



Groundwater Sample Results, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG TK1858

*Naval Station Newport
Newport, Rhode Island*

August 2019

"LCSWKL21IMW2" "6020A" "RES" "LCSWKL21IMW2" "KAS" "7440-38-2" "ARSENIC" "103" "ug/L"
 "2.3" "MDL" "SPK" "103.0" "5.0" "PQL" "YES" "100" "LCSWKL21IMW2" "4.0" ""
 "LCSWKL21IMW2" "6020A" "RES1" "LCSWKL21IMW2" "KAS" "7440-43-9" "CADMIUM" "259"
 "ug/L" "0.030" "MDL" "SPK" "103.7" "1.0" "PQL" "YES" "250" "LCSWKL21IMW2"
 "0.20" ""
 "LCSWKL21IMW2" "6020A" "RES" "LCSWKL21IMW2" "KAS" "7439-92-1" "LEAD" "108" "ug/L"
 "0.074" "MDL" "SPK" "107.8" "1.0" "PQL" "YES" "100" "LCSWKL21IMW2" "0.50" ""
 "LCSWKL21IMW2" "6020A" "RES" "LCSWKL21IMW2" "KAS" "7439-96-5" "MANGANESE" "511"
 "ug/L" "0.35" "MDL" "SPK" "102.2" "2.0" "PQL" "YES" "500" "LCSWKL21IMW2"
 "1.0" ""
 "PBWKL21IMW2" "6020A" "RES" "PBWKL21IMW2" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L"
 "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "PBWKL21IMW2" "4.0" ""
 "PBWKL21IMW2" "6020A" "RES1" "PBWKL21IMW2" "KAS" "7440-43-9" "CADMIUM" "0.20" "ug/L"
 "U" "0.030" "MDL" "TRG" "1.0" "PQL" "YES" "0" "PBWKL21IMW2" "0.20"
 ""
 "PBWKL21IMW2" "6020A" "RES" "PBWKL21IMW2" "KAS" "7439-92-1" "LEAD" "0.50" "ug/L" "U"
 "0.074" "MDL" "TRG" "1.0" "PQL" "YES" "0" "PBWKL21IMW2" "0.50" ""
 "PBWKL21IMW2" "6020A" "RES" "PBWKL21IMW2" "KAS" "7439-96-5" "MANGANESE" "0.36"
 "ug/L" "J" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "PBWKL21IMW2"
 "1.0" ""
 "G32-MW302B-121417" "6020A" "RES" "TK1858-001" "KAS" "7440-38-2" "ARSENIC" "3.3" "ug/L"
 "J" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW302B-121417"
 "4.0" ""
 "G32-MW302B-121417" "6020A" "RES1" "TK1858-001" "KAS" "7440-43-9" "CADMIUM" "0.20"
 "ug/L" "U" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417"
 "0.20" ""
 "G32-MW302B-121417" "6020A" "RES" "TK1858-001" "KAS" "7439-92-1" "LEAD" "0.14" "ug/L" "J"
 "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417" "0.50" ""
 "G32-MW302B-121417" "6020A" "RES" "TK1858-001" "KAS" "7439-96-5" "MANGANESE" "513"
 "ug/L" "A" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW302B-121417"
 "1.0" ""
 "G32-MW302B-121417MSD" "6020A" "RES" "TK1858-001P" "KAS" "7440-38-2" "ARSENIC" "106"
 "ug/L" "2.3" "MDL" "SPK" "102.6" "4.2" "5.0" "PQL" "YES" "100" "TK1858-1"
 "4.0" ""
 "G32-MW302B-121417MSD" "6020A" "RES1" "TK1858-001P" "KAS" "7440-43-9" "CADMIUM" "247"
 "ug/L" "0.030" "MDL" "SPK" "98.9" "7.1" "1.0" "PQL" "YES" "250" "TK1858-1"
 "0.20" ""
 "G32-MW302B-121417MSD" "6020A" "RES" "TK1858-001P" "KAS" "7439-92-1" "LEAD" "106" "ug/L"
 "0.074" "MDL" "SPK" "106.1" "4.9" "1.0" "PQL" "YES" "100" "TK1858-1" "0.50" ""
 "G32-MW302B-121417MSD" "6020A" "RES" "TK1858-001P" "KAS" "7439-96-5" "MANGANESE" "1020"
 "ug/L" "0.35" "MDL" "SPK" "101.7" "3.3" "2.0" "PQL" "YES" "500" "TK1858-1"
 "1.0" ""
 "G32-MW302B-121417MS" "6020A" "RES" "TK1858-001S" "KAS" "7440-38-2" "ARSENIC" "110"
 "ug/L" "2.3" "MDL" "SPK" "107.2" "5.0" "PQL" "YES" "100" "TK1858-1" "4.0"
 ""
 "G32-MW302B-121417MS" "6020A" "RES1" "TK1858-001S" "KAS" "7440-43-9" "CADMIUM" "266"
 "ug/L" "0.030" "MDL" "SPK" "106.2" "1.0" "PQL" "YES" "250" "TK1858-1"
 "0.20" ""
 "G32-MW302B-121417MS" "6020A" "RES" "TK1858-001S" "KAS" "7439-92-1" "LEAD" "112" "ug/L"
 "0.074" "MDL" "SPK" "111.4" "1.0" "PQL" "YES" "100" "TK1858-1" "0.50" ""
 "G32-MW302B-121417MS" "6020A" "RES" "TK1858-001S" "KAS" "7439-96-5" "MANGANESE" "1060"
 "ug/L" "0.35" "MDL" "SPK" "108.5" "2.0" "PQL" "YES" "500" "TK1858-1" "1.0"
 ""

"G32-MW302B-121417" "6020A" "RES" "TK1858-002" "KAS" "7440-38-2" "ARSENIC" "2.7" "ug/L"
 "J" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW302B-121417"
 "4.0" ""

"G32-MW302B-121417" "6020A" "RES1" "TK1858-002" "KAS" "7440-43-9" "CADMIUM" "0.20"
 "ug/L" "U" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417"
 "0.20" ""

"G32-MW302B-121417" "6020A" "RES" "TK1858-002" "KAS" "7439-92-1" "LEAD" "0.50" "ug/L" "U"
 "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417" "0.50" ""

"G32-MW302B-121417" "6020A" "RES" "TK1858-002" "KAS" "7439-96-5" "MANGANESE" "543"
 "ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW302B-121417"
 "1.0" ""

"G32-MW302B-121417MSD" "6020A" "RES" "TK1858-002P" "KAS" "7440-38-2" "ARSENIC" "110"
 "ug/L" "2.3" "MDL" "SPK" "107.1" "1.3" "5.0" "PQL" "YES" "100" "TK1858-2"
 "4.0" ""

"G32-MW302B-121417MSD" "6020A" "RES1" "TK1858-002P" "KAS" "7440-43-9" "CADMIUM" "262"
 "ug/L" "0.030" "MDL" "SPK" "105.0" "2.8" "1.0" "PQL" "YES" "250" "TK1858-2"
 "0.20" ""

"G32-MW302B-121417MSD" "6020A" "RES" "TK1858-002P" "KAS" "7439-92-1" "LEAD" "109" "ug/L"
 "0.074" "MDL" "SPK" "109.3" "0.5" "1.0" "PQL" "YES" "100" "TK1858-2" "0.50" ""

"G32-MW302B-121417MSD" "6020A" "RES" "TK1858-002P" "KAS" "7439-96-5" "MANGANESE" "1060"
 "ug/L" "0.35" "MDL" "SPK" "103.6" "0.9" "2.0" "PQL" "YES" "500" "TK1858-2"
 "1.0" ""

"G32-MW302B-121417MS" "6020A" "RES" "TK1858-002S" "KAS" "7440-38-2" "ARSENIC" "108"
 "ug/L" "2.3" "MDL" "SPK" "105.8" "5.0" "PQL" "YES" "100" "TK1858-2" "4.0"
 ""

"G32-MW302B-121417MS" "6020A" "RES1" "TK1858-002S" "KAS" "7440-43-9" "CADMIUM" "270"
 "ug/L" "0.030" "MDL" "SPK" "108.0" "1.0" "PQL" "YES" "250" "TK1858-2"
 "0.20" ""

"G32-MW302B-121417MS" "6020A" "RES" "TK1858-002S" "KAS" "7439-92-1" "LEAD" "110" "ug/L"
 "0.074" "MDL" "SPK" "109.8" "1.0" "PQL" "YES" "100" "TK1858-2" "0.50" ""

"G32-MW302B-121417MS" "6020A" "RES" "TK1858-002S" "KAS" "7439-96-5" "MANGANESE" "1070"
 "ug/L" "0.35" "MDL" "SPK" "105.5" "2.0" "PQL" "YES" "500" "TK1858-2" "1.0"
 ""

"GI-MW405-121417" "6020A" "RES" "TK1858-003" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L"
 "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "GI-MW405-121417" "4.0"
 ""

"GI-MW405-121417" "6020A" "RES1" "TK1858-003" "KAS" "7440-43-9" "CADMIUM" "0.031"
 "ug/L" "J" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "GI-MW405-121417"
 "0.20" ""

"GI-MW405-121417" "6020A" "RES" "TK1858-003" "KAS" "7439-92-1" "LEAD" "3.41" "ug/L"
 "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "GI-MW405-121417" "0.50" ""

"GI-MW405-121417" "6020A" "RES" "TK1858-003" "KAS" "7439-96-5" "MANGANESE" "36.6"
 "ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "GI-MW405-121417"
 "1.0" ""

"GI-MW405-121417" "6020A" "RES" "TK1858-004" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L"
 "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "GI-MW405-121417" "4.0"
 ""

"GI-MW405-121417" "6020A" "RES1" "TK1858-004" "KAS" "7440-43-9" "CADMIUM" "0.037"
 "ug/L" "J" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "GI-MW405-121417"
 "0.20" ""

"GI-MW405-121417" "6020A" "RES" "TK1858-004" "KAS" "7439-92-1" "LEAD" "2.42" "ug/L"
 "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "GI-MW405-121417" "0.50" ""

"GI-MW405-121417" "6020A" "RES" "TK1858-004" "KAS" "7439-96-5" "MANGANESE" "34.6"
 "ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "GI-MW405-121417"

"1.0" ""

"MW406-121417" "6020A" "RES" "TK1858-005" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L" "U"

"2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "MW406-121417" "4.0" ""

"MW406-121417" "6020A" "RES1" "TK1858-005" "KAS" "7440-43-9" "CADMIUM" "0.20" "ug/L" "U"

"0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "MW406-121417" "0.20" ""

"MW406-121417" "6020A" "RES" "TK1858-005" "KAS" "7439-92-1" "LEAD" "0.52" "ug/L" "J" "0.075"

"MDL" "TRG" "1.0" "PQL" "YES" "0" "MW406-121417" "0.50" ""

"MW406-121417" "6020A" "RES" "TK1858-005" "KAS" "7439-96-5" "MANGANESE" "2330" "ug/L"

"0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "MW406-121417" "1.0" ""

"MW406-121417" "6020A" "RES" "TK1858-006" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L" "U"

"2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "MW406-121417" "4.0" ""

"MW406-121417" "6020A" "RES1" "TK1858-006" "KAS" "7440-43-9" "CADMIUM" "0.20" "ug/L" "U"

"0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "MW406-121417" "0.20" ""

"MW406-121417" "6020A" "RES" "TK1858-006" "KAS" "7439-92-1" "LEAD" "0.27" "ug/L" "J" "0.075"

"MDL" "TRG" "1.0" "PQL" "YES" "0" "MW406-121417" "0.50" ""

"MW406-121417" "6020A" "RES" "TK1858-006" "KAS" "7439-96-5" "MANGANESE" "2560" "ug/L"

"0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "MW406-121417" "1.0" ""

"G32-MW302B-D121417" "6020A" "RES" "TK1858-007" "KAS" "7440-38-2" "ARSENIC" "2.6" "ug/L"

"J" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW302B-D121417"

"4.0" ""

"G32-MW302B-D121417" "6020A" "RES1" "TK1858-007" "KAS" "7440-43-9" "CADMIUM" "0.20"

"ug/L" "U" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-D121417"

"0.20" ""

"G32-MW302B-D121417" "6020A" "RES" "TK1858-007" "KAS" "7439-92-1" "LEAD" "0.15" "ug/L" "J"

"0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-D121417" "0.50"

""

"G32-MW302B-D121417" "6020A" "RES" "TK1858-007" "KAS" "7439-96-5" "MANGANESE" "502"

"ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW302B-D121417"

"1.0" ""

"G32-MW302B-D121417" "6020A" "RES" "TK1858-008" "KAS" "7440-38-2" "ARSENIC" "3.1" "ug/L"

"J" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW302B-D121417"

"4.0" ""

"G32-MW302B-D121417" "6020A" "RES1" "TK1858-008" "KAS" "7440-43-9" "CADMIUM" "0.20"

"ug/L" "U" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-D121417"

"0.20" ""

"G32-MW302B-D121417" "6020A" "RES" "TK1858-008" "KAS" "7439-92-1" "LEAD" "0.50" "ug/L" "U"

"0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-D121417" "0.50"

""

"G32-MW302B-D121417" "6020A" "RES" "TK1858-008" "KAS" "7439-96-5" "MANGANESE" "589"

"ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW302B-D121417"

"1.0" ""

"G32-MW302B-121417" "2320B" "RES" "TK1858-1" "KAS" "11-43-8" "ALKALINITY AS CaCO3"

"23." "mg/L" "0.23" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW302B-121417"

"4.0" ""

"G32-MW302B-121417" "300.0" "RES" "TK1858-1" "KAS" "14797-55-8" "NITRATE AS N" "0.025"

"mg/L" "U" ".0174" "MDL" "TRG" "0.050" "PQL" "YES" "0.845" "G32-MW302B-121417"

"0.025" ""

"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "877-09-8" "2,4,5,6-Tetrachloro-meta-xylene"

"98.7" "%" "0" "MDL" "SURR" "98.7" "0" "PQL" "YES" "0.990" "G32-MW302B-121417"

"0" ""

"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "12674-11-2" "AROCLOR 1016" "0.25"

"ug/L" "U" "0.15" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"

"0.25" ""

"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "11104-28-2" "AROCLOR 1221" "0.25"

"ug/L" "U" "0.20" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "11141-16-5" "AROCOR 1232" "0.25"
"ug/L" "U" "0.088" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "53469-21-9" "AROCOR 1242" "0.25"
"ug/L" "U" "0.18" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "12672-29-6" "AROCOR 1248" "0.25"
"ug/L" "U" "0.20" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "11097-69-1" "AROCOR 1254" "0.25"
"ug/L" "U" "0.081" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "11096-82-5" "AROCOR 1260" "0.25"
"ug/L" "U" "0.17" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "37324-23-5" "Aroclor-1262 " "0.25"
"ug/L" "U" "0.065" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "11100-14-4" "Aroclor-1268 " "0.25"
"ug/L" "U" "0.071" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"0.25" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "2051-24-3" "DECACHLOROBIPHENYL"
"91.7" "%" "0" "MDL" "SURR" "91.7" "0" "PQL" "YES" "0.990" "G32-MW302B-121417"
"0" ""
"G32-MW302B-121417" "8082A" "RES" "TK1858-1" "KAS" "1336-36-3" "TOTAL PCB" "2.2" "ug/L"
"U" "0.065" "MDL" "TRG" "4.4" "PQL" "YES" "0" "G32-MW302B-121417"
"2.2" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "17060-07-0" "1,2-DICHLOROETHANE-D4"
"132." "%" "*" "0" "MDL" "SURR" "132." "0" "PQL" "YES" "50.0" "G32-MW302B-121417"
"0" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "540-59-0" "1,2-DICHLOROETHYLENE"
"2.0" "ug/L" "U" "0.21" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417"
"2.0" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "460-00-4" "4-BROMOFLUOROBENZENE" "106." "%" "0" "MDL" "SURR" "106." "0" "PQL" "YES"
"50.0" "G32-MW302B-121417" "0" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "71-43-2" "BENZENE" "0.50" "ug/L"
"U" "0.26" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417"
"0.50" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "156-59-2" "CIS-1,2-DICHLOROETHENE"
"1.0" "ug/L" "U" "0.21" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW302B-121417"
"1.0" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "1868-53-7" "DIBROMOFLUOROMETHANE" "116." "%" "0" "MDL" "SURR" "116." "0" "PQL"
"YES" "50.0" "G32-MW302B-121417" "0" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "127-18-4" "TETRACHLOROETHENE"
"0.50" "ug/L" "U" "0.40" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW302B-121417"
"0.50" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "2037-26-5" "TOLUENE-D8" "104." "%" "0" "MDL" "SURR" "104." "0" "PQL" "YES" "50.0" "G32-MW302B-121417" "0"
"0" ""
"G32-MW302B-121417" "8260C" "RES" "TK1858-1" "KAS" "156-60-5" "TRANS-1,2-

DICHLOROETHENE	"1.0"	"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"G32-MW302B-121417"	"1.0"	""								
"G32-MW302B-121417"	"8260C"	"RES"	"TK1858-1"	"KAS"	"79-01-6"	"TRICHLOROETHENE"				
"0.50"	"ug/L"	"U"	"0.28"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302B-121417"
"0.50"	""									
"G32-MW302B-121417"	"8260C"	"RES"	"TK1858-1"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"			
"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	
"2.0"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"615-58-7"	"2,4-Dibromophenol"	"			
"70.5"	"%"	"0"	"MDL"	"SURR"	"70.5"	"0"	"PQL"	"YES"	"4.00"	"G32-MW302B-121417"
"0"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"	"0.094"	"ug/L"	"U"	"0.073"
"0.094"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"					
"0"	"G32-MW302B-121417"	"0.094"	""							
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"	"61.8"	"%"	"0"	"MDL"
"61.8"	"%"	"0"	"MDL"	"SURR"	"61.8"	"0"	"PQL"	"YES"	"2.00"	"G32-MW302B-121417"
"0"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"	"0.094"	"ug/L"	"U"	"0.043"
"0.043"	"MDL"	"TRG"	"0.19"	"PQL"						
"YES"	"0"	"G32-MW302B-121417"	"0.094"	""						
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"0.094"	"ug/L"	"U"	"0.062"
"0.062"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	"0.094"	""	
"0.094"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"205-99-2"	"BENZO(B)FLUORANTHENE"	"0.094"	"ug/L"	"U"	"0.084"
"0.084"	"MDL"	"TRG"	"0.19"	"PQL"						
"YES"	"0"	"G32-MW302B-121417"	"0.094"	""						
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"	"0.094"	"ug/L"	"U"	"0.061"
"0.061"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"					
"0"	"G32-MW302B-121417"	"0.094"	""							
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"207-08-9"	"BENZO(K)FLUORANTHENE"	"0.094"	"ug/L"	"U"	"0.046"
"0.046"	"MDL"	"TRG"	"0.19"	"PQL"						
"YES"	"0"	"G32-MW302B-121417"	"0.094"	""						
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"218-01-9"	"CHRYSENE"	"0.094"	"ug/L"	"U"	"0.034"
"0.034"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	"0.094"	""	
"0.094"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"53-70-3"	"DIBENZO(A,H)ANTHRACENE"	"0.094"	"ug/L"	"U"	"0.066"
"0.066"	"MDL"	"TRG"	"0.19"	"PQL"						
"YES"	"0"	"G32-MW302B-121417"	"0.094"	""						
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"206-44-0"	"FLUORANTHENE"	"0.094"	"ug/L"	"U"	"0.069"
"0.069"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	"0.094"	""	
"0.094"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"81103-79-9"	"Fluorene-d10"	"58.6"	"%"	"0"	"MDL"
"58.6"	"%"	"0"	"MDL"	"SURR"	"58.6"	"0"	"PQL"	"YES"	"2.00"	"G32-MW302B-121417"
"0"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	"0.094"	"ug/L"	"U"	"0.049"
"0.049"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"				
"0.094"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"91-20-3"	"NAPHTHALENE"	"0.094"	"ug/L"	"U"	"0.060"
"0.060"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	"0.094"	""	
"0.094"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"	"0.47"	"ug/L"	"U"	"0.31"
"0.31"	"MDL"	"TRG"	"0.94"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	"0.47"	""	
"0.47"	""									
"G32-MW302B-121417"	"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"85-01-8"	"PHENANTHRENE"				

"0.094"	"ug/L"	"U"	"0.048"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-121417"
"G32-MW302B-121417"			"0.094"	"						
"G32-MW302B-121417"			"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"129-00-0"	"PYRENE"	"0.094"	
"ug/L"	"U"	"0.056"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-121417"	
"0.094"	"									
"G32-MW302B-121417"			"8270D-SIM"	"RES"	"TK1858-1"	"KAS"	"1718-52-1"	"Pyrene-d10"	"64.4"	
"%"	"0"	"MDL"	"SURR"	"64.4"	"0"	"PQL"	"YES"	"2.00"	"G32-MW302B-121417"	
"0"	"									
"G32-MW302B-121417"			"300.0"	"RES"	"TK1858-1RAQ"	"KAS"	"14808-79-8"	"SULFATE"	"26"	
"mg/L"	"0.13"	"MDL"	"TRG"		"2.0"	"PQL"	"YES"	"3.75"	"G32-MW302B-121417"	
"1.0"	"									
"G32-MW302B-121417"			"300.0"	"RES"	"TK1858-1RAR"	"KAS"	"16887-00-6"	"CHLORIDE"	"27"	
"mg/L"	"0.50"	"MDL"	"TRG"		"10."	"PQL"	"YES"	"3.75"	"G32-MW302B-121417"	
"5.0"	"									
"GI-MW405-121417"		"2320B"	"RES"	"TK1858-3"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"89."		
"mg/L"	"0.23"	"MDL"	"TRG"		"5.0"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"4.0"	"									
"GI-MW405-121417"		"300.0"	"RES"	"TK1858-3"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.67"		
"mg/L"	".0174"	"MDL"	"TRG"		"0.050"	"PQL"	"YES"	"0.845"	"GI-MW405-121417"	
"0.025"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"			
"95.0"	"%"	"0"	"MDL"	"SURR"	"95.0"	"0"	"PQL"	"YES"	"0.952"	"GI-MW405-121417"
"0"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"12674-11-2"	"AROCOR 1016"	"0.24"		
"ug/L"	"U"	"0.14"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"11104-28-2"	"AROCOR 1221"	"0.24"		
"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"11141-16-5"	"AROCOR 1232"	"0.24"		
"ug/L"	"U"	"0.088"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"53469-21-9"	"AROCOR 1242"	"0.24"		
"ug/L"	"U"	"0.18"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"12672-29-6"	"AROCOR 1248"	"0.24"		
"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"11097-69-1"	"AROCOR 1254"	"0.24"		
"ug/L"	"U"	"0.081"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"11096-82-5"	"AROCOR 1260"	"0.24"		
"ug/L"	"U"	"0.17"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"37324-23-5"	"Aroclor-1262 "	"0.24"		
"ug/L"	"U"	"0.066"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"11100-14-4"	"Aroclor-1268 "	"0.24"		
"ug/L"	"U"	"0.071"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.24"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"2051-24-3"	"DECACHLOROBIPHENYL"			
"82.1"	"%"	"0"	"MDL"	"SURR"	"82.1"	"0"	"PQL"	"YES"	"0.952"	"GI-MW405-121417"
"0"	"									
"GI-MW405-121417"		"8082A"	"RES"	"TK1858-3"	"KAS"	"1336-36-3"	"TOTAL PCB"	"2.1"		

"ug/L"	"U"	"0.063"	"MDL"	"TRG"	"4.3"	"PQL"	"YES"	"0"	"GI-MW405-121417"
"2.1"	""								
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"			
"109."	"%"	"0"	"MDL"	"SURR"	"109."	"0"	"PQL"	"YES"	"50.0"
"121417"	"0"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"			
"0.48"	"ug/L"	"J"	"0.21"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"
"121417"	"2.0"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"			
"99.1"	"%"	"0"	"MDL"	"SURR"	"99.1"	"0"	"PQL"	"YES"	"50.0"
"121417"	"0"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"71-43-2"	"BENZENE"	"0.50"	"ug/L"	"U"
"0.26"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"GI-MW405-121417"		
"0.50"	""								
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"			
"0.48"	"ug/L"	"J"	"0.21"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"121417"	"1.0"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"1868-53-7"				
"DIBROMOFLUOROMETHANE"	"101."	"%"	"0"	"MDL"	"SURR"	"101."	"0"	"PQL"	
"YES"	"50.0"	"GI-MW405-121417"	"0"	""					
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"			
"0.50"	"ug/L"	"U"	"0.40"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"
"121417"	"0.50"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"100."	"%"	
"0"	"MDL"	"SURR"	"100."	"0"	"PQL"	"YES"	"50.0"	"GI-MW405-121417"	"0"
""									
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"	"1.0"	"ug/L"	"U"
"DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"0.50"	"PQL"	
"YES"	"0"	"GI-MW405-121417"	"1.0"	""					
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"2.3"		
"ug/L"	"0.28"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.50"	""								
"GI-MW405-121417"	"8260C"	"RES"	"TK1858-3"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"		
"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"GI-MW405-121417"
"2.0"	""								
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"615-58-7"	"2,4-Dibromophenol "			
"79.5"	"%"	"0"	"MDL"	"SURR"	"79.5"	"0"	"PQL"	"YES"	"4.00"
"121417"	"0"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"			
"0.096"	"ug/L"	"U"	"0.074"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"
"121417"	"0.096"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"			
"72.1"	"%"	"0"	"MDL"	"SURR"	"72.1"	"0"	"PQL"	"YES"	"2.00"
"121417"	"0"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"			
"0.096"	"ug/L"	"U"	"0.044"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"
"121417"	"0.096"	""							"GI-MW405-121417"
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"0.096"		
"ug/L"	"U"	"0.063"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"
"0.096"	""								
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"205-99-2"				
"BENZO(B)FLUORANTHENE"	"0.096"	"ug/L"	"U"	"0.086"	"MDL"	"TRG"			"0.19"
"PQL"	"YES"	"0"	"GI-MW405-121417"	"0.096"	""				
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"			

"0.096"	"ug/L"	"U"	"0.062"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"
			"0.096"	""						
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"207-08-9"					
"BENZO(K)FLUORANTHENE"	"0.096"	"ug/L"	"U"	"0.047"	"MDL"	"TRG"			"0.19"	
"PQL"	"YES"	"0"	"GI-MW405-121417"	"0.096"	""					
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"218-01-9"	"CHRYSENE"	"0.096"			
"ug/L"	"U"	"0.035"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.096"	""									
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"53-70-3"					
"DIBENZO(A,H)ANTHRACENE"	"0.096"	"ug/L"	"U"	"0.067"	"MDL"	"TRG"			"0.19"	
"PQL"	"YES"	"0"	"GI-MW405-121417"	"0.096"	""					
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"206-44-0"	"FLUORANTHENE"				
"0.096"	"ug/L"	"U"	"0.070"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"81103-79-9"	"Fluorene-d10"	"73.7"			
"%"	"0"	"MDL"	"SURR"	"73.7"	"0"	"PQL"	"YES"	"2.00"	"GI-MW405-121417"	
"0"	""									
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	"0.096"	"ug/L"	"U"	"0.050"
"0"	"GI-MW405-121417"	"0.096"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"			
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"91-20-3"	"NAPHTHALENE"	"0.096"			
"ug/L"	"U"	"0.062"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.096"	""									
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"				
"0.48"	"ug/L"	"U"	"0.32"	"MDL"	"TRG"	"0.96"	"PQL"	"YES"	"0"	"GI-MW405-121417"
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"85-01-8"	"PHENANTHRENE"	"0.096"			
"ug/L"	"U"	"0.049"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.096"	""									
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"129-00-0"	"PYRENE"	"0.096"			
"ug/L"	"U"	"0.057"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"GI-MW405-121417"	
"0.096"	""									
"GI-MW405-121417"	"8270D-SIM"	"RES"	"TK1858-3"	"KAS"	"1718-52-1"	"Pyrene-d10"	"70.2"	"%"		
"0"	"MDL"	"SURR"	"70.2"	"0"	"PQL"	"YES"	"2.00"	"GI-MW405-121417"	"0"	
"GI-MW405-121417"	"300.0"	"RES"	"TK1858-3DL"	"KAS"	"14808-79-8"	"SULFATE"	"56"	"mg/L"		
"0.32"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"3.75"	"GI-MW405-121417"			
"2.5"	""									
"GI-MW405-121417"	"300.0"	"RES"	"TK1858-3RA"	"KAS"	"16887-00-6"	"CHLORIDE"	"140"			
"mg/L"	"2.0"	"MDL"	"TRG"	"40."	"PQL"	"YES"	"3.75"	"GI-MW405-121417"		
"121417"	"20."	""								
"MW406-121417"	"2320B"	"RES"	"TK1858-5"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"270"			
"mg/L"	"0.23"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"MW406-121417"		
"4.0"	""									
"MW406-121417"	"300.0"	"RES"	"TK1858-5"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.12"	"mg/L"		
".0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"	"MW406-121417"			
"0.025"	""									
"MW406-121417"	"8082A"	"RES"	"TK1858-5"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"				
"97.9"	"%"	"0"	"MDL"	"SURR"	"97.9"	"0"	"PQL"	"YES"	"0.952"	"MW406-121417"
"0"	""									
"MW406-121417"	"8082A"	"RES"	"TK1858-5"	"KAS"	"12674-11-2"	"AROCLOR 1016"	"0.24"	"ug/L"		
"U"	"0.14"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"MW406-121417"		
"0.24"	""									
"MW406-121417"	"8082A"	"RES"	"TK1858-5"	"KAS"	"11104-28-2"	"AROCLOR 1221"	"0.24"	"ug/L"		

"U" "0.2" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "11141-16-5" "AROCLOR 1232" "0.24" "ug/L"
"U" "0.088" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "53469-21-9" "AROCLOR 1242" "0.24" "ug/L"
"U" "0.18" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "12672-29-6" "AROCLOR 1248" "0.24" "ug/L"
"U" "0.2" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "11097-69-1" "AROCLOR 1254" "0.24" "ug/L"
"U" "0.081" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "11096-82-5" "AROCLOR 1260" "0.24" "ug/L"
"U" "0.17" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "37324-23-5" "Aroclor-1262 " "0.24" "ug/L"
"U" "0.066" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "11100-14-4" "Aroclor-1268 " "0.24" "ug/L"
"U" "0.071" "MDL" "TRG"	"0.48" "PQL" "YES" "0" "MW406-121417"
"0.24" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "2051-24-3" "DECACHLOROBIPHENYL"
"97.2" "%" "0" "MDL"	"SURR" "97.2" "0" "PQL" "YES" "0.952" "MW406-121417"
"0" ""	
"MW406-121417" "8082A" "RES"	"TK1858-5" "KAS" "1336-36-3" "TOTAL PCB" "2.1" "ug/L"
"U" "0.063" "MDL" "TRG"	"4.3" "PQL" "YES" "0" "MW406-121417" "2.1"
""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "17060-07-0" "1,2-DICHLOROETHANE-D4"
"110." "%" "0" "MDL"	"SURR" "110." "0" "PQL" "YES" "50.0" "MW406-121417"
"0" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "540-59-0" "1,2-DICHLOROETHYLENE" "2.0"
"ug/L" "U" "0.21" "MDL"	"TRG" "1.0" "PQL" "YES" "0" "MW406-121417"
"2.0" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "460-00-4" "4-BROMOFLUOROBENZENE"
"99.5" %" "0" "MDL"	"SURR" "99.5" "0" "PQL" "YES" "50.0" "MW406-121417"
"0" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "71-43-2"" "BENZENE" "0.50" "ug/L" "U"
"0.26" "MDL" "TRG"	"1.0" "PQL" "YES" "0" "MW406-121417" "0.50"
""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "156-59-2" "CIS-1,2-DICHLOROETHENE" "1.0"
"ug/L" "U" "0.21" "MDL"	"TRG" "0.50" "PQL" "YES" "0" "MW406-121417"
"1.0" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "1868-53-7" "DIBROMOFLUOROMETHANE"
"104." %" "0" "MDL"	"SURR" "104." "0" "PQL" "YES" "50.0" "MW406-121417"
"0" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "127-18-4" "TETRACHLOROETHENE"
"0.50" "ug/L" "U" "0.40" "MDL"	"TRG" "1.0" "PQL" "YES" "0" "MW406-121417"
"0.50" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "2037-26-5" "TOLUENE-D8" "101." "%" "0" "MDL"
"0" "MDL" "SURR" "101." "0" "PQL" "YES" "50.0" "MW406-121417" "0" ""	
"MW406-121417" "8260C" "RES"	"TK1858-5" "KAS" "156-60-5" "TRANS-1,2-DICHLOROETHENE"
"1.0" "ug/L" "U" "0.25" "MDL" "TRG"	"0.50" "PQL" "YES" "0" "MW406-121417"

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"MW406-121417"	"8270D-SIM"	"RES"	"TK1858-5"	"KAS"	"129-00-0"	"PYRENE"	"0.12"	"ug/L"
"J"	"0.057"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"MW406-121417"
"0.096"	""							
"MW406-121417"	"8270D-SIM"	"RES"	"TK1858-5"	"KAS"	"1718-52-1"	"Pyrene-d10"	"67.4"	"%"
"0"	"MDL"	"SURR"	"67.4"	"0"	"PQL"	"YES"	"2.00"	"MW406-121417"
"0"	""							
"MW406-121417"	"300.0"	"RES"	"TK1858-5DL"	"KAS"	"14808-79-8"	"SULFATE"	"94"	"mg/L"
"0.32"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"3.75"	"MW406-121417"	"2.5"
""								
"MW406-121417"	"300.0"	"RES"	"TK1858-5RA"	"KAS"	"16887-00-6"	"CHLORIDE"	"340"	"mg/L"
"5.0"	"MDL"	"TRG"	"100"	"PQL"	"YES"	"3.75"	"MW406-121417"	"50."
""								
"G32-MW302B-D121417"	"2320B"	"RES"	"TK1858-7"	"KAS"	"11-43-8"	""	ALKALINITY AS CaCO3	"26."
"mg/L"	"0.23"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"G32-MW302B-D121417"
"4.0"	""							
"G32-MW302B-D121417"	"300.0"	"RES"	"TK1858-7"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.025"	
"mg/L"	"U"	"0.0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"
"0.025"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	"101."	"%"
"0"	"MDL"	"SURR"	"101."	"0"	"PQL"	"YES"	"0.971"	"G32-MW302B-D121417"
"0"	""							
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"12674-11-2"	"AROCOR 1016"	"0.24"	
"ug/L"	"U"	"0.14"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"11104-28-2"	"AROCOR 1221"	"0.24"	
"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"11141-16-5"	"AROCOR 1232"	"0.24"	
"ug/L"	"U"	"0.09"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"53469-21-9"	"AROCOR 1242"	"0.24"	
"ug/L"	"U"	"0.18"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"12672-29-6"	"AROCOR 1248"	"0.24"	
"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"11097-69-1"	"AROCOR 1254"	"0.24"	
"ug/L"	"U"	"0.083"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"11096-82-5"	"AROCOR 1260"	"0.24"	
"ug/L"	"U"	"0.17"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"37324-23-5"	"Aroclor-1262 "	"0.24"	
"ug/L"	"U"	"0.067"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"11100-14-4"	"Aroclor-1268 "	"0.24"	
"ug/L"	"U"	"0.073"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"2051-24-3"			
"DECACHLOROBIPHENYL"	"90.1"	"%"	"0"	"MDL"	"SURR"	"90.1"	"0"	"PQL"
"YES"	"0.971"	"G32-MW302B-D121417"	"0"	""				
"G32-MW302B-D121417"	"8082A"	"RES"	"TK1858-7"	"KAS"	"1336-36-3"	"TOTAL PCB"	"2.2"	
"ug/L"	"U"	"0.064"	"MDL"	"TRG"	"4.4"	"PQL"	"YES"	"0"
"0.24"	""							"G32-MW302B-D121417"
"2.2"								
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-		

D4" "116."	"%"	"0"	"MDL"	"SURR"	"116."	"0"	"PQL"	"YES"	"50.0"	"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"2.0"	"ug/L"	"U"	"0.21"
"YES"	"0"	"G32-MW302B-D121417"	"2.0"	"MDL"	"TRG"	"1.0"	"PQL"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"100."	"%"	"0"	"MDL"
"YES"	"50.0"	"G32-MW302B-D121417"	"0"	"MDL"	"SURR"	"100."	"0"	"PQL"		
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"71-43-2"	"BENZENE"	"0.50"	"ug/L"	"U"	"0.26"
"YES"	"0"	"G32-MW302B-D121417"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.21"
"YES"	"0"	"G32-MW302B-D121417"	"1.0"	"MDL"	"TRG"	"0.50"	"PQL"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"1868-53-7"	"DIBROMOFLUOROMETHANE"	"108."	"%"	"0"	"MDL"
"YES"	"50.0"	"G32-MW302B-D121417"	"0"	"MDL"	"SURR"	"108."	"0"	"PQL"		
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"	"0.50"	"ug/L"	"U"	"0.40"
"YES"	"0"	"G32-MW302B-D121417"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"100."	"%"	"0"	"MDL"
"YES"	"0"	"G32-MW302B-D121417"	"0"	"PQL"	"YES"	"50.0"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.25"
"YES"	"0"	"G32-MW302B-D121417"	"1.0"	"MDL"	"TRG"	"0.50"	"PQL"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"0.50"	"ug/L"	"U"	"0.28"
"YES"	"0"	"G32-MW302B-D121417"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8260C"	"RES"	"TK1858-7"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"	"ug/L"	"U"	"0.25"
"YES"	"0"	"G32-MW302B-D121417"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"615-58-7"	"2,4-Dibromophenol"	"86.6"	"%"	"0"	"MDL"
"YES"	"0"	"G32-MW302B-D121417"	"0"	"PQL"	"YES"	"4.00"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"	"0.097"	"ug/L"	"U"	"0.075"
"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"MDL"	"TRG"	"0.19"	"PQL"			
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"	"77.0"	"%"	"0"	"MDL"
"YES"	"0"	"G32-MW302B-D121417"	"0"	"PQL"	"YES"	"2.00"	"G32-MW302B-D121417"			
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"	"0.097"	"ug/L"	"U"	"0.045"
"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"MDL"	"TRG"	"0.19"				
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"0.097"	"ug/L"	"U"	"0.064"
"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"205-99-2"	"BENZO(B)FLUORANTHENE"	"0.097"	"ug/L"	"U"	"0.086"
"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"MDL"	"TRG"	"0.19"				
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"	"0.097"	"ug/L"	"U"	"0.063"
"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"MDL"	"TRG"	"0.19"				
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"207-08-9"					

"BENZO(K)FLUORANTHENE"	"0.097"	"ug/L"	"U"	"0.048"	"MDL"	"TRG"	"0.19"
"PQL"	"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"		
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"218-01-9"	"CHRYSENE"	
"0.097"	"ug/L"	"U"	"0.035"	"MDL"	"TRG"	"0.19"	"PQL" "YES" "0" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"53-70-3"		
"DIBENZO(A,H)ANTHRACENE"	"0.097"	"ug/L"	"U"	"0.068"	"MDL"	"TRG"	"0.19"
"PQL"	"YES"	"0"	"G32-MW302B-D121417"	"0.097"	"		
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"206-44-0"	"FLUORANTHENE"	
"0.097"	"ug/L"	"U"	"0.071"	"MDL"	"TRG"	"0.19"	"PQL" "YES" "0" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"81103-79-9"	"Fluorene-d10"	
"81.6"	"%"	"0"	"MDL"	"SURR"	"81.6"	"0"	"PQL" "YES" "2.00" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	
"0.12"	"ug/L"	"J"	"0.050"	"MDL"	"TRG"	"0.19"	"PQL" "YES"
"0"	"G32-MW302B-D121417"	"0.097"	"				
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"91-20-3"	"NAPHTHALENE"	
"0.097"	"ug/L"	"U"	"0.062"	"MDL"	"TRG"	"0.19"	"PQL" "YES" "0" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"	
"0.48"	"ug/L"	"U"	"0.32"	"MDL"	"TRG"	"0.97"	"PQL" "YES" "0" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"85-01-8"	"PHENANTHRENE"	
"0.097"	"ug/L"	"U"	"0.050"	"MDL"	"TRG"	"0.19"	"PQL" "YES" "0" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"129-00-0"	"PYRENE"	"0.097"
"ug/L"	"U"	"0.057"	"MDL"	"TRG"	"0.19"	"PQL"	"YES" "0" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"8270D-SIM"	"RES"	"TK1858-7"	"KAS"	"1718-52-1"	"Pyrene-d10"	"74.1"
"%"	"0"	"MDL"	"SURR"	"74.1"	"0"	"PQL"	"YES" "2.00" "G32-MW302B-D121417"
"0"	"						
"G32-MW302B-D121417"	"300.0"	"RES"	"TK1858-7DL"	"KAS"	"14808-79-8"	"SULFATE"	"25"
"mg/L"	"0.13"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"3.75" "G32-MW302B-D121417"
"G32-MW302B-D121417"	"300.0"	"RES"	"TK1858-7DLB"	"KAS"	"16887-00-6"	"CHLORIDE"	"27"
"mg/L"	"0.50"	"MDL"	"TRG"	"10."	"PQL"	"YES"	"3.75" "G32-MW302B-D121417"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"615-58-7"	"2,4-Dibromophenol"	"
"88.2"	"%"	"0"	"MDL"	"SURR"	"88.2"	"0"	"PQL" "YES" "4.00" "WG220335-1"
"0"	"						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"	
"0.10"	"ug/L"	"U"	"0.077"	"MDL"	"TRG"	"0.20"	"PQL" "YES" "0" "WG220335-1"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"	
"79.5"	"%"	"0"	"MDL"	"SURR"	"79.5"	"0"	"PQL" "YES" "2.00" "WG220335-1"
"0"	"						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"	
"0.10"	"ug/L"	"U"	"0.046"	"MDL"	"TRG"	"0.20"	"PQL" "YES" "0" "WG220335-1"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"0.10"
"ug/L"	"U"	"0.066"	"MDL"	"TRG"	"0.20"	"PQL"	"YES" "0" "WG220335-1"
"0.10"	"						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"205-99-2"		

"BENZO(B)FLUORANTHENE"	"0.10"	"ug/L"	"U"	"0.089"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"WG220335-1"	"0.10"	""		
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"	
"0.10"	"ug/L"	"U"	"0.065"	"MDL"	"TRG"	"0.20"	"PQL"
"YES"	"0"	"WG220335-1"					
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"207-08-9"		
"BENZO(K)FLUORANTHENE"	"0.10"	"ug/L"	"U"	"0.049"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"WG220335-1"	"0.10"	""		
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"218-01-9"	"CHRYSENE"	"0.10"
"ug/L"	"U"	"0.036"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"
"0"	"WG220335-1"						
"0.10"	""						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"53-70-3"		
"DIBENZO(A,H)ANTHRACENE"	"0.10"	"ug/L"	"U"	"0.070"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"WG220335-1"	"0.10"	""		
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"206-44-0"	"FLUORANTHENE"	
"0.10"	"ug/L"	"U"	"0.073"	"MDL"	"TRG"	"0.20"	"PQL"
"YES"	"0"	"WG220335-1"					
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"81103-79-9"	"Fluorene-d10"	"78.2"
"%"	"0"	"MDL"	"SURR"	"78.2"	"0"	"PQL"	"YES"
"2.00"	"WG220335-1"						
"0"	""						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	
"0.10"	"ug/L"	"U"	"0.052"	"MDL"	"TRG"	"0.20"	"PQL"
"YES"	"0"	"WG220335-1"					
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"91-20-3"	"NAPHTHALENE"	"0.10"
"ug/L"	"U"	"0.064"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"
"0"	"WG220335-1"						
"0.10"	""						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"	
"0.50"	"ug/L"	"U"	"0.33"	"MDL"	"TRG"	"1.0"	"PQL"
"YES"	"0"	"WG220335-1"					
"0.50"	""						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"85-01-8"	"PHENANTHRENE"	"0.10"
"ug/L"	"U"	"0.051"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"
"0"	"WG220335-1"						
"0.10"	""						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"129-00-0"	"PYRENE"	"0.10"
"ug/L"	"U"	"0.059"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"
"0"	"WG220335-1"						
"0.10"	""						
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"1718-52-1"	"Pyrene-d10"	"87.2"
"%"	"0"	"MDL"	"SURR"	"87.2"	"0"	"PQL"	"YES"
"2.00"	"WG220335-1"						
"0"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"615-58-7"	"2,4-Dibromophenol"	
"84.8"	"%"	"0"	"MDL"	"SURR"	"84.8"	"0"	"PQL"
"YES"	"4.00"	"WG220335-2"					
"0"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"	
"1.34"	"ug/L"	"0.077"	"MDL"	"SPK"	"67.0"	"0.20"	"PQL"
"YES"	"2.00"	"WG220335-2"					
"0.10"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"	
"74.8"	"%"	"0"	"MDL"	"SURR"	"74.8"	"0"	"PQL"
"YES"	"2.00"	"WG220335-2"					
"0"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"	
"1.77"	"ug/L"	"0.046"	"MDL"	"SPK"	"88.5"	"0.20"	"PQL"
"YES"	"2.00"	"WG220335-2"					
"0.10"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"1.48"
"ug/L"	"0.066"	"MDL"	"SPK"	"74.0"	"0.20"	"PQL"	"YES"
"2.00"	"WG220335-2"						
"0.10"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"205-99-2"		
"BENZO(B)FLUORANTHENE"	"1.65"	"ug/L"	"0.089"	"MDL"	"SPK"	"82.5"	"0.20"

"PQL"	"YES"	"2.00"	"WG220335-2"	"0.10"	""				
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"			
"1.52"	"ug/L"	"0.065"	"MDL"	"SPK"	"76.0"	"0.20"	"PQL"	"YES"	"2.00"
"WG220335-2"		"0.10"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"207-08-9"				
"BENZO(K)FLUORANTHENE"	"1.62"	"ug/L"	"0.049"	"MDL"	"SPK"	"81.0"		"0.20"	
"PQL"	"YES"	"2.00"	"WG220335-2"	"0.10"	""				
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"218-01-9"	"CHRYSENE"	"1.71"		
"ug/L"	"0.036"	"MDL"	"SPK"	"85.5"	"0.20"	"PQL"	"YES"	"2.00"	"WG220335-2"
"0.10"	""								
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"53-70-3"				
"DIBENZO(A,H)ANTHRACENE"	"1.41"	"ug/L"	"0.070"	"MDL"	"SPK"	"70.5"			
"0.20"	"PQL"	"YES"	"2.00"	"WG220335-2"	"0.10"	""			
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"206-44-0"	"FLUORANTHENE"			
"1.65"	"ug/L"	"0.073"	"MDL"	"SPK"	"82.5"	"0.20"	"PQL"	"YES"	"2.00"
"WG220335-2"		"0.10"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"81103-79-9"	"Fluorene-d10"	"68.1"		
"%"	"0"	"MDL"	"SURR"	"68.1"	"0"	"PQL"	"YES"	"2.00"	"WG220335-2"
"0"	""								
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	"1.57"	"ug/L"	"0.052"
"MDL"	"SPK"	"78.5"	"0.20"	"PQL"					
"YES"	"2.00"	"WG220335-2"	"0.10"	""					
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"91-20-3"	"NAPHTHALENE"	"1.46"		
"ug/L"	"0.064"	"MDL"	"SPK"	"73.0"	"0.20"	"PQL"	"YES"	"2.00"	"WG220335-2"
"0.10"	""								
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"			
"3.72"	"ug/L"	"0.33"	"MDL"	"SPK"	"93.0"	"1.0"	"PQL"	"YES"	"4.00"
"WG220335-2"		"0.50"	""						
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"85-01-8"	"PHENANTHRENE"	"1.52"		
"ug/L"	"0.051"	"MDL"	"SPK"	"76.0"	"0.20"	"PQL"	"YES"	"2.00"	"WG220335-2"
"0.10"	""								
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"129-00-0"	"PYRENE"	"1.45"		
"ug/L"	"0.059"	"MDL"	"SPK"	"72.5"	"0.20"	"PQL"	"YES"	"2.00"	"WG220335-2"
"0.10"	""								
"WG220335-2"	"8270D-SIM"	"RES"	"WG220335-2"	"KAS"	"1718-52-1"	"Pyrene-d10"	"68.0"	"%"	
"0"	"MDL"	"SURR"	"68.0"	"0"	"PQL"	"YES"	"2.00"	"WG220335-2"	"0"
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"615-58-7"	"2,4-Dibromophenol"	"76.0"	"%"	"0"
"MDL"	"SURR"	"76.0"	"0"	"PQL"	"YES"	"4.00"			
"TK1858-1"		"0"	""						
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"	"1.4"	"ug/L"	"0.073"
"MDL"	"SPK"	"74.6"	"0.19"						
"PQL"	"YES"	"1.90"	"TK1858-1"	"0.095"	""				
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"	"77.8"	"%"	"0"
"MDL"	"SURR"	"77.8"	"0"	"PQL"	"YES"				
"2.00"	"TK1858-1"		"0"	""					
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"56-55-3"				
"BENZO(A)ANTHRACENE"	"2.0"	"ug/L"	"0.044"	"MDL"	"SPK"	"103."		"0.19"	
"PQL"	"YES"	"1.90"	"TK1858-1"	"0.095"	""				
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"			
"1.5"	"ug/L"	"0.063"	"MDL"	"SPK"	"77.7"	"0.19"	"PQL"	"YES"	"1.90"
"TK1858-1"		"0.095"	""						
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"205-99-2"				
"BENZO(B)FLUORANTHENE"	"1.7"	"ug/L"	"0.085"	"MDL"	"SPK"	"90.8"		"0.19"	
"PQL"	"YES"	"1.90"	"TK1858-1"	"0.095"	""				

"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"191-24-2"			
"BENZO(G,H,I)PERYLENE"	"1.4"	"ug/L"	"0.062"	"MDL"	"SPK"	"72.4"	"0.19"	
"PQL"	"YES"	"1.90"	"TK1858-1"	"0.095"	""			
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"207-08-9"			
"BENZO(K)FLUORANTHENE"	"1.5"	"ug/L"	"0.047"	"MDL"	"SPK"	"79.8"	"0.19"	
"PQL"	"YES"	"1.90"	"TK1858-1"	"0.095"	""			
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"218-01-9"	"CHRYSENE"		
"1.8"	"ug/L"	"0.034"	"MDL"	"SPK"	"92.9"	"0.19"	"PQL"	"YES"
"TK1858-1"	"0.095"	""						
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"53-70-3"			
"DIBENZO(A,H)ANTHRACENE"	"1.3"	"ug/L"	"0.067"	"MDL"	"SPK"	"67.2"		
"0.19"	"PQL"	"YES"	"1.90"	"TK1858-1"	"0.095"	""		
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"206-44-0"			
"FLUORANTHENE"	"1.9"	"ug/L"	"0.070"	"MDL"	"SPK"	"102."	"0.19"	"PQL"
"YES"	"1.90"	"TK1858-1"	"0.095"	""				
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"81103-79-9"	"Fluorene-d10"		
"78.6"	"%"	"0"	"MDL"	"SURR"	"78.6"	"0"	"PQL"	"YES"
"0"	""							"2.00"
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"		
"1.6"	"ug/L"	"0.050"	"MDL"	"SPK"	"81.4"	"0.19"	"PQL"	
"YES"	"1.90"	"TK1858-1"	"0.095"	""				
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"91-20-3"	"NAPHTHALENE"		
"1.6"	"ug/L"	"0.061"	"MDL"	"SPK"	"83.0"	"0.19"	"PQL"	"YES"
"TK1858-1"	"0.095"	""						"1.90"
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"87-86-5"			
"PENTACHLOROPHENOL"	"2.6"	"ug/L"	"0.31"	"MDL"	"SPK"	"67.5"	"0.95"	
"PQL"	"YES"	"3.81"	"TK1858-1"	"0.48"	""			
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"85-01-8"	"PHENANTHRENE"		
"1.8"	"ug/L"	"0.048"	"MDL"	"SPK"	"91.9"	"0.19"	"PQL"	"YES"
"TK1858-1"	"0.095"	""						"1.90"
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"129-00-0"	"PYRENE"	"1.5"	
"ug/L"	"0.056"	"MDL"	"SPK"	"80.8"	"0.19"	"PQL"	"YES"	"1.90"
"0.095"	""							"TK1858-1"
"G32-MW302B-121417MS"	"8270D-SIM"	"RES"	"WG220335-3"	"KAS"	"1718-52-1"	"Pyrene-d10"		
"77.8"	"%"	"0"	"MDL"	"SURR"	"77.8"	"0"	"PQL"	"YES"
"0"	""							"2.00"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"615-58-7"	"2,4-Dibromophenol"		
"84.0"	"%"	"0"	"MDL"	"SURR"	"84.0"	"0"	"PQL"	"YES"
"TK1858-1"	"0"	""						"4.00"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"		
"1.5"	"ug/L"	"0.076"	"MDL"	"SPK"	"76.8"	"7"	"0.20"	
"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""			
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"		
"82.7"	"%"	"0"	"MDL"	"SURR"	"82.7"	"0"	"PQL"	"YES"
"2.00"	"TK1858-1"	"0"	""					
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"56-55-3"			
"BENZO(A)ANTHRACENE"	"1.9"	"ug/L"	"0.046"	"MDL"	"SPK"	"97.0"	"2"	"0.20"
"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""			
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"50-32-8"			
"BENZO(A)PYRENE"	"1.5"	"ug/L"	"0.065"	"MDL"	"SPK"	"76.8"	"3"	"0.20"
"YES"	"1.98"	"TK1858-1"	"0.099"	""				"PQL"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"205-99-2"			
"BENZO(B)FLUORANTHENE"	"1.7"	"ug/L"	"0.088"	"MDL"	"SPK"	"86.9"	"0"	"0.20"
"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""			

"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"191-24-2"			
"BENZO(G,H,I)PERYLENE"	"1.4"	"ug/L"	"0.064"	"MDL"	"SPK"	"70.2"	"1"	"0.20"
"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""			
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"207-08-9"			
"BENZO(K)FLUORANTHENE"	"1.6"	"ug/L"	"0.048"	"MDL"	"SPK"	"82.8"	"8"	"0.20"
"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""			
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"218-01-9"			"CHRYSENE"
"1.8"	"ug/L"	"0.036"	"MDL"	"SPK"	"90.9"	"2"	"0.20"	"PQL"
"TK1858-1"	"0.099"	""						"YES"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"53-70-3"			
"DIBENZO(A,H)ANTHRACENE"	"1.3"	"ug/L"	"0.069"	"MDL"	"SPK"	"63.6"	"2"	
"0.20"	"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""		
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"206-44-0"			
"FLUORANTHENE"	"1.9"	"ug/L"	"0.072"	"MDL"	"SPK"	"96.4"	"2"	"0.20"
"YES"	"1.98"	"TK1858-1"	"0.099"	""				"PQL"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"81103-79-9"			"Fluorene-d10"
"77.4"	"%"	"0"	"MDL"	"SURR"	"77.4"	"0"	"PQL"	"YES"
"0"	""							"2.00"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"193-39-5"			
"INDENO(1,2,3-CD)PYRENE"	"1.5"	"ug/L"	"0.051"	"MDL"	"SPK"	"74.2"	"5"	"0.20"
"PQL"	"YES"	"1.98"	"TK1858-1"	"0.099"	""			
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"91-20-3"			"NAPHTHALENE"
"1.7"	"ug/L"	"0.063"	"MDL"	"SPK"	"83.8"	"5"	"0.20"	"PQL"
"TK1858-1"	"0.099"	""						"YES"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"87-86-5"			
"PENTACHLOROPHENOL"	"3.5"	"ug/L"	"0.33"	"MDL"	"SPK"	"87.4"	"30"	"0.99"
"PQL"	"YES"	"3.96"	"TK1858-1"	"0.50"	""			
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"85-01-8"			
"PHENANTHRENE"	"1.7"	"ug/L"	"0.050"	"MDL"	"SPK"	"85.3"	"3"	"0.20"
"YES"	"1.98"	"TK1858-1"	"0.099"	""				"PQL"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"129-00-0"			"PYRENE"
"1.5"	"ug/L"	"0.058"	"MDL"	"SPK"	"76.8"	"1"	"0.20"	"PQL"
"TK1858-1"	"0.099"	""						"YES"
"G32-MW302B-121417MSD"	"8270D-SIM"	"RES"	"WG220335-4"	"KAS"	"1718-52-1"			"Pyrene-d10"
"73.4"	"%"	"0"	"MDL"	"SURR"	"73.4"	"0"	"PQL"	"YES"
"0"	""							"2.00"
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"877-09-8"			"2,4,5,6-Tetrachloro-meta-xylene"
"74.9"	"%"	"0"	"MDL"	"SURR"	"74.9"	"0"	"PQL"	"YES"
"0"	""							"1.00"
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"12674-11-2"			"AROCLOL 1016"
"ug/L"	"U"	"0.15"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"0.25"	""							"WG220411-1"
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11104-28-2"			"AROCLOL 1221"
"ug/L"	"U"	"0.20"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"0.25"	""							"WG220411-1"
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11141-16-5"			"AROCLOL 1232"
"ug/L"	"U"	"0.089"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"0.25"	""							"WG220411-1"
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"53469-21-9"			"AROCLOL 1242"
"ug/L"	"U"	"0.18"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"0.25"	""							"WG220411-1"
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"12672-29-6"			"AROCLOL 1248"
"ug/L"	"U"	"0.20"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"0.25"	""							"WG220411-1"

"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11097-69-1"	"AROCLOR 1254"	"0.25"
"ug/L"	"U"	"0.082"	"MDL"	"TRG"	"0.50"	"PQL"	"YES" "0" "WG220411-1"
"0.25"	""						
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11096-82-5"	"AROCLOR 1260"	"0.25"
"ug/L"	"U"	"0.17"	"MDL"	"TRG"	"0.50"	"PQL"	"YES" "0" "WG220411-1"
"0.25"	""						
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"37324-23-5"	"Aroclor-1262 "	"0.25"
"ug/L"	"U"	"0.066"	"MDL"	"TRG"	"0.50"	"PQL"	"YES" "0" "WG220411-1"
"0.25"	""						
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11100-14-4"	"Aroclor-1268 "	"0.25"
"ug/L"	"U"	"0.072"	"MDL"	"TRG"	"0.50"	"PQL"	"YES" "0" "WG220411-1"
"0.25"	""						
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"2051-24-3"	"DECACHLOROBIPHENYL"	
"70.4"	"%"	"0"	"MDL"	"SURR"	"70.4"	"0" "PQL"	"YES" "1.00" "WG220411-1"
"0"	""						
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"1336-36-3"	"TOTAL PCB"	"2.2"
"ug/L"	"U"	"0.066"	"MDL"	"TRG"	"4.5"	"PQL"	"YES" "0" "WG220411-1"
"2.2"	""						
"WG220411-2"	"8082A"	"RES"	"WG220411-2"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	
"98.7"	"%"	"0"	"MDL"	"SURR"	"98.7"	"0" "PQL"	"YES" "1.00" "WG220411-2"
"0"	""						
"WG220411-2"	"8082A"	"RES"	"WG220411-2"	"KAS"	"12674-11-2"	"AROCLOR 1016"	"4.90"
"ug/L"	"0.15"	"MDL"	"SPK"	"98.0"	"0.50"	"PQL"	"YES" "5.00" "WG220411-2"
"2"	"0.25"	""					
"WG220411-2"	"8082A"	"RES"	"WG220411-2"	"KAS"	"11096-82-5"	"AROCLOR 1260"	"5.13"
"ug/L"	"0.17"	"MDL"	"SPK"	"103."	"0.50"	"PQL"	"YES" "5.00" "WG220411-2"
"2"	"0.25"	""					
"WG220411-2"	"8082A"	"RES"	"WG220411-2"	"KAS"	"2051-24-3"	"DECACHLOROBIPHENYL"	
"83.2"	"%"	"0"	"MDL"	"SURR"	"83.2"	"0" "PQL"	"YES" "1.00" "WG220411-2"
"0"	""						
"WG220411-3"	"8082A"	"RES"	"WG220411-3"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	
"92.8"	"%"	"0"	"MDL"	"SURR"	"92.8"	"0" "PQL"	"YES" "1.00" "WG220411-3"
"0"	""						
"WG220411-3"	"8082A"	"RES"	"WG220411-3"	"KAS"	"11097-69-1"	"AROCLOR 1254"	"4.34"
"ug/L"	"0.082"	"MDL"	"SPK"	"86.8"	"0.50"	"PQL"	"YES" "5.00" "WG220411-3"
"3"	"0.25"	""					
"WG220411-3"	"8082A"	"RES"	"WG220411-3"	"KAS"	"2051-24-3"	"DECACHLOROBIPHENYL"	
"86.6"	"%"	"0"	"MDL"	"SURR"	"86.6"	"0" "PQL"	"YES" "1.00" "WG220411-3"
"0"	""						
"G32-MW302B-121417MS"	"8082A"	"RES"	"WG220411-6"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	
"89.0"	"%"	"0"	"MDL"	"SURR"	"89.0"	"0" "PQL"	"YES" "0.943"
"TK1858-1"	"0"	""					
"G32-MW302B-121417MS"	"8082A"	"RES"	"WG220411-6"	"KAS"	"12674-11-2"	"AROCLOR 1016"	"4.5"
"ug/L"	"0.14"	"MDL"	"SPK"	"95.6"	"0.47"	"PQL"	"YES" "4.72" "TK1858-1"
"0.24"	""						
"G32-MW302B-121417MS"	"8082A"	"RES"	"WG220411-6"	"KAS"	"11096-82-5"	"AROCLOR 1260"	"4.9"
"ug/L"	"0.16"	"MDL"	"SPK"	"104."	"0.47"	"PQL"	"YES" "4.72" "TK1858-1"
"0.24"	""						
"G32-MW302B-121417MS"	"8082A"	"RES"	"WG220411-6"	"KAS"	"2051-24-3"		
"DECACHLOROBIPHENYL"	"73.1"	"%"	"0"	"MDL"	"SURR"	"73.1"	"0" "PQL"
"YES"	"0.943"	"TK1858-1"	"0"	""			
"G32-MW302B-121417MSD"	"8082A"	"RES"	"WG220411-7"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	
"86.9"	"%"	"0"	"MDL"	"SURR"	"86.9"	"0" "PQL"	"YES"
"0.990"	"TK1858-1"	"0"	""				

"G32-MW302B-121417MSD"	"8082A"	"RES"	"WG220411-7"	"KAS"	"12674-11-2"	"AROCOR 1016"				
"4.6"	"ug/L"	"0.15"	"MDL"	"SPK"	"92.3"	"1"	"0.50"	"PQL"	"YES"	"4.95"
"TK1858-1"	"0.25"	""								
"G32-MW302B-121417MSD"	"8082A"	"RES"	"WG220411-7"	"KAS"	"11096-82-5"	"AROCOR 1260"				
"5.2"	"ug/L"	"0.17"	"MDL"	"SPK"	"104."	"5"	"0.50"	"PQL"	"YES"	"4.95"
"TK1858-1"	"0.25"	""								
"G32-MW302B-121417MSD"	"8082A"	"RES"	"WG220411-7"	"KAS"	"2051-24-3"					
"DECACHLOROBIPHENYL"	"81.4"	"%"	"0"	"MDL"	"SURR"	"81.4"	"0"	"PQL"		
"YES"	"0.990"	"TK1858-1"	"0"	""						
"WG220437-1"	"300.0"	"RES"	"WG220437-1"	"KAS"	"16887-00-6"	"CHLORIDE"	"1.0"	"mg/L"		
"U"	".0993"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"3.75"	"WG220437-1"		
"1.0"	""									
"WG220437-1"	"300.0"	"RES"	"WG220437-1"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.025"			
"mg/L"	"U"	".0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"	"WG220437-1"	
"0.025"	""									
"WG220437-1"	"300.0"	"RES"	"WG220437-1"	"KAS"	"14808-79-8"	"SULFATE"	"0.50"	"mg/L"	"U"	
"0.064"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"3.75"	"WG220437-1"	"0.50"	""	
"WG220437-2"	"300.0"	"RES"	"WG220437-2"	"KAS"	"16887-00-6"	"CHLORIDE"	"3.67"	"mg/L"		
".0993"	"MDL"	"SPK"	"97.9"	"2.0"	"PQL"	"YES"	"3.75"	"WG220437-2"	"1.0"	""
"WG220437-2"	"300.0"	"RES"	"WG220437-2"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.789"	"mg/L"		
".0174"	"MDL"	"SPK"	"93.4"	"0.050"	"PQL"	"YES"	"0.845"	"WG220437-2"	"0.025"	""
"WG220437-2"	"300.0"	"RES"	"WG220437-2"	"KAS"	"14808-79-8"	"SULFATE"	"3.52"	"mg/L"		
"0.064"	"MDL"	"SPK"	"93.9"	"1.0"	"PQL"	"YES"	"3.75"	"WG220437-2"	"0.50"	""
"G32-MW302B-121417MS"	"300.0"	"RES"	"WG220437-3"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.76"			
"mg/L"	".0174"	"MDL"	"SPK"	"90.6"	"0.050"	"PQL"	"YES"	"0.845"	"TK1858-1"	
"0.025"	""									
"G32-MW302B-121417MSD"	"300.0"	"RES"	"WG220437-4"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.76"			
"mg/L"	".0174"	"MDL"	"SPK"	"90.1"	"0"	"0.050"	"PQL"	"YES"	"0.845"	"TK1858-1"
"0.025"	""									
"WG220447-1"	"300.0"	"RES"	"WG220447-1"	"KAS"	"16887-00-6"	"CHLORIDE"	"1.0"	"mg/L"	"U"	
".0993"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"3.75"	"WG220447-1"	"1.0"	""	
"WG220447-1"	"300.0"	"RES"	"WG220447-1"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.025"	"mg/L"	"U"	
".0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"	"WG220447-1"	"0.025"	""	
"WG220447-1"	"300.0"	"RES"	"WG220447-1"	"KAS"	"14808-79-8"	"SULFATE"	"0.50"	"mg/L"	"U"	
"0.064"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"3.75"	"WG220447-1"	"0.50"	""	
"WG220447-2"	"300.0"	"RES"	"WG220447-2"	"KAS"	"16887-00-6"	"CHLORIDE"	"3.66"	"mg/L"		
".0993"	"MDL"	"SPK"	"97.6"	"2.0"	"PQL"	"YES"	"3.75"	"WG220447-2"	"1.0"	""
"WG220447-2"	"300.0"	"RES"	"WG220447-2"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.780"	"mg/L"		
".0174"	"MDL"	"SPK"	"92.3"	"0.050"	"PQL"	"YES"	"0.845"	"WG220447-2"	"0.025"	""
"WG220447-2"	"300.0"	"RES"	"WG220447-2"	"KAS"	"14808-79-8"	"SULFATE"	"3.49"	"mg/L"		
"0.064"	"MDL"	"SPK"	"93.1"	"1.0"	"PQL"	"YES"	"3.75"	"WG220447-2"	"0.50"	""
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"102."			
"%"	"0"	"MDL"	"SURR"	"102."	"0"	"PQL"	"YES"	"50.0"	"WG220487-1"	"0"
""										
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"99.0"			
"ug/L"	"0.21"	"MDL"	"SPK"	"99.0"	"1.0"	"PQL"	"YES"	"100."	"WG220487-1"	
"2.0"	""									
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"99.1"			
"%"	"0"	"MDL"	"SURR"	"99.1"	"0"	"PQL"	"YES"	"50.0"	"WG220487-1"	"0"
""										
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"71-43-2"	"BENZENE"	"47.7"	"ug/L"		
"0.26"	"MDL"	"SPK"	"95.4"	"1.0"	"PQL"	"YES"	"50.0"	"WG220487-1"	"0.50"	""
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"				
"50.4"	"ug/L"	"0.21"	"MDL"	"SPK"	"101."	"0.50"	"PQL"	"YES"	"50.0"	"WG220487-1"

"1.0"	""								
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"1868-53-7"	"DIBROMOFLUOROMETHANE"			
"102."	"%"	"0"	"MDL"	"SURR"	"102."	"0"	"PQL"	"YES"	"50.0" "WG220487-1"
"0"	""								
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"	"49.4"		
"ug/L"	"0.40"	"MDL"	"SPK"	"98.8"	"1.0"	"PQL"	"YES"	"50.0"	"WG220487-1"
"0.50"	""								
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"99.1"	"%"	
"0"	"MDL"	"SURR"	"99.1"	"0"	"PQL"	"YES"	"50.0"	"WG220487-1"	"0"
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"			
"48.7"	"ug/L"	"0.25"	"MDL"	"SPK"	"97.4"	"0.50"	"PQL"	"YES"	"50.0" "WG220487-1"
"1.0"	""								
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"49.3"		
"ug/L"	"0.28"	"MDL"	"SPK"	"98.6"	"1.0"	"PQL"	"YES"	"50.0"	"WG220487-1"
"0.50"	""								
"WG220487-1"	"8260C"	"RES"	"WG220487-1"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"54.8"	"ug/L"	
"0.25"	"MDL"	"SPK"	"110."	"1.0"	"PQL"	"YES"	"50.0"	"WG220487-1"	"2.0"
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"110."		
"%"	"0"	"MDL"	"SURR"	"110."	"0"	"PQL"	"YES"	"50.0"	"WG220487-2"
""									
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"2.0"		
"ug/L" "U"	"0.21"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220487-2"	"2.0"
""									
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"97.7"		
"%"	"0"	"MDL"	"SURR"	"97.7"	"0"	"PQL"	"YES"	"50.0"	"WG220487-2"
""									
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"71-43-2"	"BENZENE"	"0.50"	"ug/L" "U"	
"0.26"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220487-2"	"0.50"	""
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"			
"1.0"	"ug/L" "U"	"0.21"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220487-2"
"1.0"	""								
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"1868-53-7"	"DIBROMOFLUOROMETHANE"			
"104."	"%"	"0"	"MDL"	"SURR"	"104."	"0"	"PQL"	"YES"	"50.0" "WG220487-2"
"0"	""								
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"	"0.50"		
"ug/L" "U"	"0.40"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220487-2"	
"0.50"	""								
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"100."	"%"	
"0"	"MDL"	"SURR"	"100."	"0"	"PQL"	"YES"	"50.0"	"WG220487-2"	"0"
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"			
"1.0"	"ug/L" "U"	"0.25"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220487-2"
"1.0"	""								
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"0.50"		
"ug/L" "U"	"0.28"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220487-2"	
"0.50"	""								
"WG220487-2"	"8260C"	"RES"	"WG220487-2"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"	"ug/L"	
"U"	"0.25"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220487-2"	"2.0"
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"98.2"		
"%"	"0"	"MDL"	"SURR"	"98.2"	"0"	"PQL"	"YES"	"50.0"	"WG220560-1"
""									
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"96.0"		
"ug/L"	"0.21"	"MDL"	"SPK"	"96.0"	"1.0"	"PQL"	"YES"	"100."	"WG220560-1"
"2.0"	""								
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"100."		

"%"	"0"	"MDL"	"SURR"	"100."	"0"	"PQL"	"YES"	"50.0"	"WG220560-1"	"0"
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"71-43-2"	"BENZENE"	"48.1"	"ug/L"		
"0.26"	"MDL"	"SPK"	"96.2"	"1.0"	"PQL"	"YES"	"50.0"	"WG220560-1"	"0.50"	""
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"				
"49.1"	"ug/L"	"0.21"	"MDL"	"SPK"	"98.2"	"0.50"	"PQL"	"YES"	"50.0"	"WG220560-1"
"1.0"	""									
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"1868-53-7"	"DIBROMOFLUOROMETHANE"				
"101."	"%"	"0"	"MDL"	"SURR"	"101."	"0"	"PQL"	"YES"	"50.0"	"WG220560-1"
"0"	""									
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"	"49.1"			
"ug/L"	"0.40"	"MDL"	"SPK"	"98.2"	"1.0"	"PQL"	"YES"	"50.0"	"WG220560-1"	
"0.50"	""									
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"100."	"%"		
"0"	"MDL"	"SURR"	"100."	"0"	"PQL"	"YES"	"50.0"	"WG220560-1"	"0"	""
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"				
"46.9"	"ug/L"	"0.25"	"MDL"	"SPK"	"93.8"	"0.50"	"PQL"	"YES"	"50.0"	"WG220560-1"
"1.0"	""									
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"47.7"			
"ug/L"	"0.28"	"MDL"	"SPK"	"95.4"	"1.0"	"PQL"	"YES"	"50.0"	"WG220560-1"	
"0.50"	""									
"WG220560-1"	"8260C"	"RES"	"WG220560-1"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"55.7"			
"ug/L"	"0.25"	"MDL"	"SPK"	"111."	"1.0"	"PQL"	"YES"	"50.0"	"WG220560-1"	
"2.0"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"				
"108."	"%"	"0"	"MDL"	"SURR"	"108."	"0"	"PQL"	"YES"	"50.0"	"WG220560-2"
"0"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"				
"2.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220560-2"
"2.0"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"				
"99.4"	"%"	"0"	"MDL"	"SURR"	"99.4"	"0"	"PQL"	"YES"	"50.0"	"WG220560-2"
"0"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"71-43-2"	"BENZENE"	"0.50"	"ug/L"	"U"	
"0.26"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220560-2"	"0.50"		
"1.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220560-2"
"1.0"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"1868-53-7"					
"DIBROMOFLUOROMETHANE"	"105."	"%"	"0"	"MDL"	"SURR"	"105."	"0"	"PQL"		
"YES"	"50.0"	"WG220560-2"	"0"	""						
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"				
"0.50"	"ug/L"	"U"	"0.40"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220560-2"
"0.50"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"101."	"%"		
"0"	"MDL"	"SURR"	"101."	"0"	"PQL"	"YES"	"50.0"	"WG220560-2"	"0"	""
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.25"
"YES"	"0"	"WG220560-2"	"1.0"	""						
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"0.50"			
"ug/L"	"U"	"0.28"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220560-2"	
"0.50"	""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"			

"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"WG220560-2"
"2.0"	""								
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"122."	"%"	"*"
"0"	"MDL"	"SURR"	"122."	"0"	"PQL"	"YES"			
"50.0"	"TK1858-1"	"0"	""						
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"108."	"ug/L"	"0.21"
"MDL"	"SPK"	"108."	"1.0"						
"PQL"	"YES"	"100."	"TK1858-1"	"2.0"	""				
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"110."	"%"	"0"
"MDL"	"SURR"	"110."	"0"	"PQL"					
"YES"	"50.0"	"TK1858-1"	"0"	""					
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"71-43-2"	"BENZENE"	"52.0"		
"ug/L"	"0.26"	"MDL"	"SPK"	"104."	"1.0"	"PQL"	"YES"	"50.0"	"TK1858-1"
"0.50"	""								
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"	"54.3"	"ug/L"	"0.21"
"MDL"	"SPK"	"109."	"0.50"	"PQL"					
"YES"	"50.0"	"TK1858-1"	"1.0"	""					
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"1868-53-7"				
"DIBROMOFLUOROMETHANE"	"111."	"%"	"0"	"MDL"	"SURR"	"111."	"0"	"PQL"	
"YES"	"50.0"	"TK1858-1"	"0"	""					
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"127-18-4"				
"TETRACHLOROETHENE"	"52.4"	"ug/L"	"0.40"	"MDL"	"SPK"	"105."	"1.0"		
"PQL"	"YES"	"50.0"	"TK1858-1"	"0.50"	""				
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"2037-26-5"	"TOLUENE-D8"			
"103."	"%"	"0"	"MDL"	"SURR"	"103."	"0"	"PQL"	"YES"	"50.0"
"TK1858-1"									
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"	"53.5"	"ug/L"	"0.25"
"MDL"	"SPK"	"107."	"0.50"	"PQL"					
"YES"	"50.0"	"TK1858-1"	"1.0"	""					
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"79-01-6"	"TRICHLOROETHENE"			
"56.9"	"ug/L"	"0.28"	"MDL"	"SPK"	"114."	"1.0"	"PQL"	"YES"	"50.0"
"TK1858-1"	"0.50"	""							
"G32-MW302B-121417MS"	"8260C"	"RES"	"WG220560-5"	"KAS"	"75-01-4"	"VINYL CHLORIDE"			
"65.2"	"ug/L"	"0.25"	"MDL"	"SPK"	"130."	"1.0"	"PQL"	"YES"	"50.0"
"TK1858-1"	"2.0"	""							
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"116."	"%"	"0"
"MDL"	"SURR"	"116."	"0"	"PQL"	"YES"				
"50.0"	"TK1858-1"	"0"	""						
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"108."	"ug/L"	"0.21"
"MDL"	"SPK"	"108."	"0"	"1.0"					
"PQL"	"YES"	"100."	"TK1858-1"	"2.0"	""				
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"109."	"%"	"0"
"MDL"	"SURR"	"109."	"0"	"PQL"					
"YES"	"50.0"	"TK1858-1"	"0"	""					
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"71-43-2"	"BENZENE"	"52.1"		
"ug/L"	"0.26"	"MDL"	"SPK"	"104."	"0"	"1.0"	"PQL"	"YES"	"50.0"
"TK1858-1"									
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"	"55.1"	"ug/L"	"0.21"
"MDL"	"SPK"	"110."	"1"	"0.50"	"PQL"				
"YES"	"50.0"	"TK1858-1"	"1.0"	""					
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"1868-53-7"				
"DIBROMOFLUOROMETHANE"	"106."	"%"	"0"	"MDL"	"SURR"	"106."	"0"	"PQL"	
"YES"	"50.0"	"TK1858-1"	"0"	""					
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"127-18-4"				

"TETRACHLOROETHENE"	"53.5"	"ug/L"	"0.40"	"MDL"	"SPK"	"107."	"2"	"1.0"
"PQL"	"YES"	"50.0"	"TK1858-1"	"0.50"	""			
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"2037-26-5"	"TOLUENE-D8"		
"103."	"%"	"0"	"MDL"	"SURR"	"103."	"0"	"PQL"	"YES"
"0"	""							
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"	"53.2"	"ug/L"
"YES"	"50.0"	"TK1858-1"	"1.0"	""			"SPK"	"106."
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"79-01-6"			
"TRICHLOROETHENE"	"54.4"	"ug/L"	"0.28"	"MDL"	"SPK"	"109."	"4"	"1.0"
"PQL"	"YES"	"50.0"	"TK1858-1"	"0.50"	""			
"G32-MW302B-121417MSD"	"8260C"	"RES"	"WG220560-6"	"KAS"	"75-01-4"	"VINYL CHLORIDE"		
"65.6"	"ug/L"	"0.25"	"MDL"	"SPK"	"131."	"1"	"1.0"	"PQL"
"TK1858-1"	"2.0"	""						
"WG220781-1"	"300.0"	"RES"	"WG220781-1"	"KAS"	"16887-00-6"	"CHLORIDE"	"1.0"	"mg/L"
"U"	".0993"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"3.75"	"WG220781-1"
"1.0"	""							
"WG220781-1"	"300.0"	"RES"	"WG220781-1"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.025"	
"mg/L"	"U"	".0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"
"0.025"	""							
"WG220781-1"	"300.0"	"RES"	"WG220781-1"	"KAS"	"14808-79-8"	"SULFATE"	"0.50"	"mg/L"
"U"	"0.064"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"3.75"	"WG220781-1"
"0.50"	""							
"WG220781-2"	"300.0"	"RES"	"WG220781-2"	"KAS"	"16887-00-6"	"CHLORIDE"	"3.78"	"mg/L"
".0993"	"MDL"	"SPK"	"101."	"2.0"	"PQL"	"YES"	"3.75"	"WG220781-2"
"1.0"	""							
"WG220781-2"	"300.0"	"RES"	"WG220781-2"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.853"	
"mg/L"	".0174"	"MDL"	"SPK"	"101."	"0.050"	"PQL"	"YES"	"0.845"
"2"	"0.025"	""						
"WG220781-2"	"300.0"	"RES"	"WG220781-2"	"KAS"	"14808-79-8"	"SULFATE"	"3.65"	"mg/L"
"0.064"	"MDL"	"SPK"	"97.3"	"1.0"	"PQL"	"YES"	"3.75"	"WG220781-2"
"0.50"	""							
"G32-MW302B-D121417DUP"	"300.0"	"RES"	"WG220781-3"	"KAS"	"14797-55-8"	"NITRATE AS N"		
"0.025"	"mg/L"	"U"	".0174"	"MDL"	"TRG"	"0"	"0.050"	"PQL"
"0.025"	""							
"G32-MW302B-D121417MS"	"300.0"	"RES"	"WG220781-4"	"KAS"	"14797-55-8"	"NITRATE AS N"		
"0.89"	"mg/L"	".0174"	"MDL"	"SPK"	"105."	"0.050"	"PQL"	"YES"
"TK1858-7"	"0.025"	""						
"WG220946-1"	"2320B"	"RES"	"WG220946-1"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"0.50"	
"mg/L"	"J"	"0.23"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"
"4.0"	""							
"WG220946-2"	"2320B"	"RES"	"WG220946-2"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"120"	
"mg/L"	"0.23"	"MDL"	"SPK"	"103"	"5.0"	"PQL"	"YES"	"120"
"2"	"4.0"	""						
"G32-MW302B-121417MS"	"2320B"	"RES"	"WG220946-5"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"		
"140"	"mg/L"	"0.23"	"MDL"	"SPK"	"100"	"5.0"	"PQL"	"YES"
"TK1858-1"	"4"	""						
"WG221329-1"	"300.0"	"RES"	"WG221329-1"	"KAS"	"24959-67-9"	"BROMIDE"	"0.40"	"mg/L"
"U"	"0.14"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"3.75"	"WG221329-1"
"0.40"	""							
"WG221329-1"	"300.0"	"RES"	"WG221329-1"	"KAS"	"16887-00-6"	"CHLORIDE"	"1.0"	"mg/L"
"U"	".0993"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"3.75"	"WG221329-1"
"1.0"	""							
"WG221329-1"	"300.0"	"RES"	"WG221329-1"	"KAS"	"16984-48-8"	"FLUORIDE"	"0.025"	"mg/L"

"U"	"0.0072"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"3.75"	"WG221329-1"
"0.025"	""							
"WG221329-1"	"300.0"	"RES"	"WG221329-1"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.018"	
"mg/L"	"J"	".0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"
"0.025"	""							
"WG221329-1"	"300.0"	"RES"	"WG221329-1"	"KAS"	"14808-79-8"	"SULFATE"	"0.50"	"mg/L"
"U"	"0.064"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"3.75"	"WG221329-1"
"0.50"	""							
"WG221329-2"	"300.0"	"RES"	"WG221329-2"	"KAS"	"24959-67-9"	"BROMIDE"	"3.86"	"mg/L"
"0.14"	"MDL"	"SPK"	"103."	"0.50"	"PQL"	"YES"	"3.75"	"WG221329-2"
"0.40"	""							
"WG221329-2"	"300.0"	"RES"	"WG221329-2"	"KAS"	"16887-00-6"	"CHLORIDE"	"3.84"	"mg/L"
".0993"	"MDL"	"SPK"	"102."	"2.0"	"PQL"	"YES"	"3.75"	"WG221329-2"
"1.0"	""							
"WG221329-2"	"300.0"	"RES"	"WG221329-2"	"KAS"	"16984-48-8"	"FLUORIDE"	"3.78"	"mg/L"
"0.0072"	"MDL"	"SPK"	"101."	"0.050"	"PQL"	"YES"	"3.75"	"WG221329-2"
"0.025"	""							
"WG221329-2"	"300.0"	"RES"	"WG221329-2"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.903"	
"mg/L"	".0174"	"MDL"	"SPK"	"107."	"0.050"	"PQL"	"YES"	"0.845"
"2"	"0.025"	""						
"WG221329-2"	"300.0"	"RES"	"WG221329-2"	"KAS"	"14808-79-8"	"SULFATE"	"3.79"	"mg/L"
"0.064"	"MDL"	"SPK"	"101."	"1.0"	"PQL"	"YES"	"3.75"	"WG221329-2"
"0.50"	""							
"G32-MW302B-121417MS"	"300.0"	"RES"	"WG221329-3"	"KAS"	"16887-00-6"	"CHLORIDE"	"46."	
"mg/L"	"0.50"	"MDL"	"SPK"	"102."	"10."	"PQL"	"YES"	"18.75"
"5.0"	""							
"G32-MW302B-121417MS"	"300.0"	"RES"	"WG221329-3"	"KAS"	"14808-79-8"	"SULFATE"	"34."	
"mg/L"	"0.13"	"MDL"	"SPK"	"108."	"2.0"	"PQL"	"YES"	"7.5"
"1.0"	""							
"G32-MW302B-121417MSD"	"300.0"	"RES"	"WG221329-4"	"KAS"	"16887-00-6"	"CHLORIDE"	"46."	
"mg/L"	"0.50"	"MDL"	"SPK"	"103."	"1"	"10."	"PQL"	"YES"
"5.0"	""							
"G32-MW302B-121417MSD"	"300.0"	"RES"	"WG221329-4"	"KAS"	"14808-79-8"	"SULFATE"	"34."	
"mg/L"	"*" "0.13"	"MDL"	"SPK"	"111."	"1"	"2.0"	"PQL"	"YES"
"1.0"	""							
"112G08005-WE22"	"NEWPORT, GOULD ISLAND"	"LC	"SWKL21IMW2"	"AQ"				
"LC	"SWKL21IMW2"	"LCS"	"4.7"	"6020A"	"3010A"	"RES"	"12/21/2017 09:01"	"12/28/2017 18:39"
"KAS"	"COA"	"WET"	"TOT"	"5"	"100.0"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"
"KL21IMW2"	"TK1858"	"12/21/2017 00:00"	"01/29/2018 12:00"	""				
"112G08005-WE22"	"NEWPORT, GOULD ISLAND"	"LC	"SWKL21IMW2"	"AQ"				
"LC	"SWKL21IMW2"	"LCS"	"4.7"	"6020A"	"3010A"	"RES1"	"12/21/2017 09:01"	"12/29/2017 17:17"
"KAS"	"COA"	"WET"	"TOT"	"5"	"100.0"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"
"KL21IMW2"	"TK1858"	"12/21/2017 00:00"	"01/29/2018 12:00"	""				
"112G08005-WE22"	"NEWPORT, GOULD ISLAND"	"PB	"WKL21IMW2"	"AQ"	"PBWKL21IMW2"			
"MB"	"4.7"	"6020A"	"3010A"	"RES"	"12/21/2017 09:02"	"12/28/2017 18:35"	"KAS"	"COA"
"WET"	"TOT"	"5"	"100.0"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"	"TK1858"
"12/21/2017 00:00"	"01/29/2018 12:00"	""						
"112G08005-WE22"	"NEWPORT, GOULD ISLAND"	"PB	"WKL21IMW2"	"AQ"	"PBWKL21IMW2"			
"MB"	"4.7"	"6020A"	"3010A"	"RES1"	"12/21/2017 09:02"	"12/29/2017 17:14"	"KAS"	"COA"
"WET"	"TOT"	"5"	"100.0"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"	"TK1858"
"12/21/2017 00:00"	"01/29/2018 12:00"	""						
"112G08005-WE22"	"NEWPORT, GOULD ISLAND"	"G32-MW302B-121417"	"12/14/2017 11:21"	"AQ"				
"TK1858-001"	"NM"	"4.7"	"6020A"	"3010A"	"RES"	"12/21/2017 09:03"	"12/28/2017 18:42"	"KAS"
"COA"	"WET"	"TOT"	"5"	"100.0"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"	"KL21IMW2"

"TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417" "12/14/2017 11:21""AQ"
"TK1858-001""NM" "4.7" "6020A" "3010A" "RES1" "12/21/2017 09:03""12/29/2017 17:29""KAS"
"COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MSD" "12/14/2017 11:21""AQ"
"TK1858-001P" "MSD" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:04""12/28/2017 18:58"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"KL21IMW2" "TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MSD" "12/14/2017 11:21""AQ"
"TK1858-001P" "MSD" "4.7" "6020A" "3010A" "RES1" "12/21/2017 09:04""12/29/2017 17:44"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"KL21IMW2" "TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MS" "12/14/2017 11:21""AQ"
"TK1858-001S" "MS" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:05""12/28/2017 18:54"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"KL21IMW2" "TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MS" "12/14/2017 11:21""AQ"
"TK1858-001S" "MS" "4.7" "6020A" "3010A" "RES1" "12/21/2017 09:05""12/29/2017 17:41"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"KL21IMW2" "TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417" "12/14/2017 11:21""AQ"
"TK1858-002""NM" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:06""12/28/2017 19:10""KAS"
"COA" "WET" "DIS" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417" "12/14/2017 11:21""AQ"
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"COA" "WET" "DIS" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
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"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MSD" "12/14/2017 11:21""AQ"
"TK1858-002P" "MSD" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:07""12/28/2017 19:26"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"KL21IMW2" "TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MSD" "12/14/2017 11:21""AQ"
"TK1858-002P" "MSD" "4.7" "6020A" "3010A" "RES1" "12/21/2017 09:07""12/29/2017 18:16"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"KL21IMW2" "TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MS" "12/14/2017 11:21""AQ"
"TK1858-002S" "MS" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:08""12/28/2017 19:22"
"KAS" "COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2"
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"112G08005-WE22" "NEWPORT, GOULD ISLAND" "G32-MW302B-121417MS" "12/14/2017 11:21""AQ"
"TK1858-002S" "MS" "4.7" "6020A" "3010A" "RES1" "12/21/2017 09:08""12/29/2017 18:00"
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"112G08005-WE22" "NEWPORT, GOULD ISLAND" "GI-MW405-121417" "12/14/2017 11:45""AQ"
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"COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
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"COA" "WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "GI-MW405-121417" "12/14/2017 11:45""AQ"

"TK1858-004""NM" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:10""12/28/2017 19:34""KAS"
"COA" "WET" "DIS" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "GI-MW405-121417" "12/14/2017 11:45""AQ"
"TK1858-004""NM" "4.7" "6020A" "3010A" "RES1" "12/21/2017 09:10""12/29/2017 18:24""KAS"
"COA" "WET" "DIS" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2"
"TK1858" "12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "MW406-121417" "12/14/2017 13:40""AQ" "TK1858-
005""NM" "4.7" "6020A" "3010A" "RES" "12/21/2017 09:11""12/28/2017 19:38""KAS" "COA"
"WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2" "TK1858"
"12/15/2017 00:00""01/29/2018 12:00""
"112G08005-WE22" "NEWPORT, GOULD ISLAND" "MW406-121417" "12/14/2017 13:40""AQ" "TK1858-
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"WET" "TOT" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2" "TK1858"
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"112G08005-WE22" "NEWPORT, GOULD ISLAND" "MW406-121417" "12/14/2017 13:40""AQ" "TK1858-
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"WET" "DIS" "5" "100.0" "KL21IMW2" "KL21IMW2" "KL21IMW2" "KL21IMW2" "TK1858"
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TETRA TECH

INTERNAL CORRESPONDENCE

TO: S. PARKER **DATE:** FEBRUARY 15, 2018

FROM: JOSEPH KALINYAK **COPIES:** DV FILE

SUBJECT: DATA VALIDATION – VOC / PAH / PCB / DISSOLVED & TOTAL METALS / MISC / PFA
NAVAL STATION (NAVSTA) NEWPORT, GOULD ISLAND
SAMPLE DELIVERY GROUP (SDG) TK1858

SAMPLES: 1 / Aqueous - PFA
FRB-121417
4 / Aqueous – VOC, PAH, PCB, Dissolved & Total Metals, Miscellaneous, PFA
G32-MW302B-121417 G32-MW302B-D121417
GI-MW405-121417 MW406-121417

Overview

The sample set for NAVSTA Newport, SDG TK1858 consisted of four (4) aqueous environmental samples and one (1) aqueous field reagent blank sample. The aqueous environmental samples were analyzed for select Volatile Organic Compounds (VOC), select Polynuclear Aromatic Hydrocarbons (PAH), Poly-Chlorinated Biphenyls (PCB), select dissolved and total metals, the miscellaneous parameters (alkalinity, chloride, sulfate, nitrate-N), and Perfluorinated Alkyl Acids (PFAs) as listed above. The field reagent blank sample was analyzed for PFAs only. One field duplicate sample pair was included in this SDG: G32-MW302B-121417 / G32-MW302B-D121417.

The samples were collected by Tetra Tech, Inc. on December 14, 2017 and analyzed by Katahdin Analytical Services for VOC, PAH, PCB, dissolved & total metals, and the miscellaneous parameters. The PFAs were subcontracted and analyzed by Shealy Environmental Services Inc. All analyses were conducted in accordance with EPA SW846 Methods 8260C for VOC, 8270D SIM for PAH, 8082A for PCB, 6020A for metals, EPA method 300.0 for anions, Standard Method 2320B for alkalinity, and Method 537.1 (modified) for PFAs, analytical and reporting protocols.

An EPA Stage Level 2A validation was performed. The data was evaluated with regard to the following parameters:

- Data Completeness
- Holding Times/Sample Preservation
- Laboratory Method/Preparation, Reagent Field Blank, and Trip Blank Results
- * • Laboratory Control Sample/Laboratory Control Sample Duplicate Results
- Matrix Spike/Matrix Spike Duplicate Results
- Surrogate Spike Recoveries
- Internal Standard Areas
- * • ICP Interference Recoveries
- * • Serial Dilution Results
- * • Field Duplicate Precision
- * • Detection Limits

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C. The text of this report has been formulated to address only those areas affecting data quality.

DATA COMPLETENESS

The original data package did not include the compounds 1,2-dichloroethene (cis and trans) and vinyl chloride for the VOC analyses as listed in the sampling and analysis plan. The laboratory was contacted and the data package was resubmitted with the correct VOC compound list.

One PFAS sample was mis-labeled by Shealy laboratory. The sample ID was corrected by the data reviewer. Sample G32-MW302B-121417 was labeled as "G-32-MW302B-121417".

HOLD TIMES

The sampling to analysis hold time of 48 hours for the nitrate analysis was exceeded by more than two times the method holding time for sample G32-MW302B-D121417 (field duplicate sample). The non-detected nitrate result was qualified rejected (UR).

LABORATORY METHOD/PREPARATION BLANKS

PFOA (perfluorooctanoic acid) was detected in the PFA analysis method blank above the method detection limit but below the reporting limit (RL) for batch 60632 affecting all SDG samples. PFOS (perfluorooctanesulfonate) was detected in the field reagent blank, FRB-121417, above the method detections limit but below the RL (<1/3 the RL) affecting all SDG samples.

<u>Compound</u>	<u>Conc. (ng/l)</u>	<u>Action Level (ng/l)</u>
PFOA ⁽¹⁾	0.5	2.5
PFOS ⁽²⁾	0.47	2.35

⁽¹⁾ Method blank contaminant from QC batch 60632

⁽²⁾ Field Reagent Blank contaminant

An action level of 5X the maximum concentration for the method blank and field reagent blank contaminants was established to evaluate for blank contamination. Dilution factors and sample aliquots, if necessary, were taken into consideration during the application of the action levels. Sample results less than the action levels were qualified non-detected, (U), for method blank or field reagent blank contamination. The field reagent blank sample was not qualified for method blank PFOA contamination.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULTS (MS / MSD)

The MSD percent recovery (%R) for sulfate was greater than (by 1%) the QC limit for spiked sample G32-MW302B-121417. Detected sulfate results in all samples were qualified estimated, (J).

INTERNAL STANDARD RECOVERIES

The PAH internal standard recoveries for perylene-d12 were greater than the quality control (QC) limit for samples G32-MW302B-D121417, GI-MW405-121417, and MW406-121417. The analytes affected were benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)-anthracene, and benzo(g,h,i)perylene. Detected results for the aforementioned PAH analytes were qualified estimated, (J). Non-detected results for the other associated analytes did not require qualification.

NOTES

The VOC surrogate recovery for 1,2-dichloroethane-d4 was greater than the QC limit for sample G32-MW302B-121417. No action was taken as the surrogate associated VOC results were non-detected for the aforementioned sample.

All samples analyzed for total and dissolved metals were diluted 5X for the analysis.

For the metals analysis, manganese was detected in the laboratory instrument/method blank PBWKL21IMW2 at 0.36 µg/l (<Reporting Limit (RL)) affecting all total and dissolved metal sample results. No action was taken as all sample total and dissolved manganese results were greater than the RL.

Method blank alkalinity was detected above the Method Detection Limit (MDL) but below the RL for method blank QC batch WG220946. The associated sample alkalinity results were not qualified as the results were above the RL.

The MS %R for PFOS was greater than the QC limit for spiked sample G32-MW302B-121417. The sample PFOS result was non-detected and did not require qualification.

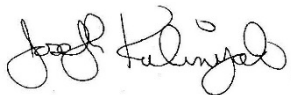
Detected results reported below the Reporting Limit (RL) but above the Method Detection Limit (MDL) were qualified as estimated, (J). Non-detected results are reported to the Limit of Detection (LOD).

EXECUTIVE SUMMARY

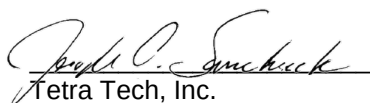
Laboratory Performance: One sample nitrate result was rejected for a sample collection to analysis hold time exceedance. Sample PFA results were qualified non-detected for method blank and Field Reagent Blank contamination. PAH results were qualified for internal standard recovery QC limit exceedances.

Other Factors Affecting Data Quality: Results below the RL but above the MDL were qualified estimated. Sample sulfate results were qualified for a MS %R QC limit exceedance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017), the "National Functional Guidelines for Inorganic Superfund Methods Data Review" (January 2017), and the EPA New England Environmental Data Review Supplement (April 2013). The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech
Joseph Kalinyak
Data Validator/Environmental Scientist



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

TO: S. PARKER
SDG: TK1858

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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 method detection limit for sample and method.
J	The analyte was positively identified and 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.
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.

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

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

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: OV MEDIA: WATER	NSAMPLE	G32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417			MW406-121417		
	LAB_ID	TK1858-1			TK1858-7			TK1858-3			TK1858-5		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				G32-MW302B-121417								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
BENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
CIS-1,2-DICHLOROETHENE		1	U		1	U		0.48	J	P	1	U	
TETRACHLOROETHENE		0.5	U		0.5	U		0.5	U		0.5	U	
TOTAL 1,2-DICHLOROETHENE		2	U		2	U		0.48	J	P	2	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		0.5	U		0.5	U		2.3			0.29	J	P
VINYL CHLORIDE		2	U		2	U		2	U		2	U	

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: PAH MEDIA: WATER	NSAMPLE	G32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417			MW406-121417		
	LAB_ID	TK1858-1			TK1858-7			TK1858-3			TK1858-5		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				G-32-MW302B-121417								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2-METHYLNAPHTHALENE		0.094	U		0.097	U		0.096	U		0.096	U	
BENZO(A)ANTHRACENE		0.094	U		0.097	U		0.096	U		0.058	J	P
BENZO(A)PYRENE		0.094	U		0.097	U		0.096	U		0.096	U	
BENZO(B)FLUORANTHENE		0.094	U		0.097	U		0.096	U		0.096	U	
BENZO(G,H,I)PERYLENE		0.094	U		0.097	U		0.096	U		0.096	U	
BENZO(K)FLUORANTHENE		0.094	U		0.097	U		0.096	U		0.096	U	
CHRYSENE		0.094	U		0.097	U		0.096	U		0.096	U	
DIBENZO(A,H)ANTHRACENE		0.094	U		0.097	U		0.096	U		0.096	U	
FLUORANTHENE		0.094	U		0.097	U		0.096	U		0.19	J	P
INDENO(1,2,3-CD)PYRENE		0.094	U		0.12	J	NP	0.096	U		0.16	J	NP
NAPHTHALENE		0.094	U		0.097	U		0.096	U		0.39		
PENTACHLOROPHENOL		0.47	U		0.48	U		0.48	U		0.48	U	
PHENANTHRENE		0.094	U		0.097	U		0.096	U		0.22		
PYRENE		0.094	U		0.097	U		0.096	U		0.12	J	P

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: PCB MEDIA: WATER	NSAMPLE	G32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417			MW406-121417		
	LAB_ID	TK1858-1			TK1858-7			TK1858-3			TK1858-5		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				G-32-MW302B-121417								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1221		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1232		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1242		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1248		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1254		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1260		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1262		0.25	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1268		0.25	U		0.24	U		0.24	U		0.24	U	
TOTAL AROCLOR		2.2	U		2.2	U		2.1	U		2.1	U	

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: M MEDIA: WATER	NSAMPLE	G32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417			MW406-121417		
	LAB_ID	TK1858-001			TK1858-007			TK1858-003			TK1858-005		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				G32-MW302B-121417								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ARSENIC		3.3	J	P	2.6	J	P	4	U		4	U	
CADMIUM		0.2	U		0.2	U		0.031	J	P	0.2	U	
LEAD		0.14	J	P	0.15	J	P	3.41			0.52	J	P
MANGANESE		513			502			36.6			2330		

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: MF MEDIA: WATER	NSAMPLE	G32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417			MW406-121417		
	LAB_ID	TK1858-002			TK1858-008			TK1858-004			TK1858-006		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				G32-MW302B-121417								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ARSENIC		2.7	J	P	3.1	J	P	4	U		4	U	
CADMIUM		0.2	U		0.2	U		0.037	J	P	0.2	U	
LEAD		0.5	U		0.5	U		2.42			0.27	J	P
MANGANESE		543			589			34.6			2560		

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: MISC MEDIA: WATER	NSAMPLE	G32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417			MW406-121417		
	LAB_ID	TK1858-1			TK1858-7			TK1858-3			TK1858-5		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				G32-MW302B-121417								
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALKALINITY		23			26			89			270		
CHLORIDE		27			27			140			340		
NITRATE-N		0.025	U		0.025	UR	H	0.67			0.12		
SULFATE		26	J	D	25	J	D	56	J	D	94	J	D

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: PFAS MEDIA: WATER	NSAMPLE	FRB-121417			G-32-MW302B-121417			G32-MW302B-D121417			GI-MW405-121417		
	LAB_ID	SL22035-005			SL22035-001			SL22035-004			SL22035-002		
	SAMP_DATE	12/14/2017			12/14/2017			12/14/2017			12/14/2017		
	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							G-32-MW302B-121417					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.88	U		0.83	U		0.9	U		0.92	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.88	U		0.83	U		0.9	U		0.92	U	
PENTADEC AFLUOROOCTANOIC ACID		0.44	U		0.48	U	A	0.46	U	A	7.7		
PERFLUOROBUTANESULFONIC ACID		0.44	U		0.42	U		0.45	U		0.7	J	P
PERFLUORODECANOIC ACID		0.44	U		0.42	U		0.45	U		0.46	U	
PERFLUORODODECANOIC ACID		0.44	U		0.42	U		0.45	U		0.46	U	
PERFLUOROHEPTANOIC ACID		0.44	U		0.56	J	P	0.45	U		0.52	J	P
PERFLUOROHEXANESULFONIC ACID		0.44	U		0.43	J	P	0.45	U		0.98	J	P
PERFLUOROHEXANOIC ACID		0.44	U		0.42	U		0.45	U		0.49	J	P
PERFLUORONONANOIC ACID		0.44	U		0.45	J	P	0.48	J	P	0.46	U	
PERFLUOROOCTANE SULFONIC ACID		0.47	J	P	0.42	U		0.45	U		2.1	U	B
PERFLUOROTETRADECANOIC ACID		0.88	U		0.83	U		0.9	U		0.92	U	
PERFLUOROTRIDECANOIC ACID		0.44	U		0.42	U		0.45	U		0.46	U	
PERFLUOROUNDECANOIC ACID		0.44	U		0.42	U		0.45	U		0.46	U	

PROJ_NO: 08005-WE22 SDG: TK1858 FRACTION: PFAS MEDIA: WATER	NSAMPLE	MW406-121417		
	LAB_ID	SL22035-003		
	SAMP_DATE	12/14/2017		
	QC_TYPE	NM		
	UNITS	NG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.9	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.9	U	
PENTADECAFLUOROOCTANOIC ACID		5		
PERFLUOROBUTANESULFONIC ACID		0.71	J	P
PERFLUORODECANOIC ACID		0.61	J	P
PERFLUORODODECANOIC ACID		0.45	U	
PERFLUOROHEPTANOIC ACID		2		
PERFLUOROHEXANESULFONIC ACID		1.7	J	P
PERFLUOROHEXANOIC ACID		2.7		
PERFLUORONONANOIC ACID		1.2	J	P
PERFLUOROOCTANE SULFONIC ACID		5.7		
PERFLUOROTETRADECANOIC ACID		0.9	U	
PERFLUOROTRIDECANOIC ACID		0.45	U	
PERFLUOROUNDECANOIC ACID		0.45	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-1

Client ID: G32-MW302B-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: W2451.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 22-DEC-17

Extracted By: TTC/H

Extraction Method: SW846 5030

Lab Prep Batch: WG220560

Analysis Date: 22-DEC-17

Analyst: TTC/HG

Analysis Method: SW846 8260C

Matrix: AQ

% Solids: NA

Report Date: 25-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Vinyl Chloride	U	2.0	ug/L	1	1	1.0	0.25	2.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.25	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.21	1.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	1	1	1.0	0.21	2.0
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
P-Bromofluorobenzene		106.	%					
Toluene-d8		104.	%					
1,2-Dichloroethane-d4	*	132.	%					
Dibromofluoromethane		116.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-3

Client ID: GI-MW405-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: T3734.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 21-DEC-17

Extracted By: JSS/HG

Extraction Method: SW846 5030

Lab Prep Batch: WG220487

Analysis Date: 21-DEC-17

Analyst: JSS/HG

Analysis Method: SW846 8260C

Matrix: AQ

% Solids: NA

Report Date: 25-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Vinyl Chloride	U	2.0	ug/L	1	1	1.0	0.25	2.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.25	1.0
cis-1,2-Dichloroethene	J	0.48	ug/L	1	.5	0.50	0.21	1.0
1,2-Dichloroethylene (Total)	J	0.48	ug/L	1	1	1.0	0.21	2.0
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Trichloroethene		2.3	ug/L	1	1	1.0	0.28	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
P-Bromofluorobenzene		99.1	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		101.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-5

Client ID: MW406-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: T3735.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 21-DEC-17

Extracted By: JSS/HG

Extraction Method: SW846 5030

Lab Prep Batch: WG220487

Analysis Date: 21-DEC-17

Analyst: JSS/HG

Analysis Method: SW846 8260C

Matrix: AQ

% Solids: NA

Report Date: 25-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Vinyl Chloride	U	2.0	ug/L	1	1	1.0	0.25	2.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.25	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.21	1.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	1	1	1.0	0.21	2.0
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Trichloroethene	J	0.29	ug/L	1	1	1.0	0.28	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
P-Bromofluorobenzene		99.5	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		104.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-7

Client ID: G32-MW302B-D121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: W2442.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 22-DEC-17

Extracted By: TTC/H

Extraction Method: SW846 5030

Lab Prep Batch: WG220560

Analysis Date: 22-DEC-17

Analyst: TTC/HG

Analysis Method: SW846 8260C

Matrix: AQ

% Solids: NA

Report Date: 25-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Vinyl Chloride	U	2.0	ug/L	1	1	1.0	0.25	2.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.25	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.21	1.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	1	1	1.0	0.21	2.0
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
P-Bromofluorobenzene		100.	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		116.	%					
Dibromofluoromethane		108.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-1

Client ID: G32-MW302B-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: N7125.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 19-DEC-17

Extracted By: WAS

Extraction Method: SW846 3510C

Lab Prep Batch: WG220335

Analysis Date: 26-DEC-17

Analyst: JCG

Analysis Method: SW846 M8270D SIM

Matrix: AQ

% Solids: NA

Report Date: 03-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pentachlorophenol	U	0.47	ug/L	1	1	0.94	0.31	0.47
Naphthalene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
2-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.073	0.094
Phenanthrene	U	0.094	ug/L	1	.2	0.19	0.048	0.094
Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.069	0.094
Pyrene	U	0.094	ug/L	1	.2	0.19	0.056	0.094
Benzo(a)anthracene	U	0.094	ug/L	1	.2	0.19	0.043	0.094
Chrysene	U	0.094	ug/L	1	.2	0.19	0.034	0.094
Benzo(b)Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.084	0.094
Benzo(k)fluoranthene	U	0.094	ug/L	1	.2	0.19	0.046	0.094
Benzo(a)pyrene	U	0.094	ug/L	1	.2	0.19	0.062	0.094
Indeno(1,2,3-cd)pyrene	U	0.094	ug/L	1	.2	0.19	0.049	0.094
Dibenzo(a,h)anthracene	U	0.094	ug/L	1	.2	0.19	0.066	0.094
Benzo(g,h,i)perylene	U	0.094	ug/L	1	.2	0.19	0.061	0.094
2-Methylnaphthalene-D10		61.8	%					
2,4-Dibromophenol		70.5	%					
Fluorene-D10		58.6	%					
Pyrene-D10		64.4	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-7

Client ID: G32-MW302B-D121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: N7187.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 19-DEC-17

Extracted By: WAS

Extraction Method: SW846 3510C

Lab Prep Batch: WG220335

Analysis Date: 29-DEC-17

Analyst: JCG

Analysis Method: SW846 M8270D SIM

Matrix: AQ

% Solids: NA

Report Date: 03-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pentachlorophenol	U	0.48	ug/L	1	1	0.97	0.32	0.48
Naphthalene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
2-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.075	0.097
Phenanthrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.071	0.097
Pyrene	U	0.097	ug/L	1	.2	0.19	0.057	0.097
Benzo(a)anthracene	U	0.097	ug/L	1	.2	0.19	0.045	0.097
Chrysene	U	0.097	ug/L	1	.2	0.19	0.035	0.097
Benzo(b)Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.086	0.097
Benzo(k)fluoranthene	U	0.097	ug/L	1	.2	0.19	0.048	0.097
Benzo(a)pyrene	U	0.097	ug/L	1	.2	0.19	0.064	0.097
Indeno(1,2,3-cd)pyrene	J	0.12	ug/L	1	.2	0.19	0.050	0.097
Dibenzo(a,h)anthracene	U	0.097	ug/L	1	.2	0.19	0.068	0.097
Benzo(g,h,i)perylene	U	0.097	ug/L	1	.2	0.19	0.063	0.097
2-Methylnaphthalene-D10		77.0	%					
2,4-Dibromophenol		86.6	%					
Fluorene-D10		81.6	%					
Pyrene-D10		74.1	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-3

Client ID: GI-MW405-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: N7185.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 19-DEC-17

Extracted By: WAS

Extraction Method: SW846 3510C

Lab Prep Batch: WG220335

Analysis Date: 29-DEC-17

Analyst: JCG

Analysis Method: SW846 M8270D SIM

Matrix: AQ

% Solids: NA

Report Date: 04-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pentachlorophenol	U	0.48	ug/L	1	1	0.96	0.32	0.48
Naphthalene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene	U	0.096	ug/L	1	.2	0.19	0.074	0.096
Phenanthrene	U	0.096	ug/L	1	.2	0.19	0.049	0.096
Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.070	0.096
Pyrene	U	0.096	ug/L	1	.2	0.19	0.057	0.096
Benzo(a)anthracene	U	0.096	ug/L	1	.2	0.19	0.044	0.096
Chrysene	U	0.096	ug/L	1	.2	0.19	0.035	0.096
Benzo(b)Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.086	0.096
Benzo(k)fluoranthene	U	0.096	ug/L	1	.2	0.19	0.047	0.096
Benzo(a)pyrene	U	0.096	ug/L	1	.2	0.19	0.063	0.096
Indeno(1,2,3-cd)pyrene	U	0.096	ug/L	1	.2	0.19	0.050	0.096
Dibenzo(a,h)anthracene	U	0.096	ug/L	1	.2	0.19	0.067	0.096
Benzo(g,h,i)perylene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene-D10		72.1	%					
2,4-Dibromophenol		79.5	%					
Fluorene-D10		73.7	%					
Pyrene-D10		70.2	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-5

Client ID: MW406-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: N7186.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 19-DEC-17

Extracted By: WAS

Extraction Method: SW846 3510C

Lab Prep Batch: WG220335

Analysis Date: 29-DEC-17

Analyst: JCG

Analysis Method: SW846 M8270D SIM

Matrix: AQ

% Solids: NA

Report Date: 04-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pentachlorophenol	U	0.48	ug/L	1	1	0.96	0.32	0.48
Naphthalene		0.39	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene	U	0.096	ug/L	1	.2	0.19	0.074	0.096
Phenanthrene		0.22	ug/L	1	.2	0.19	0.049	0.096
Fluoranthene	J	0.19	ug/L	1	.2	0.19	0.070	0.096
Pyrene	J	0.12	ug/L	1	.2	0.19	0.057	0.096
Benzo(a)anthracene	J	0.058	ug/L	1	.2	0.19	0.044	0.096
Chrysene	U	0.096	ug/L	1	.2	0.19	0.035	0.096
Benzo(b)Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.086	0.096
Benzo(k)fluoranthene	U	0.096	ug/L	1	.2	0.19	0.047	0.096
Benzo(a)pyrene	U	0.096	ug/L	1	.2	0.19	0.063	0.096
Indeno(1,2,3-cd)pyrene	J	0.16	ug/L	1	.2	0.19	0.050	0.096
Dibenzo(a,h)anthracene	U	0.096	ug/L	1	.2	0.19	0.067	0.096
Benzo(g,h,i)perylene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene-D10		71.0	%					
2,4-Dibromophenol		78.5	%					
Fluorene-D10		75.2	%					
Pyrene-D10		67.4	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-1

Client ID: G32-MW302B-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: 8KL00552.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 20-DEC-17

Extracted By: KF

Extraction Method: SW846 3510C

Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17

Analyst: BF

Analysis Method: SW846 8082A

Matrix: AQ

% Solids: NA

Report Date: 29-DEC-17

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.25	ug/L	1	.5	0.50	0.15	0.25
Aroclor-1221	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1232	U	0.25	ug/L	1	.5	0.50	0.088	0.25
Aroclor-1242	U	0.25	ug/L	1	.5	0.50	0.18	0.25
Aroclor-1248	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1254	U	0.25	ug/L	1	.5	0.50	0.081	0.25
Aroclor-1260	U	0.25	ug/L	1	.5	0.50	0.17	0.25
Aroclor-1262	U	0.25	ug/L	1	.5	0.50	0.065	0.25
Aroclor-1268	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		98.7	%					
Decachlorobiphenyl		91.7	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-7

Client ID: G32-MW302B-D121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: 8KL00555.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 20-DEC-17

Extracted By: KF

Extraction Method: SW846 3510C

Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17

Analyst: BF

Analysis Method: SW846 8082A

Matrix: AQ

% Solids: NA

Report Date: 29-DEC-17

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.086	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Aroclor-1262	U	0.24	ug/L	1	.5	0.48	0.064	0.24
Aroclor-1268	U	0.24	ug/L	1	.5	0.48	0.070	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.064	2.2
Tetrachloro-M-Xylene		101.	%					
Decachlorobiphenyl		90.1	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-3

Client ID: GI-MW405-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: 8KL00553.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 20-DEC-17

Extracted By: KF

Extraction Method: SW846 3510C

Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17

Analyst: BF

Analysis Method: SW846 8082A

Matrix: AQ

% Solids: NA

Report Date: 29-DEC-17

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.085	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.078	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Aroclor-1262	U	0.24	ug/L	1	.5	0.48	0.063	0.24
Aroclor-1268	U	0.24	ug/L	1	.5	0.48	0.068	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.3	0.063	2.1
Tetrachloro-M-Xylene		95.0	%					
Decachlorobiphenyl		82.1	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1858-5

Client ID: MW406-121417

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1858

Lab File ID: 8KL00554.D

Sample Date: 14-DEC-17

Received Date: 15-DEC-17

Extract Date: 20-DEC-17

Extracted By: KF

Extraction Method: SW846 3510C

Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17

Analyst: BF

Analysis Method: SW846 8082A

Matrix: AQ

% Solids: NA

Report Date: 29-DEC-17

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.085	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.078	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Aroclor-1262	U	0.24	ug/L	1	.5	0.48	0.063	0.24
Aroclor-1268	U	0.24	ug/L	1	.5	0.48	0.068	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.3	0.063	2.1
Tetrachloro-M-Xylene		97.9	%					
Decachlorobiphenyl		97.2	%					

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, TOTAL	3.3	J		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, TOTAL	0.14	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	513		A	MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-D121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, TOTAL	2.6	J		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, TOTAL	0.15	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	502			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: GI-MW405-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, TOTAL	0.031	J		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, TOTAL	3.41			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	36.6			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: MW406-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, TOTAL	0.52	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	2330			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, DISSOLVED	2.7	J		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, DISSOLVED	0.20	U		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, DISSOLVED	0.50	U		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, DISSOLVED	543			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-D121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, DISSOLVED	3.1	J		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, DISSOLVED	0.20	U		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, DISSOLVED	0.50	U		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, DISSOLVED	589			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: GI-MW405-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, DISSOLVED	4.0	U		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, DISSOLVED	0.037	J		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, DISSOLVED	2.42			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, DISSOLVED	34.6			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: MW406-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7440-38-2	ARSENIC, DISSOLVED	4.0	U		MS	5	5.0	2.3	4.0
7440-43-9	CADMIUM, DISSOLVED	0.20	U		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, DISSOLVED	0.27	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, DISSOLVED	2560			MS	5	2.0	0.35	1.0

Comments:

Report of Analytical Results

Client: Michael Horton
 Tetra Tech Inc.
 5 Industrial Way
 Salem, NH 03079

Lab Sample ID: TK1858-1
Report Date: 05-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1858

Sample Description

G32-MW302B-121417

Matrix **Date Sampled** **Date Received**
 AQ 14-DEC-17 11:21:00 15-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	23. mg/L	5.0	0.23	4.0	STDM 2320B	WG220946	27-DEC-17 16:57:20	N/A	N/A	
Chloride	27 mg/L	10.	0.50	5.0	EPA 300.0	WG221329	03-JAN-18 22:56:00	E300.0	N/A	
Nitrate as N	U0.025 mg/L	0.050	.0174	0.025	EPA 300.0	WG220437	15-DEC-17 18:31:00	E300.0	N/A	
Sulfate	26 mg/L	2.0	0.13	1.0	EPA 300.0	WG221329	03-JAN-18 21:37:00	E300.0	N/A	

Report of Analytical Results

Client: Michael Horton
Tetra Tech Inc.
5 Industrial Way
Salem, NH 03079

Lab Sample ID: TK1858-7
Report Date: 05-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1858

Sample Description

G32-MW302B-D121417

Matrix Date Sampled Date Received
AQ 14-DEC-17 00:00:00 15-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	26. mg/L	5.0	0.23	4.0	STDM 2320B	WG220946	27-DEC-17 17:15:28	N/A	N/A	
Chloride	27 mg/L	10.	0.50	5.0	EPA 300.0	WG220781	18-DEC-17 19:41:00	E300.0	N/A	
Nitrate as N	U0.025 mg/L	0.050	.0174	0.025	EPA 300.0	WG220781	18-DEC-17 18:38:00	E300.0	N/A	
Sulfate	25 mg/L	2.0	0.13	1.0	EPA 300.0	WG220781	18-DEC-17 19:25:00	E300.0	N/A	

Report of Analytical Results

Client: Michael Horton
Tetra Tech Inc.
5 Industrial Way
Salem, NH 03079

Lab Sample ID: TK1858-3
Report Date: 05-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1858

Sample Description

GI-MW405-121417

Matrix **Date Sampled** **Date Received**
AQ 14-DEC-17 11:45:00 15-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	89. mg/L	5.0	0.23	4.0	STDM 2320B	WG220946	27-DEC-17 17:08:14	N/A	N/A	
Chloride	140 mg/L	40.	2.0	20.	EPA 300.0	WG220447	16-DEC-17 19:56:00	E300.0	N/A	
Nitrate as N	0.67 mg/L	0.050	.0174	0.025	EPA 300.0	WG220437	15-DEC-17 21:08:00	E300.0	N/A	
Sulfate	56 mg/L	5.0	0.32	2.5	EPA 300.0	WG220437	15-DEC-17 21:39:00	E300.0	N/A	

Report of Analytical Results

Client: Michael Horton
 Tetra Tech Inc.
 5 Industrial Way
 Salem, NH 03079

Lab Sample ID: TK1858-5
Report Date: 05-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1858

Sample Description

MW406-121417

Matrix **Date Sampled** **Date Received**
 AQ 14-DEC-17 13:40:00 15-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	270 mg/L	5.0	0.23	4.0	STDM 2320B	WG220946	27-DEC-17 17:11:06	N/A	N/A	
Chloride	340 mg/L	100	5.0	50.	EPA 300.0	WG220447	16-DEC-17 19:40:00	E300.0	N/A	
Nitrate as N	0.12 mg/L	0.050	.0174	0.025	EPA 300.0	WG220437	15-DEC-17 20:21:00	E300.0	N/A	
Sulfate	94 mg/L	5.0	0.32	2.5	EPA 300.0	WG220437	15-DEC-17 20:52:00	E300.0	N/A	

PFAS by LC/MS/MS

Client: Katahdin Analytical Services					Laboratory ID: SL22035-005				
Description: FRB-121417					Matrix: Aqueous				
Date Sampled: 12/14/2017									
Date Received: 12/22/2017									

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	537 MOD	537.1 Modified-ID	1	12/28/2017 2127	SES	12/27/2017 1521	60632

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	537.1 Mod. ID	1.8	U	3.5	1.8	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.8	U	3.5	1.8	0.88	ng/L	1
Perfluoro-1-butanefulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.8	U	3.5	1.8	0.88	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	0.47	J	1.8	0.90	0.44	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		105	50-150
13C2_PFTeDA		99	50-150
13C3_PFBs		111	50-150
13C3_PFHxS		109	50-150
13C4_PFHpA		111	50-150
13C5_PFHxA		107	50-150
13C6_PFDA		107	50-150
13C7_PFUdA		107	50-150
13C8_PFOA		106	50-150
13C8_PFOS		106	50-150
13C9_PFNA		108	50-150
d5-EtFOSAA		113	50-150
d3-MeFOSAA		109	50-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

PFAS by LC/MS/MS

Client: Katahdin Analytical Services	Laboratory ID: SL22035-001
Description: G-32-MW302B-121417	Matrix: Aqueous
Date Sampled: 12/14/2017 1121	
Date Received: 12/22/2017	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	537 MOD	537.1 Modified-ID	1	12/28/2017 2006	SES	12/27/2017 1521	60632

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	537.1 Mod. ID	1.7	U	3.3	1.7	0.83	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.7	U	3.3	1.7	0.83	ng/L	1
Perfluoro-1-butanefulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.85	U	1.7	0.85	0.42	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.43	J	1.7	0.85	0.42	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.85	U	1.7	0.85	0.42	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	537.1 Mod. ID	0.85	U	1.7	0.85	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.56	J	1.7	0.85	0.42	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.85	U	1.7	0.85	0.42	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.45	J	1.7	0.85	0.42	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.48	J	1.7	0.85	0.42	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.7	U	3.3	1.7	0.83	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	537.1 Mod. ID	0.85	U	1.7	0.85	0.42	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.85	U	1.7	0.85	0.42	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	0.85	US	1.7	0.85	0.42	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		95	50-150
13C2_PFTeDA		79	50-150
13C3_PFBs		100	50-150
13C3_PFHxS		98	50-150
13C4_PFHpA		98	50-150
13C5_PFHxA		99	50-150
13C6_PFDA		99	50-150
13C7_PFUdA		100	50-150
13C8_PFOA		101	50-150
13C8_PFOS		96	50-150
13C9_PFNA		97	50-150
d5-EtFOSAA		100	50-150
d3-MeFOSAA		93	50-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Katahdin Analytical Services					Laboratory ID: SL22035-004				
Description: G32-MW302B-D121417					Matrix: Aqueous				
Date Sampled: 12/14/2017									
Date Received: 12/22/2017									

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	537 MOD	537.1 Modified-ID	1	12/28/2017 2114	SES	12/27/2017 1521	60632

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	537.1 Mod. ID	1.8	U	3.6	1.8	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.8	U	3.6	1.8	0.90	ng/L	1
Perfluoro-1-butanefulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.48	J	1.8	0.90	0.45	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.46	J	1.8	0.90	0.45	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.8	U	3.6	1.8	0.90	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		87	50-150
13C2_PFTeDA		76	50-150
13C3_PFBs		93	50-150
13C3_PFHxS		92	50-150
13C4_PFHpA		91	50-150
13C5_PFHxA		93	50-150
13C6_PFDA		91	50-150
13C7_PFUdA		88	50-150
13C8_PFOA		87	50-150
13C8_PFOS		88	50-150
13C9_PFNA		90	50-150
d5-EtFOSAA		86	50-150
d3-MeFOSAA		95	50-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Katahdin Analytical Services					Laboratory ID: SL22035-002				
Description: GI-MW405-121417					Matrix: Aqueous				
Date Sampled: 12/14/2017 1145									
Date Received: 12/22/2017									

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	537 MOD	537.1 Modified-ID	1	12/28/2017 2047	SES	12/27/2017 1521	60632

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	537.1 Mod. ID	1.9	U	3.7	1.9	0.92	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.9	U	3.7	1.9	0.92	ng/L	1
Perfluoro-1-butanesulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.70	J	1.8	0.90	0.46	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.98	J	1.8	0.90	0.46	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.90	U	1.8	0.90	0.46	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.46	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.52	J	1.8	0.90	0.46	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.49	J	1.8	0.90	0.46	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.46	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	7.7		1.8	0.90	0.46	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.9	U	3.7	1.9	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.46	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.46	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	2.1		1.8	0.90	0.46	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		91	50-150
13C2_PFTeDA		91	50-150
13C3_PFBs		98	50-150
13C3_PFHxS		96	50-150
13C4_PFHpA		97	50-150
13C5_PFHxA		98	50-150
13C6_PFDA		96	50-150
13C7_PFUdA		97	50-150
13C8_PFOA		94	50-150
13C8_PFOS		90	50-150
13C9_PFNA		95	50-150
d5-EtFOSAA		100	50-150
d3-MeFOSAA		95	50-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Katahdin Analytical Services	Laboratory ID: SL22035-003
Description: MW406-121417	Matrix: Aqueous
Date Sampled: 12/14/2017 1340	
Date Received: 12/22/2017	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	537 MOD	537.1 Modified-ID	1	12/28/2017 2100	SES	12/27/2017 1521	60632

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	537.1 Mod. ID	1.8	U	3.6	1.8	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.8	U	3.6	1.8	0.90	ng/L	1
Perfluoro-1-butanesulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.71	J	1.8	0.90	0.45	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	1.7	J	1.8	0.90	0.45	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.61	J	1.8	0.90	0.45	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	2.0		1.8	0.90	0.45	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	2.7		1.8	0.90	0.45	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	1.2	J	1.8	0.90	0.45	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	5.0		1.8	0.90	0.45	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.8	U	3.6	1.8	0.90	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	5.7		1.8	0.90	0.45	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		89	50-150
13C2_PFTeDA		87	50-150
13C3_PFBs		93	50-150
13C3_PFHxS		91	50-150
13C4_PFHpA		95	50-150
13C5_PFHxA		96	50-150
13C6_PFDA		93	50-150
13C7_PFUdA		93	50-150
13C8_PFOA		93	50-150
13C8_PFOS		89	50-150
13C9_PFNA		95	50-150
d5-EtFOSAA		95	50-150
d3-MeFOSAA		94	50-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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APPENDIX C

SUPPORT DOCUMENTATION



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page ____ of ____

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Horton
Tetra Tech
Salem NH
Telephone #: 603-328-1467
Project Mgr: M. Horton

Invoice To: Sam
P.O No.: _____ Quote #: _____

Project No: 112608005-1e22
Site Name: NAUSKA NEWPORT
Location: GOLD ISLAND State: RI
Sampler(s): WALT PRIOR, CHUCK AHER, DANIEL WARR

F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= 6^{ee} 12= _____

List Preservative Code below:

2 4 4 11 11 11

QA/QC Reporting Notes:

* additional charges may apply

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____

G= Grab

C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOA	TOTAL METAL	D ¹⁵ METALS	SVOC/PAH	PCB	ANIONALS	Check if chlorinated
	G32-MW302B-121417	12/14/17	1121		GW	9	12	-	9	9	3	3	6	6	3	☐
	GI-MW405-121417	12/14/17	1145		GW	3	4	-	3	3	1	1	2	2	1	☐
	MW406-121417	12/14/17	1340		GW	3	4	-	3	3	1	1	2	2	1	☐
	G32-MW302B-D121417	12/14/17	0000		GW	3	4	-	3	3	1	1	2	2	1	☐
																☐
																☐
																☐
																☐
																☐
																☐
																☐
																☐
																☐
																☐

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:☐ E-mail to:

Observed

Correction Factor

Corrected

IR ID #

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken☐ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page ____ of ____

Special Handling:

☐ Standard TAT - 7 to 10 business days☐ Rush TAT - Date Needed: _____All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes

Samples disposed after 30 days unless otherwise instructed.

Report To: MIKE HORTON
TECH TECH
SALEM, NHInvoice To: SALEM, MAProject No: 102608005-WEL2Site Name: NAUSTA REPORTLocation: GOLD ISLAND State: RISampler(s): WAT, CHUCK, DANTelephone #: 603-328-1467Project Mgr: MIKE HORTON

P.O. No.: _____ Quote #: _____

F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= 6 12= _____

List Preservative Code below:

QA/QC Reporting Notes:

* additional charges may apply

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____

Containers

Analysis

MA DEP MCP CAM Report? ☐ Yes ☐ NoCT DPH RCP Report? ☐ Yes ☐ No☐ Standard ☐ No QC☐ DQA*☐ ASP A* ☐ ASP B*☐ NJ Reduced* ☐ NJ Full*☐ Tier II* ☐ Tier IV*☐ Other: _____

State-specific reporting standards:

G= Grab

C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	PFAS
	632-MW302B-121417	12/14/17	1121	G		1	1	1	1	
	6I-MW405-121417	12/14/17	1145	G		1	1	1	1	
	FRB-121417	12/14/17	0000	G		1	1	1	1	
	MW406-121417	12/14/17	1340	G		1	1	1	1	
	632-MW302B-DW17	12/14/17	0000	G		1	1	1	1	

Check if chlorinated

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:☐ E-mail to: _____

Observed

Correction Factor

Corrected

IR ID #

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken☐ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Client: <u>Tetra Tech</u>	KAS PM: <u>HMM</u>	Sampled By: <u>Client</u>
Project: <u>Gould Island</u>	KIMS Entry By: <u>SO</u>	Delivered By: <u>Courier</u>
KAS Work Order#: <u>TK1858</u>	KIMS Review By: <u>AMH</u>	Received By: <u>George Brown</u>
SDG #:	Cooler: <u>1</u> of <u>3</u> <u>12/15/17</u>	Date/Time Rec.: <u>12/15/17 11:50</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	☒				
2. Chain of Custody present in cooler?	☒				
3. Chain of Custody signed by client?	☒				
4. Chain of Custody matches samples?	☒				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	☒				Temp (°C): <u>4.0 4.7°C</u> <u>fl</u>
Samples received at <6 °C w/o freezing?	☒				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	☒				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	☒				Note: No cooling process required for metals (except Hg soil) analysis.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?	☒				
6. Volatiles:					
Aqueous: No bubble larger than a pea?	☒				
Soil/Sediment:					
Received in airtight container?				☒	
Received in methanol?				☒	
Methanol covering soil?				☒	
D.I. Water - Received within 48 hour HT?				☒	
Air: Refer to KAS COC for canister/flow controller requirements.	☒				√ if air included
7. Trip Blank present in cooler?	☒				
8. Proper sample containers and volume?	☒				
9. Samples within hold time upon receipt?	☒				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH - pH <2	☒				
Sulfide - >9					
Cyanide - pH >12					

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin Analytical Services, LLC.

Sample Receipt Condition Report

Client: <u>Tetra Tech</u>	KAS PM: <u>HHM</u>	Sampled By: <u>Client</u>
Project: <u>Gould Island</u>	KIMS Entry By: <u>SB</u>	Delivered By: <u>Courier</u>
KAS Work Order#: <u>TK1858</u>	KIMS Review By: <u>AMH</u>	Received By: <u>G. Brewer</u>
SDG #:	Cooler: <u>2</u> of <u>23</u> <u>12/15/17</u>	Date/Time Rec.: <u>12-15-17 16:50</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	☒				
2. Chain of Custody present in cooler?		☒			
3. Chain of Custody signed by client?				☒	
4. Chain of Custody matches samples?	☒				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	☒				Temp (°C): <u>4.4°C</u>
Samples received at <6 °C w/o freezing?	☒				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	☒				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	☒				Note: No cooling process required for metals (except Hg soil) analysis.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?					
6. Volatiles:					
Aqueous: No bubble larger than a pea?				☒	
Soil/Sediment:					
Received in airtight container?				☒	
Received in methanol?				☒	
Methanol covering soil?				☒	
D.I. Water - Received within 48 hour HT?				☒	
Air: Refer to KAS COC for canister/flow controller requirements.	☒				√ if air included
7. Trip Blank present in cooler?				☒	
8. Proper sample containers and volume?	☒				
9. Samples within hold time upon receipt?	☒				
10. Aqueous samples properly preserved?	☒				
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH - pH <2					
Sulfide - >9					
Cyanide - pH >12				☒	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Client: <u>Tetra Tech</u>	KAS PM: <u>HHW</u>	Sampled By: <u>Client</u>
Project: <u>Gould Island</u>	KIMS Entry By: <u>SO</u>	Delivered By: <u>Courier</u>
KAS Work Order#: <u>TK1858</u>	KIMS Review By: <u>AMH</u>	Received By: <u>G. Brewer</u>
SDG #:	Cooler: <u>3</u> of <u>3</u>	Date/Time Rec.: <u>12/15/17 17:52</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	☒				
2. Chain of Custody present in cooler?		☒		☒	<u>12/15/17</u>
3. Chain of Custody signed by client?				☒	
4. Chain of Custody matches samples?				☒	
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		☒			Temp (°C): <u>1.6</u>
Samples received at <6 °C w/o freezing?	☒				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	☒				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	☒				Note: No cooling process required for metals (except Hg soil) analysis.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				☒	
6. Volatiles:					
Aqueous: No bubble larger than a pea?				☒	
Soil/Sediment:					
Received in airtight container?				☒	
Received in methanol?				☒	
Methanol covering soil?				☒	
D.I. Water - Received within 48 hour HT?				☒	
Air: Refer to KAS COC for canister/flow controller requirements.	☒ if air included				
7. Trip Blank present in cooler?				☒	
8. Proper sample containers and volume?	☒				
9. Samples within hold time upon receipt?	☒				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH - pH <2	☒				
Sulfide - >9				☒	
Cyanide - pH >12				☒	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin Analytical Services

Login Chain of Custody Report (Ino1)

Dec. 18, 2017

Page: 1 of 2

Login Number: TK1858

Account: TETRAT001

Tetra Tech NUS, Inc.

Project: TT-GOULD-WE22

Web

05:02 PM

Quote/Incoming: TT-GOULD-WE22

Login Information:

ANALYSIS INSTRUCTIONS : FDS, DoD QSM 5.1. ND to LOD. "J" flag between MDL and LOQ. AQ - SIM-PAH list has extra compound (PCP). Anions = Cl, SO4, NO3.

CHECK NO. :
CLIENT PO# : PO:1132379, PN:112G08005-WE22
CLIENT PROJECT MANAGE : Michael Horton
CONTRACT : N62470-16-D-9008
COOLER TEMPERATURE : 4.7, 4.4, 1.6
DELIVERY SERVICES : KAS
EDD FORMAT : KAS119QC-CSV
LOGIN INITIALS : SO
PM : HHM
PROJECT NAME : NAVSTA Newport, Gould Island CTO-WE22
QC LEVEL : IV
REPORT INSTRUCTIONS : Summary package needs all forms. email report to Mike, amy.thomson@tetrattech.com, and stephen.parker@tetrattech.com. Mail HC & CD to Mike. email invoice to Mike and amy.thomson@tetrattech.com.

Primary Report Address:

Michael Horton
 Tetra Tech Inc.
 5 Industrial Way
 Suite 2B
 Salem, NH 03079
 mike.horton@tetrattech.com

Primary Invoice Address:

Accounts Payable
 Tetra Tech NUS, Inc.
 661 Andersen Drive
 Foster Plaza 7
 Pittsburgh, PA 15220

Report CC Addresses:

Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	SDG ID SPG STATUS VERBAL TAT	Receive Date	Verbal Date	Due Date	Mailed
TK1858-1	G32-MW302B-121417	14-DEC-17 11:21		15-DEC-17		02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S COURIER-BILLING				MS/MSD		
Aqueous	S E300.0-ANIONS	12-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	28-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	13-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	28-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAH-S	21-DEC-17	1L N-Amber Glass				
TK1858-2	G32-MW302B-121417	14-DEC-17 11:21		15-DEC-17		02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3		MS/MSD		
Aqueous	S SW6020-ARSENIC-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	12-JUN-18	250mL Plastic+HNO3				
TK1858-3	GI-MW405-121417	14-DEC-17 11:45		15-DEC-17		02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	12-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	28-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	13-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	28-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAH-S	21-DEC-17	1L N-Amber Glass				

HHM
 12-18-17

0200013

05:02 PM

Login Number: TK1858
Quote/Incoming: TT-GOULD-WE22
Account: TETRAT001

Web

Tetra Tech NUS, Inc.

Project: TT-GOULD-WE22

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TK1858-4	GI-MW405-121417	14-DEC-17 11:45	15-DEC-17			02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	12-JUN-18	250mL Plastic+HNO3				
TK1858-5	MW406-121417	14-DEC-17 13:40	15-DEC-17			02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	12-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	28-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	13-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	28-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAAH-S	21-DEC-17	1L N-Amber Glass				
TK1858-6	MW406-121417	14-DEC-17 13:40	15-DEC-17			02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	12-JUN-18	250mL Plastic+HNO3				
TK1858-7	G32-MW302B-D121417	14-DEC-17 00:00	15-DEC-17			02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	12-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	28-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	13-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	28-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAAH-S	21-DEC-17	1L N-Amber Glass				
TK1858-8	G32-MW302B-D121417	14-DEC-17 00:00	15-DEC-17			02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	12-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	12-JUN-18	250mL Plastic+HNO3				
TK1858-9	FRB-121417	14-DEC-17 00:00	15-DEC-17			02-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				

 HAW
 12-18-17

Total Samples: 9
Total Analyses: 66

0000014

SDG NARRATIVE
KATAHDIN ANALYTICAL SERVICES
TETRA TECH NUS, INC.
NAVSTA NEWPORT, GOULD ISLAND CTO-WE22
TK1858

Sample Receipt

The following samples were received on December 15, 2017 and were logged in under Katahdin Analytical Services work order number TK1858 for a hardcopy due date of January 02, 2018.

KATAHDIN <u>Sample No.</u>	TTNUS <u>Sample Identification</u>
TK1858-1	G32-MW302B-121417
TK1858-2	G32-MW302B-121417
TK1858-3	GI-MW405-121417
TK1858-4	GI-MW405-121417
TK1858-5	MW406-121417
TK1858-6	MW406-121417
TK1858-7	G32-MW302B-D121417
TK1858-8	G32-MW302B-D121417
TK1858-9	FRB-121417

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in this narrative or in the Report of Analysis.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of work order TK1858 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA, and/or for the specific methods listed below or on the Report of Analysis.

Sample TK1858-1 was used as the matrix spike (MS) and the matrix spike duplicate (MSD), as per client request.

8260B Analysis

Sample TK1858-1 and the MS WG220560-5 had high recoveries for one surrogate, which were outside of the DoD QSM acceptance criteria. Since sample TK1858-1 is the native sample for the MS/MSD and the surrogate deviations confirm a matrix effect, the samples were not reanalyzed.

8082A Analysis

The calibration verification standard (CV) (file 8KL00558) had a high response for Aroclor 1260 on channel B, which resulted in a %D that was greater than the DoD QSM acceptance limits of 20%. Since a high response would indicate a high bias and there were no detections above the MDL in the associated samples, no further action was taken.

8270D SIM Analysis

Samples TK1858-3, 5 and 7 had high responses for one internal standard that resulted in %D's which were outside the DOD QSM acceptance limit of -50% to +100% of the response of the internal standard of the ICAL midpoint standard.

Note: The Form VII has a column for %D that is set to 20%. The DoD QSM 5.0 criterion for an opening CV is 20%D and a closing CV is 50%D. All of the compounds in the CV's were evaluated to either 20% criteria for opening CVs or 50% criteria for closing CVs.

The CVs (files N7107 and N7180) had high responses for the target analyte pentachlorophenol that resulted in %D's that were greater than the DoD QSM acceptance limit of 20%.

There were no other protocol deviations or observations noted by the organics laboratory staff.

Metals Analysis

The samples of Katahdin Work Order TK1858 were prepared and analyzed for metals in accordance with the "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA.

Inductively-Coupled Plasma Mass Spectrometric Analysis (ICP-MS)

Aqueous-matrix Katahdin Sample Numbers TK1858-(1-8) were digested for ICP-MS analysis on 12/21/17 (QC Batch KL21IMW2) in accordance with USEPA Method 3010A. Katahdin Sample Numbers TK1858-(1 and 2) were prepared with duplicate matrix-spiked aliquots, per client request.

ICP-MS analyses of Katahdin Work Order TK1858 sample digestates was performed using an Agilent 7500 ICP-MS spectrometer in accordance with USEPA Method 6020A. Results for all standards and samples are reported using the mean of 3 replicate measurements. All sample digestates were diluted by a factor of 5 during analysis to reduce mass interferences from chlorine, which is present in the digestates from the hydrochloric acid used in digesting the samples. All samples were analyzed within holding times and all analytical run QC criteria were met.

Internal standard recoveries for ICP-MS analyses can be found in the raw data section of the accompanying data package. The following table indicates which analytes are associated with each internal standard element.

Internal Standard Element	Associated Analytes
Lithium	Beryllium, Boron
Scandium	Sodium, Magnesium, Aluminum, Potassium, Calcium
Germanium or Yttrium	Vanadium, Chromium, Manganese, Iron, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Silver, Cadmium, Strontium, Molybdenum
Terbium	Antimony, Barium, Tin, Tungsten
Bismuth	Lead, Thallium, Thorium, Uranium

Instrument tuning information can also be found in the raw data section in the report labeled "6020 QC Tune Report". The relative standard deviation was determined from 4 replicate measurements. The peak width was measured at 10% of the peak height.

Matrix QC Summary

The measured recoveries of all analytes in the matrix-spiked aliquots of Katahdin Sample Numbers TK1858-(1 and 2) are within the project's acceptance criteria.

The matrix-spike duplicate analyses of Katahdin Sample Numbers TK1858-(1 and 2) are within the project's acceptance criteria (<20% relative difference between duplicate matrix-spiked aliquots) for all analytes.

The measured recovery of manganese in the post-digestion spiked aliquot of Katahdin Sample Number TK1858-1 is outside the project's acceptance criteria. This may be attributable to the native concentration being much greater than the spike added.

The measured recoveries of all analytes in the post-digestion spiked aliquot of Katahdin Sample Number TK1858-2 are within the project's acceptance criteria.

The serial dilution analyses of Katahdin Sample Numbers TK1858-(1 and 2) are within the project's acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for all analytes.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IHP have been reported using the laboratory's limits of detection (LOD). All results were evaluated down to the laboratory's method detection limits (MDLs). Results that fall between the MDL and the LOQ are flagged with "J" in the C-qualifier column, and the measured concentration appears in the concentration column. Results that are less than the MDL are flagged with "U" in the C-qualifier column, and the LOD is listed in the concentration column. These LOQs, MDLs and LODs have been adjusted for each sample based on the sample amounts used in preparation and analysis.

Analytical results on Forms VA, VD, VII, and IX for client samples, matrix QC samples (duplicates and matrix spikes), and laboratory control samples have been reported down to the laboratory's method detection limits (MDLs). Analytical results that are below the MDLs are flagged with "U" in the C-qualifier column, and the measured concentration is listed in the concentration column.

Analytical results for instrument run QC samples (ICVs, ICBs, etc.) have been reported down to the laboratory's instrument detection limits (IDLs).

Wet Chemistry Analysis

The samples of Work Order TK1858 were analyzed in accordance with the specific methods listed on the Report of Analysis.

Analyses for chloride, nitrate, and sulfate were performed according to "Methods for Chemical Analysis of Water and Wastes", EPA 600/4-79-020, 1979 Revised 1983, U.S. EPA.

Analyses for alkalinity were performed according to "Standard Methods for the Examination of Water and Wastewater", 15th, 16th, 17th, 18th, 19th, and 20th editions, 1980, 1985, 1989, 1992, 1995, 1999. APHA-AWWA-WPCF.

All Wet Chemistry results were evaluated to Katahdin Analytical Services' Method Detection Limits (MDL). Measured concentrations that fall between the MDL and Katahdin's Limit of Quantitation (LOQ) are flagged "J". Measured concentrations that are below the MDL are flagged "U" and reported as "U LOD", where "LOD" is the numerical value of the Limit of Detection.

All analyses were performed within analytical holding times, and all quality control criteria were met with the following exceptions:

The measured sulfate recovery (111%) of the matrix spike duplicate aliquot of Katahdin Sample Number TK1858-1 is outside the laboratory's acceptance criteria (90% - 110%). The matrix spike aliquot associated with this sample was in acceptance criteria.

Due to laboratory error the nitrate result for Katahdin sample number TK1858-7 was acquired 2 days outside the method specified 48 hour hold time. This sample is a field duplicate of sample number TK1858-1 which was run within hold time. The sample results are similar.

Subcontracted Data

Analyses for PFA's by Method 537 were performed by a subcontract laboratory. Please refer to the section of the data package titled Subcontracted Data.

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

- U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

- * Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.
- D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.
- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
- or
- J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.
- B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
- C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).
- L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.
- M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.
- N Presumptive evidence of a compound based on a mass spectral library search.
- A Indicates that a tentatively identified compound is a suspected aldol-condensation product.
- P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ) (previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as “U” MDL have a 50% rate for false negatives compared to those results reported as “U” PQL/LOQ or “U” LOD, where the rate of false negatives is <1%.
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH

H2 - DO

H3 - sulfite

H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL Maximum Contaminant Level

NL No limit

NFL No Free Liquid Present

FLP Free Liquid Present

NOD No Odor Detected

TON Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

VOLATILES DATA

Form 2 System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services
Lab Code: KAS

Project: NAVSTA Newport, Gould Island CTO-WE22
SDG: TK1858

Matrix: AQ

Client Sample ID	Lab Sample ID	Col. ID	BFB	# DBF	# DCA	# TOL	#
G32-MW302B-121417	TK1858-1		106.	116.	132.	*	104.
GI-MW405-121417	TK1858-3		99.1	101.	109.		100.
MW406-121417	TK1858-5		99.5	104.	110.		101.
G32-MW302B-D121417	TK1858-7		100.	108.	116.		100.
Laboratory Control S	WG220487-1		99.1	102.	102.		99.1
Method Blank Sample	WG220487-2		97.7	104.	110.		100.
Laboratory Control S	WG220560-1		100.	101.	98.2		100.
Method Blank Sample	WG220560-2		99.4	105.	108.		101.
Matrix Spike	WG220560-5		110.	111.	122.	*	103.
Matrix Spike Duplica	WG220560-6		109.	106.	116.		103.

QC Limits

DCA	1,2-DICHLOROETHANE-D4	81-118
TOL	TOLUENE-D8	89-112
DBF	DIBROMOFLUOROMETHANE	80-119
BFB	P-BROMOFLUOROBENZENE	85-114

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

Form 4 Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services **SDG :** TK1858
Project : NAVSTA Newport, Gould Island CTO-WE2 **Lab Sample ID :** WG220487-2
Lab File ID : T3723.D **Date Analyzed :** 21-DEC-17
Instrument ID : GCMS-T **Time Analyzed :** 11:39
Heated Purge : No

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG220487-1	T3721.D	12/21/17	10:20
GI-MW405-121417	TK1858-3	T3734.D	12/21/17	18:14
MW406-121417	TK1858-5	T3735.D	12/21/17	18:50

Report of Analytical Results

Client:
Lab ID: WG220487-2
Client ID: Method Blank Sample
Project:
SDG: TK1858
Lab File ID: T3723.D

Sample Date:
Received Date:
Extract Date: 21-DEC-17
Extracted By: JSS/HC
Extraction Method: SW846 5030
Lab Prep Batch: WG220487

Analysis Date: 21-DEC-17
Analyst: JSS/HC
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 25-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Vinyl Chloride	U	2.0	ug/L	1	1	1.0	0.25	2.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.25	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.21	1.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	1	1	1.0	0.21	2.0
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
P-Bromofluorobenzene		97.7	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		104.	%					

Form 4 Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services **SDG :** TK1858
Project : NAVSTA Newport, Gould Island CTO-WE2 **Lab Sample ID :** WG220560-2
Lab File ID : W2439.D **Date Analyzed :** 22-DEC-17
Instrument ID : GCMS-W **Time Analyzed :** 12:24
Heated Purge : No

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG220560-1	W2437.D	12/22/17	10:46
G32-MW302B-D121417	TK1858-7	W2442.D	12/22/17	14:07
G32-MW302B-121417	TK1858-1	W2451.D	12/22/17	18:44
Matrix Spike	WG220560-5	W2452.D	12/22/17	19:15
Matrix Spike Duplica	WG220560-6	W2453.D	12/22/17	19:45

Report of Analytical Results

Client:
Lab ID: WG220560-2
Client ID: Method Blank Sample
Project:
SDG: TK1858
Lab File ID: W2439.D

Sample Date:
Received Date:
Extract Date: 22-DEC-17
Extracted By: TTC/H
Extraction Method: SW846 5030
Lab Prep Batch: WG220560

Analysis Date: 22-DEC-17
Analyst: TTC/H
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 25-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Vinyl Chloride	U	2.0	ug/L	1	1	1.0	0.25	2.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.25	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	.5	0.50	0.21	1.0
1,2-Dichloroethylene (Total)	U	2.0	ug/L	1	1	1.0	0.21	2.0
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
P-Bromofluorobenzene		99.4	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		105.	%					

Form 8

Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : NAVSTA Newport, Gould Island
Lab ID : WG220390-4
Lab File ID : T3694.D

SDG: TK1858
Analytical Date: 12/20/17 11:45
Instrument ID: GCMS-T

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	520740		6.12		839790		6.90		739731		10.91	
	Upper Limit	1041480		6.62		1679580		7.40		1479462		11.41	
	Lower Limit	260370		5.62		419895		6.40		369865.5		10.41	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG220487-4	464507		6.11		762088		6.90		672354		10.91	
Laboratory Control S	WG220487-1	457690		6.12		754586		6.90		663825		10.91	
Method Blank Sample	WG220487-2	445792		6.12		743640		6.90		670452		10.91	
GI-MW405-121417	TK1858-3	405468		6.12		670606		6.90		607463		10.91	
MW406-121417	TK1858-5	401969		6.11		672801		6.89		617415		10.91	
Continuing Calibrati	WG220487-5	408361		6.11		672823		6.89		594043		10.91	

Area Upper Limit = +100% of internal standard area
 Area Lower Limit = - 50% of internal standard area
 RT Upper Limit = + 0.50 minutes of internal standard RT
 RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

Form 8

Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : NAVSTA Newport, Gould Island
Lab ID : WG220390-4
Lab File ID : T3694.D

SDG: TK1858
Analytical Date: 12/20/17 11:45
Instrument ID: GCMS-T

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	350667		13.98	
	Upper Limit	701334		14.48	
	Lower Limit	175333.5		13.48	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG220487-4	320415		13.98	
Laboratory Control S	WG220487-1	311085		13.98	
Method Blank Sample	WG220487-2	297936		13.98	
GI-MW405-121417	TK1858-3	272948		13.98	
MW406-121417	TK1858-5	274503		13.98	
Continuing Calibrati	WG220487-5	287418		13.98	

Area Upper Limit = +100% of internal standard area
 Area Lower Limit = - 50% of internal standard area
 RT Upper Limit = + 0.50 minutes of internal standard RT
 RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

Form 8

Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : NAVSTA Newport, Gould Island
Lab ID : WG221338-4
Lab File ID : W2423.D

SDG: TK1858
Analytical Date: 12/21/17 12:16
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	514119		8.01		850667		8.85		799833		13.18	
	Upper Limit	1028238		8.51		1701334		9.35		1599666		13.68	
	Lower Limit	257059.5		7.51		425333.5		8.35		399916.5		12.68	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG220560-4	492198		8.00		813455		8.84		775216		13.18	
Laboratory Control S	WG220560-1	510529		8.00		844663		8.84		793943		13.17	
Method Blank Sample	WG220560-2	448111		8.01		771412		8.84		722409		13.18	
G32-MW302B-D12141	TK1858-7	397932		8.01		703222		8.85		650325		13.18	
G32-MW302B-121417	TK1858-1	305608		8.01		539832		8.84		506479		13.18	
Matrix Spike	WG220560-5	343484		8.01		593621		8.84		562509		13.18	
Matrix Spike Duplica	WG220560-6	373535		8.01		636267		8.85		606091		13.18	
Continuing Calibrati	WG220560-7	416751		8.01		683285		8.85		660326		13.18	

Area Upper Limit = +100% of internal standard area
 Area Lower Limit = - 50% of internal standard area
 RT Upper Limit = + 0.50 minutes of internal standard RT
 RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

Form 8

Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : NAVSTA Newport, Gould Island
Lab ID : WG221338-4
Lab File ID : W2423.D

SDG: TK1858
Analytical Date: 12/21/17 12:16
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
Std .		484857		16.90	
Upper Limit		969714		17.40	
Lower Limit		242428.5		16.40	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG220560-4	476253		16.89	
Laboratory Control S	WG220560-1	493533		16.89	
Method Blank Sample	WG220560-2	426500		16.89	
G32-MW302B-D12141	TK1858-7	389398		16.89	
G32-MW302B-121417	TK1858-1	301551		16.90	
Matrix Spike	WG220560-5	366078		16.90	
Matrix Spike Duplica	WG220560-6	392164		16.90	
Continuing Calibrati	WG220560-7	416810		16.89	

Area Upper Limit = +100% of internal standard area
 Area Lower Limit = - 50% of internal standard area
 RT Upper Limit = + 0.50 minutes of internal standard RT
 RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

GCMS-T INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 12-20-17B 1119

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Criteria			pH Paper Lot #:				COMMENTS
					5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	PH		
WG220390 -8	TB523	-1	-1	VOABFB AQ								Y			
-4	T3694	1	1	T8A05(10)D								Y			
-3	95	1	2									Y			
-2	96	1	3									Y			
-1	97	1	4									Y			
-6	98	1	5									Y			
-5	99	1	6									Y			
-7	T3700	1	7									Y			
WBLK	01	1	8									N			
WG220390 -89	02	1	9									Y			
TK1739 -6	03	1	10						5.0			Y			
-8	04	1	11									Y			
-10	05	1	12									Y			
-12	06	1	13									Y			
TK1811 -1	07	1	14									Y			
-4	08	1	15									Y			
-5	09	1	16									Y			
-6	10	1	17									Y			
-8	11	1	18									Y			
-10	12	1	19									Y			
CCV1 -11	13	1	20									Y			
2	14	1	21									N			8308 ✓
3	15	1	22									N			not needed
Rinse	16	1	23									Y			
Rinse	17	1	24									Y			
STANDARD	CODE	STANDARD	CODE	Circle Methods:											
BFB	VO904	IS MIX	VO949	SW846 8260											
CAL. STD.	VO950/VO951A	SS MIX		SW846 8260 SIM											
LCS/MS MIX	VO948			SW846 8260 SIM											
EXTRAS MIX	VO950			(heated purge)											

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QAMS642

0000025

GCMS-T INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 12-21-17 8:29

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Criteria			pH Paper Lot #:		
					5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	PH
Bong BFB -3	T2524	1	-	KARFBAQ	✓						Y	TRC	7
YSL 50	T3719		1	TRA05(10)D							N		
↓	-4	20	2								Y		
LCS	-1	21	3								Y		
YBLAKA		22	4								N		
B	-2	23	5								N		
TK1811-11A		24	8					✓			Y		<2
-12A		25	7								Y		<2
-2 ^{DL}		26	20	8							Y		<2
-3 ^{DL}		27	40	9							Y	TRC	<2
-7 ^{DL}		28	2	10							Y	12/24/17	<2
-9 ^{DL}		29	10	11							Y		<2
-2 ^{DL}		30	2	12							Y		<2
-2 ^{DL}		31	4	13							Y		<2
TRC -9		32	1	14							Y		<2
12/21/17 -4 ^B -7		33	10	15							Y		<2
TK1858-3 ^A		34		16				5.1			Y		<2
-5 ^A		35		17							Y		<2
CCV -5		36		18							Y		19:25 ✓
↓		37		19							N		
↓		38		20							N		
Rms-		39		21							N		
↓		40		22							Y		
TRC 12/24/17													

STANDARD	CODE
BFB	V0904
CAL. STD.	V0952/V0951B
LCS/MS MIX	V0948
EXTRAS MIX	V0950

STANDARD	CODE
IS MIX	V0949
SS MIX	↓

Circle Methods:

SW846 8260 OLM 04.2
 SW846 8260 SIM OLC 03.2
 SW846 8260 SIM EPA 624
 (heated purge) EPA 524

contd

DATE/TIME OF BFB INJECTION: 12/21/17

Was 1-576				PREP METHOD			Criteria								
SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
WG 220489 -7	WB740	1	-1	VDABFBAB							Y	21	7		WG-221338
-4	W2422	1	1	WBAC05(80)							N				
VST0050 -4	23	1	2								Y				New STD
20 -3	24	1	3								Y				
8 -2	25	1	4								N				Bed prep
1 -1	26	1	5								Y				
150 -6	27	1	6								Y				
100 -5	28	1	7								Y				
Rinse	29	1	8								N				
WG 220489 -2 VST005	30	1	9								Y				
-3 RW	31	1	10								N				
WBLK	32	1	11								N				
Rinse	33	1	12								N				

STANDARD	CODE
BFB	W0904
CAL. STD.	
LCS/MS MIX	
EXTRAS MIX	

STANDARD	CODE
IS MIX	V 0926
SS MIX	sk

Circle Methods:

SW846 8260

SW846 8260 SIM

SW846 8260 SIM (heated purge)

EPA 624

EPA 524

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 12/22/17 8:00

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Criteria			Y/N	ANALYST	PH	TRCV	COMMENTS
					5030	5035	1311	KAS	DoD	QAPP					
WG820560 -3	W13740	1	-1	VOADPBA							Y	21			
-4	W2434	1	1	W8AC5(50)D							Y				
-1	35	1	2								N				
-1	36	1	3								N				
-1	37	1	4								Y				
VB3LK	38	1	5								N				(A)=END-8
WG820560 -2	39	1	6								Y				Target hits
TK1862-1 A	40	1	7						5.1		Y				
TK1867-1 A	41	1	8								Y				
TK1858-7 A	42	1	9								Y				
TK1862-2 A	43	1	10								Y				
-4 A	44	1	11								Y				1 ss ↑ No hits
-6 A	45	1	12								Y				1 ss ↑ ↓
-8 A	46	1	13								Y				1 ss ↑ No hits > LOQ
TK1867-2 A	47	1	14						5.0						1 ss ↑
-3 A	48	1	15												1 ss ↑
-5 A	49	1	16								Y				1 ss ↑ No hits
-4 DL A	50	5	17								N				1 ss ↑ over dil run 1:1
TK1858 A	51	1	18						5.1		Y				1 ss ↑ No hits
IMS-5 B	52	1	19								Y				1 ss ↑
IMS-6 C	53	1	20								Y				
CCV1 -7	54	1	21								Y				
2	55	1	22								Y				20/16 006/16 1/1
3	56	1	23								Y				None
Rinse	57	1	24								Y				
															TTC 12/24/17

STANDARD	CODE
BFB	VO904
CAL. STD.	VO954/VO955A
LCS/MS MIX	VO9
EXTRAS MIX	VO9

STANDARD	CODE
IS MIX	VO926
SS MIX	↓

Circle Methods:

SW846 8260

SW846-8260 SIM

SW846 8260 SIM (heated purge)

EPA 624

EPA 524

SIM SEMIVOLATILES DATA

Method Blank Summary

Lab Name : Katahdin Analytical Services **SDG :** TK1858
Project : NAVSTA Newport, Gould Island CTO-WE2 **Lab Sample ID :** WG220335-1
Lab File ID : N7122.D **Date Extracted :** 19-DEC-17
Instrument ID : GCMS-N **Date Analyzed :** 26-DEC-17
Matrix : AQ **Time Analyzed :** 20:22

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG220335-2	N7123.D	12/26/17	20:54
G32-MW302B-121417	TK1858-1	N7125.D	12/26/17	21:58
Matrix Spike	WG220335-3	N7126.D	12/26/17	22:30
Matrix Spike Duplica	WG220335-4	N7127.D	12/26/17	23:02
GI-MW405-121417	TK1858-3	N7185.D	12/29/17	12:41
MW406-121417	TK1858-5	N7186.D	12/29/17	13:15
G32-MW302B-D121417	TK1858-7	N7187.D	12/29/17	13:47

Report of Analytical Results

Client:
Lab ID: WG220335-1
Client ID: Method Blank Sample
Project:
SDG: TK1858
Lab File ID: N7122.D

Sample Date:
Received Date:
Extract Date: 19-DEC-17
Extracted By: WAS
Extraction Method: SW846 3510C
Lab Prep Batch: WG220335

Analysis Date: 26-DEC-17
Analyst: JCG
Analysis Method: SW846 M8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 03-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pentachlorophenol	U	0.50	ug/L	1	1	1.0	0.33	0.50
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.077	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.051	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.073	0.10
Pyrene	U	0.10	ug/L	1	.2	0.20	0.059	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.046	0.10
Chrysene	U	0.10	ug/L	1	.2	0.20	0.036	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.089	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.049	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.20	0.066	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.20	0.070	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene-D10		79.5	%					
2,4-Dibromophenol		88.2	%					
Fluorene-D10		78.2	%					
Pyrene-D10		87.2	%					

LCS Recovery Report

Client: Lab ID: WG220335-2 Client ID: LCS Project: SDG: TK1858 LCS File ID: N7123.D	Sample Date: Received Date: Extract Date: 19-DEC-17 Extracted By: WAS Extraction Method: SW846 3510C Lab Prep Batch: WG220335	Analysis Date: 26-DEC-17 Analyst: JCG Analysis Method: SW846 M8270D SIM Matrix: AQ % Solids: NA Report Date: 03-JAN-18
--	--	---

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Pentachlorophenol	93.0	4.00	3.72	ug/L	36-141
Naphthalene	73.0	2.00	1.46	ug/L	43-114
2-Methylnaphthalene	67.0	2.00	1.34	ug/L	39-114
Phenanthrene	76.0	2.00	1.52	ug/L	53-115
Fluoranthene	82.5	2.00	1.65	ug/L	58-120
Pyrene	72.5	2.00	1.45	ug/L	53-121
Benzo(a)anthracene	88.5	2.00	1.77	ug/L	59-120
Chrysene	85.5	2.00	1.71	ug/L	57-120
Benzo(b)Fluoranthene	82.5	2.00	1.65	ug/L	53-126
Benzo(k)fluoranthene	81.0	2.00	1.62	ug/L	54-125
Benzo(a)pyrene	74.0	2.00	1.48	ug/L	53-120
Indeno(1,2,3-cd)pyrene	78.5	2.00	1.57	ug/L	48-130
Dibenzo(a,h)anthracene	70.5	2.00	1.41	ug/L	44-131
Benzo(g,h,i)perylene	76.0	2.00	1.52	ug/L	44-128
2-Methylnaphthalene-D10	74.8				43-92
2,4-Dibromophenol	84.8				10-130
Fluorene-D10	68.1				29-101
Pyrene-D10	68.0				53-166

MS/MSD Recovery Report

MS ID: WG220335-3
MSD ID: WG220335-4
Sample ID: TK1858-1
Client ID: G32-MW302B-121417
Project:
SDG: TK1858
MS File ID: N7126.D

Received Date:
Extract Date: 19-DEC-17
Extracted By: WAS
Extraction Method: SW846 3510C
Lab Prep Batch: WG220335
Report Date: 03-JAN-18
MSD File ID: N7127.D

Analysis Date: 26-DEC-17
Analyst: JCG
Analysis Method: SW846 M8270D SIM
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Pentachlorophenol	3.81	3.96	ug/L	U0.47	2.6	3.5	67.5	87.4	30	30	36-141
Naphthalene	1.90	1.98	ug/L	U0.094	1.6	1.7	83.0	83.8	5	30	43-114
2-Methylnaphthalene	1.90	1.98	ug/L	U0.094	1.4	1.5	74.6	76.8	7	30	39-114
Phenanthrene	1.90	1.98	ug/L	U0.094	1.8	1.7	91.9	85.3	3	30	53-115
Fluoranthene	1.90	1.98	ug/L	U0.094	1.9	1.9	102.	96.4	2	30	58-120
Pyrene	1.90	1.98	ug/L	U0.094	1.5	1.5	80.8	76.8	1	30	53-121
Benzo(a)anthracene	1.90	1.98	ug/L	U0.094	2.0	1.9	103.	97.0	2	30	59-120
Chrysene	1.90	1.98	ug/L	U0.094	1.8	1.8	92.9	90.9	2	30	57-120
Benzo(b)Fluoranthene	1.90	1.98	ug/L	U0.094	1.7	1.7	90.8	86.9	0	30	53-126
Benzo(k)fluoranthene	1.90	1.98	ug/L	U0.094	1.5	1.6	79.8	82.8	8	30	54-125
Benzo(a)pyrene	1.90	1.98	ug/L	U0.094	1.5	1.5	77.7	76.8	3	30	53-120
Indeno(1,2,3-cd)pyrene	1.90	1.98	ug/L	U0.094	1.6	1.5	81.4	74.2	5	30	48-130
Dibenzo(a,h)anthracene	1.90	1.98	ug/L	U0.094	1.3	1.3	67.2	63.6	2	30	44-131
Benzo(g,h,i)perylene	1.90	1.98	ug/L	U0.094	1.4	1.4	72.4	70.2	1	30	44-128
2-Methylnaphthalene-D10							77.8	82.7			43-92
2,4-Dibromophenol							76.0	84.0			10-130
Fluorene-D10							78.6	77.4			29-101
Pyrene-D10							77.8	73.4			53-166

Form 8

Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : NAVSTA Newport, Gould Island
Lab ID : WG220497-4
Lab File ID : N7083.D

SDG: TK1858
Analytical Date: 12/21/17 11:59
Instrument ID: GCMS-N

		1,4-DICHLOROBENZENE-D4				NAPHTHALENE-D8				ACENAPHTHENE-D10			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	30609		7.27		105748		8.92		45273		11.26	
	Upper Limit	61218		7.77		211496		9.42		90546		11.76	
	Lower Limit	15304.5		6.77		52874		8.42		22636.5		10.76	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG220569-2	44955		7.27		142365		8.92		60639		11.25	
Method Blank Sample	WG220335-1	41482		7.27		134652		8.95		59990		11.26	
Laboratory Control S	WG220335-2	39512		7.27		128445		8.92		55111		11.25	
G32-MW302B-121417	TK1858-1	35466		7.27		112683		8.95		49378		11.26	
Matrix Spike	WG220335-3	37018		7.27		121060		8.92		51578		11.25	
Matrix Spike Duplica	WG220335-4	34850		7.27		113812		8.92		49743		11.25	
Continuing Calibrati	WG220569-3	36998		7.27		119219		8.92		50730		11.25	
Continuing Calibrati	WG220996-2	32601		7.25		104958		8.90		43896		11.23	
GI-MW405-121417	TK1858-3	33394		7.25		110724		8.91		49081		11.24	
MW406-121417	TK1858-5	30286		7.25		102222		8.91		44596		11.24	
G32-MW302B-D12141	TK1858-7	36870		7.25		124789		8.91		53469		11.24	
Continuing Calibrati	WG220996-3	33201		7.25		105413		8.90		44924		11.23	

Area Upper Limit = +100% of internal standard area
 Area Lower Limit = - 50% of internal standard area
 RT Upper Limit = + 0.50 minutes of internal standard RT
 RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

Form 8

Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : NAVSTA Newport, Gould Island
Lab ID : WG220497-4
Lab File ID : N7083.D

SDG: TK1858
Analytical Date: 12/21/17 11:59
Instrument ID: GCMS-N

		PHENANTHRENE-D10		CHRYSENE-D12		PERYLENE-D12	
		Area	# RT #	Area	# RT #	Area	# RT #
Std .		68668	13.25	27009	17.01	13727	20.04
Upper Limit		137336	13.75	54018	17.51	27454	20.54
Lower Limit		34334	12.75	13504.5	16.51	6863.5	19.54
Client Sample ID	Lab Sample ID						
Continuing Calibrati	WG220569-2	83405	13.24	34509	17.01	21494	20.03
Method Blank Sample	WG220335-1	90788	13.26	33734	17.04	19579	20.05
Laboratory Control S	WG220335-2	83041	13.24	34996	17.01	22421	20.03
G32-MW302B-121417	TK1858-1	73524	13.26	27926	17.04	18650	20.03
Matrix Spike	WG220335-3	79018	13.24	36321	17.01	24277	20.02
Matrix Spike Duplica	WG220335-4	76211	13.24	34483	17.01	22141	20.03
Continuing Calibrati	WG220569-3	75925	13.24	32369	17.01	21402	20.03
Continuing Calibrati	WG220996-2	68684	13.22	30654	16.97	21867	19.98
GI-MW405-121417	TK1858-3	77589	13.23	36829	16.98	29539 *	19.97
MW406-121417	TK1858-5	72126	13.23	34848	16.98	28509 *	19.96
G32-MW302B-D12141	TK1858-7	87137	13.23	42765	16.98	32090 *	19.97
Continuing Calibrati	WG220996-3	70234	13.22	25749	16.98	18368	19.98

Area Upper Limit = +100% of internal standard area
 Area Lower Limit = - 50% of internal standard area
 RT Upper Limit = + 0.50 minutes of internal standard RT
 RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

Form 4

Method Blank Summary

Lab Name : Katahdin Analytical Services Project : NAVSTA Newport, Gould Island CTO-WE2 Lab File ID : 8KL00545.D Matrix : AQ Column A Instrument ID : GC08 Date Analyzed : 25-DEC-17 Time Analyzed : 04:26	SDG : TK1858 Lab Sample ID : WG220411-1 Date Extracted : 20-DEC-17 Extraction Method : SW846 3510C Column B Instrument ID : GC08 Date Analyzed : 25-DEC-17 Time Analyzed : 04:26
--	---

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG220411-2	8KL00546.	12/25/17	04:46
Laboratory Control S	WG220411-3	8KL00547.	12/25/17	05:07
Matrix Spike	WG220411-6	8KL00548.	12/25/17	05:27
Matrix Spike Duplica	WG220411-7	8KL00549.	12/25/17	05:47
G32-MW302B-121417	TK1858-1	8KL00552.	12/25/17	06:48
GI-MW405-121417	TK1858-3	8KL00553.	12/25/17	07:08
MW406-121417	TK1858-5	8KL00554.	12/25/17	07:28
G32-MW302B-D121417	TK1858-7	8KL00555.	12/25/17	07:48

PCB DATA

Form 4

Method Blank Summary

Lab Name : Katahdin Analytical Services Project : NAVSTA Newport, Gould Island CTO-WE2 Lab File ID : 8KL00545.D Matrix : AQ Column A Instrument ID : GC08 Date Analyzed : 25-DEC-17 Time Analyzed : 04:26	SDG : TK1858 Lab Sample ID : WG220411-1 Date Extracted : 20-DEC-17 Extraction Method : SW846 3510C Column B Instrument ID : GC08 Date Analyzed : 25-DEC-17 Time Analyzed : 04:26
--	---

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG220411-2	8KL00546.	12/25/17	04:46
Laboratory Control S	WG220411-3	8KL00547.	12/25/17	05:07
Matrix Spike	WG220411-6	8KL00548.	12/25/17	05:27
Matrix Spike Duplica	WG220411-7	8KL00549.	12/25/17	05:47
G32-MW302B-121417	TK1858-1	8KL00552.	12/25/17	06:48
GI-MW405-121417	TK1858-3	8KL00553.	12/25/17	07:08
MW406-121417	TK1858-5	8KL00554.	12/25/17	07:28
G32-MW302B-D121417	TK1858-7	8KL00555.	12/25/17	07:48

Report of Analytical Results

Client:
Lab ID: WG220411-1
Client ID: Method Blank Sample
Project:
SDG: TK1858
Lab File ID: 8KL00545.D

Sample Date:
Received Date:
Extract Date: 20-DEC-17
Extracted By: KF
Extraction Method: SW846 3510C
Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17
Analyst: BF
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 29-DEC-17

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.25	ug/L	1	.5	0.50	0.15	0.25
Aroclor-1221	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1232	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Aroclor-1242	U	0.25	ug/L	1	.5	0.50	0.18	0.25
Aroclor-1248	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1254	U	0.25	ug/L	1	.5	0.50	0.082	0.25
Aroclor-1260	U	0.25	ug/L	1	.5	0.50	0.17	0.25
Aroclor-1262	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Aroclor-1268	U	0.25	ug/L	1	.5	0.50	0.072	0.25
Total PCBs	U	2.2	ug/L	1	4.5	4.5	0.066	2.2
Tetrachloro-M-Xylene		74.9	%					
Decachlorobiphenyl		70.4	%					

LCS Recovery Report

Client:
Lab ID: WG220411-2
Client ID: LCS
Project:
SDG: TK1858
LCS File ID: 8KL00546.D

Sample Date:
Received Date:
Extract Date: 20-DEC-17
Extracted By: KF
Extraction Method: SW846 3510C
Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17
Analyst: BF
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 29-DEC-17

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1016	98.0	5.00	4.90	ug/L	46-129
Aroclor-1260	103.	5.00	5.13	ug/L	45-134
Tetrachloro-M-Xylene	98.7				62-111
Decachlorobiphenyl	83.2				44-135

LCS Recovery Report

Client:
Lab ID: WG220411-3
Client ID: LCS1
Project:
SDG: TK1858
LCS File ID: 8KL00547.D

Sample Date:
Received Date:
Extract Date: 20-DEC-17
Extracted By: KF
Extraction Method: SW846 3510C
Lab Prep Batch: WG220411

Analysis Date: 25-DEC-17
Analyst: BF
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 29-DEC-17

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1254	86.8	5.00	4.34	ug/L	34-127
Tetrachloro-M-Xylene	92.8				62-111
Decachlorobiphenyl	86.6				44-135

MS/MSD Recovery Report

MS ID: WG220411-6
MSD ID: WG220411-7
Sample ID: TK1858-1
Client ID: G32-MW302B-121417
Project:
SDG: TK1858
MS File ID: 8KL00548.D

Received Date:
Extract Date: 20-DEC-17
Extracted By: KF
Extraction Method: SW846 3510C
Lab Prep Batch: WG220411
Report Date: 29-DEC-17
MSD File ID: 8KL00549.D

Analysis Date: 25-DEC-17
Analyst: BF
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Aroclor-1016	4.72	4.95	ug/L	U0.25	4.5	4.6	95.6	92.3	1	30	46-129
Aroclor-1260	4.72	4.95	ug/L	U0.25	4.9	5.2	104.	104.	5	30	45-134
Tetrachloro-M-Xylene							89.0	86.9			62-111
Decachlorobiphenyl							73.1	81.4			44-135

Form 2 System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services
Lab Code: KAS

Project: NAVSTA Newport, Gould Island CTO-WE22
SDG: TK1858

Matrix: AQ

Client Sample ID	Lab Sample ID	Col. ID	DCB	# TCX	#
G32-MW302B-121417	TK1858-1	A	77.5	90.6	
G32-MW302B-121417	TK1858-1	B	91.7	98.7	
GI-MW405-121417	TK1858-3	A	75.1	86.2	
GI-MW405-121417	TK1858-3	B	82.1	95.0	
MW406-121417	TK1858-5	A	89.8	90.6	
MW406-121417	TK1858-5	B	97.2	97.9	
G32-MW302B-D121417	TK1858-7	A	83.4	91.6	
G32-MW302B-D121417	TK1858-7	B	90.1	101.	
Method Blank Sample	WG220411-1	A	49.1	69.1	
Method Blank Sample	WG220411-1	B	70.4	74.9	
Laboratory Control S	WG220411-2	A	76.8	90.0	
Laboratory Control S	WG220411-2	B	83.2	98.7	
Laboratory Control S	WG220411-3	A	80.2	86.5	
Laboratory Control S	WG220411-3	B	86.6	92.8	
Matrix Spike	WG220411-6	A	67.8	81.2	
Matrix Spike	WG220411-6	B	73.1	89.0	
Matrix Spike Duplica	WG220411-7	A	76.1	79.0	
Matrix Spike Duplica	WG220411-7	B	81.4	86.9	

QC Limits

TCX TETRACHLORO-M-XYLENE

62-111

DCB DECACHLOROBIPHENYL

44-135

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

KATAHDIN ANALYTICAL SERVICES, LLC.
ORGANIC EXTRACTIONS LOG - AQUEOUS PESTICIDE/PCB

Extraction Method: (check one)	SW846 3510 (SEP) ✓	SW846 3520 (CLLE)	SW846 3535 (SPE)
Analytical Method: (check one)	SW846 8081 ✓	SW846 8082 ✓	EPA 608 Other:
Surrogate ID: GC1818	Spike ID: A-161818	Spike ID: A-161819	
Methylene Chloride Lot #: D1120	Hexane Lot #: D5317	Acetone Lot #: -	
KI Starch Paper ID: 08117	pH Paper Lot #: B6612865	Sample pH between 5 and 9? ✓	Note samples requiring pH adjustment in comments section.
NaSO ₄ Lot #: 27917003	Filter Paper Lot #: 9851692	Boiling Stones ID: 3272014	H ₂ SO ₄ or NaOH Lot #: 167842
Nitrogen Bath Temperature: 36°C	Vial Lot #: 392942		
Prep Start Time: 1145	Prep End Time: 1600	CLLE Start Time: -	CLLE End Date & Time: -

[illegible]

EX-002 -- Revision 3 -- 08/30/2017

DAEX340

0000080

Date Extracted	Ext. Init.	Sample ID	Initial Vol. mL	Surr. Vol.	Spike Vol.	Fraction		Final Vol. mL	Date Conc.	Trey Location	Initials	Clean-Up				Comments
						Pest	PCB					GPC	Flor.	Acid Wash	Other	
12/20/71	KF	TK1559-9F	970	ML	NR	✓		10	12/20/71	B4	KF					RE
		TK1715-44B	1060				✓			5				✓		
		TK1739-4G	1060							6						
		TK1750-33B	1050							7						
		TK1858-1M	1010							8						MSD
		-3F	1050							9						
		-5E	1050							10						
		-7F	1030							11						
		TK1862-2G	1020							12						
		-4G	1060							C1						
		-6G	1040							2						
		-8G	1030							3						
		TK1863-5K	1050							4						MSD
		-9G	1060							5						
		AP-1D&H	1050							6						
		TK1925-1F	1060							7						
		-3F	1040							8						
		-6F	1050							9						
		-8F	1040							10						
		-10F	1050							11						

EX-002 – Revision 3 – 08/30/2017

QAEX340

0000081

Katahdin Analytical Services 3000189

METALS DATA

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: TK1858

SOW No. SW846

Client Field ID	Lab Sample ID
G32-MW302B-121417	TK1858-001
G32-MW302B-121417	TK1858-001P
G32-MW302B-121417	TK1858-001S
G32-MW302B-121417	TK1858-002
G32-MW302B-121417	TK1858-002P
G32-MW302B-121417	TK1858-002S
G32-MW302B-D121417	TK1858-007
G32-MW302B-D121417	TK1858-008
GI-MW405-121417	TK1858-003
GI-MW405-121417	TK1858-004
MW406-121417	TK1858-005
MW406-121417	TK1858-006

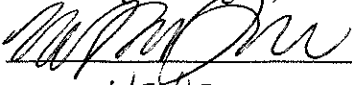
Were ICP interelement corrections applied ? Yes

Were ICP background corrections applied ? Yes

If yes - were raw data generated before
application of background corrections ? No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: 

Name: Madisen Ansmore

Date: 11/2/18

Title: Analyst

COVER PAGE - IN

Katahdin Analytical Services 4000004

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: ICB

File: JKL28A Dec 28, 2017 16:06

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.236	U
CALCIUM	8.700	U
IRON	-3.995	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL28A Dec 28, 2017 16:46

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.157	U
CALCIUM	8.700	U
IRON	3.100	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.051	J
POTASSIUM	6.600	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL28A Dec 28, 2017 17:32

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.221	U
CALCIUM	8.700	U
IRON	3.100	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: CCB

File: JKL28A Dec 28, 2017 18:19

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.172	U
CALCIUM	8.700	U
IRON	3.100	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.041	U
POTASSIUM	11.490	J
SODIUM	5.500	U

SAMPLE: CCB

File: JKL28A Dec 28, 2017 19:06

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.197	U
CALCIUM	8.700	U
IRON	-4.068	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL28A Dec 28, 2017 19:55

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.148	U
CALCIUM	8.700	U
IRON	-3.687	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: CCB

File: JKL28A Dec 28, 2017 20:44

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	-0.184	U
CALCIUM	8.700	U
IRON	-3.375	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: ICB

File: JKL29A Dec 29, 2017 15:59

Analyte	Result	C
ALUMINUM	3.000	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	3.100	U
MAGNESIUM	3.400	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL29A Dec 29, 2017 16:40

Analyte	Result	C
ALUMINUM	3.000	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	3.100	U
MAGNESIUM	3.400	U
MOLYBDENUM	0.054	J
POTASSIUM	-7.602	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL29A Dec 29, 2017 17:25

Analyte	Result	C
ALUMINUM	3.000	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	3.100	U
MAGNESIUM	3.400	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: CCB

File: JKL29A Dec 29, 2017 18:12

Analyte	Result	C
ALUMINUM	3.000	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	-4.030	U
MAGNESIUM	3.400	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL29A Dec 29, 2017 18:59

Analyte	Result	C
ALUMINUM	3.000	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	3.100	U
MAGNESIUM	3.400	U
MOLYBDENUM	0.041	U
POTASSIUM	6.600	U
SODIUM	5.500	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWKL21IMW2

Matrix: WATER

SDG Name: TK1858

QC Batch ID: KL21IMW2

Concentration Units : ug/L

Analyte	RESULT	C
ARSENIC	4.0	U
CADMIUM	0.20	U
LEAD	0.50	U
MANGANESE	0.36	J

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWKL21IMW2**Matrix:** WATER**SDG Name:** TK1858**QC Batch ID:** KL21IMW2

Concentration Units : ug/L					
Analyte	TRUE	FOUND	% R	LIMITS (%)	
ARSENIC	100	103	103.0	84	116
CADMIUM	250	259	103.7	87	115
LEAD	100	108	107.8	88	115
MANGANESE	500	511	102.2	87	115

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: ICSA

File: JKL28A Dec 28, 2017 16:17

Analyte	TRUE	FOUND	% R
ALUMINUM	100000	103700	103.7
ARSENIC	0	0	
CALCIUM	100000	104800	104.8
IRON	100000	102100	102.1
LEAD	0	0	
MAGNESIUM	100000	104600	104.6
MANGANESE	0	0	
MOLYBDENUM	2000	2109	105.5
POTASSIUM	100000	105200	105.2
SODIUM	100000	102900	102.9

SAMPLE: ICSAB

File: JKL28A Dec 28, 2017 16:21

Analyte	TRUE	FOUND	% R
ALUMINUM	100000	102800	102.8
ARSENIC	20	22	110.0
CALCIUM	100000	105600	105.6
IRON	100000	101500	101.5
LEAD	20	23	115.0
MAGNESIUM	100000	103800	103.8
MANGANESE	20	22	110.0
MOLYBDENUM	2000	2191	109.6
POTASSIUM	100000	107600	107.6
SODIUM	100000	103100	103.1

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TK1858

Concentration Units: ug/L

SAMPLE: ICSA

File: JKL29A Dec 29, 2017 16:10

Analyte	TRUE	FOUND	% R
ALUMINUM	100000	89770	89.8
CADMIUM	0	0	
CALCIUM	100000	93000	93.0
IRON	100000	90310	90.3
MAGNESIUM	100000	91950	92.0
MOLYBDENUM	2000	1920	96.0
POTASSIUM	100000	94960	95.0
SODIUM	100000	94860	94.9

SAMPLE: ICSAB

File: JKL29A Dec 29, 2017 16:14

Analyte	TRUE	FOUND	% R
ALUMINUM	100000	91770	91.8
CADMIUM	20	19	95.0
CALCIUM	100000	95150	95.2
IRON	100000	90810	90.8
MAGNESIUM	100000	91210	91.2
MOLYBDENUM	2000	1930	96.5
POTASSIUM	100000	94650	94.7
SODIUM	100000	94670	94.7

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417S

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-001P

Concentration Units : ug/L

Analyte	Spiked		C	Sample		C	Spike Added	%R	Q	Control Limits (%R)		
	Sample	Result		Result	Low					High	M	
ARSENIC, TOTAL		106		3.3	J		100	102.6		84	116	MS
CADMIUM, TOTAL		247		0.20	U		250	98.9		87	115	MS
LEAD, TOTAL		106		0.14	J		100	106.1		88	115	MS
MANGANESE, TOTAL		1020		513			500	101.7		87	115	MS

Comments:

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417S

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-001S

Concentration Units : ug/L

Analyte	Spiked		C	Sample		C	Spike	%R	Q	Control Limits (%R)		
	Sample	Result		Result	Low					High	M	
ARSENIC, TOTAL		110		3.3	J		100	107.2		84	116	MS
CADMIUM, TOTAL		266		0.20	U		250	106.2		87	115	MS
LEAD, TOTAL		112		0.14	J		100	111.4		88	115	MS
MANGANESE, TOTAL		1060		513			500	108.5		87	115	MS

Comments:

5D
SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-001

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ARSENIC, TOTAL		110		106		4.2		MS
CADMIUM, TOTAL		266		247		7.1		MS
LEAD, TOTAL		112		106		4.9		MS
MANGANESE, TOTAL		1060		1020		3.3		MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417S

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-001A

Concentration Units : ug/L

Analyte	Spiked		Sample Result	C	Spike Added	%R	Q	Control Limits (%R)		M
	Sample	Result						Low	High	
ARSENIC, TOTAL		11.3	0.67	J	10	106.3		80	120	MS
CADMIUM, TOTAL		2.14	0.0059	U	2	107.1		80	120	MS
LEAD, TOTAL		2.27	0.028	J	2	112.3		80	120	MS
MANGANESE, TOTAL		104	103		4	30.0	A	80	120	MS

Comments:

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417S

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-002P

Concentration Units : ug/L

Analyte	Spiked		C	Sample		C	Spike Added	%R	Q	Control Limits (%R)		
	Sample	Result		Result	Low					High	M	
ARSENIC, DISSOLVED		110		2.7	J		100	107.1		84	116	MS
CADMIUM, DISSOLVED		262		0.20	U		250	105.0		87	115	MS
LEAD, DISSOLVED		109		0.50	U		100	109.3		88	115	MS
MANGANESE, DISSOLVED		1060		543			500	103.6		87	115	MS

Comments:

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417S

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-002S

Concentration Units : ug/L

Analyte	Spiked		C	Sample		C	Spike Added	%R	Q	Control Limits (%R)		
	Sample	Result		Result	Low					High	M	
ARSENIC, DISSOLVED		108		2.7	J		100	105.8		84	116	MS
CADMIUM, DISSOLVED		270		0.20	U		250	108.0		87	115	MS
LEAD, DISSOLVED		110		0.50	U		100	109.8		88	115	MS
MANGANESE, DISSOLVED		1070		543			500	105.5		87	115	MS

Comments:

5D
SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-002

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ARSENIC, DISSOLVED		108		110		1.3		MS
CADMIUM, DISSOLVED		270		262		2.8		MS
LEAD, DISSOLVED		110		109		0.5		MS
MANGANESE, DISSOLVED		1070		1060		0.9		MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302B-121417S

Matrix: WATER

SDG Name: TK1858

Percent Solids: 0.00

Lab Sample ID: TK1858-002A

Concentration Units : ug/L

Analyte	Spiked		Sample Result	C	Spike Added	%R	Q	Control Limits (%R)		
	Sample	Result						Low	High	M
ARSENIC, DISSOLVED		11.4	0.53	J	10	108.4		80	120	MS
CADMIUM, DISSOLVED		2.19	0.0059	U	2	109.7		80	120	MS
LEAD, DISSOLVED		2.32	0.015	U	2	116.2		80	120	MS
MANGANESE, DISSOLVED		112	109		4	82.5		80	120	MS

Comments:

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services**Client Field ID:** G32-MW302B-121417L**Matrix:** WATER**SDG Name:** TK1858**Lab Sample ID:** TK1858-001L**Concentration Units: ug/L**

Analyte	Sample Result	C	Dilution	Result	C	% Difference	Q	M
ARSENIC, TOTAL	0.67	J		2.3	U	100.0		MS
CADMIUM, TOTAL	0.0059	U		0.029	U			MS
LEAD, TOTAL	0.028	J		0.075	U	100.0		MS
MANGANESE, TOTAL	103			103		0.0		MS

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services**Client Field ID:** G32-MW302B-121417L**Matrix:** WATER**SDG Name:** TK1858**Lab Sample ID:** TK1858-002L**Concentration Units: ug/L**

Analyte	Sample Result	C	Dilution	Result	C	% Difference	Q	M
ARSENIC, DISSOLVED	0.53	J		2.3	U	100.0		MS
CADMIUM, DISSOLVED	0.0059	U		0.029	U			MS
LEAD, DISSOLVED	0.015	U		0.075	U			MS
MANGANESE, DISSOLVED	109			107		1.8		MS

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: J****Instrument Name: AGILENT 7500 ICP-MS****Date: 11/27/2017**

Analyte	Concentration Units: ug/L		
	PQL/LOQ	IDL	M
ALUMINUM	20	3.0	MS
ARSENIC	1.0	0.11	MS
CADMIUM	0.20	0.011	MS
CALCIUM	20	8.7	MS
IRON	20	3.1	MS
LEAD	0.20	0.034	MS
MAGNESIUM	20	3.4	MS
MANGANESE	0.40	0.13	MS
MOLYBDENUM	1.0	0.041	MS
POTASSIUM	200	6.6	MS
SODIUM	200	5.5	MS

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services**Instrument Code: J****Instrument Name: AGILENT 7500 ICP-MS****Date: 1/25/2011**

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ARSENIC	0.80	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.10	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.20	ug/L	MS	SW846 3010A / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code:** J**Instrument Name:** AGILENT 7500 ICP-MS**Date:** 1/25/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ARSENIC	0.45	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.0059	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.015	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.070	ug/L	MS	SW846 3010A / SW846 6020A

12
ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services

Instrument Code: J

Instrument Name: AGILENT 7500 ICP-MS

Date: 8/4/2017

Concentration Units: ug/L			
Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	0.01	200000	MS
ARSENIC	0.30	1000	MS
CADMIUM	0.10	1000	MS
CALCIUM	0.03	200000	MS
IRON	0.03	100000	MS
LEAD	0.10	2000	MS
MAGNESIUM	0.05	200000	MS
MANGANESE	0.10	2000	MS
MOLYBDENUM	0.10	1000	MS
POTASSIUM	0.01	200000	MS
SODIUM	0.01	200000	MS

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** KL21IMW2**Matrix:** WATER**SDG Name:** TK1858**Method:** MS**Prep Date:** 12/21/2017

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWKL21IMW2	LCSWKL21IMW2	0.05	0.05	
PBWKL21IMW2	PBWKL21IMW2	0.05	0.05	
G32-MW302B-121417	TK1858-001	0.05	0.05	V
G32-MW302B-121417P	TK1858-001P	0.05	0.05	V
G32-MW302B-121417S	TK1858-001S	0.05	0.05	V
G32-MW302B-121417	TK1858-002	0.05	0.05	A
G32-MW302B-121417P	TK1858-002P	0.05	0.05	A
G32-MW302B-121417S	TK1858-002S	0.05	0.05	A
GI-MW405-121417	TK1858-003	0.05	0.05	D
GI-MW405-121417	TK1858-004	0.05	0.05	A
MW406-121417	TK1858-005	0.05	0.05	D
MW406-121417	TK1858-006	0.05	0.05	A
G32-MW302B-D121417	TK1858-007	0.05	0.05	D
G32-MW302B-D121417	TK1858-008	0.05	0.05	A

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\069SMPL.D\069SMPL.D#
 Date Acquired: Dec 28 2017 07:10 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002
 Misc Info:
 Vial Number: 2307
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0258	0.0052	ppb	20.52	100.	
11 B	19.8	3.96	ppb	3.34	1000.	
23 Na	19,875.	3,975.	ppb	0.83	200000.	
25 Mg	3,163.5	632.7	ppb	1.50	200000.	
27 Al	8.135	1.627	ppb	6.07	200000.	
28 Si	16,310.	3,262.	ppb	2.72	#VALUE!	
29 Si	15,545.	3,109.	ppb	1.15	10000.	
39 K	2,207.5	441.5	ppb	1.03	200000.	
43 Ca	11,535.	2,307.	ppb	2.61	#VALUE!	
44 Ca	11,060.	2,212.	ppb	1.42	200000.	
51 V	-0.2998	-0.06	ppb	101.63	1000.	
52 Cr	0.1868	0.0374	ppb	20.17	2000.	
53 Cr	13.5	2.7	ppb	9.99	#VALUE!	
55 Mn	543.5	108.7	ppb	1.35	2000.	
56 Fe	11,570.	2,314.	ppb	0.46	#VALUE!	
57 Fe	11,420.	2,284.	ppb	0.76	100000.	
59 Co	8.765	1.753	ppb	3.28	1000.	
60 Ni	7.23	1.446	ppb	2.74	1000.	
63 Cu	0.9355	0.1871	ppb	8.05	#VALUE!	
65 Cu	0.574	0.1148	ppb	5.43	2000.	
66 Zn	10.295	2.059	ppb	4.01	2000.	
68 Zn	9.645	1.929	ppb	8.11	#VALUE!	
75 As	2.6725	0.5345	ppb	33.13	1000.	
82 Se	-0.4416	-0.0883	ppb	169.72	1000.	
88 Sr	82.1	16.42	ppb	1.27	2000.	
98 Mo	0.669	0.1338	ppb	4.96	1000.	
107 Ag	0.0045	0.0009	ppb	487.12	100.	
109 Ag	-0.0406	-0.0081	ppb	64.96	#VALUE!	
111 Cd	0.1972	0.0394	ppb	170.59	#VALUE!	
114 Cd	0.0594	0.0119	ppb	41.52	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.075	0.215	ppb	12.89	1000.	
120 Sn	1.0765	0.2153	ppb	2.68	#VALUE!	
121 Sb	0.0257	0.0051	ppb	63.04	#VALUE!	
123 Sb	0.0414	0.0083	ppb	39.15	1000.	
135 Ba	14.27	2.854	ppb	2.26	2000.	
137 Ba	14.205	2.841	ppb	5.24	#VALUE!	
182 W	0.5115	0.1023	ppb	11.43	1000.	
203 Tl	0.0225	0.0045	ppb	117.35	1000.	
205 Tl	0.0021	0.0004	ppb	919.99	#VALUE!	
208 Pb	0.0042	0.0008	ppb	1238.00	2000.	
232 Th	0.0713	0.0143	ppb	19.94	1000.	
238 U	-0.0032	-0.0006	ppb	98.10	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2894252.50	0.78	3265850.30	88.6	69.5 - 120	
45 Sc	2445161.50	1.08	2838923.30	86.1	69.5 - 120	
89 Y	3508017.00	0.61	3800319.50	92.3	69.5 - 120	
159 Tb	4318694.50	0.86	4315329.00	100.1	69.5 - 120	
209 Bi	2312321.00	1.61	2294196.80	100.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\070SMPL.D\070SMPL.D#
 Date Acquired: Dec 28 2017 07:14 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002L
 Misc Info:
 Vial Number: 2308
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 25.00
 Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.045	0.0018	ppb	130.06	100.	
11 B	35.975	1.439	ppb	10.99	1000.	
23 Na	19,420.	776.8	ppb	2.53	200000.	
25 Mg	3,122.5	124.9	ppb	4.55	200000.	
27 Al	19.87	0.7948	ppb	11.67	200000.	
28 Si	25,750.	1,030.	ppb	11.56	#VALUE!	
29 Si	20,162.5	806.5	ppb	11.20	10000.	
39 K	2,298.5	91.94	ppb	5.00	200000.	
43 Ca	11,445.	457.8	ppb	5.62	#VALUE!	
44 Ca	11,055.	442.2	ppb	3.11	200000.	
51 V	-0.881	-0.0352	ppb	63.56	1000.	
52 Cr	-1.9303	-0.0772	ppb	42.31	2000.	
53 Cr	-65.35	-2.614	ppb	6.88	#VALUE!	
55 Mn	534.25	21.37	ppb	0.71	2000.	
56 Fe	11,470.	458.8	ppb	1.39	#VALUE!	
57 Fe	11,510.	460.4	ppb	2.08	100000.	
59 Co	9.03	0.3612	ppb	3.11	1000.	
60 Ni	6.5725	0.2629	ppb	7.07	1000.	
63 Cu	-1.1985	-0.0479	ppb	67.04	#VALUE!	
65 Cu	-0.2845	-0.0114	ppb	301.67	2000.	
66 Zn	12.	0.48	ppb	17.27	2000.	
68 Zn	13.4625	0.5385	ppb	33.85	#VALUE!	
75 As	-2.211	-0.0884	ppb	72.82	1000.	
82 Se	-6.94	-0.2776	ppb	50.94	1000.	
88 Sr	81.85	3.274	ppb	1.95	2000.	
98 Mo	0.8258	0.033	ppb	51.92	1000.	
107 Ag	-0.2022	-0.0081	ppb	180.29	100.	
109 Ag	0.029	0.0012	ppb	402.67	#VALUE!	
111 Cd	1.509	0.0604	ppb	102.88	#VALUE!	
114 Cd	0.104	0.0042	ppb	26.17	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.774	0.071	ppb	39.12	1000.	
120 Sn	1.0263	0.0411	ppb	13.55	#VALUE!	
121 Sb	-0.0048	-0.0002	ppb	1145.60	#VALUE!	
123 Sb	0.1023	0.0041	ppb	59.53	1000.	
135 Ba	13.2025	0.5281	ppb	3.14	2000.	
137 Ba	13.7125	0.5485	ppb	6.13	#VALUE!	
182 W	0.6973	0.0279	ppb	26.11	1000.	
203 Tl	-0.0277	-0.0011	ppb	305.14	1000.	
205 Tl	0.0608	0.0024	ppb	122.62	#VALUE!	
208 Pb	-0.118	-0.0047	ppb	52.15	2000.	
232 Th	0.0386	0.0015	ppb	52.25	1000.	
238 U	-0.0288	-0.0012	ppb	0.80	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2787206.80	1.69	3265850.30	85.3	69.5 - 120	
45 Sc	2469110.50	2.23	2838923.30	87.0	69.5 - 120	
89 Y	3490188.00	1.41	3800319.50	91.8	69.5 - 120	
159 Tb	4258439.50	1.43	4315329.00	98.7	69.5 - 120	
209 Bi	2283832.00	1.45	2294196.80	99.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\071SMPL.D\071SMPL.D#
 Date Acquired: Dec 28 2017 07:18 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002A
 Misc Info:
 Vial Number: 2309
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.745	2.349	ppb	4.21	100.	
11 B	241.3	48.26	ppb	6.81	1000.	
23 Na	31,230.	6,246.	ppb	2.49	200000.	
25 Mg	4,367.5	873.5	ppb	2.46	200000.	
27 Al	1,178.5	235.7	ppb	2.10	200000.	
28 Si	23,725.	4,745.	ppb	2.26	#VALUE!	
29 Si	28,640.	5,728.	ppb	2.04	10000.	
39 K	14,040.	2,808.	ppb	3.02	200000.	
43 Ca	12,415.	2,483.	ppb	2.51	#VALUE!	
44 Ca	12,345.	2,469.	ppb	0.54	200000.	
51 V	51.1	10.22	ppb	1.89	1000.	
52 Cr	52.6	10.52	ppb	2.20	2000.	
53 Cr	73.55	14.71	ppb	3.91	#VALUE!	
55 Mn	561.5	112.3	ppb	0.99	2000.	
56 Fe	12,695.	2,539.	ppb	0.76	#VALUE!	
57 Fe	12,545.	2,509.	ppb	0.77	100000.	
59 Co	20.13	4.026	ppb	0.76	1000.	
60 Ni	29.58	5.916	ppb	0.33	1000.	
63 Cu	34.285	6.857	ppb	0.87	#VALUE!	
65 Cu	33.265	6.653	ppb	2.65	2000.	
66 Zn	121.6	24.32	ppb	1.66	2000.	
68 Zn	117.05	23.41	ppb	0.84	#VALUE!	
75 As	56.85	11.37	ppb	0.87	1000.	
82 Se	52.7	10.54	ppb	2.21	1000.	
88 Sr	140.15	28.03	ppb	0.78	2000.	
98 Mo	59.65	11.93	ppb	0.37	1000.	
107 Ag	12.85	2.57	ppb	2.66	100.	
109 Ag	12.865	2.573	ppb	0.96	#VALUE!	
111 Cd	12.63	2.526	ppb	0.95	#VALUE!	
114 Cd	12.735	2.547	ppb	2.37	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	58.	11.6	ppb	1.09	1000.	
120 Sn	58.05	11.61	ppb	2.36	#VALUE!	
121 Sb	11.53	2.306	ppb	1.68	#VALUE!	
123 Sb	11.385	2.277	ppb	3.23	1000.	
135 Ba	37.94	7.588	ppb	0.45	2000.	
137 Ba	36.975	7.395	ppb	1.28	#VALUE!	
182 W	57.55	11.51	ppb	1.50	1000.	
203 Tl	11.22	2.244	ppb	3.83	1000.	
205 Tl	11.38	2.276	ppb	1.66	#VALUE!	
208 Pb	11.62	2.324	ppb	2.75	2000.	
232 Th	11.29	2.258	ppb	2.99	1000.	
238 U	10.695	2.139	ppb	2.69	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2843064.00	2.69	3265850.30	87.1	69.5 - 120	
45 Sc	2404300.00	1.79	2838923.30	84.7	69.5 - 120	
89 Y	3460458.00	0.60	3800319.50	91.1	69.5 - 120	
159 Tb	4250787.00	0.56	4315329.00	98.5	69.5 - 120	
209 Bi	2281353.00	0.91	2294196.80	99.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\072SMPL.D\072SMPL.D#
 Date Acquired: Dec 28 2017 07:22 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002S
 Misc Info:
 Vial Number: 2310
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	51.3	10.26	ppb	1.58	100.	
11 B	515.	103.	ppb	4.25	1000.	
23 Na	28,820.	5,764.	ppb	0.95	200000.	
25 Mg	9,285.	1,857.	ppb	1.17	200000.	
27 Al	2,265.5	453.1	ppb	1.46	200000.	
28 Si	17,125.	3,425.	ppb	2.26	#VALUE!	
29 Si	22,210.	4,442.	ppb	2.39	10000.	
39 K	13,345.	2,669.	ppb	0.93	200000.	
43 Ca	14,525.	2,905.	ppb	2.59	#VALUE!	
44 Ca	14,010.	2,802.	ppb	0.39	200000.	
51 V	522.5	104.5	ppb	1.58	1000.	
52 Cr	202.9	40.58	ppb	0.97	2000.	
53 Cr	233.15	46.63	ppb	1.09	#VALUE!	
55 Mn	1,070.5	214.1	ppb	2.12	2000.	
56 Fe	12,855.	2,571.	ppb	1.48	#VALUE!	
57 Fe	12,570.	2,514.	ppb	1.62	100000.	
59 Co	537.5	107.5	ppb	1.39	1000.	
60 Ni	539.	107.8	ppb	0.57	1000.	
63 Cu	268.75	53.75	ppb	0.91	#VALUE!	
65 Cu	269.5	53.9	ppb	1.13	2000.	
66 Zn	541.5	108.3	ppb	1.83	2000.	
68 Zn	616.	123.2	ppb	1.49	#VALUE!	
75 As	108.45	21.69	ppb	2.30	1000.	
82 Se	101.85	20.37	ppb	2.21	1000.	
88 Sr	636.	127.2	ppb	1.56	2000.	
98 Mo	112.	22.4	ppb	1.61	1000.	
107 Ag	58.3	11.66	ppb	1.33	100.	
109 Ag	58.55	11.71	ppb	2.12	#VALUE!	
111 Cd	293.45	58.69	ppb	1.14	#VALUE!	
114 Cd	293.35	58.67	ppb	1.11	1000.	
115 In	----	-----	--- ---		#VALUE!	
118 Sn	539.5	107.9	ppb	1.79	1000.	
120 Sn	542.	108.4	ppb	1.63	#VALUE!	
121 Sb	108.55	21.71	ppb	2.27	#VALUE!	
123 Sb	108.25	21.65	ppb	2.87	1000.	
135 Ba	2,158.5	431.7	ppb	1.35	2000.	
137 Ba	2,168.5	433.7	ppb	1.53	#VALUE!	
182 W	109.35	21.87	ppb	1.58	1000.	
203 Tl	109.05	21.81	ppb	1.31	1000.	
205 Tl	108.5	21.7	ppb	1.45	#VALUE!	
208 Pb	109.8	21.96	ppb	2.19	2000.	
232 Th	106.15	21.23	ppb	0.85	1000.	
238 U	105.	21.	ppb	1.79	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3130591.50	1.10	3265850.30	95.9	69.5 - 120	
45 Sc	2555695.00	0.38	2838923.30	90.0	69.5 - 120	
89 Y	3611157.00	0.58	3800319.50	95.0	69.5 - 120	
159 Tb	4370898.50	1.15	4315329.00	101.3	69.5 - 120	
209 Bi	2294287.50	0.99	2294196.80	100.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\073SMPL.D\073SMPL.D#
 Date Acquired: Dec 28 2017 07:26 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002P
 Misc Info:
 Vial Number: 2311
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.85	10.17	ppb	1.34	100.	
11 B	527.	105.4	ppb	5.38	1000.	
23 Na	28,270.	5,654.	ppb	1.41	200000.	
25 Mg	9,150.	1,830.	ppb	0.54	200000.	
27 Al	2,275.5	455.1	ppb	1.94	200000.	
28 Si	17,625.	3,525.	ppb	3.30	#VALUE!	
29 Si	18,160.	3,632.	ppb	12.45	10000.	
39 K	13,515.	2,703.	ppb	1.81	200000.	
43 Ca	14,625.	2,925.	ppb	1.10	#VALUE!	
44 Ca	13,635.	2,727.	ppb	0.42	200000.	
51 V	527.	105.4	ppb	0.49	1000.	
52 Cr	207.25	41.45	ppb	1.62	2000.	
53 Cr	233.4	46.68	ppb	2.07	#VALUE!	
55 Mn	1,061.	212.2	ppb	0.80	2000.	
56 Fe	12,605.	2,521.	ppb	0.23	#VALUE!	
57 Fe	12,455.	2,491.	ppb	0.47	100000.	
59 Co	541.5	108.3	ppb	1.45	1000.	
60 Ni	540.5	108.1	ppb	1.05	1000.	
63 Cu	271.	54.2	ppb	1.26	#VALUE!	
65 Cu	269.4	53.88	ppb	1.03	2000.	
66 Zn	539.5	107.9	ppb	1.13	2000.	
68 Zn	615.5	123.1	ppb	0.88	#VALUE!	
75 As	109.85	21.97	ppb	1.22	1000.	
82 Se	102.55	20.51	ppb	2.43	1000.	
88 Sr	639.5	127.9	ppb	0.18	2000.	
98 Mo	114.35	22.87	ppb	0.61	1000.	
107 Ag	58.75	11.75	ppb	0.79	100.	
109 Ag	58.8	11.76	ppb	0.82	#VALUE!	
111 Cd	299.	59.8	ppb	0.41	#VALUE!	
114 Cd	296.7	59.34	ppb	0.44	1000.	
115 In	----	-----	---	---	#VALUE!	
118 Sn	541.	108.2	ppb	0.33	1000.	
120 Sn	542.	108.4	ppb	0.93	#VALUE!	
121 Sb	108.9	21.78	ppb	1.08	#VALUE!	
123 Sb	107.6	21.52	ppb	0.55	1000.	
135 Ba	2,149.	429.8	ppb	0.69	2000.	
137 Ba	2,162.	432.4	ppb	0.61	#VALUE!	
182 W	110.8	22.16	ppb	1.11	1000.	
203 Tl	107.9	21.58	ppb	1.41	1000.	
205 Tl	107.1	21.42	ppb	1.39	#VALUE!	
208 Pb	109.25	21.85	ppb	1.54	2000.	
232 Th	82.65	16.53	ppb	1.73	1000.	
238 U	104.6	20.92	ppb	0.77	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3025419.00	0.99	3265850.30	92.6	69.5 - 120	
45 Sc	2458347.50	1.85	2838923.30	86.6	69.5 - 120	
89 Y	3501289.50	0.29	3800319.50	92.1	69.5 - 120	
159 Tb	4311281.00	0.65	4315329.00	99.9	69.5 - 120	
209 Bi	2288307.80	1.61	2294196.80	99.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\074SMPL.D\074SMPL.D#
 Date Acquired: Dec 28 2017 07:30 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-003
 Misc Info:
 Vial Number: 2312
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0216	0.0043	ppb	118.24	100.	
11 B	85.4	17.08	ppb	1.81	1000.	
23 Na	87,500.	17,500.	ppb	1.25	200000.	
25 Mg	17,995.	3,599.	ppb	1.06	200000.	
27 Al	136.8	27.36	ppb	4.68	200000.	
28 Si	7,480.	1,496.	ppb	3.96	#VALUE!	
29 Si	6,925.	1,385.	ppb	2.72	10000.	
39 K	10,090.	2,018.	ppb	1.06	200000.	
43 Ca	39,295.	7,859.	ppb	0.33	#VALUE!	
44 Ca	39,105.	7,821.	ppb	0.30	200000.	
51 V	-0.0159	-0.0032	ppb	1473.90	1000.	
52 Cr	1.1195	0.2239	ppb	7.46	2000.	
53 Cr	17.645	3.529	ppb	10.68	#VALUE!	
55 Mn	36.555	7.311	ppb	0.56	2000.	
56 Fe	215.75	43.15	ppb	3.59	#VALUE!	
57 Fe	242.3	48.46	ppb	10.17	100000.	
59 Co	0.7095	0.1419	ppb	7.84	1000.	
60 Ni	1.196	0.2392	ppb	15.22	1000.	
63 Cu	5.435	1.087	ppb	4.36	#VALUE!	
65 Cu	2.952	0.5904	ppb	6.81	2000.	
66 Zn	2.092	0.4184	ppb	20.96	2000.	
68 Zn	0.889	0.1778	ppb	86.61	#VALUE!	
75 As	0.548	0.1096	ppb	107.39	1000.	
82 Se	-0.1227	-0.0245	ppb	2771.80	1000.	
88 Sr	218.1	43.62	ppb	0.59	2000.	
98 Mo	2.287	0.4574	ppb	3.33	1000.	
107 Ag	-0.0625	-0.0125	ppb	66.40	100.	
109 Ag	0.033	0.0066	ppb	149.12	#VALUE!	
111 Cd	0.4773	0.0955	ppb	31.76	#VALUE!	
114 Cd	0.0383	0.0077	ppb	65.71	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.252	0.2504	ppb	20.01	1000.	
120 Sn	1.0755	0.2151	ppb	2.79	#VALUE!	
121 Sb	0.4519	0.0904	ppb	16.94	#VALUE!	
123 Sb	0.5345	0.1069	ppb	11.16	1000.	
135 Ba	11.53	2.306	ppb	1.16	2000.	
137 Ba	11.125	2.225	ppb	3.29	#VALUE!	
182 W	0.1455	0.0291	ppb	6.61	1000.	
203 Tl	0.0209	0.0042	ppb	89.59	1000.	
205 Tl	0.0216	0.0043	ppb	63.01	#VALUE!	
208 Pb	3.4135	0.6827	ppb	2.92	2000.	
232 Th	0.1339	0.0268	ppb	27.01	1000.	
238 U	0.3453	0.0691	ppb	1.95	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2971593.50	2.33	3265850.30	91.0	69.5 - 120	
45 Sc	2531022.80	0.29	2838923.30	89.2	69.5 - 120	
89 Y	3583131.50	0.27	3800319.50	94.3	69.5 - 120	
159 Tb	4366641.00	0.88	4315329.00	101.2	69.5 - 120	
209 Bi	2297225.50	1.14	2294196.80	100.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\075SMPL.D\075SMPL.D#
 Date Acquired: Dec 28 2017 07:34 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-004
 Misc Info:
 Vial Number: 2401
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0154	0.0031	ppb	54.98	100.	
11 B	77.6	15.52	ppb	1.54	1000.	
23 Na	86,000.	17,200.	ppb	1.39	200000.	
25 Mg	17,530.	3,506.	ppb	0.90	200000.	
27 Al	89.65	17.93	ppb	2.72	200000.	
28 Si	6,765.	1,353.	ppb	7.37	#VALUE!	
29 Si	6,335.	1,267.	ppb	3.07	10000.	
39 K	9,690.	1,938.	ppb	1.09	200000.	
43 Ca	38,040.	7,608.	ppb	1.28	#VALUE!	
44 Ca	37,780.	7,556.	ppb	1.05	200000.	
51 V	-0.1008	-0.0202	ppb	641.69	1000.	
52 Cr	1.0165	0.2033	ppb	13.28	2000.	
53 Cr	22.72	4.544	ppb	8.42	#VALUE!	
55 Mn	34.57	6.914	ppb	1.60	2000.	
56 Fe	144.45	28.89	ppb	7.26	#VALUE!	
57 Fe	184.45	36.89	ppb	2.96	100000.	
59 Co	0.742	0.1484	ppb	6.12	1000.	
60 Ni	1.332	0.2664	ppb	7.43	1000.	
63 Cu	5.575	1.115	ppb	4.17	#VALUE!	
65 Cu	3.5055	0.7011	ppb	6.04	2000.	
66 Zn	2.344	0.4688	ppb	16.38	2000.	
68 Zn	1.792	0.3584	ppb	24.97	#VALUE!	
75 As	-0.173	-0.0346	ppb	147.90	1000.	
82 Se	-0.57	-0.114	ppb	152.81	1000.	
88 Sr	213.55	42.71	ppb	2.68	2000.	
98 Mo	2.1125	0.4225	ppb	11.44	1000.	
107 Ag	0.0019	0.0004	ppb	534.45	100.	
109 Ag	-0.0287	-0.0057	ppb	189.41	#VALUE!	
111 Cd	0.3143	0.0629	ppb	37.53	#VALUE!	
114 Cd	0.045	0.009	ppb	41.17	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	0.984	0.1968	ppb	6.06	1000.	
120 Sn	0.949	0.1898	ppb	4.79	#VALUE!	
121 Sb	0.4656	0.0931	ppb	6.05	#VALUE!	
123 Sb	0.5635	0.1127	ppb	14.60	1000.	
135 Ba	10.69	2.138	ppb	2.67	2000.	
137 Ba	10.96	2.192	ppb	3.13	#VALUE!	
182 W	0.1192	0.0238	ppb	12.25	1000.	
203 Tl	0.0048	0.001	ppb	110.29	1000.	
205 Tl	0.008	0.0016	ppb	86.74	#VALUE!	
208 Pb	2.422	0.4844	ppb	0.81	2000.	
232 Th	0.0491	0.0098	ppb	1.08	1000.	
238 U	0.338	0.0676	ppb	0.56	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3083529.00	1.48	3265850.30	94.4	69.5 - 120	
45 Sc	2616686.00	1.38	2838923.30	92.2	69.5 - 120	
89 Y	3649797.00	1.59	3800319.50	96.0	69.5 - 120	
159 Tb	4411086.50	2.04	4315329.00	102.2	69.5 - 120	
209 Bi	2324184.30	0.98	2294196.80	101.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\076SMPL.D\076SMPL.D#
 Date Acquired: Dec 28 2017 07:38 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-005
 Misc Info:
 Vial Number: 2402
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0156	0.0031	ppb	70.18	100.	
11 B	118.1	23.62	ppb	2.61	1000.	
23 Na	221,950.	44,390.	ppb	1.69	200000.	
25 Mg	27,550.	5,510.	ppb	2.51	200000.	
27 Al	223.	44.6	ppb	3.17	200000.	
28 Si	10,985.	2,197.	ppb	1.64	#VALUE!	
29 Si	10,295.	2,059.	ppb	0.42	10000.	
39 K	15,845.	3,169.	ppb	2.51	200000.	
43 Ca	110,050.	22,010.	ppb	2.39	#VALUE!	
44 Ca	105,950.	21,190.	ppb	1.00	200000.	
51 V	0.585	0.117	ppb	61.82	1000.	
52 Cr	0.7675	0.1535	ppb	22.38	2000.	
53 Cr	16.23	3.246	ppb	13.08	#VALUE!	
55 Mn	2,331.5	466.3	ppb	2.66	2000.	
56 Fe	2,890.	578.	ppb	3.23	#VALUE!	
57 Fe	3,030.	606.	ppb	0.97	100000.	
59 Co	3.3465	0.6693	ppb	6.57	1000.	
60 Ni	4.295	0.859	ppb	3.80	1000.	
63 Cu	7.965	1.593	ppb	3.50	#VALUE!	
65 Cu	1.54	0.308	ppb	5.67	2000.	
66 Zn	3.2115	0.6423	ppb	6.36	2000.	
68 Zn	8.95	1.79	ppb	11.17	#VALUE!	
75 As	0.208	0.0416	ppb	582.59	1000.	
82 Se	-0.8975	-0.1795	ppb	152.03	1000.	
88 Sr	664.	132.8	ppb	1.77	2000.	
98 Mo	19.19	3.838	ppb	1.06	1000.	
107 Ag	-0.0362	-0.0072	ppb	20.34	100.	
109 Ag	0.0006	0.0001	ppb	6898.60	#VALUE!	
111 Cd	0.3034	0.0607	ppb	35.97	#VALUE!	
114 Cd	0.	0.	ppb	496550.00	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	0.9635	0.1927	ppb	11.65	1000.	
120 Sn	0.979	0.1958	ppb	6.51	#VALUE!	
121 Sb	0.2643	0.0529	ppb	11.26	#VALUE!	
123 Sb	0.2899	0.058	ppb	23.75	1000.	
135 Ba	140.35	28.07	ppb	3.65	2000.	
137 Ba	140.4	28.08	ppb	1.89	#VALUE!	
182 W	0.4434	0.0887	ppb	24.92	1000.	
203 Tl	-0.0065	-0.0013	ppb	33.95	1000.	
205 Tl	0.0126	0.0025	ppb	58.48	#VALUE!	
208 Pb	0.5175	0.1035	ppb	5.55	2000.	
232 Th	0.2351	0.047	ppb	2.42	1000.	
238 U	35.845	7.169	ppb	2.14	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3023440.80	0.88	3265850.30	92.6	69.5 - 120	
45 Sc	2514622.30	0.54	2838923.30	88.6	69.5 - 120	
89 Y	3582415.80	1.82	3800319.50	94.3	69.5 - 120	
159 Tb	4338443.50	2.21	4315329.00	100.5	69.5 - 120	
209 Bi	2245093.00	2.17	2294196.80	97.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\077SMPL.D\077SMPL.D#
 Date Acquired: Dec 28 2017 07:42 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-006
 Misc Info:
 Vial Number: 2403
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0315	0.0063	ppb	23.24	100.	
11 B	136.7	27.34	ppb	6.17	1000.	
23 Na	265,850.	53,170.	ppb	1.58	200000.	
25 Mg	29,615.	5,923.	ppb	0.85	200000.	
27 Al	50.8	10.16	ppb	0.74	200000.	
28 Si	10,125.	2,025.	ppb	3.44	#VALUE!	
29 Si	9,195.	1,839.	ppb	2.85	10000.	
39 K	18,510.	3,702.	ppb	2.54	200000.	
43 Ca	120,450.	24,090.	ppb	0.47	#VALUE!	
44 Ca	115,300.	23,060.	ppb	0.84	200000.	
51 V	0.2521	0.0504	ppb	109.26	1000.	
52 Cr	0.4643	0.0929	ppb	38.38	2000.	
53 Cr	12.6	2.52	ppb	17.60	#VALUE!	
55 Mn	2,555.	511.	ppb	1.97	2000.	
56 Fe	1,991.5	398.3	ppb	2.20	#VALUE!	
57 Fe	2,133.5	426.7	ppb	1.31	100000.	
59 Co	2.6815	0.5363	ppb	4.77	1000.	
60 Ni	3.3475	0.6695	ppb	1.99	1000.	
63 Cu	9.105	1.821	ppb	4.29	#VALUE!	
65 Cu	1.1645	0.2329	ppb	4.44	2000.	
66 Zn	2.582	0.5164	ppb	5.34	2000.	
68 Zn	9.405	1.881	ppb	11.22	#VALUE!	
75 As	0.7675	0.1535	ppb	78.37	1000.	
82 Se	-0.1545	-0.0309	ppb	263.09	1000.	
88 Sr	714.5	142.9	ppb	1.28	2000.	
98 Mo	22.24	4.448	ppb	1.10	1000.	
107 Ag	0.0036	0.0007	ppb	1058.70	100.	
109 Ag	0.0327	0.0065	ppb	131.96	#VALUE!	
111 Cd	0.2953	0.0591	ppb	24.67	#VALUE!	
114 Cd	0.0024	0.0005	ppb	705.80	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.0905	0.2181	ppb	5.39	1000.	
120 Sn	1.0195	0.2039	ppb	7.31	#VALUE!	
121 Sb	0.2649	0.053	ppb	3.02	#VALUE!	
123 Sb	0.3106	0.0621	ppb	7.28	1000.	
135 Ba	157.15	31.43	ppb	0.41	2000.	
137 Ba	159.1	31.82	ppb	1.77	#VALUE!	
182 W	0.4049	0.081	ppb	19.30	1000.	
203 Tl	0.0189	0.0038	ppb	65.05	1000.	
205 Tl	0.0034	0.0007	ppb	159.36	#VALUE!	
208 Pb	0.2663	0.0533	ppb	9.91	2000.	
232 Th	0.0599	0.012	ppb	20.15	1000.	
238 U	44.2	8.84	ppb	0.52	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2926479.50	2.55	3265850.30	89.6	69.5 - 120	
45 Sc	2491060.50	0.55	2838923.30	87.7	69.5 - 120	
89 Y	3550369.50	0.73	3800319.50	93.4	69.5 - 120	
159 Tb	4370215.50	0.54	4315329.00	101.3	69.5 - 120	
209 Bi	2246531.00	1.28	2294196.80	97.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\081SMPL.D\081SMPL.D#
 Date Acquired: Dec 28 2017 07:59 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-007
 Misc Info:
 Vial Number: 2405
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0431	0.0086	ppb	47.65	100.	
11 B	14.085	2.817	ppb	6.87	1000.	
23 Na	19,450.	3,890.	ppb	0.93	200000.	
25 Mg	3,100.	620.	ppb	1.05	200000.	
27 Al	97.35	19.47	ppb	2.33	200000.	
28 Si	16,285.	3,257.	ppb	4.29	#VALUE!	
29 Si	15,470.	3,094.	ppb	1.16	10000.	
39 K	2,143.5	428.7	ppb	1.45	200000.	
43 Ca	10,850.	2,170.	ppb	0.05	#VALUE!	
44 Ca	10,540.	2,108.	ppb	0.49	200000.	
51 V	-0.3504	-0.0701	ppb	87.91	1000.	
52 Cr	0.5145	0.1029	ppb	25.76	2000.	
53 Cr	12.39	2.478	ppb	5.99	#VALUE!	
55 Mn	502.5	100.5	ppb	1.81	2000.	
56 Fe	11,475.	2,295.	ppb	1.07	#VALUE!	
57 Fe	11,320.	2,264.	ppb	0.68	100000.	
59 Co	8.225	1.645	ppb	1.37	1000.	
60 Ni	6.525	1.305	ppb	7.67	1000.	
63 Cu	1.296	0.2592	ppb	11.25	#VALUE!	
65 Cu	1.0085	0.2017	ppb	13.30	2000.	
66 Zn	12.2	2.44	ppb	3.59	2000.	
68 Zn	11.595	2.319	ppb	2.18	#VALUE!	
75 As	2.588	0.5176	ppb	49.21	1000.	
82 Se	-0.4235	-0.0847	ppb	319.05	1000.	
88 Sr	78.6	15.72	ppb	0.45	2000.	
98 Mo	0.5845	0.1169	ppb	8.21	1000.	
107 Ag	-0.0402	-0.008	ppb	144.88	100.	
109 Ag	-0.0018	-0.0004	ppb	1534.70	#VALUE!	
111 Cd	0.2019	0.0404	ppb	133.81	#VALUE!	
114 Cd	0.0102	0.002	ppb	120.53	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.1435	0.2287	ppb	5.21	1000.	
120 Sn	1.066	0.2132	ppb	12.68	#VALUE!	
121 Sb	0.022	0.0044	ppb	88.56	#VALUE!	
123 Sb	0.0406	0.0081	ppb	38.42	1000.	
135 Ba	14.275	2.855	ppb	3.40	2000.	
137 Ba	14.47	2.894	ppb	3.41	#VALUE!	
182 W	0.5005	0.1001	ppb	5.69	1000.	
203 Tl	-0.0123	-0.0025	ppb	80.74	1000.	
205 Tl	0.007	0.0014	ppb	101.85	#VALUE!	
208 Pb	0.1496	0.0299	ppb	3.34	2000.	
232 Th	0.2435	0.0487	ppb	11.79	1000.	
238 U	0.0261	0.0052	ppb	19.62	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3040196.50	0.97	3265850.30	93.1	69.5 - 120	
45 Sc	2490588.50	2.23	2838923.30	87.7	69.5 - 120	
89 Y	3560963.80	1.37	3800319.50	93.7	69.5 - 120	
159 Tb	4354458.50	1.42	4315329.00	100.9	69.5 - 120	
209 Bi	2329438.80	0.86	2294196.80	101.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL28A.B\082SMPL.D\082SMPL.D#
 Date Acquired: Dec 28 2017 08:03 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-008
 Misc Info:
 Vial Number: 2406
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 28 2017 04:01 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0068	0.0014	ppb	123.56	100.	
11 B	15.61	3.122	ppb	2.61	1000.	
23 Na	20,780.	4,156.	ppb	0.93	200000.	
25 Mg	3,335.	667.	ppb	1.90	200000.	
27 Al	6.835	1.367	ppb	2.71	200000.	
28 Si	14,735.	2,947.	ppb	3.50	#VALUE!	
29 Si	20,325.	4,065.	ppb	1.59	10000.	
39 K	2,195.5	439.1	ppb	2.04	200000.	
43 Ca	11,495.	2,299.	ppb	5.08	#VALUE!	
44 Ca	11,395.	2,279.	ppb	2.50	200000.	
51 V	-0.124	-0.0248	ppb	22.49	1000.	
52 Cr	0.8035	0.1607	ppb	7.44	2000.	
53 Cr	27.905	5.581	ppb	10.52	#VALUE!	
55 Mn	589.	117.8	ppb	0.17	2000.	
56 Fe	12,270.	2,454.	ppb	0.38	#VALUE!	
57 Fe	12,135.	2,427.	ppb	0.44	100000.	
59 Co	9.32	1.864	ppb	1.11	1000.	
60 Ni	7.465	1.493	ppb	3.25	1000.	
63 Cu	1.1995	0.2399	ppb	7.72	#VALUE!	
65 Cu	0.8995	0.1799	ppb	10.31	2000.	
66 Zn	9.86	1.972	ppb	5.91	2000.	
68 Zn	8.105	1.621	ppb	15.98	#VALUE!	
75 As	3.1105	0.6221	ppb	49.29	1000.	
82 Se	-1.7375	-0.3475	ppb	57.04	1000.	
88 Sr	84.9	16.98	ppb	0.75	2000.	
98 Mo	0.569	0.1138	ppb	15.58	1000.	
107 Ag	-0.0147	-0.0029	ppb	235.66	100.	
109 Ag	0.0229	0.0046	ppb	254.04	#VALUE!	
111 Cd	0.616	0.1232	ppb	10.99	#VALUE!	
114 Cd	0.0102	0.002	ppb	157.19	1000.	
115 In	----	-----	--- ---		#VALUE!	
118 Sn	1.07	0.214	ppb	7.20	1000.	
120 Sn	1.05	0.21	ppb	11.36	#VALUE!	
121 Sb	0.0303	0.0061	ppb	53.32	#VALUE!	
123 Sb	0.0361	0.0072	ppb	84.60	1000.	
135 Ba	14.855	2.971	ppb	3.61	2000.	
137 Ba	14.98	2.996	ppb	6.75	#VALUE!	
182 W	0.518	0.1036	ppb	7.41	1000.	
203 Tl	-0.0292	-0.0058	ppb	41.14	1000.	
205 Tl	-0.0027	-0.0005	ppb	268.99	#VALUE!	
208 Pb	-0.0298	-0.006	ppb	70.72	2000.	
232 Th	0.0348	0.007	ppb	22.61	1000.	
238 U	0.0019	0.0004	ppb	299.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3450644.50	2.62	3265850.30	105.7	69.5 - 120	
45 Sc	2804481.00	3.22	2838923.30	98.8	69.5 - 120	
89 Y	3786925.00	2.34	3800319.50	99.6	69.5 - 120	
159 Tb	4407477.50	2.23	4315329.00	102.1	69.5 - 120	
209 Bi	2342642.00	2.58	2294196.80	102.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL28A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\045SMPL.D\045SMPL.D#
 Date Acquired: Dec 29 2017 05:29 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-001
 Misc Info:
 Vial Number: 2111
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0149	0.003	ppb	112.65	100.	
11 B	20.34	4.068	ppb	2.47	1000.	
23 Na	19,270.	3,854.	ppb	3.17	200000.	
25 Mg	3,022.5	604.5	ppb	2.03	200000.	
27 Al	97.85	19.57	ppb	7.95	200000.	
28 Si	11,520.	2,304.	ppb	2.91	#VALUE!	
29 Si	11,485.	2,297.	ppb	1.76	10000.	
39 K	1,988.	397.6	ppb	1.53	200000.	
43 Ca	10,205.	2,041.	ppb	3.45	#VALUE!	
44 Ca	9,995.	1,999.	ppb	0.91	200000.	
51 V	0.436	0.0872	ppb	105.91	1000.	
52 Cr	0.988	0.1976	ppb	2.57	2000.	
53 Cr	19.665	3.933	ppb	10.06	#VALUE!	
55 Mn	502.	100.4	ppb	2.21	2000.	
56 Fe	11,520.	2,304.	ppb	1.69	#VALUE!	
57 Fe	11,335.	2,267.	ppb	1.19	100000.	
59 Co	7.955	1.591	ppb	0.77	1000.	
60 Ni	6.465	1.293	ppb	1.30	1000.	
63 Cu	1.8205	0.3641	ppb	16.75	#VALUE!	
65 Cu	1.232	0.2464	ppb	24.11	2000.	
66 Zn	10.815	2.163	ppb	5.85	2000.	
68 Zn	10.66	2.132	ppb	0.82	#VALUE!	
75 As	4.7865	0.9573	ppb	10.22	1000.	
82 Se	0.911	0.1822	ppb	93.41	1000.	
88 Sr	75.5	15.1	ppb	2.65	2000.	
98 Mo	0.503	0.1006	ppb	12.69	1000.	
107 Ag	0.0052	0.001	ppb	294.33	100.	
109 Ag	0.0408	0.0082	ppb	43.53	#VALUE!	
111 Cd	-0.4345	-0.0869	ppb	20.12	#VALUE!	
114 Cd	0.0145	0.0029	ppb	152.36	1000.	
115 In	----	-----	--- ---		#VALUE!	
118 Sn	1.0225	0.2045	ppb	10.93	1000.	
120 Sn	0.9965	0.1993	ppb	6.56	#VALUE!	
121 Sb	0.0494	0.0099	ppb	73.48	#VALUE!	
123 Sb	0.0731	0.0146	ppb	26.00	1000.	
135 Ba	13.975	2.795	ppb	5.12	2000.	
137 Ba	13.75	2.75	ppb	6.17	#VALUE!	
182 W	0.5395	0.1079	ppb	6.32	1000.	
203 Tl	-0.0271	-0.0054	ppb	43.37	1000.	
205 Tl	-0.0012	-0.0002	ppb	675.61	#VALUE!	
208 Pb	0.1557	0.0311	ppb	20.32	2000.	
232 Th	0.2545	0.0509	ppb	13.42	1000.	
238 U	0.0199	0.004	ppb	27.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3402013.50	1.92	3534032.00	96.3	69.5 - 120	
45 Sc	2351195.00	0.97	2524348.00	93.1	69.5 - 120	
89 Y	3153099.80	0.99	3309016.30	95.3	69.5 - 120	
159 Tb	4072125.00	0.59	4075930.00	99.9	69.5 - 120	
209 Bi	2167837.80	0.91	2155365.00	100.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\046SMPL.D\046SMPL.D#
 Date Acquired: Dec 29 2017 05:33 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-001L
 Misc Info:
 Vial Number: 2112
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 25.00
 Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0184	0.0007	ppb	39.44	100.	
11 B	38.725	1.549	ppb	8.54	1000.	
23 Na	19,705.	788.2	ppb	4.53	200000.	
25 Mg	3,035.	121.4	ppb	4.84	200000.	
27 Al	110.775	4.431	ppb	6.17	200000.	
28 Si	9,230.	369.2	ppb	0.98	#VALUE!	
29 Si	7,830.	313.2	ppb	10.48	10000.	
39 K	1,913.5	76.54	ppb	6.40	200000.	
43 Ca	9,752.5	390.1	ppb	1.95	#VALUE!	
44 Ca	10,080.	403.2	ppb	4.00	200000.	
51 V	0.576	0.023	ppb	88.15	1000.	
52 Cr	0.3738	0.015	ppb	131.30	2000.	
53 Cr	17.2975	0.6919	ppb	65.36	#VALUE!	
55 Mn	515.5	20.62	ppb	3.20	2000.	
56 Fe	11,612.5	464.5	ppb	3.52	#VALUE!	
57 Fe	11,627.5	465.1	ppb	3.72	100000.	
59 Co	8.27	0.3308	ppb	6.81	1000.	
60 Ni	6.4625	0.2585	ppb	8.49	1000.	
63 Cu	-1.1328	-0.0453	ppb	63.92	#VALUE!	
65 Cu	-1.977	-0.0791	ppb	42.89	2000.	
66 Zn	12.06	0.4824	ppb	12.32	2000.	
68 Zn	7.13	0.2852	ppb	16.36	#VALUE!	
75 As	6.6275	0.2651	ppb	96.00	1000.	
82 Se	0.0666	0.0027	ppb	12709.00	1000.	
88 Sr	76.225	3.049	ppb	2.14	2000.	
98 Mo	0.4198	0.0168	ppb	18.85	1000.	
107 Ag	0.1421	0.0057	ppb	113.16	100.	
109 Ag	0.0986	0.0039	ppb	237.39	#VALUE!	
111 Cd	-0.992	-0.0397	ppb	67.44	#VALUE!	
114 Cd	0.0103	0.0004	ppb	1539.90	1000.	
115 In	----	-----	---	---	#VALUE!	
118 Sn	0.4643	0.0186	ppb	60.64	1000.	
120 Sn	0.4918	0.0197	ppb	17.65	#VALUE!	
121 Sb	0.0286	0.0011	ppb	284.76	#VALUE!	
123 Sb	0.1006	0.004	ppb	18.04	1000.	
135 Ba	14.48	0.5792	ppb	4.65	2000.	
137 Ba	14.1325	0.5653	ppb	5.21	#VALUE!	
182 W	0.5855	0.0234	ppb	15.01	1000.	
203 Tl	0.0024	0.0001	ppb	1056.00	1000.	
205 Tl	-0.0591	-0.0024	ppb	126.16	#VALUE!	
208 Pb	0.0928	0.0037	ppb	89.46	2000.	
232 Th	0.2122	0.0085	ppb	5.71	1000.	
238 U	0.0357	0.0014	ppb	58.39	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3752139.50	2.41	3534032.00	106.2	69.5 - 120	
45 Sc	2642627.30	2.84	2524348.00	104.7	69.5 - 120	
89 Y	3395134.30	1.81	3309016.30	102.6	69.5 - 120	
159 Tb	4146012.00	0.86	4075930.00	101.7	69.5 - 120	
209 Bi	2141501.50	1.01	2155365.00	99.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\047SMPL.D\047SMPL.D#
 Date Acquired: Dec 29 2017 05:37 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-001A
 Misc Info:
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.765	2.153	ppb	3.47	100.	
11 B	232.75	46.55	ppb	4.08	1000.	
23 Na	28,335.	5,667.	ppb	2.02	200000.	
25 Mg	3,884.5	776.9	ppb	2.23	200000.	
27 Al	1,136.	227.2	ppb	2.01	200000.	
28 Si	15,935.	3,187.	ppb	2.28	#VALUE!	
29 Si	19,550.	3,910.	ppb	0.87	10000.	
39 K	12,160.	2,432.	ppb	1.67	200000.	
43 Ca	10,645.	2,129.	ppb	0.83	#VALUE!	
44 Ca	10,615.	2,123.	ppb	1.02	200000.	
51 V	49.	9.8	ppb	2.20	1000.	
52 Cr	50.3	10.06	ppb	1.21	2000.	
53 Cr	71.2	14.24	ppb	1.24	#VALUE!	
55 Mn	511.5	102.3	ppb	1.64	2000.	
56 Fe	12,325.	2,465.	ppb	2.61	#VALUE!	
57 Fe	12,120.	2,424.	ppb	3.42	100000.	
59 Co	18.39	3.678	ppb	2.10	1000.	
60 Ni	26.77	5.354	ppb	2.87	1000.	
63 Cu	33.385	6.677	ppb	2.68	#VALUE!	
65 Cu	32.25	6.45	ppb	4.55	2000.	
66 Zn	111.45	22.29	ppb	1.90	2000.	
68 Zn	109.15	21.83	ppb	4.39	#VALUE!	
75 As	52.95	10.59	ppb	3.89	1000.	
82 Se	49.075	9.815	ppb	0.80	1000.	
88 Sr	123.85	24.77	ppb	1.79	2000.	
98 Mo	51.75	10.35	ppb	0.84	1000.	
107 Ag	11.085	2.217	ppb	3.12	100.	
109 Ag	11.015	2.203	ppb	0.53	#VALUE!	
111 Cd	10.54	2.108	ppb	5.26	#VALUE!	
114 Cd	10.715	2.143	ppb	0.49	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	52.15	10.43	ppb	1.35	1000.	
120 Sn	52.25	10.45	ppb	1.70	#VALUE!	
121 Sb	10.095	2.019	ppb	3.62	#VALUE!	
123 Sb	10.57	2.114	ppb	5.24	1000.	
135 Ba	33.88	6.776	ppb	0.90	2000.	
137 Ba	32.91	6.582	ppb	5.68	#VALUE!	
182 W	51.85	10.37	ppb	2.35	1000.	
203 Tl	10.025	2.005	ppb	2.85	1000.	
205 Tl	10.025	2.005	ppb	1.48	#VALUE!	
208 Pb	10.83	2.166	ppb	0.18	2000.	
232 Th	10.34	2.068	ppb	0.52	1000.	
238 U	9.66	1.932	ppb	0.95	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3413634.50	3.01	3534032.00	96.6	69.5 - 120	
45 Sc	2387211.00	0.80	2524348.00	94.6	69.5 - 120	
89 Y	3153810.50	2.36	3309016.30	95.3	69.5 - 120	
159 Tb	4090722.80	0.53	4075930.00	100.4	69.5 - 120	
209 Bi	2166201.00	0.42	2155365.00	100.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\048SMPL.D\048SMPL.D#
 Date Acquired: Dec 29 2017 05:41 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-001S
 Misc Info:
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.78	9.956	ppb	1.52	100.	
11 B	542.5	108.5	ppb	3.09	1000.	
23 Na	27,600.	5,520.	ppb	1.51	200000.	
25 Mg	8,725.	1,745.	ppb	1.40	200000.	
27 Al	2,322.	464.4	ppb	0.13	200000.	
28 Si	13,115.	2,623.	ppb	0.93	#VALUE!	
29 Si	12,845.	2,569.	ppb	1.74	10000.	
39 K	12,865.	2,573.	ppb	0.75	200000.	
43 Ca	13,300.	2,660.	ppb	1.79	#VALUE!	
44 Ca	12,930.	2,586.	ppb	0.66	200000.	
51 V	522.5	104.5	ppb	2.41	1000.	
52 Cr	206.8	41.36	ppb	2.18	2000.	
53 Cr	227.75	45.55	ppb	1.45	#VALUE!	
55 Mn	1,033.5	206.7	ppb	1.31	2000.	
56 Fe	13,075.	2,615.	ppb	2.33	#VALUE!	
57 Fe	12,685.	2,537.	ppb	1.54	100000.	
59 Co	537.5	107.5	ppb	1.38	1000.	
60 Ni	533.5	106.7	ppb	1.30	1000.	
63 Cu	264.	52.8	ppb	2.95	#VALUE!	
65 Cu	264.3	52.86	ppb	2.05	2000.	
66 Zn	524.	104.8	ppb	1.78	2000.	
68 Zn	596.	119.2	ppb	2.57	#VALUE!	
75 As	104.35	20.87	ppb	2.82	1000.	
82 Se	102.05	20.41	ppb	2.57	1000.	
88 Sr	601.5	120.3	ppb	1.53	2000.	
98 Mo	105.3	21.06	ppb	1.80	1000.	
107 Ag	53.55	10.71	ppb	1.95	100.	
109 Ag	53.6	10.72	ppb	1.18	#VALUE!	
111 Cd	266.	53.2	ppb	1.61	#VALUE!	
114 Cd	265.5	53.1	ppb	2.01	1000.	
115 In	----	-----	--- ---		#VALUE!	
118 Sn	521.5	104.3	ppb	1.21	1000.	
120 Sn	520.5	104.1	ppb	1.11	#VALUE!	
121 Sb	102.	20.4	ppb	1.25	#VALUE!	
123 Sb	102.35	20.47	ppb	1.06	1000.	
135 Ba	2,085.	417.	ppb	1.10	2000.	
137 Ba	2,052.5	410.5	ppb	1.12	#VALUE!	
182 W	105.3	21.06	ppb	1.49	1000.	
203 Tl	104.15	20.83	ppb	0.86	1000.	
205 Tl	104.45	20.89	ppb	1.47	#VALUE!	
208 Pb	105.8	21.16	ppb	1.24	2000.	
232 Th	81.2	16.24	ppb	0.74	1000.	
238 U	101.2	20.24	ppb	0.98	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3463945.30	1.31	3534032.00	98.0	69.5 - 120	
45 Sc	2326505.50	1.32	2524348.00	92.2	69.5 - 120	
89 Y	3118829.80	2.08	3309016.30	94.3	69.5 - 120	
159 Tb	4030402.80	1.28	4075930.00	98.9	69.5 - 120	
209 Bi	2114701.80	1.14	2155365.00	98.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\049SMPL.D\049SMPL.D#
 Date Acquired: Dec 29 2017 05:44 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-001P
 Misc Info:
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.88	9.976	ppb	1.92	100.	
11 B	544.5	108.9	ppb	3.21	1000.	
23 Na	27,120.	5,424.	ppb	1.35	200000.	
25 Mg	8,760.	1,752.	ppb	2.65	200000.	
27 Al	2,223.	444.6	ppb	3.30	200000.	
28 Si	12,145.	2,429.	ppb	4.12	#VALUE!	
29 Si	12,070.	2,414.	ppb	2.63	10000.	
39 K	12,260.	2,452.	ppb	1.94	200000.	
43 Ca	12,785.	2,557.	ppb	3.27	#VALUE!	
44 Ca	12,475.	2,495.	ppb	2.62	200000.	
51 V	517.5	103.5	ppb	3.15	1000.	
52 Cr	203.5	40.7	ppb	2.98	2000.	
53 Cr	225.8	45.16	ppb	1.91	#VALUE!	
55 Mn	1,015.5	203.1	ppb	1.85	2000.	
56 Fe	12,610.	2,522.	ppb	2.35	#VALUE!	
57 Fe	12,310.	2,462.	ppb	2.25	100000.	
59 Co	525.	105.	ppb	2.95	1000.	
60 Ni	520.	104.	ppb	2.28	1000.	
63 Cu	256.65	51.33	ppb	2.53	#VALUE!	
65 Cu	259.2	51.84	ppb	2.00	2000.	
66 Zn	510.	102.	ppb	2.33	2000.	
68 Zn	585.5	117.1	ppb	3.80	#VALUE!	
75 As	103.1	20.62	ppb	5.67	1000.	
82 Se	97.6	19.52	ppb	5.10	1000.	
88 Sr	584.5	116.9	ppb	3.24	2000.	
98 Mo	99.1	19.82	ppb	3.57	1000.	
107 Ag	49.64	9.928	ppb	3.93	100.	
109 Ag	50.1	10.02	ppb	2.04	#VALUE!	
111 Cd	248.4	49.68	ppb	3.03	#VALUE!	
114 Cd	247.35	49.47	ppb	3.09	1000.	
115 In	----	-----	---		#VALUE!	
118 Sn	506.	101.2	ppb	2.05	1000.	
120 Sn	509.5	101.9	ppb	1.80	#VALUE!	
121 Sb	100.	20.	ppb	1.53	#VALUE!	
123 Sb	100.2	20.04	ppb	2.83	1000.	
135 Ba	2,021.5	404.3	ppb	1.90	2000.	
137 Ba	2,009.5	401.9	ppb	1.84	#VALUE!	
182 W	101.35	20.27	ppb	2.25	1000.	
203 Tl	99.9	19.98	ppb	2.11	1000.	
205 Tl	99.95	19.99	ppb	1.57	#VALUE!	
208 Pb	101.6	20.32	ppb	1.90	2000.	
232 Th	98.8	19.76	ppb	1.70	1000.	
238 U	97.3	19.46	ppb	0.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3676812.80	3.73	3534032.00	104.0	69.5 - 120	
45 Sc	2549013.50	3.71	2524348.00	101.0	69.5 - 120	
89 Y	3322391.50	3.53	3309016.30	100.4	69.5 - 120	
159 Tb	4137125.30	2.31	4075930.00	101.5	69.5 - 120	
209 Bi	2135446.30	1.30	2155365.00	99.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\050SMPL.D\050SMPL.D#
 Date Acquired: Dec 29 2017 05:48 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002
 Misc Info:
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0142	0.0028	ppb	28.17	100.	
11 B	33.895	6.779	ppb	6.64	1000.	
23 Na	20,365.	4,073.	ppb	3.92	200000.	
25 Mg	3,184.5	636.9	ppb	2.51	200000.	
27 Al	7.11	1.422	ppb	15.80	200000.	
28 Si	10,890.	2,178.	ppb	0.74	#VALUE!	
29 Si	12,125.	2,425.	ppb	15.45	10000.	
39 K	1,999.	399.8	ppb	3.32	200000.	
43 Ca	10,625.	2,125.	ppb	4.43	#VALUE!	
44 Ca	10,730.	2,146.	ppb	1.22	200000.	
51 V	0.629	0.1258	ppb	94.04	1000.	
52 Cr	0.886	0.1772	ppb	13.22	2000.	
53 Cr	28.86	5.772	ppb	4.05	#VALUE!	
55 Mn	574.5	114.9	ppb	0.98	2000.	
56 Fe	12,255.	2,451.	ppb	0.28	#VALUE!	
57 Fe	11,975.	2,395.	ppb	0.77	100000.	
59 Co	9.01	1.802	ppb	2.47	1000.	
60 Ni	6.955	1.391	ppb	2.06	1000.	
63 Cu	1.768	0.3536	ppb	3.55	#VALUE!	
65 Cu	1.1915	0.2383	ppb	10.11	2000.	
66 Zn	9.47	1.894	ppb	3.75	2000.	
68 Zn	9.425	1.885	ppb	7.61	#VALUE!	
75 As	4.627	0.9254	ppb	23.10	1000.	
82 Se	0.4642	0.0928	ppb	525.80	1000.	
88 Sr	79.95	15.99	ppb	0.68	2000.	
98 Mo	0.604	0.1208	ppb	7.93	1000.	
107 Ag	0.003	0.0006	ppb	942.01	100.	
109 Ag	0.0319	0.0064	ppb	93.31	#VALUE!	
111 Cd	-0.193	-0.0386	ppb	77.54	#VALUE!	
114 Cd	0.0144	0.0029	ppb	190.20	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	0.958	0.1916	ppb	8.46	1000.	
120 Sn	0.9065	0.1813	ppb	9.77	#VALUE!	
121 Sb	0.0514	0.0103	ppb	9.30	#VALUE!	
123 Sb	0.0861	0.0172	ppb	55.56	1000.	
135 Ba	14.37	2.874	ppb	1.20	2000.	
137 Ba	14.045	2.809	ppb	1.53	#VALUE!	
182 W	0.5555	0.1111	ppb	14.94	1000.	
203 Tl	0.0064	0.0013	ppb	92.14	1000.	
205 Tl	-0.0003	-0.0001	ppb	2602.70	#VALUE!	
208 Pb	0.0139	0.0028	ppb	97.58	2000.	
232 Th	0.1374	0.0275	ppb	40.98	1000.	
238 U	0.0044	0.0009	ppb	21.21	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3805227.50	1.24	3534032.00	107.7	69.5 - 120	
45 Sc	2684093.00	0.91	2524348.00	106.3	69.5 - 120	
89 Y	3385540.30	1.33	3309016.30	102.3	69.5 - 120	
159 Tb	4131509.50	0.10	4075930.00	101.4	69.5 - 120	
209 Bi	2138747.50	0.20	2155365.00	99.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\051SMPL.D\051SMPL.D#
 Date Acquired: Dec 29 2017 05:52 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002L
 Misc Info:
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 25.00
 Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0143	0.0006	ppb	557.75	100.	
11 B	65.525	2.621	ppb	14.31	1000.	
23 Na	20,705.	828.2	ppb	1.71	200000.	
25 Mg	3,210.	128.4	ppb	1.40	200000.	
27 Al	20.795	0.8318	ppb	6.77	200000.	
28 Si	16,555.	662.2	ppb	2.81	#VALUE!	
29 Si	11,965.	478.6	ppb	4.82	10000.	
39 K	2,210.5	88.42	ppb	3.31	200000.	
43 Ca	11,215.	448.6	ppb	6.83	#VALUE!	
44 Ca	11,030.	441.2	ppb	1.79	200000.	
51 V	-0.6475	-0.0259	ppb	256.87	1000.	
52 Cr	-0.865	-0.0346	ppb	35.72	2000.	
53 Cr	1.6998	0.068	ppb	472.28	#VALUE!	
55 Mn	557.5	22.3	ppb	0.60	2000.	
56 Fe	11,955.	478.2	ppb	3.65	#VALUE!	
57 Fe	11,880.	475.2	ppb	2.14	100000.	
59 Co	9.3675	0.3747	ppb	6.95	1000.	
60 Ni	7.1125	0.2845	ppb	3.18	1000.	
63 Cu	-3.485	-0.1394	ppb	11.86	#VALUE!	
65 Cu	-3.58	-0.1432	ppb	9.53	2000.	
66 Zn	11.1425	0.4457	ppb	14.83	2000.	
68 Zn	7.645	0.3058	ppb	59.81	#VALUE!	
75 As	7.035	0.2814	ppb	32.24	1000.	
82 Se	-0.8283	-0.0331	ppb	837.01	1000.	
88 Sr	81.6	3.264	ppb	1.89	2000.	
98 Mo	0.2403	0.0096	ppb	135.47	1000.	
107 Ag	0.2249	0.009	ppb	11.79	100.	
109 Ag	0.097	0.0039	ppb	78.35	#VALUE!	
111 Cd	-2.458	-0.0983	ppb	25.64	#VALUE!	
114 Cd	0.0208	0.0008	ppb	359.38	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.013	0.0405	ppb	30.75	1000.	
120 Sn	0.5625	0.0225	ppb	60.31	#VALUE!	
121 Sb	0.0525	0.0021	ppb	123.07	#VALUE!	
123 Sb	0.1838	0.0074	ppb	44.73	1000.	
135 Ba	14.3025	0.5721	ppb	1.41	2000.	
137 Ba	13.9325	0.5573	ppb	6.43	#VALUE!	
182 W	0.7713	0.0309	ppb	7.24	1000.	
203 Tl	0.0092	0.0004	ppb	1162.70	1000.	
205 Tl	0.0039	0.0002	ppb	1290.00	#VALUE!	
208 Pb	-0.2007	-0.008	ppb	10.55	2000.	
232 Th	0.0733	0.0029	ppb	68.66	1000.	
238 U	-0.0105	-0.0004	ppb	45.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3205859.30	1.68	3534032.00	90.7	69.5 - 120	
45 Sc	2244111.30	1.11	2524348.00	88.9	69.5 - 120	
89 Y	3066329.50	1.00	3309016.30	92.7	69.5 - 120	
159 Tb	3974566.30	0.98	4075930.00	97.5	69.5 - 120	
209 Bi	2105168.30	0.19	2155365.00	97.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\052SMPL.D\052SMPL.D#
 Date Acquired: Dec 29 2017 05:56 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002A
 Misc Info:
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.125	2.225	ppb	2.28	100.	
11 B	243.	48.6	ppb	3.10	1000.	
23 Na	31,460.	6,292.	ppb	1.59	200000.	
25 Mg	4,238.	847.6	ppb	2.21	200000.	
27 Al	1,133.5	226.7	ppb	2.68	200000.	
28 Si	17,410.	3,482.	ppb	4.23	#VALUE!	
29 Si	21,120.	4,224.	ppb	3.04	10000.	
39 K	13,290.	2,658.	ppb	1.24	200000.	
43 Ca	11,665.	2,333.	ppb	3.20	#VALUE!	
44 Ca	11,790.	2,358.	ppb	1.30	200000.	
51 V	52.75	10.55	ppb	0.52	1000.	
52 Cr	53.4	10.68	ppb	1.23	2000.	
53 Cr	74.95	14.99	ppb	5.31	#VALUE!	
55 Mn	572.	114.4	ppb	1.05	2000.	
56 Fe	12,885.	2,577.	ppb	0.52	#VALUE!	
57 Fe	12,710.	2,542.	ppb	0.46	100000.	
59 Co	20.355	4.071	ppb	1.29	1000.	
60 Ni	29.145	5.829	ppb	2.32	1000.	
63 Cu	34.38	6.876	ppb	1.19	#VALUE!	
65 Cu	33.635	6.727	ppb	2.88	2000.	
66 Zn	117.55	23.51	ppb	1.96	2000.	
68 Zn	113.5	22.7	ppb	0.39	#VALUE!	
75 As	57.7	11.54	ppb	1.85	1000.	
82 Se	53.5	10.7	ppb	3.70	1000.	
88 Sr	133.6	26.72	ppb	0.43	2000.	
98 Mo	54.65	10.93	ppb	2.05	1000.	
107 Ag	11.72	2.344	ppb	2.20	100.	
109 Ag	11.87	2.374	ppb	1.79	#VALUE!	
111 Cd	11.05	2.21	ppb	3.23	#VALUE!	
114 Cd	10.965	2.193	ppb	0.71	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	55.75	11.15	ppb	2.15	1000.	
120 Sn	55.05	11.01	ppb	0.58	#VALUE!	
121 Sb	10.63	2.126	ppb	2.54	#VALUE!	
123 Sb	10.44	2.088	ppb	5.20	1000.	
135 Ba	35.925	7.185	ppb	4.35	2000.	
137 Ba	35.455	7.091	ppb	2.22	#VALUE!	
182 W	54.65	10.93	ppb	1.82	1000.	
203 Tl	10.76	2.152	ppb	0.99	1000.	
205 Tl	10.925	2.185	ppb	2.24	#VALUE!	
208 Pb	11.135	2.227	ppb	0.67	2000.	
232 Th	10.945	2.189	ppb	1.63	1000.	
238 U	10.365	2.073	ppb	1.74	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3352251.50	0.51	3534032.00	94.9	69.5 - 120	
45 Sc	2296540.50	1.35	2524348.00	91.0	69.5 - 120	
89 Y	3079299.80	0.82	3309016.30	93.1	69.5 - 120	
159 Tb	4011916.30	0.51	4075930.00	98.4	69.5 - 120	
209 Bi	2117011.00	1.15	2155365.00	98.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\053SMPL.D\053SMPL.D#
 Date Acquired: Dec 29 2017 06:00 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002S
 Misc Info:
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	51.9	10.38	ppb	2.90	100.	
11 B	551.5	110.3	ppb	2.17	1000.	
23 Na	28,465.	5,693.	ppb	0.83	200000.	
25 Mg	8,975.	1,795.	ppb	0.61	200000.	
27 Al	2,210.5	442.1	ppb	0.46	200000.	
28 Si	13,295.	2,659.	ppb	2.08	#VALUE!	
29 Si	12,960.	2,592.	ppb	2.61	10000.	
39 K	12,860.	2,572.	ppb	1.01	200000.	
43 Ca	14,120.	2,824.	ppb	2.49	#VALUE!	
44 Ca	13,370.	2,674.	ppb	1.90	200000.	
51 V	532.5	106.5	ppb	1.28	1000.	
52 Cr	209.6	41.92	ppb	0.83	2000.	
53 Cr	231.35	46.27	ppb	3.76	#VALUE!	
55 Mn	1,086.	217.2	ppb	2.48	2000.	
56 Fe	13,055.	2,611.	ppb	1.90	#VALUE!	
57 Fe	12,650.	2,530.	ppb	2.64	100000.	
59 Co	543.5	108.7	ppb	1.43	1000.	
60 Ni	542.5	108.5	ppb	2.22	1000.	
63 Cu	267.85	53.57	ppb	1.83	#VALUE!	
65 Cu	269.9	53.98	ppb	1.92	2000.	
66 Zn	535.	107.	ppb	2.55	2000.	
68 Zn	605.	121.	ppb	0.72	#VALUE!	
75 As	109.45	21.89	ppb	1.58	1000.	
82 Se	104.4	20.88	ppb	2.01	1000.	
88 Sr	614.	122.8	ppb	1.49	2000.	
98 Mo	107.05	21.41	ppb	1.43	1000.	
107 Ag	54.6	10.92	ppb	1.34	100.	
109 Ag	54.65	10.93	ppb	0.63	#VALUE!	
111 Cd	271.3	54.26	ppb	1.31	#VALUE!	
114 Cd	269.9	53.98	ppb	1.31	1000.	
115 In	----	-----	--- ---		#VALUE!	
118 Sn	529.	105.8	ppb	1.75	1000.	
120 Sn	527.5	105.5	ppb	1.53	#VALUE!	
121 Sb	103.2	20.64	ppb	1.24	#VALUE!	
123 Sb	104.75	20.95	ppb	2.89	1000.	
135 Ba	2,115.5	423.1	ppb	1.53	2000.	
137 Ba	2,093.	418.6	ppb	1.47	#VALUE!	
182 W	107.25	21.45	ppb	2.12	1000.	
203 Tl	104.75	20.95	ppb	2.27	1000.	
205 Tl	106.1	21.22	ppb	2.49	#VALUE!	
208 Pb	107.6	21.52	ppb	2.52	2000.	
232 Th	105.2	21.04	ppb	1.95	1000.	
238 U	102.6	20.52	ppb	2.69	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3327154.30	2.04	3534032.00	94.1	69.5 - 120	
45 Sc	2298938.00	1.43	2524348.00	91.1	69.5 - 120	
89 Y	3090079.30	1.50	3309016.30	93.4	69.5 - 120	
159 Tb	3990352.00	1.43	4075930.00	97.9	69.5 - 120	
209 Bi	2094689.80	2.16	2155365.00	97.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\057SMPL.D\057SMPL.D#
 Date Acquired: Dec 29 2017 06:16 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-002P
 Misc Info:
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	52.95	10.59	ppb	1.54	100.	
11 B	576.	115.2	ppb	5.95	1000.	
23 Na	28,735.	5,747.	ppb	2.63	200000.	
25 Mg	9,330.	1,866.	ppb	0.65	200000.	
27 Al	2,292.	458.4	ppb	1.61	200000.	
28 Si	12,455.	2,491.	ppb	2.30	#VALUE!	
29 Si	15,765.	3,153.	ppb	6.71	10000.	
39 K	13,025.	2,605.	ppb	2.19	200000.	
43 Ca	13,790.	2,758.	ppb	2.51	#VALUE!	
44 Ca	13,590.	2,718.	ppb	0.94	200000.	
51 V	573.5	114.7	ppb	1.42	1000.	
52 Cr	221.	44.2	ppb	2.11	2000.	
53 Cr	248.4	49.68	ppb	2.43	#VALUE!	
55 Mn	1,123.5	224.7	ppb	0.78	2000.	
56 Fe	13,460.	2,692.	ppb	2.34	#VALUE!	
57 Fe	13,100.	2,620.	ppb	1.69	100000.	
59 Co	575.5	115.1	ppb	0.47	1000.	
60 Ni	564.5	112.9	ppb	0.86	1000.	
63 Cu	276.8	55.36	ppb	1.67	#VALUE!	
65 Cu	278.95	55.79	ppb	1.51	2000.	
66 Zn	546.	109.2	ppb	0.81	2000.	
68 Zn	631.5	126.3	ppb	0.98	#VALUE!	
75 As	113.2	22.64	ppb	2.43	1000.	
82 Se	105.85	21.17	ppb	0.58	1000.	
88 Sr	622.	124.4	ppb	0.83	2000.	
98 Mo	105.95	21.19	ppb	1.63	1000.	
107 Ag	53.	10.6	ppb	0.77	100.	
109 Ag	53.35	10.67	ppb	1.44	#VALUE!	
111 Cd	264.5	52.9	ppb	1.72	#VALUE!	
114 Cd	262.55	52.51	ppb	1.36	1000.	
115 In	----	-----	---		#VALUE!	
118 Sn	544.5	108.9	ppb	0.34	1000.	
120 Sn	546.	109.2	ppb	0.20	#VALUE!	
121 Sb	107.65	21.53	ppb	0.42	#VALUE!	
123 Sb	107.85	21.57	ppb	0.23	1000.	
135 Ba	2,191.	438.2	ppb	0.84	2000.	
137 Ba	2,170.	434.	ppb	0.46	#VALUE!	
182 W	105.9	21.18	ppb	1.25	1000.	
203 Tl	106.35	21.27	ppb	1.08	1000.	
205 Tl	107.25	21.45	ppb	0.77	#VALUE!	
208 Pb	108.25	21.65	ppb	0.75	2000.	
232 Th	82.2	16.44	ppb	0.57	1000.	
238 U	102.45	20.49	ppb	0.77	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3790660.00	2.57	3534032.00	107.3	69.5 - 120	
45 Sc	2624255.30	1.68	2524348.00	104.0	69.5 - 120	
89 Y	3341079.80	2.11	3309016.30	101.0	69.5 - 120	
159 Tb	4102089.50	1.40	4075930.00	100.6	69.5 - 120	
209 Bi	2095264.10	0.91	2155365.00	97.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\058SMPL.D\058SMPL.D#
 Date Acquired: Dec 29 2017 06:20 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-003
 Misc Info:
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0114	0.0023	ppb	190.41	100.	
11 B	85.95	17.19	ppb	0.45	1000.	
23 Na	89,700.	17,940.	ppb	1.14	200000.	
25 Mg	17,780.	3,556.	ppb	2.04	200000.	
27 Al	136.45	27.29	ppb	2.72	200000.	
28 Si	5,095.	1,019.	ppb	12.79	#VALUE!	
29 Si	4,611.	922.2	ppb	4.89	10000.	
39 K	9,640.	1,928.	ppb	0.42	200000.	
43 Ca	37,780.	7,556.	ppb	2.60	#VALUE!	
44 Ca	37,945.	7,589.	ppb	0.37	200000.	
51 V	0.521	0.1042	ppb	21.66	1000.	
52 Cr	1.8095	0.3619	ppb	8.82	2000.	
53 Cr	23.975	4.795	ppb	12.80	#VALUE!	
55 Mn	36.505	7.301	ppb	4.42	2000.	
56 Fe	239.95	47.99	ppb	5.30	#VALUE!	
57 Fe	288.15	57.63	ppb	11.85	100000.	
59 Co	0.8355	0.1671	ppb	8.85	1000.	
60 Ni	1.273	0.2546	ppb	6.25	1000.	
63 Cu	5.54	1.108	ppb	4.05	#VALUE!	
65 Cu	2.836	0.5672	ppb	10.75	2000.	
66 Zn	2.52	0.504	ppb	17.68	2000.	
68 Zn	1.6175	0.3235	ppb	57.96	#VALUE!	
75 As	1.3715	0.2743	ppb	88.33	1000.	
82 Se	1.1225	0.2245	ppb	31.25	1000.	
88 Sr	210.55	42.11	ppb	1.59	2000.	
98 Mo	2.0625	0.4125	ppb	5.36	1000.	
107 Ag	0.0012	0.0002	ppb	1748.80	100.	
109 Ag	0.0652	0.013	ppb	20.74	#VALUE!	
111 Cd	-0.2131	-0.0426	ppb	67.40	#VALUE!	
114 Cd	0.0306	0.0061	ppb	35.81	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.4325	0.2865	ppb	6.08	1000.	
120 Sn	1.417	0.2834	ppb	9.01	#VALUE!	
121 Sb	0.524	0.1048	ppb	15.21	#VALUE!	
123 Sb	0.5885	0.1177	ppb	3.78	1000.	
135 Ba	10.955	2.191	ppb	2.22	2000.	
137 Ba	10.89	2.178	ppb	3.22	#VALUE!	
182 W	0.1651	0.033	ppb	18.11	1000.	
203 Tl	0.0103	0.0021	ppb	84.05	1000.	
205 Tl	0.0181	0.0036	ppb	46.51	#VALUE!	
208 Pb	3.3615	0.6723	ppb	2.87	2000.	
232 Th	0.1242	0.0248	ppb	26.54	1000.	
238 U	0.347	0.0694	ppb	8.07	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3495959.00	7.10	3534032.00	98.9	69.5 - 120	
45 Sc	2453109.50	7.72	2524348.00	97.2	69.5 - 120	
89 Y	3228326.30	4.24	3309016.30	97.6	69.5 - 120	
159 Tb	4045692.00	0.88	4075930.00	99.3	69.5 - 120	
209 Bi	2088711.90	0.59	2155365.00	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\059SMPL.D\059SMPL.D#
 Date Acquired: Dec 29 2017 06:24 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-004
 Misc Info:
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0126	0.0025	ppb	65.07	100.	
11 B	76.4	15.28	ppb	3.71	1000.	
23 Na	83,200.	16,640.	ppb	1.84	200000.	
25 Mg	16,470.	3,294.	ppb	4.22	200000.	
27 Al	85.1	17.02	ppb	8.13	200000.	
28 Si	4,722.	944.4	ppb	4.90	#VALUE!	
29 Si	4,147.	829.4	ppb	6.07	10000.	
39 K	8,945.	1,789.	ppb	2.32	200000.	
43 Ca	35,025.	7,005.	ppb	2.51	#VALUE!	
44 Ca	35,555.	7,111.	ppb	1.41	200000.	
51 V	0.526	0.1052	ppb	56.73	1000.	
52 Cr	1.1925	0.2385	ppb	24.84	2000.	
53 Cr	19.745	3.949	ppb	9.72	#VALUE!	
55 Mn	33.415	6.683	ppb	0.84	2000.	
56 Fe	140.15	28.03	ppb	10.38	#VALUE!	
57 Fe	156.35	31.27	ppb	7.53	100000.	
59 Co	0.7485	0.1497	ppb	4.20	1000.	
60 Ni	1.301	0.2602	ppb	10.60	1000.	
63 Cu	5.28	1.056	ppb	2.41	#VALUE!	
65 Cu	2.578	0.5156	ppb	9.86	2000.	
66 Zn	1.9765	0.3953	ppb	8.42	2000.	
68 Zn	1.4255	0.2851	ppb	16.02	#VALUE!	
75 As	0.8355	0.1671	ppb	96.89	1000.	
82 Se	0.2207	0.0441	ppb	263.48	1000.	
88 Sr	195.95	39.19	ppb	1.08	2000.	
98 Mo	1.948	0.3896	ppb	2.73	1000.	
107 Ag	0.0053	0.0011	ppb	679.53	100.	
109 Ag	0.0464	0.0093	ppb	39.01	#VALUE!	
111 Cd	-0.2135	-0.0427	ppb	68.81	#VALUE!	
114 Cd	0.0367	0.0073	ppb	98.57	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.3935	0.2787	ppb	2.14	1000.	
120 Sn	1.2705	0.2541	ppb	9.19	#VALUE!	
121 Sb	0.4534	0.0907	ppb	6.39	#VALUE!	
123 Sb	0.4961	0.0992	ppb	8.64	1000.	
135 Ba	10.34	2.068	ppb	4.96	2000.	
137 Ba	10.18	2.036	ppb	3.32	#VALUE!	
182 W	0.1005	0.0201	ppb	24.18	1000.	
203 Tl	0.0259	0.0052	ppb	124.41	1000.	
205 Tl	0.0055	0.0011	ppb	514.87	#VALUE!	
208 Pb	2.3165	0.4633	ppb	6.30	2000.	
232 Th	0.0473	0.0095	ppb	31.47	1000.	
238 U	0.3221	0.0644	ppb	2.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3363524.00	1.71	3534032.00	95.2	69.5 - 120	
45 Sc	2386696.80	0.74	2524348.00	94.5	69.5 - 120	
89 Y	3200636.00	0.96	3309016.30	96.7	69.5 - 120	
159 Tb	4126938.80	0.87	4075930.00	101.3	69.5 - 120	
209 Bi	2137102.80	0.39	2155365.00	99.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\060SMPL.D\060SMPL.D#
 Date Acquired: Dec 29 2017 06:28 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-005
 Misc Info:
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0347	0.0069	ppb	39.20	100.	
11 B	126.7	25.34	ppb	2.95	1000.	
23 Na	223,400.	44,680.	ppb	1.44	200000.	
25 Mg	26,315.	5,263.	ppb	1.17	200000.	
27 Al	215.4	43.08	ppb	3.11	200000.	
28 Si	6,795.	1,359.	ppb	4.87	#VALUE!	
29 Si	6,800.	1,360.	ppb	3.93	10000.	
39 K	15,030.	3,006.	ppb	2.01	200000.	
43 Ca	103,550.	20,710.	ppb	0.53	#VALUE!	
44 Ca	101,250.	20,250.	ppb	1.13	200000.	
51 V	1.1325	0.2265	ppb	34.58	1000.	
52 Cr	1.2805	0.2561	ppb	15.98	2000.	
53 Cr	27.625	5.525	ppb	1.43	#VALUE!	
55 Mn	2,429.5	485.9	ppb	0.95	2000.	
56 Fe	3,012.5	602.5	ppb	2.07	#VALUE!	
57 Fe	3,098.	619.6	ppb	2.75	100000.	
59 Co	3.524	0.7048	ppb	1.13	1000.	
60 Ni	4.1495	0.8299	ppb	9.86	1000.	
63 Cu	8.425	1.685	ppb	3.17	#VALUE!	
65 Cu	1.225	0.245	ppb	9.33	2000.	
66 Zn	3.183	0.6366	ppb	10.93	2000.	
68 Zn	9.11	1.822	ppb	13.60	#VALUE!	
75 As	2.091	0.4182	ppb	15.45	1000.	
82 Se	1.7585	0.3517	ppb	88.31	1000.	
88 Sr	639.	127.8	ppb	0.99	2000.	
98 Mo	17.375	3.475	ppb	2.84	1000.	
107 Ag	-0.0132	-0.0026	ppb	459.64	100.	
109 Ag	0.034	0.0068	ppb	66.18	#VALUE!	
111 Cd	-0.078	-0.0156	ppb	95.32	#VALUE!	
114 Cd	0.0129	0.0026	ppb	33.39	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.27	0.254	ppb	10.28	1000.	
120 Sn	1.1795	0.2359	ppb	14.01	#VALUE!	
121 Sb	0.2545	0.0509	ppb	18.03	#VALUE!	
123 Sb	0.3031	0.0606	ppb	10.70	1000.	
135 Ba	140.	28.	ppb	1.48	2000.	
137 Ba	139.6	27.92	ppb	3.16	#VALUE!	
182 W	0.4419	0.0884	ppb	3.85	1000.	
203 Tl	0.0071	0.0014	ppb	425.83	1000.	
205 Tl	0.0087	0.0017	ppb	193.70	#VALUE!	
208 Pb	0.522	0.1044	ppb	11.53	2000.	
232 Th	0.235	0.047	ppb	7.91	1000.	
238 U	34.44	6.888	ppb	1.06	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3720500.30	1.69	3534032.00	105.3	69.5 - 120	
45 Sc	2650146.80	1.88	2524348.00	105.0	69.5 - 120	
89 Y	3367947.00	1.49	3309016.30	101.8	69.5 - 120	
159 Tb	4091852.80	1.02	4075930.00	100.4	69.5 - 120	
209 Bi	2065139.50	1.54	2155365.00	95.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\061SMPL.D\061SMPL.D#
 Date Acquired: Dec 29 2017 06:32 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-006
 Misc Info:
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0208	0.0042	ppb	27.95	100.	
11 B	139.4	27.88	ppb	4.20	1000.	
23 Na	262,250.	52,450.	ppb	1.01	200000.	
25 Mg	28,210.	5,642.	ppb	3.40	200000.	
27 Al	49.74	9.948	ppb	2.24	200000.	
28 Si	6,795.	1,359.	ppb	4.84	#VALUE!	
29 Si	6,255.	1,251.	ppb	3.72	10000.	
39 K	17,260.	3,452.	ppb	1.12	200000.	
43 Ca	112,950.	22,590.	ppb	3.03	#VALUE!	
44 Ca	109,350.	21,870.	ppb	2.07	200000.	
51 V	0.6745	0.1349	ppb	21.13	1000.	
52 Cr	0.7325	0.1465	ppb	9.71	2000.	
53 Cr	18.02	3.604	ppb	4.52	#VALUE!	
55 Mn	2,518.5	503.7	ppb	0.63	2000.	
56 Fe	1,952.	390.4	ppb	1.74	#VALUE!	
57 Fe	2,037.	407.4	ppb	2.21	100000.	
59 Co	2.6465	0.5293	ppb	2.67	1000.	
60 Ni	3.416	0.6832	ppb	9.28	1000.	
63 Cu	9.59	1.918	ppb	1.90	#VALUE!	
65 Cu	0.921	0.1842	ppb	29.03	2000.	
66 Zn	5.035	1.007	ppb	3.09	2000.	
68 Zn	11.945	2.389	ppb	12.44	#VALUE!	
75 As	2.1995	0.4399	ppb	30.78	1000.	
82 Se	-0.8125	-0.1625	ppb	186.58	1000.	
88 Sr	666.	133.2	ppb	0.58	2000.	
98 Mo	19.99	3.998	ppb	2.05	1000.	
107 Ag	0.0029	0.0006	ppb	201.27	100.	
109 Ag	0.05	0.01	ppb	25.55	#VALUE!	
111 Cd	-0.3581	-0.0716	ppb	51.29	#VALUE!	
114 Cd	0.0056	0.0011	ppb	570.44	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.45	0.29	ppb	8.39	1000.	
120 Sn	1.2875	0.2575	ppb	5.56	#VALUE!	
121 Sb	0.2978	0.0596	ppb	6.90	#VALUE!	
123 Sb	0.295	0.059	ppb	11.80	1000.	
135 Ba	151.45	30.29	ppb	0.47	2000.	
137 Ba	148.45	29.69	ppb	0.11	#VALUE!	
182 W	0.4138	0.0828	ppb	10.73	1000.	
203 Tl	0.0101	0.002	ppb	267.96	1000.	
205 Tl	0.0106	0.0021	ppb	169.78	#VALUE!	
208 Pb	0.217	0.0434	ppb	12.22	2000.	
232 Th	0.0551	0.011	ppb	20.52	1000.	
238 U	42.065	8.413	ppb	0.26	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3264683.50	1.70	3534032.00	92.4	69.5 - 120	
45 Sc	2333663.00	1.05	2524348.00	92.4	69.5 - 120	
89 Y	3139816.80	0.17	3309016.30	94.9	69.5 - 120	
159 Tb	4088878.80	0.81	4075930.00	100.3	69.5 - 120	
209 Bi	2088551.00	1.66	2155365.00	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\062SMPL.D\062SMPL.D#
 Date Acquired: Dec 29 2017 06:36 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-007
 Misc Info:
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0198	0.004	ppb	54.23	100.	
11 B	20.745	4.149	ppb	2.85	1000.	
23 Na	18,995.	3,799.	ppb	1.79	200000.	
25 Mg	2,987.	597.4	ppb	1.23	200000.	
27 Al	93.55	18.71	ppb	7.49	200000.	
28 Si	10,515.	2,103.	ppb	2.69	#VALUE!	
29 Si	11,745.	2,349.	ppb	11.89	10000.	
39 K	1,888.5	377.7	ppb	1.47	200000.	
43 Ca	10,000.	2,000.	ppb	1.81	#VALUE!	
44 Ca	9,840.	1,968.	ppb	1.02	200000.	
51 V	0.2654	0.0531	ppb	101.43	1000.	
52 Cr	1.0685	0.2137	ppb	2.54	2000.	
53 Cr	28.37	5.674	ppb	11.20	#VALUE!	
55 Mn	526.	105.2	ppb	1.62	2000.	
56 Fe	11,685.	2,337.	ppb	0.67	#VALUE!	
57 Fe	11,435.	2,287.	ppb	0.38	100000.	
59 Co	8.14	1.628	ppb	3.51	1000.	
60 Ni	6.565	1.313	ppb	4.53	1000.	
63 Cu	1.3475	0.2695	ppb	25.05	#VALUE!	
65 Cu	0.9865	0.1973	ppb	26.22	2000.	
66 Zn	11.6	2.32	ppb	5.99	2000.	
68 Zn	11.8	2.36	ppb	7.97	#VALUE!	
75 As	4.3375	0.8675	ppb	17.13	1000.	
82 Se	2.	0.4	ppb	113.88	1000.	
88 Sr	74.95	14.99	ppb	0.61	2000.	
98 Mo	0.5445	0.1089	ppb	8.57	1000.	
107 Ag	-0.0174	-0.0035	ppb	200.09	100.	
109 Ag	0.0133	0.0027	ppb	218.25	#VALUE!	
111 Cd	-0.0573	-0.0115	ppb	338.34	#VALUE!	
114 Cd	0.0043	0.0009	ppb	776.37	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.215	0.243	ppb	19.42	1000.	
120 Sn	1.1265	0.2253	ppb	14.40	#VALUE!	
121 Sb	0.0511	0.0102	ppb	17.88	#VALUE!	
123 Sb	0.0528	0.0106	ppb	52.56	1000.	
135 Ba	13.665	2.733	ppb	3.56	2000.	
137 Ba	13.805	2.761	ppb	4.57	#VALUE!	
182 W	0.3593	0.0719	ppb	13.70	1000.	
203 Tl	-0.0053	-0.0011	ppb	206.76	1000.	
205 Tl	-0.0077	-0.0015	ppb	214.02	#VALUE!	
208 Pb	0.1328	0.0266	ppb	15.58	2000.	
232 Th	0.1876	0.0375	ppb	1.78	1000.	
238 U	0.0317	0.0063	ppb	7.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3778137.50	5.48	3534032.00	106.9	69.5 - 120	
45 Sc	2694654.30	4.56	2524348.00	106.7	69.5 - 120	
89 Y	3405860.50	2.80	3309016.30	102.9	69.5 - 120	
159 Tb	4151838.80	1.63	4075930.00	101.9	69.5 - 120	
209 Bi	2141384.80	1.27	2155365.00	99.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL29A.B\063SMPL.D\063SMPL.D#
 Date Acquired: Dec 29 2017 06:40 pm
 Acq. Method: 1PTCAL16.M
 Operator: MD
 Sample Name: TK1858-008
 Misc Info:
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\1PTCAL16.M
 Calibration File: C:\ICPCHEM\1\CALIB\1PTCAL16.C
 Last Cal. Update: Dec 29 2017 03:54 pm
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0135	0.0027	ppb	62.01	100.	
11 B	18.01	3.602	ppb	4.57	1000.	
23 Na	20,180.	4,036.	ppb	1.74	200000.	
25 Mg	3,163.5	632.7	ppb	1.57	200000.	
27 Al	7.49	1.498	ppb	16.79	200000.	
28 Si	12,215.	2,443.	ppb	0.60	#VALUE!	
29 Si	11,880.	2,376.	ppb	0.54	10000.	
39 K	2,077.	415.4	ppb	0.63	200000.	
43 Ca	11,065.	2,213.	ppb	2.65	#VALUE!	
44 Ca	10,885.	2,177.	ppb	1.11	200000.	
51 V	0.3433	0.0687	ppb	114.04	1000.	
52 Cr	0.664	0.1328	ppb	7.05	2000.	
53 Cr	22.695	4.539	ppb	3.10	#VALUE!	
55 Mn	564.	112.8	ppb	1.43	2000.	
56 Fe	12,090.	2,418.	ppb	0.70	#VALUE!	
57 Fe	11,830.	2,366.	ppb	1.04	100000.	
59 Co	9.28	1.856	ppb	2.39	1000.	
60 Ni	7.18	1.436	ppb	3.93	1000.	
63 Cu	1.1995	0.2399	ppb	37.97	#VALUE!	
65 Cu	0.5745	0.1149	ppb	48.54	2000.	
66 Zn	9.225	1.845	ppb	4.14	2000.	
68 Zn	9.13	1.826	ppb	9.29	#VALUE!	
75 As	4.4535	0.8907	ppb	32.54	1000.	
82 Se	0.0178	0.0036	ppb	8909.50	1000.	
88 Sr	79.8	15.96	ppb	2.03	2000.	
98 Mo	0.57	0.114	ppb	9.48	1000.	
107 Ag	0.0343	0.0069	ppb	44.94	100.	
109 Ag	0.047	0.0094	ppb	84.28	#VALUE!	
111 Cd	-0.421	-0.0842	ppb	52.87	#VALUE!	
114 Cd	0.0122	0.0024	ppb	315.58	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.4765	0.2953	ppb	3.73	1000.	
120 Sn	1.6535	0.3307	ppb	9.81	#VALUE!	
121 Sb	0.0454	0.0091	ppb	57.04	#VALUE!	
123 Sb	0.0638	0.0128	ppb	31.50	1000.	
135 Ba	14.715	2.943	ppb	4.19	2000.	
137 Ba	14.095	2.819	ppb	6.18	#VALUE!	
182 W	0.5185	0.1037	ppb	16.76	1000.	
203 Tl	-0.0337	-0.0067	ppb	18.97	1000.	
205 Tl	-0.0129	-0.0026	ppb	61.80	#VALUE!	
208 Pb	0.0052	0.001	ppb	578.45	2000.	
232 Th	0.0167	0.0033	ppb	18.51	1000.	
238 U	0.0006	0.0001	ppb	677.19	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3280879.50	0.25	3534032.00	92.8	69.5 - 120	
45 Sc	2299937.00	0.49	2524348.00	91.1	69.5 - 120	
89 Y	3081454.80	0.52	3309016.30	93.1	69.5 - 120	
159 Tb	4013905.80	1.10	4075930.00	98.5	69.5 - 120	
209 Bi	2117513.80	1.30	2155365.00	98.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL29A.B\018CALB.D\018CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagent Information:

Method: 3010-MS

HNO₃: MS286HCL: MS283

REVIEWED

JS12-22-17KATAHDIN ANALYTICAL
METALS SECTION

Pipet LCS/Spiking Information:

m1 CLPP-SPK-1 (ID/Vol): MS2088 / 0.05 mL
m3 CLPP-SPK-INT1 (ID/Vol): M1017445 / 0.5 mL
m3 CLPP-SPK-INT2 (ID/Vol): M1017446 / 0.5 mL
 _____ Spike (ID/Vol): NA / _____ mL

Heat Source ID: EStart Time: 0704 / Temp. 90 °CEnd Time: 1500 / Temp. 90 °CThermometer ID/Pos: ALC24 / 1:1

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWKL21IMW2	KL21IMW2	<u>0.05</u>	L	<u>0.05</u>	L	AQ	IM	AMJ	12/21/2017	_____
PBWKL21IMW2	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	_____
TK1858-001	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>✓</u>
TK1858-001P	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>✓</u>
TK1858-001S	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>✓</u>
TK1858-002	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>A</u>
TK1858-002P	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>A</u>
TK1858-002S	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>A</u>
TK1858-003	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>D</u>
TK1858-004	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>A</u>
TK1858-005	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>D</u>
TK1858-006	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>A</u>
TK1858-007	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>D</u>
TK1858-008	KL21IMW2	_____	L	_____	L	AQ	IM	AMJ	12/21/2017	<u>A</u>
TK1947-022	KL21IMW2	<u>↓</u>	L	<u>↓</u>	L	AQ	IM	AMJ	12/21/2017	<u>A</u>

CONVENTIONAL AND PHYSICAL ANALYTICAL DATA

Quality Control Report

Blank Sample Summary Report

Alkalinity

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>	<u>LOD</u>
MBLANK	WG220946	SM2320B	27-DEC-17	N/A	J 0.50 mg/L	5.0 mg/L	4.0

Chloride

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>	<u>LOD</u>
MBLANK	WG220437	EPA 300.0	15-DEC-17	N/A	U 1.0 mg/L	2.0 mg/L	1.0
MBLANK	WG220447	EPA 300.0	16-DEC-17	N/A	U 1.0 mg/L	2.0 mg/L	1.0
MBLANK	WG220781	EPA 300.0	18-DEC-17	N/A	U 1.0 mg/L	2.0 mg/L	1.0
MBLANK	WG221329	EPA 300.0	03-JAN-18	N/A	U 1.0 mg/L	2.0 mg/L	1.0

Nitrate As N

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>	<u>LOD</u>
MBLANK	WG220437	EPA 300.0	15-DEC-17	N/A	U 0.025 mg/L	0.050 mg/L	0.025
MBLANK	WG220781	EPA 300.0	18-DEC-17	N/A	U 0.025 mg/L	0.050 mg/L	0.025

Sulfate

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>	<u>LOD</u>
MBLANK	WG220437	EPA 300.0	15-DEC-17	N/A	U 0.50 mg/L	1.0 mg/L	0.50
MBLANK	WG220781	EPA 300.0	18-DEC-17	N/A	U 0.50 mg/L	1.0 mg/L	0.50
MBLANK	WG221329	EPA 300.0	03-JAN-18	N/A	U 0.50 mg/L	1.0 mg/L	0.50

Quality Control Report

Laboratory Control Sample Summary Report

Alkalinity

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG220946-2	LCS	WG220946	27-DEC-17	N/A	mg/L	120	120	103	80-120	

Chloride

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG220437-2	LCS	WG220437	15-DEC-17	N/A	mg/L	3.75	3.67	97.9	90-110	
WG220447-2	LCS	WG220447	16-DEC-17	N/A	mg/L	3.75	3.66	97.6	90-110	
WG220781-2	LCS	WG220781	18-DEC-17	N/A	mg/L	3.75	3.78	101.	90-110	
WG221329-2	LCS	WG221329	03-JAN-18	N/A	mg/L	3.75	3.84	102.	90-110	

Nitrate as N

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG220437-2	LCS	WG220437	15-DEC-17	N/A	mg/L	0.845	0.789	93.4	90-110	
WG220781-2	LCS	WG220781	18-DEC-17	N/A	mg/L	0.845	0.853	101.	90-110	

Sulfate

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG220437-2	LCS	WG220437	15-DEC-17	N/A	mg/L	3.75	3.52	93.9	90-110	
WG220781-2	LCS	WG220781	18-DEC-17	N/A	mg/L	3.75	3.65	97.3	90-110	
WG221329-2	LCS	WG221329	03-JAN-18	N/A	mg/L	3.75	3.79	101.	90-110	

Quality Control Report

Duplicate Sample Summary Report

Nitrate as N

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG220781-3	TK1858-7	WG220781	18-DEC-17	mg/L	U 0.025	U 0.025	NC	20

Quality Control Report

Matrix Spike Sample Summary Report

Alkalinity

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG220946-5	MS	TK1858-1	WG220946	27-DEC-17	mg/L	120	23.	140	100	75 - 125

Chloride

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG221329-4	MSD	TK1858-1	WG221329	03-JAN-18	mg/L	18.75	27	46.	103.	90 - 110
WG221329-3	MS	TK1858-1	WG221329	03-JAN-18	mg/L	18.75	27	46.	102.	90 - 110

Nitrate as N

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG220437-4	MSD	TK1858-1	WG220437	15-DEC-17	mg/L	0.845	U 0.025	0.76	90.1	90 - 110
WG220781-4	MS	TK1858-7	WG220781	18-DEC-17	mg/L	0.845	U 0.025	0.89	105.	90 - 110
WG220437-3	MS	TK1858-1	WG220437	15-DEC-17	mg/L	0.845	U 0.025	0.76	90.6	90 - 110

Sulfate

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG221329-3	MS	TK1858-1	WG221329	03-JAN-18	mg/L	7.5	26	34.	108.	90 - 110
WG221329-4	MSD	TK1858-1	WG221329	03-JAN-18	mg/L	7.5	26	* 34.	111.*	90 - 110

Wet Chemistry Batch Report

Analyst Initials: AP

Date Analyzed: 15-DEC-17

Batch: WG220437

Prep Method: E300.0

Prep Chemist: AP

Sample	Samp Type	Method	Parameter	DF	Result	Rpt. Result	Units	PQL	Adj. PQL	MDL	Adj. MDL	RPD	Rec.
TK1858-1	SAMP	EPA 300.0	Nitrate as N	1	• .0093	U 0.025	mg/L	.05	0.050	.0174	.0174		
TK1858-1DL	SAMP	EPA 300.0	Sulfate	2	• 24.8799	25	mg/L	1	2.0	.0637	0.13		
TK1858-1DLB	SAMP	EPA 300.0	Chloride	5	• 25.2043	25	mg/L	2	10.	.0993	0.50		
TK1858-3	SAMP	EPA 300.0	Nitrate as N	1	• .6738	0.67	mg/L	.05	0.050	.0174	.0174		
TK1858-3DL	SAMP	EPA 300.0	Sulfate	5	• 55.5806	56	mg/L	1	5.0	.0637	0.32		
TK1858-5	SAMP	EPA 300.0	Nitrate as N	1	• .1229	0.12	mg/L	.05	0.050	.0174	.0174		
TK1858-5DL	SAMP	EPA 300.0	Sulfate	5	• 93.7865	94	mg/L	1	5.0	.0637	0.32		
WG220437-1	MBLANK	EPA 300.0	Chloride	1	• 0	U 1.0	mg/L	2	2.0	.0993	.0993		
WG220437-1	MBLANK	EPA 300.0	Nitrate as N	1	• .014	U 0.025	mg/L	.05	0.050	.0174	.0174		
WG220437-1	MBLANK	EPA 300.0	Sulfate	1	• .0252	U 0.50	mg/L	1	1.0	.0637	0.064		
WG220437-2	LCS	EPA 300.0	Chloride	1	• 3.6726	3.67	mg/L	2	2.0	.0993	.0993		97.9
WG220437-2	LCS	EPA 300.0	Nitrate as N	1	• .7886	0.789	mg/L	.05	0.050	.0174	.0174		93.4
WG220437-2	LCS	EPA 300.0	Sulfate	1	• 3.5201	3.52	mg/L	1	1.0	.0637	0.064		93.9
WG220437-3	MS	EPA 300.0	Nitrate as N	1	• .7656	0.76	mg/L	.05	0.050	.0174	.0174		90.6
WG220437-4	MSD	EPA 300.0	Nitrate as N	1	• .7614	0.76	mg/L	.05	0.050	.0174	.0174	0	90.1

Comments:

TK1858-1	MS/MSD
WG220437-1	TK1858-1
WG220437-2	TK1858-1
WG220437-3	TK1858-1
WG220437-4	TK1858-1

Entered by: AP

Date: 12/20/17

Accepted by: 170

Date: 12/21/17

Wet Chemistry Batch Report

Analyst Initials: AP

Date Analyzed: 16-DEC-17

Batch: WG220447

Prep Method: E300.0

Prep Chemist: AP

Sample	Samp Type	Method	Parameter	DF	Result	Rpt. Result	Units	PQL	Adj. PQL	MDL	Adj. MDL	RPD	Rec.
TK1858-3RA	SAMP	EPA 300.0	Chloride	20	• 140.4428	140	mg/L	2	40.	.0993	2.0		
TK1858-5RA	SAMP	EPA 300.0	Chloride	50	• 340.9496	340	mg/L	2	100	.0993	5.0		
TK1862-2	SAMP	EPA 300.0	Chloride	1	• 7.373	7.4	mg/L	2	2.0	.0993	.0993		
TK1862-2	SAMP	EPA 300.0	Sulfate	1	• 7.5183	7.5	mg/L	1	1.0	.0637	0.064		
TK1862-2DL	SAMP	EPA 300.0	Nitrate as N	5	• 7.734	7.7	mg/L	.05	0.25	.0174	0.087		
TK1862-4	SAMP	EPA 300.0	Nitrate as N	1	• 3.0317	3.0	mg/L	.05	0.050	.0174	.0174		
TK1862-4DL	SAMP	EPA 300.0	Chloride	2	• 14.567	14	mg/L	2	4.0	.0993	0.20		
TK1862-4DL	SAMP	EPA 300.0	Sulfate	2	• 31.1132	31	mg/L	1	2.0	.0637	0.13		
TK1862-6	SAMP	EPA 300.0	Nitrate as N	1	• .1159	0.12	mg/L	.05	0.050	.0174	.0174		
TK1862-8	SAMP	EPA 300.0	Nitrate as N	1	• .0185	J 0.018	mg/L	.05	0.050	.0174	.0174		
TK1862-8DL	SAMP	EPA 300.0	Sulfate	5	• 90.572	90	mg/L	1	5.0	.0637	0.32		
WG220447-1	MBLANK	EPA 300.0	Chloride	1	• 0	U 1.0	mg/L	2	2.0	.0993	.0993		
WG220447-1	MBLANK	EPA 300.0	Nitrate as N	1	• .0097	U 0.025	mg/L	.05	0.050	.0174	.0174		
WG220447-1	MBLANK	EPA 300.0	Sulfate	1	• .0132	U 0.50	mg/L	1	1.0	.0637	0.064		
WG220447-2	LCS	EPA 300.0	Chloride	1	• 3.6552	3.66	mg/L	2	2.0	.0993	.0993		97.6
WG220447-2	LCS	EPA 300.0	Nitrate as N	1	• .7799	0.780	mg/L	.05	0.050	.0174	.0174		92.3
WG220447-2	LCS	EPA 300.0	Sulfate	1	• 3.4946	3.49	mg/L	1	1.0	.0637	0.064		93.1

Comments:

 WG220447-1 TK1862-2
 WG220447-2 TK1862-2

 Entered by: AP

 Date: 12/20/17

 Accepted by: [Signature]

 Date: 12/22/17 ✓

Wet Chemistry Batch Report

Analyst Initials: AP

Batch: WG220781

Date Analyzed: 18-DEC-17
19-DEC-17

Prep Method: E300.0

Prep Chemist: AP

Sample	Samp Type	Method	Parameter	DF	Result	Rpt. Result	Units	PQL	Adj. PQL	MDL	Adj. MDL	RPD	Rec.
TK1496-1RAX	SAMP	EPA 300.0	Sulfate	200	1968.1079	2000	mg/L	1	200	.0637	13.		
TK1496-1RAZ	SAMP	EPA 300.0	Chloride	2000	13980.4829	14000	mg/L	2	4000	.0993	200		
TK1496-2RAX	SAMP	EPA 300.0	Sulfate	200	1993.1939	2000	mg/L	1	200	.0637	13.		
TK1496-2RAZ	SAMP	EPA 300.0	Chloride	2000	14213.6751	14000	mg/L	2	4000	.0993	200		
TK1556-1RA	SAMP	EPA 300.0	Sulfate	200	2961.7701	3000	mg/L	1	200	.0637	13.		
TK1556-1RAB	SAMP	EPA 300.0	Chloride	4000	20509.4776	20000	mg/L	2	8000	.0993	400		
TK1556-2RA	SAMP	EPA 300.0	Sulfate	200	2592.8441	2600	mg/L	1	200	.0637	13.		
TK1707-1RA	SAMP	EPA 300.0	Chloride	5	23.2673	23	mg/L	2	10.	.0993	0.50		
TK1707-1RA	SAMP	EPA 300.0	Sulfate	5	31.4273	31	mg/L	1	5.0	.0637	0.32		
TK1707-2RA	SAMP	EPA 300.0	Sulfate	2	34.1355	34	mg/L	1	2.0	.0637	0.13		
TK1707-2RAB	SAMP	EPA 300.0	Chloride	10	84.0363	84	mg/L	2	20.	.0993	0.99		
TK1707-3RA	SAMP	EPA 300.0	Sulfate	5	75.0559	75	mg/L	1	5.0	.0637	0.32		
TK1707-3RAB	SAMP	EPA 300.0	Chloride	20	186.3781	190	mg/L	2	40.	.0993	2.0		
TK1707-4RA	SAMP	EPA 300.0	Chloride	5	22.6861	23	mg/L	2	10.	.0993	0.50		
TK1707-4RA	SAMP	EPA 300.0	Sulfate	5	31.6586	32	mg/L	1	5.0	.0637	0.32		
TK1739-6RA	SAMP	EPA 300.0	Sulfate	100	1561.495	1600	mg/L	1	100	.0637	6.4		
TK1812-2RA	SAMP	EPA 300.0	Sulfate	10	141.5902	140	mg/L	1	10.	.0637	0.64		
TK1812-2RAB	SAMP	EPA 300.0	Chloride	200	982.5209	980	mg/L	2	400	.0993	20.		
TK1812-3RA	SAMP	EPA 300.0	Sulfate	10	72.4316	72	mg/L	1	10.	.0637	0.64		
TK1812-3RAB	SAMP	EPA 300.0	Chloride	100	425.4834	420	mg/L	2	200	.0993	9.9		
TK1858-7	SAMP	EPA 300.0	Nitrate as N	1	.0152	U 0.025	mg/L	.05	0.050	.0174	.0174		
TK1858-7DL	SAMP	EPA 300.0	Sulfate	2	25.2566	25	mg/L	1	2.0	.0637	0.13		
TK1858-7DLB	SAMP	EPA 300.0	Chloride	5	26.8096	27	mg/L	2	10.	.0993	0.50		
TK1862-6RA	SAMP	EPA 300.0	Sulfate	10	105.9963	100	mg/L	1	10.	.0637	0.64		
TK1862-6RAB	SAMP	EPA 300.0	Chloride	20	151.3824	150	mg/L	2	40.	.0993	2.0		
TK1862-8RA	SAMP	EPA 300.0	Chloride	50	378.8761	380	mg/L	2	100	.0993	5.0		
WG220781-1	MBLANK	EPA 300.0	Chloride	1	.011	U 1.0	mg/L	2	2.0	.0993	.0993		
WG220781-1	MBLANK	EPA 300.0	Nitrate as N	1	.0153	U 0.025	mg/L	.05	0.050	.0174	.0174		
WG220781-1	MBLANK	EPA 300.0	Sulfate	1	.0367	U 0.50	mg/L	1	1.0	.0637	0.064		
WG220781-10	MSD	EPA 300.0	Chloride	5	39.8256	* 40.	mg/L	2	10.	.0993	0.50	6	88.3
WG220781-10	MSD	EPA 300.0	Sulfate	5	47.1701	* 47.	mg/L	1	5.0	.0637	0.32	8	84.0
WG220781-11	MS	EPA 300.0	Chloride	100	874.6635	* 870	mg/L	2	200	.0993	9.9		118.
WG220781-11	MS	EPA 300.0	Sulfate	100	471.3306	470	mg/L	1	100	.0637	6.4		106.
WG220781-12	MSD	EPA 300.0	Chloride	100	819.3414	820	mg/L	2	200	.0993	9.9	6	103.
WG220781-12	MSD	EPA 300.0	Sulfate	100	463.5371	460	mg/L	1	100	.0637	6.4	2	104.
WG220781-2	LCS	EPA 300.0	Chloride	1	3.775	3.78	mg/L	2	2.0	.0993	.0993		101.
WG220781-2	LCS	EPA 300.0	Nitrate as N	1	.8528	0.853	mg/L	.05	0.050	.0174	.0174		101.
WG220781-2	LCS	EPA 300.0	Sulfate	1	3.6485	3.65	mg/L	1	1.0	.0637	0.064		97.3
WG220781-3	DUP	EPA 300.0	Nitrate as N	1	.0152	U 0.025	mg/L	.05	0.050	.0174	.0174	NC	
WG220781-4	MS	EPA 300.0	Nitrate as N	1	.8892	0.89	mg/L	.05	0.050	.0174	.0174		105.
WG220781-5	MS	EPA 300.0	Chloride	4000	28399.35	28000	mg/L	2	8000	.0993	400		96.1
WG220781-5X	MS	EPA 300.0	Sulfate	200	2486.1115	* 2500	mg/L	1	200	.0637	13.		75.4
WG220781-6	MSD	EPA 300.0	Chloride	4000	28782.7554	29000	mg/L	2	8000	.0993	400	1	98.7
WG220781-6X	MSD	EPA 300.0	Sulfate	200	2592.3093	* 2600	mg/L	1	200	.0637	13.	4	89.5
WG220781-7	MS	EPA 300.0	Chloride	4000	29703.8275	30000	mg/L	2	8000	.0993	400		102.
WG220781-7X	MS	EPA 300.0	Sulfate	200	2581.3003	* 2600	mg/L	1	200	.0637	13.		78.4

Entered by: AP

Date: 12/28/17

Accepted by: 123

Date: 12/27/17

Wet Chemistry Batch Report

Analyst Initials: AP

Batch: WG220781

 Date Analyzed: 18-DEC-17
 19-DEC-17

Prep Method: E300.0

Prep Chemist: AP

Sample	Samp Type	Method	Parameter	DF	Result	Rpt. Result	Units	PQL	Adj. PQL	MDL	Adj. MDL	RPD	Rec.
WG220781-8	MSD	EPA 300.0	Chloride	4000	29254.927	29000	mg/L	2	8000	.0993	400	2	98.5
WG220781-8X	MSD	EPA 300.0	Sulfate	200	2659.915	* 2600	mg/L	1	200	.0637	13.	3	88.9
WG220781-9	MS	EPA 300.0	Chloride	5	42.2384	42.	mg/L	2	10.	.0993	0.50		101.
WG220781-9	MS	EPA 300.0	Sulfate	5	51.0121	51.	mg/L	1	5.0	.0637	0.32		104.

Comments:

TK1496-1 MS/MSD
 TK1496-2 MS/MSD
 TK1707-1 MS/MSD
 TK1812-3 MS/MSD
 WG220781-1 TK1858-7
 WG220781-10 TK1707-1
 WG220781-11 TK1812-3
 WG220781-12 TK1812-3
 WG220781-2 TK1858-7
 WG220781-3 TK1858-7
 WG220781-4 TK1858-7
 WG220781-5 TK1496-1
 WG220781-6 TK1496-1
 WG220781-7 TK1496-2
 WG220781-8 TK1496-2
 WG220781-9 TK1707-1

 Entered by: AP

 Date: 12/28/17

 Accepted by: ho

 Date: 12/27/17

Wet Chemistry Batch Report

Analyst Initials: AP

Date Analyzed: 03-JAN-18

Batch: WG221329

Prep Method: E300.0

Prep Chemist: AP

Sample	Samp Type	Method	Parameter	DF	Result	Rpt. Result	Units	PQL	Adj. PQL	MDL	Adj. MDL	RPD	Rec.
SL0032-1	SAMP	EPA 300.0	Bromide	1	.0227	U 0.50	mg/L	.5	0.50	.136	0.14		
SL0032-1	SAMP	EPA 300.0	Fluoride	1	.1437	0.14	mg/L	.05	0.050	.0072	0.0072		
SL0032-1	SAMP	EPA 300.0	Nitrate as N	1	.8997	0.90	mg/L	.05	0.050	.0174	.0174		
SL0032-1	SAMP	EPA 300.0	Sulfate	1	7.0704	7.1	mg/L	1	1.0	.0637	0.064		
SL0032-1DL	SAMP	EPA 300.0	Chloride	2	10.8965	11.	mg/L	2	4.0	.0993	0.20		
SL0032-2	SAMP	EPA 300.0	Bromide	1	.0203	U 0.50	mg/L	.5	0.50	.136	0.14		
SL0032-2	SAMP	EPA 300.0	Fluoride	1	.1435	0.14	mg/L	.05	0.050	.0072	0.0072		
SL0032-2	SAMP	EPA 300.0	Nitrate as N	1	.8984	0.90	mg/L	.05	0.050	.0174	.0174		
SL0032-2	SAMP	EPA 300.0	Sulfate	1	7.1111	7.1	mg/L	1	1.0	.0637	0.064		
SL0032-2DL	SAMP	EPA 300.0	Chloride	2	11.0047	11.	mg/L	2	4.0	.0993	0.20		
SL0032-3	SAMP	EPA 300.0	Bromide	1	.0161	U 0.50	mg/L	.5	0.50	.136	0.14		
SL0032-3	SAMP	EPA 300.0	Fluoride	1	.1474	0.15	mg/L	.05	0.050	.0072	0.0072		
SL0032-3	SAMP	EPA 300.0	Nitrate as N	1	.892	0.89	mg/L	.05	0.050	.0174	.0174		
SL0032-3	SAMP	EPA 300.0	Sulfate	1	7.1269	7.1	mg/L	1	1.0	.0637	0.064		
SL0032-3DL	SAMP	EPA 300.0	Chloride	2	11.007	11.	mg/L	2	4.0	.0993	0.20		
SL0032-4	SAMP	EPA 300.0	Bromide	1	.0132	U 0.50	mg/L	.5	0.50	.136	0.14		
SL0032-4	SAMP	EPA 300.0	Fluoride	1	.1428	0.14	mg/L	.05	0.050	.0072	0.0072		
SL0032-4	SAMP	EPA 300.0	Nitrate as N	1	.8974	0.90	mg/L	.05	0.050	.0174	.0174		
SL0032-4	SAMP	EPA 300.0	Sulfate	1	7.0707	7.1	mg/L	1	1.0	.0637	0.064		
SL0032-4DL	SAMP	EPA 300.0	Chloride	2	10.991	11.	mg/L	2	4.0	.0993	0.20		
TK1858-1RAO	SAMP	EPA 300.0	Sulfate	2	25.5368	26	mg/L	1	2.0	.0637	0.13		
TK1858-1RAR	SAMP	EPA 300.0	Chloride	5	26.7712	27	mg/L	2	10.	.0993	0.50		
WG221329-1	MBLANK	EPA 300.0	Bromide	1	0	U 0.40	mg/L	.5	0.50	.136	0.14		
WG221329-1	MBLANK	EPA 300.0	Chloride	1	.0051	U 1.0	mg/L	2	2.0	.0993	.0993		
WG221329-1	MBLANK	EPA 300.0	Fluoride	1	.0064	U 0.025	mg/L	.05	0.050	.0072	0.0072		
WG221329-1	MBLANK	EPA 300.0	Nitrate as N	1	.0178	J 0.018	mg/L	.05	0.050	.0174	.0174		
WG221329-1	MBLANK	EPA 300.0	Sulfate	1	.0314	U 0.50	mg/L	1	1.0	.0637	0.064		
WG221329-2	LCS	EPA 300.0	Bromide	1	3.8584	3.86	mg/L	.5	0.50	.136	0.14		103.
WG221329-2	LCS	EPA 300.0	Chloride	1	3.8383	3.84	mg/L	2	2.0	.0993	.0993		102.
WG221329-2	LCS	EPA 300.0	Fluoride	1	3.7831	3.78	mg/L	.05	0.050	.0072	0.0072		101.
WG221329-2	LCS	EPA 300.0	Nitrate as N	1	.9031	0.903	mg/L	.05	0.050	.0174	.0174		107.
WG221329-2	LCS	EPA 300.0	Sulfate	1	3.7906	3.79	mg/L	1	1.0	.0637	0.064		101.
WG221329-3O	MS	EPA 300.0	Sulfate	2	33.6407	34.	mg/L	1	2.0	.0637	0.13		108.
WG221329-3R	MS	EPA 300.0	Chloride	5	45.8107	46.	mg/L	2	10.	.0993	0.50		102.
WG221329-4O	MSD	EPA 300.0	Sulfate	2	33.8891	* 34.	mg/L	1	2.0	.0637	0.13	1	111.
WG221329-4R	MSD	EPA 300.0	Chloride	5	46.1611	46.	mg/L	2	10.	.0993	0.50	1	103.

Comments:

SL0032-1 Anions = Cl, SO4, F,
 SL0032-2 Anions = Cl, SO4, F,
 SL0032-3 Anions = Cl, SO4, F,
 SL0032-4 Anions = Cl, SO4, F,
 TK1858-1 MS/MSD
 WG221329-1 SL0032-1
 WG221329-2 SL0032-1

Entered by: AP

Date: 01/04/18

Accepted by: AP

Date: 1/5/18

Wet Chemistry Batch Report

Analyst Initials: AP

Date Analyzed: 03-JAN-18

Batch: WG221329

Prep Method: E300.0

Prep Chemist: AP

Sample	Samp Type	Method	Parameter	DF	Result	Rpt. Result	Units	PQL	Adj. PQL	MDL	Adj. MDL	RPD	Rec.
WG221329-3		TK1858-1											
WG221329-4		TK1858-1											

 Entered by: AP

 Date: 010418

 Accepted by: h2

 Date: 1/5/18

SUBCONTRACTED DATA

Katahdin
ANALYTICAL SERVICES

PLEASE BEAR DOWN AND
PRINT LEGIBLY IN PEN

Page 1 of 1

[illegible]

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACT IS PRESENTED FIRST.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: ME0018C-09

Page 1 of 1
Effective Date: 07/28/2017
Expiry Date: 07/28/2022

Sample Receipt Checklist (SRC)

Client: Katardin Cooler Inspected by/date: LKH / 12-22-17 Lot #: SL22035

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☒ FedEx ☐ Other _____		
Yes ☒	No ☐	1. Were custody seals present on the cooler?
Yes ☒	No ☐	2. If custody seals were present, were they intact and unbroken?
pH strip ID: _____ CI strip ID: _____		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>12312.3</u> °C / / °C / / °C / / °C		
Method: ☐ Temperature Blank ☒ Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0</u> °C		
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None		
Yes ☐	No ☐	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☐	No ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☒	No ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☒	No ☐	6. Were sample IDs listed on the COC?
Yes ☒	No ☐	7. Were sample IDs listed on all sample containers?
Yes ☒	No ☐	8. Was collection date & time listed on the COC?
Yes ☒	No ☐	9. Was collection date & time listed on all sample containers?
Yes ☒	No ☐	10. Did all container label information (ID, date, time) agree with the COC?
Yes ☒	No ☐	11. Were tests to be performed listed on the COC?
Yes ☒	No ☐	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☒	No ☐	13. Was adequate sample volume available?
Yes ☒	No ☐	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes ☐	No ☒	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☐	16. Were bubbles present > "pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☐	No ☐	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
Yes ☐	No ☐	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (< 0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☒	22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____		
Sample(s) _____ were received with bubbles > 6 mm in diameter		
Sample(s) _____ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: _____		
SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____		
Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>LKH</u> Date: <u>12-22-17</u>		

Comments:

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Katahdin Analytical Services Lot Number: SL22035

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), applicable Shealy standard operating procedures (SOPs), the 2003 NELAC standard, and Shealy policies. Additionally, the DoD QSM version 5.1 has been followed for these samples. Any exceptions to the QAMP, SOPs, NELAC standards, the DoD QSM, or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

PFAS

The MS recoveries in batch 60632 were outside acceptance criteria. All other QC criteria for the batch was within acceptance criteria and method control limits. The MS/MSD recovery results are attributed to matrix interference. The associated sample results were reported and no corrective action was required.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Katahdin Analytical Services Lot Number: SL22035

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	G-32-MW302B-121417	Aqueous	12/14/2017 1121	12/22/2017
002	GI-MW405-121417	Aqueous	12/14/2017 1145	12/22/2017
003	MW406-121417	Aqueous	12/14/2017 1340	12/22/2017
004	G32-MW302B-D121417	Aqueous	12/14/2017	12/22/2017
005	FRB-121417	Aqueous	12/14/2017	12/22/2017

(5 samples)

SQ60632-001

PFAS by LC/MS/MS - MB

Sample ID: SQ60632-001

Matrix: Aqueous

Batch: 60632

Prep Method: 537 MOD

Analytical Method: 537.1 Modified-ID

Prep Date: 12/27/2017 1521

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
EtFOSAA	2.0	U	1	4.0	2.0	1.0	ng/L	12/28/2017 1817
MeFOSAA	2.0	U	1	4.0	2.0	1.0	ng/L	12/28/2017 1817
PFBS	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFHxS	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFDA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFDaA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFHpA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFHxA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFNA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFOA	0.50	J	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFTeDA	2.0	U	1	4.0	2.0	1.0	ng/L	12/28/2017 1817
PFTTrDA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFUdA	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817
PFOS	1.0	U	1	2.0	1.0	0.50	ng/L	12/28/2017 1817

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		99	50-150
13C2_PFTeDA		98	50-150
13C3_PFBs		101	50-150
13C3_PFHxS		99	50-150
13C4_PFHpA		105	50-150
13C5_PFHxA		102	50-150
13C6_PFDA		103	50-150
13C7_PFUdA		105	50-150
13C8_PFOA		101	50-150
13C8_PFOS		100	50-150
13C9_PFNA		104	50-150
d5-EtFOSAA		110	50-150
d3-MeFOSAA		102	50-150

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

+ = RPD is out of criteria

LOD = Limit of Detection

U = Not detected at or above the LOQ

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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PFAS by LC/MS/MS

Client: Katahdin Analytical Services				Laboratory ID: SL22035-005			
Description: FRB-121417				Matrix: Aqueous			
Date Sampled: 12/14/2017							
Date Received: 12/22/2017							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	537 MOD	537.1 Modified-ID	1	12/28/2017 2127	SES	12/27/2017 1521	60632

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	537.1 Mod. ID	1.8	U	3.5	1.8	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.8	U	3.5	1.8	0.88	ng/L	1
Perfluoro-1-butanefluoride (PFBS)	375-73-5	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.8	U	3.5	1.8	0.88	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.90	U	1.8	0.90	0.44	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	0.47	J	1.8	0.90	0.44	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		105	50-150
13C2_PFTeDA		99	50-150
13C3_PFBs		111	50-150
13C3_PFHxS		109	50-150
13C4_PFHpA		111	50-150
13C5_PFHxA		107	50-150
13C6_PFDA		107	50-150
13C7_PFUdA		107	50-150
13C8_PFOA		106	50-150
13C8_PFOS		106	50-150
13C9_PFNA		108	50-150
d5-EtFOSAA		113	50-150
d3-MeFOSAA		109	50-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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PFAS by LC/MS/MS - LCS

Sample ID: SQ60632-002

Matrix: Aqueous

Batch: 60632

Prep Method: 537 MOD

Analytical Method: 537.1 Modified-ID

Prep Date: 12/27/2017 1521

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
EtFOSAA	20	18		1	90	70-130	12/28/2017 1831
MeFOSAA	20	19		1	94	70-130	12/28/2017 1831
PFBS	18	18		1	100	70-130	12/28/2017 1831
PFHxS	18	17		1	94	70-130	12/28/2017 1831
PFDA	20	21		1	103	70-130	12/28/2017 1831
PFDaA	20	22		1	108	70-130	12/28/2017 1831
PFHpA	20	20		1	99	70-130	12/28/2017 1831
PFHxA	20	20		1	99	70-130	12/28/2017 1831
PFNA	20	20		1	99	70-130	12/28/2017 1831
PFOA	20	21		1	103	70-130	12/28/2017 1831
PFTeDA	20	20		1	100	70-130	12/28/2017 1831
PFTrDA	20	21		1	103	70-130	12/28/2017 1831
PFUdA	20	20		1	98	70-130	12/28/2017 1831
PFOS	19	21		1	115	70-130	12/28/2017 1831

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		103	50-150
13C2_PFTeDA		76	50-150
13C3_PFBs		106	50-150
13C3_PFHxS		107	50-150
13C4_PFHpA		106	50-150
13C5_PFHxA		108	50-150
13C6_PFDA		109	50-150
13C7_PFUdA		109	50-150
13C8_PFOA		108	50-150
13C8_PFOs		106	50-150
13C9_PFNA		109	50-150
d5-EtFOSAA		110	50-150
d3-MeFOSAA		111	50-150

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and $\geq$ DL

+ = RPD is out of criteria

LOD = Limit of Detection

U = Not detected at or above the LOQ

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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PFAS by LC/MS/MS - MS

Sample ID: SL22035-001MS

Matrix: Aqueous

Batch: 60632

Prep Method: 537 MOD

Analytical Method: 537.1 Modified-ID

Prep Date: 12/27/2017 1521

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
EtFOSAA	ND	17	16		1	93	70-130	12/28/2017 2019
MeFOSAA	ND	17	16		1	91	70-130	12/28/2017 2019
PFBS	ND	15	14		1	95	70-130	12/28/2017 2019
PFHxS	0.43	16	18		1	111	70-130	12/28/2017 2019
PFDA	ND	17	17		1	98	70-130	12/28/2017 2019
PFDaA	ND	17	18		1	107	70-130	12/28/2017 2019
PFHpA	0.56	17	17		1	97	70-130	12/28/2017 2019
PFHxA	ND	17	18		1	105	70-130	12/28/2017 2019
PFNA	0.45	17	16		1	94	70-130	12/28/2017 2019
PFOA	0.48	17	17		1	101	70-130	12/28/2017 2019
PFTeDA	ND	17	16		1	93	70-130	12/28/2017 2019
PFTrDA	ND	17	18		1	104	70-130	12/28/2017 2019
PFUdA	ND	17	17		1	95	70-130	12/28/2017 2019
PFOS	ND	16	28	N	1	174	70-130	12/28/2017 2019

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		92	50-150
13C2_PFTeDA		79	50-150
13C3_PFBs		99	50-150
13C3_PFHxS		98	50-150
13C4_PFHpA		96	50-150
13C5_PFHxA		98	50-150
13C6_PFDA		98	50-150
13C7_PFUdA		94	50-150
13C8_PFOA		98	50-150
13C8_PFOS		96	50-150
13C9_PFNA		100	50-150
d5-EtFOSAA		91	50-150
d3-MeFOSAA		97	50-150

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

+ = RPD is out of criteria

LOD = Limit of Detection

U = Not detected at or above the LOQ

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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PFAS by LC/MS/MS - MSD

Sample ID: SL22035-001MD

Matrix: Aqueous

Batch: 60632

Prep Method: 537 MOD

Analytical Method: 537.1 Modified-ID

Prep Date: 12/27/2017 1521

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
EtFOSAA	ND	17	17		1	99	5.3	70-130	30	12/28/2017 2033
MeFOSAA	ND	17	17		1	100	9.4	70-130	30	12/28/2017 2033
PFBS	ND	15	16		1	105	10	70-130	30	12/28/2017 2033
PFHxS	0.43	16	16		1	103	8.6	70-130	30	12/28/2017 2033
PFDA	ND	17	19		1	108	9.3	70-130	30	12/28/2017 2033
PFDaA	ND	17	20		1	115	7.0	70-130	30	12/28/2017 2033
PFHpA	0.56	17	19		1	105	8.0	70-130	30	12/28/2017 2033
PFHxA	ND	17	19		1	110	4.4	70-130	30	12/28/2017 2033
PFNA	0.45	17	18		1	103	8.9	70-130	30	12/28/2017 2033
PFOA	0.48	17	19		1	110	8.1	70-130	30	12/28/2017 2033
PFTeDA	ND	17	17		1	101	8.2	70-130	30	12/28/2017 2033
PFTTrDA	ND	17	20		1	115	8.9	70-130	30	12/28/2017 2033
PFUdA	ND	17	17		1	101	5.0	70-130	30	12/28/2017 2033
PFOS	ND	16	17	+	1	105	49	70-130	30	12/28/2017 2033

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		95	50-150
13C2_PFTeDA		87	50-150
13C3_PFBs		100	50-150
13C3_PFHxS		101	50-150
13C4_PFHpA		99	50-150
13C5_PFHxA		98	50-150
13C6_PFDA		97	50-150
13C7_PFUdA		100	50-150
13C8_PFOA		101	50-150
13C8_PFOs		97	50-150
13C9_PFNA		100	50-150
d5-EtFOSAA		99	50-150
d3-MeFOSAA		101	50-150

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

+ = RPD is out of criteria

LOD = Limit of Detection

U = Not detected at or above the LOQ

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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Batch	111417_G6_ID ICAL_122817	Acquisition Method	537_ID-537+GenX.dam
Acquisition Date	11/14/2017 10:06:35 AM	Instrument	Triple Quad 4500

CCV Samples IS Area										
Data File: 111417008.wiff Acquisition Date: 11/14/2017 11:14:19 AM					Reference Standard: ICAL 1000_SVLC-0160 Instrument: Triple Quad 4500					
Sample Name	13C3_PFBA		13C2_PFHxA		13C2_PFOA		13C4_PFOS		13C2_PFDA	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
ICAL 1000_SVLC-0160	1585317	2.71	1499885	3.71	1775829	4.48	516392	4.83	1570799	5.15
Upper Limit	2377975	3.21	2249827	4.21	2663744	4.98	774587	5.33	2356198	5.65
Lower Limit	792658	2.21	749942	3.21	887915	3.98	258196	4.33	785399	4.65
CCV 50_SVLC-0156	1564934	2.72	1486832	3.71	1735942	4.46	542382	4.80	1585723	5.13
CCV 100_SVLC-0157	1580212	2.72	1571371	3.71	1755280	4.46	547374	4.80	1626260	5.13
CCV 50B_SVLC-0156	1574692	2.72	1579329	3.71	1748374	4.46	528814	4.80	1608473	5.13
CCV 1000_SVLC-0160	1601109	2.72	1572454	3.71	1795688	4.46	561683	4.81	1683993	5.14
CCV 1000B_SVLC-0160	1618058	2.73	1595643	3.72	1809097	4.47	562121	4.81	1670064	5.14
CCV 1000C_SVLC-0160	1604337	2.73	1570379	3.72	1791044	4.47	533096	4.81	1713751	5.14

AREA UPPER LIMIT= +50% of IS area
RT UPPER LIMIT= +0.50 min of IS RT

AREA Lower Limit: -50% of IS area
RT LOWER LIMIT= -0.50 min of IS RT

Non-CCV Samples IS Area										
Data File: 122817005.wiff Acquisition Date: 12/28/2017 5:23:49 PM					Reference CCV: CCV 100_SVLC-0157 Instrument: Triple Quad 4500					
Sample Name	13C4_PFBA		13C2_PFHxA		13C2_PFOA		13C4_PFOS		13C2_PFDA	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
CCV 100_SVLC-0157	1580212	2.72	1571371	3.71	1755280	4.46	547374	4.80	1626260	5.13
Upper Limit	2370318	3.22	2357057	4.21	2632920	4.96	821061	5.30	2439390	5.63
Lower Limit	790106	2.22	785686	3.21	877640	3.96	273687	4.30	813130	4.63
IBLK B	1924865	2.70	1945768	3.70	2229471	4.47	666210	4.82	1997617	5.14
IBLK C	1929058	2.71	1913674	3.72	2106314	4.49	639040	4.84	1943430	5.16
IBLK C2	1917163	2.71	1830059	3.72	2159547	4.49	640683	4.84	1910665	5.16
IBLK D	1917191	2.71	1908315	3.72	2183845	4.48	627887	4.83	1895215	5.16
IBLK D2	1921950	2.71	1833088	3.71	2119902	4.48	625700	4.83	1897673	5.16
IBLK B	1365360	2.72	1312633	3.71	1628123	4.46	473890	4.81	1438708	5.13
SQ60632-001	1444012	2.72	1374373	3.71	1606462	4.46	474672	4.80	1417445	5.13
SQ60632-002	1382403	2.72	1344535	3.71	1616766	4.46	481307	4.81	1412411	5.13
SQ60687-001	1538455	2.72	1474579	3.71	1694745	4.46	518118	4.81	1543992	5.14
SQ60687-002	1318480	2.72	1298023	3.71	1482710	4.46	437627	4.80	1378311	5.13
SQ60687-003	2034367	2.72	1910259	3.71	2264797	4.46	668326	4.81	2081517	5.14
SL15044-018	955755	2.72	1345096	3.71	1513823	4.46	467413	4.81	1360718	5.14
SL15044-019	1668394	2.72	1606101	3.71	1841638	4.46	549449	4.81	1650771	5.13
SL15044-020	1451488	2.72	1441216	3.71	1448676	4.46	471361	4.81	1364025	5.14
SL22035-001	1445798	2.72	1374944	3.71	1572357	4.46	477578	4.81	1355014	5.14
SL22035-001MS	1523855	2.72	1558961	3.71	1704846	4.46	498255	4.81	1512273	5.14
SL22035-001MSD	1552892	2.73	1461847	3.71	1765173	4.46	523890	4.81	1518523	5.14

Non-CCV Samples IS Area										
Data File: 122817005.wiff					Reference CCV: CCV 100_SVLC-0157					
Acquisition Date: 12/28/2017 5:23:49 PM					Instrument: Triple Quad 4500					
Sample Name	13C4 PFBA		13C2 PFHxA		13C2 PFOA		13C4 PFOS		13C2 PFDA	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
SL22035-002	1364162	2.72	1482225	3.71	1702845	4.46	502198	4.81	1549696	5.13
SL22035-003	1221623	2.72	1402378	3.71	1624235	4.46	478516	4.80	1428713	5.13
SL22035-004	1358426	2.73	1333905	3.71	1515763	4.46	434550	4.81	1309855	5.13
SL22035-005	1504431	2.73	1479953	3.71	1655760	4.46	523355	4.81	1556180	5.14
SL22038-001	1580311	2.72	1455889	3.71	1657640	4.46	506373	4.81	1527678	5.13
SL22038-002	1382766	2.73	1327448	3.71	1447861	4.46	453444	4.81	1337437	5.14
SL22038-003	1445230	2.73	1333685	3.72	1551172	4.47	484556	4.81	1452354	5.14
SL22038-004	1362263	2.73	1247010	3.72	1488021	4.47	437551	4.81	1377210	5.14
SL22038-005	1462994	2.72	1389672	3.71	1639209	4.46	493882	4.81	1480345	5.13
SL15044-016	1283079	2.73	1486473	3.72	983461	4.47	523223	4.81	1655707	5.14
SL15044-017	544322*	2.73	1306828	3.72	1469473	4.47	449669	4.81	1352734	5.14
SL22036-001	1568595	2.73	1424694	3.72	1607708	4.47	487327	4.81	1507942	5.13
SL22036-002	1206727	2.73	1407820	3.72	1560657	4.47	466980	4.81	1480258	5.14
SL22036-003	1215964	2.73	1163552	3.72	1371216	4.47	416701	4.81	1234128	5.14
SL22036-004	1122157	2.73	1303594	3.72	1495377	4.47	458423	4.81	1341679	5.14
SL22036-005	1254143	2.73	1471204	3.72	1608476	4.47	492989	4.81	1459066	5.13
SL22036-006	966423	2.73	1385515	3.72	1713463	4.47	493395	4.81	1550141	5.14

AREA UPPER LIMIT= +50% of IS area
RT UPPER LIMIT= +0.50 min of IS RT

AREA Lower Limit: -50% of IS area
RT LOWER LIMIT= -0.50 min of IS RT

Analyst: SES

Status: Level 1 review released

Matrix: Aqueous

Printed: 01/10/18 1352

Prep Batch: 60632 537.1 ID Prep - PFAS Aqueous Preparation

Start Date: 12/27/2017 1521

Level 2 Analyst: N/A

End Date: 12/27/2017 2140

Conc Analyst: SES

Conc Start Date: 12/27/2017 2140

Conc End Date: 12/27/2017 2140

Surrogate: SVLC-0171

Surrogate Vol. (mL): 0.495

Ext Solvent: MEOH>96%MEOH/4%H2O

Reagents Vol. (mL): 9

Chem ID: 17-1731>17-1731/17-1281

Balance ID: Balance #VOA-2

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ60632-001	MB		1	537.1 Modified-ID	259		0.000	9.0			QC DI Lot: 121217; Pipettes: 297,298,300,304; Envi-Carb lot: 9576502; Strata-XL-AW lot: S17-004178
SQ60632-002	LCS		1	537.1 Modified-ID	260	SVLC-0154	0.250	9.0			IS: SVLC-0173; Amm-MeOH: SV17-135; Buffer: SV17-133; ASV lot: 999557271C
SL15044-018	Sample	12MW18SWG20171214	1	537.1 Modified-ID	288		0.000	9.0	12/28/2017 1330	12/27/2017	
SL15044-019	Sample	12MW18SWG20171214-d	1	537.1 Modified-ID	267		0.000	9.0	12/28/2017 1400	12/27/2017	
SL15044-020	Sample	12IDW01WG20171214	1	537.1 Modified-ID	279		0.000	9.0	12/28/2017 1500	12/27/2017	
SL22035-001	Sample	G-32-MW302B-121417	1	537.1 Modified-ID	300		0.000	9.0	12/28/2017 1121	01/01/2018	
SL22035-001MS MS		G-32-MW302B-121417MS	1	537.1 Modified-ID	289	SVLC-0154	0.250	9.0			
SL22035-001MD MSD		G-32-MW302B-121417MD	1	537.1 Modified-ID	290	SVLC-0154	0.250	9.0			SUR: SVLC-0174 used from MSD to end of batch
SL22035-002	Sample	GI-MW405-121417	1	537.1 Modified-ID	271		0.000	9.0	12/28/2017 1145	01/01/2018	
SL22035-003	Sample	MW406-121417	1	537.1 Modified-ID	278		0.000	9.0	12/28/2017 1340	01/01/2018	
SL22035-004	Sample	G32-MW302B-D121417	1	537.1 Modified-ID	277		0.000	9.0	12/28/2017 0000	01/01/2018	
SL22035-005	Sample	FRB-121417	1	537.1 Modified-ID	284		0.000	9.0	12/28/2017 0000	01/01/2018	
SL22038-001	Sample	G-32-MW3015-121517	1	537.1 Modified-ID	268		0.000	9.0	12/29/2017 0915	01/01/2018	
SL22038-002	Sample	G-32-MW301B-121517	1	537.1 Modified-ID	269		0.000	9.0	12/29/2017 1315	01/01/2018	
SL22038-003	Sample	MW404-121517	1	537.1 Modified-ID	285		0.000	9.0	12/29/2017 1205	01/01/2018	Cartridge wash done with buffer SV17-136
SL22038-004	Sample	G32-MW3025-121517	1	537.1	293		0.000	9.0	12/29/2017 1155	01/01/2018	Cartridge wash done with buffer SV17-136

Analyst: SES

Status: Level 1 review released

Matrix: Aqueous

Printed: 01/10/18 1352

Prep Batch: 60632

537.1 ID Prep - PFAS Aqueous Preparation

Start Date: 12/27/2017 1521

End Date: 12/27/2017 2140

Level 2 Analyst: N/A

Conc Analyst: SES

Conc Start Date: 12/27/2017 2140

Conc End Date: 12/27/2017 2140

Surrogate: SVLC-0171

Surrogate Vol. (mL): 0.495

Ext Solvent: MECH>96%MECH/4%H₂O

Reagents Vol. (mL): 9

Chem ID: 17-1731>17-1731/17-1281

Balance ID: Balance #VOA-2

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SL22038-005	Sample	FRB-121517	1	537.1 Modified-ID	278		0.000	9.0	12/29/2017 0000	01/01/2018	Cartridge wash done with buffer SV17-136

(end of report)

Total Samples: 13

SAMPLE		DUPLICATE						
G32-MW302B-121417		G32-MW302B-D121417						
ANALYTE	ORIGINAL result	DUPLICATE result	RL	RPD	RPD > 30%	ORIGINAL SAMPLE CONC >5xRL	DUPLICATE SAMPLE CONC >5xRL	DIFFERENCE >2XRL
ARSENIC	3.3	2.6	5	23.72881356	FALSE	FALSE	FALSE	FALSE
CADMIUM	0.2	0.2	1	0	FALSE	FALSE	FALSE	FALSE
LEAD	0.14	0.15	1	6.896551724	FALSE	FALSE	FALSE	FALSE
MANGANESE	513	502	2	2.167487685	FALSE	TRUE	TRUE	TRUE
ARSENIC- dissolved	2.7	3.1	5	13.79310345	FALSE	FALSE	FALSE	FALSE
CADMIUM- dissolved	0.2	0.2	1	0	FALSE	FALSE	FALSE	FALSE
LEAD- dissolved	0.5	0.5	1	0	FALSE	FALSE	FALSE	FALSE
MANGANESE- dissolved	543	589	2	8.127208481	FALSE	TRUE	TRUE	TRUE
ALKALINITY	23	26	5	12.24489796	FALSE	FALSE	TRUE	FALSE
CHLORIDE	27	27	10	0	FALSE	FALSE	FALSE	FALSE
NITRATE-N	0.025	0.025	0.05	0	FALSE	FALSE	FALSE	FALSE
SULFATE	26	25	2	3.921568627	FALSE	TRUE	TRUE	FALSE
BENZENE	0.5	0.5	1	0	FALSE	FALSE	FALSE	FALSE
TETRACHLOROETHENE	0.5	0.5	1	0	FALSE	FALSE	FALSE	FALSE
TRICHLOROETHENE	0.5	0.5	1	0	FALSE	FALSE	FALSE	FALSE
2-METHYLNAPHTHALENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
BENZO(A)ANTHRACENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
BENZO(A)PYRENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
BENZO(B)FLUORANTHENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
BENZO(G,H,I)PERYLENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
BENZO(K)FLUORANTHENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
CHRYSENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
DIBENZO(A,H)ANTHRACENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
FLUORANTHENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
INDENO(1,2,3-CD)PYRENE	0.094	0.12	0.19	24.29906542	FALSE	FALSE	FALSE	FALSE
NAPHTHALENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
PENTACHLOROPHENOL	0.47	0.48	0.94	2.105263158	FALSE	FALSE	FALSE	FALSE
PHENANTHRENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
PYRENE	0.094	0.097	0.19	3.141361257	FALSE	FALSE	FALSE	FALSE
AROCLOR-1016	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1221	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1232	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1242	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1248	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1254	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1260	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1262	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
AROCLOR-1268	0.25	0.24	0.5	4.081632653	FALSE	FALSE	FALSE	FALSE
TOTAL AROCLOR	2.2	2.2	4.4	0	FALSE	FALSE	FALSE	FALSE
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	0.83	0.9	3.3	8.092485549	FALSE	FALSE	FALSE	FALSE
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	0.83	0.9	3.3	8.092485549	FALSE	FALSE	FALSE	FALSE
PENTADECAFLUOROOCTANOIC ACID	0.48	0.46	1.7	4.255319149	FALSE	FALSE	FALSE	FALSE
PERFLUOROBUTANESULFONIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE
PERFLUORODECANOIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE
PERFLUORODODECANOIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEPTANOIC ACID	0.56	0.45	1.7	21.78217822	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEXANESULFONIC ACID	0.43	0.45	1.7	4.545454545	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEXANOIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE
PERFLUORONONANOIC ACID	0.45	0.48	1.7	6.451612903	FALSE	FALSE	FALSE	FALSE
PERFLUOROOCTANE SULFONIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE
PERFLUOROTETRADECANOIC ACID	0.83	0.9	3.3	8.092485549	FALSE	FALSE	FALSE	FALSE
PERFLUOROTRIDECANOIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE
PERFLUOROUNDECANOIC ACID	0.42	0.45	1.7	6.896551724	FALSE	FALSE	FALSE	FALSE

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	G32-MW302B	Monitoring well	370554.909	165123.526	N6247016D9008	WE22	TETRA TECH, INC.	G32-MW302B-121417	Ground water	Normal (Regular)	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	G32-MW302B	Monitoring well	370554.909	165123.526	8005	WE22	TETRA TECH, INC.	G32-MW302B-121417-D	Ground water	Field duplicate	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858							N6247016D9008	WE22	TETRA TECH, INC.	FRB-121417	Water for QC samples	Field Reagent Blank	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	GI-MW405	Monitoring well	370895.74	164979.54	N6247016D9008	WE22	TETRA TECH, INC.	GI-MW405-121417	Ground water	Normal (Regular)	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	GI-MW405	Monitoring well	370895.74	164979.54	8005	WE22	TETRA TECH, INC.	GI-MW405-121417	Ground water	Normal (Regular)	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858							8005	WE22	TETRA TECH, INC.	FRB-121417	Water for QC samples	Field Reagent Blank	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	GI-MW406	Monitoring well	370834.18	165113.98	8005	WE22	TETRA TECH, INC.	MW406-121417	Ground water	Normal (Regular)	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	G32-MW302B	Monitoring well	370554.909	165123.526	N6247016D9008	WE22	TETRA TECH, INC.	G32-MW302B-121417-D	Ground water	Field duplicate	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	GI-MW406	Monitoring well	370834.18	165113.98	N6247016D9008	WE22	TETRA TECH, INC.	MW406-121417	Ground water	Normal (Regular)	14-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1858	SITE 00017	SITE 00017	G32-MW302B	Monitoring well	370554.909	165123.526	8005	WE22	TETRA TECH, INC.	G32-MW302B-121417	Ground water	Normal (Regular)	14-Dec-17	537	Perfluoroalkyl Compounds