



Groundwater Sample Results, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG TK1862

*Naval Station Newport
Newport, Rhode Island*

August 2019

"LCSWKL19IMW2" "6020A" "RES" "LCSWKL19IMW2" "KAS" "7440-38-2" "ARSENIC" "99.8" "ug/L" "2.3" "MDL" "SPK" "99.8" "5.0" "PQL" "YES" "100" "LCSWKL19IMW2" "4.0" ""
 "LCSWKL19IMW2" "6020A" "RES" "LCSWKL19IMW2" "KAS" "7440-43-9" "CADMIUM" "249" "ug/L" "0.030" "MDL" "SPK" "99.6" "1.0" "PQL" "YES" "250" "LCSWKL19IMW2" "0.20" ""
 "LCSWKL19IMW2" "6020A" "RES" "LCSWKL19IMW2" "KAS" "7439-92-1" "LEAD" "99.0" "ug/L" "0.074" "MDL" "SPK" "99.0" "1.0" "PQL" "YES" "100" "LCSWKL19IMW2" "0.50" ""
 "LCSWKL19IMW2" "6020A" "RES" "LCSWKL19IMW2" "KAS" "7439-96-5" "MANGANESE" "509" "ug/L" "0.35" "MDL" "SPK" "101.8" "2.0" "PQL" "YES" "500" "LCSWKL19IMW2" "1.0" ""
 "PBWKL19IMW2" "6020A" "RES" "PBWKL19IMW2" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L" "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "PBWKL19IMW2" "4.0" ""
 "PBWKL19IMW2" "6020A" "RES" "PBWKL19IMW2" "KAS" "7440-43-9" "CADMIUM" "0.20" "ug/L" "U" "0.030" "MDL" "TRG" "1.0" "PQL" "YES" "0" "PBWKL19IMW2" "0.20" ""
 "PBWKL19IMW2" "6020A" "RES" "PBWKL19IMW2" "KAS" "7439-92-1" "LEAD" "0.50" "ug/L" "U" "0.074" "MDL" "TRG" "1.0" "PQL" "YES" "0" "PBWKL19IMW2" "0.50" ""
 "PBWKL19IMW2" "6020A" "RES" "PBWKL19IMW2" "KAS" "7439-96-5" "MANGANESE" "1.0" "ug/L" "U" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "PBWKL19IMW2" "1.0" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-002" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L" "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW301S-121517" "4.0" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-002" "KAS" "7440-43-9" "CADMIUM" "0.20" "ug/L" "U" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517" "0.20" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-002" "KAS" "7439-92-1" "LEAD" "0.50" "ug/L" "U" "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517" "0.50" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-002" "KAS" "7439-96-5" "MANGANESE" "2.0" "ug/L" "J" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW301S-121517" "1.0" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-003" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L" "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW301S-121517" "4.0" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-003" "KAS" "7440-43-9" "CADMIUM" "0.20" "ug/L" "U" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517" "0.20" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-003" "KAS" "7439-92-1" "LEAD" "0.22" "ug/L" "J" "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517" "0.50" ""
 "G32-MW301S-121517" "6020A" "RES" "TK1862-003" "KAS" "7439-96-5" "MANGANESE" "5.90" "ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW301S-121517" "1.0" ""
 "G32-MW301B-121517" "6020A" "RES" "TK1862-004" "KAS" "7440-38-2" "ARSENIC" "4.0" "ug/L" "U" "2.3" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW301B-121517" "4.0" ""
 "G32-MW301B-121517" "6020A" "RES" "TK1862-004" "KAS" "7440-43-9" "CADMIUM" "0.096" "ug/L" "J" "0.029" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301B-121517" "0.20" ""
 "G32-MW301B-121517" "6020A" "RES" "TK1862-004" "KAS" "7439-92-1" "LEAD" "0.32" "ug/L" "J" "0.075" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301B-121517" "0.50" ""
 "G32-MW301B-121517" "6020A" "RES" "TK1862-004" "KAS" "7439-96-5" "MANGANESE" "69.7" "ug/L" "0.35" "MDL" "TRG" "2.0" "PQL" "YES" "0" "G32-MW301B-121517" "1.0" ""

"G32-MW301B-121517"	"6020A"	"RES"	"TK1862-005"	"KAS"	"7440-38-2"	"ARSENIC"	"4.0"	"ug/L"
"U"	"2.3"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"G32-MW301B-121517"
"4.0"	""							
"G32-MW301B-121517"	"6020A"	"RES"	"TK1862-005"	"KAS"	"7440-43-9"	"CADMIUM"	"0.13"	
"ug/L"	"J"	"0.029"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"
"0.20"	""							"G32-MW301B-121517"
"G32-MW301B-121517"	"6020A"	"RES"	"TK1862-005"	"KAS"	"7439-92-1"	"LEAD"	"0.50"	"ug/L"
"U"	"0.075"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW301B-121517"
"0.50"	""							
"G32-MW301B-121517"	"6020A"	"RES"	"TK1862-005"	"KAS"	"7439-96-5"	"MANGANESE"	"61.2"	
"ug/L"	"0.35"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"0"	"G32-MW301B-121517"
"1.0"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-006"	"KAS"	"7440-38-2"	"ARSENIC"	"4.0"	"ug/L"
"U"	"2.3"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"MW404-121517"
"4.0"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-006"	"KAS"	"7440-43-9"	"CADMIUM"	"0.039"	"ug/L"
"J"	"0.029"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"MW404-121517"
"0.20"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-006"	"KAS"	"7439-92-1"	"LEAD"	"0.62"	"ug/L"
"J"	"0.075"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"MW404-121517"
"0.50"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-006"	"KAS"	"7439-96-5"	"MANGANESE"	"1200"	"ug/L"
"U"	"0.35"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"0"	"MW404-121517"
"1.0"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-007"	"KAS"	"7440-38-2"	"ARSENIC"	"4.0"	"ug/L"
"U"	"2.3"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"MW404-121517"
"4.0"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-007"	"KAS"	"7440-43-9"	"CADMIUM"	"0.052"	"ug/L"
"J"	"0.029"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"MW404-121517"
"0.20"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-007"	"KAS"	"7439-92-1"	"LEAD"	"0.50"	"ug/L"
"U"	"0.075"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"MW404-121517"
"0.50"	""							
"MW404-121517"	"6020A"	"RES"	"TK1862-007"	"KAS"	"7439-96-5"	"MANGANESE"	"1160"	"ug/L"
"U"	"0.35"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"0"	"MW404-121517"
"1.0"	""							
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-008"	"KAS"	"7440-38-2"	"ARSENIC"	"4.0"	"ug/L"
"U"	"2.3"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"4.0"	""							
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-008"	"KAS"	"7440-43-9"	"CADMIUM"	"0.20"	
"ug/L"	"U"	"0.029"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"
"0.20"	""							"G32-MW302S-121517"
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-008"	"KAS"	"7439-92-1"	"LEAD"	"0.63"	"ug/L"
"J"	"0.075"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"0.50"	""							
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-008"	"KAS"	"7439-96-5"	"MANGANESE"	"1200"	
"ug/L"	"0.35"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"1.0"	""							
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-009"	"KAS"	"7440-38-2"	"ARSENIC"	"4.0"	"ug/L"
"U"	"2.3"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"4.0"	""							
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-009"	"KAS"	"7440-43-9"	"CADMIUM"	"0.20"	
"ug/L"	"U"	"0.029"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"
"0.20"	""							"G32-MW302S-121517"
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-009"	"KAS"	"7439-92-1"	"LEAD"	"0.094"	"ug/L"
"J"	"0.075"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"0.50"	""							
"G32-MW302S-121517"	"6020A"	"RES"	"TK1862-009"	"KAS"	"7439-96-5"	"MANGANESE"	"1120"	
"ug/L"	"0.35"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"1.0"	""							
"TB-121517"	"8260C"	"RES"	"TK1862-1"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"109."	
"%"	"0"	"MDL"	"SURR"	"109."	"0"	"PQL"	"YES"	"50.0"
"0"	""							"TB-121517"
"TB-121517"	"8260C"	"RES"	"TK1862-1"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"2.0"	
"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"
"2.0"	""							"TB-121517"

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""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "460-00-4" "4-BROMOFLUOROBENZENE" "97.3"
"% " "0" "MDL" "SURR" "97.3" "0" "PQL" "YES" "50.0" "TB-121517" "0"
""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "71-43-2" "BENZENE" "0.50" "ug/L" "U"
"0.26" "MDL" "TRG" "1.0" "PQL" "YES" "0" "TB-121517" "0.50" ""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "156-59-2" "CIS-1,2-DICHLOROETHENE" "1.0"
"ug/L" "U" "0.21" "MDL" "TRG" "0.50" "PQL" "YES" "0" "TB-121517" "1.0"
""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "1868-53-7" "DIBROMOFLUOROMETHANE" "105."
"% " "0" "MDL" "SURR" "105." "0" "PQL" "YES" "50.0" "TB-121517" "0"
""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "127-18-4" "TETRACHLOROETHENE" "0.50"
"ug/L" "U" "0.40" "MDL" "TRG" "1.0" "PQL" "YES" "0" "TB-121517" "0.50"
""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "2037-26-5" "TOLUENE-D8" "100." "% " "0"
"MDL" "SURR" "100." "0" "PQL" "YES" "50.0" "TB-121517" "0" ""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "156-60-5" "TRANS-1,2-DICHLOROETHENE"
"1.0" "ug/L" "U" "0.25" "MDL" "TRG" "0.50" "PQL" "YES" "0" "TB-121517"
"1.0" ""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "79-01-6" "TRICHLOROETHENE" "0.50" "ug/L"
"U" "0.28" "MDL" "TRG" "1.0" "PQL" "YES" "0" "TB-121517" "0.50" ""
"TB-121517" "8260C" "RES" "TK1862-1" "KAS" "75-01-4" "VINYL CHLORIDE" "2.0" "ug/L"
"U" "0.25" "MDL" "TRG" "1.0" "PQL" "YES" "0" "TB-121517" "2.0" ""
"G32-MW301S-121517" "2320B" "RES" "TK1862-2" "KAS" "11-43-8" "ALKALINITY AS CaCO3"
"28." "mg/L" "0.23" "MDL" "TRG" "5.0" "PQL" "YES" "0" "G32-MW301S-121517"
"4.0" ""
"G32-MW301S-121517" "300.0" "RES" "TK1862-2" "KAS" "16887-00-6" "CHLORIDE" "7.4" "mg/L"
".0993" "MDL" "TRG" "2.0" "PQL" "YES" "3.75" "G32-MW301S-121517" "1.0"
""
"G32-MW301S-121517" "300.0" "RES" "TK1862-2" "KAS" "14808-79-8" "SULFATE" "7.5" "mg/L"
"0.064" "MDL" "TRG" "1.0" "PQL" "YES" "3.75" "G32-MW301S-121517" "0.50"
""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "877-09-8" "2,4,5,6-Tetrachloro-meta-
xylene" "96.7" "% " "0" "MDL" "SURR" "96.7" "0" "PQL" "YES" "0.980" "G32-
MW301S-121517" "0" ""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "12674-11-2" "AROCLOR 1016" "0.24"
"ug/L" "U" "0.15" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "11104-28-2" "AROCLOR 1221" "0.24"
"ug/L" "U" "0.20" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "11141-16-5" "AROCLOR 1232" "0.24"
"ug/L" "U" "0.089" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "53469-21-9" "AROCLOR 1242" "0.24"
"ug/L" "U" "0.18" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "12672-29-6" "AROCLOR 1248" "0.24"
"ug/L" "U" "0.20" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""
"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "11097-69-1" "AROCLOR 1254" "0.24"
"ug/L" "U" "0.082" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""

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"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "11096-82-5" "AROCLOR 1260" "0.24"
"ug/L" "U" "0.17" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""

"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "37324-23-5" "Aroclor-1262 " "0.24"
"ug/L" "U" "0.066" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""

"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "11100-14-4" "Aroclor-1268 " "0.24"
"ug/L" "U" "0.071" "MDL" "TRG" "0.49" "PQL" "YES" "0" "G32-MW301S-121517"
"0.24" ""

"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "2051-24-3" "DECACHLOROBIPHENYL"
"77.0" "%" "0" "MDL" "SURR" "77.0" "0" "PQL" "YES" "0.980" "G32-MW301S-121517"
"0" ""

"G32-MW301S-121517" "8082A" "RES" "TK1862-2" "KAS" "1336-36-3" "TOTAL PCB" "2.2" "ug/L"
"U" "0.065" "MDL" "TRG" "4.4" "PQL" "YES" "0" "G32-MW301S-121517"
"2.2" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "17060-07-0" "1,2-DICHLOROETHANE-D4"
"118." "%" "0" "MDL" "SURR" "118." "0" "PQL" "YES" "50.0" "G32-MW301S-121517"
"0" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "540-59-0" "1,2-DICHLOROETHYLENE"
"2.0" "ug/L" "U" "0.21" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517"
"2.0" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "460-00-4" "4-
BROMOFLUOROBENZENE" "102." "%" "0" "MDL" "SURR" "102." "0" "PQL" "YES"
"50.0" "G32-MW301S-121517" "0" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "71-43-2" "BENZENE" "0.50" "ug/L"
"U" "0.26" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517"
"0.50" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "156-59-2" "CIS-1,2-DICHLOROETHENE"
"1.0" "ug/L" "U" "0.21" "MDL" "TRG" "0.50" "PQL" "YES" "0" "G32-MW301S-121517"
"1.0" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "1868-53-7"
"DIBROMOFLUOROMETHANE" "110." "%" "0" "MDL" "SURR" "110." "0" "PQL"
"YES" "50.0" "G32-MW301S-121517" "0" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "127-18-4" "TETRACHLOROETHENE"
"0.50" "ug/L" "U" "0.40" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517"
"0.50" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "2037-26-5" "TOLUENE-D8" "102." "%" "0"
"MDL" "SURR" "102." "0" "PQL" "YES" "50.0" "G32-MW301S-121517" "0"
""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "156-60-5" "TRANS-1,2-
DICHLOROETHENE" "1.0" "ug/L" "U" "0.25" "MDL" "TRG" "0.50" "PQL" "YES" "0"
"G32-MW301S-121517" "1.0" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "79-01-6" "TRICHLOROETHENE"
"0.50" "ug/L" "U" "0.28" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517"
"0.50" ""

"G32-MW301S-121517" "8260C" "RES" "TK1862-2" "KAS" "75-01-4" "VINYL CHLORIDE" "2.0"
"ug/L" "U" "0.25" "MDL" "TRG" "1.0" "PQL" "YES" "0" "G32-MW301S-121517"
"2.0" ""

"G32-MW301S-121517" "8270D-SIM" "RES" "TK1862-2" "KAS" "615-58-7" "2,4-Dibromophenol "
"77.8" "%" "0" "MDL" "SURR" "77.8" "0" "PQL" "YES" "4.00" "G32-MW301S-121517"
"0" ""

"G32-MW301S-121517" "8270D-SIM" "RES" "TK1862-2" "KAS" "91-57-6" "2-
METHYLNAPHTHALENE" "0.098" "ug/L" "U" "0.075" "MDL" "TRG" "0.20" "PQL" "YES"
"0" "G32-MW301S-121517" "0.098" ""

"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"	"69.6"	"%"	"0"	"MDL"	"SURR"	"69.6"	"0"	"PQL"	"YES"	"2.00"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"	"0.098"	"ug/L"	"U"	"0.045"	"MDL"	"TRG"				"0.20"	"PQL"
"YES"	"0"	"G32-MW301S-121517"			"0.098"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"0.098"	"ug/L"	"U"	"0.065"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"	"0"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"205-99-2"	"BENZO(B)FLUORANTHENE"	"0.098"	"ug/L"	"U"	"0.087"	"MDL"	"TRG"				"0.20"	"PQL"
"YES"	"0"	"G32-MW301S-121517"			"0.098"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"	"0.098"	"ug/L"	"U"	"0.064"	"MDL"	"TRG"				"0.20"	"PQL"
"0"	"G32-MW301S-121517"				"0.098"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"207-08-9"	"BENZO(K)FLUORANTHENE"	"0.098"	"ug/L"	"U"	"0.048"	"MDL"	"TRG"				"0.20"	"PQL"
"YES"	"0"	"G32-MW301S-121517"			"0.098"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"218-01-9"	"CHRYSENE"	"0.098"	"ug/L"	"U"	"0.035"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"	"0"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"53-70-3"	"DIBENZO(A,H)ANTHRACENE"	"0.098"	"ug/L"	"U"	"0.069"	"MDL"	"TRG"				"0.20"	"PQL"
"YES"	"0"	"G32-MW301S-121517"			"0.098"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"206-44-0"	"FLUORANTHENE"	"0.098"	"ug/L"	"U"	"0.072"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"	"0"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"81103-79-9"	"Fluorene-d10"	"71.8"	"%"	"0"	"MDL"	"SURR"	"71.8"	"0"	"PQL"	"YES"	"2.00"	"G32-MW301S-121517"
"0"	"G32-MW301S-121517"																
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	"0.098"	"ug/L"	"U"	"0.051"	"MDL"	"TRG"				"0.20"	"PQL"
"G32-MW301S-121517"					"0.098"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"91-20-3"	"NAPHTHALENE"	"0.098"	"ug/L"	"U"	"0.063"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"	"0"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"	"0.49"	"ug/L"	"U"	"0.32"	"MDL"	"TRG"				"0.98"	"PQL"
"0"	"G32-MW301S-121517"				"0.49"												
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"85-01-8"	"PHENANTHRENE"	"0.098"	"ug/L"	"U"	"0.050"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"	"0"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"129-00-0"	"PYRENE"	"0.098"	"ug/L"	"U"	"0.058"	"MDL"	"TRG"	"0.20"	"PQL"	"YES"	"0"	"G32-MW301S-121517"
"G32-MW301S-121517"	"8270D-SIM"	"RES"	"TK1862-2"	"KAS"	"1718-52-1"	"Pyrene-d10"	"71.7"	"%"	"0"	"MDL"	"SURR"	"71.7"	"0"	"PQL"	"YES"	"2.00"	"G32-MW301S-121517"
"0"	"G32-MW301S-121517"																
"G32-MW301S-121517"	"300.0"	"RES"	"TK1862-2DL"	"KAS"	"14797-55-8"	"NITRATE AS N"	"7.7"	"mg/L"	"0.087"	"MDL"	"TRG"		"0.25"	"PQL"	"YES"	"0.845"	"G32-MW301S-121517"
"G32-MW301B-121517"	"2320B"	"RES"	"TK1862-4"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"21."	"mg/L"	"0.23"	"MDL"	"TRG"		"5.0"	"PQL"	"YES"	"0"	"G32-MW301B-121517"
"4.0"	"G32-MW301B-121517"																

"G32-MW301B-121517"	"300.0"	"RES"	"TK1862-4"	"KAS"	"14797-55-8"	"NITRATE AS N"	"3.0"
"mg/L"	".0174"	"MDL"		"0.050"	"PQL"	"YES"	"0.845"
121517"	"0.025"	""					"G32-MW301B-
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-	
xylene"	"98.8"	"%"	"SURR"	"98.8"	"0"	"PQL"	"YES"
MW301B-121517"	"0"	""					"0.943"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"12674-11-2"	"AROCOLOR 1016"	"0.24"
"ug/L"	"U"	"0.15"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"11104-28-2"	"AROCOLOR 1221"	"0.24"
"ug/L"	"U"	"0.2"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"11141-16-5"	"AROCOLOR 1232"	"0.24"
"ug/L"	"U"	"0.089"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"53469-21-9"	"AROCOLOR 1242"	"0.24"
"ug/L"	"U"	"0.18"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"12672-29-6"	"AROCOLOR 1248"	"0.24"
"ug/L"	"U"	"0.2"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"11097-69-1"	"AROCOLOR 1254"	"0.24"
"ug/L"	"U"	"0.082"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"11096-82-5"	"AROCOLOR 1260"	"0.24"
"ug/L"	"U"	"0.17"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"37324-23-5"	"Aroclor-1262 "	"0.24"
"ug/L"	"U"	"0.066"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"11100-14-4"	"Aroclor-1268 "	"0.24"
"ug/L"	"U"	"0.072"		"0.47"	"PQL"	"YES"	"0"
"0.24"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"2051-24-3"		
"DECACHLOROBIPHENYL"	"78.5"	"%"		"0"	"MDL"	"SURR"	"78.5"
"YES"	"0.943"	"G32-MW301B-121517"		"0"	""		"0"
"G32-MW301B-121517"	"8082A"	"RES"	"TK1862-4"	"KAS"	"1336-36-3"	"TOTAL PCB"	"2.1"
"ug/L"	"U"	"0.062"		"4.2"	"PQL"	"YES"	"0"
"2.1"	""	"MDL"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-	
D4"	"121."	"%"	"SURR"	"121."	"0"	"PQL"	"YES"
MW301B-121517"	"0"	""					"50.0"
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"540-59-0"	"1,2-	
DICHLOROETHYLENE"	"2.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"1.0"
"YES"	"0"	"G32-MW301B-121517"		"2.0"	""		"PQL"
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"460-00-4"	"4-	
BROMOFLUOROBENZENE"	"102."	"%"		"0"	"MDL"	"SURR"	"102."
"YES"	"50.0"	"G32-MW301B-121517"		"0"	""		"0"
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"71-43-2"	"BENZENE"	"0.50"
"U"	"0.26"	"MDL"		"1.0"	"PQL"	"YES"	"0"
"0.50"	""	"TRG"					"G32-MW301B-121517"
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"156-59-2"	"CIS-1,2-	
DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"0.50"
"YES"	"0"	"G32-MW301B-121517"		"1.0"	""		"PQL"

"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"1868-53-7"			
"DIBROMOFLUOROMETHANE"	"112."	"%"	"0"	"MDL"	"SURR"	"112."	"0"	"PQL"
"YES"	"50.0"	"G32-MW301B-121517"	"0"	""				
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"		
"0.50"	"ug/L"	"U"	"0.40"	"MDL"	"TRG"	"1.0"	"PQL"	"YES" "0" "G32-
MW301B-121517"	"0.50"	""						
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"102."	
"%"	"0"	"MDL"	"SURR"	"102."	"0"	"PQL"	"YES"	"50.0" "G32-MW301B-121517"
"0"	""							
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"156-60-5"	"TRANS-1,2-		
DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"0.50"	"PQL"
"YES"	"0"	"G32-MW301B-121517"	"1.0"	""				
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"79-01-6"	"TRICHLOROETHENE"		
"0.50"	"ug/L"	"U"	"0.28"	"MDL"	"TRG"	"1.0"	"PQL"	"YES" "0" "G32-
MW301B-121517"	"0.50"	""						
"G32-MW301B-121517"	"8260C"	"RES"	"TK1862-4"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"	
"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0" "G32-MW301B-121517"
"2.0"	""							
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"615-58-7"	"2,4-Dibromophenol "		
"83.6"	"%"	"0"	"MDL"	"SURR"	"83.6"	"0"	"PQL"	"YES" "4.00" "G32-MW301B-
121517"	"0"	""						
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"91-57-6"	"2-		
METHYLNAPHTHALENE"	"0.094"	"ug/L"	"U"	"0.073"	"MDL"	"TRG"	"0.19"	"PQL"
"YES"	"0"	"G32-MW301B-121517"	"0.094"	""				
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-		
d10"	"72.6"	"%"	"0"	"MDL"	"SURR"	"72.6"	"0"	"PQL" "YES" "2.00" "G32-
MW301B-121517"	"0"	""						
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"56-55-3"			
"BENZO(A)ANTHRACENE"	"0.094"	"ug/L"	"U"	"0.043"	"MDL"	"TRG"	"0.19"	
"PQL"	"YES"	"0"	"G32-MW301B-121517"	"0.094"	""			
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"		
"0.094"	"ug/L"	"U"	"0.062"	"MDL"	"TRG"	"0.19"	"PQL"	"YES" "0" "G32-
MW301B-121517"	"0.094"	""						
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"205-99-2"			
"BENZO(B)FLUORANTHENE"	"0.094"	"ug/L"	"U"	"0.084"	"MDL"	"TRG"	"0.19"	
"PQL"	"YES"	"0"	"G32-MW301B-121517"	"0.094"	""			
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"191-24-2"			
"BENZO(G,H,I)PERYLENE"	"0.094"	"ug/L"	"U"	"0.061"	"MDL"	"TRG"	"0.19"	
"PQL"	"YES"	"0"	"G32-MW301B-121517"	"0.094"	""			
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"207-08-9"			
"BENZO(K)FLUORANTHENE"	"0.094"	"ug/L"	"U"	"0.046"	"MDL"	"TRG"	"0.19"	
"PQL"	"YES"	"0"	"G32-MW301B-121517"	"0.094"	""			
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"218-01-9"	"CHRYSENE"		
"0.094"	"ug/L"	"U"	"0.034"	"MDL"	"TRG"	"0.19"	"PQL"	"YES" "0" "G32-
MW301B-121517"	"0.094"	""						
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"53-70-3"			
"DIBENZO(A,H)ANTHRACENE"	"0.094"	"ug/L"	"U"	"0.066"	"MDL"	"TRG"	"0.19"	
"PQL"	"YES"	"0"	"G32-MW301B-121517"	"0.094"	""			
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"206-44-0"	"FLUORANTHENE"		
"0.094"	"ug/L"	"U"	"0.069"	"MDL"	"TRG"	"0.19"	"PQL"	"YES" "0" "G32-
MW301B-121517"	"0.094"	""						
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"81103-79-9"	"Fluorene-d10"		
"73.4"	"%"	"0"	"MDL"	"SURR"	"73.4"	"0"	"PQL"	"YES" "2.00" "G32-MW301B-
121517"	"0"	""						

"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	"0.094"	"ug/L"	"U"	"0.049"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"
"0"	"G32-MW301B-121517"		"0.094"	""											
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"91-20-3"	"NAPHTHALENE"	"0.094"	"ug/L"	"U"	"0.060"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"
"0"	"G32-MW301B-121517"		"0.094"	""											
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"	"0.47"	"ug/L"	"U"	"0.31"	"MDL"	"TRG"	"0.94"	"PQL"	"YES"
"0"	"G32-MW301B-121517"		"0.47"	""											
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"85-01-8"	"PHENANTHRENE"	"0.094"	"ug/L"	"U"	"0.048"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"
"0"	"G32-MW301B-121517"		"0.094"	""											
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"129-00-0"	"PYRENE"	"0.094"	"ug/L"	"U"	"0.056"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"
"0"	"G32-MW301B-121517"		"0.094"	""											
"G32-MW301B-121517"	"8270D-SIM"	"RES"	"TK1862-4"	"KAS"	"1718-52-1"	"Pyrene-d10"	"70.2"	"%"	"0"	"MDL"	"SURR"	"70.2"	"0"	"PQL"	"YES"
"0"	"G32-MW301B-121517"		"0"	"PQL"	"2.00"	"G32-MW301B-121517"									
"G32-MW301B-121517"	"300.0"	"RES"	"TK1862-4DL"	"KAS"	"16887-00-6"	"CHLORIDE"	"14"	"mg/L"	"0.20"	"MDL"	"TRG"	"4.0"	"PQL"	"YES"	"3.75"
"0"	"G32-MW301B-121517"		"2.0"	""											
"G32-MW301B-121517"	"300.0"	"RES"	"TK1862-4DL"	"KAS"	"14808-79-8"	"SULFATE"	"31"	"mg/L"	"0.13"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"3.75"
"0"	"G32-MW301B-121517"		"1.0"	""											
"MW404-121517"	"2320B"	"RES"	"TK1862-6"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"39."	"mg/L"	"0.23"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"
"0"	"MW404-121517"		"4.0"	""											
"MW404-121517"	"300.0"	"RES"	"TK1862-6"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.12"	"mg/L"	".0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"
"0"	"MW404-121517"		"0.025"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	"95.1"	"%"	"0"	"MDL"	"SURR"	"95.1"	"0"	"PQL"	"YES"
"0"	"MW404-121517"		"0"	"PQL"	"0.962"	"MW404-121517"									
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"12674-11-2"	"AROCLOR 1016"	"0.24"	"ug/L"	"U"	"0.14"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"11104-28-2"	"AROCLOR 1221"	"0.24"	"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"11141-16-5"	"AROCLOR 1232"	"0.24"	"ug/L"	"U"	"0.09"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"53469-21-9"	"AROCLOR 1242"	"0.24"	"ug/L"	"U"	"0.18"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"12672-29-6"	"AROCLOR 1248"	"0.24"	"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"11097-69-1"	"AROCLOR 1254"	"0.24"	"ug/L"	"U"	"0.082"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"11096-82-5"	"AROCLOR 1260"	"0.24"	"ug/L"	"U"	"0.17"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"
"0"	"MW404-121517"		"0.24"	""											

"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"37324-23-5"	"Aroclor-1262 "	"0.24"	"ug/L"
"U"	"0.066"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"MW404-121517"
"0.24"	""							
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"11100-14-4"	"Aroclor-1268 "	"0.24"	"ug/L"
"U"	"0.072"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"MW404-121517"
"0.24"	""							
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"2051-24-3"	"DECACHLOROBIPHENYL"		
"72.6"	"%"	"0"	"MDL"	"SURR"	"72.6"	"0"	"PQL"	"YES" "0.962" "MW404-121517"
"0"	""							
"MW404-121517"	"8082A"	"RES"	"TK1862-6"	"KAS"	"1336-36-3"	"TOTAL PCB"	"2.2"	"ug/L"
"U"	"0.063"	"MDL"	"TRG"	"4.3"	"PQL"	"YES"	"0"	"MW404-121517" "2.2"
""								
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"		
"123."	"%"	"*"	"0"	"MDL"	"SURR"	"123."	"0"	"PQL" "YES" "50.0" "MW404-121517"
"0"	""							
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"2.0"	
"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0" "MW404-121517"
"2.0"	""							
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"		
"104."	"%"	"0"	"MDL"	"SURR"	"104."	"0"	"PQL"	"YES" "50.0" "MW404-121517"
"0"	""							
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"71-43-2"	"BENZENE"	"0.50"	"ug/L" "U"
"0.26"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"MW404-121517"	"0.50"
""								
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"	"1.0"	
"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0" "MW404-121517"
"1.0"	""							
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"1868-53-7"	"DIBROMOFLUOROMETHANE"		
"113."	"%"	"0"	"MDL"	"SURR"	"113."	"0"	"PQL"	"YES" "50.0" "MW404-121517"
"0"	""							
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"		
"0.50"	"ug/L"	"U"	"0.40"	"MDL"	"TRG"	"1.0"	"PQL"	"YES" "0" "MW404-121517"
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"2037-26-5"	"TOLUENE-D8"	"103."	"%"
"0"	"MDL"	"SURR"	"103."	"0"	"PQL"	"YES"	"50.0"	"MW404-121517" "0" ""
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"		
"1.0"	"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"0.50"	"PQL"	"YES" "0" "MW404-121517"
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"79-01-6"	"TRICHLOROETHENE"	"0.50"	
"ug/L"	"U"	"0.28"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0" "MW404-121517"
"0.50"	""							
"MW404-121517"	"8260C"	"RES"	"TK1862-6"	"KAS"	"75-01-4"	"VINYL CHLORIDE"	"2.0"	"ug/L"
"U"	"0.25"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"MW404-121517" "2.0"
""								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"615-58-7"	"2,4-Dibromophenol "	"100."	
"%"	"0"	"MDL"	"SURR"	"100."	"0"	"PQL"	"YES"	"4.00" "MW404-121517"
"0"	""							
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"		
"0.095"	"ug/L"	"U"	"0.073"	"MDL"	"TRG"	"0.19"	"PQL"	"YES" "0" "MW404-121517"
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"		
"80.3"	"%"	"0"	"MDL"	"SURR"	"80.3"	"0"	"PQL"	"YES" "2.00" "MW404-121517"
"0"	""							
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"		

"0.095"	"ug/L"	"U"	"0.044"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"	"0.095"	"ug/L"	"U"	"0.063"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"		
"0.095"	"ug/L"	"U"	"0.085"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"205-99-2"	"BENZO(B)FLUORANTHENE"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"0.095"	"ug/L"	"U"	"0.062"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"0.095"	"ug/L"	"U"	"0.047"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"207-08-9"	"BENZO(K)FLUORANTHENE"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"0.095"	"ug/L"	"U"	"0.034"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"53-70-3"	"DIBENZO(A,H)ANTHRACENE"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"0.095"	"ug/L"	"U"	"0.070"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"81103-79-9"	"Fluorene-d10"	"84.8"	"%"	"0"	"MDL"	"SURR"	"84.8"	"0"	"PQL"	"YES"	"2.00"	"MW404-121517"	"0"	"%"
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"0.095"	"ug/L"	"U"	"0.061"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"	"0.95"	"PQL"	"YES"	"0"	"MW404-121517"								
"0.48"	"ug/L"	"U"	"0.31"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"85-01-8"	"PHENANTHRENE"	"0.095"	"ug/L"	"U"	"0.056"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"		
"0.095"	"ug/L"	"U"	"0.048"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"129-00-0"	"PYRENE"	"0.095"	"ug/L"	"U"	"0.056"	"MDL"	"TRG"	"0.19"	"PQL"	"YES"	"0"	"MW404-121517"		
"0.095"	"ug/L"	"U"	"0.056"	"MDL"	"TRG"		"0.19"	"PQL"	"YES"	"0"	"MW404-121517"								
"MW404-121517"	"8270D-SIM"	"RES"	"TK1862-6"	"KAS"	"1718-52-1"	"Pyrene-d10"	"70.8"	"%"	"0"	"MDL"	"SURR"	"70.8"	"0"	"PQL"	"YES"	"2.00"	"MW404-121517"	"0"	"%"
"MW404-121517"	"300.0"	"RES"	"TK1862-6RA"	"KAS"	"14808-79-8"	"SULFATE"	"100"	"mg/L"	"0.64"	"MDL"	"TRG"	"10."	"PQL"	"YES"	"3.75"	"MW404-121517"	"5.0"		
"MW404-121517"	"300.0"	"RES"	"TK1862-6RAB"	"KAS"	"16887-00-6"	"CHLORIDE"	"150"	"mg/L"	"2.0"	"MDL"	"TRG"	"40."	"PQL"	"YES"	"3.75"	"MW404-121517"	"20."		
"G32-MW302S-121517"	"2320B"	"RES"	"TK1862-8"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"22."	"mg/L"	"0.23"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"			
"G32-MW302S-121517"	"300.0"	"RES"	"TK1862-8"	"KAS"	"14797-55-8"	"NITRATE AS N"	"0.018"	"mg/L"	"J"	"0.0174"	"MDL"	"TRG"	"0.050"	"PQL"	"YES"	"0.845"	"G32-MW302S-121517"	"0.025"	

"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"877-09-8"	"2,4,5,6-Tetrachloro-meta-xylene"	"102."	"%"	"0"	"MDL"	"SURR"	"102."	"0"	"PQL"	"YES"	"0.971"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"12674-11-2"	"AROCOLOR 1016"	"0.24"	"ug/L"	"U"	"0.14"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"11104-28-2"	"AROCOLOR 1221"	"0.24"	"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"11141-16-5"	"AROCOLOR 1232"	"0.24"	"ug/L"	"U"	"0.09"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"53469-21-9"	"AROCOLOR 1242"	"0.24"	"ug/L"	"U"	"0.18"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"12672-29-6"	"AROCOLOR 1248"	"0.24"	"ug/L"	"U"	"0.2"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"11097-69-1"	"AROCOLOR 1254"	"0.24"	"ug/L"	"U"	"0.083"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"11096-82-5"	"AROCOLOR 1260"	"0.24"	"ug/L"	"U"	"0.17"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"37324-23-5"	"Aroclor-1262"	"0.24"	"ug/L"	"U"	"0.067"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"11100-14-4"	"Aroclor-1268"	"0.24"	"ug/L"	"U"	"0.073"	"MDL"	"TRG"	"0.48"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"2051-24-3"	"DECACHLOROBIPHENYL"	"89.8"	"%"	"0"	"MDL"	"SURR"	"89.8"	"0"	"PQL"	"YES"	"0.971"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8082A"	"RES"	"TK1862-8"	"KAS"	"1336-36-3"	"TOTAL PCB"	"2.2"	"ug/L"	"U"	"0.064"	"MDL"	"TRG"	"4.4"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"17060-07-0"	"1,2-DICHLOROETHANE-D4"	"124."	"%"	"0"	"MDL"	"SURR"	"124."	"0"	"PQL"	"YES"	"50.0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"540-59-0"	"1,2-DICHLOROETHYLENE"	"2.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"2.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"460-00-4"	"4-BROMOFLUOROBENZENE"	"105."	"%"	"0"	"MDL"	"SURR"	"105."	"0"	"PQL"	"YES"	"50.0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"71-43-2"	"BENZENE"	"0.50"	"ug/L"	"U"	"0.26"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"	"1.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"1.0"	"PQL"	"YES"	"0"	"G32-MW302S-121517"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"1868-53-7"	"DIBROMOFLUOROMETHANE"	"116."	"%"	"0"	"MDL"	"SURR"	"116."	"0"	"PQL"	"YES"	"50.0"	"G32-MW302S-121517"

"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"127-18-4"	"TETRACHLOROETHENE"
"0.50"	"ug/L"	"U"	"0.40"	"MDL"	"TRG"	"1.0"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.50"	"MDL"	"TRG"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"2037-26-5"	"TOLUENE-D8"
"104."	"0"	"MDL"	"SURR"	"104."	"0"	"PQL"
"YES"	"50.0"	"G32-MW302S-121517"	"0"	"MDL"	"SURR"	"104."
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"156-60-5"	"TRANS-1,2-DICHLOROETHENE"
"1.0"	"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"0.50"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"1.0"	"MDL"	"SURR"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"79-01-6"	"TRICHLOROETHENE"
"0.90"	"ug/L"	"J"	"0.28"	"MDL"	"TRG"	"1.0"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.50"	"MDL"	"SURR"
"G32-MW302S-121517"	"8260C"	"RES"	"TK1862-8"	"KAS"	"75-01-4"	"VINYL CHLORIDE"
"2.0"	"ug/L"	"U"	"0.25"	"MDL"	"TRG"	"1.0"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"2.0"	"ug/L"	"U"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"615-58-7"	"2,4-Dibromophenol"
"92.6"	"%"	"0"	"MDL"	"SURR"	"92.6"	"0"
"PQL"	"YES"	"4.00"	"G32-MW302S-121517"	"0"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"91-57-6"	"2-METHYLNAPHTHALENE"
"0.099"	"ug/L"	"U"	"0.076"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"
"79.4"	"%"	"0"	"MDL"	"SURR"	"79.4"	"0"
"PQL"	"YES"	"2.00"	"G32-MW302S-121517"	"0"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"56-55-3"	"BENZO(A)ANTHRACENE"
"0.10"	"ug/L"	"J"	"0.046"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"50-32-8"	"BENZO(A)PYRENE"
"0.088"	"ug/L"	"J"	"0.065"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"205-99-2"	"BENZO(B)FLUORANTHENE"
"0.12"	"ug/L"	"J"	"0.088"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"191-24-2"	"BENZO(G,H,I)PERYLENE"
"0.099"	"ug/L"	"U"	"0.064"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"207-08-9"	"BENZO(K)FLUORANTHENE"
"0.061"	"ug/L"	"J"	"0.048"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"218-01-9"	"CHRYSENE"
"0.099"	"ug/L"	"U"	"0.036"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"53-70-3"	"DIBENZO(A,H)ANTHRACENE"
"0.099"	"ug/L"	"U"	"0.069"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"206-44-0"	"FLUORANTHENE"
"0.25"	"ug/L"	"0.072"	"MDL"	"TRG"	"0.20"	"PQL"
"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"	"104."
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"81103-79-9"	"Fluorene-d10"
"82.1"	"%"	"0"	"MDL"	"SURR"	"82.1"	"0"
"PQL"	"YES"	"2.00"	"G32-MW302S-121517"	"0"	"MDL"	"SURR"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"193-39-5"	"INDENO(1,2,3-CD)PYRENE"
"0.17"	"ug/L"	"J"	"0.051"	"MDL"	"TRG"	"0.20"
"PQL"	"YES"	"0"	"G32-MW302S-121517"	"0.099"	"MDL"	"SURR"

"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"91-20-3"	"NAPHTHALENE"
"0.099"	"ug/L"	"U"	"0.063"	"MDL"	"TRG"	"0.20"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"87-86-5"	"PENTACHLOROPHENOL"
"0.50"	"ug/L"	"U"	"0.33"	"MDL"	"TRG"	"0.99"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"85-01-8"	"PHENANTHRENE"
"0.16"	"ug/L"	"J"	"0.050"	"MDL"	"TRG"	"0.20"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"129-00-0"	"PYRENE"
"0.099"	"ug/L"	"J"	"0.058"	"MDL"	"TRG"	"0.20"
"G32-MW302S-121517"	"8270D-SIM"	"RES"	"TK1862-8"	"KAS"	"1718-52-1"	"Pyrene-d10"
"0"	"MDL"	"SURR"	"70.0"	"0"	"PQL"	"YES"
"G32-MW302S-121517"	"300.0"	"RES"	"TK1862-8DL"	"KAS"	"14808-79-8"	"SULFATE"
"mg/L"	"0.32"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"
"G32-MW302S-121517"	"300.0"	"RES"	"TK1862-8RA"	"KAS"	"16887-00-6"	"CHLORIDE"
"mg/L"	"5.0"	"MDL"	"TRG"	"100"	"PQL"	"YES"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"615-58-7"	"2,4-Dibromophenol"
"88.2"	"%"	"0"	"MDL"	"SURR"	"88.2"	"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"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"7297-45-2"	"2-Methylnaphthalene-d10"
"79.5"	"%"	"0"	"MDL"	"SURR"	"79.5"	"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"
"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"
"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"
"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"
"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"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"218-01-9"	"CHRYSENE"
"0.10"	"ug/L"	"U"	"0.036"	"MDL"	"TRG"	"0.20"
"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"
"WG220335-1"	"8270D-SIM"	"RES"	"WG220335-1"	"KAS"	"206-44-0"	"FLUORANTHENE"
"0.10"	"ug/L"	"U"	"0.073"	"MDL"	"TRG"	"0.20"

"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"	"0.10"	""														
"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"
"CD)PYRENE"	"1.57"	"MDL"	"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"
"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"
"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"
"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"
"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"	"1.00"
"0"	""								
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"12674-11-2"	"AROCLOR 1016"	"0.25"		
"ug/L"	"U"	"0.15"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220411-1"
"0.25"	""								
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11104-28-2"	"AROCLOR 1221"	"0.25"		
"ug/L"	"U"	"0.20"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220411-1"
"0.25"	""								
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"11141-16-5"	"AROCLOR 1232"	"0.25"		
"ug/L"	"U"	"0.089"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220411-1"
"0.25"	""								
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"53469-21-9"	"AROCLOR 1242"	"0.25"		
"ug/L"	"U"	"0.18"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220411-1"
"0.25"	""								
"WG220411-1"	"8082A"	"RES"	"WG220411-1"	"KAS"	"12672-29-6"	"AROCLOR 1248"	"0.25"		
"ug/L"	"U"	"0.20"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"	"WG220411-1"
"0.25"	""								
"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"
"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"
"0"	""								
"WG220411-2"	"8082A"	"RES"	"WG220411-2"	"KAS"	"12674-11-2"	"AROCOLOR 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"	"AROCOLOR 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"
"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"
"0"	""								
"WG220411-3"	"8082A"	"RES"	"WG220411-3"	"KAS"	"11097-69-1"	"AROCOLOR 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"
"0"	""								
"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"
"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"	""								
"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"
"0"	""								
"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"
"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"
"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"
"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"
"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"	
""									
"WG220560-2"	"8260C"	"RES"	"WG220560-2"	"KAS"	"156-59-2"	"CIS-1,2-DICHLOROETHENE"			
"1.0"	"ug/L"	"U"	"0.21"	"MDL"	"TRG"	"0.50"	"PQL"	"YES"	"0"
"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"
"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"	"MDL"	"TRG"	"0.50"	"PQL"	
"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"	""								
"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"	"WG220781-1"
"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."	"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"	"WG220781-2"
"0.025"	""								
"WG220781-2"		"300.0"	"RES"	"WG220781-2"	"KAS"	"14808-79-8"	"SULFATE"	"3.65"	"mg/L"
"0.064"	"MDL"		"SPK"	"97.3"	"PQL"	"YES"	"3.75"	"WG220781-2"	
"0.50"	""								
"WG220969-1"		"2320B"	"RES"	"WG220969-1"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"0.51"	
"mg/L"	"J"	"0.23"	"MDL"	"TRG"	"5.0"	"PQL"	"YES"	"0"	"WG220969-1"
"4.0"	""								
"WG220969-2"		"2320B"	"RES"	"WG220969-2"	"KAS"	"11-43-8"	"ALKALINITY AS CaCO3"	"120"	
"mg/L"	"0.23"	"MDL"	"SPK"	"104"	"5.0"	"PQL"	"YES"	"120"	"WG220969-2"
"4.0"	""								
"112G08005-WE22"		"NEWPORT, GOULD ISLAND"	"LCSWKL19IMW2"	"AQ"					
"LCSWKL19IMW2"	"LCS"	"4.9"	"6020A"	"3010A"	"RES"	"12/19/2017 09:01"	"12/26/2017 19:21"		
"KAS"	"COA"	"WET"	"TOT"	"5"	"100.0"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	
"KL19IMW2"	"TK1862"	"12/19/2017 00:00"	"01/29/2018 13:35"	""					
"112G08005-WE22"		"NEWPORT, GOULD ISLAND"	"PBWKL19IMW2"	"AQ"	"PBWKL19IMW2"				
"MB"	"4.9"	"6020A"	"3010A"	"RES"	"12/19/2017 09:02"	"12/26/2017 19:17"	"KAS"	"COA"	
"WET"	"TOT"	"5"	"100.0"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	"TK1862"	
"12/19/2017 00:00"	"01/29/2018 13:35"	""							
"112G08005-WE22"		"NEWPORT, GOULD ISLAND"	"G32-MW301S-121517"	"12/15/2017 09:15"	"AQ"				
"TK1862-002"	"NM"	"4.9"	"6020A"	"3010A"	"RES"	"12/19/2017 09:03"	"12/26/2017 20:09"	"KAS"	
"COA"	"WET"	"TOT"	"5"	"100.0"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	
"TK1862"	"12/16/2017 00:00"	"01/29/2018 13:35"	""						
"112G08005-WE22"		"NEWPORT, GOULD ISLAND"	"G32-MW301S-121517"	"12/15/2017 09:15"	"AQ"				
"TK1862-003"	"NM"	"4.9"	"6020A"	"3010A"	"RES"	"12/19/2017 09:04"	"12/26/2017 20:13"	"KAS"	
"COA"	"WET"	"DIS"	"5"	"100.0"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	
"TK1862"	"12/16/2017 00:00"	"01/29/2018 13:35"	""						
"112G08005-WE22"		"NEWPORT, GOULD ISLAND"	"G32-MW301B-121517"	"12/15/2017 13:15"	"AQ"				
"TK1862-004"	"NM"	"4.9"	"6020A"	"3010A"	"RES"	"12/19/2017 09:05"	"12/26/2017 20:17"	"KAS"	
"COA"	"WET"	"TOT"	"5"	"100.0"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	"KL19IMW2"	
"TK1862"	"12/16/2017 00:00"	"01/29/2018 13:35"	""						
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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) TK1862

SAMPLES: 1 / Aqueous - VOC
TB-121517
1 / Aqueous - PFA
FRB-121517
4 / Aqueous – VOC, PAH, PCB, Dissolved & Total Metals, Miscellaneous, PFA
G32-MW301B-121517 G32-MW301S-121517
G32-MW302S-121517 MW404-121517

Overview

The sample set for NAVSTA Newport, SDG TK1862 consisted of four (4) aqueous environmental samples, one (1) aqueous field reagent blank sample, and one (1) aqueous trip 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 trip blank sample was analyzed for VOCs only and the field rinse blank sample was analyzed for PFAs only. No field duplicate sample pairs were included in this SDG.

The samples were collected by Tetra Tech, Inc. on December 15, 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
- Surrogate Spike Recoveries
- Internal Standard Areas
- * • ICP Interference Recoveries

* • 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.

Two PFAS samples were mis-labeled by Shealy laboratory. The samples ID were corrected by the data reviewer. Sample G32-MW301S-121517 was labeled as "G32-MW301~~5~~-121517" and sample G32-MW302S-121517 was labeled as "G32-MW302~~5~~-121517"

LABORATORY METHOD/PREPARATION BLANKS

PFOA (perfluoro-n-octanoic acid) was detected in the PFA analysis method blank above the method detection limit but below the reporting limit (RL) for method blank QC batch 60632 affecting all SDG samples. PFOS (perfluorooctanesulfonate) was detected in the field reagent blank, FRB-121517, 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⁾	0.52	2.60

⁽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.

INTERNAL STANDARD RECOVERIES

The PAH internal standard recoveries for perylene-d12 were greater than the quality control (QC) limit for samples G32-MW301S-121517 and G32-MW302S-121517. 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. The sample detected results for the aforementioned PAH analytes were qualified estimated, (J). Non-detected results for the aforementioned analytes did not require qualification.

NOTES

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

Method blank alkalinity was detected above the method detection limit but below the reporting limit for method blank QC batch WG220969. The associated sample alkalinity results were not qualified as the results were above the reporting limit.

TO: S. PARKER
SDG: TK1862

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The VOC surrogate recoveries for 1,2-dichloroethane-d4 were greater than the QC limit for samples G32-MW301B-121517, G32-MW301S-121517, G32-MW302S-121517, and MW404-121517. No action was taken as the surrogate associated VOC results were all non-detected for the aforementioned samples.

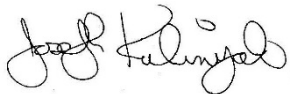
Detected results reported below the Reporting Limit (RL) but above the Method Detection Limit (MDL) were qualified as estimated, (J). Non-detected results are reported to the Limit of Detection (LOD).

EXECUTIVE SUMMARY

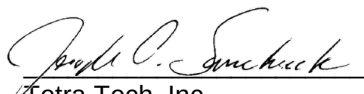
Laboratory Performance: Sample PFA results were qualified non-detected for Field Reagent Blank contamination. PAH results were qualified for internal standard recovery QC limit exceedances.

Other Factors Affecting Data Quality: Results below the RL but above the MDL were qualified estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017) and 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

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 ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ 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: TK1862 FRACTION: OV MEDIA: WATER	NSAMPLE	G32-MW301B-121517			G32-MW301S-121517			G32-MW302S-121517			MW404-121517		
	LAB_ID	TK1862-4			TK1862-2			TK1862-8			TK1862-6		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
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		1	U		1	U	
TETRACHLOROETHENE		0.5	U		0.5	U		0.5	U		0.5	U	
TOTAL 1,2-DICHLOROETHENE		2	U		2	U		2	U		2	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		0.5	U		0.5	U		0.9	J	P	0.5	U	
VINYL CHLORIDE		2	U		2	U		2	U		2	U	

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: OV MEDIA: WATER	NSAMPLE	TB-121517		
	LAB_ID	TK1862-1		
	SAMP_DATE	12/15/2017		
	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
BENZENE		0.5	U	
CIS-1,2-DICHLOROETHENE		1	U	
TETRACHLOROETHENE		0.5	U	
TOTAL 1,2-DICHLOROETHENE		2	U	
TRANS-1,2-DICHLOROETHENE		1	U	
TRICHLOROETHENE		0.5	U	
VINYL CHLORIDE		2	U	

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: PAH MEDIA: WATER	NSAMPLE	G32-MW301B-121517			G32-MW301S-121517			G32-MW302S-121517			MW404-121517		
	LAB_ID	TK1862-4			TK1862-2			TK1862-8			TK1862-6		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2-METHYLNAPHTHALENE		0.094	U		0.098	U		0.099	U		0.095	U	
BENZO(A)ANTHRACENE		0.094	U		0.098	U		0.1	J	P	0.095	U	
BENZO(A)PYRENE		0.094	U		0.098	U		0.088	J	NP	0.095	U	
BENZO(B)FLUORANTHENE		0.094	U		0.098	U		0.12	J	NP	0.095	U	
BENZO(G,H,I)PERYLENE		0.094	U		0.098	U		0.099	U		0.095	U	
BENZO(K)FLUORANTHENE		0.094	U		0.098	U		0.061	J	NP	0.095	U	
CHRYSENE		0.094	U		0.098	U		0.099	U		0.095	U	
DIBENZO(A,H)ANTHRACENE		0.094	U		0.098	U		0.099	U		0.095	U	
FLUORANTHENE		0.094	U		0.098	U		0.25			0.095	U	
INDENO(1,2,3-CD)PYRENE		0.094	U		0.098	U		0.17	J	NP	0.095	U	
NAPHTHALENE		0.094	U		0.098	U		0.099	U		0.095	U	
PENTACHLOROPHENOL		0.47	U		0.49	U		0.5	U		0.48	U	
PHENANTHRENE		0.094	U		0.098	U		0.16	J	P	0.095	U	
PYRENE		0.094	U		0.098	U		0.15	J	P	0.095	U	

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: PCB MEDIA: WATER	NSAMPLE	G32-MW301B-121517			G32-MW301S-121517			G32-MW302S-121517			MW404-121517		
	LAB_ID	TK1862-4			TK1862-2			TK1862-8			TK1862-6		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1221		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1232		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1242		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1248		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1254		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1260		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1262		0.24	U		0.24	U		0.24	U		0.24	U	
AROCLOR-1268		0.24	U		0.24	U		0.24	U		0.24	U	
TOTAL AROCLOR		2.1	U		2.2	U		2.2	U		2.2	U	

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: PFAS MEDIA: WATER	NSAMPLE	FRB-121517			G-32-MW301B-121517			G-32-MW301S-121517			G32-MW302S-121517		
	LAB_ID	SL22038-005			SL22038-002			SL22038-001			SL22038-004		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.9	U		0.93	U		0.93	U		0.85	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.9	U		0.93	U		0.93	U		0.85	U	
PENTADEC AFLUOROOCTANOIC ACID		0.45	U		0.46	U		11			0.43	U	
PERFLUOROBUTANESULFONIC ACID		0.45	U		0.46	U		0.9	J	P	0.43	U	
PERFLUORODECANOIC ACID		0.45	U		0.46	U		0.47	U		0.43	U	
PERFLUORODODECANOIC ACID		0.45	U		0.46	U		0.47	U		0.43	U	
PERFLUOROHEPTANOIC ACID		0.45	U		0.46	U		1.4	J	P	0.43	U	
PERFLUOROHEXANESULFONIC ACID		0.45	U		0.46	J	P	8.7			0.43	U	
PERFLUOROHEXANOIC ACID		0.45	U		0.46	U		1.7	J	P	0.51	J	P
PERFLUORONONANOIC ACID		0.45	U		0.46	U		1.4	J	P	0.43	U	
PERFLUOROOCTANE SULFONIC ACID		0.52	J	P	0.46	U		1.1	U	B	3.3		
PERFLUOROTETRADECANOIC ACID		0.9	U		0.93	U		0.93	U		0.85	U	
PERFLUOROTRIDECANOIC ACID		0.45	U		0.46	U		0.47	U		0.43	U	
PERFLUOROUNDECANOIC ACID		0.45	U		0.46	U		0.47	U		0.43	U	

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: PFAS MEDIA: WATER	NSAMPLE	MW404-121517		
	LAB_ID	SL22038-003		
	SAMP_DATE	12/15/2017		
	QC_TYPE	NM		
	UNITS	NG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.88	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		0.88	U	
PENTADEC AFLUOROOCTANOIC ACID		2.5		
PERFLUOROBUTANESULFONIC ACID		0.44	U	
PERFLUORODECANOIC ACID		0.44	U	
PERFLUORODODECANOIC ACID		0.44	U	
PERFLUOROHEPTANOIC ACID		1.9		
PERFLUOROHEXANESULFONIC ACID		0.44	U	
PERFLUOROHEXANOIC ACID		3.5		
PERFLUORONONANOIC ACID		0.44	J	P
PERFLUOROOCTANE SULFONIC ACID		0.93	U	B
PERFLUOROTETRADECANOIC ACID		0.88	U	
PERFLUOROTRIDECANOIC ACID		0.44	U	
PERFLUOROUNDECANOIC ACID		0.44	U	

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: M MEDIA: WATER	NSAMPLE	G32-MW301B-121517			G32-MW301S-121517			G32-MW302S-121517			MW404-121517		
	LAB_ID	TK1862-004			TK1862-002			TK1862-008			TK1862-006		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ARSENIC		4	U		4	U		4	U		4	U	
CADMIUM		0.096	J	P	0.2	U		0.2	U		0.039	J	P
LEAD		0.32	J	P	0.5	U		0.63	J	P	0.62	J	P
MANGANESE		69.7			2	J	P	1200			1200		

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: MF MEDIA: WATER	NSAMPLE	G32-MW301B-121517			G32-MW301S-121517			G32-MW302S-121517			MW404-121517		
	LAB_ID	TK1862-005			TK1862-003			TK1862-009			TK1862-007		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ARSENIC		4	U		4	U		4	U		4	U	
CADMIUM		0.13	J	P	0.2	U		0.2	U		0.052	J	P
LEAD		0.5	U		0.22	J	P	0.094	J	P	0.5	U	
MANGANESE		61.2			5.9			1120			1160		

PROJ_NO: 08005-WE22 SDG: TK1862 FRACTION: MISC MEDIA: WATER	NSAMPLE	G32-MW301B-121517			G32-MW301S-121517			G32-MW302S-121517			MW404-121517		
	LAB_ID	TK1862-4			TK1862-2			TK1862-8			TK1862-6		
	SAMP_DATE	12/15/2017			12/15/2017			12/15/2017			12/15/2017		
	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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALKALINITY		21			28			22			39		
CHLORIDE		14			7.4			380			150		
NITRATE-N		3			7.7			0.018	J	P	0.12		
SULFATE		31			7.5			90			100		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-1

Client ID: TB-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: W2440.D

Sample Date: 15-DEC-17

Received Date: 16-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		97.3	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		109.	%					
Dibromofluoromethane		105.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-2

Client ID: G32-MW301S-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: W2443.D

Sample Date: 15-DEC-17

Received Date: 16-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		102.	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		118.	%					
Dibromofluoromethane		110.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-4

Client ID: G32-MW301B-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: W2444.D

Sample Date: 15-DEC-17

Received Date: 16-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		102.	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4	*	121.	%					
Dibromofluoromethane		112.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-6

Client ID: MW404-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: W2445.D

Sample Date: 15-DEC-17

Received Date: 16-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		104.	%					
Toluene-d8		103.	%					
1,2-Dichloroethane-d4	*	123.	%					
Dibromofluoromethane		113.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-8

Client ID: G32-MW302S-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: W2446.D

Sample Date: 15-DEC-17

Received Date: 16-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	J	0.90	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		105.	%					
Toluene-d8		104.	%					
1,2-Dichloroethane-d4	*	124.	%					
Dibromofluoromethane		116.	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-4

Client ID: G32-MW301B-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: N7189.D

Sample Date: 15-DEC-17

Received Date: 16-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	0.47	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		72.6	%					
2,4-Dibromophenol		83.6	%					
Fluorene-D10		73.4	%					
Pyrene-D10		70.2	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-2

Client ID: G32-MW301S-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: N7188.D

Sample Date: 15-DEC-17

Received Date: 16-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	0.49	ug/L	1	1	0.98	0.32	0.49
Naphthalene	U	0.098	ug/L	1	.2	0.20	0.063	0.098
2-Methylnaphthalene	U	0.098	ug/L	1	.2	0.20	0.075	0.098
Phenanthrene	U	0.098	ug/L	1	.2	0.20	0.050	0.098
Fluoranthene	U	0.098	ug/L	1	.2	0.20	0.072	0.098
Pyrene	U	0.098	ug/L	1	.2	0.20	0.058	0.098
Benzo(a)anthracene	U	0.098	ug/L	1	.2	0.20	0.045	0.098
Chrysene	U	0.098	ug/L	1	.2	0.20	0.035	0.098
Benzo(b)Fluoranthene	U	0.098	ug/L	1	.2	0.20	0.087	0.098
Benzo(k)fluoranthene	U	0.098	ug/L	1	.2	0.20	0.048	0.098
Benzo(a)pyrene	U	0.098	ug/L	1	.2	0.20	0.065	0.098
Indeno(1,2,3-cd)pyrene	U	0.098	ug/L	1	.2	0.20	0.051	0.098
Dibenzo(a,h)anthracene	U	0.098	ug/L	1	.2	0.20	0.069	0.098
Benzo(g,h,i)perylene	U	0.098	ug/L	1	.2	0.20	0.064	0.098
2-Methylnaphthalene-D10		69.6	%					
2,4-Dibromophenol		77.8	%					
Fluorene-D10		71.8	%					
Pyrene-D10		71.7	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-8

Client ID: G32-MW302S-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: N7191.D

Sample Date: 15-DEC-17

Received Date: 16-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	0.50	ug/L	1	1	0.99	0.33	0.50
Naphthalene	U	0.099	ug/L	1	.2	0.20	0.063	0.099
2-Methylnaphthalene	U	0.099	ug/L	1	.2	0.20	0.076	0.099
Phenanthrene	J	0.16	ug/L	1	.2	0.20	0.050	0.099
Fluoranthene		0.25	ug/L	1	.2	0.20	0.072	0.099
Pyrene	J	0.15	ug/L	1	.2	0.20	0.058	0.099
Benzo(a)anthracene	J	0.10	ug/L	1	.2	0.20	0.046	0.099
Chrysene	U	0.099	ug/L	1	.2	0.20	0.036	0.099
Benzo(b)Fluoranthene	J	0.12	ug/L	1	.2	0.20	0.088	0.099
Benzo(k)fluoranthene	J	0.061	ug/L	1	.2	0.20	0.048	0.099
Benzo(a)pyrene	J	0.088	ug/L	1	.2	0.20	0.065	0.099
Indeno(1,2,3-cd)pyrene	J	0.17	ug/L	1	.2	0.20	0.051	0.099
Dibenzo(a,h)anthracene	U	0.099	ug/L	1	.2	0.20	0.069	0.099
Benzo(g,h,i)perylene	U	0.099	ug/L	1	.2	0.20	0.064	0.099
2-Methylnaphthalene-D10		79.4	%					
2,4-Dibromophenol		92.6	%					
Fluorene-D10		82.1	%					
Pyrene-D10		70.0	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-6

Client ID: MW404-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: N7190.D

Sample Date: 15-DEC-17

Received Date: 16-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	0.95	0.31	0.48
Naphthalene	U	0.095	ug/L	1	.2	0.19	0.061	0.095
2-Methylnaphthalene	U	0.095	ug/L	1	.2	0.19	0.073	0.095
Phenanthrene	U	0.095	ug/L	1	.2	0.19	0.048	0.095
Fluoranthene	U	0.095	ug/L	1	.2	0.19	0.070	0.095
Pyrene	U	0.095	ug/L	1	.2	0.19	0.056	0.095
Benzo(a)anthracene	U	0.095	ug/L	1	.2	0.19	0.044	0.095
Chrysene	U	0.095	ug/L	1	.2	0.19	0.034	0.095
Benzo(b)Fluoranthene	U	0.095	ug/L	1	.2	0.19	0.085	0.095
Benzo(k)fluoranthene	U	0.095	ug/L	1	.2	0.19	0.047	0.095
Benzo(a)pyrene	U	0.095	ug/L	1	.2	0.19	0.063	0.095
Indeno(1,2,3-cd)pyrene	U	0.095	ug/L	1	.2	0.19	0.050	0.095
Dibenzo(a,h)anthracene	U	0.095	ug/L	1	.2	0.19	0.067	0.095
Benzo(g,h,i)perylene	U	0.095	ug/L	1	.2	0.19	0.062	0.095
2-Methylnaphthalene-D10		80.3	%					
2,4-Dibromophenol		100.	%					
Fluorene-D10		84.8	%					
Pyrene-D10		70.8	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-4

Client ID: G32-MW301B-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: 8KL00557.D

Sample Date: 15-DEC-17

Received Date: 16-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: 02-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.47	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.47	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.47	0.084	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.47	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.47	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.47	0.077	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.47	0.16	0.24
Aroclor-1262	U	0.24	ug/L	1	.5	0.47	0.062	0.24
Aroclor-1268	U	0.24	ug/L	1	.5	0.47	0.068	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.2	0.062	2.1
Tetrachloro-M-Xylene		98.8	%					
Decachlorobiphenyl		78.5	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-2

Client ID: G32-MW301S-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: 8KL00556.D

Sample Date: 15-DEC-17

Received Date: 16-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: 02-JAN-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Aroclor-1262	U	0.24	ug/L	1	.5	0.49	0.065	0.24
Aroclor-1268	U	0.24	ug/L	1	.5	0.49	0.070	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		96.7	%					
Decachlorobiphenyl		77.0	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-8

Client ID: G32-MW302S-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: 8KL00562.D

Sample Date: 15-DEC-17

Received Date: 16-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: 02-JAN-18

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		102.	%					
Decachlorobiphenyl		89.8	%					

Report of Analytical Results

Client: Tetra Tech NUS, Inc.

Lab ID: TK1862-6

Client ID: MW404-121517

Project: NAVSTA Newport, Gould Island CTO-

SDG: TK1862

Lab File ID: 8KL00561.D

Sample Date: 15-DEC-17

Received Date: 16-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: 02-JAN-18

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	0.079	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	0.069	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.3	0.063	2.2
Tetrachloro-M-Xylene		95.1	%					
Decachlorobiphenyl		72.6	%					

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW301B-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-004

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	0.096	J		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, TOTAL	0.32	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	69.7			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW301S-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-002

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	0.50	U		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	2.0	J		MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302S-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-008

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	0.63	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1200			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: MW404-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-006

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	0.039	J		MS	5	1.0	0.029	0.20
7439-92-1	LEAD, TOTAL	0.62	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1200			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW301B-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-005

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	0.13	J		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	61.2			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW301S-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-003

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	0.22	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, DISSOLVED	5.90			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: G32-MW302S-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-009

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	0.094	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, DISSOLVED	1120			MS	5	2.0	0.35	1.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: MW404-121517

Matrix: WATER

SDG Name: TK1862

Percent Solids: 0.00

Lab Sample ID: TK1862-007

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	0.052	J		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	1160			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: TK1862-4
Report Date: 03-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1862

Sample Description

G32-MW301B-121517

Matrix **Date Sampled** **Date Received**
AQ 15-DEC-17 13:15:00 16-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	21. mg/L	5.0	0.23	4.0	STDM 2320B	WG220969	28-DEC-17 15:56:47	N/A	N/A	
Chloride	14 mg/L	4.0	0.20	2.0	EPA 300.0	WG220447	16-DEC-17 17:34:00	E300.0	N/A	
Nitrate as N	3.0 mg/L	0.050	.0174	0.025	EPA 300.0	WG220447	16-DEC-17 16:47:00	E300.0	N/A	
Sulfate	31 mg/L	2.0	0.13	1.0	EPA 300.0	WG220447	16-DEC-17 17:34:00	E300.0	N/A	

Report of Analytical Results

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

Lab Sample ID: TK1862-2
Report Date: 03-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1862

Sample Description

G32-MW301S-121517

Matrix Date Sampled Date Received
AQ 15-DEC-17 09:15:00 16-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	28. mg/L	5.0	0.23	4.0	STDM 2320B	WG220969	28-DEC-17 15:54:29	N/A	N/A	
Chloride	7.4 mg/L	2.0	.0993	1.0	EPA 300.0	WG220447	16-DEC-17 18:05:00	E300.0	N/A	
Nitrate as N	7.7 mg/L	0.25	0.087	0.12	EPA 300.0	WG220447	16-DEC-17 18:37:00	E300.0	N/A	
Sulfate	7.5 mg/L	1.0	0.064	0.50	EPA 300.0	WG220447	16-DEC-17 18:05:00	E300.0	N/A	

Report of Analytical Results

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

Lab Sample ID: TK1862-8
Report Date: 03-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1862

Sample Description

G32-MW302S-121517

Matrix Date Sampled Date Received
AQ 15-DEC-17 11:55:00 16-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	22. mg/L	5.0	0.23	4.0	STDM 2320B	WG220969	28-DEC-17 16:01:19	N/A	N/A	
Chloride	380 mg/L	100	5.0	50.	EPA 300.0	WG220781	18-DEC-17 20:28:00	E300.0	N/A	
Nitrate as N	10.018 mg/L	0.050	.0174	0.025	EPA 300.0	WG220447	16-DEC-17 18:53:00	E300.0	N/A	
Sulfate	90 mg/L	5.0	0.32	2.5	EPA 300.0	WG220447	16-DEC-17 19:24:00	E300.0	N/A	

Report of Analytical Results

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

Lab Sample ID: TK1862-6
Report Date: 03-JAN-18
Client PO: PO:1132379, PN:112G0
Project: NAVSTA Newport, Goul
SDG: TK1862

Sample Description

MW404-121517

Matrix Date Sampled Date Received
AQ 15-DEC-17 12:05:00 16-DEC-17

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Alkalinity	39. mg/L	5.0	0.23	4.0	STDM 2320B	WG220969	28-DEC-17 15:59:01	N/A	N/A	
Chloride	150 mg/L	40.	2.0	20.	EPA 300.0	WG220781	18-DEC-17 20:12:00	E300.0	N/A	
Nitrate as N	0.12 mg/L	0.050	.0174	0.025	EPA 300.0	WG220447	16-DEC-17 16:00:00	E300.0	N/A	
Sulfate	100 mg/L	10.	0.64	5.0	EPA 300.0	WG220781	18-DEC-17 19:57:00	E300.0	N/A	

PFAS by LC/MS/MS

Client: Katahdin Analytical Services					Laboratory ID: SL22038-005				
Description: FRB-121517					Matrix: Aqueous				
Date Sampled: 12/15/2017									
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 2249	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	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.90	U	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 (PFTTrDA)	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	0.52	J	1.8	0.90	0.45	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		104	50-150
13C2_PFTeDA		95	50-150
13C3_PFBs		104	50-150
13C3_PFHxS		104	50-150
13C4_PFHpA		102	50-150
13C5_PFHxA		102	50-150
13C6_PFDA		102	50-150
13C7_PFUdA		106	50-150
13C8_PFOA		104	50-150
13C8_PFOS		107	50-150
13C9_PFNA		106	50-150
d5-EtFOSAA		106	50-150
d3-MeFOSAA		101	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: SL22038-002			
Description: G-32-MW301B-121517				Matrix: Aqueous			
Date Sampled: 12/15/2017 1315							
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 2154	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	0.93	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.9	U	3.7	1.9	0.93	ng/L	1
Perfluoro-1-butanefluoride (PFBS)	375-73-5	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.46	J	1.9	0.95	0.46	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.9	U	3.7	1.9	0.93	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	0.95	U	1.9	0.95	0.46	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		91	50-150
13C2_PFTeDA		88	50-150
13C3_PFBs		98	50-150
13C3_PFHxS		98	50-150
13C4_PFHpA		99	50-150
13C5_PFHxA		98	50-150
13C6_PFDA		97	50-150
13C7_PFUdA		98	50-150
13C8_PFOA		99	50-150
13C8_PFOS		98	50-150
13C9_PFNA		99	50-150
d5-EtFOSAA		99	50-150
d3-MeFOSAA		98	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: SL22038-001			
Description: G-32-MW3015-121517				Matrix: Aqueous			
Date Sampled: 12/15/2017 0915							
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 2141	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	0.93	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.9	U	3.7	1.9	0.93	ng/L	1
Perfluoro-1-butanefulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.90	J	1.9	0.95	0.47	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	8.7		1.9	0.95	0.47	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.95	U	1.9	0.95	0.47	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	537.1 Mod. ID	0.95	U	1.9	0.95	0.47	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	1.4	J	1.9	0.95	0.47	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	1.7	J	1.9	0.95	0.47	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	1.4	J	1.9	0.95	0.47	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	11		1.9	0.95	0.47	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.9	U	3.7	1.9	0.93	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	537.1 Mod. ID	0.95	U	1.9	0.95	0.47	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.95	U	1.9	0.95	0.47	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	1.1	J	1.9	0.95	0.47	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		108	50-150
13C2_PFTeDA		100	50-150
13C3_PFBs		111	50-150
13C3_PFHxS		114	50-150
13C4_PFHpA		113	50-150
13C5_PFHxA		113	50-150
13C6_PFDA		118	50-150
13C7_PFUdA		115	50-150
13C8_PFOA		115	50-150
13C8_PFOS		111	50-150
13C9_PFNA		116	50-150
d5-EtFOSAA		117	50-150
d3-MeFOSAA		110	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.
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PFAS by LC/MS/MS

Client: Katahdin Analytical Services	Laboratory ID: SL22038-004
Description: G32-MW3025-121517	Matrix: Aqueous
Date Sampled: 12/15/2017 1155	
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 2235	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	3.4	1.7	0.85	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	537.1 Mod. ID	1.7	U	3.4	1.7	0.85	ng/L	1
Perfluoro-1-butanefulfonate (PFBS)	375-73-5	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluorohexanesulfonate (PFHxS)	355-46-4	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	0.51	J	1.7	0.85	0.43	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	537.1 Mod. ID	1.7	U	3.4	1.7	0.85	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	537.1 Mod. ID	0.85	U	1.7	0.85	0.43	ng/L	1
Perfluorooctanesulfonate (PFOS)	1763-23-1	537.1 Mod. ID	3.3		1.7	0.85	0.43	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		97	50-150
13C2_PFTeDA		83	50-150
13C3_PFBs		97	50-150
13C3_PFHxS		97	50-150
13C4_PFHpA		96	50-150
13C5_PFHxA		95	50-150
13C6_PFDA		98	50-150
13C7_PFUdA		97	50-150
13C8_PFOA		96	50-150
13C8_PFOS		99	50-150
13C9_PFNA		101	50-150
d5-EtFOSAA		102	50-150
d3-MeFOSAA		100	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: SL22038-003				
Description: MW404-121517					Matrix: Aqueous				
Date Sampled: 12/15/2017 1205									
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 2221	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	1.9		1.8	0.90	0.44	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	537.1 Mod. ID	3.5		1.8	0.90	0.44	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	537.1 Mod. ID	0.44	J	1.8	0.90	0.44	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	2.5		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	0.93	J	1.8	0.90	0.44	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		96	50-150
13C2_PFTeDA		88	50-150
13C3_PFBs		101	50-150
13C3_PFHxS		102	50-150
13C4_PFHpA		99	50-150
13C5_PFHxA		101	50-150
13C6_PFDA		101	50-150
13C7_PFUdA		99	50-150
13C8_PFOA		98	50-150
13C8_PFOS		105	50-150
13C9_PFNA		101	50-150
d5-EtFOSAA		99	50-150
d3-MeFOSAA		100	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

APPENDIX C

SUPPORT DOCUMENTATION

Client: <u>TTEC</u>	KAS PM: <u>MLM</u>	Sampled By: <u>Client</u>
Project:	KIMS Entry By: <u>SO</u>	Delivered By: <u>Fedex</u>
KAS Work Order#: <u>TK1862</u>	KIMS Review By: <u>AMH</u>	Received By: <u>SO</u>
SDG #:	Cooler: <u>1</u> of <u>3</u>	Date/Time Rec.: <u>12-16-17 1100</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>1.2</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?	☒				
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?				☒	Note: No cooling process required for metals (except Hg soil) analysis.
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>TTEC</u>	KAS PM: <u>MLM</u>	Sampled By: <u>Client</u>
Project:	KIMS Entry By: <u>SO</u>	Delivered By: <u>FedEx</u>
KAS Work Order#: <u>TK1862</u>	KIMS Review By: <u>AMH</u>	Received By: <u>SO</u>
SDG #:	Cooler: <u>2</u> of <u>3</u>	Date/Time Rec.: <u>12-16-17 1100</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>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?	☒				
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?				☒	Note: No cooling process required for metals (except Hg soil) analysis.
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.				☒	
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>TTEC</u>	KAS PM: <u>MLM</u>	Sampled By: <u>Client</u>
Project:	KIMS Entry By: <u>SO</u>	Delivered By: <u>FedEx</u>
KAS Work Order#: <u>TK1862</u>	KIMS Review By: <u>AMH</u>	Received By: <u>SO</u>
SDG #:	Cooler: <u>3</u> of <u>3</u>	Date/Time Rec.: <u>12-16-17 1100</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>4.9</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?	☒				
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?				☒	Note: No cooling process required for metals (except Hg soil) analysis.
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
03:37 PM

Page: 1 of 3

Login Number: TK1862
Account: TETRAT001

Tetra Tech NUS, Inc.

Project: TT-GOULD-WE22

Web

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.

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

CHECK NO. :
CLIENT PO# : PO:1132379, PN:112G08005-WE22

CLIENT PROJECT MANAGE : Michael Horton

CONTRACT : N62470-16-D-9008

COOLER TEMPERATURE : 1.2, 1.6, 4.9

DELIVERY SERVICES : Fedex

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.

Report CC Addresses:
Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	SDG ID		Receive Date	Verbal Date	Due Date	Mailed
		Collect Date/Time	STATUS VERBAL TAT				
TK1862-1	TB-121517	15-DEC-17 00:00		16-DEC-17		03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW8260-S	29-DEC-17	40mL Vial+HCl				
TK1862-2	G32-MW301S-121517	15-DEC-17 09:15		16-DEC-17		03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	13-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	29-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	14-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	29-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAAH-S	22-DEC-17	1L N-Amber Glass				
TK1862-3	G32-MW301S-121517	15-DEC-17 09:15		16-DEC-17		03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	13-JUN-18	250mL Plastic+HNO3				
TK1862-4	G32-MW301B-121517	15-DEC-17 13:15		16-DEC-17		03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	13-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	29-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	14-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	29-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAAH-S	22-DEC-17	1L N-Amber Glass				

AMH 12/18/17

Dec. 18, 2017

03:37 PM

Quote/Incoming: TT-GOULD-WE22

Login Number: TK1862

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
TK1862-5	G32-MW301B-121517	15-DEC-17 13:15	16-DEC-17			03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	13-JUN-18	250mL Plastic+HNO3				
TK1862-6	MW404-121517	15-DEC-17 12:05	16-DEC-17			03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	13-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	29-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	14-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	29-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAAH-S	22-DEC-17	1L N-Amber Glass				
TK1862-7	MW404-121517	15-DEC-17 12:05	16-DEC-17			03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	13-JUN-18	250mL Plastic+HNO3				
TK1862-8	G32-MW302S-121517	15-DEC-17 11:55	16-DEC-17			03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S E300.0-ANIONS	13-JAN-18	250mL Plastic				
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				
Aqueous	S SM2320B-ALKALINITY	29-DEC-17	250mL Plastic				
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW8082-S	14-JAN-18	1L N-Amber Glass				
Aqueous	S SW8260-S	29-DEC-17	40mL Vial+HCl				
Aqueous	S SW8270SIMPAAH-S	22-DEC-17	1L N-Amber Glass				
TK1862-9	G32-MW302S-121517	15-DEC-17 11:55	16-DEC-17			03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Aqueous	S SW3010MS-PREP	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-ARSENIC-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-CADMIUM-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-LEAD-DIS	13-JUN-18	250mL Plastic+HNO3				
Aqueous	S SW6020-MANGANESE-DIS	13-JUN-18	250mL Plastic+HNO3				
TK1862-10	MW400-121517	15-DEC-17 14:50	16-DEC-17			03-JAN-18	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
						Cancelled by client, client indicated sample was collected incorrectly and will re-sample.	



Katahdin Analytical Services
Login Chain of Custody Report (Ino1)

Page: 3 of 3

Dec. 18, 2017

03:37 PM

Quote/Incoming: TT-GOULD-WE22

Login Number: TK1862

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
TK1862-11	MW400-121517	15-DEC-17 14:50	16-DEC-17			03-JAN-18	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
					Cancelled by client, client indicated sample was collected incorrectly and will re-sample.		
TK1862-12	FRB-121517	15-DEC-17 00:00	16-DEC-17			03-JAN-18	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
Aqueous	S PFOA-PFOS-SUB		250mL Plastic				

Total Samples: 10

Total Analyses: 66

AMH 12/18/17

SDG NARRATIVE
KATAHDIN ANALYTICAL SERVICES
TETRA TECH NUS, INC.
NAVSTA NEWPORT, GOULD ISLAND CTO-WE22
TK1862

Sample Receipt

The following samples were received on December 16, 2017 and were logged in under Katahdin Analytical Services work order number TK1862 for a hardcopy due date of January 3, 2017.

KATAHDIN <u>Sample No.</u>	TTNUS <u>Sample Identification</u>
TK1862-1	TB-121517
TK1862-2	G32-MW301S-121517
TK1862-3	G32-MW301S-121517
TK1862-4	G32-MW301B-121517
TK1862-5	G32-MW301B-121517
TK1862-6	MW404-121517
TK1862-7	MW404-121517
TK1862-8	G32-MW302S-121517
TK1862-9	G32-MW302S-121517
TK1862-12	FRB-121517

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 TK1862 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.

8260B Analysis

Samples TK1862-2, 4, 6, and 8 had recoveries for one surrogate that were high and outside DoD acceptance criteria. Since a high recovery indicates a high bias and no target analytes were detected above the LOQ, no further action was taken.

The closing CV (file W2454) had acceptable responses but was analyzed 16 minutes outside of the 12 hour window. If a closing CV fails, the DoD QSM allows for the analysis of two additional CVs which do not need to be within the 12 hour window. The two additional CV's (files W2455 and W2456) were analyzed and were acceptable, and all three CVs are reported.

8082A Analysis

The calibration verification standard (CV) (file 8KL00558) had a high response for the Aroclor 1260 on channel B. The CV (file 8KL00571) had high responses for Aroclor 1016, Aroclor 1260, and the surrogate DCB on channel B. These responses resulted in %D's that were greater than the DoD QSM acceptance limit of 20%. Since a high response would indicate a high bias and no target analytes were detected above the MDL in the associated samples, no further action was taken.

8270D SIM Analysis

Sample TK1862-8 was manually integrated for the analyte benzo(k)fluoranthene. The specific reason for the manual integration is indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

Samples TK1862-2 and 8 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 midpoint standard of the initial calibration.

The CVs (file 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%.

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.

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

Metals Analysis

The samples of Katahdin Work Order TK1862 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 TK1862-(2-9) were digested for ICP-MS analysis on 12/19/17 (QC Batch KL19IMW2) in accordance with USEPA Method 3010A.

ICP-MS analyses of Katahdin Work Order TK1862 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.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IIIP 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).

IDLs, LODs, MDLs, and LOQs are listed on Form 10 of the accompanying data package.

Wet Chemistry Analysis

The samples of Work Order TK1862 were analyzed in accordance with the specific methods listed on the Report of Analysis.

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.

Analyses for chloride, nitrate, and sulfate were performed according to "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA 600/R-93/100, August 1993.

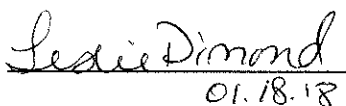
All Wet Chemistry results were evaluated to Katahdin Analytical Services' Method Detection Limits (MDL). Measured concentrations that fall between the MDL and Katahdin's Limit of Quantitation (LOQ) are flagged "J". Measured concentrations that are below the MDL are flagged "U" and reported as "U LOD",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

Subcontracted Data

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

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 above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.



01.18.18

Leslie Dimond
Quality Assurance Officer

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: TK1862

Matrix: AQ

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
TB-121517	TK1862-1		97.3		105.		109.		100.	
G32-MW301S-121517	TK1862-2		102.		110.		118.	*	102.	
G32-MW301B-121517	TK1862-4		102.		112.		121.	*	102.	
MW404-121517	TK1862-6		104.		113.		123.	*	103.	
G32-MW302S-121517	TK1862-8		105.		116.		124.	*	104.	
Laboratory Control S	WG220560-1		100.		101.		98.2		100.	
Method Blank Sample	WG220560-2		99.4		105.		108.		101.	

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 : TK1862
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
TB-121517	TK1862-1	W2440.D	12/22/17	13:06
G32-MW301S-121517	TK1862-2	W2443.D	12/22/17	14:38
G32-MW301B-121517	TK1862-4	W2444.D	12/22/17	15:09
MW404-121517	TK1862-6	W2445.D	12/22/17	15:39
G32-MW302S-121517	TK1862-8	W2446.D	12/22/17	16:10

Report of Analytical Results

Client:
Lab ID: WG220560-2
Client ID: Method Blank Sample
Project:
SDG: TK1862
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 : WG221338-4
Lab File ID : W2423.D

SDG: TK1862
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	
TB-121517	TK1862-1	433268		8.00		754682		8.84		689040		13.18	
G32-MW301S-121517	TK1862-2	386299		8.01		676939		8.85		626847		13.18	
G32-MW301B-121517	TK1862-4	369937		8.01		650075		8.85		610680		13.18	
MW404-121517	TK1862-6	354070		8.01		621132		8.85		585566		13.18	
G32-MW302S-121517	TK1862-8	344500		8.01		602355		8.85		569731		13.18	
Continuing Calibrati	WG220560-7	416751		8.01		683285		8.85		660326		13.18	
Continuing Calibrati	WG220560-9	421700		8.01		701530		8.85		670501		13.18	
Continuing Calibrati	WG220560-10	432344		8.01		728538		8.85		694897		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: TK1862
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	
TB-121517	TK1862-1	414181		16.90	
G32-MW301S-121517	TK1862-2	376999		16.90	
G32-MW301B-121517	TK1862-4	367643		16.89	
MW404-121517	TK1862-6	355045		16.90	
G32-MW302S-121517	TK1862-8	340746		16.89	
Continuing Calibrati	WG220560-7	416810		16.89	
Continuing Calibrati	WG220560-9	420038		16.90	
Continuing Calibrati	WG220560-10	433057		16.90	

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-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 12/11/17

WAS 1-5-12					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	VOABFBAG							Y	21	7		WG-221338
-4	W2422	1	1	WBA05(50)							N				
VST0050 -4	23	1	2								Y				New STD.
20 -3	24	1	3								Y				
8 -2	25	1	4								N				Bad 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				
Was 1-577															

STANDARD	CODE	STANDARD	CODE
BFB	W0904	IS MIX	✓ 0926
CAL. STD.		SS MIX	↓
LCS/MS MIX			
EXTRAS MIX			

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: 12/2/17 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	VOADFA3							Y	21			
-4	W2434	1	1	W8A05(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				80:16 00616 min
2	55	1	22								Y				Net net
3	56	1	23								Y				
Rinsc	57	1	24								Y				
															TTC 12/2/17

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 :** TK1862
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-MW301S-121517	TK1862-2	N7188.D	12/29/17	14:19
G32-MW301B-121517	TK1862-4	N7189.D	12/29/17	14:51
MW404-121517	TK1862-6	N7190.D	12/29/17	15:23
G32-MW302S-121517	TK1862-8	N7191.D	12/29/17	15:55

Report of Analytical Results

Client:
Lab ID: WG220335-1
Client ID: Method Blank Sample
Project:
SDG: TK1862
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: TK1862 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

Form 2

System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services
Lab Code: KAS

Project: NAVSTA Newport, Gould Island CTO-WE22
SDG: TK1862

Matrix: AQ

Client Sample ID	Lab Sample ID	Col. ID	2MN	# DBP	# FLO	# PYR	#
G32-MW301S-121517	TK1862-2		69.6	77.8	71.8	71.7	
G32-MW301B-121517	TK1862-4		72.6	83.6	73.4	70.2	
MW404-121517	TK1862-6		80.3	100.	84.8	70.8	
G32-MW302S-121517	TK1862-8		79.4	92.6	82.1	70.0	
Method Blank Sample	WG220335-1		79.5	88.2	78.2	87.2	
Laboratory Control S	WG220335-2		74.8	84.8	68.1	68.0	

QC Limits

DBP	2,4-DIBROMOPHENOL	10-130
2MN	2-METHYLNAPHTHALENE-D10	43-92
FLO	FLUORENE-D10	29-101
PYR	PYRENE-D10	53-166

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

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: TK1862
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	
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	
G32-MW301S-121517	TK1862-2	36474		7.25		119328		8.92		51869		11.24	
G32-MW301B-121517	TK1862-4	33601		7.25		108674		8.92		47978		11.24	
MW404-121517	TK1862-6	31200		7.25		96148		8.92		39498		11.24	
G32-MW302S-121517	TK1862-8	34906		7.25		113544		8.92		49353		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: TK1862
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
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
G32-MW301S-121517	TK1862-2	81536	13.24	36510	16.99	27468 *	19.98
G32-MW301B-121517	TK1862-4	74007	13.24	33149	16.99	24202	19.98
MW404-121517	TK1862-6	59282	13.24	28001	16.99	22613	19.98
G32-MW302S-121517	TK1862-8	79644	13.23	38729	16.98	29414 *	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.

Compounds	QUANT SIG						AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE		CAL-AMT (ug/ml)	ON-COL (ug/ml)	
=====	=====	=====	=====	=====	=====		=====	=====	=====
* 76 Chrysene-D12	240	17.008	17.008	(1.000)	27009		0.80000	(a)	
77 Chrysene	228	17.055	17.064	(1.003)	97124		2.00000	1.86(a)	
78 bis(2-Ethylhexyl)phthalate	149	17.130	17.139	(1.007)	361227		4.50000	4.33(a)	
79 Di-n-octylphthalate	149	18.455	18.465	(1.085)	482013		4.50000	4.44(a)	
80 Benzo(b)fluoranthene	252	19.180	19.191	(0.957)	42193		2.00000	1.84(a)	
81 Benzo(k)fluoranthene	252	19.243	19.243	(0.960)	69064		2.00000	2.01(aH)	
82 Benzo(a)pyrene	252	19.916	19.926	(0.994)	41020		2.00000	1.81(a)	
* 83 Perylene-D12	264	20.042	20.042	(1.000)	13727		0.80000	(a)	
84 Indeno(1,2,3-cd)pyrene	276	22.154	22.154	(1.303)	30959		2.00000	1.47(a)	
85 Dibenzo(a,h)anthracene	278	22.196	22.196	(1.107)	22437		2.00000	1.76(a)	
86 Benzo(g,h,i)perylene	276	22.732	22.732	(1.134)	30839		2.00000	1.76(a)	
M 87 Total PAHs	100				2465263		36.0000	(a)	

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.
- H - Operator selected an alternate compound hit.

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 : TK1862 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
G32-MW301S-121517	TK1862-2	8KL00556.	12/25/17	08:08
G32-MW301B-121517	TK1862-4	8KL00557.	12/25/17	08:28
MW404-121517	TK1862-6	8KL00561.	12/25/17	09:49
G32-MW302S-121517	TK1862-8	8KL00562.	12/25/17	10:09

Report of Analytical Results

Client:
Lab ID: WG220411-1
Client ID: Method Blank Sample
Project:
SDG: TK1862
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: 02-JAN-18

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: TK1862
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: 02-JAN-18

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: TK1862
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: 02-JAN-18

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

Form 2 System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services
Lab Code: KAS

Project: NAVSTA Newport, Gould Island CTO-WE22
SDG: TK1862

Matrix: AQ

Client Sample ID	Lab Sample ID	Col. ID	DCB	# TCX	#
G32-MW301S-121517	TK1862-2	A	72.4	87.8	
G32-MW301S-121517	TK1862-2	B	77.0	96.7	
G32-MW301B-121517	TK1862-4	A	72.8	90.0	
G32-MW301B-121517	TK1862-4	B	78.5	98.8	
MW404-121517	TK1862-6	A	67.5	87.4	
MW404-121517	TK1862-6	B	72.6	95.1	
G32-MW302S-121517	TK1862-8	A	82.8	102.	
G32-MW302S-121517	TK1862-8	B	89.8	91.1	
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	

QC Limits

TCX TETRACHLORO-M-XYLENE
DCB DECACHLOROBIPHENYL

62-111

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: A1-G1828	Spike ID: PG-161819	
Methylene Chloride Lot #: DT120	Hexane Lot #: D5317	Acetone Lot #: -	Note samples requiring pH adjustment in comments section.
KI Starch Paper ID: 082117	pH Paper Lot #: B613765	Sample pH between 5 and 9? ✓	
NaSO ₄ Lot #: 27917003	Filter Paper Lot #: 9851692	Boiling Stones ID: 3172014	
Nitrogen Bath Temperature: 38°C	Vial Lot #: 392942		H ₂ SO ₄ or NaOH Lot #: 167842
Prep Start Time: 1145	Prep End Time: 1600	CLLE Start Time: -	CLLE End Date & Time: -

[illegible]

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DAEX340

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

METALS DATA

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TK1862

Concentration Units: ug/L

SAMPLE: ICB

File: JKL26A Dec 26, 2017 17:01

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	0.110	U
CADMIUM	0.011	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

SAMPLE: CCB

File: JKL26A Dec 26, 2017 17:41

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	0.110	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	3.100	U
LEAD	0.034	U
MAGNESIUM	3.400	U
MANGANESE	0.130	U
MOLYBDENUM	0.064	J
POTASSIUM	6.600	U
SODIUM	5.500	U

SAMPLE: CCB

File: JKL26A Dec 26, 2017 18:26

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	0.110	U
CADMIUM	0.011	U
CALCIUM	8.700	U
IRON	-3.118	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: TK1862

Concentration Units: ug/L

SAMPLE: CCB

File: JKL26A Dec 26, 2017 19:13

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	0.110	U
CADMIUM	0.011	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

SAMPLE: CCB

File: JKL26A Dec 26, 2017 20:01

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	0.110	U
CADMIUM	0.011	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	12.560	J

SAMPLE: CCB

File: JKL26A Dec 26, 2017 20:49

Analyte	Result	C
ALUMINUM	3.000	U
ARSENIC	0.110	U
CADMIUM	0.011	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	8.383	J

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWKL19IMW2

Matrix: WATER

SDG Name: TK1862

QC Batch ID: KL19IMW2

Concentration Units : ug/L

Analyte	RESULT	C
ARSENIC	4.0	U
CADMIUM	0.20	U
LEAD	0.50	U
MANGANESE	1.0	U

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWKL19IMW2**Matrix:** WATER**SDG Name:** TK1862**QC Batch ID:** KL19IMW2

Concentration Units : ug/L					
Analyte	TRUE	FOUND	% R	LIMITS (%)	
ARSENIC	100	99.8	99.8	84	116
CADMIUM	250	249	99.6	87	115
LEAD	100	99.0	99.0	88	115
MANGANESE	500	509	101.8	87	115

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TK1862

Concentration Units: ug/L

SAMPLE: ICSA

File: JKL26A Dec 26, 2017 17:11

Analyte	TRUE	FOUND	% R
ALUMINUM	100000	94780	94.8
ARSENIC	0	0	
CADMIUM	0	0	
CALCIUM	100000	96380	96.4
IRON	100000	93740	93.7
LEAD	0	0	
MAGNESIUM	100000	95270	95.3
MANGANESE	0	0	
MOLYBDENUM	2000	1909	95.5
POTASSIUM	100000	97280	97.3
SODIUM	100000	97110	97.1

SAMPLE: ICSAB

File: JKL26A Dec 26, 2017 17:15

Analyte	TRUE	FOUND	% R
ALUMINUM	100000	90920	90.9
ARSENIC	20	20	100.0
CADMIUM	20	18	90.0
CALCIUM	100000	93600	93.6
IRON	100000	91970	92.0
LEAD	20	20	100.0
MAGNESIUM	100000	92420	92.4
MANGANESE	20	19	95.0
MOLYBDENUM	2000	1877	93.8
POTASSIUM	100000	94960	95.0
SODIUM	100000	95880	95.9

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JKL26A.B\069SMPL.D\069SMPL.D#
 Date Acquired: Dec 26 2017 08:09 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-002
 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 26 2017 04:56 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	0.0141	0.0028	ppb	16.64	100.	
11 B	32.11	6.422	ppb	1.85	1000.	
23 Na	6,580.	1,316.	ppb	1.57	200000.	
25 Mg	2,508.	501.6	ppb	0.27	200000.	
27 Al	16.555	3.311	ppb	8.54	200000.	
28 Si	4,573.	914.6	ppb	12.01	#VALUE!	
29 Si	4,573.	914.6	ppb	5.34	10000.	
39 K	4,355.	871.	ppb	1.73	200000.	
43 Ca	19,500.	3,900.	ppb	0.95	#VALUE!	
44 Ca	19,525.	3,905.	ppb	1.18	200000.	
51 V	0.686	0.1372	ppb	30.88	1000.	
52 Cr	1.111	0.2222	ppb	6.33	2000.	
53 Cr	19.68	3.936	ppb	5.32	#VALUE!	
55 Mn	1.9995	0.3999	ppb	3.48	2000.	
56 Fe	55.6	11.12	ppb	8.55	#VALUE!	
57 Fe	47.4	9.48	ppb	25.02	100000.	
59 Co	2.505	0.501	ppb	8.26	1000.	
60 Ni	8.245	1.649	ppb	3.86	1000.	
63 Cu	19.785	3.957	ppb	1.27	#VALUE!	
65 Cu	18.905	3.781	ppb	2.23	2000.	
66 Zn	26.265	5.253	ppb	1.31	2000.	
68 Zn	25.225	5.045	ppb	3.75	#VALUE!	
75 As	0.3886	0.0777	ppb	266.08	1000.	
82 Se	0.77	0.154	ppb	95.13	1000.	
88 Sr	156.8	31.36	ppb	1.66	2000.	
98 Mo	0.683	0.1366	ppb	2.65	1000.	
107 Ag	0.0044	0.0009	ppb	587.66	100.	
109 Ag	0.0097	0.0019	ppb	201.49	#VALUE!	
111 Cd	-0.1165	-0.0233	ppb	123.31	#VALUE!	
114 Cd	0.0181	0.0036	ppb	155.23	1000.	
115 In	----	-----	---	---	#VALUE!	
118 Sn	1.8955	0.3791	ppb	1.53	1000.	
120 Sn	1.8125	0.3625	ppb	4.78	#VALUE!	
121 Sb	0.0644	0.0129	ppb	13.19	#VALUE!	
123 Sb	0.1261	0.0252	ppb	24.36	1000.	
135 Ba	8.04	1.608	ppb	1.87	2000.	
137 Ba	7.94	1.588	ppb	1.50	#VALUE!	
182 W	66.05	13.21	ppb	2.54	1000.	
203 Tl	-0.0047	-0.0009	ppb	486.10	1000.	
205 Tl	0.0179	0.0036	ppb	62.34	#VALUE!	
208 Pb	-0.0009	-0.0002	ppb	4520.10	2000.	
232 Th	0.0532	0.0106	ppb	42.93	1000.	
238 U	0.0049	0.001	ppb	37.28	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2962416.80	4.68	2851854.00	103.9	69.5 - 120	
45 Sc	3087462.80	4.15	3051657.30	101.2	69.5 - 120	
89 Y	4624034.50	2.51	4650709.50	99.4	69.5 - 120	
159 Tb	5822726.00	1.67	5913626.00	98.5	69.5 - 120	
209 Bi	3118817.00	0.92	3217378.00	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\070SMPL.D\070SMPL.D#
 Date Acquired: Dec 26 2017 08:13 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-003
 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 26 2017 04:56 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	0.0075	0.0015	ppb	339.23	100.	
11 B	24.01	4.802	ppb	3.15	1000.	
23 Na	6,090.	1,218.	ppb	2.41	200000.	
25 Mg	2,489.5	497.9	ppb	1.05	200000.	
27 Al	288.55	57.71	ppb	1.95	200000.	
28 Si	4,835.5	967.1	ppb	4.10	#VALUE!	
29 Si	4,598.	919.6	ppb	4.33	10000.	
39 K	4,042.5	808.5	ppb	1.57	200000.	
43 Ca	17,920.	3,584.	ppb	0.78	#VALUE!	
44 Ca	18,270.	3,654.	ppb	1.31	200000.	
51 V	0.7325	0.1465	ppb	26.78	1000.	
52 Cr	1.5385	0.3077	ppb	5.15	2000.	
53 Cr	17.105	3.421	ppb	9.09	#VALUE!	
55 Mn	5.895	1.179	ppb	1.61	2000.	
56 Fe	496.1	99.22	ppb	3.65	#VALUE!	
57 Fe	474.25	94.85	ppb	1.95	100000.	
59 Co	2.7125	0.5425	ppb	6.22	1000.	
60 Ni	6.88	1.376	ppb	2.66	1000.	
63 Cu	21.455	4.291	ppb	1.38	#VALUE!	
65 Cu	20.875	4.175	ppb	1.42	2000.	
66 Zn	21.87	4.374	ppb	1.48	2000.	
68 Zn	20.615	4.123	ppb	2.36	#VALUE!	
75 As	0.322	0.0644	ppb	384.78	1000.	
82 Se	1.0515	0.2103	ppb	22.62	1000.	
88 Sr	149.2	29.84	ppb	1.13	2000.	
98 Mo	0.4962	0.0992	ppb	2.03	1000.	
107 Ag	-0.0038	-0.0008	ppb	281.09	100.	
109 Ag	0.0113	0.0023	ppb	340.84	#VALUE!	
111 Cd	-0.181	-0.0362	ppb	27.68	#VALUE!	
114 Cd	0.0059	0.0012	ppb	195.06	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.4945	0.2989	ppb	5.77	1000.	
120 Sn	1.516	0.3032	ppb	9.61	#VALUE!	
121 Sb	0.0466	0.0093	ppb	22.16	#VALUE!	
123 Sb	0.1114	0.0223	ppb	44.64	1000.	
135 Ba	7.685	1.537	ppb	4.36	2000.	
137 Ba	8.27	1.654	ppb	4.33	#VALUE!	
182 W	56.55	11.31	ppb	1.33	1000.	
203 Tl	-0.0023	-0.0005	ppb	417.37	1000.	
205 Tl	-0.0003	-0.0001	ppb	3611.90	#VALUE!	
208 Pb	0.2169	0.0434	ppb	30.97	2000.	
232 Th	0.1146	0.0229	ppb	7.77	1000.	
238 U	0.0281	0.0056	ppb	42.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2765385.50	3.74	2851854.00	97.0	69.5 - 120	
45 Sc	3003887.80	1.06	3051657.30	98.4	69.5 - 120	
89 Y	4581603.50	0.80	4650709.50	98.5	69.5 - 120	
159 Tb	5889015.00	1.59	5913626.00	99.6	69.5 - 120	
209 Bi	3137119.30	1.34	3217378.00	97.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\071SMPL.D\071SMPL.D#
 Date Acquired: Dec 26 2017 08:17 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-004
 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 26 2017 04:56 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	0.0077	0.0015	ppb	125.10	100.	
11 B	28.41	5.682	ppb	1.12	1000.	
23 Na	15,570.	3,114.	ppb	1.34	200000.	
25 Mg	6,465.	1,293.	ppb	1.98	200000.	
27 Al	288.55	57.71	ppb	9.40	200000.	
28 Si	6,475.	1,295.	ppb	1.47	#VALUE!	
29 Si	7,350.	1,470.	ppb	1.46	10000.	
39 K	2,008.5	401.7	ppb	1.62	200000.	
43 Ca	11,310.	2,262.	ppb	1.67	#VALUE!	
44 Ca	11,300.	2,260.	ppb	1.55	200000.	
51 V	0.5045	0.1009	ppb	71.67	1000.	
52 Cr	1.5005	0.3001	ppb	5.34	2000.	
53 Cr	27.3	5.46	ppb	7.90	#VALUE!	
55 Mn	69.75	13.95	ppb	2.12	2000.	
56 Fe	1,170.5	234.1	ppb	4.52	#VALUE!	
57 Fe	1,146.5	229.3	ppb	2.93	100000.	
59 Co	17.24	3.448	ppb	1.10	1000.	
60 Ni	20.475	4.095	ppb	1.86	1000.	
63 Cu	4.0075	0.8015	ppb	3.45	#VALUE!	
65 Cu	3.3145	0.6629	ppb	5.18	2000.	
66 Zn	16.88	3.376	ppb	6.34	2000.	
68 Zn	16.455	3.291	ppb	9.33	#VALUE!	
75 As	1.913	0.3826	ppb	57.89	1000.	
82 Se	2.162	0.4324	ppb	18.71	1000.	
88 Sr	112.45	22.49	ppb	1.99	2000.	
98 Mo	0.3559	0.0712	ppb	23.67	1000.	
107 Ag	0.0308	0.0062	ppb	130.64	100.	
109 Ag	0.0308	0.0062	ppb	25.45	#VALUE!	
111 Cd	0.3281	0.0656	ppb	24.70	#VALUE!	
114 Cd	0.096	0.0192	ppb	26.20	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.525	0.305	ppb	4.89	1000.	
120 Sn	1.3955	0.2791	ppb	3.74	#VALUE!	
121 Sb	0.0657	0.0131	ppb	22.74	#VALUE!	
123 Sb	0.1099	0.022	ppb	67.97	1000.	
135 Ba	9.41	1.882	ppb	2.29	2000.	
137 Ba	9.515	1.903	ppb	2.45	#VALUE!	
182 W	1.304	0.2608	ppb	7.59	1000.	
203 Tl	0.0155	0.0031	ppb	99.16	1000.	
205 Tl	0.0233	0.0047	ppb	31.15	#VALUE!	
208 Pb	0.3186	0.0637	ppb	7.64	2000.	
232 Th	0.1174	0.0235	ppb	14.00	1000.	
238 U	0.0336	0.0067	ppb	24.45	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3297466.50	1.28	2851854.00	115.6	69.5 - 120	
45 Sc	3384264.80	1.51	3051657.30	110.9	69.5 - 120	
89 Y	4886646.50	1.85	4650709.50	105.1	69.5 - 120	
159 Tb	5888255.50	1.00	5913626.00	99.6	69.5 - 120	
209 Bi	3135054.80	1.68	3217378.00	97.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\072SMPL.D\072SMPL.D#
 Date Acquired: Dec 26 2017 08:21 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-005
 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 26 2017 04:56 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	0.0137	0.0027	ppb	20.30	100.	
11 B	25.92	5.184	ppb	9.00	1000.	
23 Na	14,630.	2,926.	ppb	2.42	200000.	
25 Mg	5,970.	1,194.	ppb	4.37	200000.	
27 Al	19.595	3.919	ppb	3.67	200000.	
28 Si	7,475.	1,495.	ppb	2.88	#VALUE!	
29 Si	7,295.	1,459.	ppb	2.96	10000.	
39 K	1,953.	390.6	ppb	1.24	200000.	
43 Ca	11,225.	2,245.	ppb	3.91	#VALUE!	
44 Ca	10,810.	2,162.	ppb	0.13	200000.	
51 V	0.4436	0.0887	ppb	64.07	1000.	
52 Cr	0.894	0.1788	ppb	10.91	2000.	
53 Cr	19.085	3.817	ppb	7.82	#VALUE!	
55 Mn	61.2	12.24	ppb	1.68	2000.	
56 Fe	301.9	60.38	ppb	8.20	#VALUE!	
57 Fe	257.7	51.54	ppb	9.00	100000.	
59 Co	15.89	3.178	ppb	1.44	1000.	
60 Ni	18.68	3.736	ppb	4.41	1000.	
63 Cu	3.1415	0.6283	ppb	11.74	#VALUE!	
65 Cu	2.133	0.4266	ppb	12.66	2000.	
66 Zn	15.035	3.007	ppb	5.48	2000.	
68 Zn	13.56	2.712	ppb	4.81	#VALUE!	
75 As	0.612	0.1224	ppb	119.53	1000.	
82 Se	1.633	0.3266	ppb	3.96	1000.	
88 Sr	109.05	21.81	ppb	1.68	2000.	
98 Mo	0.32	0.064	ppb	7.69	1000.	
107 Ag	-0.0004	-0.0001	ppb	8596.20	100.	
109 Ag	-0.0035	-0.0007	ppb	1185.50	#VALUE!	
111 Cd	-0.0626	-0.0125	ppb	288.41	#VALUE!	
114 Cd	0.1285	0.0257	ppb	8.96	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.2235	0.2447	ppb	9.25	1000.	
120 Sn	1.2215	0.2443	ppb	7.30	#VALUE!	
121 Sb	0.0564	0.0113	ppb	14.16	#VALUE!	
123 Sb	0.0831	0.0166	ppb	39.51	1000.	
135 Ba	7.805	1.561	ppb	3.16	2000.	
137 Ba	7.845	1.569	ppb	2.04	#VALUE!	
182 W	0.6805	0.1361	ppb	9.85	1000.	
203 Tl	0.0226	0.0045	ppb	96.79	1000.	
205 Tl	0.0123	0.0025	ppb	87.08	#VALUE!	
208 Pb	0.0219	0.0044	ppb	27.11	2000.	
232 Th	0.0173	0.0035	ppb	16.57	1000.	
238 U	0.0117	0.0023	ppb	41.80	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2733755.00	1.84	2851854.00	95.9	69.5 - 120	
45 Sc	2909784.00	0.77	3051657.30	95.4	69.5 - 120	
89 Y	4482088.50	1.03	4650709.50	96.4	69.5 - 120	
159 Tb	5700645.50	0.84	5913626.00	96.4	69.5 - 120	
209 Bi	3088231.80	0.23	3217378.00	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\073SMPL.D\073SMPL.D#
 Date Acquired: Dec 26 2017 08:25 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-006
 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 26 2017 04:56 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	0.0337	0.0067	ppb	13.62	100.	
11 B	64.45	12.89	ppb	4.78	1000.	
23 Na	104,700.	20,940.	ppb	2.74	200000.	
25 Mg	14,265.	2,853.	ppb	2.98	200000.	
27 Al	649.	129.8	ppb	1.93	200000.	
28 Si	9,670.	1,934.	ppb	3.99	#VALUE!	
29 Si	10,375.	2,075.	ppb	4.52	10000.	
39 K	6,575.	1,315.	ppb	2.54	200000.	
43 Ca	31,905.	6,381.	ppb	2.59	#VALUE!	
44 Ca	31,915.	6,383.	ppb	3.64	200000.	
51 V	1.52	0.304	ppb	22.00	1000.	
52 Cr	1.6055	0.3211	ppb	11.30	2000.	
53 Cr	23.205	4.641	ppb	4.99	#VALUE!	
55 Mn	1,202.5	240.5	ppb	2.72	2000.	
56 Fe	4,617.5	923.5	ppb	2.55	#VALUE!	
57 Fe	4,597.5	919.5	ppb	2.62	100000.	
59 Co	22.9	4.58	ppb	3.42	1000.	
60 Ni	21.885	4.377	ppb	2.70	1000.	
63 Cu	5.715	1.143	ppb	6.14	#VALUE!	
65 Cu	1.727	0.3454	ppb	8.12	2000.	
66 Zn	21.065	4.213	ppb	3.33	2000.	
68 Zn	22.035	4.407	ppb	3.89	#VALUE!	
75 As	0.4271	0.0854	ppb	265.78	1000.	
82 Se	0.9045	0.1809	ppb	96.02	1000.	
88 Sr	260.2	52.04	ppb	2.75	2000.	
98 Mo	0.63	0.126	ppb	7.27	1000.	
107 Ag	0.0117	0.0023	ppb	371.00	100.	
109 Ag	-0.027	-0.0054	ppb	129.30	#VALUE!	
111 Cd	-0.03	-0.006	ppb	653.01	#VALUE!	
114 Cd	0.0389	0.0078	ppb	39.33	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.1995	0.2399	ppb	5.83	1000.	
120 Sn	1.33	0.266	ppb	5.50	#VALUE!	
121 Sb	0.397	0.0794	ppb	10.53	#VALUE!	
123 Sb	0.4616	0.0923	ppb	9.15	1000.	
135 Ba	48.21	9.642	ppb	2.30	2000.	
137 Ba	48.395	9.679	ppb	1.98	#VALUE!	
182 W	0.0492	0.0098	ppb	39.37	1000.	
203 Tl	0.0027	0.0005	ppb	250.09	1000.	
205 Tl	0.0246	0.0049	ppb	62.42	#VALUE!	
208 Pb	0.6225	0.1245	ppb	7.66	2000.	
232 Th	0.297	0.0594	ppb	6.94	1000.	
238 U	0.0617	0.0123	ppb	1.99	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3126521.50	1.60	2851854.00	109.6	69.5 - 120	
45 Sc	3236964.80	2.82	3051657.30	106.1	69.5 - 120	
89 Y	4828041.00	3.20	4650709.50	103.8	69.5 - 120	
159 Tb	6013426.50	1.91	5913626.00	101.7	69.5 - 120	
209 Bi	3161273.00	2.00	3217378.00	98.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\074SMPL.D\074SMPL.D#
 Date Acquired: Dec 26 2017 08:29 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-007
 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 26 2017 04:56 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	0.0125	0.0025	ppb	201.88	100.	
11 B	63.55	12.71	ppb	3.92	1000.	
23 Na	98,450.	19,690.	ppb	0.85	200000.	
25 Mg	13,260.	2,652.	ppb	1.70	200000.	
27 Al	28.305	5.661	ppb	6.29	200000.	
28 Si	9,340.	1,868.	ppb	3.76	#VALUE!	
29 Si	9,485.	1,897.	ppb	2.29	10000.	
39 K	6,295.	1,259.	ppb	1.43	200000.	
43 Ca	30,165.	6,033.	ppb	2.76	#VALUE!	
44 Ca	30,310.	6,062.	ppb	0.38	200000.	
51 V	0.2966	0.0593	ppb	193.53	1000.	
52 Cr	0.705	0.141	ppb	10.98	2000.	
53 Cr	18.135	3.627	ppb	7.97	#VALUE!	
55 Mn	1,163.	232.6	ppb	0.69	2000.	
56 Fe	3,617.	723.4	ppb	1.37	#VALUE!	
57 Fe	3,560.5	712.1	ppb	2.18	100000.	
59 Co	21.25	4.25	ppb	2.94	1000.	
60 Ni	19.875	3.975	ppb	1.54	1000.	
63 Cu	4.2265	0.8453	ppb	2.85	#VALUE!	
65 Cu	0.652	0.1304	ppb	31.23	2000.	
66 Zn	16.115	3.223	ppb	3.17	2000.	
68 Zn	14.76	2.952	ppb	1.38	#VALUE!	
75 As	0.7305	0.1461	ppb	178.64	1000.	
82 Se	1.526	0.3052	ppb	34.73	1000.	
88 Sr	252.95	50.59	ppb	0.35	2000.	
98 Mo	0.587	0.1174	ppb	4.93	1000.	
107 Ag	-0.0001	0.	ppb	20562.00	100.	
109 Ag	-0.0195	-0.0039	ppb	178.46	#VALUE!	
111 Cd	-0.2358	-0.0472	ppb	48.07	#VALUE!	
114 Cd	0.0523	0.0105	ppb	34.64	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.163	0.2326	ppb	7.93	1000.	
120 Sn	1.1715	0.2343	ppb	4.77	#VALUE!	
121 Sb	0.3297	0.0659	ppb	16.93	#VALUE!	
123 Sb	0.3379	0.0676	ppb	16.84	1000.	
135 Ba	43.14	8.628	ppb	3.18	2000.	
137 Ba	43.065	8.613	ppb	1.90	#VALUE!	
182 W	0.0365	0.0073	ppb	92.85	1000.	
203 Tl	0.0118	0.0024	ppb	182.88	1000.	
205 Tl	0.0128	0.0026	ppb	37.13	#VALUE!	
208 Pb	-0.0067	-0.0013	ppb	255.18	2000.	
232 Th	0.0181	0.0036	ppb	41.72	1000.	
238 U	0.0197	0.0039	ppb	40.25	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2819822.80	0.21	2851854.00	98.9	69.5 - 120	
45 Sc	2977586.00	1.21	3051657.30	97.6	69.5 - 120	
89 Y	4551058.50	0.76	4650709.50	97.9	69.5 - 120	
159 Tb	5871525.00	0.78	5913626.00	99.3	69.5 - 120	
209 Bi	3117102.00	1.16	3217378.00	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\075SMPL.D\075SMPL.D#
 Date Acquired: Dec 26 2017 08:33 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-008
 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 26 2017 04:56 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	0.077	0.0154	ppb	26.08	100.	
11 B	46.085	9.217	ppb	2.79	1000.	
23 Na	78,050.	15,610.	ppb	2.20	200000.	
25 Mg	43,110.	8,622.	ppb	1.52	200000.	
27 Al	1,481.5	296.3	ppb	2.33	200000.	
28 Si	14,325.	2,865.	ppb	2.84	#VALUE!	
29 Si	18,950.	3,790.	ppb	2.79	10000.	
39 K	6,715.	1,343.	ppb	1.84	200000.	
43 Ca	93,450.	18,690.	ppb	1.87	#VALUE!	
44 Ca	89,550.	17,910.	ppb	0.93	200000.	
51 V	2.755	0.551	ppb	11.99	1000.	
52 Cr	3.4805	0.6961	ppb	27.27	2000.	
53 Cr	23.445	4.689	ppb	7.31	#VALUE!	
55 Mn	1,198.	239.6	ppb	1.01	2000.	
56 Fe	37,455.	7,491.	ppb	0.57	#VALUE!	
57 Fe	37,635.	7,527.	ppb	1.28	100000.	
59 Co	29.575	5.915	ppb	1.35	1000.	
60 Ni	31.84	6.368	ppb	2.29	1000.	
63 Cu	5.17	1.034	ppb	0.54	#VALUE!	
65 Cu	1.822	0.3644	ppb	3.41	2000.	
66 Zn	33.14	6.628	ppb	1.90	2000.	
68 Zn	34.6	6.92	ppb	2.13	#VALUE!	
75 As	2.065	0.413	ppb	15.95	1000.	
82 Se	1.9815	0.3963	ppb	42.44	1000.	
88 Sr	823.	164.6	ppb	1.49	2000.	
98 Mo	0.503	0.1006	ppb	7.82	1000.	
107 Ag	0.0146	0.0029	ppb	211.41	100.	
109 Ag	-0.0174	-0.0035	ppb	64.36	#VALUE!	
111 Cd	0.155	0.031	ppb	66.84	#VALUE!	
114 Cd	0.0038	0.0008	ppb	594.30	1000.	
115 In	----	-----	---	----	#VALUE!	
118 Sn	1.261	0.2522	ppb	6.25	1000.	
120 Sn	1.2775	0.2555	ppb	6.52	#VALUE!	
121 Sb	0.0452	0.009	ppb	48.35	#VALUE!	
123 Sb	0.1139	0.0228	ppb	4.99	1000.	
135 Ba	95.55	19.11	ppb	0.57	2000.	
137 Ba	96.2	19.24	ppb	1.07	#VALUE!	
182 W	0.2143	0.0429	ppb	27.96	1000.	
203 Tl	0.0183	0.0037	ppb	74.85	1000.	
205 Tl	0.0113	0.0023	ppb	203.29	#VALUE!	
208 Pb	0.628	0.1256	ppb	11.98	2000.	
232 Th	0.5245	0.1049	ppb	6.42	1000.	
238 U	0.0904	0.0181	ppb	9.91	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3211460.80	2.49	2851854.00	112.6	69.5 - 120	
45 Sc	3302122.30	2.95	3051657.30	108.2	69.5 - 120	
89 Y	4868372.00	1.57	4650709.50	104.7	69.5 - 120	
159 Tb	5996624.50	0.88	5913626.00	101.4	69.5 - 120	
209 Bi	3139643.00	0.81	3217378.00	97.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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\JKL26A.B\076SMPL.D\076SMPL.D#
 Date Acquired: Dec 26 2017 08:37 pm
 Acq. Method: 1PTCAL16.M
 Operator: JS
 Sample Name: TK1862-009
 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 26 2017 04:56 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	0.0162	0.0032	ppb	15.55	100.	
11 B	44.205	8.841	ppb	2.63	1000.	
23 Na	73,900.	14,780.	ppb	0.32	200000.	
25 Mg	40,390.	8,078.	ppb	0.90	200000.	
27 Al	169.05	33.81	ppb	3.56	200000.	
28 Si	12,870.	2,574.	ppb	2.25	#VALUE!	
29 Si	13,260.	2,652.	ppb	2.29	10000.	
39 K	6,325.	1,265.	ppb	1.61	200000.	
43 Ca	89,800.	17,960.	ppb	1.00	#VALUE!	
44 Ca	86,550.	17,310.	ppb	0.61	200000.	
51 V	0.3285	0.0657	ppb	64.99	1000.	
52 Cr	0.9525	0.1905	ppb	6.51	2000.	
53 Cr	14.305	2.861	ppb	11.24	#VALUE!	
55 Mn	1,126.	225.2	ppb	0.65	2000.	
56 Fe	33,695.	6,739.	ppb	1.26	#VALUE!	
57 Fe	33,940.	6,788.	ppb	1.25	100000.	
59 Co	27.475	5.495	ppb	1.39	1000.	
60 Ni	28.87	5.774	ppb	2.81	1000.	
63 Cu	3.813	0.7626	ppb	4.91	#VALUE!	
65 Cu	0.7445	0.1489	ppb	21.16	2000.	
66 Zn	29.4	5.88	ppb	2.36	2000.	
68 Zn	31.03	6.206	ppb	1.62	#VALUE!	
75 As	1.2435	0.2487	ppb	74.51	1000.	
82 Se	1.0935	0.2187	ppb	49.89	1000.	
88 Sr	801.5	160.3	ppb	1.14	2000.	
98 Mo	0.4123	0.0825	ppb	5.55	1000.	
107 Ag	0.0513	0.0103	ppb	72.58	100.	
109 Ag	-0.0353	-0.0071	ppb	58.89	#VALUE!	
111 Cd	-0.2514	-0.0503	ppb	65.21	#VALUE!	
114 Cd	0.0073	0.0015	ppb	291.50	1000.	
115 In	----	-----	---	---	#VALUE!	
118 Sn	1.113	0.2226	ppb	7.43	1000.	
120 Sn	1.181	0.2362	ppb	4.25	#VALUE!	
121 Sb	0.066	0.0132	ppb	4.95	#VALUE!	
123 Sb	0.0823	0.0165	ppb	37.23	1000.	
135 Ba	83.9	16.78	ppb	1.34	2000.	
137 Ba	84.7	16.94	ppb	2.09	#VALUE!	
182 W	0.0353	0.0071	ppb	54.94	1000.	
203 Tl	-0.0136	-0.0027	ppb	29.71	1000.	
205 Tl	-0.0052	-0.001	ppb	148.21	#VALUE!	
208 Pb	0.0943	0.0189	ppb	23.34	2000.	
232 Th	0.0772	0.0154	ppb	16.82	1000.	
238 U	0.0162	0.0032	ppb	32.55	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2805278.50	2.68	2851854.00	98.4	69.5 - 120	
45 Sc	2939644.00	1.23	3051657.30	96.3	69.5 - 120	
89 Y	4536807.50	1.51	4650709.50	97.6	69.5 - 120	
159 Tb	5867908.50	1.33	5913626.00	99.2	69.5 - 120	
209 Bi	3087357.00	1.59	3217378.00	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JKL26A.B\017CALB.D\017CALB.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

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

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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:** KL19IMW2**Matrix:** WATER**SDG Name:** TK1862**Method:** MS**Prep Date:** 12/19/2017

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWKL19IMW2	LCSWKL19IMW2	0.05	0.05	
PBWKL19IMW2	PBWKL19IMW2	0.05	0.05	
G32-MW301S-121517	TK1862-002	0.05	0.05	D
G32-MW301S-121517	TK1862-003	0.05	0.05	A
G32-MW301B-121517	TK1862-004	0.05	0.05	D
G32-MW301B-121517	TK1862-005	0.05	0.05	A
MW404-121517	TK1862-006	0.05	0.05	D
MW404-121517	TK1862-007	0.05	0.05	A
G32-MW302S-121517	TK1862-008	0.05	0.05	D
G32-MW302S-121517	TK1862-009	0.05	0.05	A

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagent Information:

Method: 3010-MS

HNO₃: MS286

HCL: MS283

REVIEWED

JS/2.19.17

KATAHDIN ANALYTICAL
METALS SECTION

Pipet LCS/Spiking Information:

M11 CLPP-SPK-1 (ID/Vol): MS2088 / 0.05 mL
M3 CLPP-SPK-INT1 (ID/Vol): MW17445 / 0.5 mL
M3 CLPP-SPK-INT2 (ID/Vol): MW17446 / 0.5 mL
Spike (ID/Vol): NA / 1 mL

Heat Source ID: E

Start Time: 0714 / Temp. 90 °C

End Time: 1500 / Temp. 91 °C

Thermometer ID/Pos: A1C24 / 1.16

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWKL19IMW2	KL19IMW2	<u>0.05</u>	L	<u>0.05</u>	L	AQ	IM	AMJ	12/19/2017	
PBWKL19IMW2	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	
TK1816-001	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1816-002	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1816-003	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1816-004	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1816-005	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1816-005P	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1816-005S	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1862-002	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>D</u>
TK1862-003	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1862-004	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>D</u>
TK1862-005	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1862-006	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>D</u>
TK1862-007	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1862-008	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>D</u>
TK1862-009	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<u>A</u>
TK1865-001	KL19IMW2		L		L	AQ	IM	AMJ	12/19/2017	<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	WG220969	SM2320B	28-DEC-17	N/A	J 0.51 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	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

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	WG220447	EPA 300.0	16-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	WG220447	EPA 300.0	16-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

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
WG220969-2	LCS	WG220969	28-DEC-17	N/A	mg/L	120	120	104	80-120	

Chloride

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
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	

Nitrate as N

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG220447-2	LCS	WG220447	16-DEC-17	N/A	mg/L	0.845	0.780	92.3	90-110	

Sulfate

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG220447-2	LCS	WG220447	16-DEC-17	N/A	mg/L	3.75	3.49	93.1	90-110	
WG220781-2	LCS	WG220781	18-DEC-17	N/A	mg/L	3.75	3.65	97.3	90-110	

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 97 of 114

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: [Signature]

 Date: 12/27/17 98 of 114

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

99 of 114

SUBCONTRACTED DATA

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Katahdin Analytical Services Lot Number: SL22038

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	G-32-MW3015-121517	Aqueous	12/15/2017 0915	12/22/2017
002	G-32-MW301B-121517	Aqueous	12/15/2017 1315	12/22/2017
003	MW404-121517	Aqueous	12/15/2017 1205	12/22/2017
004	G32-MW3025-121517	Aqueous	12/15/2017 1155	12/22/2017
005	FRB-121517	Aqueous	12/15/2017	12/22/2017
(5 samples)				

Katabdin
ANALYTICAL SERVICES

600 Technology Way
Salem, NH 03071
Tel: (603) 874-2400
Fax: (603) 775-4000

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 CO-ORDINATE ADDITIONAL ENDS

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: Katandin

Cooler Inspected by/date: LEH / 12-22-17 Lot #: SL22038

Means of receipt: ☐ SEST ☐ 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>123123°C</u> °C _____ °C _____ °C _____ °C		
Method: ☐ Temperature Blank ☒ Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0.0</u>		
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 16 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/TONA (< 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.		
Samples(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>LEH</u> Date: <u>12-22-17</u>		

Comments:

CLIENT SAMPLE ID

SQ60632-001

Lab Name : Shealy Environmental Services, Inc.

Lot No.: SL22038

Project No.: TK1862

Lab Sample ID: SQ60632-001

Analytical Method: 537.1 Modified-ID

Matrix: Water

Instrument ID: Sceix 4500 LSMSMS#1

Lab File ID: _____

Extraction Type: 537 MOD

Date Extracted:12/27/2017

LC Column: Gemini C18 ID: 2.00 (mm)

Date Analyzed: 12/28/2017

Time Analyzed: 18:17[illegible]

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.

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: SL22038-005				
Description: FRB-121517					Matrix: Aqueous				
Date Sampled: 12/15/2017									
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 2249	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-butanefluoride (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 (PFDoA)	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	0.90	U	1.8	0.90	0.45	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	537.1 Mod. ID	0.90	U	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 (PFTTrDA)	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	0.52	J	1.8	0.90	0.45	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		104	50-150
13C2_PFTeDA		95	50-150
13C3_PFBs		104	50-150
13C3_PFHxS		104	50-150
13C4_PFHpA		102	50-150
13C5_PFHxA		102	50-150
13C6_PFDA		102	50-150
13C7_PFUdA		106	50-150
13C8_PFOA		104	50-150
13C8_PFOS		107	50-150
13C9_PFNA		106	50-150
d5-EtFOSAA		106	50-150
d3-MeFOSAA		101	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 - 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 ≥ 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.

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

FORM 3
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE SAMPLE RECOVERY

Lab Name: Shealy Environmental Services, Inc. Lot No.: SL22038
 Project No.: TK1862
 Analytical Method: 537.1 Modified-ID Matrix: Water
 Client Sample ID: SQ60632-002
 Instrument ID: _Sceix 4500_LSMSMS#1
 Concentration Units (ug/L, mg/L, ug/kg): ng/L

ANALYTE	SPIKE ADDED	LCS CONCENTRATION	LCS %REC #	QC LIMITS REC.
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EEFOSAA)	20	18	90	70-130
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	20	19	94	70-130
Perfluoro-1-butanefulfonate (PFBS)	18	18	100	70-130
Perfluoro-n-decanoic acid (PFDA)	20	21	103	70-130
Perfluoro-n-dodecanoic acid (PFDoA)	20	22	108	70-130
Perfluoro-n-heptanoic acid (PFHpA)	20	20	99	70-130
Perfluoro-n-hexanoic acid (PFHxA)	20	20	99	70-130
Perfluoro-n-nonanoic acid (PFNA)	20	20	99	70-130
Perfluoro-n-octanoic acid (PFOA)	20	21	103	70-130
Perfluoro-n-tetradecanoic acid (PFTeDA)	20	20	100	70-130
Perfluoro-n-tridecanoic acid (PFTrDA)	20	21	103	70-130
Perfluoro-n-undecanoic acid (PFUdA)	20	20	98	70-130
Perfluorohexanesulfonate (PFHxS)	18	17	94	70-130
Perfluorooctanesulfonate (PFOS)	19	21	115	70-130

* Values outside of QC Limits

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	1470053	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
				Modified-ID							
SL22038-005	Sample	FRB-121517	1	537.1	278		0.000	9.0	12/29/2017 0000	01/01/2018	Cartridge wash done with buffer SV17-136
				Modified-ID							

(end of report)

Total Samples: 13

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	TK1862	SITE 00017	SITE 00017	G32-MW302S	Monitoring well	370560.3491	165114.186	N6247016D9008	WE22	TETRA TECH, INC.	G32-MW302S-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	G32-MW301B	Monitoring well	370580.282	164711.1418	N6247016D9008	WE22	TETRA TECH, INC.	G32-MW301B-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	G32-MW301B	Monitoring well	370580.282	164711.1418	8005	WE22	TETRA TECH, INC.	G32-MW301B-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	G32-MW302S	Monitoring well	370560.3491	165114.186	8005	WE22	TETRA TECH, INC.	G32-MW302S-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862							N6247016D9008	WE22	TETRA TECH, INC.	FRB-121517	Water for QC samples	Field Reagent Blank	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	G32-MW301S	Monitoring well	370586.9921	164705.2318	8005	WE22	TETRA TECH, INC.	G32-MW301S-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862							8005	WE22	TETRA TECH, INC.	FRB-121517	Water for QC samples	Field Reagent Blank	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	G32-MW301S	Monitoring well	370586.9921	164705.2318	N6247016D9008	WE22	TETRA TECH, INC.	G32-MW301S-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	GI-MW404	Monitoring well	370806.9	165184.79	N6247016D9008	WE22	TETRA TECH, INC.	MW404-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	NEWPORT_NS	TK1862	SITE 00017	SITE 00017	GI-MW404	Monitoring well	370806.9	165184.79	8005	WE22	TETRA TECH, INC.	MW404-121517	Ground water	Normal (Regular)	15-Dec-17	537	Perfluoroalkyl Compounds