

WARMINSTER

HORSHAM

HAGS

NASJRB Willow Grove

LOWER GWYNEDD

HATBORO

UPPER SOUTHAMPTON

UPPER DUBLIN

UPPER MORELAND

LOWER MORELAND

LEGEND

- PFOA & PFOS BELOW DETECTION LIMITS
- SUM OF PFOA & PFOS CONCENTRATIONS AT OR BELOW 40 PPT
- SUM OF PFOA & PFOS CONCENTRATIONS BETWEEN 40 PPT AND 70 PPT
- SUM OF PFOA & PFOS CONCENTRATIONS ABOVE 70 PPT
- PUBLIC WATER CONNECTION (SOME NOT BY NAVY)
- SAMPLING AREA
- HORSHAM AIR GUARD (HAGS)
- FORMER NASJRB WILLOW GROVE
- TOWNSHIP BOUNDARY

5,000 2,500 0 5,000

Feet

NAVFAC

PFC SAMPLE RESULTS MAP
FORMER NASJRB WILLOW GROVE
AND HORSHAM AIR GUARD
MONTGOMERY COUNTY, PENNSYLVANIA

SCALE	
AS NOTED	
FILE	
WGNA	
REV	DATE
0	02/14/19
FIGURE NUMBER	
FIGURE 1	