

ISS Expeditions 16 through 20: Chemical Analysis Results for Potable Water

John E. Straub II¹, Debrah K. Plumlee², and John R. Schultz³
Wyle Integrated Science & Engineering Group, Houston, Texas, 77058

During the 2-year span from Expedition 16 through Expedition 20, the chemical quality of the potable water onboard the International Space Station (ISS) was verified safe for crew consumption through the return and chemical analysis of archival water samples by the Water and Food Analytical Laboratory (WAFAL) at Johnson Space Center (JSC). Reclaimed cabin humidity condensate and Russian ground-supplied water were the principal sources of potable water for Expeditions 16 through 18. During Expedition 18 the U.S. water processor assembly was delivered, installed, and tested during a 90-day checkout period. Beginning with Expedition 19, U.S. potable water recovered from a combined waste stream of humidity condensate and pretreated urine was also available for ISS crew use. A total of 74 potable water samples were collected using U.S. sampling hardware during Expeditions 16 through 20 and returned on both Shuttle and Soyuz vehicles. The results of JSC chemical analyses of these ISS potable water samples are presented in this paper. Eight potable water samples collected in flight with Russian hardware were also received for analysis, as well as 5 preflight samples of Rodnik potable water delivered to ISS on Russian Progress vehicles 28 to 34. Analytical results for these additional potable water samples are also reported and discussed.

Nomenclature

| | |
|--------|--|
| CE | Capillary Electrophoresis |
| CWC | Contingency Water Container, 44L |
| DAI | Direct Aqueous Injection |
| DWEL | Drinking Water Exposure Limit |
| EDV | Russian Bladder Tank for Water, 22L |
| EMU | Extravehicular Mobility Unit |
| EPA | Environmental Protection Agency |
| GC/MS | Gas Chromatography/Mass Spectrometry |
| GSE | Ground Service Equipment |
| HA | Health Advisory |
| IC | Ion Chromatography |
| ICP/MS | Inductively Coupled Plasma/Mass Spectrometry |
| ID | Identification |
| ISE | Ion Selective Electrode |
| ISS | International Space Station |
| JSC | Johnson Space Center |
| LC | Liquid Chromatography |
| LCV | Leuco Crystal Violet |
| MCL | Maximum Contaminant Level |
| MORD | Medical Operations Requirements Document |
| N/A | Not Applicable |
| NA | Not Analyzed |
| NASA | National Aeronautics & Space Administration |
| NTU | Nephelometric Turbidity Unit |

¹ Senior Engineer, Water and Food Analytical Laboratory, NASA Johnson Space Center, Mail Stop: Wyle/HEF/37A.

² Senior Scientist, Water and Food Analytical Laboratory, NASA Johnson Space Center, Mail Stop: Wyle/HEF/37A.

³ Senior Supervisor, Water and Food Analytical Laboratory, NASA Johnson Space Center, Mail Stop: Wyle/HEF/37A.

| | |
|--------|---|
| OGS | Oxygen Generation System |
| PWD | Potable Water Dispenser |
| PWR | Payload Water Reservoir |
| RSA | Russian Space Agency |
| SM | Service Module |
| SRV-K | System for Regeneration of Condensate Water |
| SVO-ZV | System for Water Storage and Dispensing |
| SWEG | Spacecraft Water Exposure Guideline |
| TDS | Total Dissolved Solids |
| THM | Trihalomethanes |
| TOCA | Total Organic Carbon Analyzer |
| U.S. | United States |
| UPA | Urine Processor Assembly |
| UV/VIS | Ultraviolet/Visible |
| WAFAL | Water and Food Analytical Laboratory |
| WPA | Water Processor Assembly |
| WRS | Water Recovery System |

Introduction

Throughout the nearly 10-year period that crews have lived on the International Space Station (ISS) the onboard potable water supplies have been verified chemically safe for crew consumption through the return and ground-based chemical analyses of archival potable water samples at the Johnson Space Center's (JSC) Water and Food Analytical Laboratory (WAFAL). Once the samples arrive at JSC, allocation is performed in the WAFAL based upon return sample volume. The samples collected into U.S. 1-L Teflon® sample bags usually contain sufficient sample volume (> 500 mL) to support full chemical characterization using the standard and custom analytical methods described in Table 1.

Table 1. Water Analytical Methods

| Parameter | Method |
|----------------------------|--|
| pH & conductivity | Potentiometric |
| Total Dissolved Solids | Gravimetric |
| Turbidity | Nephelometric |
| Iodine & iodide | Leuco crystal violet (LCV) |
| Fluoride | Ion selective electrode (ISE) |
| Metals/Minerals | Inductively coupled plasma-mass spectrometry (ICP/MS) |
| Inorganic anions & cations | Ion chromatography (IC) |
| Total organic carbon (TOC) | Ultraviolet or heated persulfate oxidation |
| Alcohols & glycols | Direct Injection gas chromatography/mass spectrometry (GC/MS) |
| Volatile organics | GC/MS with a purge & trap concentrator (EPA method 524.2) |
| Semi-volatile organics | GC/MS after liquid/liquid extraction (modified EPA method 625) |
| Organic acids & amines | Capillary electrophoresis (CE) |
| Urea/Caprolactam | Liquid chromatography (LC) with UV diode array detector |
| Formaldehyde | GC/MS after derivatization & extraction |

Return sample volumes of less than 500 mL necessitate elimination of some analyses and/or reductions in sensitivity of those analyses that are performed. As a part of data analysis and reporting, the analytical results for each sample are compared as appropriate against either the Russian Segment potable water quality requirements found in the ISS Medical Operations Requirement Document (MORD)¹ or the U.S. Segment potable water quality requirements found in the system specification for the ISS.² Chemical analysis results for samples collected during Expeditions 1 through 15 have been previously reported.³⁻⁹ This paper presents and discusses the analytical results from chemical analyses of the archival potable water samples that were collected and returned during Expeditions 16 through 20, as detailed in Table 2. Please note that only chemical findings are discussed in this paper, as the extensive microbiological monitoring of the ISS water supplies is the responsibility of the JSC Microbiology Laboratory.

Table 2. Summary of Water Samples Collected & Received during Expeditions 16 through 20

| Expedition | Flight No. | Samples Received | Sample Type | Sample Collection Date | Sample Receipt Date |
|------------------|------------------|------------------|-----------------------|---|---------------------|
| 16 | STS-122/1E | 1 | Rodnik Tank in-flight | 02/13/08 | 02/21/08 |
| | | 3 | SRV-K Warm | 11/30/07, 01/08 & 02/04/08 | |
| | | 2 | SVO-ZV | 11/30/07 & 01/08/08 | |
| | Subtotal: | 6 | | | |
| | STS-123/1JA | 1 | SRV-K Hot | 02/26/08 | 03/28/08 |
| | | 1 | SVO-ZV | 02/26/08 | |
| Subtotal | 2 | | | | |
| Total: | 8 | | | | |
| 17 | Soyuz 15 | 1 | Rodnik Tank in-flight | 04/16/08 | 05/02/08 |
| | | 1 | SRV-K Hot | 04/16/08 | |
| | | 1 | SRV-K Warm | 04/16/08 | |
| | | 1 | SVO-ZV | 04/16/08 | |
| | Subtotal: | 4 | | | |
| | STS-124/1J | 1 | SRV-K Hot | 05/30/08 | 06/16/08 |
| | | 1 | SRV-K Warm | 04/13/08 | |
| | | 2 | SVO-ZV | 04/13 & 05/30/08 | |
| | Subtotal: | 4 | | | |
| | Soyuz 16 | 1 | SRV-K Hot | 08/27/08 | 12/08/08 |
| | | 1 | SRV-K Warm | 08/27/08 | |
| | 1 | SVO-ZV | 10/21/08 | | |
| Subtotal: | 3 | | | | |
| Total: | 11 | | | | |
| 18 | STS-126/ULF2 | 2 | SRV-K Hot | 07/25 & 10/08/08 | 12/02/08 |
| | | 3 | SRV-K Warm | 07/02, 09/01 & 11/11/08 | |
| | | 5 | SVO-ZV | 07/02, 07/25, 09/01, 10/08 & 11/11/08 | |
| | | 1 | PWD Aux Port | 11/26/08 | |
| | | 4 | WPA RIP | 11/22, 11/25 & 11/26/08 | |
| | Subtotal: | 15 | | | |
| | STS-119/15A | 2 | SRV-K Hot | 12/16/08 & 2/19/09 | 03/30/09 |
| | | 1 | SRV-K Warm | 01/12/09 | |
| | | 3 | SVO-ZV | 12/16/08, 01/12 & 02/19/09 | |
| | | 1 | PWD Aux Port | 03/25/09 | |
| | | 6 | PWD Ambient | 01/02, 01/14, 01/21, 01/30, 03/18 & 3/25/09 | |
| | | 5 | PWD Hot | 12/12, 12/19 & 12/29/08, 01/30 & 3/23/09 | |
| | | 6 | WPA RIP | 12/08/08, 02/09, 02/27, 03/10 & 3/25/09 | |
| | Subtotal: | 24 | | | |
| | Soyuz 17 | 1 | SVO-ZV | 04/05/09 | 06/15/09 |
| | | 1 | PWD Ambient | 04/02/09 | |
| | | 1 | WPA RIP | 04/02/09 | 04/19/09 |
| | Subtotal: | 3 | | | |
| | Total: | 42 | | | |
| | 20 | STS-127/2JA | 2 | SRV-K Hot | 05/04 & 7/22/09 |
| | | 2 | SRV-K Warm | 04/09 & 07/07/09 | |
| | | 4 | SVO-ZV | 04/09, 05/04, 07/07 & 07/22/09 | |
| | | 4 | PWD Ambient | 04/15, 05/4, 06/16 & 07/24/09 | |
| | | 2 | PWD Hot | 06/16 & 07/24/09 | |
| Subtotal: | | 14 | | | |
| STS-128/17A | | 1 | SRV-K Warm | 08/04/09 | 09/14/09 |
| | | 1 | SVO-ZV | 08/04/09 | |
| | | 1 | PWD Ambient | 08/04/09 | |
| | | 1 | PWD Hot | 08/04/09 | |
| Subtotal: | | 4 | | | |
| Soyuz 18 | 1 | SVO-ZV | 09/22/09 | 10/21/09 | |
| | 1 | PWD Ambient | 09/22/09 | | |
| | 1 | PWD Hot | 09/22/09 | | |
| Subtotal: | 3 | | | | |
| Total: | 21 | | | | |
| Progress | 28 | 1 | Rodnik Tank (GSE) | 12/14/07 | 01/29/08 |
| | 29 | 1 | Rodnik Tank (GSE) | 03/26/08 | 04/28/08 |
| | 30 | 1 | Rodnik Tank (GSE) | 07/10/08 | 09/03/08 |
| | 31 | 1 | Rodnik Tank (GSE) | 10/09/08 | 12/08/08 |
| | 34 | 1 | Rodnik Tank (GSE) | 05/21/09 | 09/02/09 |
| Total: | 5 | | | | |

Background

Onboard the ISS there are 4 different sources of potable water that are available to the crew: Shuttle-transferred water, Russian ground-supplied water, Russian reclaimed water, and U.S. regenerated potable water. The ISS crews have access to these potable water supplies via the Russian and U.S. Segment water systems. During periods when the Shuttle docks with the ISS, Shuttle potable water can be transferred to the ISS in contingency water containers (CWC's). Iodine is removed from the Shuttle water and minerals in the form of formate salts and silver biocide are added during the filling of each CWC to be transferred to the station. This Shuttle-transferred potable water can be safely stored for up to 1 year onboard ISS before use.

Russian Segment Water Systems

Russian ground-supplied potable water is periodically stored in two 210-liter Rodnik tanks and launched on the Progress vehicle for delivery to the ISS. Silver biocide is added to the Rodnik water during preflight ground processing. During Expeditions 16-20, the Progress vehicles 28, 29, 30, 31, and 34 delivered Rodnik potable water to the ISS. Either Rodnik water or Shuttle-transferred potable water can serve as the water supply for the Russian Segment stored potable water system or SVO-ZV. The SVO-ZV system is comprised of a 22-liter bladder tank (EDV) containing stored water that is connected to a manual air pump for pressurization of the bladder, along with a dispenser for crew access. Atmospheric humidity condensate is recovered from cabin air and processed into potable water in the Russian Segment condensate water regeneration system or SRV-K. Both the SVO-ZV and SRV-K water systems have been previously described in detail.³⁻⁹

U.S. Segment Water Recovery System

During Expedition 18 a new source of potable water was introduced to the ISS, namely U.S regenerated water. The U.S. segment water recovery system (WRS) that was delivered on STS-126/ULF2 is designed to process urine and humidity condensate into potable water and is a key system required for supporting ISS 6-crew operations. The WRS includes the urine processor assembly (UPA), the water processor assembly (WPA), a potable water bus, and a potable water dispenser (PWD). Figure 1 is a diagram showing the interaction of the various WRS components and the various potable water users including the crew. The UPA processes pretreated urine by a distillation process and delivers urine distillate to a wastewater tank where it is combined with humidity condensate. The WPA processes the combined wastewater to potable water using adsorption/ion exchange and thermal catalytic oxidation methods, adds iodine biocide, and then stores the product water for delivery to the potable water bus. The PWD receives WPA water directly from the potable bus and dispenses either hot or ambient water for crew purposes, while removing the iodine biocide at the point of use.

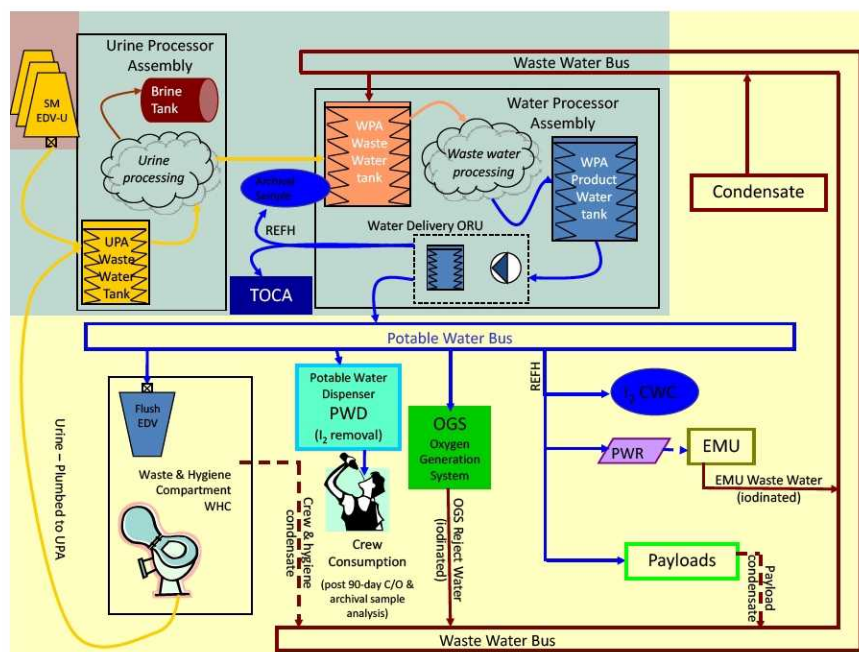


Figure 1. U.S. Segment Water Recovery System Diagram (courtesy of T. McCoy NASA/JSC)

WRS 90-Day Checkout

Despite extensive ground testing of the WRS components, stakeholders decided that it would be prudent to conduct an on-orbit "checkout" period where water quality from the fully integrated water system could be further confirmed before use. It was agreed that this checkout time would cover at least 90 days of WRS operation, and that the crew would not consume the water produced during this period. The WRS was delivered on STS-126/ULF2 and began processing condensate and urine distillate in November of 2008. In addition to in-flight analyses, archival water samples were collected by the Expedition 18 crew and returned to the JSC for comprehensive chemical analysis in the WAFAL. The results from the chemical analysis of these 90-day checkout samples, which are discussed in detail later in this paper, were ultimately used to confirm the water produced by the WRS was acceptable for crew consumption beginning in May of 2009.

Discussion of Analytical Results

Results from chemical analyses of the SRV-K (regenerated) and SVO-ZV (stored) archival water samples are summarized in tabular form in Appendices 1 and 2, respectively. Preflight samples were collected of ground-supplied water that was loaded in the Rodnik tanks of the Progress 28, 29, 30, 31, and 34 vehicles and later delivered to ISS. Portions of these preflight samples and of two in-flight Rodnik tank samples collected during Expeditions 16 and 17 were received from the Russian side for analysis. Results from analyses of these ISS ground-supplied water samples are summarized in Appendix 3. Finally, the analytical results for the U.S. WPA archival potable water samples collected during Expeditions 16-20 are summarized in Appendix 4.

EXPEDITION 16

A total of 7 chemical archival potable water samples, including 3 SRV-K warm, 1 SRV-K hot, and 3 SVO-ZV, were collected by the Expedition 16 crew as detailed in Table 2. These samples were taken during sampling sessions on November 30, 2007, January 8, 2008, February 4, 2008, and February 26, 2008 and returned on STS-122 (1E) and STS-123 (1JA). All of the samples were collected in U.S. 1-liter Teflon® water sample bags that were received in the WAFAL on February 21, 2008 and March 28, 2008. All but one sample had sufficient sample volume to support full chemical characterization per Table 1. There was insufficient sample volume to analyze for total dissolved solids in the SRV-K hot sample.

SRV-K Potable Water Samples

All chemical parameters measured for the 4 SRV-K potable water samples were within the ISS MORD potable water quality requirements except for slightly elevated manganese in the sample collected on February 4. Although the manganese level of 56 µg/L is slightly over the ISS MORD limit of 50 µg/L, it is not a crew health concern as it is well below a recently developed Spacecraft Water Exposure Guideline (SWEG) of 300 µg/L for this contaminant.¹⁰ The TOC levels of the SRV-K samples ranged from 0.27 to 7.82 mg/L. The formate level of 29.1 mg/L in the SRV-K sample collected November 30 accounted for 7.6 mg/L of the 7.82 mg/L TOC. The high percentage of formate indicates that Shuttle-transferred CWC potable water was being used as make-up water at the time the sample was taken, as minerals are added as formate salts. An updated historical plot of the TOC trend in the SRV-K water samples is shown in Fig. 2. With the exception of the sample collected on January 8 with a silver level of 245 mg/L, the silver biocide level continued to be low, i.e., 22, 33, and 62 µg/L. These low levels indicate that heating of the water by the SRV-K galley pasteurization unit continued to be the main source of microbial control. The nickel levels in the SRV-K samples ranged from 30 to 46 µg/L and were well within specifications (Fig. 3).

SVO-ZV Potable Water Samples

All chemical parameters measured for the 3 SVO-ZV water samples were within the ISS MORD requirements except for turbidity, total silver, and manganese. Updated historical plots for manganese, turbidity, total and colloidal silver ($Ag_{colloidal} = Ag_{total} - Ag_{dissolved}$), and formate in SVO-ZV samples are presented in Fig. 4 and Fig. 5. Turbidity ranged from 2.8 to 5.0 NTU versus the requirement of 1.5 NTU. The November 30 and January 8 samples had total silver levels of 669 and 735 µg/L and dissolved silver levels of 559 and 599 µg/L, which exceeded the 500 µg/L ISS MORD limit (Fig. 5). On the other hand, the February 26 sample had total and dissolved silver levels of 347 and 189 µg/L, respectively, both within the ISS MORD requirement.

Although elevated turbidity in the SVO-ZV samples does not pose a direct health risk, the concern is that particulates causing the turbidity can shield bacteria from the silver biocide. The results of the dissolved silver

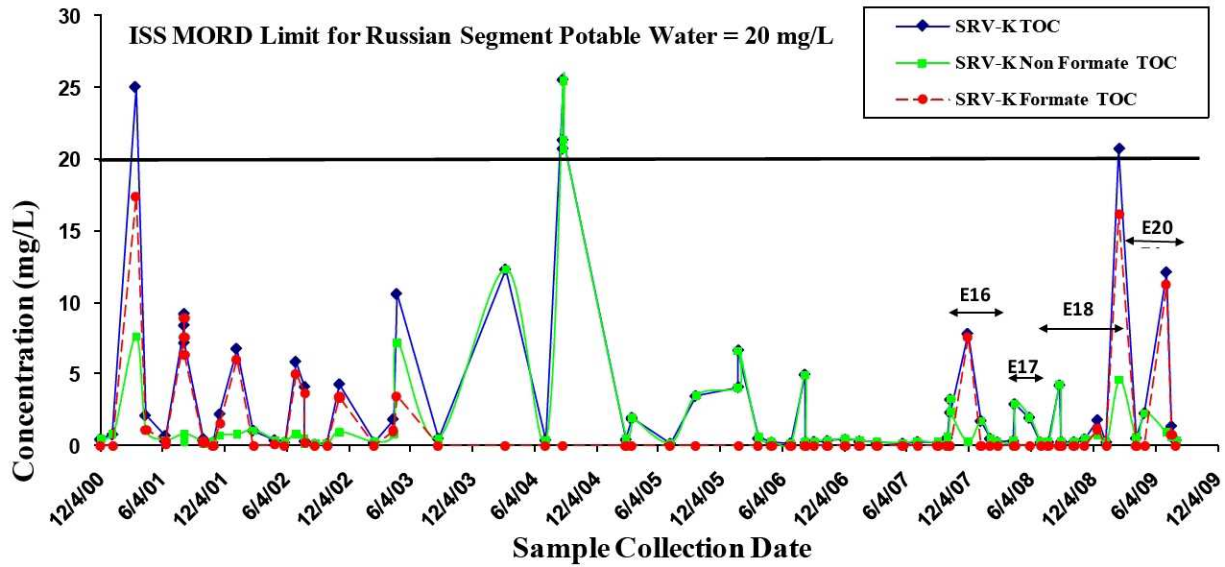


Figure 2. Total, Formate, & Non-formate Organic Carbon in SRV-K Samples
ISS Flights 4A to Soyuz 18

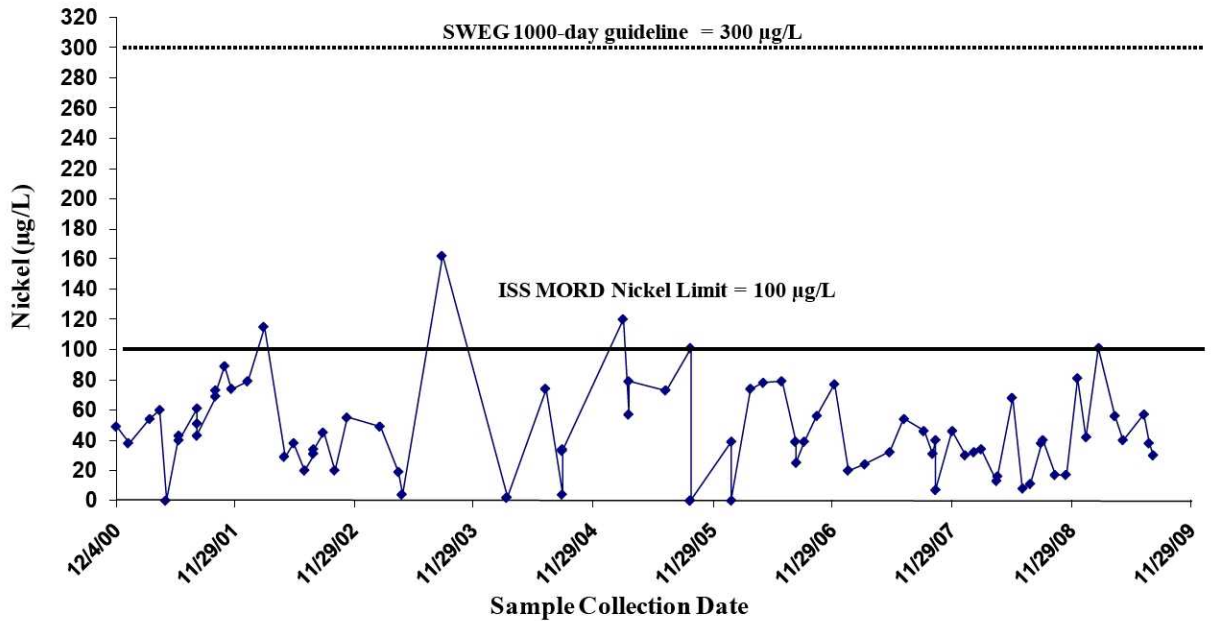


Figure 3. Nickel Levels in SRV-K Water Samples
ISS Flights 4A to Soyuz 18

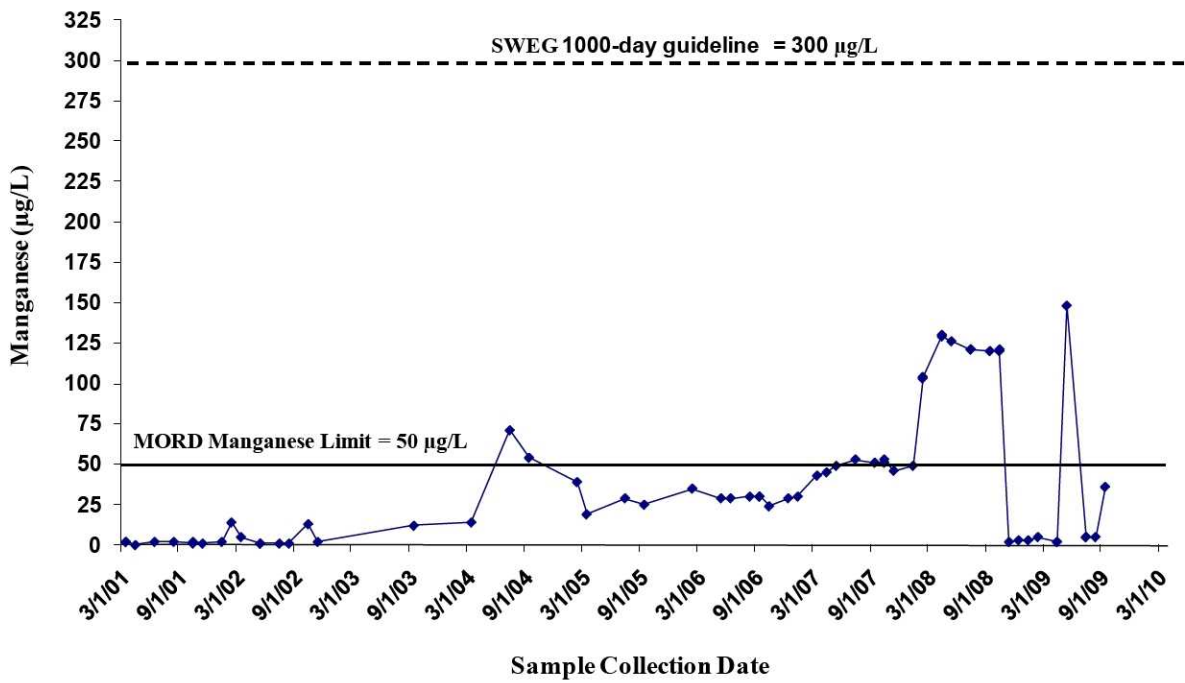


Figure 4. Manganese Levels in SVO-ZV Water Samples
ISS Flights 5A to Soyuz 18

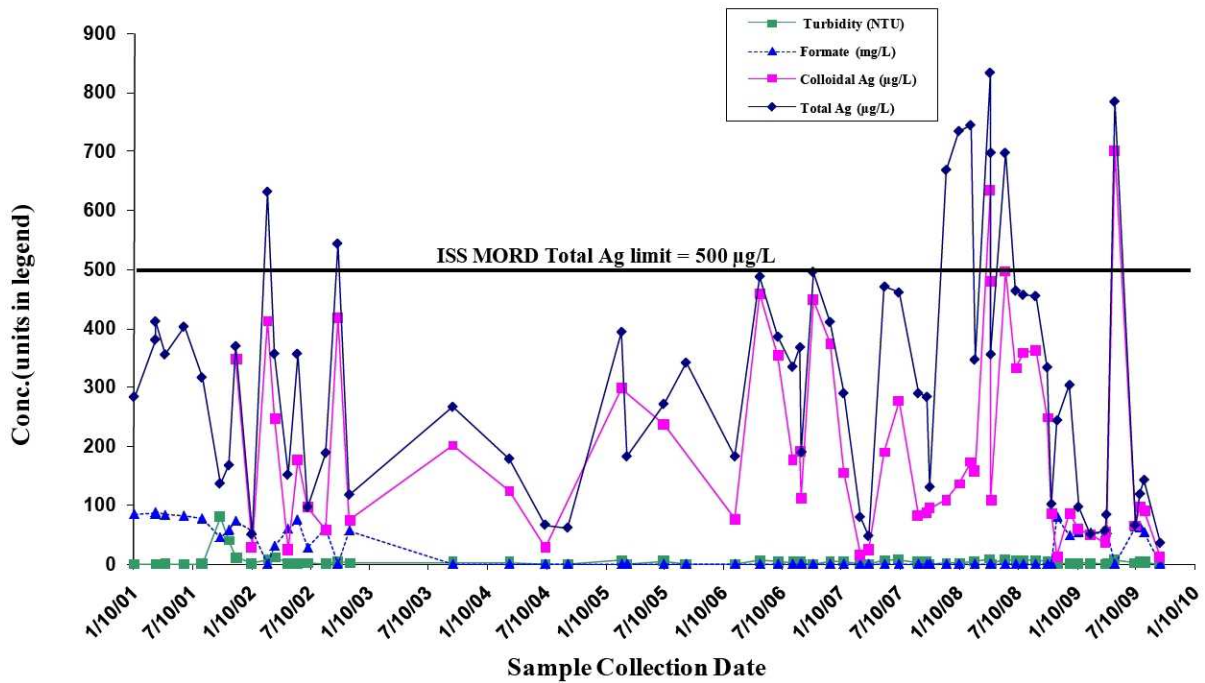


Figure 5. Turbidity, Formate, Total & Colloidal Silver in the SVO-ZV Water Samples
ISS Flights 5A to Soyuz 18

analysis indicates that up to 50% of the particulates are due to colloidal silver, which may mitigate this concern. Nevertheless, the dissolved silver levels exceeded the 500 µg/L ISS MORD requirement for the first time ever since November 21, 2001 when WAFAL initiated measuring total and dissolved silver in the SVO-ZV samples. Chloride levels in the 3 samples were 7.75, 8.11, and 8.24 mg/L. Although the manganese level of 104 µg/L in the February 26 sample exceeded the 50 µg/L MORD requirement (Fig. 4), it was well below the recent SWEG limit of 300 µg/L and thus not considered to be a health concern.¹⁰

EXPEDITION 17

A total of 10 chemical archival potable water samples consisting of 3 SRV-K warm, 3 SRV-K hot, and 4 SVO-ZV samples, were collected by the Expedition 17 crew. These samples were taken during sampling sessions on April 13, April 16, May 30, August 27, and October 21, 2008 and returned on Soyuz 15, STS-124 (1J) and Soyuz 16 as detailed in Table 2. The samples that returned on STS-124 (1J) were collected in U.S. 1-liter Teflon® water sample bags and were received in the WAFAL on June 16, 2008. Each sample had sufficient volume to support full chemical characterization per Table 1. All samples returned on Soyuz 15 and 16 were collected in RSA drink bags. After Soyuz return, U.S. aliquots were transferred to opaque Teflon® bottles for transport to the U.S. The Soyuz 15 and 16 samples were received in the WAFAL on May 2 and December 8, 2008, respectively. Due to reduced sample volumes, none of the samples were analyzed for turbidity, total dissolved solids, or iodine. Conductivity and pH were analyzed for the SRV-K hot and SVO-ZV samples taken April 16. Volatile organics were analyzed by direct injection for the SRV-K warm and SVO-ZV samples taken April 16. Inorganic parameters were analyzed for the SRV-K hot sample taken April 16 while the organics parameters were analyzed for the SRV-K warm sample taken April 16. Semi-volatiles and formaldehydes were not analyzed for any of the April 16 samples. Inorganic parameters were analyzed for the SRV-K hot sample taken August 27 while organics parameters (excluding volatiles and semi-volatiles) were analyzed for the SRV-K warm sample taken August 27.

SRV-K Potable Water Samples

All chemical parameters measured for the 6 SRV-K potable water samples were within the ISS MORD water quality requirements except for manganese and silver. Manganese levels of 96 µg/L and 139 µg/L for the SRV-K hot samples taken April 16 and May 30, respectively, exceeded the ISS MORD aesthetic-based limit of 50 µg/L but were both well below the health-based SWEG limit of 300 µg/L.¹⁰ The May 30 sample also contained 895 µg/L silver versus the ISS MORD limit of 500 µg/L. The elevated silver and manganese levels along with the chloride (9.89 mg/L) and sulfate (43.2 mg/L) levels suggest that Rodnik water may have been used as makeup water when the May 30 sample was collected. The silver levels (added biocide) found in the other SRV-K samples (30 to 267 µg/L) were all much lower indicating that heating of the water by the SRV-K galley pasteurization unit continued to be the main source of microbial control. The TOC levels ranged from 0.34 to 4.24 mg/L and were well below the ISS limit (Fig. 2). Nickel levels ranged from 13 to 68 µg/L and were all within specifications (Fig. 3).

SVO-ZV Potable Water Samples

All chemical parameters measured for the 4 SVO-ZV water samples were within the ISS MORD requirements except for turbidity, manganese, and silver. Turbidity levels of 9.5 and 9.0 NTU in the April 13 and May 30 samples, respectively, exceeded the ISS MORD limit of 1.5 NTU. As discussed earlier, although elevated turbidity does not pose a direct health risk there is concern that particulates causing the turbidity can shield bacteria from the silver biocide. Manganese levels in the SVO-ZV samples ranged from 126 to 130 µg/L (Fig. 4). Although these levels exceeded the ISS MORD aesthetic-based limit of 50 µg/L, they all were well within the SWEG health-based guideline of 300 µg/L.¹⁰ Three of the 4 SVO-ZV samples contained silver levels from 698 to 834 µg/L that exceeded the ISS MORD limit of 500 µg/L (Fig. 5). Dissolved silver levels ranged from 16 to 218 µg/L indicating that some of the particulates contributing to elevated turbidity were colloidal silver.

The likely source of the high manganese and silver levels in the SVO-ZV samples is the Rodnik ground-supplied water. Elevated manganese and total silver levels in Rodnik water samples is an ongoing issue that has been previously discussed.³⁻⁹ This is not considered to be a crew health threat because the ISS crews use other low-silver water sources for the majority of their consumed water. Nevertheless, discussions on minimizing the presence of silver particles in the Rodnik water and lowering the silver concentration have continued with Russian water quality experts. Chloride levels in the SVO-ZV samples ranged from 8.04 to 9.50 mg/L. TOC ranged from 1.89 to 3.73 mg/L, with all samples well below the ISS MORD limit.

EXPEDITION 18

The Expedition 18 crew collected a total of 42 chemical archival potable water samples (4 SRV-K warm, 4 SRV-K hot, 9 SVO-ZV, 7 PWD ambient, 5 PWD hot, 2 PWD Aux Port, and 11 WPA RIP) on the sample collection dates designated in Table 1. All samples were collected in U.S. 1-liter Teflon® water sample bags that were returned on STS-126 (ULF2), STS-119 (15A), and Soyuz 17 and received in the WAFAL on December 2, 2008, March 30, 2009, and April 19 and June 15, 2009, respectively. Due to insufficient sample volume, the April 6 SVO-ZV sample was not analyzed for pH, conductivity, turbidity, total dissolved solids, iodine or formaldehyde, and the July 2, July 25, and October 8, 2009 SVO-ZV samples were not analyzed for total dissolved solids.

ISS RUSSIAN SEGMENT:

SRV-K Potable Water Samples

All chemical parameters measured for the 8 SRV-K potable water samples were within the ISS MORD water quality requirements except for nickel. The nickel levels in the samples ranged from 8 to 101 µg/L. The February 19 sample contained 101 µg/L of nickel, which slightly exceeded the 100 µg/L ISS MORD limit (Fig. 3). Because this level was well below the SWEG value of 300 µg/L, it was not considered to be a crew health risk.¹¹ The TOC levels of the SRV-K samples ranged from 0.25 to 20.7 mg/L (Fig. 2). The Feb. 19 sample's elevated TOC level of 20.7 mg/L can be attributed to a formate level of 61.8 mg/L, indicating that CWC potable water was being used as make-up water at the time the sample was collected. The silver levels (added biocide) in the SRV-K samples of 7 to 32 µg/L continued to be low indicating that heating of the water by the SRV-K galley pasteurization unit appeared to be the main source of microbial control.

SVO-ZV Potable Water Samples

All chemical parameters measured for the 9 SVO-ZV water samples were within the ISS MORD requirements except for turbidity and manganese. Turbidity ranged from 0.4 to 6.6 NTU, with 7 of 9 samples exceeding the specification of 1.5 NTU. Although elevated turbidity in the SVO-ZV samples is not considered a direct health risk, the concern is that particulates causing the turbidity can shield bacteria from the silver biocide. The dissolved silver levels in the SVO-ZV samples ranged from < 8 to 230 µg/L indicating that a small amount of the particulates are due to colloidal silver which may mitigate this concern. Total silver in the SVO-ZV samples ranged from 51 to 464 µg/L, with all levels below the 500 µg/L limit. Elevated TOC (15.0 to 22.9 mg/L) and formate levels (48.6 to 80.6 mg/L) in 5 of the 9 SVO-ZV samples confirm that CWC potable water was being used in the SVO-ZV system at the time the samples were collected (Fig. 5).

Although elevated silver levels were seen in previous SVO-ZV samples collected during Expeditions 16 and 17 and returned on STS-122 (1E) and STS-124 (1J), respectively, the silver levels during Expedition 18 returned to acceptable limits (< 500 µg/L) when Rodnik water was being used in the SVO-ZV. On the other hand, silver levels in SVO-ZV samples decreased from 304 µg/L on December 16, 2008 to 57 µg/L on April 5, 2009 (Fig. 5). These reduced levels are a concern as the potable CWCs are originally dosed with around 500 µg/L of silver. These low silver biocide levels may be ineffective for maintaining bacterial control; therefore, continued close monitoring of the SVO-ZV silver level is recommended to determine if remedial action is required.

Manganese ranged from 2 to 121 µg/L, with 4 of 9 samples collected from July to October 2008 exceeding the 50 µg/L MORD limit when Rodnik water was being used in the SVO-ZV system (Fig. 4). Because these exceedances were well within the SWEG guideline of 300 µg/L for manganese¹⁰, they were not considered to be a crew health risk. The April 5 SVO-ZV sample contained 36 µL of bis-2-ethylhexyl phthalate. Although this level exceeded the EPA MCL of 6 µg/L it was well below the SWEG value of 20,000 µg/L and; therefore, not considered to be toxicologically significant.¹²

ISS U.S. SEGMENT:

90-Day Checkout -WPA Product Water Samples

During the 90-day WRS checkout period, the Expedition 18 crew collected a total of 25 archival potable water samples from various sampling locations within the WRS and returned them on STS-126 (ULF2), STS-119 (15A), and Soyuz 17 as summarized in Table 1. The 5 WPA product water samples returned on STS-126 (ULF2) were initial start up samples. These 5 samples were collected during docked operations and returned. Activation and checkout of the potable water dispenser (PWD) was not completed before Shuttle undocking so these samples were collected from the WPA rack interface panel (RIP) and the PWD auxiliary port. The 18 WPA product water samples returned on STS-119 (15A) and 2 WPA samples returned on Soyuz 17 were collected throughout the 90-day verification period and more accurately reflect integrated water system results.

Samples returned on STS-126 (ULF2)

All chemical parameters measured for the 5 initial WPA product water samples were within limits specified in Table LXX of SSP 41000² except for nickel in the WPA RIP samples collected on November 22 and November 25, 2008 (1690 and 415 µg/L versus a limit of 300 µg/L) as shown in Fig. 6. These high levels are probably due to leaching of nickel from the stainless steel plumbing indicating that the samples were most likely comprised of stagnant water stored in the lines before launch versus actual WPA product water. Biocidal iodine (I₂) was below required levels in the first sample only (0.2 mg/L versus a requirement of 1 to 4 mg/L) as shown in Fig. 7. This low level is likely due to the degradation of iodine in the servicing water put into the system before launch. The TOC values ranged from 0.19 to 1.05 mg/L, which are all well within the 3 mg/L limit (Fig. 8). Isopropanol (0.2 to 1.0 mg/L), acetone (0.009 to 0.17 mg/L), and traces of formaldehyde, benzyl alcohol, benzene, iodomethane, toluene, and o-xylene were detected in the initial WPA RIP samples.

Samples returned on STS-119 (15A)

All chemical parameters measured for 18 WPA water samples returned on STS-119/15A were within ISS water quality limits except for turbidity and total iodine. The 2 PWD hot samples collected on December 29, 2008 and January 30, 2009 had turbidity levels of 1.6 and 3.1 NTU, respectively, versus a limit of 1 NTU. These elevated turbidity levels appear to be due to iron in these PWD hot samples. The iron levels were 56 µg/L for the December 29 sample and 261 µg/L for the January 30 sample (Fig. 9). The iron level subsequently decreased to non-detectable levels after a PWD disinfection flush on March 23. It appears the elevated turbidity and iron levels may have been due to corrosion in the PWD hot line while it was left stagnant during efforts to control microbial growth in the ambient line.

The 3 PWD ambient samples collected January 14, January 21, and January 30, 2009 contained 0.53, 0.80, and 0.61 mg/L total iodine, respectively, which exceeded the 0.2 mg/L point of use limit (Fig. 7). These elevated levels can be attributed to efforts to control high microbial counts in the PWD ambient line. Starting early January 2009, the PWD ACTEX was bypassed and iodinated WPA water was flushed through the PWD microbial filter daily in an attempt to maintain some residual biocidal iodine in the PWD ambient line. Unfortunately, as no biocidal iodine was detected in these samples, the results show that the filter absorbed the biocidal iodine with only non-biocidal iodine passing through the filter. Due to the inability to maintain bacterial control in the PWD ambient line, the PWD lines were disinfected with a 40 mg/L iodine solution on March 17, 2009. The March 18 sample containing 10.9 mg/L total iodine was taken before 2 liters of WPA water were passed through the ACTEX to flush the system. Another 5 liters of water were then flushed through both the hot and ambient lines on March 23 before that day's sample was taken. Even with these flushes, however, the total iodine levels in the samples collected March 23 and March 25 of 0.44 and 0.50 mg/L were still above the 0.2 mg/L point of use limit. This appears to be due to the slow leaching of the iodine absorbed on the PWD microbial filter back into the water.

The nickel levels in the samples returned on STS-119/15A were all below the 300 µg/L requirement (Fig. 1). The TOC values for the WPA RIP samples ranged from 0.07 to 0.23 mg/L. Only trace levels of acetone, iodomethane, formaldehyde, methylene chloride, and xylenes were detected. No benzyl alcohol or benzene was detected in these samples. The TOC values for the PWD hot samples ranged from 0.19 to 1.20 mg/L. Low levels of acetone (0.06 to 0.27 mg/L) and isopropanol (< 0.1 to 1.2 mg/L) along with traces of formaldehyde, ethylbenzene, and xylenes were detected. No iodomethane, benzyl alcohol, or benzene were detected in these samples. The TOC values for the WPA PWD ambient samples ranged from 0.29 to 0.72 mg/L. Low levels of acetone (0.02 to 0.14 mg/L) and isopropanol (< 0.1 to 0.31) along with traces of formaldehyde, ethylbenzene and xylenes were detected. No iodomethane, benzyl alcohol, or benzene were detected in these samples.

Samples returned on Soyuz 17

All chemical parameters measured for the 2 WPA water samples collected April 2, 2009 and returned on Soyuz 17 were within ISS limits, except for a level of 0.43 mg/L total iodine in the PWD ambient sample (Fig. 7), which was slightly elevated versus the 0.2 mg/L point of use limit. The TOC levels were 0.10 and 1.1 mg/L, respectively, both well below the 3.0 mg/L limit. Traces of iononaphthalene and formaldehyde were detected in the WPS RIP sample, and acetone (0.12 mg/L) was detected in the PWD ambient sample.

90-Day Checkout Summary

The results of the chemical analyses of the 5 WPA water samples returned on STS-126 (ULF2) indicated all parameters met requirements except for high nickel and low iodine levels in the initial 2 samples. The high nickel and low iodine levels were resolved as the system was operated, confirming the initial 2 samples were actually ground water used to fill the water system before launch. Based on the results for the remaining 3 samples, the

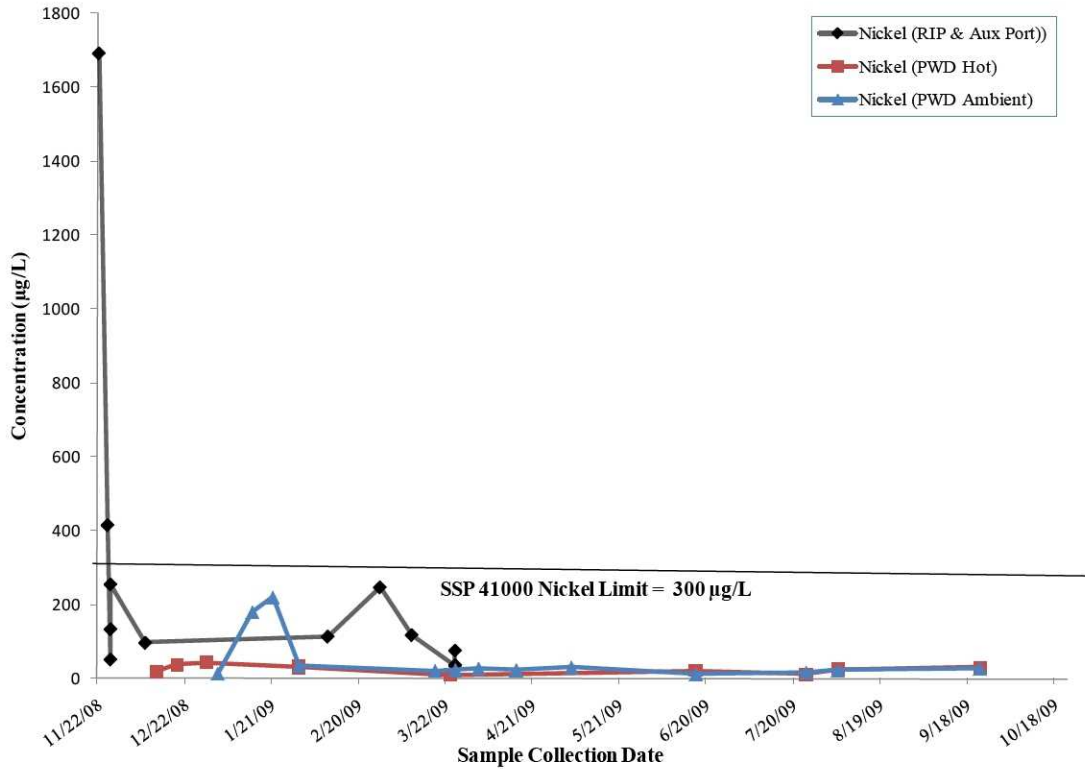


Figure 6. Nickel Levels in US Potable Water Samples
ISS ULF2 to Soyuz 18

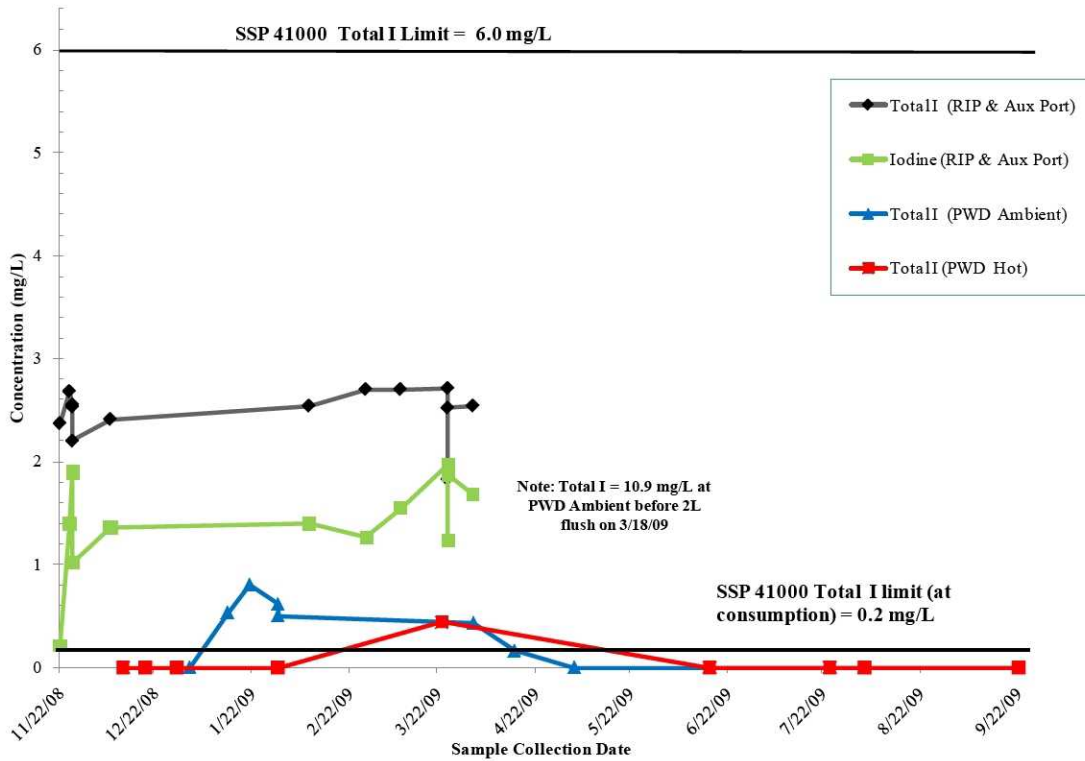


Figure 7. Total I & Iodine Levels in US Potable Water Samples
ISS ULF2 to Soyuz 18

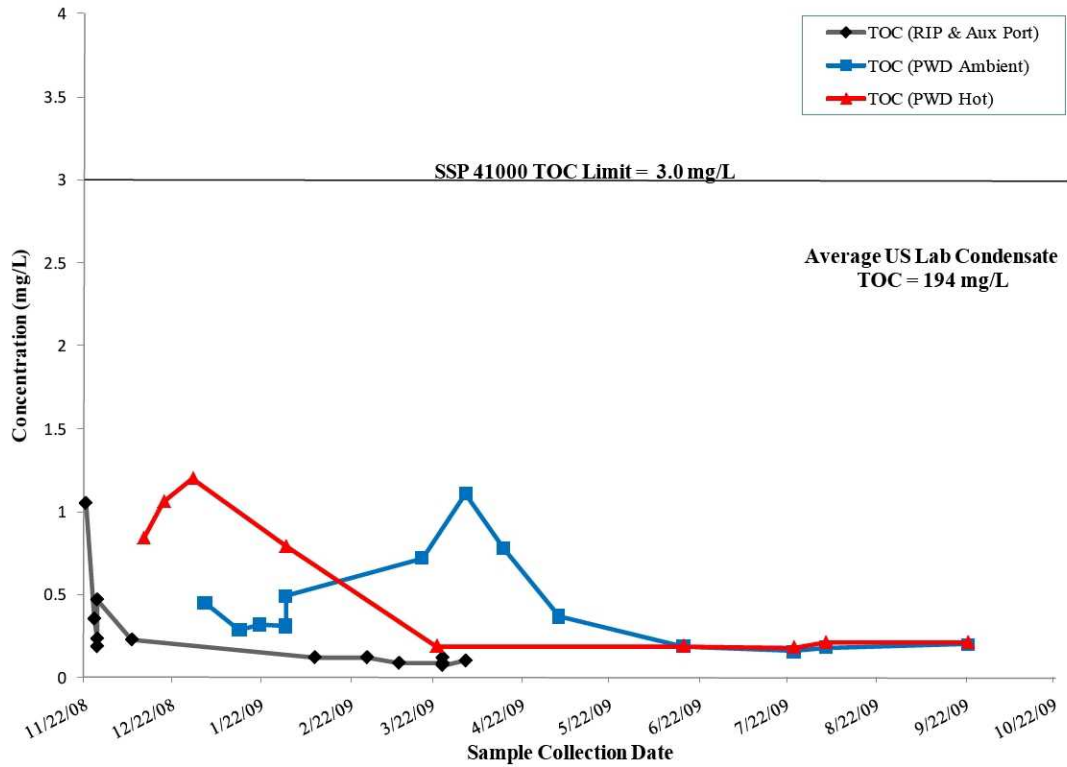


Figure 8. TOC Levels in US Potable Water Samples
ISS ULF2 to Soyuz 18

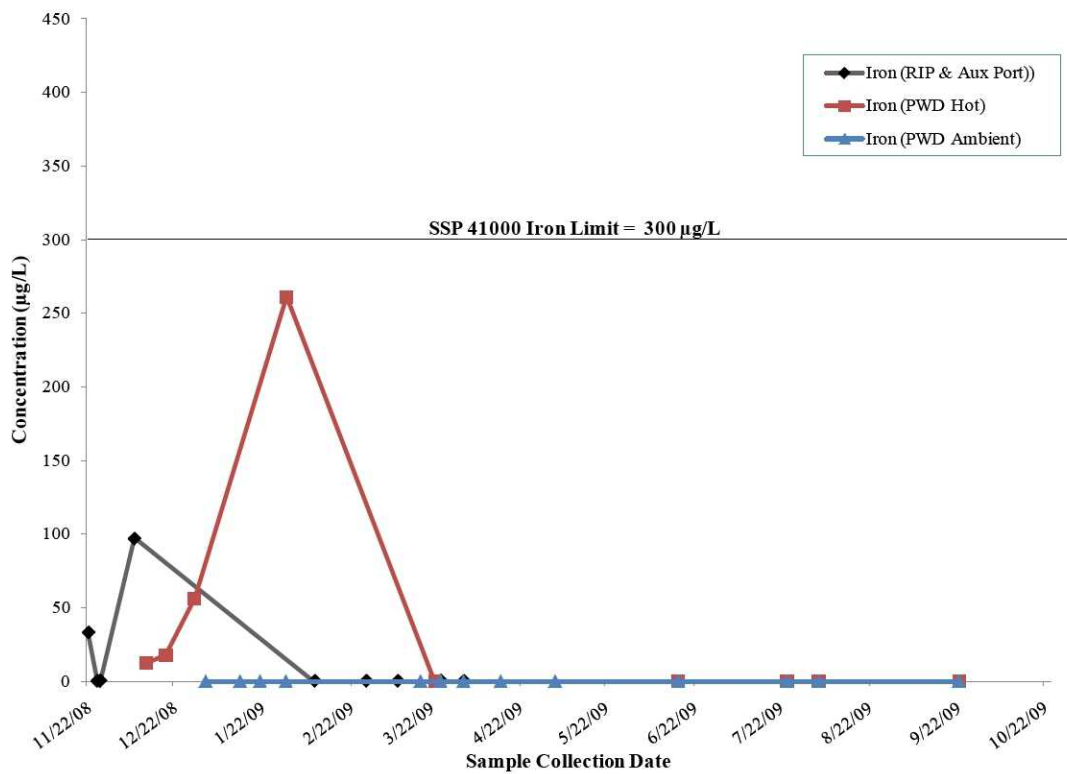


Figure 9. Iron Levels in US Potable Water Samples
ISS ULF2 to Soyuz 18

WPA product water was designated chemically acceptable for hygiene use by the crews during the remainder of the 90-day verification period. No WPA water was consumed during the 90-day checkout. The results of the chemical analysis of the U.S. WPA and PWD samples returned on STS-119 (15A) and Soyuz 17 indicated that all parameters met ISS specifications except for the total iodine levels in the PWD samples. The slightly elevated total iodine levels in the PWD ambient line were not considered a hazard to the crew as they were associated with efforts to control the high bacteria levels and are expected to decrease as the system is used. The analytical results for WPA samples collected by the Expedition 18 crew during the 90-day checkout period were ultimately used as the basis for the ISS Program decision to begin crew consumption of WPA water beginning in May of 2009.

EXPEDITION 20

The Expedition 20 crew collected a total of 21 chemical archival potable water samples (3 SRV-K warm, 2 SRV-K hot, 6 SVO-ZV, 6 PWD ambient, and 4 PWD hot) on the sample dates designated in Table 1. All samples were collected in U.S. 1-liter Teflon® water sample bags that were returned on Soyuz 15, STS-127 (2JA), STS-128 (17A), and Soyuz 18 and received in the WAFAL on August 3, September 14, and October 21, 2009, respectively. Due to insufficient sample volume, turbidity and total solids were not analyzed on some of the samples.

ISS RUSSIAN SEGMENT:

SRV-K Potable Water Samples

All chemical parameters measured for the 5 SRV-K potable water samples were within the ISS MORD requirements except for the manganese level of 116 µg/L in the SRV-K hot sample collected May 4, 2009, which was above the 50 µg/L limit. In addition to the elevated manganese, the 8.0 mg/L chloride and 42 mg/L sulfate levels also suggest that the May 4 sample contained a significant amount of Rodnik water. Nickel levels ranged from 30 to 57 µg/L and were all below the ISS MORD limit of 100 µg/L (Fig. 3). Total silver levels (added biocide) continued to be low in the SRV-K samples (14 to 49 µg/L) indicating that heating of the water by the SRV-K galley pasteurization unit continues to be the main source of microbial control.

The SRV-K samples contained TOC levels ranging from 0.39 to 12.1 mg/L, which were all below the ISS MORD limit of 20 mg/L. An updated historical plot of the TOC trend in the SRV-K water samples is shown in Fig. 2. The higher TOC level of 12.1 mg/L in the July 7 sample can be attributed to formate (43.0 mg/L), which indicates that potable CWC water was being used as make up water at the time of sample collection. In addition, the SRV-K warm sample collected April 9 contained 9 µL of bis-2-ethylhexyl phthalate level, which slightly exceeded the EPA MCL of 6 µg/L.

Although the manganese level was above the ISS MORD limit and the bis-2-ethylhexyl phthalate level was just above the EPA MCL, both were well below SWEG limits of 300 and 20,000 µg/L, respectively.^{10,12} Therefore, these levels were not considered to be a crew health risk.

SVO-ZV Potable Water Samples

All chemical parameters measured for the 6 SVO-ZV water samples were within the ISS MORD requirements except for turbidity, manganese, and total silver. The samples contained turbidity levels ranging from 0.2 to 8.1 NTU, with 4 of 6 samples exceeding the 1.5 NTU limit. Manganese ranged from 2 to 148 µg/L, with only the May 4 sample exceeding the ISS MORD requirement of 50 µg/L. This level of 148 µg/L did not present a crew health risk because it was well below the 300 µg/L SWEG value (Fig. 4).¹⁰

Total silver levels ranged from 36 to 785 µg/L in the SVO-ZV samples. Only the May 4 sample level with 785 µg/L exceeded the ISS MORD requirement of 500 µg/L (Fig. 5). The elevated TOC (15.1 to 18.3 mg/L) and formate (54.3 to 64.0 mg/L) levels in 4 of the 6 samples suggest that ISS CWC potable water was being used in the SVO-ZV system at the time the samples were collected. The sample collected on May 4 was more characteristic of typical SVO-ZV water with a TOC level of 1.7 mg/L and no formate detected.

The concern with elevated turbidity in the SVO-ZV samples is that particulates causing the turbidity can shield bacteria from the silver biocide. The dissolved silver levels of < 2 to 83 µg/L indicate that a small amount of the particulates are colloidal silver that may mitigate this concern. The silver levels of 36 to 143 µg/L in the SVO-ZV samples continue to be well below the 400 to 500 µg/L range typically added to the Rodnik water preflight, indicating losses in the silver levels are occurring. With the exception of the May 4 sample, the biocidal silver levels in the SVO-ZV samples may be insufficient for biocidal control. On the other hand, the sample collected May 4 that appears to be predominately Rodnik water contains an elevated level of 785 µg/L total silver. Elevated silver levels (Fig. 5) have been seen in previous SVO-ZV samples returned from Expedition 16 (669 and 735 µg/L) and Expedition 17 (834 and 698 µg/L). The high silver level in the May 4 SVO-ZV sample suggests that further

discussions with Russian water quality experts are needed to ensure adequate but not excess total silver is being added to the Rodnik water.

ISS US SEGMENT:

WPA Processed Water Samples

All chemical parameters measured for the 10 WPA processed water samples (6 PWD ambient and 4 PWD hot) were within limits specified in Table LXX of SSP 41000.² Nickel levels ranged from 12 to 31 µg/L and were well within specification (Fig. 6). The total iodine (I) levels in the PWD samples ranged from < 0.05 to 0.16 mg/L, meeting the point of consumption limit of 0.2 mg/L (Fig. 7). No WPA RIP samples were collected during this timeframe. The iron levels continued to be at non-detectable levels after the PWD disinfection flush on March 23, 2009 (Fig. 9).

The TOC values ranged from 0.18 to 0.86 mg/L, all well within the 3 mg/L limit (Fig. 8). Only trace levels of acetone (11 µg/L), bis-2-ethylhexyl phthalate (12 µg/L), methyl sulfone (68 to 113 µg/L), 2-butanone (6 µg/L), and trans-squalene (22 µg/L) were detected. None of these were at toxicologically significant levels.

Conclusion

The chemical results for the archival potable water samples collected and returned during Expeditions 16 through 20 indicate that the ISS potable water supplies were chemically acceptable for crew consumption. Although the manganese levels in 4 of the 15 SRV-K samples exceeded the ISS MORD requirement of 50 µg/L, the elevated levels of 56 to 139 µg/L were not considered to be a crew health risk because they were well below the 300 µg/L SWEG value.¹⁰ Similarly, one sample contained a nickel level of 101 µg/L that was slightly above the ISS MORD limit of 100 µg/L but well below the 300 µg/L SWEG and not a health concern.¹¹ Finally the May 30 SRV-K sample contained a total silver level of 895 µg/L silver versus the ISS MORD limit of 500 µg/L and was determined to likely be Rodnik water used as makeup in the SRV-K.

Turbidity levels exceeded the ISS MORD limit of 1.5 NTU in 13 of 22 SVO-ZV samples collected during Expeditions 16 through 20. Although elevated turbidity does not pose a direct crew health risk the concern is that particulates causing the turbidity can shield bacteria from the silver biocide. Dissolved silver levels indicated that some of the particulates contributing to elevated turbidity were colloidal silver, which partially may mitigate the concern. Manganese levels in 10 SVO-ZV samples ranging up to 148 µg/L exceeded the ISS MORD limit of 50 µg/L, but all levels were well below the 300 µg/L SWEG and; therefore, not a health concern.¹⁰ Total silver levels in 6 SVO-ZV samples ranging up to 834 µg/L exceeded the ISS MORD limit of 500 µg/L. These elevated silver levels are likely due to the source being Rodnik water. Concern with elevated manganese and total silver levels in Rodnik water samples is an ongoing issue that has been previously discussed.³⁻⁹ The elevated silver is not considered to be a crew health threat because the ISS crews use other low-silver water sources for the majority of their consumed water. Nevertheless, this is not an ideal situation and discussions on minimizing the presence of silver particles in the Rodnik water and lowering the silver concentration have continued with Russian water quality experts. Previous lab work has demonstrated a drop in silver levels when U.S. CWC potable water and Russian Rodnik water are mixed, although the reason for this is unclear. The low silver biocide levels that can result from this mixing may be ineffective for maintaining bacterial control; therefore, continued close monitoring of the SVO-ZV silver level is recommended to determine if remedial action is required.

The analytical results from the 90-day WRS checkout period indicated that WPA product water was acceptable for crew consumption, which was authorized beginning May of 2009. High nickel and low iodine levels found in the first 2 samples collected were resolved as the system was operated, confirming these samples were most likely ground water used to fill the water system before launch. Slightly elevated total iodine levels in the PWD ambient line found during the 90-day checkout were not considered to be a health concern as they were associated with efforts to control the high bacteria levels. The PWD ambient iodine levels subsequently have decreased to below the point-of-use limit as confirmed by the results for the Expedition 20 returned samples. Despite a few early 90-day checkout samples containing elevated iron, iron has been at non-detectable levels after the PWD disinfection flush in March of 2009.

Appendix

Appendix 1 contains the analysis results for the chemical archive potable water samples collected in flight from the Russian Segment SRV-K (regenerated water) system during Expeditions 16 through 20. Appendix 2 contains analytical results for the chemical archive samples collected in flight from the Russian Segment SVO-ZV (stored water) system during these 5 expeditions. Appendix 3 contains analytical results for Rodnik potable water samples

collected pre-flight from the water supplies loaded on the Progress 28, 29, 30, 31, and 34 vehicles, and for 2 Rodnik tank samples collected in flight during Expeditions 16 and 17. Appendix 4 contains the analytical results for chemical archival water samples collected from the U.S. Segment Water Processor Assembly during Expeditions 18 through 20.

Acknowledgments

The work described in this paper was performed at the JSC Water and Food Analytical Laboratory (WAFAL) under NASA contract NAS9-02078 with the direction of NASA Technical Monitor J. Torin McCoy. The following WAFAL chemists are gratefully acknowledged for performing the Expeditions 16 through 20 water sample chemical analyses: Jim Alverson, Lydia Ding, Dawn Dungan, Mike Kuo, Esther Liu, and Jeff Rutz. Mickie Benoit of WAFAL is also acknowledged for his coordination of the sample returns. ISS Expeditions 16 through 20 crewmembers are acknowledged for collecting chemical archival samples. Finally the authors wish to acknowledge their Russian colleagues, Peter Andreichuk and Elena Zapryagaylo of RSC-Energia, Yuri Sinyak and Sergei Harin of the Institute of Biomedical Problems, and Leonid Bobe of NIICHIMMASH.

References

- ¹ISS Medical Operations Requirements Document, SSP 50260, Revision C, NASA Johnson Space Center, February 2006, Section 7.2.
- ²System Specification for the International Space Station, SSP 41000 BP, National Aeronautics and Space Administration, September 28, 2009, Table LXX.
- ³Straub, J. E., Plumlee, D. K., and Schultz, J. R., "Chemical Analysis Results for Potable Water Returned from ISS Expeditions 14 and 15", *SAE International Journal of Aerospace*. 1(1): 556-577, 2008.
- ⁴Straub, J. E., Plumlee, D. K., and Schultz, J. R., "Sampling and Chemical Analysis of Potable Water for ISS Expeditions 12 and 13", *SAE International Journal of Aerospace*. 1(1), 2007.
- ⁵Straub, J. E., Plumlee, D. K., and Schultz, J. R., "ISS Expeditions 10 & 11 Potable Water Sampling and Chemical Analysis Results", *SAE International Journal of Aerospace*. 1(1), 2006.
- ⁶Straub, J. E., Plumlee, D. K., and Schultz, J. R., "Chemical Analysis of ISS Potable Water from Expeditions 8 and 9", *SAE International Journal of Aerospace*. 1(1), 2005.
- ⁷Straub, J. E., Plumlee, D. K., and Schultz, J. R., "ISS Potable Water Sampling and Chemical Analysis: Expeditions 6 & 7", *SAE International Journal of Aerospace*. 1(1), 2004.
- ⁸Plumlee, D. K., and Schultz, J. R., "ISS Potable Water Sampling and Chemical Analysis: Expeditions 4 & 5", *SAE International Journal of Aerospace*. 1(1), 2003.
- ⁹Plumlee, D. K., and Schultz, J. R., "Chemical Sampling and Analysis of ISS Potable Water: Expeditions 1-3", *SAE International Journal of Aerospace*. 1(1), 2002.
- ¹⁰Ramanathan, R., "Manganese (Inorganic Salts)", Chapter 9, Table 9-8, *Spacecraft Water Exposure Guidelines for Selected Contaminants*, Volume 2, the National Academies Press, 2007.
- ¹¹Ramanathan, R., "Nickel", Chapter 6, Table 6-7, *Spacecraft Water Exposure Guidelines for Selected Contaminants*, Volume 1, the National Academies Press, 2004.
- ¹²James, J.T., "Di(2-ethylhexyl) Phthalate", Chapter 4, Table 4-10, *Spacecraft Water Exposure Guidelines for Selected Contaminants*, Volume 1, The National Academies Press, 2004.

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|---------------------------------|-----------------|-------------------|---|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|---|---------------------------------------|---------------------------------------|
| | | | | | SRV-K Warm | SRV-K Warm | SRV-K Warm (Micro bio) | SRV-K Hot | SRV-K Hot (RSA Drink Bao) Potable Water (#2) | SRV-K Warm (RSA Drink Bao) Potable Water (#3) | SRV-K Warm | SRV-K Hot |
| Sample Description | Sample Date | Units | | | Potable Water 30-Nov-2007 20080221021 | Potable Water 08-Jan-2008 20080221022 | Potable Water 04-Feb-2008 20080221024 | Potable Water 26-Feb-2008 20080328010 | Potable Water 16-Apr-2008 20080502003 | Potable Water 16-Apr-2008 20080502004 | Potable Water 13-Apr-2008 20080616012 | Potable Water 30-May-2008 20080616014 |
| Physical Characteristics | | | | | | | | | | | | |
| pH | | pH units | U.S. 5.5-9.0 | MORD | 6.89 | 7.02 | 6.99 | 7.68 | 8.05 | NA | 7.83 | 8.15 |
| Conductivity | | µS/cm | | | 163 | 220 | 4 | 112 | 270 | NA | 135 | 365 |
| Turbidity | | NTU | U.S. 1.5* | MORD | 0.7 | 0.5 | 0.8 | 0.2 | NA | NA | 0.3 | 1.3 |
| Total Dissolved Solids | | mg/L | U.S. 100 (1,000 [#]) | MORD | 68 | 108 | NA | 53 | NA | NA | 58 | 208 |
| Iodine (LCV) | | | | | | | | | | | | |
| Total I | | mg/L | U.S. 0.05 | MORD | <0.05 | <0.05 | <0.05 | <0.05 | NA | NA | <0.05 | <0.05 |
| Anions (IC/ISE) | | | | | | | | | | | | |
| Bromide | | mg/L | U.S. | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | NA | <0.5 | <0.5 |
| Chloride | | mg/L | U.S. 250 | MORD | <0.15 | 5.37 | 5.92 | 2.55 | 6.92 | NA | 1.71 | 9.89 |
| Fluoride | | mg/L | U.S. 1.5/4 | MORD/EPA | 0.46 | <0.1 | <0.1 | <0.1 | <0.1 | NA | <0.1 | <0.1 |
| Nitrate as Nitrogen (NO3-N) | | mg/L | U.S. 10 | MORD/EPA | <0.11 | 0.17 | <0.11 | <0.11 | 0.19 | NA | <0.11 | 0.27 |
| Nitrite as Nitrogen (NO2-N) | | mg/L | U.S. 1 | EPA | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | NA | <0.08 | <0.08 |
| Phosphate as P (PO4-P) | | mg/L | U.S. | | <0.24 | <0.24 | <0.24 | NA | <0.04 | NA | <0.24 | <0.24 |
| Sulfate | | mg/L | U.S. 250 | MORD | <0.75 | 30.4 | 18.2 | 7.84 | 32.2 | NA | 5.59 | 43.2 |
| Cations (IC) | | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | | mg/L | U.S. 2/1 | MORD/SWEG | <0.002 | <0.002 | <0.002 | 0.013 | 0.174 | NA | 0.002 | <0.002 |
| Lithium | | mg/L | U.S. | | <0.002 | <0.002 | 0.002 | 0.002 | 0.004 | NA | <0.002 | 0.004 |
| Metals (ICP/MS) | | | | | | | | | | | | |
| Calcium | | mg/L | U.S. 100 | MORD | 25.1 | 30.1 | 26.8 | 15.5 | 36.5 | NA | 28.4 | 52.5 |
| Magnesium | | mg/L | U.S. 50 | MORD | 4.63 | 6.68 | 5.69 | 2.80 | 7.72 | NA | 0.98 | 12.3 |
| Potassium | | mg/L | U.S. | | <0.01 | 2.43 | 1.73 | 0.86 | 2.32 | NA | 0.35 | 3.30 |
| Sodium | | mg/L | U.S. | | 0.45 | 3.46 | 2.91 | 1.51 | 4.64 | NA | 0.43 | 6.39 |
| Aluminum | | µg/L | U.S. | | 7 | 22 | 41 | 22 | 40 | NA | 13 | 62 |
| Antimony | | µg/L | U.S. 6 | EPA | <2 | <2 | <2 | <2 | <4 | NA | <8 | <8 |
| Arsenic | | µg/L | U.S. 10 | MORD/EPA | <1 | <1 | <1 | <1 | <4 | NA | <4 | <4 |
| Barium | | µg/L | U.S. 1,000/10,000 | MORD/SWEG | 2 | 14 | 9 | 5 | 19 | NA | <4 | 26 |
| Beryllium | | µg/L | U.S. 4 | EPA | <1 | <1 | <1 | <1 | <4 | NA | <4 | <4 |
| Cadmium | | µg/L | U.S. 5/22 | MORD/SWEG | <1 | <1 | <1 | <1 | <4 | NA | <4 | <4 |
| Chromium | | µg/L | U.S. 100 | MORD/EPA | <5 | <5 | <5 | <5 | <20 | NA | <20 | <20 |
| Cobalt | | µg/L | U.S. | | <1 | <1 | <1 | <1 | <4 | NA | <4 | <4 |
| Copper | | µg/L | U.S. 1,000/1,300 | MORD/EPA | 7 | 26 | 21 | 15 | 35 | NA | 10 | 20 |
| Iron | | µg/L | U.S. 300 | MORD | 49 | 54 | 61 | 31 | 79 | NA | 59 | 108 |
| Lead | | µg/L | U.S. 50/15 | MORD/EPA | <1 | 2 | 1 | <1 | <4 | NA | <4 | <4 |
| Manganese | | µg/L | U.S. 50/300 | MORD/SWEG | 1 | 34 | 56 | 36 | 96 | NA | 14 | 139 |
| Mercury | | µg/L | U.S. 2 | MORD/EPA | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | NA | <0.5 | <0.5 |
| Molybdenum | | µg/L | U.S. 40 | EPA HA | <1 | <1 | <1 | <1 | <4 | NA | <4 | <4 |
| Nickel | | µg/L | U.S. 100/300 | MORD/SWEG | 46 | 30 | 32 | 34 | 16 | NA | 13 | 68 |
| Selenium | | µg/L | U.S. 10/50 | MORD/EPA | <1 | <1 | <1 | <1 | <4 | NA | <4 | 4 |
| Silver | | µg/L | U.S. 500/400 | MORD/SWEG | 22 | 245 | 62 | 33 | 267 | NA | 30 | 895 |
| Silver, Dissolved | | µg/L | U.S. | | 3 | 131 | 15 | 18 | 84 | NA | 20 | 64 |
| Zinc | | µg/L | U.S. 5,000/2,000 | MORD/SWEG | 82 | 121 | 71 | 71 | 542 | NA | 24 | 48 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|---------------------------------------|-----------------|--------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|---|---------------------------|---------------------------|
| | | | | | SRV-K Warm | SRV-K Warm | SRV-K Warm (Micro bio) | SRV-K Hot | SRV-K Hot (RSA Drink Rao) Potable Water (#2) | SRV-K Warm (RSA Drink Rao) Potable Water (#3) | SRV-K Warm | SRV-K Hot |
| Sample Description | Sample Date | Analysis/Sample ID | Units | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 04-Feb-2008 | Potable Water 26-Feb-2008 | Potable Water 16-Apr-2008 | Potable Water 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 |
| Total Organic Carbon (Slevers) | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | U.S. | | | 14.8 | 20.6 | 20.8 | 12.3 | NA | 26.1 | 17.2 | 34.3 |
| Total Organic Carbon | mg/L | U.S. | 20** | MORD | 7.82 | 1.75 | 0.53 | 0.27 | NA | 2.93 | 0.34 | 1.98 |
| Volatile Organics | | | | | | | | | | | | |
| Acetone | µg/L | U.S. | 15,000 | SWEG | 76 | 3 | <2 | 3 | NA | 5 | 13 | <2 |
| Acrylonitrile | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Allyl chloride (3-Chloropropene) | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Benzene | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Bromobenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Bromochloromethane | µg/L | U.S. | 90 | EPA HA | <4 | <4 | <4 | <4 | NA | <4 | <4 | <4 |
| Bromodichloromethane | µg/L | U.S. | THM 80 | EPA | <0.4 | 1.1 | <0.4 | <0.4 | NA | 1.5 | <0.4 | 2.2 |
| Bromoform | µg/L | U.S. | THM 80 | EPA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Bromomethane | µg/L | U.S. | 10 | EPA HA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | U.S. | 4,000 | EPA HA | <2 | <2 | <2 | <2 | NA | 4 | <2 | <2 |
| n-Butylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| sec-Butylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| tert-Butylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Carbon disulfide | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Carbon tetrachloride | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | 1.5 | <0.4 | <0.4 |
| Chloroacetonitrile | µg/L | U.S. | | | <10 | <10 | <10 | <10 | NA | <10 | <10 | <10 |
| Chlorobenzene | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1-Chlorobutane (Butyl chloride) | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Chloroethane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Chloroform | µg/L | U.S. | 6,500/THM 80 | SWEG/EPA | <0.4 | 29.9 | 1.6 | 0.6 | NA | 15.1 | 1.8 | 36.1 |
| Chloromethane | µg/L | U.S. | 30 | EPA HA | NA | NA | NA | NA | NA | <2 | <2 | <2 |
| 2-Chlorotoluene | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 4-Chlorotoluene | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Dibromochloromethane | µg/L | U.S. | THM 80 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | U.S. | 0.2 | EPA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| 1,2-Dibromoethane (EDB) | µg/L | U.S. | 0.05 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Dibromomethane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2-Dichlorobenzene | µg/L | U.S. | 600 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,3-Dichlorobenzene | µg/L | U.S. | 600 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,4-Dichlorobenzene | µg/L | U.S. | 75 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| trans-1,4-Dichloro-2-butene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Dichlorodifluoromethane | µg/L | U.S. | 1,000 | EPA HA | NA | NA | NA | NA | NA | <2 | <2 | <2 |
| 1,1-Dichloroethane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloroethane | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethene | µg/L | U.S. | 7 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| cis-1,2-Dichloroethene | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| trans-1,2-Dichloroethene | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloropropane | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,3-Dichloropropane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 2,2-Dichloropropane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloropropanone | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| 1,1-Dichloropropene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| cis-1,3-Dichloropropene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|---|-----------------|-------------------|---|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|---|---------------------------------------|---------------------------------------|
| | | | | | SRV-K Warm | SRV-K Warm | SRV-K Warm (Micro bio) | SRV-K Hot | SRV-K Hot (RSA Drink Bao) Potable Water (#2) | SRV-K Warm (RSA Drink Bao) Potable Water (#3) | SRV-K Warm | SRV-K Hot |
| | | | | | Potable Water 30-Nov-2007 20080221021 | Potable Water 08-Jan-2008 20080221022 | Potable Water 04-Feb-2008 20080221024 | Potable Water 26-Feb-2008 20080328010 | 16-Apr-2008 20080502003 | 16-Apr-2008 20080502004 | Potable Water 13-Apr-2008 20080616012 | Potable Water 30-May-2008 20080616014 |
| Sample Description | Units | | | | | | | | | | | |
| trans-1,3-Dichloropropene | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | NA | <2 | <2 |
| Diethyl ether | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Ethylbenzene | µg/L | U.S. | 700 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Ethyl methacrylate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Hexachlorobutadiene | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Hexachloroethane | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| 2-Hexanone | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Iodomethane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Isopropylbenzene (Cumene) | µg/L | U.S. | 4,000 | EPA DWEL | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 4-Isopropyltoluene (Cymene) | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Methacrylonitrile | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Methyl acrylate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Methyl-t-butylether (MTBE) | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Methylene chloride (Dichloromethane) | µg/L | U.S. | 15,000/5 | SWEG/EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Methyl methacrylate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| 4-Methyl-2-pentanone | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Naphthalene | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Nitrobenzene | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| 2-Nitropropane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Pentachloroethane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Propionitrile (Ethyl cyanide) | µg/L | U.S. | | | <10 | <10 | <10 | <10 | NA | <10 | <10 | <10 |
| n-Propylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Styrene | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,1,1,2-Tetrachloroethane | µg/L | U.S. | 70 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,1,1,2,2-Tetrachloroethane | µg/L | U.S. | 0.3 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Tetrachloroethene | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Tetrahydrofuran | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Toluene | µg/L | U.S. | 1,000 | EPA | 0.6 | 0.5 | 0.5 | 0.5 | NA | 1.7 | 1.7 | <0.4 |
| 1,2,3-Trichlorobenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trichlorobenzene | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,1,1-Trichloroethane | µg/L | U.S. | 200 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,1,2-Trichloroethane | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Trichloroethene | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Trichlorofluoromethane | µg/L | U.S. | 2,000 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichloropropane | µg/L | U.S. | 40 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trimethylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| 1,3,5-Trimethylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| Vinyl Acetate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| Vinyl Chloride | µg/L | U.S. | 2 | EPA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |
| m&p-Xylene | µg/L | U.S. | Total Xylenes 10,000 | EPA | <0.4 | 0.9 | <0.4 | <0.4 | NA | <0.4 | <0.4 | <0.4 |
| o-Xylene | µg/L | U.S. | Total Xylenes 10,000 | EPA | 0.4 | 0.5 | 0.4 | 0.5 | NA | 1.8 | 1.9 | 1.8 |
| Volatile Organics - Non-Targets (Tentatively Identified Compounds <= 80% match quality) | | | | | | | | | | | | |
| Dimethoxymethane (Formal) | µg/L | U.S. | | | not found | not found | not found | not found | NA | NA | not found | not found |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|--|-----------------|--------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|---|---------------------------|---------------------------|
| | | | | | SRV-K Warm | SRV-K Warm | SRV-K Warm (Micro bio) | SRV-K Hot | SRV-K Hot (RSA Drink Bao) Potable Water (#2) | SRV-K Warm (RSA Drink Bao) Potable Water (#3) | SRV-K Warm | SRV-K Hot |
| Sample Description | Sample Date | Analysis/Sample ID | Units | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 04-Feb-2008 | Potable Water 26-Feb-2008 | Potable Water 16-Apr-2008 | Potable Water 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 |
| | | | | | 20080221021 | 20080221022 | 20080221024 | 20080328010 | 20080502003 | 20080502004 | 20080616012 | 20080616014 |
| Extractable Organics | | | | | | | | | | | | |
| Acetophenone | | | µg/L | U.S. | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| Benzaldehyde | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Benzoic acid | | | µg/L | U.S. | <12 | <12 | <24 | <24 | NA | NA | <12 | <12 |
| Benzothiazole | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Benzyl alcohol | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Benzyl butyl phthalate | | | µg/L | U.S. | 7,000 | EPA DWEL | <4 | <4 | <8 | <8 | <4 | <4 |
| 2-Butoxyethanol | | | µg/L | U.S. | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| 2-(2-Butoxyethoxy)ethanol | | | µg/L | U.S. | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| 2-(2-Butoxyethoxy)ethyl acetate | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| n-Butylpalmitate | | | µg/L | U.S. | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| Butylated hydroxyanisole (BHA) | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| N-Butylbenzenesulfonamide | | | µg/L | U.S. | 96 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 3-tert-Butylphenol | | | µg/L | U.S. | <12 | <12 | <24 | <24 | NA | NA | <12 | <12 |
| Caffeine | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| tris-2-Chloroethyl phosphate | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Cholesterol | | | µg/L | U.S. | <32 | <32 | <64 | <64 | NA | NA | <32 | <32 |
| o-Cresol (2-Methylphenol) | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Cyclododecane | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Decamethylcyclopentasiloxane | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Decanoic acid | | | µg/L | U.S. | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| 2,6-Di-t-butyl-1,4-benzoquinone | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2,4-Di-t-butylphenol | | | µg/L | U.S. | <4 | <4 | 10 | <8 | NA | NA | <4 | <4 |
| 1,4-Diacetylbenzene | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| N,N-Dibutylformamide | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Dibutyl phthalate | | | µg/L | U.S. | 40,000/4,000 | SWEG/EPA DWEL | <4 | <4 | <8 | <8 | <4 | <4 |
| Dibutylamine | | | µg/L | U.S. | Dialkylamines 300 | SWEG | <4 | <4 | <8 | <8 | <4 | <4 |
| N,N-Diethyl-m-toluamide | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Diethylphthalate | | | µg/L | U.S. | 30,000 | EPA DWEL | <4 | <4 | <8 | <8 | <4 | <4 |
| Diethylene glycol monoethyl ether | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| N,N-Diethylformamide | | | µg/L | U.S. | <12 | <12 | <24 | <24 | NA | NA | <12 | <12 |
| Diiodomethane (Methyl iodide) | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Diisopropyl adipate | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Dimethyl phthalate | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| N,N-Dimethyl acetamide | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| N,N-Dimethylbenzylamine | | | µg/L | U.S. | Dialkylamines 300 | SWEG | <4 | <4 | <8 | <8 | <4 | <4 |
| N,N-Dimethylformamide | | | µg/L | U.S. | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| Dipropylene glycol methyl ether | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Dodecamethylcyclohexasiloxane | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Ethoxyethanol | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Ethyl-1-hexanol | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Ethylhexanoic acid | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| bis-2-Ethylhexyl adipate | | | µg/L | U.S. | 400 | EPA | <4 | <4 | <8 | <8 | <4 | <4 |
| bis-2-Ethylhexyl phthalate (Dioctyl phthalate) | | | µg/L | U.S. | 20,000/6 | SWEG/EPA | <4 | <4 | <8 | <8 | <4 | <4 |
| 4-Ethylmorpholine | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 1-Formylpiperidine | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Heptanoic acid | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Heptanone | | | µg/L | U.S. | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|-------------------------------------|-----------------|-------------------|---|----------------------------------|--|--|--|---|--|---|--|---|
| | | | | | SRV-K Warm (Potable Water 30-Nov-2007 20080221021) | SRV-K Warm (Potable Water 08-Jan-2008 20080221022) | SRV-K Warm (Micro bio) (Potable Water 04-Feb-2008 20080221024) | SRV-K Hot (Potable Water 26-Feb-2008 20080328010) | SRV-K Hot (RSA Drink Bao) (Potable Water #2) (16-Apr-2008 20080502003) | SRV-K Warm (RSA Drink Bao) (Potable Water #3) (16-Apr-2008 20080502004) | SRV-K Warm (Potable Water 13-Apr-2008 20080616012) | SRV-K Hot (Potable Water 30-May-2008 20080616014) |
| gamma-Hexalactone | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Hexanoic acid | µg/L | U.S. | | | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| 2-Hexanol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Hydroxybenzothiazole | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Ibuprofen | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Iodoform | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Isophorone | µg/L | U.S. | 100 | EPA HA | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 4-Isopropylphenol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Lauramide | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Lauric acid (Dodecanoic acid) | µg/L | U.S. | | | <120 | <120 | <240 | <240 | NA | NA | <120 | <120 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Mercaptobenzothiazole | µg/L | U.S. | 30,000 | SWEG | <40 | <40 | <80 | <80 | NA | NA | <40 | <40 |
| 2-Methyl-2,4-pentandiol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 1-Methyl-2-pyrrolidinone | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Methyl-4-hydroxybenzoate | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Methyl sulfone | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Methyl butyric acid | µg/L | U.S. | | | <12 | <12 | <24 | <24 | NA | NA | <12 | <12 |
| 2-Methylthiobenzothiazole | µg/L | U.S. | | | 11 | <4 | <8 | 10 | NA | NA | 6 | <4 |
| Monomethyl phthalate | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Myristic acid | µg/L | U.S. | | | <24 | <24 | <48 | <48 | NA | NA | <24 | <24 |
| (+)-Neomenthol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Nicotine | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Nonadecane | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Nonanoic acid | µg/L | U.S. | | | <12 | <12 | <24 | <24 | NA | NA | <12 | <12 |
| 1-Octadecanol | µg/L | U.S. | | | <12 | <12 | <24 | <24 | NA | NA | <12 | <12 |
| Octamethylcyclotetrasiloxane | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Octanoic acid | µg/L | U.S. | | | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| 4-tert-Octylphenol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Oleic acid | µg/L | U.S. | | | <40 | <40 | <80 | <80 | NA | NA | <40 | <40 |
| Oxindole | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Palmitic acid | µg/L | U.S. | | | <120 | <120 | <240 | <240 | NA | NA | <120 | <120 |
| Palmitoleic acid | µg/L | U.S. | | | <100 | <100 | <200 | <200 | NA | NA | <100 | <100 |
| Pentacosane | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| sec-Phenethyl alcohol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Phenol | µg/L | U.S. | 1,000/4,000 | MORD/SWEG | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Phenoxyethanol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| N-Phenyl-2-naphthylamine | µg/L | U.S. | 260,000 | SWEG | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Phenyl-2-propanol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Phenylacetic acid | µg/L | U.S. | | | <16 | <16 | <32 | <32 | NA | NA | <16 | <16 |
| Phenethyl alcohol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 2-Phenylphenol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Salicylic Acid | µg/L | U.S. | | | <32 | <32 | <64 | <64 | NA | NA | <32 | <32 |
| trans-Squalene | µg/L | U.S. | | | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| Stearic acid | µg/L | U.S. | | | <100 | <100 | <200 | <200 | NA | NA | <100 | <100 |
| 1-Tetradecanol | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Tetramethylsuccinonitrile | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Tetramethyl thiourea | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Tetramethylurea | µg/L | U.S. | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|--|-----------------|-------------------|---|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|---|---------------------------------------|---------------------------------------|
| | | | | | SRV-K Warm (Micro bio) | SRV-K Warm | SRV-K Warm (Micro bio) | SRV-K Hot | SRV-K Hot (RSA Drink Bao) Potable Water (#2) | SRV-K Warm (RSA Drink Bao) Potable Water (#3) | SRV-K Warm | SRV-K Hot |
| Sample Description | Sample Date | Units | | | Potable Water 30-Nov-2007 20080221021 | Potable Water 08-Jan-2008 20080221022 | Potable Water 04-Feb-2008 20080221024 | Potable Water 26-Feb-2008 20080328010 | Potable Water 16-Apr-2008 20080502003 | Potable Water 16-Apr-2008 20080502004 | Potable Water 13-Apr-2008 20080616012 | Potable Water 30-May-2008 20080616014 |
| Thymol | | µg/L | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | | µg/L | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Tributylamine | | µg/L | Trialkylamines 400 | SWEG | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Tributyl phosphate | | µg/L | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Triethyl phosphate | | µg/L | | | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | | µg/L | | | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| Tripropylene glycol monomethyl ether | | µg/L | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Undecanoic acid | | µg/L | | | <24 | <24 | <48 | <48 | NA | NA | <24 | <24 |
| 2-Undecanone | | µg/L | | | <4 | <4 | <8 | <8 | NA | NA | <4 | <4 |
| Valeric acid (Pentanoic acid) | | µg/L | | | <24 | <24 | <48 | <48 | NA | NA | <24 | <24 |
| Vanillin | | µg/L | | | <8 | <8 | <16 | <16 | NA | NA | <8 | <8 |
| Alcohols (DAI/GC/MS) | | | | | | | | | | | | |
| 1-Butanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Butanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| Ethanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| Methanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Methyl-1-butanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Methyl-2-butanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Methyl-1-propanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Methyl-2-propanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 3-Pentanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 1-Propanol | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | | µg/L | | | <100 | <100 | <100 | <100 | NA | <100 | <100 | <100 |
| Glycols (DAI/GC/MS) | | | | | | | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | | µg/L | 12000/14000 | MORD/EPA HA | <1000 | <1000 | <1000 | <1000 | NA | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | | µg/L | | | <500 | <500 | <500 | <500 | NA | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | | | | | | |
| Acetate | | µg/L | | | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 |
| Formate | | µg/L | 2,500,000 | SWEG | 29100 | <125 | <125 | <125 | NA | <125 | <125 | <125 |
| Glycolate | | µg/L | | | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 |
| Glyoxylate | | µg/L | | | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 |
| Lactate | | µg/L | | | <1000 | <1000 | <1000 | <1000 | NA | <1000 | <1000 | <1000 |
| Oxalate | | µg/L | | | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 |
| Propionate | | µg/L | | | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 |
| Aldehydes | | | | | | | | | | | | |
| Formaldehyde | | µg/L | 12,000/1,000 | SWEG/EPA HA | <2 | <2 | <2 | <2 | NA | <2 | <2 | <2 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | | ISS 1J/Exp. 17 | |
|----------------------------------|-----------------------------------|--------------------|-------------|----------------------|-------|-------------------|---|----------------------------------|--|--|--|---|--|---|--|---|
| | | | | | | | | | SRV-K Warm Potable Water 30-Nov-2007 20080221021 | SRV-K Warm Potable Water 08-Jan-2008 20080221022 | SRV-K Warm (Micro bio) Potable Water 04-Feb-2008 20080221024 | SRV-K Hot Potable Water 26-Feb-2008 20080328010 | SRV-K Hot (RSA Drink Bao) Potable Water (#2) 16-Apr-2008 20080502003 | SRV-K Warm (RSA Drink Bao) Potable Water (#3) 16-Apr-2008 20080502004 | SRV-K Warm Potable Water 13-Apr-2008 20080616012 | SRV-K Hot Potable Water 30-May-2008 20080616014 |
| Amines (CE) | | | | | | | | | | | | | | | | |
| | Ethylamine | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 | <125 | <125 | <125 |
| | Methylamine | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 | <125 | <125 | <125 |
| | n-Propylamine | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 | <125 | <125 | <125 |
| | Trimethylamine | µg/L | U.S. | Trialkylamines 400 | SWEG | <125 | <125 | <125 | <125 | NA | <125 | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | | | | | | | |
| | Urea | µg/L | U.S. | | | <800 | <800 | <800 | <800 | NA | <800 | <800 | <800 | <800 | <800 | <800 |
| | Caprolactam | µg/L | U.S. | 100,000 | SWEG | <4 | <4 | <8 | <300 | NA | <300 | <4 | <4 | <4 | <4 | <4 |
| | Organic Carbon Recovery | percent | U.S. | | | 98.50 | 0.38 | 2.92 | 3.06 | NA | 0.36 | 4.32 | 0.27 | | | |
| | Unaccounted Organic Carbon | mg/L | U.S. | | | 0.12 | 1.74 | 0.51 | 0.26 | NA | 2.92 | 0.33 | 1.97 | | | |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | ISS 15A/Exp. 18 | | | |
|---------------------------------|-----------------|-----------------------|------------------------|------------------|---------------|---------------|---------------|-----------------|---------------|---------------|---------------|
| | | SRV-K Hot (RSA Drink) | SRV-K Warm (RSA Drink) | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 27-Aug-08 | 27-Aug-08 | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 |
| Analysis/Sample ID | Units | 20081208012 | 20081208013 | 20081202003 | 20081202004 | 20081202006 | 20081202009 | 20081202010 | 20090330021 | 20090330022 | 20090330025 |
| Physical Characteristics | | | | | | | | | | | |
| pH | pH units | NA | NA | 32 | 16 | 118 | 27 | 40 | 121 | 51 | 172 |
| Conductivity | µS/cm | NA | NA | 7.20 | 7.13 | 7.49 | 7.87 | 7.68 | 6.83 | 6.98 | 6.91 |
| Turbidity | NTU | NA | NA | 0.1 | 0.3 | 0.3 | 0.3 | 1.4 | 0.6 | 0.2 | 0.6 |
| Total Dissolved Solids | mg/L | NA | NA | 31 | 18 | 91 | 20 | 22 | 70 | 20 | 98 |
| Iodine (LCV) | | | | | | | | | | | |
| Total I | mg/L | NA | NA | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Anions (IC/ISE) | | | | | | | | | | | |
| Bromide | mg/L | <0.5 | NA | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chloride | mg/L | 0.8 | NA | 0.7 | 0.42 | 0.48 | 0.34 | 1.07 | 0.40 | 0.25 | 0.17 |
| Fluoride | mg/L | <0.1 | NA | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | 0.42 |
| Nitrate as Nitrogen (NO3-N) | mg/L | 0.12 | NA | <0.11 | <0.11 | 1.01 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phosphate as P (PO4-P) | mg/L | <0.24 | NA | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 |
| Sulfate | mg/L | 4.77 | NA | 2.92 | 1.31 | 8.17 | 2.21 | 3.68 | 3.81 | 5.69 | 1.57 |
| Cations (IC) | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | <0.002 | NA | <0.002 | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Lithium | mg/L | <0.002 | NA | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Metals (ICP/MS) | | | | | | | | | | | |
| Calcium | mg/L | 10.6 | NA | 4.41 | 2.55 | 16.3 | 4.15 | 5.15 | 24.6 | 8.30 | 24.7 |
| Magnesium | mg/L | 0.86 | NA | 0.33 | 0.06 | 2.85 | 0.13 | 0.6 | 1.48 | 0.37 | 4.19 |
| Potassium | mg/L | 0.17 | NA | 0.09 | <0.01 | 0.30 | 0.02 | 0.17 | 0.02 | 0.05 | 0.02 |
| Sodium | mg/L | 0.45 | NA | 0.17 | 0.02 | 1.48 | 0.04 | 0.43 | 0.09 | 0.11 | 0.47 |
| Aluminum | µg/L | 7 | NA | 6 | 4 | 4 | 2 | 6 | 5 | 5 | 6 |
| Antimony | µg/L | <4 | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Arsenic | µg/L | <2 | NA | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Barium | µg/L | 2 | NA | <1 | <1 | 2 | <1 | 3 | 2 | 1 | 6 |
| Beryllium | µg/L | <2 | NA | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Cadmium | µg/L | <2 | NA | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Chromium | µg/L | <10 | NA | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Cobalt | µg/L | <2 | NA | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Copper | µg/L | 20 | NA | 2 | 7 | 9 | 8 | 2 | 9 | 5 | 13 |
| Iron | µg/L | 18 | NA | 11 | <5 | 10 | <5 | <5 | 40 | 13 | 46 |
| Lead | µg/L | <2 | NA | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Manganese | µg/L | 4 | NA | 4 | 1 | <1 | 2 | 7 | 4 | 3 | 5 |
| Mercury | µg/L | <1 | NA | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Molybdenum | µg/L | <2 | NA | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Nickel | µg/L | 38 | NA | 8 | 11 | 40 | 17 | 17 | 81 | 42 | 101 |
| Selenium | µg/L | <2 | NA | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Silver | µg/L | 170 | NA | 7 | 19 | 9 | 12 | 17 | 24 | 7 | 32 |
| Silver, Dissolved | µg/L | 115 | NA | 5 | 14 | <2 | 6 | 2 | <8 | <8 | <8 |
| Zinc | µg/L | 98 | NA | 12 | 9 | 17 | 28 | 111 | 72 | 49 | 126 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Units | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | ISS 15A/Exp. 18 | | | |
|---------------------------------------|-------|--|---|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|
| | | SRV-K Hot (RSA Drink) Potable Water | SRV-K Warm (RSA Drink) Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water |
| Sample Location | | 27-Aug-08 | 27-Aug-08 | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 |
| Sample Description | | 20081208012 | 20081208013 | 20081202003 | 20081202004 | 20081202006 | 20081202009 | 20081202010 | 20090330021 | 20090330022 | 20090330025 |
| Sample Date | | | | | | | | | | | |
| Analysis/Sample ID | | | | | | | | | | | |
| Total Organic Carbon (Sievers) | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | NA | 8.36 | 3.53 | 2.27 | 11.4 | 2.88 | 3.95 | 14.4 | 5.24 | 4.31 |
| Total Organic Carbon | mg/L | NA | 4.24 | 0.25 | 0.25 | 0.31 | 0.28 | 0.48 | 1.82 | 0.26 | 20.7 |
| Volatiles Organics | | | | | | | | | | | |
| Acetone | µg/L | NA | <100 | 10 | 8 | <2 | <2 | <2 | 27 | <2 | 36 |
| Acrylonitrile | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Allyl chloride (3-Chloropropene) | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Benzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromochloromethane | µg/L | NA | NA | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 |
| Bromodichloromethane | µg/L | NA | NA | <0.4 | <0.4 | 0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromoform | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Bromomethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| n-Butylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| sec-Butylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| tert-Butylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Carbon disulfide | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Carbon tetrachloride | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroacetone | µg/L | NA | NA | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Chlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1-Chlorobutane (Butyl chloride) | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Chloroform | µg/L | NA | NA | 1.7 | 1.1 | 0.7 | 0.9 | 0.8 | <0.4 | <0.4 | <0.4 |
| Chloromethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Chlorotoluene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Chlorotoluene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromochloromethane | µg/L | NA | NA | <0.4 | <0.4 | 0.8 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,2-Dibromoethane (EDB) | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromomethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,4-Dichlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,4-Dichloro-2-butene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dichlorodifluoromethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloroethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloroethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,2-Dichloroethene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,2-Dichloroethene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloropropane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichloropropane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 2,2-Dichloropropane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloropropanone | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloropropene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,3-Dichloropropene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | |
|---|-----------------|-----------------------|------------------------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|
| | | SRV-K Hot (RSA Drink) | SRV-K Warm (RSA Drink) | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot |
| Sample Description | Units | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 27-Aug-08 | 27-Aug-08 | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 |
| Analysis/Sample ID | | 20081208012 | 20081208013 | 20081202003 | 20081202004 | 20081202006 | 20081202009 | 20081202010 | 20090330021 | 20090330022 | 20090330025 |
| trans-1,3-Dichloropropene | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Diethyl ether | µg/L | NA | NA | <2 | 2 | <2 | 2 | <2 | <2 | <2 | <2 |
| Ethylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Ethyl methacrylate | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Hexachlorobutadiene | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Hexachloroethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Hexanone | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Iodomethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Isopropylbenzene (Cumene) | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Isopropyltoluene (Cymene) | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Methacrylonitrile | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Methyl acrylate | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Methyl-t-butylether (MTBE) | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Methylene chloride (Dichloromethane) | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | 0.5 | 0.6 | <0.4 | <0.4 | <0.4 |
| Methyl methacrylate | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 4-Methyl-2-pentanone | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Naphthalene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Nitrobenzene | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Nitropropane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Pentachloroethane | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Propionitrile (Ethyl cyanide) | µg/L | NA | NA | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| n-Propylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Styrene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1,2-Tetrachloroethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2,2-Tetrachloroethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrachloroethene | µg/L | NA | NA | NA | NA | NA | NA | NA | <0.4 | <0.4 | <0.4 |
| Tetrahydrofuran | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Toluene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trichlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1-Trichloroethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2-Trichloroethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichloroethene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichlorofluoromethane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichloropropane | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trimethylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3,5-Trimethylbenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Vinyl Acetate | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Vinyl Chloride | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| m&p-Xylene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | 0.7 | <0.4 | <0.4 |
| o-Xylene | µg/L | NA | NA | 0.4 | 0.4 | 1.1 | 0.4 | 0.6 | 0.7 | <0.4 | 0.4 |
| Volatile Organics - Non-Targets (Tentatively Identified Compounds) | | | | | | | | | | | |
| Dimethoxymethane (Formal) | µg/L | NA | NA | not found | not found | not found | not found | not found | not found | not found | not found |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Units | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | |
|--|-------|--|---|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|
| | | SRV-K Hot (RSA Drink) Potable Water | SRV-K Warm (RSA Drink) Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water | SRV-K Warm Potable Water | SRV-K Hot Potable Water |
| Sample Location | | 27-Aug-08 20081208012 | 27-Aug-08 20081208013 | 02-Jul-2008 20081202003 | 25-Jul-2008 20081202004 | 01-Sep-2008 20081202006 | 08-Oct-2008 20081202009 | 11-Nov-2008 20081202010 | 16-Dec-2008 20090330021 | 12-Jan-2009 20090330022 | 19-Feb-2009 20090330025 |
| Extractable Organics | | | | | | | | | | | |
| Acetophenone | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| Benzaldehyde | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Benzoic acid | µg/L | NA | NA | <12 | <24 | <24 | <24 | <12 | <12 | <12 | <12 |
| Benothiazole | µg/L | NA | NA | <4 | <8 | <8 | <8 | 12 | 18 | 7 | 8 |
| Benzyl alcohol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Benzyl butyl phthlate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Butoxyethanol | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| 2-(2-Butoxyethoxy)ethanol | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| n-Butylpalmitate | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| Butylated hydroxyanisole (BHA) | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N-Butylbenzenesulfonamide | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | 4 | <4 | 80 |
| 3-tert-Butylphenol | µg/L | NA | NA | <12 | <24 | <24 | <24 | <12 | <12 | <12 | <12 |
| Caffeine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| tris-2-Chloroethyl phosphate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Cholesterol | µg/L | NA | NA | <32 | <64 | <64 | <64 | <32 | <32 | <32 | <32 |
| o-Cresol (2-Methylphenol) | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Cyclododecane | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Decamethylcyclopentasiloxane | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Decanoic acid | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2,4-Di-t-butylphenol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 1,4-Diacetylbenzene | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N,N-Dibutylformamide | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Dibutyl phthalate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Dibutylamine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N,N-Diethyl-m-toluamide | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Diethylphthalate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Diethylene glycol monoethyl ether | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N,N-Diethylformamide | µg/L | NA | NA | <12 | <24 | <24 | <24 | <12 | <12 | <12 | <12 |
| Diiodomethane (Methyl iodide) | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Diisopropyl adipate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Dimethyl phthalate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N,N-Dimethyl acetamide | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N,N-Dimethylbenzylamine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N,N-Dimethylformamide | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| Dipropylene glycol methyl ether | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Dodecamethylcyclohexasiloxane | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Ethoxyethanol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Ethyl-1-hexanol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Ethylhexanoic acid | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| bis-2-Ethylhexyl adipate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| bis-2-Ethylhexyl phthalate (Dioctyl phthalate) | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 4-Ethylmorpholine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 1-Formylpiperidine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Heptanoic acid | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Heptanone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | ISS 15A/Exp. 18 | | | |
|-------------------------------------|-----------------|-----------------------|------------------------|------------------|---------------|---------------|---------------|-----------------|---------------|---------------|---------------|
| | | SRV-K Hot (RSA Drink) | SRV-K Warm (RSA Drink) | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot |
| Sample Description | Units | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 27-Aug-08 | 27-Aug-08 | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 |
| Analysis/Sample ID | | 20081208012 | 20081208013 | 20081202003 | 20081202004 | 20081202006 | 20081202009 | 20081202010 | 20090330021 | 20090330022 | 20090330025 |
| gamma-Hexalactone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Hexanoic acid | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| 2-Hexanol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Hydroxybenzothiazole | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Ibuprofen | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Iodoform | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Isophorone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 4-Isopropylphenol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Lauramide | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Lauric acid (Dodecanoic acid) | µg/L | NA | NA | <120 | <240 | <240 | <240 | <120 | <120 | <120 | <120 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Mercaptobenzothiazole | µg/L | NA | NA | <40 | <80 | <80 | <80 | <40 | <40 | <40 | <40 |
| 2-Methyl-2,4-pentanediol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 1-Methyl-2-pyrrolidinone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Methyl-4-hydroxybenzoate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Methyl sulfone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Methyl butyric acid | µg/L | NA | NA | <12 | <24 | <24 | <24 | <12 | <12 | <12 | <12 |
| 2-Methylthiobenzothiazole | µg/L | NA | NA | <4 | <8 | <8 | <8 | 15 | 10 | 5 | 5 |
| Monomethyl phthalate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Myristic acid | µg/L | NA | NA | <24 | <48 | <48 | <48 | <24 | <24 | <24 | <24 |
| (+)-Neomenthol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Nicotine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Nonadecane | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Nonanoic acid | µg/L | NA | NA | <12 | <24 | <24 | <24 | <12 | <12 | <12 | <12 |
| 1-Octadecanol | µg/L | NA | NA | <12 | <24 | <24 | <24 | <12 | <12 | <12 | <12 |
| Octamethylcyclotetrasiloxane | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Octanoic acid | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| 4-tert-Octylphenol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Oleic acid | µg/L | NA | NA | <40 | <80 | <80 | <80 | <40 | <40 | <40 | <40 |
| Oxindole | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Palmitic acid | µg/L | NA | NA | <120 | <240 | <240 | <240 | <120 | <120 | <120 | <120 |
| Palmitoleic acid | µg/L | NA | NA | <100 | <200 | <200 | <200 | <100 | <100 | <100 | <100 |
| Pentacosane | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| sec-Phenethyl alcohol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Phenol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Phenoxyethanol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| N-Phenyl-2-naphthylamine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | 11 | <4 | 5 |
| 2-Phenyl-2-propanol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Phenylacetic acid | µg/L | NA | NA | <16 | <32 | <32 | <32 | <16 | <16 | <16 | <16 |
| Phenethyl alcohol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 2-Phenylphenol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Salicylic Acid | µg/L | NA | NA | <32 | <64 | <64 | <64 | <32 | <32 | <32 | <32 |
| trans-Squalene | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| Stearic acid | µg/L | NA | NA | <100 | <200 | <200 | <200 | <100 | <100 | <100 | <100 |
| 1-Tetradecanol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Tetramethylsuccinonitrile | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Tetramethyl thiourea | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Tetramethylurea | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | ISS 15A/Exp. 18 | | | |
|--|-----------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | | SRV-K Hot (RSA Drink) | SRV-K Warm (RSA Drink) | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot |
| Sample Description | Sample Date | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 27-Aug-08 20081208012 | 27-Aug-08 20081208013 | 02-Jul-2008 20081202003 | 25-Jul-2008 20081202004 | 01-Sep-2008 20081202006 | 08-Oct-2008 20081202009 | 11-Nov-2008 20081202010 | 16-Dec-2008 20090330021 | 12-Jan-2009 20090330022 | 19-Feb-2009 20090330025 |
| Thymol | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Tributylamine | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Tributyl phosphate | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Triethyl phosphate | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| Tripropylene glycol monomethyl ether | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Undecanoic acid | µg/L | NA | NA | <24 | <48 | <48 | <48 | <24 | <24 | <24 | <24 |
| 2-Undecanone | µg/L | NA | NA | <4 | <8 | <8 | <8 | <4 | <4 | <4 | <4 |
| Valeric acid (Pentanoic acid) | µg/L | NA | NA | <24 | <48 | <48 | <48 | <24 | <24 | <24 | <24 |
| Vanillin | µg/L | NA | NA | <8 | <16 | <16 | <16 | <8 | <8 | <8 | <8 |
| Alcohols (DAI/GC/MS) | | | | | | | | | | | |
| 1-Butanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | 3060 |
| Methanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | NA | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Glycols (DAI/GC/MS) | | | | | | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | NA | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | NA | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | | | | | |
| Acetate | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Formate | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | 4360 | <125 | 61800 |
| Glycolate | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Lactate | µg/L | NA | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Propionate | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | | | | | | |
| Formaldehyde | µg/L | NA | NA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | | Soyuz 16/Exp. 17 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | |
|----------------------------------|---------|-----------------------|------------------------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|
| | | SRV-K Hot (RSA Drink) | SRV-K Warm (RSA Drink) | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot |
| Sample Location | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Description | | | | | | | | | | | |
| Sample Date | | 27-Aug-08 | 27-Aug-08 | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 |
| Analysis/Sample ID | Units | 20081208012 | 20081208013 | 20081202003 | 20081202004 | 20081202006 | 20081202009 | 20081202010 | 20090330021 | 20090330022 | 20090330025 |
| Amines (CE) | | | | | | | | | | | |
| Ethylamine | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Methylamine | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| n-Propylamine | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Trimethylamine | µg/L | NA | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | | |
| Urea | µg/L | NA | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 |
| Caprolactam | µg/L | NA | <300 | <4 | <8 | <8 | <300 | <4 | 29 | <4 | 1350 |
| Organic Carbon Recovery | | | | | | | | | | | |
| Organic Carbon Recovery | percent | NA | 0.00 | 2.66 | 2.65 | 0.37 | 0.66 | 0.15 | 66.09 | 2.66 | 90.17 |
| Unaccounted Organic Carbon | mg/L | NA | 4.24 | 0.25 | 0.25 | 0.31 | 0.27 | 0.48 | 0.62 | 0.26 | 2.04 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|---------------------------------|-----------------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| Physical Characteristics | | | | | | |
| pH | pH units | 147 | 292 | 168 | 60 | 41 |
| Conductivity | µS/cm | 6.55 | 7.29 | 7.38 | 7.49 | 6.57 |
| Turbidity | NTU | 1.0 | 0.6 | 0.5 | 0.6 | 0.6 |
| Total Dissolved Solids | mg/L | NA | 164 | 100 | NA | 12 |
| Iodine (LCV) | | | | | | |
| Total I | mg/L | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Anions (IC/ISE) | | | | | | |
| Bromide | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chloride | mg/L | 3.73 | 8.01 | 0.31 | 0.28 | 0.22 |
| Fluoride | mg/L | <0.1 | <0.1 | 0.31 | <0.1 | <0.1 |
| Nitrate as Nitrogen (NO3-N) | mg/L | <0.11 | 0.12 | <0.11 | <0.11 | <0.11 |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | NA | NA | NA |
| Phosphate as P (PO4-P) | mg/L | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 |
| Sulfate | mg/L | 12.7 | 42.0 | <0.75 | <0.75 | <0.75 |
| Cations (IC) | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | 0.912 | 0.110 | <0.002 | <0.002 | <0.002 |
| Lithium | mg/L | <0.002 | 0.014 | <0.002 | <0.002 | <0.002 |
| Metals (ICP/MS) | | | | | | |
| Calcium | mg/L | 19.8 | 37.9 | 24.8 | 11.1 | 6.41 |
| Magnesium | mg/L | 4.15 | 9.36 | 3.35 | 0.40 | 0.18 |
| Potassium | mg/L | 1.03 | 4.06 | 0.03 | <0.01 | <0.01 |
| Sodium | mg/L | 2.63 | 4.80 | 0.33 | 0.04 | 0.02 |
| Aluminum | µg/L | 40 | 25 | 2 | 3 | <2 |
| Antimony | µg/L | <2 | <2 | <2 | <2 | <2 |
| Arsenic | µg/L | <1 | <1 | <1 | <1 | <1 |
| Barium | µg/L | 7 | 22 | 2 | 3 | 2 |
| Beryllium | µg/L | <1 | <1 | <1 | <1 | <1 |
| Cadmium | µg/L | <1 | <1 | <1 | <1 | <1 |
| Chromium | µg/L | <5 | <5 | <5 | <5 | <5 |
| Cobalt | µg/L | <1 | <1 | <1 | <1 | <1 |
| Copper | µg/L | 14 | 9 | 7 | 10 | 3 |
| Iron | µg/L | 29 | 48 | 36 | 15 | <5 |
| Lead | µg/L | 1 | 3 | <1 | <1 | <1 |
| Manganese | µg/L | 32 | 116 | 3 | 2 | 2 |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Molybdenum | µg/L | <1 | <1 | <1 | <1 | <1 |
| Nickel | µg/L | 56 | 40 | 57 | 38 | 30 |
| Selenium | µg/L | <1 | <1 | <1 | <1 | <1 |
| Silver | µg/L | 49 | 34 | 17 | 19 | 14 |
| Silver, Dissolved | µg/L | 5 | <2 | 3 | 3 | 2 |
| Zinc | µg/L | 58 | 273 | 51 | 100 | 103 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|---------------------------------------|-----------------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| Total Organic Carbon (Sievers) | | | | | | |
| Total Inorganic Carbon | mg/L | 14.3 | 24.4 | 9.21 | 7.11 | 5.50 |
| Total Organic Carbon | mg/L | 0.55 | 2.30 | 12.1 | 1.38 | 0.39 |
| Volatile Organics | | | | | | |
| Acetone | µg/L | <2 | <2 | 25 | <2 | <2 |
| Acrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 |
| Allyl chloride (3-Chloropropene) | µg/L | <2 | <2 | <2 | <2 | <2 |
| Benzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromochloromethane | µg/L | <4 | <4 | <4 | <4 | <4 |
| Bromodichloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromoform | µg/L | <2 | <2 | <2 | <2 | <2 |
| Bromomethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | <2 | <2 | <2 | <2 | <2 |
| n-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| sec-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| tert-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Carbon disulfide | µg/L | <2 | <2 | <2 | <2 | <2 |
| Carbon tetrachloride | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroacetonitrile | µg/L | <10 | <10 | <10 | <10 | <10 |
| Chlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1-Chlorobutane (Butyl chloride) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| Chloroform | µg/L | <0.4 | 20.5 | <0.4 | <0.4 | <0.4 |
| Chloromethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| 2-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromochloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | <2 | <2 | <2 | <2 | <2 |
| 1,2-Dibromoethane (EDB) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromomethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,4-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,4-Dichloro-2-butene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dichlorodifluoromethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 2,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloropropanone | µg/L | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,3-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|---|-----------------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| trans-1,3-Dichloropropene | µg/L | <2 | <2 | <2 | <2 | <2 |
| Diethyl ether | µg/L | <2 | <2 | <2 | 4 | 3 |
| Ethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Ethyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 |
| Hexachlorobutadiene | µg/L | <2 | <2 | <2 | <2 | <2 |
| Hexachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| 2-Hexanone | µg/L | <2 | <2 | <2 | <2 | <2 |
| Iodomethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| Isopropylbenzene (Cumene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Isopropyltoluene (Cymene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Methacrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 |
| Methyl acrylate | µg/L | <2 | <2 | <2 | <2 | <2 |
| Methyl-t-butylether (MTBE) | µg/L | <2 | <2 | <2 | <2 | <2 |
| Methylene chloride (Dichloromethane) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Methyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 |
| 4-Methyl-2-pentanone | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Naphthalene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Nitrobenzene | µg/L | <2 | <2 | <2 | <2 | <2 |
| 2-Nitropropane | µg/L | <2 | <2 | <2 | <2 | <2 |
| Pentachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| Propionitrile (Ethyl cyanide) | µg/L | <10 | <10 | <10 | <10 | <10 |
| n-Propylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Styrene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrachloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrahydrofuran | µg/L | <2 | <2 | <2 | <2 | <2 |
| Toluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichlorofluoromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3,5-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Vinyl Acetate | µg/L | <2 | <2 | <2 | <2 | <2 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | <2 | <2 |
| m&p-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| o-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Volatile Organics - Non-Targets (Tentatively Identified Compounds) | | | | | | |
| Dimethoxymethane (Formal) | µg/L | not found | not found | not found | not found | 132 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|---|-----------------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| Extractable Organics | | | | | | |
| Acetophenone | µg/L | <16 | <8 | <8 | <16 | <8 |
| Benzaldehyde | µg/L | <8 | <4 | <4 | <8 | <4 |
| Benzoic acid | µg/L | <24 | <12 | <12 | <24 | <12 |
| Benzothiazole | µg/L | 8 | 8 | <4 | <8 | 6 |
| Benzyl alcohol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Benzyl butyl phthalate | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Butoxyethanol | µg/L | <16 | <8 | <8 | <16 | <8 |
| 2-(2-Butoxyethoxy)ethanol | µg/L | <16 | <8 | <8 | <16 | <8 |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | <8 | <4 | <4 | <8 | <4 |
| n-Butylpalmitate | µg/L | <16 | <8 | <8 | <16 | <8 |
| Butylated hydroxyanisole (BHA) | µg/L | <8 | <4 | <4 | <8 | <4 |
| N-Butylbenzenesulfonamide | µg/L | 14 | 4 | 52 | 8 | 4 |
| 3-tert-Butylphenol | µg/L | <24 | <12 | <12 | <24 | <12 |
| Caffeine | µg/L | <8 | <4 | <4 | <8 | <4 |
| tris-2-Chloroethyl phosphate | µg/L | <8 | <4 | <4 | 11 | <4 |
| Cholesterol | µg/L | <64 | <32 | <32 | <64 | <32 |
| o-Cresol (2-Methylphenol) | µg/L | <8 | <4 | <4 | <8 | <4 |
| Cyclododecane | µg/L | <8 | <4 | <4 | <8 | <4 |
| Decamethylcyclopentasiloxane | µg/L | <8 | <4 | <4 | <8 | <4 |
| Decanoic acid | µg/L | <16 | <8 | <8 | <16 | <8 |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2,4-Di-t-butylphenol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 1,4-Diacetylbenzene | µg/L | <8 | <4 | <4 | <8 | <4 |
| N,N-Dibutylformamide | µg/L | <8 | <4 | <4 | <8 | <4 |
| Dibutyl phthalate | µg/L | <8 | <4 | <4 | 9 | <4 |
| Dibutylamine | µg/L | <8 | <4 | <4 | <8 | <4 |
| N,N-Diethyl-m-toluamide | µg/L | <8 | <4 | <4 | <8 | <4 |
| Diethylphthalate | µg/L | <8 | <4 | <4 | <8 | <4 |
| Diethylene glycol monoethyl ether | µg/L | <8 | <4 | <4 | <8 | <4 |
| N,N-Diethylformamide | µg/L | <24 | <12 | <12 | <24 | <12 |
| Diiodomethane (Methyl iodide) | µg/L | <8 | <4 | <4 | <8 | <4 |
| Diisopropyl adipate | µg/L | <8 | <4 | <4 | <8 | <4 |
| Dimethyl phthalate | µg/L | <8 | <4 | <4 | <8 | <4 |
| N,N-Dimethyl acetamide | µg/L | <8 | <4 | <4 | <8 | <4 |
| N,N-Dimethylbenzylamine | µg/L | <8 | <4 | <4 | <8 | <4 |
| N,N-Dimethylformamide | µg/L | <16 | <8 | <8 | <16 | <8 |
| Dipropylene glycol methyl ether | µg/L | <8 | <4 | <4 | <8 | <4 |
| Dodecamethylcyclohexasiloxane | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Ethoxyethanol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Ethyl-1-hexanol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Ethylhexanoic acid | µg/L | <8 | <4 | <4 | <8 | <4 |
| bis-2-Ethylhexyl adipate | µg/L | <8 | <4 | <4 | <8 | <4 |
| bis-2-Ethylhexyl phthalate (Diocetyl phthalate) | µg/L | 9 | <4 | <4 | <8 | <4 |
| 4-Ethylmorpholine | µg/L | <8 | <4 | <4 | <8 | <4 |
| 1-Formylpiperidine | µg/L | <8 | <4 | <4 | <8 | <4 |
| Heptanoic acid | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Heptanone | µg/L | <8 | <4 | <4 | <8 | <4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|-------------------------------------|-----------------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| gamma-Hexalactone | µg/L | <8 | <4 | <4 | <8 | <4 |
| Hexanoic acid | µg/L | <16 | <8 | <8 | <16 | <8 |
| 2-Hexanol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Hydroxybenzothiazole | µg/L | <8 | <4 | 8 | 24 | 15 |
| Ibuprofen | µg/L | <8 | <4 | <4 | <8 | <4 |
| Iodoform | µg/L | <8 | <4 | <4 | <8 | <4 |
| Isophorone | µg/L | <8 | <4 | <4 | <8 | <4 |
| 4-Isopropylphenol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Lauramide | µg/L | <8 | <4 | <4 | <8 | <4 |
| Lauric acid (Dodecanoic acid) | µg/L | <240 | <120 | <120 | <240 | <120 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Mercaptobenzothiazole | µg/L | <80 | <40 | <40 | <80 | <40 |
| 2-Methyl-2,4-pentanediol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 1-Methyl-2-pyrrolidinone | µg/L | <8 | <4 | <4 | <8 | <4 |
| Methyl-4-hydroxybenzoate | µg/L | <8 | <4 | <4 | <8 | <4 |
| Methyl sulfone | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Methyl butyric acid | µg/L | <24 | <12 | <12 | <24 | <12 |
| 2-Methylthiobenzothiazole | µg/L | 9 | 5 | 7 | 11 | 11 |
| Monomethyl phthalate | µg/L | <8 | <4 | <4 | <8 | <4 |
| Myristic acid | µg/L | <48 | <24 | <24 | <48 | <24 |
| (+)-Neomenthol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Nicotine | µg/L | <8 | <4 | <4 | <8 | <4 |
| Nonadecane | µg/L | <8 | <4 | <4 | <8 | <4 |
| Nonanoic acid | µg/L | <24 | <12 | <12 | <24 | <12 |
| 1-Octadecanol | µg/L | <24 | <12 | <12 | <24 | <12 |
| Octamethylcyclotetrasiloxane | µg/L | <8 | <4 | <4 | <8 | <4 |
| Octanoic acid | µg/L | <16 | <8 | <8 | <16 | <8 |
| 4-tert-Octylphenol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Oleic acid | µg/L | <80 | <40 | <40 | <80 | <40 |
| Oxindole | µg/L | <8 | <4 | <4 | <8 | <4 |
| Palmitic acid | µg/L | <240 | <120 | <120 | <240 | <120 |
| Palmitoleic acid | µg/L | <200 | <100 | <100 | <200 | <100 |
| Pentacosane | µg/L | <8 | <4 | <4 | <8 | <4 |
| sec-Phenethyl alcohol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Phenol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Phenoxyethanol | µg/L | <8 | <4 | <4 | <8 | <4 |
| N-Phenyl-2-naphthylamine | µg/L | <8 | 6 | <4 | 14 | <4 |
| 2-Phenyl-2-propanol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Phenylacetic acid | µg/L | <32 | <16 | <16 | <32 | <16 |
| Phenethyl alcohol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 2-Phenylphenol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Salicylic Acid | µg/L | <64 | <32 | <32 | <64 | <32 |
| trans-Squalene | µg/L | <16 | <8 | <8 | <16 | <8 |
| Stearic acid | µg/L | <200 | <100 | <100 | <200 | <100 |
| 1-Tetradecanol | µg/L | <8 | <4 | <4 | <8 | <4 |
| Tetramethylsuccinonitrile | µg/L | <8 | <4 | <4 | <8 | <4 |
| Tetramethyl thiourea | µg/L | <8 | <4 | <4 | <8 | <4 |
| Tetramethylurea | µg/L | <8 | <4 | <4 | <8 | <4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|--|-----------------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| Thymol | µg/L | <8 | <4 | <4 | <8 | <4 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | <8 | <4 | <4 | <8 | <4 |
| Tributylamine | µg/L | <8 | <4 | <4 | <8 | <4 |
| Tributyl phosphate | µg/L | <8 | <4 | <4 | <8 | <4 |
| Triethyl phosphate | µg/L | <16 | <8 | <8 | <16 | <8 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | <16 | <8 | <8 | <16 | <8 |
| Tripropylene glycol monomethyl ether | µg/L | <8 | <4 | <4 | <8 | <4 |
| Undecanoic acid | µg/L | <48 | <24 | <24 | <48 | <24 |
| 2-Undecanone | µg/L | <8 | <4 | <4 | <8 | <4 |
| Valeric acid (Pentanoic acid) | µg/L | <48 | <24 | <24 | <48 | <24 |
| Vanillin | µg/L | <16 | <8 | <8 | <16 | <8 |
| Alcohols (DAI/GC/MS) | | | | | | |
| 1-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| Methanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | <100 | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | <100 | <100 | <100 | <100 | <100 |
| Glycols (DAI/GC/MS) | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | |
| Acetate | µg/L | <125 | <125 | <125 | <125 | <125 |
| Formate | µg/L | <125 | <125 | 43000 | 3030 | <125 |
| Glycolate | µg/L | <125 | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | <125 | <125 | <125 | <125 | <125 |
| Lactate | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | <125 | <125 | <125 | <125 | <125 |
| Propionate | µg/L | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | |
| Formaldehyde | µg/L | <2 | <2 | <2 | <2 | <2 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 1. ISS SRV-K Potable Water (Regenerated) Summary for Expeditions 16 through 20

| Mission | | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 |
|----------------------------------|---------|-----------------|---------------|---------------|---------------|-----------------|
| | | SRV-K Warm | SRV-K Hot | SRV-K Warm | SRV-K Hot | SRV-K Warm |
| Sample Location | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090803009 | 20090803011 | 20090803013 | 20090803015 | 20090914005 |
| Amines (CE) | | | | | | |
| Ethylamine | µg/L | <125 | <125 | <125 | <125 | <125 |
| Methylamine | µg/L | <125 | <125 | <125 | <125 | <125 |
| n-Propylamine | µg/L | <125 | <125 | <125 | <125 | <125 |
| Trimethylamine | µg/L | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | |
| Urea | µg/L | <800 | <800 | <800 | <800 | <800 |
| Caprolactam | µg/L | <8 | <4 | <4 | <8 | <4 |
| Organic Carbon Recovery | | | | | | |
| Organic Carbon Recovery | percent | 4.38 | 0.75 | 93.19 | 60.75 | 21.97 |
| Unaccounted Organic Carbon | mg/L | 0.53 | 2.28 | 0.82 | 0.54 | 0.30 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|---------------------------------|-----------------|--------------------|-------------|--------------------|----------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water (#1) 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | | | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| Physical Characteristics | | | | | | | | | | | | | | | |
| pH | | | | | pH units | U.S. | 5.5-9.0 | MORD | 7.00 | 7.39 | 7.90 | 7.86 | 7.74 | 8.10 | NA |
| Conductivity | | | | | µS/cm | U.S. | | | 279 | 301 | 272 | 300 | 296 | 297 | NA |
| Turbidity | | | | | NTU | U.S. | 1.5* | MORD | 3.1 | 2.8 | 5.0 | NA | 9.5 | 9.0 | NA |
| Total Dissolved Solids | | | | | mg/L | U.S. | 100 (1,000 [#]) | MORD | 147 | 160 | NA | NA | 166 | 162 | NA |
| Iodine (LCV) | | | | | | | | | | | | | | | |
| Total I | | | | | mg/L | U.S. | 0.05 | MORD | <0.05 | <0.05 | <0.05 | NA | <0.05 | <0.05 | NA |
| Anions (IC/ISE) | | | | | | | | | | | | | | | |
| Bromide | | | | | mg/L | U.S. | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chloride | | | | | mg/L | U.S. | 250 | MORD | 7.75 | 8.11 | 8.24 | 8.05 | 8.04 | 8.10 | 9.5 |
| Fluoride | | | | | mg/L | U.S. | 1.5/4 | MORD/EPA | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | 0.1 |
| Nitrate as Nitrogen (NO3-N) | | | | | mg/L | U.S. | 10 | MORD/EPA | 0.2 | 0.18 | <0.11 | 0.13 | 0.14 | 0.17 | 0.22 |
| Nitrite as Nitrogen (NO2-N) | | | | | mg/L | U.S. | 1 | EPA | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | NA |
| Phosphate as P (PO4-P) | | | | | mg/L | U.S. | | | <0.24 | <0.24 | NA | <0.04 | <0.24 | <0.24 | <0.24 |
| Sulfate | | | | | mg/L | U.S. | 250 | MORD | 44.8 | 46.7 | 24.3 | 36.8 | 37.1 | 36.9 | 40.2 |
| Cations (IC) | | | | | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | | | | | mg/L | U.S. | 2/1 | MORD/SWEG | 0.004 | 0.006 | <0.002 | <0.002 | <0.002 | <0.002 | 0.016 |
| Lithium | | | | | mg/L | U.S. | | | 0.009 | 0.009 | 0.006 | 0.006 | 0.004 | 0.005 | 0.004 |
| Metals (ICP/MS) | | | | | | | | | | | | | | | |
| Calcium | | | | | mg/L | U.S. | 100 | MORD | 36.4 | 37.2 | 37.4 | 38.2 | 40.0 | 40.7 | 39.1 |
| Magnesium | | | | | mg/L | U.S. | 50 | MORD | 9.29 | 9.39 | 8.55 | 9.57 | 9.65 | 9.98 | 8.97 |
| Potassium | | | | | mg/L | U.S. | | | 3.48 | 3.55 | 2.68 | 2.74 | 2.83 | 2.90 | 2.88 |
| Sodium | | | | | mg/L | U.S. | | | 4.90 | 4.99 | 4.53 | 5.37 | 5.28 | 5.44 | 5.40 |
| Aluminum | | | | | µg/L | U.S. | | | 37 | 34 | 63 | 268 | 144 | 68 | 40 |
| Antimony | | | | | µg/L | U.S. | 6 | EPA | <2 | <2 | <2 | <4 | <8 | <8 | <2 |
| Arsenic | | | | | µg/L | U.S. | 10 | MORD/EPA | <1 | <1 | <1 | <4 | <4 | <4 | <2 |
| Barium | | | | | µg/L | U.S. | 1,000/10,000 | MORD/SWEG | 22 | 21 | 15 | 23 | 23 | 23 | 23 |
| Beryllium | | | | | µg/L | U.S. | 4 | EPA | <1 | <1 | <1 | <4 | <4 | <4 | <2 |
| Cadmium | | | | | µg/L | U.S. | 5/22 | MORD/SWEG | <1 | <1 | <1 | <4 | <4 | <4 | 2 |
| Chromium | | | | | µg/L | U.S. | 100 | MORD/EPA | <5 | <5 | <5 | <20 | <20 | <20 | <10 |
| Cobalt | | | | | µg/L | U.S. | | | <1 | <1 | <1 | <4 | <4 | <4 | <2 |
| Copper | | | | | µg/L | U.S. | 1,000/1,300 | MORD/EPA | 5 | 5 | 3 | 6 | 4 | 4 | 6 |
| Iron | | | | | µg/L | U.S. | 300 | MORD | 70 | 70 | 54 | 79 | 104 | 83 | 36 |
| Lead | | | | | µg/L | U.S. | 50/15 | MORD/EPA | <1 | <1 | <1 | <4 | <4 | <4 | <2 |
| Manganese | | | | | µg/L | U.S. | 50/300 | MORD/SWEG | 46 | 49 | 104 | 129 | 130 | 126 | 121 |
| Mercury | | | | | µg/L | U.S. | 2 | MORD/EPA | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 |
| Molybdenum | | | | | µg/L | U.S. | 40 | EPA HA | <1 | <1 | <1 | <4 | <4 | <4 | <2 |
| Nickel | | | | | µg/L | U.S. | 100/300 | MORD/SWEG | 70 | 24 | 21 | <4 | <4 | <4 | 5 |
| Selenium | | | | | µg/L | U.S. | 10/50 | MORD/EPA | <1 | <1 | <1 | <4 | <4 | <4 | <2 |
| Silver | | | | | µg/L | U.S. | 500/400 | MORD/SWEG | 669 | 735 | 347 | 698 | 834 | 698 | 102 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|---------------------------------------|-----------------|------------------------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | | | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| | | Silver, Dissolved | | | µg/L | U.S. | | | 559 | 599 | 189 | 218 | 200 | 201 | 16 |
| | | Zinc | | | µg/L | U.S. | 5,000/2,000 | MORD/SWEG | 119 | 118 | 33 | 47 | 31 | 51 | 404 |
| Total Organic Carbon (Sievers) | | | | | | | | | | | | | | | |
| | | Total Inorganic Carbon | | | mg/L | U.S. | | | 24.8 | 25.6 | 28.0 | 28.6 | 28.8 | 26.5 | 25.3 |
| | | Total Organic Carbon | | | mg/L | U.S. | 20** | MORD | 2.44 | 2.48 | 0.32 | 2.83 | 1.91 | 1.89 | 3.73 |
| Volatile Organics | | | | | | | | | | | | | | | |
| | | Acetone | | | µg/L | U.S. | 15,000 | SWEG | <2 | <2 | 4 | 3 | <2 | <2 | <100 |
| | | Acrylonitrile | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Allyl chloride (3-Chloropropene) | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Benzene | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Bromobenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Bromochloromethane | | | µg/L | U.S. | 90 | EPA HA | <4 | <4 | <4 | <4 | <4 | <4 | NA |
| | | Bromodichloromethane | | | µg/L | U.S. | THM 80 | EPA | 1.4 | 1.4 | <0.4 | 1.6 | 2.2 | 2 | NA |
| | | Bromoform | | | µg/L | U.S. | THM 80 | EPA | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Bromomethane | | | µg/L | U.S. | 10 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | 2-Butanone (Methyl ethyl ketone) | | | µg/L | U.S. | 4,000 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | n-Butylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | sec-Butylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | tert-Butylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Carbon disulfide | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Carbon tetrachloride | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Chloroacetonitrile | | | µg/L | U.S. | | | <10 | <10 | <10 | <10 | <10 | <10 | NA |
| | | Chlorobenzene | | | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1-Chlorobutane (Butyl chloride) | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Chloroethane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Chloroform | | | µg/L | U.S. | 6,500/THM 80 | SWEG/EPA | 39.8 | 44.6 | 1.3 | 25.8 | 33.7 | 38.3 | NA |
| | | Chloromethane | | | µg/L | U.S. | 30 | EPA HA | NA | NA | NA | <2 | <2 | <2 | NA |
| | | 2-Chlorotoluene | | | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 4-Chlorotoluene | | | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Dibromochloromethane | | | µg/L | U.S. | THM 80 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2-Dibromo-3-chloropropane (DBCP) | | | µg/L | U.S. | 0.2 | EPA | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | 1,2-Dibromoethane (EDB) | | | µg/L | U.S. | 0.05 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Dibromomethane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2-Dichlorobenzene | | | µg/L | U.S. | 600 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,3-Dichlorobenzene | | | µg/L | U.S. | 600 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,4-Dichlorobenzene | | | µg/L | U.S. | 75 | EPA | <0.4 | <0.4 | <0.4 | NA | <0.4 | <0.4 | NA |
| | | trans-1,4-Dichloro-2-butene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Dichlorodifluoromethane | | | µg/L | U.S. | 1,000 | EPA HA | NA | NA | NA | <2 | <2 | <2 | NA |
| | | 1,1-Dichloroethane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2-Dichloroethane | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,1-Dichloroethene | | | µg/L | U.S. | 7 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | cis-1,2-Dichloroethene | | | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | trans-1,2-Dichloroethene | | | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|---------|-----------------|--------------------------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water (#1) 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | | | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| | | 1,2-Dichloropropane | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,3-Dichloropropane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 2,2-Dichloropropane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,1-Dichloropropane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | 1,1-Dichloropropene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | cis-1,3-Dichloropropene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | trans-1,3-Dichloropropene | | | µg/L | U.S. | | | <2 | <2 | <2 | NA | <2 | <2 | NA |
| | | Diethyl ether | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Ethylbenzene | | | µg/L | U.S. | 700 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Ethyl methacrylate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Hexachlorobutadiene | | | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Hexachloroethane | | | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | 2-Hexanone | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Iodomethane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Isopropylbenzene (Cumene) | | | µg/L | U.S. | 4,000 | EPA DWEL | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 4-Isopropyltoluene (Cymene) | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Methacrylonitrile | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Methyl acrylate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Methyl-t-butylether (MTBE) | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Methylene chloride (Dichloromethane) | | | µg/L | U.S. | 15,000/5 | SWEG/EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Methyl methacrylate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | 4-Methyl-2-pentanone | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Naphthalene | | | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Nitrobenzene | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | 2-Nitropropane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Pentachloroethane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Propionitrile (Ethyl cyanide) | | | µg/L | U.S. | | | <10 | <10 | <10 | <10 | <10 | <10 | NA |
| | | n-Propylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Styrene | | | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,1,1,2-Tetrachloroethane | | | µg/L | U.S. | 70 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,1,2,2-Tetrachloroethane | | | µg/L | U.S. | 0.3 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Tetrachloroethene | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Tetrahydrofuran | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Toluene | | | µg/L | U.S. | 1,000 | EPA | 0.5 | <0.4 | 0.5 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2,3-Trichlorobenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2,4-Trichlorobenzene | | | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,1,1-Trichloroethane | | | µg/L | U.S. | 200 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,1,2-Trichloroethane | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Trichloroethene | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Trichlorofluoromethane | | | µg/L | U.S. | 2,000 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2,3-Trichloropropane | | | µg/L | U.S. | 40 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,2,4-Trimethylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | 1,3,5-Trimethylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | Vinyl Acetate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| | | Vinyl Chloride | | | µg/L | U.S. | 2 | EPA | <2 | <2 | <2 | <2 | <2 | <2 | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|-----------------------------|-----------------|-----------------------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water (#1) 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | Total Xylenes 10,000 | EPA | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| | | m&p-Xylene | | | µg/L | U.S. | | | 1 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| | | o-Xylene | | | µg/L | U.S. | Total Xylenes 10,000 | EPA | 0.5 | <0.4 | 0.5 | 1.8 | 1.9 | 1.9 | NA |
| Extractable Organics | | | | | | | | | | | | | | | |
| | | Acetophenone | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | Benzaldehyde | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Benzoic acid | | | µg/L | U.S. | | | <12 | <24 | <24 | <60 | <12 | <12 | NA |
| | | Benothiazole | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Benzyl alcohol | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Benzyl butyl phthlate | | | µg/L | U.S. | 7,000 | EPA DWEL | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 2-Butoxyethanol | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | 2-(2-Butoxyethoxy)ethanol | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | 2-(2-Butoxyethoxy)ethyl acetate | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | n-Butylpalmitate | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | Butylated hydroxyanisole (BHA) | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N-Butylbenzenesulfonamide | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 3-tert-Butylphenol | | | µg/L | U.S. | | | <12 | <24 | <24 | <60 | <12 | <12 | NA |
| | | Caffeine | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | tris-2-Chloroethyl phosphate | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Cholesterol | | | µg/L | U.S. | | | <32 | <64 | <64 | <160 | <32 | <32 | NA |
| | | o-Cresol (2-Methylphenol) | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Cyclododecane | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Decamethylcyclopentasiloxane | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Decanoic acid | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | 2,6-Di-t-butyl-1,4-benzoquinone | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 2,4-Di-t-butylphenol | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 1,4-Diacetylbenzene | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N,N-Dibutylformamide | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Dibutyl phthalate | | | µg/L | U.S. | 40,000/4,000 | SWEG/EPA DWEL | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Dibutylamine | | | µg/L | U.S. | Dialkylamines 300 | SWEG | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N,N-Diethyl-m-toluamide | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Diethylphthalate | | | µg/L | U.S. | 30,000 | EPA DWEL | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Diethylene glycol monoethyl ether | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N,N-Diethylformamide | | | µg/L | U.S. | | | <12 | <24 | <24 | <60 | <12 | <12 | NA |
| | | Diiodomethane (Methyl iodide) | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Diisopropyl adipate | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Dimethyl phthalate | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N,N-Dimethyl acetamide | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N,N-Dimethylbenzylamine | | | µg/L | U.S. | Dialkylamines 300 | SWEG | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | N,N-Dimethylformamide | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | Dipropylene glycol methyl ether | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | Dodecamethylcyclohexasiloxane | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 2-Ethoxyethanol | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 2-Ethyl-1-hexanol | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | | 2-Ethylhexanoic acid | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|---------|---|--------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water (R1) 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | | | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| | bis-2-Ethylhexyl adipate | | | | µg/L | U.S. | 400 | EPA | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | bis-2-Ethylhexyl phthalate (Diocetyl phthalate) | | | | µg/L | U.S. | 20,000/6 | SWEG/EPA | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 4-Ethylmorpholine | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 1-Formylpiperidine | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Heptanoic acid | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Heptanone | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | gamma-Hexalactone | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Hexanoic acid | | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | 2-Hexanol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Hydroxybenzothiazole | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Ibuprofen | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Iodoform | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Isophorone | | | | µg/L | U.S. | 100 | EPA HA | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 4-Isopropylphenol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Lauramide | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Lauric acid (Dodecanoic acid) | | | | µg/L | U.S. | | | <120 | <240 | <240 | <600 | <120 | <120 | NA |
| | p-Menth-1-en-8-ol (alpha-Terpineol) | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Mercaptobenzothiazole | | | | µg/L | U.S. | 30,000 | SWEG | <40 | <80 | <80 | <200 | <40 | <40 | NA |
| | 2-Methyl-2,4-pentanediol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 1-Methyl-2-pyrrolidinone | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Methyl-4-hydroxybenzoate | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Methyl sulfone | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Methyl butyric acid | | | | µg/L | U.S. | | | <12 | <24 | <24 | <60 | <12 | <12 | NA |
| | 2-Methylthiobenzothiazole | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Monomethyl phthalate | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Myristic acid | | | | µg/L | U.S. | | | <24 | <48 | <48 | <120 | <24 | <24 | NA |
| | (+)-Neomenthol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Nicotine | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Nonadecane | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Nonanoic acid | | | | µg/L | U.S. | | | <12 | <24 | <24 | <60 | <12 | <12 | NA |
| | 1-Octadecanol | | | | µg/L | U.S. | | | <12 | <24 | <24 | <60 | <12 | <12 | NA |
| | Octamethylcyclotetrasiloxane | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Octanoic acid | | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | 4-tert-Octylphenol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Oleic acid | | | | µg/L | U.S. | | | <40 | <80 | <80 | <200 | <40 | <40 | NA |
| | Oxindole | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Palmitic acid | | | | µg/L | U.S. | | | <120 | <240 | <240 | <600 | <120 | <120 | NA |
| | Palmitoleic acid | | | | µg/L | U.S. | | | <100 | <200 | <200 | <500 | <100 | <100 | NA |
| | Pentacosane | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | sec-Phenethyl alcohol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Phenol | | | | µg/L | U.S. | 1,000/4,000 | MORD/SWEG | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Phenoxyethanol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | N-Phenyl-2-naphthylamine | | | | µg/L | U.S. | 260,000 | SWEG | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Phenyl-2-propanol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Phenylacetic acid | | | | µg/L | U.S. | | | <16 | <32 | <32 | <80 | <16 | <16 | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|---------|--|--------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water (#1) 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | | | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| | Phenethyl alcohol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 2-Phenylphenol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Salicylic Acid | | | | µg/L | U.S. | | | <32 | <64 | <64 | <160 | <32 | <32 | NA |
| | trans-Squalene | | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | Stearic acid | | | | µg/L | U.S. | | | <100 | <200 | <200 | <500 | <100 | <100 | NA |
| | 1-Tetradecanol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Tetramethylsuccinonitrile | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Tetramethyl thiourea | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Tetramethylurea | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Thymol | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Tributylamine | | | | µg/L | U.S. | Trialkylamines 400 | SWEG | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Tributyl phosphate | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Triethyl phosphate | | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | Tripropylene glycol monomethyl ether | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Undecanoic acid | | | | µg/L | U.S. | | | <24 | <48 | <48 | <120 | <24 | <24 | NA |
| | 2-Undecanone | | | | µg/L | U.S. | | | <4 | <8 | <8 | <20 | <4 | <4 | NA |
| | Valeric acid (Pentanoic acid) | | | | µg/L | U.S. | | | <24 | <48 | <48 | <120 | <24 | <24 | NA |
| | Vanillin | | | | µg/L | U.S. | | | <8 | <16 | <16 | <40 | <8 | <8 | NA |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | Alcohols (DAI/GC/MS) | | | | | | | | | | | | | | |
| | 1-Butanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Butanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | Ethanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | Methanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Methyl-1-butanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Methyl-2-butanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 3-Methyl-1-butanol (Isopentanol) | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Methyl-1-propanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Methyl-2-propanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 1-Pentanol (Amyl alcohol) | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Pentanol (sec-Amyl alcohol) | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 3-Pentanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 1-Propanol | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | 2-Propanol (Isopropanol) | | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | <100 | <100 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Source | ISS 1E/Exp. 16 | | ISS 1JA/Exp. 16 | Soyuz 15/Exp. 17 | 1J/Exp. 17 | | Soyuz 16/Exp. 17 |
|----------------------------------|------------------------------------|--------------------|-------------|----------------------|-------------|-------------------|---|----------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|---------------------------|---------------------------|-------------------------|
| | | | | | | | | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) | SVO-ZV | SVO-ZV | SVO-ZV (RSA Drink Bag) |
| | | | | | | | | | Potable Water 30-Nov-2007 | Potable Water 08-Jan-2008 | Potable Water 26-Feb-2008 | Potable Water (#1) 16-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 30-May-2008 | Potable Water 21-Oct-08 |
| | | | | | | | | | 20080221020 | 20080221023 | 20080328009 | 20080502005 | 20080616013 | 20080616015 | 20081208014 |
| Glycols (DAI/GC/MS) | | | | | | | | | | | | | | | |
| | 1,2-Ethanediol (Ethylene glycol) | µg/L | U.S. | 12000/14000 | MORD/EPA HA | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| | 1,2-Propanediol (Propylene glycol) | µg/L | U.S. | | | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | | | | | | | | | |
| | Acetate | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Formate | µg/L | U.S. | 2,500,000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Glycolate | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Glyoxylate | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Lactate | µg/L | U.S. | | | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| | Oxalate | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Propionate | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | | | | | | | | | | |
| | Formaldehyde | µg/L | U.S. | 12,000/1,000 | SWEG/EPA HA | <2 | <2 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| Amines (CE) | | | | | | | | | | | | | | | |
| | Ethylamine | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Methylamine | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | n-Propylamine | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| | Trimethylamine | µg/L | U.S. | Trialkylamines 400 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | | | | | | |
| | Urea | µg/L | U.S. | | | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 |
| | Caprolactam | µg/L | U.S. | 100,000 | SWEG | <4 | <8 | <300 | <300 | <300 | <300 | <4 | <4 | <4 | <300 |
| | Organic Carbon Recovery | percent | U.S. | | | 0.24 | 0.19 | 1.10 | 0.22 | 0.28 | 0.30 | 0.00 | | | |
| | Unaccounted Organic Carbon | mg/L | U.S. | | | 2.43 | 2.48 | 0.32 | 2.82 | 1.90 | 1.88 | 3.73 | | | |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|---------------------------------|----------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Analysis/Sample ID | Units | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| Physical Characteristics | | | | | | | | | | |
| pH | pH units | 311 | 311 | 310 | 311 | 206 | 183 | 190 | 184 | NA |
| Conductivity | µS/cm | 6.79 | 7.39 | 7.43 | 7.71 | 7.33 | 6.52 | 6.83 | 6.89 | NA |
| Turbidity | NTU | 6.2 | 6.4 | 6.6 | 4.5 | 0.4 | 1.9 | 2.2 | 2.3 | NA |
| Total Dissolved Solids | mg/L | NA | NA | 192 | NA | 38 | 115 | 118 | 110 | NA |
| Iodine (LCV) | | | | | | | | | | |
| Total I | mg/L | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| Anions (IC/ISE) | | | | | | | | | | |
| Bromide | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| Chloride | mg/L | 8.86 | 8.83 | 8.89 | 8.92 | <0.15 | <0.15 | <0.15 | <0.15 | NA |
| Fluoride | mg/L | <0.1 | <0.1 | <0.1 | 0.1 | 0.5 | 0.46 | 0.48 | 0.50 | NA |
| Nitrate as Nitrogen (NO3-N) | mg/L | 0.18 | 0.26 | 0.16 | 0.15 | <0.11 | <0.11 | <0.11 | <0.11 | NA |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phosphate as P (PO4-P) | mg/L | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | NA |
| Sulfate | mg/L | 38.3 | 38.2 | 38.3 | 38.3 | <0.75 | <0.75 | <0.75 | <0.75 | NA |
| Cations (IC) | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | 0.006 | 0.013 | 0.011 | 0.013 | 0.002 | 0.039 | 0.078 | 0.23 | NA |
| Lithium | mg/L | 0.005 | <0.002 | 0.005 | 0.005 | <0.002 | <0.002 | <0.002 | <0.002 | NA |
| Metals (ICP/MS) | | | | | | | | | | |
| Calcium | mg/L | 39.7 | 38.9 | 39.1 | 39.9 | 28.5 | 28.1 | 28.9 | 27.3 | NA |
| Magnesium | mg/L | 9.53 | 9.71 | 9.80 | 9.78 | 4.36 | 4.95 | 4.83 | 4.80 | NA |
| Potassium | mg/L | 2.84 | 2.90 | 2.91 | 2.90 | 0.03 | <0.01 | 0.01 | 0.01 | NA |
| Sodium | mg/L | 5.40 | 5.52 | 5.53 | 5.56 | 0.45 | 0.49 | 0.50 | 0.49 | NA |
| Aluminum | µg/L | 57 | 64 | 59 | 68 | 18 | 37 | 18 | 6 | 8 |
| Antimony | µg/L | <2 | <2 | <2 | <2 | <2 | <4 | <2 | <2 | <4 |
| Arsenic | µg/L | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Barium | µg/L | 22 | 21 | 21 | 21 | 3 | 3 | 3 | 3 | 4 |
| Beryllium | µg/L | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Cadmium | µg/L | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Chromium | µg/L | <5 | <5 | <5 | <5 | <5 | <10 | <5 | <5 | <10 |
| Cobalt | µg/L | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Copper | µg/L | 3 | 3 | 3 | 3 | 1 | <2 | <1 | <1 | 4 |
| Iron | µg/L | 48 | 42 | 31 | 32 | 37 | 52 | 52 | 58 | 29 |
| Lead | µg/L | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Manganese | µg/L | 121 | 121 | 120 | 120 | 2 | 3 | 3 | 5 | 2 |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 |
| Molybdenum | µg/L | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Nickel | µg/L | 3 | 3 | 3 | 3 | 30 | 31 | 28 | 40 | 33 |
| Selenium | µg/L | 1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <2 |
| Silver | µg/L | 464 | 457 | 455 | 334 | 244 | 304 | 97 | 51 | 57 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|---------------------------------------|-------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Analysis/Sample ID | Units | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| Silver, Dissolved | µg/L | 131 | 98 | 92 | 85 | 230 | 218 | 37 | <8 | 21 |
| Zinc | µg/L | 24 | 25 | 26 | 25 | 48 | 38 | 36 | 115 | 192 |
| Total Organic Carbon (Sievers) | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | 25.1 | 25.7 | 25.5 | 25.6 | 3.65 | 11.3 | 9.84 | 9.94 | 8.09 |
| Total Organic Carbon | mg/L | 1.93 | 1.90 | 1.84 | 1.94 | 22.9 | 15.0 | 16.5 | 16.6 | 18.9 |
| Volatile Organics | | | | | | | | | | |
| Acetone | µg/L | <2 | <2 | <2 | <2 | 54 | 17 | 105 | 31 | <8 |
| Acrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Allyl chloride (3-Chloropropene) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Benzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Bromobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Bromochloromethane | µg/L | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <16 |
| Bromodichloromethane | µg/L | 0.8 | 0.7 | 0.8 | 0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Bromoform | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Bromomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| n-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| sec-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| tert-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Carbon disulfide | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Carbon tetrachloride | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Chloroacetonitrile | µg/L | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <40 |
| Chlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1-Chlorobutane (Butyl chloride) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Chloroform | µg/L | 19.1 | 26.9 | 30.4 | 33.7 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Chloromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 2-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 4-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Dibromochloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 1,2-Dibromoethane (EDB) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Dibromomethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,3-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,4-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| trans-1,4-Dichloro-2-butene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Dichlorodifluoromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 1,1-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| cis1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| trans-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Units | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|--------------------------------------|-------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Analysis/Sample ID | | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| 1,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,3-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 2,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1-Dichloropropanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 1,1-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| cis-1,3-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| trans-1,3-Dichloropropene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Diethyl ether | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Ethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Ethyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Hexachlorobutadiene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Hexachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 2-Hexanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Iodomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Isopropylbenzene (Cumene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 4-Isopropyltoluene (Cymene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Methacrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Methyl acrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Methyl-t-butylether (MTBE) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Methylene chloride (Dichloromethane) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | 1.2 | <0.4 | <0.4 | <0.4 | <1.6 |
| Methyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 4-Methyl-2-pentanone | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Naphthalene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Nitrobenzene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| 2-Nitropropane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Pentachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Propionitrile (Ethyl cyanide) | µg/L | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <40 |
| n-Propylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Styrene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,1,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,2,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Tetrachloroethene | µg/L | NA | NA | NA | NA | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Tetrahydrofuran | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Toluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2,3-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2,4-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,1-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,2-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Trichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Trichlorofluoromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2,3-Trichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2,4-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,3,5-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <1.6 |
| Vinyl Acetate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <8 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|-----------------------------------|-----------------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Analysis/Sample ID | Units | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| m&p-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | 0.7 | <0.4 | <0.4 | <1.6 |
| o-Xylene | µg/L | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | <0.4 | <0.4 | <1.6 |
| Extractable Organics | | | | | | | | | | |
| Acetophenone | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| Benzaldehyde | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Benzoic acid | µg/L | <24 | <24 | <24 | <24 | <12 | <24 | <12 | <24 | <96 |
| Benzothiazole | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | 4 | <8 | <32 |
| Benzyl alcohol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Benzyl butyl phthalate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Butoxyethanol | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| 2-(2-Butoxyethoxy)ethanol | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| n-Butylpalmitate | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| Butylated hydroxyanisole (BHA) | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N-Butylbenzenesulfonamide | µg/L | <8 | <8 | <8 | <8 | 18 | 12 | 10 | 10 | <32 |
| 3-tert-Butylphenol | µg/L | <24 | <24 | <24 | <24 | <12 | <24 | <12 | <24 | <96 |
| Caffeine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| tris-2-Chloroethyl phosphate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Cholesterol | µg/L | <64 | <64 | <64 | <64 | <32 | <64 | <32 | <64 | <256 |
| o-Cresol (2-Methylphenol) | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Cyclododecane | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Decamethylcyclopentasiloxane | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Decanoic acid | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2,4-Di-t-butylphenol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 1,4-Diacetylbenzene | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N,N-Dibutylformamide | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Dibutyl phthalate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Dibutylamine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N,N-Diethyl-m-toluamide | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Diethylphthalate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Diethylene glycol monoethyl ether | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N,N-Diethylformamide | µg/L | <24 | <24 | <24 | <24 | <12 | <24 | <12 | <24 | <96 |
| Diiodomethane (Methyl iodide) | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Diisopropyl adipate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Dimethyl phthalate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N,N-Dimethyl acetamide | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N,N-Dimethylbenzylamine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N,N-Dimethylformamide | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| Dipropylene glycol methyl ether | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Dodecamethylcyclohexasiloxane | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Ethoxyethanol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Ethyl-1-hexanol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Ethylhexanoic acid | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Units | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|--|-------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Analysis/Sample ID | | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| bis-2-Ethylhexyl adipate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| bis-2-Ethylhexyl phthalate (Diocetyl phthlate) | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | 36 |
| 4-Ethylmorpholine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 1-Formylpiperidine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Heptanoic acid | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Heptanone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| gamma-Hexalactone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Hexanoic acid | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| 2-Hexanol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Hydroxybenzothiazole | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Ibuprofen | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Iodoform | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Isophorone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 4-Isopropylphenol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Lauramide | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Lauric acid (Dodecanoic acid) | µg/L | <240 | <240 | <240 | <240 | <120 | <240 | <120 | <240 | <960 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Mercaptobenzothiazole | µg/L | <80 | <80 | <80 | <80 | <40 | <80 | <40 | <80 | <320 |
| 2-Methyl-2,4-pentandiol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 1-Methyl-2-pyrrolidinone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Methyl-4-hydroxybenzoate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Methyl sulfone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Methyl butyric acid | µg/L | <24 | <24 | <24 | <24 | <12 | <24 | <12 | <24 | <96 |
| 2-Methylthiothiazole | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Monomethyl phthalate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Myristic acid | µg/L | <48 | <48 | <48 | <48 | <24 | <48 | <24 | <48 | <192 |
| (+)-Neomenthol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Nicotine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Nonadecane | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Nonanoic acid | µg/L | <24 | <24 | <24 | <24 | <12 | <24 | <12 | <24 | <96 |
| 1-Octadecanol | µg/L | <24 | <24 | <24 | <24 | <12 | <24 | <12 | <24 | <96 |
| Octamethylcyclotetrasiloxane | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Octanoic acid | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| 4-tert-Octylphenol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Oleic acid | µg/L | <80 | <80 | <80 | <80 | <40 | <80 | <40 | <80 | <320 |
| Oxindole | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Palmitic acid | µg/L | <240 | <240 | <240 | <240 | <120 | <240 | <120 | <240 | <960 |
| Palmitoleic acid | µg/L | <200 | <200 | <200 | <200 | <100 | <200 | <100 | <200 | <800 |
| Pentacosane | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| sec-Phenethyl alcohol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Phenol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Phenoxyethanol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| N-Phenyl-2-naphthylamine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Phenyl-2-propanol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Phenylacetic acid | µg/L | <32 | <32 | <32 | <32 | <16 | <32 | <16 | <32 | <128 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Units | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|--|-------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Description | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Sample Date | | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| Analysis/Sample ID | Units | | | | | | | | | |
| Phenethyl alcohol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 2-Phenylphenol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Salicylic Acid | µg/L | <64 | <64 | <64 | <64 | <32 | <64 | <32 | <64 | <256 |
| trans-Squalene | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| Stearic acid | µg/L | <200 | <200 | <200 | <200 | <100 | <200 | <100 | <200 | <800 |
| 1-Tetradecanol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Tetramethylsuccinonitrile | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Tetramethyl thiourea | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Tetramethylurea | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Thymol | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Tributylamine | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Tributyl phosphate | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Triethyl phosphate | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| Tripropylene glycol monomethyl ether | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Undecanoic acid | µg/L | <48 | <48 | <48 | <48 | <24 | <48 | <24 | <48 | <192 |
| 2-Undecanone | µg/L | <8 | <8 | <8 | <8 | <4 | <8 | <4 | <8 | <32 |
| Valeric acid (Pentanoic acid) | µg/L | <48 | <48 | <48 | <48 | <24 | <48 | <24 | <48 | <192 |
| Vanillin | µg/L | <16 | <16 | <16 | <16 | <8 | <16 | <8 | <16 | <64 |
| Alcohols (DAI/GC/MS) | | | | | | | | | | |
| 1-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | <100 | <100 | <100 | <100 | 2620 | 1340 | 1530 | 1100 | <100 |
| Methanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|------------------------------------|---------|------------------|---------------|---------------|---------------|---------------|-----------------|---------------|---------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 02-Jul-2008 | 25-Jul-2008 | 01-Sep-2008 | 08-Oct-2008 | 11-Nov-2008 | 16-Dec-2008 | 12-Jan-2009 | 19-Feb-2009 | 05-Apr-2009 |
| Analysis/Sample ID | Units | 20081202002 | 20081202005 | 20081202007 | 20081202008 | 20081202011 | 20090330020 | 20090330023 | 20090330024 | 2009-0615-003 |
| Glycols (DAI/GC/MS) | | | | | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | | | | |
| Acetate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Formate | µg/L | <125 | <125 | <125 | <125 | 80600 | 48600 | 54900 | 53500 | 52800 |
| Glycolate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Lactate | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Propionate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | | | | | |
| Formaldehyde | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| Amines (CE) | | | | | | | | | | |
| Ethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Methylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| n-Propylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Trimethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | |
| Urea | µg/L | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 |
| Caprolactam | µg/L | <8 | <8 | <8 | <8 | 1450 | 130 | <4 | <8 | 456 |
| Organic Carbon Recovery | percent | 0.13 | 0.16 | 0.19 | 0.20 | 102.05 | 89.9 | 92.12 | 87.72 | 74.59 |
| Unaccounted Organic Carbon | mg/L | 1.93 | 1.90 | 1.84 | 1.94 | 0.00 | 1.52 | 1.30 | 2.04 | 4.80 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|---------------------------------|----------|-----------------|---------------|---------------|---------------|-----------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 | 22-Sep-2009 |
| Analysis/Sample ID | Units | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| Physical Characteristics | | | | | | | |
| pH | pH units | 197 | 357 | 194 | 191 | 196 | 308 |
| Conductivity | µS/cm | 6.41 | 7.20 | 7.41 | 7.33 | 6.39 | 6.9 |
| Turbidity | NTU | 1.5 | 8.1 | 3.0 | 3.5 | 3.4 | 0.2 |
| Total Dissolved Solids | mg/L | 115 | 204 | 113 | NA | 71 | NA |
| Iodine (LCV) | | | | | | | |
| Total I | mg/L | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Anions (IC/ISE) | | | | | | | |
| Bromide | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chloride | mg/L | <0.15 | 10.2 | 0.36 | 0.36 | 0.37 | 9.05 |
| Fluoride | mg/L | 0.52 | <0.1 | 0.44 | 0.45 | 0.48 | <0.1 |
| Nitrate as Nitrogen (NO3-N) | mg/L | <0.11 | 0.16 | <0.11 | <0.11 | <0.11 | <0.11 |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | NA | NA | NA | NA |
| Phosphate as P (PO4-P) | mg/L | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 |
| Sulfate | mg/L | <0.75 | 52.1 | 0.92 | 0.99 | 1.13 | 28.3 |
| Cations (IC) | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | 0.060 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Lithium | mg/L | <0.002 | 0.019 | <0.002 | <0.002 | <0.002 | <0.002 |
| Metals (ICP/MS) | | | | | | | |
| Calcium | mg/L | 27.9 | 47.4 | 27.4 | 26.3 | 27.6 | 39.6 |
| Magnesium | mg/L | 5.10 | 11.7 | 5.31 | 5.29 | 5.06 | 10.2 |
| Potassium | mg/L | <0.01 | 5.12 | 0.11 | 0.11 | 0.09 | 3.03 |
| Sodium | mg/L | 0.49 | 5.94 | 0.71 | 0.71 | 0.71 | 7.14 |
| Aluminum | µg/L | 5 | 58 | 14 | 11 | 12 | 96 |
| Antimony | µg/L | <2 | <2 | <2 | <2 | <2 | <8 |
| Arsenic | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Barium | µg/L | 3 | 25 | 2 | 2 | 2 | 7 |
| Beryllium | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Cadmium | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Chromium | µg/L | <5 | <5 | <5 | <5 | <5 | <4 |
| Cobalt | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Copper | µg/L | <1 | 4 | <1 | 2 | 1 | <4 |
| Iron | µg/L | 38 | 82 | 46 | 44 | 32 | 26 |
| Lead | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Manganese | µg/L | 2 | 148 | 5 | 5 | 5 | 36 |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2 |
| Molybdenum | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Nickel | µg/L | 28 | 3 | 8 | 9 | 8 | <4 |
| Selenium | µg/L | <1 | <1 | <1 | <1 | <1 | <4 |
| Silver | µg/L | 84 | 785 | 66 | 119 | 143 | 36 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|---------------------------------------|-------|-----------------|---------------|---------------|---------------|-----------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 | 22-Sep-2009 |
| Analysis/Sample ID | Units | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| Silver, Dissolved | µg/L | 28 | 83 | <2 | 21 | 52 | 23 |
| Zinc | µg/L | 34 | 41 | 74 | 75 | 65 | 20 |
| Total Organic Carbon (Sievers) | | | | | | | |
| Total Inorganic Carbon | mg/L | 9.02 | 29.4 | 5.82 | 6.01 | 8.51 | 29.9 |
| Total Organic Carbon | mg/L | 17.0 | 1.70 | 18.3 | 18.1 | 15.1 | 0.39 |
| Volatile Organics | | | | | | | |
| Acetone | µg/L | 41 | <2 | 32 | 22 | 31 | <2 |
| Acrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Allyl chloride (3-Chloropropene) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Benzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromochloromethane | µg/L | <4 | <4 | <4 | <4 | <4 | <4 |
| Bromodichloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromoform | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Bromomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | <2 | <2 | 6 | <2 | <2 | <2 |
| n-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| sec-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| tert-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Carbon disulfide | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Carbon tetrachloride | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroacetonitrile | µg/L | <10 | <10 | <10 | <10 | <10 | <10 |
| Chlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1-Chlorobutane (Butyl chloride) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Chloroform | µg/L | <0.4 | 24.2 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromochloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,2-Dibromoethane (EDB) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromomethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,4-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,4-Dichloro-2-butene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dichlorodifluoromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Units | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|--------------------------------------|-------|-----------------|---------------|---------------|---------------|-----------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 | 22-Sep-2009 |
| Analysis/Sample ID | | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| 1,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 2,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloropropanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,3-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,3-Dichloropropene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Diethyl ether | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Ethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Ethyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Hexachlorobutadiene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Hexachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Hexanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Iodomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Isopropylbenzene (Cumene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Isopropyltoluene (Cymene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Methacrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Methyl acrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Methyl-t-butylether (MTBE) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Methylene chloride (Dichloromethane) | µg/L | <0.4 | <0.4 | 0.6 | <0.4 | <0.4 | <0.4 |
| Methyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 4-Methyl-2-pentanone | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Naphthalene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Nitrobenzene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Nitropropane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Pentachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Propionitrile (Ethyl cyanide) | µg/L | <10 | <10 | <10 | <10 | <10 | <10 |
| n-Propylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Styrene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrachloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrahydrofuran | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Toluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichlorofluoromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3,5-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Vinyl Acetate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Units | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|-----------------------------------|-------|-----------------|---------------|---------------|---------------|-----------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 | 22-Sep-2009 |
| Analysis/Sample ID | | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| m&p-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| o-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Extractable Organics | | | | | | | |
| Acetophenone | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| Benzaldehyde | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Benzoic acid | µg/L | <12 | <24 | <12 | <24 | <24 | <24 |
| Benothiazole | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Benzyl alcohol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Benzyl butyl phthalate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Butoxyethanol | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| 2-(2-Butoxyethoxy)ethanol | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| n-Butylpalmitate | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| Butylated hydroxyanisole (BHA) | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N-Butylbenzenesulfonamide | µg/L | 15 | <8 | 72 | 76 | 72 | <8 |
| 3-tert-Butylphenol | µg/L | <12 | <24 | <12 | <24 | <24 | <24 |
| Caffeine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| tris-2-Chloroethyl phosphate | µg/L | <4 | <8 | <4 | 12 | <8 | <8 |
| Cholesterol | µg/L | <32 | <64 | <32 | <64 | <64 | <64 |
| o-Cresol (2-Methylphenol) | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Cyclododecane | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Decamethylcyclopentasiloxane | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Decanoic acid | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2,4-Di-t-butylphenol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 1,4-Diacetylbenzene | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N,N-Dibutylformamide | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Dibutyl phthalate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Dibutylamine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N,N-Diethyl-m-toluamide | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Diethylphthalate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Diethylene glycol monoethyl ether | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N,N-Diethylformamide | µg/L | <12 | <24 | <12 | <24 | <24 | <24 |
| Diiodomethane (Methyl iodide) | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Diisopropyl adipate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Dimethyl phthalate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N,N-Dimethyl acetamide | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N,N-Dimethylbenzylamine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N,N-Dimethylformamide | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| Dipropylene glycol methyl ether | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Dodecamethylcyclohexasiloxane | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Ethoxyethanol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Ethyl-1-hexanol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Ethylhexanoic acid | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Units | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|---|-------|-----------------|---------------|---------------|---------------|-----------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 | 22-Sep-2009 |
| Analysis/Sample ID | | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| bis-2-Ethylhexyl adipate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| bis-2-Ethylhexyl phthalate (Diocetyl phthalate) | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 4-Ethylmorpholine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 1-Formylpiperidine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Heptanoic acid | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Heptanone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| gamma-Hexalactone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Hexanoic acid | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| 2-Hexanol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Hydroxybenzothiazole | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Ibuprofen | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Iodoform | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Isophorone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 4-Isopropylphenol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Lauramide | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Lauric acid (Dodecanoic acid) | µg/L | <120 | <240 | <120 | <240 | <240 | <240 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Mercaptobenzothiazole | µg/L | <40 | <80 | <40 | <80 | <80 | <80 |
| 2-Methyl-2,4-pentanediol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 1-Methyl-2-pyrrolidinone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Methyl-4-hydroxybenzoate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Methyl sulfone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Methyl butyric acid | µg/L | <12 | <24 | <12 | <24 | <24 | <24 |
| 2-Methylthiobenzothiazole | µg/L | <4 | <8 | 4 | <8 | <8 | <8 |
| Monomethyl phthalate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Myristic acid | µg/L | <24 | <48 | <24 | <48 | <48 | <48 |
| (+)-Neomenthol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Nicotine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Nonadecane | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Nonanoic acid | µg/L | <12 | <24 | <12 | <24 | <24 | <24 |
| 1-Octadecanol | µg/L | <12 | <24 | <12 | <24 | <24 | <24 |
| Octamethylcyclotetrasiloxane | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Octanoic acid | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| 4-tert-Octylphenol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Oleic acid | µg/L | <40 | <80 | <40 | <80 | <80 | <80 |
| Oxindole | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Palmitic acid | µg/L | <120 | <240 | <120 | <240 | <240 | <240 |
| Palmitoleic acid | µg/L | <100 | <200 | <100 | <200 | <200 | <200 |
| Pentacosane | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| sec-Phenethyl alcohol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Phenol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Phenoxyethanol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| N-Phenyl-2-naphthylamine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Phenyl-2-propanol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Phenylacetic acid | µg/L | <16 | <32 | <16 | <32 | <32 | <32 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | Sample Location | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|--|-----------------|---------------------------|---------------------------|---------------------------|----------------------------|------------------------------|------------------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Description | Sample Date | Potable Water 9-Apr-09 | Potable Water 4-May-09 | Potable Water 7-Jul-09 | Potable Water 22-Jul-09 | Potable Water 04-Aug-2009 | Potable Water 22-Sep-2009 |
| Analysis/Sample ID | Units | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| Phenethyl alcohol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 2-Phenylphenol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Salicylic Acid | µg/L | <32 | <64 | <32 | <64 | <64 | <64 |
| trans-Squalene | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| Stearic acid | µg/L | <100 | <200 | <100 | <200 | <200 | <200 |
| 1-Tetradecanol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Tetramethylsuccinonitrile | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Tetramethyl thiourea | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Tetramethylurea | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Thymol | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Tributylamine | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Tributyl phosphate | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Triethyl phosphate | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| Tripropylene glycol monomethyl ether | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Undecanoic acid | µg/L | <24 | <48 | <24 | <48 | <48 | <48 |
| 2-Undecanone | µg/L | <4 | <8 | <4 | <8 | <8 | <8 |
| Valeric acid (Pentanoic acid) | µg/L | <24 | <48 | <24 | <48 | <48 | <48 |
| Vanillin | µg/L | <8 | <16 | <8 | <16 | <16 | <16 |
| | | | | | | | |
| | | | | | | | |
| Alcohols (DA/GC/MS) | | | | | | | |
| 1-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | 995 | <100 | 574 | 707 | 801 | <100 |
| Methanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 2. ISS SVO-ZV Potable Water Summary for Expeditions 16 through 20

| Mission | | ISS 2JA/Exp. 20 | | | | ISS 17A/Exp. 20 | Sovuz 18/Exp. 20 |
|------------------------------------|---------|-----------------|---------------|---------------|---------------|-----------------|------------------|
| | | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV | SVO-ZV |
| Sample Location | | | | | | | |
| Sample Description | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Date | | 9-Apr-09 | 4-May-09 | 7-Jul-09 | 22-Jul-09 | 04-Aug-2009 | 22-Sep-2009 |
| Analysis/Sample ID | Units | 20090803008 | 20090803010 | 20090803012 | 20090803014 | 20090914004 | 20091021007 |
| Glycols (DAI/GC/MS) | | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | <500 | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | |
| Acetate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Formate | µg/L | 59200 | <125 | 64000 | 63000 | 54300 | <125 |
| Glycolate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Lactate | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Propionate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | | |
| Formaldehyde | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| Amines (CE) | | | | | | | |
| Ethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Methylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| n-Propylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Trimethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | | |
| Urea | µg/L | <800 | <800 | <800 | <800 | <800 | <800 |
| Caprolactam | µg/L | <4 | <8 | 30 | 55 | 55 | <8 |
| Organic Carbon Recovery | percent | 94.14 | 0.14 | 93.38 | 93.40 | 97.25 | 0.00 |
| Unaccounted Organic Carbon | mg/L | 1.00 | 1.70 | 1.21 | 1.19 | 0.42 | 0.39 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | Progress 28 | Progress 29 | Progress 30 | Progress 31 | Progress 34 | ISS 1E/Exp. 16 | Soyuz 15/Exp. 17 |
|---------------------------------|-----------------|--------------------|---------------------------|--------------------|-------|-------------------|---|----------------------------------|--|--|--|--|---|---|---|
| | | | | | | | | | GSE prior to filling tanks (28P Rodnik) Ground-Supplied Water 14-Dec-2007 20080129002 | GSE prior to filling tanks (29P Rodnik) Ground-Supplied Water 26-Mar-2008 20080428001 | GSE prior to filling tanks (30P Rodnik) Ground-Supplied Water 10-Jul-2008 20080903001 | GSE prior to filling tanks (31P Rodnik) Ground-Supplied Water 09-Oct-2008 20081208018 | GSE prior to filling tanks (34 P Rodnik) Ground-Supplied Water 21-May-2009 20090902001 | Rodnik Tank -in-flight (RSA Drink Bag) Potable Water 13-Feb-2008 20080221002 | Rodnik Tank -inflight (RSA Drink Bag) Potable Water (#7) 16-Apr-2008 20080502006 |
| Physical Characteristics | | | | | | | | | | | | | | | |
| pH | pH units | U.S. | 5.5-9.0 | MORD | 7.69 | 7.53 | 7.63 | 7.01 | 7.01 | 7.01 | NA | NA | NA | NA | NA |
| Conductivity | µS/cm | U.S. | | MORD | 350 | 377 | 330 | 268 | 314 | 314 | NA | NA | NA | NA | NA |
| Turbidity | NTU | U.S. | 1.5* | MORD | 13.5 | 9.0 | 6.5 | 2.6 | 0.6 | 0.6 | NA | NA | NA | NA | NA |
| Total Dissolved Solids | mg/L | U.S. | 100 (1,000 [#]) | MORD | 187 | 216 | 179 | 152 | 88 | 88 | NA | NA | NA | NA | NA |
| Iodine (LCV) | | | | | | | | | | | | | | | |
| Total I | mg/L | U.S. | 0.05 | MORD | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA | NA | NA | NA | NA |
| Anions (IC/ISE) | | | | | | | | | | | | | | | |
| Bromide | mg/L | U.S. | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA | NA | NA |
| Chloride | mg/L | U.S. | 250 | MORD | 9.15 | 9.61 | 11.5 | 11.4 | 9.06 | 9.06 | NA | NA | NA | NA | NA |
| Fluoride | mg/L | U.S. | 1.5/4 | MORD/EPA | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | NA | NA | NA | NA | NA |
| Nitrate as Nitrogen (NO3-N) | mg/L | U.S. | 10 | MORD/EPA | <0.11 | 0.23 | 0.22 | 0.13 | <0.11 | <0.11 | NA | NA | NA | NA | NA |
| Nitrite as Nitrogen (NO2-N) | mg/L | U.S. | 1 | EPA | <0.08 | <0.08 | <0.08 | NA | NA | NA | NA | NA | NA | NA | NA |
| Phosphate as P (PO4-P) | mg/L | U.S. | | | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | NA | NA | NA | NA | NA |
| Sulfate | mg/L | U.S. | 250 | MORD | 46.1 | 40.8 | 32.8 | 35.0 | 27.5 | 27.5 | NA | NA | NA | NA | NA |
| Cations (IC) | | | | | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | U.S. | 2/1 | MORD/SWEG | 0.031 | <0.002 | <0.002 | 0.025 | <0.002 | <0.002 | NA | NA | NA | NA | NA |
| Lithium | mg/L | U.S. | | | 0.017 | 0.004 | <0.002 | <0.002 | <0.002 | <0.002 | NA | NA | NA | NA | NA |
| Metals (ICP/MS) | | | | | | | | | | | | | | | |
| Calcium | mg/L | U.S. | 100 | MORD | 42.1 | 50.2 | 41.3 | 35.4 | 41.2 | 41.2 | 35.3 | 35.9 | 35.3 | 35.9 | 35.9 |
| Magnesium | mg/L | U.S. | 50 | MORD | 10.8 | 11.9 | 9.94 | 7.90 | 10.2 | 10.2 | 8.32 | 8.45 | 8.32 | 8.45 | 8.45 |
| Potassium | mg/L | U.S. | | | 4.58 | 2.85 | 3.4 | 2.40 | 2.85 | 2.85 | 2.59 | 2.03 | 2.59 | 2.03 | 2.03 |
| Sodium | mg/L | U.S. | | | 5.85 | 6.53 | 7.69 | 4.39 | 7.49 | 7.49 | 4.39 | 4.66 | 4.39 | 4.66 | 4.66 |
| Aluminum | µg/L | U.S. | | | 71 | 63 | 129 | 96 | 99 | 99 | 70 | 20 | 99 | 70 | 20 |
| Antimony | µg/L | U.S. | 6 | EPA | <8 | <2 | <4 | <2 | <4 | <4 | <2 | <4 | <2 | <4 | <4 |
| Arsenic | µg/L | U.S. | 10 | MORD/EPA | <4 | <1 | <2 | <2 | <2 | <2 | <1 | <4 | <2 | <1 | <4 |
| Barium | µg/L | U.S. | 1,000/10,000 | MORD/SWEG | 23 | 28 | 22 | 17 | 7 | 7 | 15 | 37 | 7 | 15 | 37 |
| Beryllium | µg/L | U.S. | 4 | EPA | <4 | <1 | <2 | <2 | <2 | <2 | <1 | <4 | <2 | <1 | <4 |
| Cadmium | µg/L | U.S. | 5/22 | MORD/SWEG | <4 | <1 | <2 | <2 | 6 | 6 | <1 | <4 | <2 | <1 | <4 |
| Chromium | µg/L | U.S. | 100 | MORD/EPA | <20 | <1 | <10 | <10 | <10 | <10 | <5 | <20 | <10 | <5 | <20 |
| Cobalt | µg/L | U.S. | | | <4 | <1 | <2 | <2 | <2 | <2 | <1 | <4 | <2 | <1 | <4 |
| Copper | µg/L | U.S. | 1,000/1,300 | MORD/EPA | <4 | 4 | 2 | 5 | 12 | 12 | 4 | 19 | 12 | 4 | 19 |
| Iron | µg/L | U.S. | 300 | MORD | 120 | 108 | 51 | 55 | 59 | 59 | 81 | 85 | 59 | 81 | 85 |
| Lead | µg/L | U.S. | 50/15 | MORD/EPA | <4 | <1 | <2 | <2 | <2 | <2 | <1 | <4 | <2 | <1 | <4 |
| Manganese | µg/L | U.S. | 50/300 | MORD/SWEG | 168 | 101 | 165 | 93 | 28 | 28 | 103 | 47 | 28 | 103 | 47 |
| Mercury | µg/L | U.S. | 2 | MORD/EPA | <0.5 | <0.5 | <1 | <1 | <1 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 |
| Molybdenum | µg/L | U.S. | 40 | EPA HA | <4 | <1 | <2 | <2 | <2 | <2 | <1 | <4 | <2 | <1 | <4 |
| Nickel | µg/L | U.S. | 100/300 | MORD/SWEG | <4 | 2 | 3 | 4 | <2 | <2 | 3 | 5 | <2 | 3 | 5 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | Progress 28 | Progress 29 | Progress 30 | Progress 31 | Progress 34 | ISS 1E/Exp. 16 | Soyuz 15/Exp. 17 |
|---------|-----------------|--------------------------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|--|--|--|--|---|---|---|
| | | | | | | | | | GSE prior to filling tanks (28P Rodnik) Ground-Supplied Water 14-Dec-2007 20080129002 | GSE prior to filling tanks (29P Rodnik) Ground-Supplied Water 26-Mar-2008 20080428001 | GSE prior to filling tanks (30P Rodnik) Ground-Supplied Water 10-Jul-2008 20080903001 | GSE prior to filling tanks (31P Rodnik) Ground-Supplied Water 09-Oct-2008 20081208018 | GSE prior to filling tanks (34 P Rodnik) Ground-Supplied Water 21-May-2009 20090902001 | Rodnik Tank -in-flight (RSA Drink Bag) Potable Water 13-Feb-2008 20080221002 | Rodnik Tank -inflight (RSA Drink Bag) Potable Water (#7) 16-Apr-2008 20080502006 |
| | | 1,1-Dichloroethene | | | µg/L | U.S. | 7 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | cis-1,2-Dichloroethene | | | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | trans-1,2-Dichloroethene | | | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,2-Dichloropropane | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,3-Dichloropropane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 2,2-Dichloropropane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,1-Dichloropropanone | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | 1,1-Dichloropropene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | cis-1,3-Dichloropropene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | trans-1,3-Dichloropropene | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Diethyl ether | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Ethylbenzene | | | µg/L | U.S. | 700 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Ethyl methacrylate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Hexachlorobutadiene | | | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Hexachloroethane | | | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | 2-Hexanone | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Iodomethane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Isopropylbenzene (Cumene) | | | µg/L | U.S. | 4,000 | EPA DWEL | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 4-Isopropyltoluene (Cymene) | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Methacrylonitrile | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Methyl acrylate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Methyl-t-butylether (MTBE) | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Methylene chloride (Dichloromethane) | | | µg/L | U.S. | 15,000/5 | SWEG/EPA | <0.4 | <0.4 | <0.4 | 2.1 | <0.4 | NA | NA |
| | | Methyl methacrylate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | 4-Methyl-2-pentanone | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Naphthalene | | | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Nitrobenzene | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | 2-Nitropropane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Pentachloroethane | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Propionitrile (Ethyl cyanide) | | | µg/L | U.S. | | | <10 | <10 | <10 | <10 | <10 | NA | NA |
| | | n-Propylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Styrene | | | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,1,1,2-Tetrachloroethane | | | µg/L | U.S. | 70 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,1,2,2-Tetrachloroethane | | | µg/L | U.S. | 0.3 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Tetrachloroethene | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | NA | NA | <0.4 | NA | NA |
| | | Tetrahydrofuran | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Toluene | | | µg/L | U.S. | 1,000 | EPA | <0.4 | <0.4 | 2.2 | <0.4 | <0.4 | NA | NA |
| | | 1,2,3-Trichlorobenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,2,4-Trichlorobenzene | | | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,1,1-Trichloroethane | | | µg/L | U.S. | 200 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,1,2-Trichloroethane | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Trichloroethene | | | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Trichlorofluoromethane | | | µg/L | U.S. | 2,000 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | Progress 28 | Progress 29 | Progress 30 | Progress 31 | Progress 34 | ISS 1E/Exp. 16 | Soyuz 15/Exp. 17 |
|---------|-----------------|-----------------------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|---|---|---|---|--|--|--|
| | | | | | | | | | GSE prior to filling tanks (28P Rodnik) Ground-Supplied Water 14-Dec-2007 20080129002 | GSE prior to filling tanks (29P Rodnik) Ground-Supplied Water 26-Mar-2008 20080428001 | GSE prior to filling tanks (30P Rodnik) Ground-Supplied Water 10-Jul-2008 20080903001 | GSE prior to filling tanks (31P Rodnik) Ground-Supplied Water 09-Oct-2008 20081208018 | GSE prior to filling tanks (34 P Rodnik) Ground-Supplied Water 21-May-2009 20090902001 | Rodnik Tank -in-flight (RSA Drink Bag) Potable Water 13-Feb-2008 20080221002 | Rodnik Tank -inflight (RSA Drink Bag) Potable Water (#7) 16-Apr-2008 20080502006 |
| | | | | | | | 40 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,2,3-Trichloropropane | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,2,4-Trimethylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | 1,3,5-Trimethylbenzene | | | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Vinyl Acetate | | | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Vinyl Chloride | | | µg/L | U.S. | 2 | EPA | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | m&p-Xylene | | | µg/L | U.S. | Total Xylenes 10,000 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | o-Xylene | | | µg/L | U.S. | Total Xylenes 10,000 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | NA |
| | | Extractable Organics | | | | | | | | | | | | | |
| | | Acetophenone | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | Benzaldehyde | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Benzoic acid | | | µg/L | U.S. | | | <12 | <24 | <12 | <24 | <24 | NA | NA |
| | | Benzothiazole | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Benzyl alcohol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Benzyl butyl phthalate | | | µg/L | U.S. | 7,000 | EPA DWEL | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 2-Butoxyethanol | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | 2-(2-Butoxyethoxy)ethanol | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | 2-(2-Butoxyethoxy)ethyl acetate | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | n-Butylpalmitate | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | Butylated hydroxyanisole (BHA) | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | N-Butylbenzenesulfonamide | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 3-tert-Butylphenol | | | µg/L | U.S. | | | <12 | <24 | <12 | <24 | <24 | NA | NA |
| | | Caffeine | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | tris-2-Chloroethyl phosphate | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Cholesterol | | | µg/L | U.S. | | | <32 | <64 | <32 | <64 | <64 | NA | NA |
| | | o-Cresol (2-Methylphenol) | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Cyclododecane | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Decamethylcyclopentasiloxane | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Decanoic acid | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | 2,6-Di-t-butyl-1,4-benzoquinone | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 2,4-Di-t-butylphenol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 1,4-Diacetylbenzene | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | N,N-Dibutylformamide | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Dibutyl phthalate | | | µg/L | U.S. | 40,000/4,000 | SWEG/EPA DWEL | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Dibutylamine | | | µg/L | U.S. | Dialkylamines 300 | SWEG | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | N,N-Diethyl-m-toluamide | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Diethylphthalate | | | µg/L | U.S. | 30,000 | EPA DWEL | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Diethylene glycol monoethyl ether | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | N,N-Diethylformamide | | | µg/L | U.S. | | | <12 | <24 | <12 | <24 | <24 | NA | NA |
| | | Diiodomethane (Methyl iodide) | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Diisopropyl adipate | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Dimethyl phthalate | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | N,N-Dimethyl acetamide | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | Progress 28 | Progress 29 | Progress 30 | Progress 31 | Progress 34 | ISS 1E/Exp. 16 | Soyuz 15/Exp. 17 |
|---------|-----------------|--|-------------|--------------------|-------|-------------------|---|----------------------------------|--|--|--|--|---|---|---|
| | | | | | | | | | GSE prior to filling tanks (28P Rodnik) Ground-Supplied Water 14-Dec-2007 20080129002 | GSE prior to filling tanks (29P Rodnik) Ground-Supplied Water 26-Mar-2008 20080428001 | GSE prior to filling tanks (30P Rodnik) Ground-Supplied Water 10-Jul-2008 20080903001 | GSE prior to filling tanks (31P Rodnik) Ground-Supplied Water 09-Oct-2008 20081208018 | GSE prior to filling tanks (34 P Rodnik) Ground-Supplied Water 21-May-2009 20090902001 | Rodnik Tank -in-flight (RSA Drink Bag) Potable Water 13-Feb-2008 20080221002 | Rodnik Tank -inflight (RSA Drink Bag) Potable Water (#7) 16-Apr-2008 20080502006 |
| | | Palmitic acid | | | µg/L | U.S. | | | <120 | <240 | <120 | <240 | <240 | NA | NA |
| | | Palmitoleic acid | | | µg/L | U.S. | | | <100 | <200 | <100 | <200 | <200 | NA | NA |
| | | Pentacosane | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | sec-Phenethyl alcohol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Phenol | | | µg/L | U.S. | 1,000/4,000 | MORD/SWEG | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 2-Phenoxyethanol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | N-Phenyl-2-naphthylamine | | | µg/L | U.S. | 260,000 | SWEG | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 2-Phenyl-2-propanol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 2-Phenylacetic acid | | | µg/L | U.S. | | | <16 | <32 | <16 | <32 | <32 | NA | NA |
| | | Phenethyl alcohol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 2-Phenylphenol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Salicylic Acid | | | µg/L | U.S. | | | <32 | <64 | <32 | <64 | <64 | NA | NA |
| | | trans-Squalene | | | µg/L | U.S. | | | <8 | <8 | <8 | <16 | <8 | NA | NA |
| | | Stearic acid | | | µg/L | U.S. | | | <100 | <200 | <100 | <200 | <200 | NA | NA |
| | | 1-Tetradecanol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Tetramethylsuccinonitrile | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Tetramethyl thiourea | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Tetramethylurea | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Thymol | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Tributylamine | | | µg/L | U.S. | Trialkylamines 400 | SWEG | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Tributyl phosphate | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Triethyl phosphate | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | Tripropylene glycol monomethyl ether | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Undecanoic acid | | | µg/L | U.S. | | | <24 | <48 | <24 | <48 | <48 | NA | NA |
| | | 2-Undecanone | | | µg/L | U.S. | | | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Valeric acid (Pentanoic acid) | | | µg/L | U.S. | | | <24 | <48 | <24 | <48 | <48 | NA | NA |
| | | Vanillin | | | µg/L | U.S. | | | <8 | <16 | <8 | <16 | <16 | NA | NA |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | Alcohols (DAI/GC/MS) | | | | | | | | | | | | | |
| | | 1-Butanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Butanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | Ethanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | Methanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Methyl-1-butanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Methyl-2-butanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 3-Methyl-1-butanol (Isopentanol) | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Methyl-1-propanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Methyl-2-propanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 1-Pentanol (Amyl alcohol) | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Pentanol (sec-Amyl alcohol) | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 3-Pentanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | Progress 28 | Progress 29 | Progress 30 | Progress 31 | Progress 34 | ISS 1E/Exp. 16 | Soyuz 15/Exp. 17 |
|---------|-----------------|------------------------------------|-------------|--------------------|---------|-------------------|---|----------------------------------|--|--|--|--|---|---|---|
| | | | | | | | | | GSE prior to filling tanks (28P Rodnik) Ground-Supplied Water 14-Dec-2007 20080129002 | GSE prior to filling tanks (29P Rodnik) Ground-Supplied Water 26-Mar-2008 20080428001 | GSE prior to filling tanks (30P Rodnik) Ground-Supplied Water 10-Jul-2008 20080903001 | GSE prior to filling tanks (31P Rodnik) Ground-Supplied Water 09-Oct-2008 20081208018 | GSE prior to filling tanks (34 P Rodnik) Ground-Supplied Water 21-May-2009 20090902001 | Rodnik Tank -in-flight (RSA Drink Bag) Potable Water 13-Feb-2008 20080221002 | Rodnik Tank -inflight (RSA Drink Bag) Potable Water (#7) 16-Apr-2008 20080502006 |
| | | 1-Propanol | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | 2-Propanol (Isopropanol) | | | µg/L | U.S. | | | <100 | <100 | <100 | <100 | <100 | NA | NA |
| | | Glycols (DAI/GC/MS) | | | | | | | | | | | | | |
| | | 1,2-Ethanediol (Ethylene glycol) | | | µg/L | U.S. | 12000/14000 | MORD/EPA HA | <1000 | <1000 | <1000 | <1000 | <1000 | NA | NA |
| | | 1,2-Propanediol (Propylene glycol) | | | µg/L | U.S. | | | <500 | <500 | <500 | <500 | <500 | NA | NA |
| | | Carboxylates (CE) | | | | | | | | | | | | | |
| | | Acetate | | | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Formate | | | µg/L | U.S. | 2,500,000 | SWEG | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Glycolate | | | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Glyoxylate | | | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Lactate | | | µg/L | U.S. | | | <1000 | <1000 | <1000 | <1000 | <1000 | NA | NA |
| | | Oxalate | | | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Propionate | | | µg/L | U.S. | | | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Aldehydes | | | | | | | | | | | | | |
| | | Formaldehyde | | | µg/L | U.S. | 12,000/1,000 | SWEG/EPA HA | <2 | <2 | <2 | <2 | <2 | NA | NA |
| | | Amines (CE) | | | | | | | | | | | | | |
| | | Ethylamine | | | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Methylamine | | | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | n-Propylamine | | | µg/L | U.S. | Monoalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Trimethylamine | | | µg/L | U.S. | Trialkylamines 400 | SWEG | <125 | <125 | <125 | <125 | <125 | NA | NA |
| | | Non-volatiles (LC/UV-VIS) | | | | | | | | | | | | | |
| | | Urea | | | µg/L | U.S. | | | <800 | <800 | <800 | <800 | <800 | NA | NA |
| | | Caprolactam | | | µg/L | U.S. | 100,000 | SWEG | <4 | <8 | <4 | <8 | <8 | NA | NA |
| | | Organic Carbon Recovery | | | | | | | | | | | | | |
| | | Unaccounted Organic Carbon | | | percent | U.S. | | | 0.18 | 0.19 | 4.29 | 0.43 | 1.90 | NA | NA |
| | | | | | mg/L | U.S. | | | 1.05 | 2.60 | 0.97 | 0.82 | 0.38 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|---------------------------------|-----------------|--------------------------------|--------------------------|---------------|-----------------------------------|---------------------------------------|
| | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | Sample Date | Water (#8) | Potable Water (#5) | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 13-Apr-2008 | 13-Apr-2008 | 13-Apr-2008 | 21-Oct-08 | 05-Apr-2009 |
| | | 20080502001 | 20080502002 | 20080616011 | 20081208015 | 20090615001 |
| Physical Characteristics | | | | | | |
| pH | pH units | NA | 350 | 7.67 | NA | NA |
| Conductivity | µS/cm | NA | 8.11 | 338 | NA | NA |
| Turbidity | NTU | NA | NA | <0.1 | NA | NA |
| Total Dissolved Solids | mg/L | NA | NA | 191 | NA | NA |
| Iodine (LCV) | | | | | | |
| Total I | mg/L | NA | NA | <0.05 | NA | NA |
| Anions (IC/ISE) | | | | | | |
| Bromide | mg/L | NA | <0.5 | <0.5 | NA | NA |
| Chloride | mg/L | NA | 0.99 | 0.92 | NA | NA |
| Fluoride | mg/L | NA | 0.9 | 1.01 | NA | NA |
| Nitrate as Nitrogen (NO3-N) | mg/L | NA | 4.12 | 4.48 | NA | NA |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | <0.08 | <0.08 | NA | NA |
| Phosphate as P (PO4-P) | mg/L | NA | <0.04 | <0.24 | NA | NA |
| Sulfate | mg/L | NA | 26.0 | 25.1 | NA | NA |
| Cations (IC) | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | NA | <0.002 | <0.002 | NA | NA |
| Lithium | mg/L | NA | <0.002 | <0.002 | NA | NA |
| Metals (ICP/MS) | | | | | | |
| Calcium | mg/L | 43.6 | 44.0 | 46.5 | 43.6 | NA |
| Magnesium | mg/L | 12.1 | 11.9 | 12.1 | 11.1 | NA |
| Potassium | mg/L | 1.40 | 1.30 | 1.33 | 1.50 | NA |
| Sodium | mg/L | 6.64 | 6.60 | 6.28 | 6.35 | NA |
| Aluminum | µg/L | 107 | <8 | 14 | 15 | 18 |
| Antimony | µg/L | <8 | <4 | <8 | <2 | <4 |
| Arsenic | µg/L | <4 | <4 | <4 | <2 | <2 |
| Barium | µg/L | 14 | 7 | 7 | 10 | 7 |
| Beryllium | µg/L | <4 | <4 | <4 | <2 | <2 |
| Cadmium | µg/L | 6 | <4 | <4 | <2 | <2 |
| Chromium | µg/L | <20 | <20 | <20 | <10 | <10 |
| Cobalt | µg/L | <4 | <4 | <4 | <2 | <2 |
| Copper | µg/L | 11 | 7 | <4 | 3 | 8 |
| Iron | µg/L | 112 | 78 | 93 | 36 | 30 |
| Lead | µg/L | <4 | <4 | <4 | <2 | <2 |
| Manganese | µg/L | 10 | <4 | <4 | 17 | 8 |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <1 | <1 |
| Molybdenum | µg/L | <4 | <4 | <4 | <2 | <2 |
| Nickel | µg/L | 23 | 21 | 68 | 78 | 127 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|---------------------------------------|-----------------|--------------------------------|--------------------------|---------------|-----------------------------------|---------------------------------------|
| | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | | Water (#8) | Potable Water (#5) | Potable Water | Potable Water | Potable Water |
| Sample Date | | 13-Apr-2008 | 13-Apr-2008 | 13-Apr-2008 | 21-Oct-08 | 05-Apr-2009 |
| Analysis/Sample ID | Units | 20080502001 | 20080502002 | 20080616011 | 20081208015 | 20090615001 |
| Selenium | µg/L | <4 | <4 | 5 | <2 | <2 |
| Silver | µg/L | 126 | 231 | 260 | 36 | 141 |
| Silver, Dissolved | µg/L | 8 | 197 | 243 | <4 | 77 |
| Zinc | µg/L | 2580 | 500 | 43 | 215 | 585 |
| Total Organic Carbon (Sievers) | | | | | | |
| Total Inorganic Carbon | mg/L | 35.7 | 37.5 | 36.6 | 30.8 | 35.0 |
| Total Organic Carbon | mg/L | 9.42 | 2.70 | 0.54 | 1.73 | 2.32 |
| Volatile Organics | | | | | | |
| Acetone | µg/L | NA | 10 | 15 | 10 | <8 |
| Acrylonitrile | µg/L | NA | <2 | <2 | <2 | <8 |
| Allyl chloride (3-Chloropropene) | µg/L | NA | <2 | <2 | <2 | <8 |
| Benzene | µg/L | NA | 0.8 | 1 | <0.4 | <1.6 |
| Bromobenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Bromochloromethane | µg/L | NA | <4 | <4 | <4 | <16 |
| Bromodichloromethane | µg/L | NA | 1.5 | 1.7 | <0.4 | <1.6 |
| Bromoform | µg/L | NA | <2 | 3 | <2 | <8 |
| Bromomethane | µg/L | NA | <2 | <2 | <2 | <8 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | NA | 111 | 194 | 4 | <8 |
| n-Butylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| sec-Butylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| tert-Butylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Carbon disulfide | µg/L | NA | <2 | <2 | <2 | <8 |
| Carbon tetrachloride | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Chloroacetonitrile | µg/L | NA | <10 | <10 | <10 | <40 |
| Chlorobenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1-Chlorobutane (Butyl chloride) | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Chloroethane | µg/L | NA | <2 | <2 | <2 | <8 |
| Chloroform | µg/L | NA | 1.2 | 1.4 | <0.4 | <1.6 |
| Chloromethane | µg/L | NA | <2 | <2 | <2 | <8 |
| 2-Chlorotoluene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 4-Chlorotoluene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Dibromochloromethane | µg/L | NA | 1.8 | 2.5 | <0.4 | <1.6 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | NA | <2 | <2 | <2 | <8 |
| 1,2-Dibromoethane (EDB) | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Dibromomethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2-Dichlorobenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,3-Dichlorobenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,4-Dichlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <1.6 |
| trans-1,4-Dichloro-2-butene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Dichlorodifluoromethane | µg/L | NA | <2 | <2 | <2 | <8 |
| 1,1-Dichloroethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2-Dichloroethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|--------------------------------------|-----------------|--|--|---|---|---|
| | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | Units | Water (#8) 13-Apr-2008 20080502001 | Potable Water (#5) 13-Apr-2008 20080502002 | Potable Water 13-Apr-2008 20080616011 | Potable Water 21-Oct-08 20081208015 | Potable Water 05-Apr-2009 20090615001 |
| 1,1-Dichloroethene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| cis-1,2-Dichloroethene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| trans-1,2-Dichloroethene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2-Dichloropropane | µg/L | NA | <0.4 | 1.1 | <0.4 | <1.6 |
| 1,3-Dichloropropane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 2,2-Dichloropropane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1-Dichloropropanone | µg/L | NA | <2 | <2 | <2 | <8 |
| 1,1-Dichloropropene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| cis-1,3-Dichloropropene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| trans-1,3-Dichloropropene | µg/L | NA | NA | <2 | <2 | <8 |
| Diethyl ether | µg/L | NA | <2 | <2 | <2 | <8 |
| Ethylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Ethyl methacrylate | µg/L | NA | <2 | <2 | <2 | <8 |
| Hexachlorobutadiene | µg/L | NA | <2 | <2 | <2 | <8 |
| Hexachloroethane | µg/L | NA | <2 | <2 | <2 | <8 |
| 2-Hexanone | µg/L | NA | <2 | <2 | <2 | <8 |
| Iodomethane | µg/L | NA | <2 | <2 | 6 | <8 |
| Isopropylbenzene (Cumene) | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 4-Isopropyltoluene (Cymene) | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Methacrylonitrile | µg/L | NA | <2 | <2 | <2 | <8 |
| Methyl acrylate | µg/L | NA | <2 | <2 | <2 | <8 |
| Methyl-t-butylether (MTBE) | µg/L | NA | <2 | <2 | <2 | <8 |
| Methylene chloride (Dichloromethane) | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Methyl methacrylate | µg/L | NA | <2 | <2 | <2 | <8 |
| 4-Methyl-2-pentanone | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Naphthalene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Nitrobenzene | µg/L | NA | <2 | <2 | <2 | <8 |
| 2-Nitropropane | µg/L | NA | <2 | <2 | <2 | <8 |
| Pentachloroethane | µg/L | NA | <2 | <2 | <2 | <8 |
| Propionitrile (Ethyl cyanide) | µg/L | NA | <10 | <10 | <10 | <40 |
| n-Propylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Styrene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,1,2-Tetrachloroethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,2,2-Tetrachloroethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Tetrachloroethene | µg/L | NA | <0.4 | <0.4 | NA | <1.6 |
| Tetrahydrofuran | µg/L | NA | <2 | <2 | <2 | <8 |
| Toluene | µg/L | NA | 1.7 | 1.7 | <0.4 | <1.6 |
| 1,2,3-Trichlorobenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2,4-Trichlorobenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,1-Trichloroethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,1,2-Trichloroethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Trichloroethene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Trichlorofluoromethane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|-----------------------------------|-----------------|--|--|---|---|---|
| | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | Units | Water (#8) 13-Apr-2008 20080502001 | Potable Water (#5) 13-Apr-2008 20080502002 | Potable Water 13-Apr-2008 20080616011 | Potable Water 21-Oct-08 20081208015 | Potable Water 05-Apr-2009 20090615001 |
| 1,2,3-Trichloropropane | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,2,4-Trimethylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| 1,3,5-Trimethylbenzene | µg/L | NA | <0.4 | <0.4 | <0.4 | <1.6 |
| Vinyl Acetate | µg/L | NA | <2 | <2 | <2 | <8 |
| Vinyl Chloride | µg/L | NA | <2 | <2 | <2 | <8 |
| m&p-Xylene | µg/L | NA | <0.4 | 3.7 | <0.4 | <1.6 |
| o-Xylene | µg/L | NA | 1.8 | 1.8 | <0.4 | <1.6 |
| Extractable Organics | | | | | | |
| Acetophenone | µg/L | NA | <40 | <8 | NA | NA |
| Benzaldehyde | µg/L | NA | <20 | <4 | NA | NA |
| Benzoic acid | µg/L | NA | <60 | <12 | NA | NA |
| Benothiazole | µg/L | NA | <20 | <4 | NA | NA |
| Benzyl alcohol | µg/L | NA | <20 | <4 | NA | NA |
| Benzyl butyl phthlate | µg/L | NA | <20 | <4 | NA | NA |
| 2-Butoxyethanol | µg/L | NA | <40 | <8 | NA | NA |
| 2-(2-Butoxyethoxy)ethanol | µg/L | NA | <40 | <8 | NA | NA |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | NA | <20 | <4 | NA | NA |
| n-Butylpalmitate | µg/L | NA | <40 | <8 | NA | NA |
| Butylated hydroxyanisole (BHA) | µg/L | NA | <20 | <4 | NA | NA |
| N-Butylbenzenesulfonamide | µg/L | NA | <20 | <4 | NA | NA |
| 3-tert-Butylphenol | µg/L | NA | <60 | <12 | NA | NA |
| Caffeine | µg/L | NA | <20 | <4 | NA | NA |
| tris-2-Chloroethyl phosphate | µg/L | NA | <20 | <4 | NA | NA |
| Cholesterol | µg/L | NA | <160 | <32 | NA | NA |
| o-Cresol (2-Methylphenol) | µg/L | NA | <20 | <4 | NA | NA |
| Cyclododecane | µg/L | NA | <20 | <4 | NA | NA |
| Decamethylcyclopentasiloxane | µg/L | NA | <20 | <4 | NA | NA |
| Decanoic acid | µg/L | NA | <40 | <8 | NA | NA |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | NA | <20 | <4 | NA | NA |
| 2,4-Di-t-butylphenol | µg/L | NA | <20 | <4 | NA | NA |
| 1,4-Diacetylbenzene | µg/L | NA | <20 | <4 | NA | NA |
| N,N-Dibutylformamide | µg/L | NA | <20 | <4 | NA | NA |
| Dibutyl phthalate | µg/L | NA | <20 | 6 | NA | NA |
| Dibutylamine | µg/L | NA | <20 | <4 | NA | NA |
| N,N-Diethyl-m-toluamide | µg/L | NA | <20 | <4 | NA | NA |
| Diethylphthalate | µg/L | NA | <20 | <4 | NA | NA |
| Diethylene glycol monoethyl ether | µg/L | NA | <20 | <4 | NA | NA |
| N,N-Diethylformamide | µg/L | NA | <60 | <12 | NA | NA |
| Ditodomethane (Methyl iodide) | µg/L | NA | <20 | <4 | NA | NA |
| Diisopropyl adipate | µg/L | NA | <20 | <4 | NA | NA |
| Dimethyl phthalate | µg/L | NA | <20 | <4 | NA | NA |
| N,N-Dimethyl acetamide | µg/L | NA | <20 | <4 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|---|-----------------|--------------------------------|-----------------------------------|------------------------------|-----------------------------------|---------------------------------------|
| | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | Sample Date | Water (#8) 13-Apr-2008 | Potable Water (#5) 13-Apr-2008 | Potable Water 13-Apr-2008 | Potable Water 21-Oct-08 | Potable Water 05-Apr-2009 |
| Analysis/Sample ID | Units | 20080502001 | 20080502002 | 20080616011 | 20081208015 | 20090615001 |
| N,N-Dimethylbenzylamine | µg/L | NA | <20 | <4 | NA | NA |
| N,N-Dimethylformamide | µg/L | NA | <40 | <8 | NA | NA |
| Dipropylene glycol methyl ether | µg/L | NA | <20 | <4 | NA | NA |
| Dodecamethylcyclohexasiloxane | µg/L | NA | <20 | <4 | NA | NA |
| 2-Ethoxyethanol | µg/L | NA | <20 | <4 | NA | NA |
| 2-Ethyl-1-hexanol | µg/L | NA | <20 | <4 | NA | NA |
| 2-Ethylhexanoic acid | µg/L | NA | <20 | <4 | NA | NA |
| bis-2-Ethylhexyl adipate | µg/L | NA | <20 | <4 | NA | NA |
| bis-2-Ethylhexyl phthalate (Diocetyl phthalate) | µg/L | NA | <20 | <4 | NA | NA |
| 4-Ethylmorpholine | µg/L | NA | <20 | <4 | NA | NA |
| 1-Formylpiperidine | µg/L | NA | <20 | <4 | NA | NA |
| Heptanoic acid | µg/L | NA | <20 | <4 | NA | NA |
| 2-Heptanone | µg/L | NA | <20 | <4 | NA | NA |
| gamma-Hexalactone | µg/L | NA | <20 | <4 | NA | NA |
| Hexanoic acid | µg/L | NA | <40 | <8 | NA | NA |
| 2-Hexanol | µg/L | NA | <20 | <4 | NA | NA |
| 2-Hydroxybenzothiazole | µg/L | NA | <20 | <4 | NA | NA |
| Ibuprofen | µg/L | NA | <20 | <4 | NA | NA |
| Iodoform | µg/L | NA | <20 | <4 | NA | NA |
| Isophorone | µg/L | NA | <20 | <4 | NA | NA |
| 4-Isopropylphenol | µg/L | NA | <20 | <4 | NA | NA |
| Lauramide | µg/L | NA | <20 | <4 | NA | NA |
| Lauric acid (Dodecanoic acid) | µg/L | NA | <600 | <120 | NA | NA |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | NA | <20 | <4 | NA | NA |
| 2-Mercaptobenzothiazole | µg/L | NA | <200 | <40 | NA | NA |
| 2-Methyl-2,4-pentanediol | µg/L | NA | <20 | <4 | NA | NA |
| 1-Methyl-2-pyrrolidinone | µg/L | NA | <20 | <4 | NA | NA |
| Methyl-4-hydroxybenzoate | µg/L | NA | <20 | <4 | NA | NA |
| Methyl sulfone | µg/L | NA | <20 | <4 | NA | NA |
| 2-Methyl butyric acid | µg/L | NA | <60 | <12 | NA | NA |
| 2-Methylthiobenzothiazole | µg/L | NA | <20 | <4 | NA | NA |
| Monomethyl phthalate | µg/L | NA | <20 | <4 | NA | NA |
| Myristic acid | µg/L | NA | <120 | <24 | NA | NA |
| (+)-Neomenthol | µg/L | NA | <20 | <4 | NA | NA |
| Nicotine | µg/L | NA | <20 | <4 | NA | NA |
| Nonadecane | µg/L | NA | <20 | <4 | NA | NA |
| Nonanoic acid | µg/L | NA | <60 | <12 | NA | NA |
| 1-Octadecanol | µg/L | NA | <60 | <12 | NA | NA |
| Octamethylcyclotetrasiloxane | µg/L | NA | <20 | <4 | NA | NA |
| Octanoic acid | µg/L | NA | <40 | <8 | NA | NA |
| 4-tert-Octylphenol | µg/L | NA | <20 | <4 | NA | NA |
| Oleic acid | µg/L | NA | <200 | <40 | NA | NA |
| Oxindole | µg/L | NA | <20 | <4 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | Sample Location | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|--|-----------------|--|--|---|---|---|
| | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | Units | Water (#8) 13-Apr-2008 20080502001 | Potable Water (#5) 13-Apr-2008 20080502002 | Potable Water 13-Apr-2008 20080616011 | Potable Water 21-Oct-08 20081208015 | Potable Water 05-Apr-2009 20090615001 |
| Palmitic acid | µg/L | NA | <600 | <120 | NA | NA |
| Palmitoleic acid | µg/L | NA | <500 | <100 | NA | NA |
| Pentacosane | µg/L | NA | <20 | <4 | NA | NA |
| sec-Phenethyl alcohol | µg/L | NA | <20 | <4 | NA | NA |
| Phenol | µg/L | NA | <20 | <4 | NA | NA |
| 2-Phenoxyethanol | µg/L | NA | <20 | <4 | NA | NA |
| N-Phenyl-2-naphthylamine | µg/L | NA | <20 | <4 | NA | NA |
| 2-Phenyl-2-propanol | µg/L | NA | <20 | <4 | NA | NA |
| 2-Phenylacetic acid | µg/L | NA | <80 | <16 | NA | NA |
| Phenethyl alcohol | µg/L | NA | <20 | <4 | NA | NA |
| 2-Phenylphenol | µg/L | NA | <20 | <4 | NA | NA |
| Salicylic Acid | µg/L | NA | <160 | <32 | NA | NA |
| trans-Squalene | µg/L | NA | <40 | <8 | NA | NA |
| Stearic acid | µg/L | NA | <500 | <100 | NA | NA |
| 1-Tetradecanol | µg/L | NA | <20 | <4 | NA | NA |
| Tetramethylsuccinonitrile | µg/L | NA | <20 | <4 | NA | NA |
| Tetramethyl thiourea | µg/L | NA | <20 | <4 | NA | NA |
| Tetramethylurea | µg/L | NA | <20 | <4 | NA | NA |
| Thymol | µg/L | NA | <20 | <4 | NA | NA |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | NA | <20 | <4 | NA | NA |
| Tributylamine | µg/L | NA | <20 | <4 | NA | NA |
| Tributyl phosphate | µg/L | NA | <20 | <4 | NA | NA |
| Triethyl phosphate | µg/L | NA | <40 | <8 | NA | NA |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | NA | <40 | <8 | NA | NA |
| Tripropylene glycol monomethyl ether | µg/L | NA | <20 | <4 | NA | NA |
| Undecanoic acid | µg/L | NA | <120 | <24 | NA | NA |
| 2-Undecanone | µg/L | NA | <20 | <4 | NA | NA |
| Valeric acid (Pentanoic acid) | µg/L | NA | <120 | <24 | NA | NA |
| Vanillin | µg/L | NA | <40 | <8 | NA | NA |
| Alcohols (DAI/GC/MS) | | | | | | |
| 1-Butanol | µg/L | NA | <100 | <100 | NA | NA |
| 2-Butanol | µg/L | NA | <100 | <100 | NA | NA |
| Ethanol | µg/L | NA | <100 | <100 | NA | NA |
| Methanol | µg/L | NA | <100 | <100 | NA | NA |
| 2-Methyl-1-butanol | µg/L | NA | <100 | <100 | NA | NA |
| 2-Methyl-2-butanol | µg/L | NA | <100 | <100 | NA | NA |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | NA | <100 | <100 | NA | NA |
| 2-Methyl-1-propanol | µg/L | NA | <100 | <100 | NA | NA |
| 2-Methyl-2-propanol | µg/L | NA | <100 | <100 | NA | NA |
| 1-Pentanol (Amyl alcohol) | µg/L | NA | <100 | <100 | NA | NA |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | NA | <100 | <100 | NA | NA |
| 3-Pentanol | µg/L | NA | <100 | <100 | NA | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 3. ISS Ground-Supplied Water Summary for Expeditions 16 through 20

| Mission | | Soyuz 15/Exp. 17 | | 1J/Exp. 17 | Soyuz 16/Exp. 17 | Soyuz 17/Exp. 18 |
|------------------------------------|---------|--------------------------------|--------------------------|---------------|-----------------------------------|---------------------------------------|
| Sample Location | | ATV-1 Flush (RSA Drink Bag) | ATV-1 (RSA Drink Bag) | ATV-1 | ATV-1 from EDV (RSA Drink Bag) | ATV-1 from EDV (Russian Drink Bag) |
| Sample Description | | Water (#8) | Potable Water (#5) | Potable Water | Potable Water | Potable Water |
| Sample Date | | 13-Apr-2008 | 13-Apr-2008 | 13-Apr-2008 | 21-Oct-08 | 05-Apr-2009 |
| Analysis/Sample ID | Units | 20080502001 | 20080502002 | 20080616011 | 20081208015 | 20090615001 |
| 1-Propanol | µg/L | NA | <100 | <100 | NA | NA |
| 2-Propanol (Isopropanol) | µg/L | NA | <100 | <100 | NA | NA |
| Glycols (DAI/GC/MS) | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | NA | <1000 | <1000 | NA | NA |
| 1,2-Propanediol (Propylene glycol) | µg/L | NA | <500 | <500 | NA | NA |
| Carboxylates (CE) | | | | | | |
| Acetate | µg/L | NA | <125 | <125 | NA | NA |
| Formate | µg/L | NA | <125 | <125 | NA | NA |
| Glycolate | µg/L | NA | <125 | <125 | NA | NA |
| Glyoxylate | µg/L | NA | <125 | <125 | NA | NA |
| Lactate | µg/L | NA | <1000 | <1000 | NA | NA |
| Oxalate | µg/L | NA | <125 | <125 | NA | NA |
| Propionate | µg/L | NA | <125 | <125 | NA | NA |
| Aldehydes | | | | | | |
| Formaldehyde | µg/L | NA | <2 | <2 | NA | NA |
| Amines (CE) | | | | | | |
| Ethylamine | µg/L | NA | <125 | <125 | NA | NA |
| Methylamine | µg/L | NA | <125 | <125 | NA | NA |
| n-Propylamine | µg/L | NA | <125 | <125 | NA | NA |
| Trimethylamine | µg/L | NA | <125 | <125 | NA | NA |
| Non-volatiles (LC/UV-VIS) | | | | | | |
| Urea | µg/L | NA | <800 | <800 | NA | NA |
| Caprolactam | µg/L | NA | <300 | <4 | NA | NA |
| Organic Carbon Recovery | | | | | | |
| Organic Carbon Recovery | percent | NA | 3.13 | 28.08 | 0.54 | NA |
| Unaccounted Organic Carbon | mg/L | NA | 2.62 | 0.39 | 1.72 | NA |

NA=Not analyzed; MI=Matrix interference
 *MORD limit 1.5 mg/L (Russian method)
 **limit does not include contribution from formate
 #TDS allowable limit after mineralization
 SWEG - 1000 days (5-2006)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|---|-----------------|--------------------|-------------|--|--------|-------------------|---|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------------|--|
| | | | | | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient before 2L flush | |
| | | | | | | | | | Potable Water 12-Dec-2008 | Potable Water 19-Dec-2008 | Potable Water 29-Dec-2008 | Potable Water 02-Jan-2009 | Potable Water 14-Jan-2009 | Potable Water 21-Jan-2009 | Potable Water 30-Jan-2009 | Potable Water 30-Jan-2009 | Potable Water 18-Mar-2009 | |
| Physical Characteristics | | | | | | | | | | | | | | | | | | |
| pH | pH units | U.S. | 4.5-8.5 | 41000 | 7.50 | 7.28 | 7.03 | 6.87 | 6.76 | 6.53 | 7.66 | 7.35 | NA | | | | | |
| Conductivity | µS/cm | U.S. | | | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | NA | | | | | |
| Turbidity | NTU | U.S. | 1 | 41000 | 0.3 | 0.5 | 1.6 | <0.1 | 0.1 | 0.1 | <0.1 | 3.1 | NA | | | | | |
| Color | Pt-Co unit | | | | NA | 8 | 34 | <3 | 4 | 4 | <3 | 87 | NA | | | | | |
| Taste | TTN | | | | NA | NA* | NA* | NA | NA | NA | NA | NA | NA | | | | | |
| Odor | TON | | | | NA | NA* | NA* | NA | NA | NA | NA | NA | NA | | | | | |
| Total Solids | mg/L | U.S. | 100 | 41000 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | NA | | | | | |
| *A qualitative taste screen was performed. A complete taste/odor evaluation was not possible due to sample limitations. | | | | | | | | | | | | | | | | | | |
| Iodine (LCV) | | | | | | | | | | | | | | | | | | |
| Total I | mg/L | U.S. | 6/0.2 | 41000 (tl I max/tl I at pt of consumption) | <0.05 | <0.05 | <0.05 | <0.05 | 0.53 | 0.80 | 0.61 | <0.05 | 10.9 | | | | | |
| Iodine | mg/L | U.S. | | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 8.16 | | | | | |
| Iodide | mg/L | U.S. | | | <0.05 | <0.05 | <0.05 | <0.05 | 0.48 | 0.75 | 0.56 | <0.05 | 2.74 | | | | | |
| Anions (IC/ISE) | | | | | | | | | | | | | | | | | | |
| Bromide | mg/L | U.S. | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | NA | | | | | |
| Chloride | mg/L | U.S. | | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | NA | | | | | |
| Fluoride | mg/L | U.S. | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NA | | | | | |
| Nitrate as Nitrogen (NO3-N) | mg/L | U.S. | 10 | 41000 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | NA | | | | | |
| Nitrite as Nitrogen (NO2-N) | mg/L | U.S. | | | NA | NA | NA | NA | NA | NA | NA | NA | NA | | | | | |
| Phosphate as P (PO4-P) | mg/L | U.S. | | | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | NA | | | | | |
| Sulfate | mg/L | U.S. | 250 | 41000 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | NA | | | | | |
| Cations (IC) | | | | | | | | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | U.S. | 1 | SWEG&41000 | 0.020 | 0.010 | 0.022 | <0.002 | <0.002 | <0.002 | <0.002 | 0.034 | NA | | | | | |
| Lithium | mg/L | U.S. | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | NA | | | | | |
| Metals (ICP/MS) | | | | | | | | | | | | | | | | | | |
| Calcium | mg/L | U.S. | 30 | 41000 | 0.02 | <0.01 | 0.02 | 0.01 | 0.02 | <0.01 | 0.01 | 0.02 | 0.02 | | | | | |
| Magnesium | mg/L | U.S. | 50 | 41000 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | | | | |
| Potassium | mg/L | U.S. | 340 | 41000 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | | | | |
| Sodium | mg/L | U.S. | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | | | | |
| Aluminum | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | | | | |
| Antimony | µg/L | U.S. | 2,000 | SWEG | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | | | | |
| Arsenic | µg/L | U.S. | 10 | 41000 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |
| Barium | µg/L | U.S. | 10,000 | SWEG&41000 | 6 | 6 | 7 | 15 | 20 | 18 | 23 | 14 | 9 | | | | | |
| Beryllium | µg/L | U.S. | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |
| Cadmium | µg/L | U.S. | 22 | SWEG&41000 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |
| Chromium | µg/L | U.S. | 230 | 41000 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | | | | | |
| Cobalt | µg/L | U.S. | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|---------------------------------------|-----------------|--------------------|--------------|--------------------|-------|-------------------|---|----------------------------------|---|---|---|---|---|---|---|---|---|--|
| | | | | | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | |
| | | | | | | | | | Potable Water 12-Dec-2008 20090330002 | Potable Water 19-Dec-2008 20090330003 | Potable Water 29-Dec-2008 20090330004 | Potable Water 02-Jan-2009 20090330005 | Potable Water 14-Jan-2009 20090330006 | Potable Water 21-Jan-2009 20090330007 | Potable Water 30-Jan-2009 20090330008 | Potable Water 30-Jan-2009 20090330009 | Potable Water 18-Mar-2009 20090330013 | |
| Copper | µg/L | U.S. | 1,000 | 41000 | <1 | 2 | 1 | <1 | 3 | <1 | 2 | 1 | <1 | | | | | |
| Iron | µg/L | U.S. | 300 | 41000 | 12 | 18 | 56 | <5 | <5 | <5 | <5 | 261 | <5 | | | | | |
| Lead | µg/L | U.S. | 50 | 41000 | 2 | 4 | 4 | <1 | <1 | <1 | <1 | 2 | <1 | | | | | |
| Manganese | µg/L | U.S. | 300 | SWEG&41000 | 4 | 5 | 6 | <1 | 2 | 2 | <1 | 10 | 2 | | | | | |
| Mercury | µg/L | U.S. | 2 | 41000 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | | |
| Molybdenum | µg/L | U.S. | | | <1 | 1 | <1 | <1 | <1 | <1 | <1 | 3 | <1 | | | | | |
| Nickel | µg/L | U.S. | 300 | SWEG&41000 | 19 | 38 | 44 | 14 | 180 | 220 | 35 | 32 | 22 | | | | | |
| Selenium | µg/L | U.S. | 10 | 41000 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |
| Silver | µg/L | U.S. | 400 | SWEG&41000 | <2 | <2 | <2 | <2 | <1 | <2 | <2 | <2 | <2 | | | | | |
| Zinc | µg/L | U.S. | 2,000 | SWEG&41000 | <1 | <1 | <1 | 1 | 2 | 4 | <1 | 1 | 2 | | | | | |
| Total Organic Carbon (Sievers) | | | | | | | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | U.S. | | | 1.09 | 1.04 | 1.11 | 1.12 | 1.20 | 1.13 | 1.19 | 1.02 | 0.98 | | | | | |
| Total Organic Carbon | mg/L | U.S. | 3 | 41000 | 0.84 | 1.06 | 1.20 | 0.45 | 0.29 | 0.32 | 0.31 | 0.79 | 0.72 | | | | | |
| Total Polysaccharides | | | | | | | | | | | | | | | | | | |
| Total Polysaccharides (as Sucrose) | mg/L | | | | NA | NA | NA | NA | NA | NA | NA | NA | NA | | | | | |
| Volatile Organics | | | | | | | | | | | | | | | | | | |
| Acetone | µg/L | U.S. | 15,000 | SWEG | 65 | 120 | 234 | 123 | <2 | <2 | 25 | 273 | NA | | | | | |
| Acrylonitrile | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| Allyl chloride (3-Chloropropene) | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| Benzene | µg/L | U.S. | 70/5 | SWEG/EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Bromobenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Bromochloromethane | µg/L | U.S. | 90 | EPA HA | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | NA | | | | | |
| Bromodichloromethane | µg/L | U.S. | THM 80 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Bromoform | µg/L | U.S. | THM 80 | EPA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| Bromomethane | µg/L | U.S. | 10 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| 2-Butanone (Methyl ethyl ketone) | µg/L | U.S. | 54000/4000 | SWEG/EPA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| n-Butylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| sec-Butylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| tert-Butylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Carbon disulfide | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| Carbon tetrachloride | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Chloroacetonitrile | µg/L | U.S. | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NA | | | | | |
| Chlorobenzene | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| 1-Chlorobutane (Butyl chloride) | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Chloroethane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| Chloroform | µg/L | U.S. | 6,500/THM 80 | SWEG/EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Chloromethane | µg/L | U.S. | 30 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |
| 2-Chlorotoluene | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| 4-Chlorotoluene | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| Dibromochloromethane | µg/L | U.S. | THM 80 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | | | | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | U.S. | 0.2 | EPA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | | | | | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|--------------------------------------|-----------------|--------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|-----------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|---------------|---------------------------------|---------------|
| | | | | | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient before 2L flush | |
| | | | | | | | | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| | | | | | | | | | 12-Dec-2008 | 19-Dec-2008 | 29-Dec-2008 | 02-Jan-2009 | 14-Jan-2009 | 21-Jan-2009 | 30-Jan-2009 | 30-Jan-2009 | 18-Mar-2009 | |
| | | | | | | | | | 20090330002 | 20090330003 | 20090330004 | 20090330005 | 20090330006 | 20090330007 | 20090330008 | 20090330009 | 20090330013 | |
| 1,2-Dibromoethane (EDB) | µg/L | U.S. | 0.05 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Dibromomethane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,2-Dichlorobenzene | µg/L | U.S. | 600 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,3-Dichlorobenzene | µg/L | U.S. | 600 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,4-Dichlorobenzene | µg/L | U.S. | 75 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| trans-1,4-Dichloro-2-butene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Dichlorodifluoromethane | µg/L | U.S. | 1,000 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| 1,1-Dichloroethane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,2-Dichloroethane | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,1-Dichloroethene | µg/L | U.S. | 7 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| cis-1,2-Dichloroethene | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| trans-1,2-Dichloroethene | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,2-Dichloropropane | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,3-Dichloropropane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 2,2-Dichloropropane | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,1-Dichloropropanone | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| 1,1-Dichloropropene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| cis-1,3-Dichloropropene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| trans-1,3-Dichloropropene | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Diethyl ether | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Ethylbenzene | µg/L | U.S. | 700 | EPA | 0.4 | <0.4 | 0.4 | 0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Ethyl methacrylate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Hexachlorobutadiene | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Hexachloroethane | µg/L | U.S. | 1 | EPA HA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| 2-Hexanone | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Iodomethane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Isopropylbenzene (Cumene) | µg/L | U.S. | 4,000 | EPA DWEL | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 4-Isopropyltoluene (Cymene) | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Methacrylonitrile | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Methyl acrylate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Methyl-t-butylether (MTBE) | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Methylene chloride (Dichloromethane) | µg/L | U.S. | 15,000/5 | SWEG/EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Methyl methacrylate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| 4-Methyl-2-pentanone | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Naphthalene | µg/L | U.S. | 100 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Nitrobenzene | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| 2-Nitropropane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Pentachloroethane | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA | |
| Propionitrile (Ethyl cyanide) | µg/L | U.S. | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NA | |
| n-Propylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Styrene | µg/L | U.S. | 100 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,1,1,2-Tetrachloroethane | µg/L | U.S. | 70 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| 1,1,2,2-Tetrachloroethane | µg/L | U.S. | 0.3 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |
| Tetrachloroethene | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|---------------------------------|-----------------|-------------------|---|----------------------------------|-----------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|---------------|---|----|
| | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient before 2L flush Potable Water | |
| | | | | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | |
| | | | | | 12-Dec-2008 | 19-Dec-2008 | 29-Dec-2008 | 02-Jan-2009 | 14-Jan-2009 | 21-Jan-2009 | 30-Jan-2009 | 30-Jan-2009 | 18-Mar-2009 | |
| Analysis/Sample ID | Units | | | | 20090330002 | 20090330003 | 20090330004 | 20090330005 | 20090330006 | 20090330007 | 20090330008 | 20090330009 | 20090330013 | |
| Tetrahydrofuran | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| Toluene | µg/L | U.S. | 1,000 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,2,3-Trichlorobenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,2,4-Trichlorobenzene | µg/L | U.S. | 70 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,1,1-Trichloroethane | µg/L | U.S. | 200 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,1,2-Trichloroethane | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| Trichloroethene | µg/L | U.S. | 5 | EPA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| Trichlorofluoromethane | µg/L | U.S. | 2,000 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,2,3-Trichloropropane | µg/L | U.S. | 40 | EPA HA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,2,4-Trimethylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| 1,3,5-Trimethylbenzene | µg/L | U.S. | | | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | NA |
| Vinyl Acetate | µg/L | U.S. | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| Vinyl Chloride | µg/L | U.S. | 2 | EPA | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NA |
| m&p-Xylene | µg/L | U.S. | Total Xylenes 10,000 | EPA | 1.1 | 0.9 | 1.0 | 1.2 | <0.4 | <0.4 | 0.8 | 0.7 | NA | |
| o-Xylene | µg/L | U.S. | Total Xylenes 10,000 | EPA | 0.8 | 0.6 | 0.7 | 0.7 | <0.4 | <0.4 | 0.4 | <0.4 | NA | |
| Extractable Organics | | | | | | | | | | | | | | |
| Acetophenone | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| Benzaldehyde | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Benzoic acid | µg/L | U.S. | | | <12 | <24 | <12 | <12 | <12 | <12 | <12 | <12 | <24 | NA |
| Benzothiazole | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Benzyl alcohol | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Benzyl butyl phthalate | µg/L | U.S. | 7,000 | EPA DWEL | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Butoxyethanol | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2-(2-Butoxyethoxy)ethanol | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| n-Butylpalmitate | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| Butylated hydroxyanisole (BHA) | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N-Butylbenzenesulfonamide | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 3-tert-Butylphenol | µg/L | U.S. | | | <12 | <24 | <12 | <12 | <12 | <12 | <12 | <12 | <24 | NA |
| Caffeine | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| tris-2-Chloroethyl phosphate | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Cholesterol | µg/L | U.S. | | | <32 | <64 | <32 | <32 | <32 | <32 | <32 | <32 | <64 | NA |
| o-Cresol (2-Methylphenol) | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Cyclododecane | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Decamethylcyclotrisiloxane | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Decanoic acid | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2,4-Di-t-butylphenol | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 1,4-Diacetylbenzene | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N,N-Dibutylformamide | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Dibutyl phthalate | µg/L | U.S. | 40,000/4,000 | SWEG/EPA DWEL | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Dibutylamine | µg/L | U.S. | Dialkylamines 300 | SWEG | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N,N-Diethyl-m-toluamide | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|--|-----------------|--------------------|-------------------|--------------------|-------|-------------------|---|----------------------------------|---|---|---|---|---|---|---|---|---|-----------------|
| | | | | | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient |
| | | | | | | | | | Potable Water 12-Dec-2008 20090330002 | Potable Water 19-Dec-2008 20090330003 | Potable Water 29-Dec-2008 20090330004 | Potable Water 02-Jan-2009 20090330005 | Potable Water 14-Jan-2009 20090330006 | Potable Water 21-Jan-2009 20090330007 | Potable Water 30-Jan-2009 20090330008 | Potable Water 30-Jan-2009 20090330009 | Potable Water 18-Mar-2009 20090330013 | |
| Diethylphthalate | µg/L | U.S. | | | | | 30,000 | EPA DWEL | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Diethylene glycol monoethyl ether | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N,N-Diethylformamide | µg/L | U.S. | | | | | | | <12 | <24 | <12 | <12 | <12 | <12 | <12 | <12 | <24 | NA |
| Diiodomethane (Methyl iodide) | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Diisopropyl adipate | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Dimethyl phthalate | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N,N-Dimethyl acetamide | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N,N-Dimethylbenzylamine | µg/L | U.S. | Dialkylamines 300 | | | | | SWEG | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N,N-Dimethylformamide | µg/L | U.S. | | | | | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| Dipropylene glycol methyl ether | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Dodecamethylcyclohexasiloxane | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Ethoxyethanol | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Ethyl-1-hexanol | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Ethylhexanoic acid | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| bis-2-Ethylhexyl adipate | µg/L | U.S. | 400 | | | | | EPA | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| bis-2-Ethylhexyl phthalate (Diocetyl phthlate) | µg/L | U.S. | 20,000/6 | | | | | SWEG/EPA | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 4-Ethylmorpholine | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 1-Formylpiperidine | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Heptanoic acid | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Heptanone | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| gamma-Hexalactone | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Hexanoic acid | µg/L | U.S. | | | | | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2-Hexanol | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Hydroxybenzothiazole | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Ibuprofen | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Iodoform | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Isophorone | µg/L | U.S. | 100 | | | | | EPA HA | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 4-Isopropylphenol | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Lauramide | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Lauric acid (Dodecanoic acid) | µg/L | U.S. | | | | | | | <120 | <240 | <120 | <120 | <120 | <120 | <120 | <120 | <240 | NA |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Mercaptobenzothiazole | µg/L | U.S. | 30,000 | | | | | SWEG | <40 | <80 | <40 | <40 | <40 | <40 | <40 | <40 | <80 | NA |
| 2-Methyl-2,4-pentandiol | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 1-Methyl-2-pyrrolidinone | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Methyl-4-hydroxybenzoate | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Methyl sulfone | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Methyl butyric acid | µg/L | U.S. | | | | | | | <12 | <24 | <12 | <12 | <12 | <12 | <12 | <12 | <24 | NA |
| 2-Methylthiobenzothiazole | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Monomethyl phthalate | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Myristic acid | µg/L | U.S. | | | | | | | <24 | <48 | <24 | <24 | <24 | <24 | <24 | <24 | <48 | NA |
| (+)-Neomenthol | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Nicotine | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Nonadecane | µg/L | U.S. | | | | | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Nonanoic acid | µg/L | U.S. | | | | | | | <12 | <24 | <12 | <12 | <12 | <12 | <12 | <12 | <24 | NA |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|--|-----------------|--------------------|-------------|--------------------|-------|-------------------|---|----------------------------------|-----------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------|-------------------------------|
| | | | | | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | |
| | | | | | | | | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water before 2L flush |
| | | | | | | | | | 12-Dec-2008 | 19-Dec-2008 | 29-Dec-2008 | 02-Jan-2009 | 14-Jan-2009 | 21-Jan-2009 | 30-Jan-2009 | 30-Jan-2009 | 18-Mar-2009 | |
| | | | | | | | | | 20090330002 | 20090330003 | 20090330004 | 20090330005 | 20090330006 | 20090330007 | 20090330008 | 20090330009 | 20090330013 | |
| 1-Octadecanol | | | | | µg/L | U.S. | | | <12 | <24 | <12 | <12 | <12 | <12 | <12 | <12 | <24 | NA |
| Octamethylcyclotetrasiloxane | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Octanoic acid | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 4-tert-Octylphenol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Oleic acid | | | | | µg/L | U.S. | | | <40 | <80 | <40 | <40 | <40 | <40 | <40 | <40 | <80 | NA |
| Oxindole | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Palmitic acid | | | | | µg/L | U.S. | | | <120 | <240 | <120 | <120 | <120 | <120 | <120 | <120 | <240 | NA |
| Palmitoleic acid | | | | | µg/L | U.S. | | | <100 | <200 | <100 | <100 | <100 | <100 | <100 | <100 | <200 | NA |
| Pentacosane | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| sec-Phenethyl alcohol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Phenol | | | | | µg/L | U.S. | 4,000 | SWEG | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Phenoxyethanol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| N-Phenyl-2-naphthylamine | | | | | µg/L | U.S. | 260,000 | SWEG | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Phenyl-2-propanol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Phenylacetic acid | | | | | µg/L | U.S. | | | <16 | <32 | <16 | <16 | <16 | <16 | <16 | <16 | <32 | NA |
| Phenethyl alcohol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 2-Phenylphenol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Salicylic Acid | | | | | µg/L | U.S. | | | <32 | <64 | <32 | <32 | <32 | <32 | <32 | <32 | <64 | NA |
| trans-Squalene | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| Stearic acid | | | | | µg/L | U.S. | | | <100 | <200 | <100 | <100 | <100 | <100 | <100 | <100 | <200 | NA |
| 1-Tetradecanol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Tetramethylsuccinonitrile | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Tetramethyl thiourea | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Tetramethylurea | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Thymol | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Tributylamine | | | | | µg/L | U.S. | Trialkylamines 400 | SWEG | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Tributyl phosphate | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Triethyl phosphate | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| Tripropylene glycol monomethyl ether | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Undecanoic acid | | | | | µg/L | U.S. | | | <24 | <48 | <24 | <24 | <24 | <24 | <24 | <24 | <48 | NA |
| 2-Undecanone | | | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Valeric acid (Pentanoic acid) | | | | | µg/L | U.S. | | | <24 | <48 | <24 | <24 | <24 | <24 | <24 | <24 | <48 | NA |
| Vanillin | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| Acid Extractables-EPA 625 List | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2-Chlorophenol | | | | | µg/L | U.S. | 40 | EPA HA | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2,4-Dichlorophenol | | | | | µg/L | U.S. | 20 | EPA HA | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2,4-Dimethylphenol | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2,4-Dinitrophenol | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2-Methyl-4,6-dinitrophenol | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |
| 2-Nitrophenol | | | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <8 | <16 | NA |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | Sample Description | Sample Date | Analysis/Sample ID | Units | Test Conducted by | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | | |
|---------|-----------------|---|-------------|--------------------|-------|-------------------|---|----------------------------------|-----------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------|-------------------------------|
| | | | | | | | | | WPA PWD Hot | WPA PWD Hot | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | |
| | | | | | | | | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water before 2L flush |
| | | | | | | | | | 12-Dec-2008 | 19-Dec-2008 | 29-Dec-2008 | 02-Jan-2009 | 14-Jan-2009 | 21-Jan-2009 | 30-Jan-2009 | 30-Jan-2009 | 18-Mar-2009 | |
| | | | | | | | | | 20090330002 | 20090330003 | 20090330004 | 20090330005 | 20090330006 | 20090330007 | 20090330008 | 20090330009 | 20090330013 | |
| | | 4-Nitrophenol | | | µg/L | U.S. | 60 | EPA HA | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Pentachlorophenol | | | µg/L | U.S. | 1 | EPA | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Phenol | | | µg/L | U.S. | 4,000/2,000 | SWEG/EPA HA | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | 2,4,5-Trichlorophenol | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 2,4,6-Trichlorophenol | | | µg/L | U.S. | 10 | EPA DWEL | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Base/Neutral Extractables - EPA 625 List | | | | | | | | | | | | | | | | |
| | | Benzydine | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 3,3-Dichlorobenzidine | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | bis-(2-Ethylhexyl)phthalate | | | µg/L | U.S. | 20,000/6 | SWEG/EPA | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Benzyl butyl phthalate | | | µg/L | U.S. | 7,000 | EPA DWEL | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Dibutylphthalate | | | µg/L | U.S. | 40,000/4,000 | SWEG/EPA DWEL | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Diethylphthalate | | | µg/L | U.S. | 30,000 | EPA DWEL | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Dimethylphthalate | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Di-n-octyl phthalate | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | N-Nitrosodimethylamine | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | N-Nitrosodiphenylamine | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | N-Nitrosodi-n-propylamine | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 2,4-Dinitrotoluene | | | µg/L | U.S. | 100 | EPA DWEL | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 2,6-Dinitrotoluene | | | µg/L | U.S. | 40 | EPA DWEL | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Isophorone | | | µg/L | U.S. | 100 | EPA HA | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Nitrobenzene | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Acenaphthene | | | µg/L | U.S. | 2000 | EPA DWEL | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Acenaphthylene | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Anthracene | | | µg/L | U.S. | 10,000 | EPA DWEL | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Benzo(a)anthracene | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Benzo(a)pyrene | | | µg/L | U.S. | 0.2 | EPA | <5 | <10 | <5 | <5 | <5 | <5 | <5 | <10 | NA | |
| | | Benzo(b)fluoranthene | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Benzo(ghi)perylene | | | µg/L | U.S. | | | <5 | <10 | <5 | <5 | <5 | <5 | <5 | <10 | NA | |
| | | Benzo(k)fluoroanthene | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Chrysene | | | µg/L | U.S. | | | <10 | <20 | <10 | <10 | <10 | <10 | <10 | <20 | NA | |
| | | Dibenzo(a,h)anthracene | | | µg/L | U.S. | | | <5 | <10 | <5 | <5 | <5 | <5 | <5 | <10 | NA | |
| | | Fluoranthene | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Fluorene | | | µg/L | U.S. | 1,000 | EPA DWEL | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | Indeno(1,2,3-cd)pyrene | | | µg/L | U.S. | | | <5 | <10 | <5 | <5 | <5 | <5 | <5 | <10 | NA | |
| | | Naphthalene | | | µg/L | U.S. | 100 | EPA HA | <20 | <40 | <20 | <20 | <20 | <20 | <20 | <40 | NA | |
| | | Phenanthrene | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | Pyrene | | | µg/L | U.S. | | | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA | |
| | | bis(2-Chloroethyl) ether | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | bis(2-Chloroethoxy) methane | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | bis(2-Chloroisopropyl) ether | | | µg/L | U.S. | 300 | EPA HA | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 4-Bromophenyl phenyl ether | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 4-Chlorophenyl phenyl ether | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |
| | | 2-Chloronaphthalene | | | µg/L | U.S. | | | <8 | <16 | <8 | <8 | <8 | <8 | <8 | <16 | NA | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | | Potable Water Maximum Contaminant Level (MCL) | Maximum Contaminant Level Source | ISS 15A/Exp. 18 | | | | | | | | |
|-----------------------------------|---------|------|---|---|---|---|---|---|---|---|---|---|--|
| | | | | | WPA PWD Hot Potable Water 12-Dec-2008 20090330002 | WPA PWD Hot Potable Water 19-Dec-2008 20090330003 | WPA PWD Hot Potable Water 29-Dec-2008 20090330004 | WPA PWD Ambient Potable Water 02-Jan-2009 20090330005 | WPA PWD Ambient Potable Water 14-Jan-2009 20090330006 | WPA PWD Ambient Potable Water 21-Jan-2009 20090330007 | WPA PWD Ambient Potable Water 30-Jan-2009 20090330008 | WPA PWD Hot Potable Water 30-Jan-2009 20090330009 | WPA PWD Ambient before 2L flush Potable Water 18-Mar-2009 20090330013 |
| Amines (CE) | | | | | | | | | | | | | |
| Ethylamine | µg/L | U.S. | Moncalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | NA |
| Methylamine | µg/L | U.S. | Moncalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | NA |
| n-Propylamine | µg/L | U.S. | Moncalkylamines 2000 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | NA |
| Trimethylamine | µg/L | U.S. | Trialkylamines 400 | SWEG | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | NA |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | | | | |
| Urea | µg/L | U.S. | | | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | NA |
| Caprolactam | µg/L | U.S. | 100,000 | SWEG | <4 | <8 | <4 | <4 | <4 | <4 | <4 | <8 | NA |
| Organic Carbon Recovery | percent | U.S. | | | 44.82 | 76.95 | 73.31 | 58.59 | 0 | 0 | 5.30 | 56.68 | NA |
| Unaccounted Organic Carbon | mg/L | U.S. | | | 0.46 | 0.24 | 0.32 | 0.19 | 0.29 | 0.32 | 0.30 | 0.34 | NA |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | ISS 17A/Exp. 20 | | |
|---------------------------------|-----------------|----------------------------|----------------------------|----------------------------|--------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Description | Sample Date | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 23-Mar-2009 20090330014 | 25-Mar-2009 20090330017 | 02-Apr-2009 20090419002 | 15-Apr-09 20090803001 | 4-May-09 20090803002 | 16-Jun-09 20090803003 | 16-Jun-09 20090803004 | 24-Jul-09 20090803005 | 24-Jul-09 20090803006 | 04-Aug-2009 20090914001 | 04-Aug-2009 20090914002 |
| Physical Characteristics | | | | | | | | | | | | |
| pH | pH units | 6.21 | 5.68 | 7.27 | 7.83 | 7.66 | 7.00 | 6.73 | 6.75 | 6.39 | 7.57 | 7.49 |
| Conductivity | µS/cm | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 |
| Turbidity | NTU | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NA | NA | <0.1 | NA | <0.1 | NA |
| Color | Pt-Co unit | NA | <3 | <3 | <3 | <3 | NA | NA | NA | NA | <3 | NA |
| Taste | TIN | <1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Odor | TON | <1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Total Solids | mg/L | <5 | <5 | <5 | <5 | <5 | <5 | NA | <5 | NA | <5 | NA |
| Iodine (LCV) | | | | | | | | | | | | |
| Total I | mg/L | 0.44 | 0.50 | 0.43 | 0.16 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Iodine | mg/L | 0.22 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Iodide | mg/L | 0.22 | 0.45 | 0.38 | 0.11 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Anions (IC/ISE) | | | | | | | | | | | | |
| Bromide | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chloride | mg/L | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 |
| Fluoride | mg/L | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Nitrate as Nitrogen (NO3-N) | mg/L | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | <0.08 | NA | NA | NA | NA | NA | NA | NA | NA |
| Phosphate as P (PO4-P) | mg/L | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 |
| Sulfate | mg/L | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 |
| Cations (IC) | | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | <0.002 | <0.002 | 0.015 | 0.056 | 0.021 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Lithium | mg/L | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Metals (ICP/MS) | | | | | | | | | | | | |
| Calcium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 |
| Magnesium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Potassium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Sodium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Aluminum | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Antimony | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Arsenic | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Barium | µg/L | 2 | 11 | 22 | 20 | 26 | 2 | 1 | <1 | <1 | <1 | <1 |
| Beryllium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Cadmium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Chromium | µg/L | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Cobalt | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | | ISS 17A/Exp. 20 | |
|---------------------------------------|-------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Location | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Description | | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| Sample Date | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| Analysis/Sample ID | | | | | | | | | | | | |
| Copper | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 3 |
| Iron | µg/L | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Lead | µg/L | 2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Manganese | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Molybdenum | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Nickel | µg/L | 11 | 24 | 28 | 24 | 31 | 22 | 13 | 12 | 17 | 23 | 25 |
| Selenium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Silver | µg/L | <2 | <2 | <2 | 16 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Zinc | µg/L | 1 | 2 | <1 | <1 | <1 | <1 | <1 | 1 | 1 | <1 | <1 |
| Total Organic Carbon (Sievers) | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | 0.84 | 0.70 | 0.95 | 0.85 | 0.86 | 0.75 | 0.68 | 0.60 | 0.57 | 0.92 | 0.70 |
| Total Organic Carbon | mg/L | 0.19 | 0.49 | 1.11 | 0.78 | 0.37 | 0.19 | 0.19 | 0.18 | 0.16 | 0.18 | 0.21 |
| Total Polysaccharides | | | | | | | | | | | | |
| Total Polysaccharides (as Sucrose) | mg/L | NA | NA | 1.4 | NA | NA | NA | NA | NA | NA | NA | NA |
| Volatile Organics | | | | | | | | | | | | |
| Acetone | µg/L | 113 | 139 | 117 | 11 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Acrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Allyl chloride (3-Chloropropene) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Benzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromochloromethane | µg/L | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 |
| Bromodichloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromoform | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Bromomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 6 | <2 |
| n-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| sec-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| tert-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Carbon disulfide | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Carbon tetrachloride | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroacetonitrile | µg/L | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Chlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1-Chlorobutane (Butyl chloride) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Chloroform | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromochloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | ISS 17A/Exp. 20 | | |
|--------------------------------------|-------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Location | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Description | | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| Sample Date | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| Analysis/Sample ID | | | | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromomethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,4-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,4-Dichloro-2-butene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Dichlorodifluoromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 2,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloropropanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,3-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,3-Dichloropropene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Diethyl ether | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Ethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Ethyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Hexachlorobutadiene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Hexachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Hexanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Iodomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Isopropylbenzene (Cumene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Isopropyltoluene (Cymene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Methacrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Methyl acrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Methyl-t-butylether (MTBE) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Methylene chloride (Dichloromethane) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Methyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 4-Methyl-2-pentanone | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Naphthalene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Nitrobenzene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| 2-Nitropropane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Pentachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Propionitrile (Ethyl cyanide) | µg/L | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| n-Propylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Styrene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrachloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | ISS 17A/Exp. 20 | | |
|---------------------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Description | Sample Date | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| Tetrahydrofuran | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Toluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichlorofluoromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3,5-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Vinyl Acetate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| m&p-Xylene | µg/L | 0.6 | 0.9 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| o-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 |
| Extractable Organics | | | | | | | | | | | | |
| Acetophenone | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Benzaldehyde | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Benzoic acid | µg/L | <24 | <12 | <24 | <12 | <12 | <24 | <24 | <24 | <24 | <24 | <24 |
| Benothiazole | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Benzyl alcohol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Benzyl butyl phthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Butoxyethanol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-(2-Butoxyethoxy)ethanol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| n-Butylpalmitate | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Butylated hydroxyanisole (BHA) | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N-Butylbenzenesulfonamide | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 3-tert-Butylphenol | µg/L | <24 | <12 | <24 | <12 | <12 | <24 | <24 | <24 | <24 | <24 | <24 |
| Caffeine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| tris-2-Chloroethyl phosphate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Cholesterol | µg/L | <64 | <32 | <64 | <32 | <32 | <64 | <64 | <64 | <64 | <64 | <64 |
| o-Cresol (2-Methylphenol) | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Cyclododecane | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Decamethylcyclopentasiloxane | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Decanoic acid | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2,4-Di-t-butylphenol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 1,4-Diacetylbenzene | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N,N-Dibutylformamide | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Dibutyl phthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Dibutylamine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N,N-Diethyl-m-toluamide | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | | ISS 17A/Exp. 20 | |
|--|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Description | Sample Date | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| Diethylphthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Diethylene glycol monoethyl ether | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N,N-Diethylformamide | µg/L | <24 | <12 | <24 | <12 | <12 | <24 | <24 | <24 | <24 | <24 | <24 |
| Diiodomethane (Methyl iodide) | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Diisopropyl adipate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Dimethyl phthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N,N-Dimethyl acetamide | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N,N-Dimethylbenzylamine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N,N-Dimethylformamide | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Dipropylene glycol methyl ether | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Dodecamethylcyclohexasiloxane | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Ethoxyethanol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Ethyl-1-hexanol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Ethylhexanoic acid | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| bis-2-Ethylhexyl adipate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| bis-2-Ethylhexyl phthalate (Dioctyl phthalate) | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | 12 | <8 | <8 |
| 4-Ethylmorpholine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 1-Formylpiperidine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Heptanoic acid | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Heptanone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| gamma-Hexalactone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Hexanoic acid | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-Hexanol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Hydroxybenzothiazole | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Ibuprofen | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Iodoform | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Isophorone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 4-Isopropylphenol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Lauramide | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Lauric acid (Dodecanoic acid) | µg/L | <240 | <120 | <240 | <120 | <120 | <240 | <240 | <240 | <240 | <240 | <240 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Mercaptobenzothiazole | µg/L | <80 | <40 | <80 | <40 | <40 | <80 | <80 | <80 | <80 | <80 | <80 |
| 2-Methyl-2,4-pentanediol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 1-Methyl-2-pyrrolidinone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Methyl-4-hydroxybenzoate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Methyl sulfone | µg/L | <8 | <4 | <8 | <4 | <4 | 69 | 83 | 74 | 74 | 84 | 87 |
| 2-Methyl butyric acid | µg/L | <24 | <12 | <24 | <12 | <12 | <24 | <24 | <24 | <24 | <24 | <24 |
| 2-Methylthio benzothiazole | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Monomethyl phthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Myristic acid | µg/L | <48 | <24 | <48 | <24 | <24 | <48 | <48 | <48 | <48 | <48 | <48 |
| (+)-Neomenthol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Nicotine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Nonadecane | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Nonanoic acid | µg/L | <24 | <12 | <24 | <12 | <12 | <24 | <24 | <24 | <24 | <24 | <24 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | | ISS 17A/Exp. 20 | |
|--|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Description | Sample Date | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| 1-Octadecanol | µg/L | <24 | <12 | <24 | <12 | <12 | <24 | <24 | <24 | <24 | <24 | <24 |
| Octamethylcyclotetrasiloxane | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Octanoic acid | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 4-tert-Octylphenol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Oleic acid | µg/L | <80 | <40 | <80 | <40 | <40 | <80 | <80 | <80 | <80 | <80 | <80 |
| Oxindole | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Palmitic acid | µg/L | <240 | <120 | <240 | <120 | <120 | <240 | <240 | <240 | <240 | <240 | <240 |
| Palmitoleic acid | µg/L | <200 | <100 | <200 | <100 | <100 | <200 | <200 | <200 | <200 | <200 | <200 |
| Pentacosane | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| sec-Phenethyl alcohol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Phenol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Phenoxyethanol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| N-Phenyl-2-naphthylamine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Phenyl-2-propanol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Phenylacetic acid | µg/L | <32 | <16 | <32 | <16 | <16 | <32 | <32 | <32 | <32 | <32 | <32 |
| Phenethyl alcohol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2-Phenylphenol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Salicylic Acid | µg/L | <64 | <32 | <64 | <32 | <32 | <64 | <64 | <64 | <64 | <64 | <64 |
| trans-Squalene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | 22 | <16 | <16 | <16 |
| Stearic acid | µg/L | <200 | <100 | <200 | <100 | <100 | <200 | <200 | <200 | <200 | <200 | <200 |
| 1-Tetradecanol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Tetramethylsuccinonitrile | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Tetramethyl thiourea | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Tetramethylurea | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Thymol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Tributylamine | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Tributyl phosphate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Triethyl phosphate | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutryate | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Tripropylene glycol monomethyl ether | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Undecanoic acid | µg/L | <48 | <24 | <48 | <24 | <24 | <48 | <48 | <48 | <48 | <48 | <48 |
| 2-Undecanone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Valeric acid (Pentanoic acid) | µg/L | <48 | <24 | <48 | <24 | <24 | <48 | <48 | <48 | <48 | <48 | <48 |
| Vanillin | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Acid Extractables-EPA 625 List | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-Chlorophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,4-Dichlorophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,4-Dimethylphenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,4-Dinitrophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-Methyl-4,6-dinitrophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-Nitrophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Sample Location | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | | ISS 17A/Exp. 20 | |
|---|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Description | Sample Date | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Analysis/Sample ID | Units | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| 4-Nitrophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Pentachlorophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Phenol | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| 2,4,5-Trichlorophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,4,6-Trichlorophenol | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Base/Neutral Extractables - EPA 625 List | | | | | | | | | | | | |
| Benzdine | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 3,3-Dichlorobenzidine | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| bis-(2-Ethylhexyl)phthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | 12 | <8 | <8 |
| Benzyl butyl phthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Dibutylphthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Diethylphthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Dimethylphthalate | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Di-n-octyl phthalate | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| N-Nitrosodimethylamine | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| N-Nitrosodiphenylamine | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| N-Nitrosodi-n-propylamine | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,4-Dinitrotoluene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2,6-Dinitrotoluene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Isophorone | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Nitrobenzene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Acenaphthene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Acenaphthylene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Anthracene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Benzo(a)anthracene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Benzo(a)pyrene | µg/L | <10 | <5 | <10 | <5 | <5 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzo(b)fluoranthene | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Benzo(ghi)perylene | µg/L | <10 | <5 | <10 | <5 | <5 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzo(k)fluoroanthene | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Chrysene | µg/L | <20 | <10 | <20 | <10 | <10 | <20 | <20 | <20 | <20 | <20 | <20 |
| Dibenzo(a,h)anthracene | µg/L | <10 | <5 | <10 | <5 | <5 | <10 | <10 | <10 | <10 | <10 | <10 |
| Fluoranthene | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Fluorene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Indeno(1,2,3-cd)pyrene | µg/L | <10 | <5 | <10 | <5 | <5 | <10 | <10 | <10 | <10 | <10 | <10 |
| Naphthalene | µg/L | <40 | <20 | <40 | <20 | <20 | <40 | <40 | <40 | <40 | <40 | <40 |
| Phenanthrene | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Pyrene | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| bis(2-Chloroethyl) ether | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| bis(2-Chloroethoxy) methane | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| bis(2-Chloroisopropyl) ether | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 4-Bromophenyl phenyl ether | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 4-Chlorophenyl phenyl ether | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 2-Chloronaphthalene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | | ISS 17A/Exp. 20 | |
|------------------------------------|-------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Location | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Description | | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| Sample Date | | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| Analysis/Sample ID | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 1,3-Dichlorobenzene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 1,4-Dichlorobenzene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Hexachlorobenzene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Hexachlorobutadiene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Hexachlorocyclopentadiene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Hexachloroethane | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| 1,2,4-Trichlorobenzene | µg/L | <16 | <8 | <16 | <8 | <8 | <16 | <16 | <16 | <16 | <16 | <16 |
| Alcohols (DAI/GC/MS) | | | | | | | | | | | | |
| 1-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Methanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Glycols (DAI/GC/MS) | | | | | | | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | | | | | | |
| Acetate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Formate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Glycolate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Lactate | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Propionate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | | | | | | | |
| Formaldehyde | µg/L | 7 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | Soyuz 17/Exp. 18 | ISS 2JA/Exp. 20 | | | | | | ISS 17A/Exp. 20 | |
|-----------------------------------|---------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Hot | WPA PWD Ambient | WPA PWD Ambient | WPA PWD Hot |
| Sample Location | | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water | Potable Water |
| Sample Description | | | | | | | | | | | | |
| Sample Date | | 23-Mar-2009 | 25-Mar-2009 | 02-Apr-2009 | 15-Apr-09 | 4-May-09 | 16-Jun-09 | 16-Jun-09 | 24-Jul-09 | 24-Jul-09 | 04-Aug-2009 | 04-Aug-2009 |
| Analysis/Sample ID | Units | 20090330014 | 20090330017 | 20090419002 | 20090803001 | 20090803002 | 20090803003 | 20090803004 | 20090803005 | 20090803006 | 20090914001 | 20090914002 |
| Amines (CE) | | | | | | | | | | | | |
| Ethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Methylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| n-Propylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Trimethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | | | |
| Urea | µg/L | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 |
| Caprolactam | µg/L | <8 | <4 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <8 |
| Organic Carbon Recovery | percent | 39.70 | 17.80 | 59.64 | 0.87 | 0.00 | 9.22 | 11.15 | 20.87 | 17.34 | 14.45 | 10.57 |
| Unaccounted Organic Carbon | mg/L | 0.11 | 0.40 | 0.45 | 0.77 | 0.37 | 0.17 | 0.17 | 0.14 | 0.13 | 0.15 | 0.19 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|---------------------------------|------------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| Physical Characteristics | | | | | | | | | | | | | |
| pH | pH units | 5.96 | 5.65 | 7.70 | 7.48 | 7.06 | 7.43 | 7.11 | 7.79 | 6.91 | 6.82 | 6.49 | |
| Conductivity | µS/cm | 3 | 7 | 6 | 3 | 3 | 3 | 3 | 9 | 3 | 3 | 3 | |
| Turbidity | NTU | NA | NA | <0.1 | <0.1 | NA | <0.1 | <0.1 | NA | <0.1 | <0.1 | <0.1 | |
| Color | Pt-Co unit | NA | <3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Taste | TTN | NA | NA | 1 | <1 | <1 | 1 | 1 | NA | NA | NA | NA | |
| Odor | TON | NA | NA | 1 | 1 | <1 | <1 | <1 | NA | NA | NA | NA | |
| Total Solids | mg/L | NA | NA | <5 | <5 | NA | NA | <5 | NA | <5 | <5 | <5 | |
| Iodine (LCV) | | | | | | | | | | | | | |
| Total I | mg/L | <0.05 | <0.05 | 2.37 | 2.68 | 2.55 | 2.53 | 2.20 | 2.41 | 2.54 | 2.70 | 2.70 | |
| Iodine | mg/L | <0.05 | <0.05 | 0.21 | 1.40 | 1.89 | 1.90 | 1.02 | 1.36 | 1.40 | 1.26 | 1.55 | |
| Iodide | mg/L | <0.05 | <0.05 | 2.16 | 1.28 | 0.66 | 0.63 | 1.18 | 1.05 | 1.14 | 1.44 | 1.15 | |
| Anions (IC/ISE) | | | | | | | | | | | | | |
| Bromide | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Chloride | mg/L | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | 0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | |
| Fluoride | mg/L | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| Nitrate as Nitrogen (NO3-N) | mg/L | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Phosphate as P (PO4-P) | mg/L | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | <0.24 | |
| Sulfate | mg/L | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | <0.75 | |
| Cations (IC) | | | | | | | | | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | <0.002 | <0.002 | 0.006 | 0.003 | <0.002 | 0.003 | 0.007 | <0.002 | <0.002 | <0.002 | <0.002 | |
| Lithium | mg/L | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | |
| Metals (ICP/MS) | | | | | | | | | | | | | |
| Calcium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | |
| Magnesium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| Potassium | mg/L | <0.01 | 0.01 | <0.01 | 0.02 | <0.01 | <0.01 | 0.02 | <0.01 | <0.01 | 0.01 | 0.01 | |
| Sodium | mg/L | 0.02 | 0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| Aluminum | µg/L | <2 | <2 | 3 | 3 | <2 | <2 | <2 | 2 | <2 | <2 | <2 | |
| Antimony | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Arsenic | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Barium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Beryllium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Cadmium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Chromium | µg/L | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | |
| Cobalt | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|---------------------------------------|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| Copper | µg/L | 1 | <1 | <1 | <1 | <1 | <1 | 3 | 2 | <1 | <1 | <1 | |
| Iron | µg/L | <5 | <5 | 33 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | |
| Lead | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Manganese | µg/L | 2 | <1 | 8 | 1 | <1 | <1 | 1 | <1 | <1 | 2 | <1 | |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Molybdenum | µg/L | <1 | <1 | 1 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Nickel | µg/L | 30 | 27 | 1690 | 415 | 52 | 134 | 255 | 97 | 114 | 247 | 118 | |
| Selenium | µg/L | <1 | <1 | <1 | <1 | <1 | <1 | 1 | <1 | <1 | <1 | <1 | |
| Silver | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Zinc | µg/L | 2 | 3 | 15 | 4 | <1 | 2 | 3 | 6 | 1 | 4 | 3 | |
| Total Organic Carbon (Sievers) | | | | | | | | | | | | | |
| Total Organic Carbon | mg/L | 0.79 | 0.83 | 0.98 | 0.50 | 0.43 | 0.46 | 0.50 | 0.93 | 0.98 | 1.06 | 0.98 | |
| Total Inorganic Carbon | mg/L | 0.21 | 0.20 | 1.05 | 0.35 | 0.23 | 0.19 | 0.47 | 0.23 | 0.12 | 0.12 | 0.09 | |
| Total Polysaccharides | | | | | | | | | | | | | |
| Total Polysaccharides (as Sucrose) | mg/L | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Volatile Organics | | | | | | | | | | | | | |
| Acetone | µg/L | <2 | <2 | 174# | 31 | 11 | 9 | 42 | 16 | <2 | <2 | <2 | |
| Acrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Allyl chloride (3-Chloropropene) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Benzene | µg/L | <0.4 | <0.4 | 0.8 | 2.1 | 0.5 | 0.6 | 0.9 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Bromobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Bromochloromethane | µg/L | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | |
| Bromodichloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Bromoforn | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Bromomethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 2-Butanone (Methyl ethyl ketone) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| n-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| sec-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| tert-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Carbon disulfide | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Carbon tetrachloride | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Chloroacetonitrile | µg/L | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | |
| Chlorobenzene | µg/L | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1-Chlorobutane (Butyl chloride) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Chloroform | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Chloromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 2-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 4-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Dibromochloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|--------------------------------------|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Dibromomethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,3-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,4-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| trans-1,4-Dichloro-2-butene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Dichlorodifluoromethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 1,1-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,1-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| cis-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| trans-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,3-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 2,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,1-Dichloropropanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 1,1-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| cis-1,3-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| trans-1,3-Dichloropropene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Diethyl ether | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Ethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Ethyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Hexachlorobutadiene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Hexachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 2-Hexanone | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Iodomethane | µg/L | <2 | <2 | 17 | 46 | 26 | 29 | 38 | 10 | <2 | <2 | <2 | |
| Isopropylbenzene (Cumene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 4-Isopropyltoluene (Cymene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Methacrylonitrile | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Methyl acrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Methyl-t-butylether (MTBE) | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Methylene chloride (Dichloromethane) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | 1 | 0.4 | |
| Methyl methacrylate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 4-Methyl-2-pentanone | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Naphthalene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Nitrobenzene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| 2-Nitropropane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Pentachloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Propionitrile (Ethyl cyanide) | µg/L | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | |
| n-Propylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Styrene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,1,1,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,1,2,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Tetrachloroethene | µg/L | <0.4 | <0.4 | NA | NA | NA | NA | NA | <0.4 | <0.4 | <0.4 | <0.4 | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|---------------------------------|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| Tetrahydrofuran | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Toluene | µg/L | NA | NA | 0.6 | 1.2 | 0.6 | 0.7 | 0.5 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2,3-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2,4-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,1,1-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,1,2-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Trichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Trichlorofluoromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2,3-Trichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,2,4-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| 1,3,5-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | |
| Vinyl Acetate | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| m&p-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | 0.6 | <0.4 | <0.4 | <0.4 | |
| o-Xylene | µg/L | <0.4 | <0.4 | 0.5 | <0.4 | 0.4 | 0.5 | 0.5 | 0.4 | <0.4 | <0.4 | <0.4 | |
| Extractable Organics | | | | | | | | | | | | | |
| Acetophenone | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| Benzaldehyde | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Benzoic acid | µg/L | <24 | <24 | <24 | <12 | <24 | <24 | <24 | <24 | <24 | <12 | <12 | |
| Benzothiazole | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Benzyl alcohol | µg/L | <8 | <8 | <8 | 13 | <8 | <8 | 14 | <8 | <8 | <4 | <4 | |
| Benzyl butyl phthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Butoxyethanol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| 2-(2-Butoxyethoxy)ethanol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| n-Butylpalmitate | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| Butylated hydroxyanisole (BHA) | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N-Butylbenzenesulfonamide | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 3-tert-Butylphenol | µg/L | <24 | <24 | <24 | <12 | <24 | <24 | <24 | <24 | <24 | <12 | <12 | |
| Caffeine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| tris-2-Chloroethyl phosphate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Cholesterol | µg/L | <64 | <64 | <64 | <32 | <64 | <64 | <64 | <64 | <64 | <32 | <32 | |
| o-Cresol (2-Methylphenol) | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Cyclododecane | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Decamethylcyclopentasiloxane | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Decanoic acid | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2,4-Di-t-butylphenol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 1,4-Diacetylbenzene | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N,N-Dibutylformamide | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Dibutyl phthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Dibutylamine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N,N-Diethyl-m-toluamide | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|--|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| Diethylphthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Diethylene glycol monoethyl ether | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N,N-Diethylformamide | µg/L | <24 | <24 | <24 | <12 | <24 | <24 | <24 | <24 | <24 | <12 | <12 | |
| Diiodomethane (Methyl iodide) | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Diisopropyl adipate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Dimethyl phthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N,N-Dimethyl acetamide | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N,N-Dimethylbenzylamine | µg/L | <16 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| N,N-Dimethylformamide | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| Dipropylene glycol methyl ether | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Dodecamethylcyclohexasiloxane | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Ethoxyethanol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Ethyl-1-hexanol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Ethylhexanoic acid | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| bis-2-Ethylhexyl adipate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| bis-2-Ethylhexyl phthalate (Diocetyl phthlate) | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 4-Ethylmorpholine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 1-Formylpiperidine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Heptanoic acid | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Heptanone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| gamma-Hexalactone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Hexanoic acid | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <8 | <8 | |
| 2-Hexanol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Hydroxybenzothiazole | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Ibuprofen | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Iodoform | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Isophorone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 4-Isopropylphenol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Lauramide | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Lauric acid (Dodecanoic acid) | µg/L | <240 | <240 | <240 | <120 | <240 | <240 | <240 | <240 | <240 | <120 | <120 | |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Mercaptobenzothiazole | µg/L | <80 | <80 | <80 | <40 | <80 | <80 | <80 | <80 | <80 | <40 | <40 | |
| 2-Methyl-2,4-pentandiol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 1-Methyl-2-pyrrolidinone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Methyl-4-hydroxybenzoate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Methyl sulfone | µg/L | 68 | 113 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| 2-Methyl butyric acid | µg/L | <24 | <24 | <24 | <12 | <24 | <24 | <24 | <24 | <24 | <12 | <12 | |
| 2-Methylthiobenzothiazole | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Monomethyl phthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Myristic acid | µg/L | <48 | <48 | <48 | <24 | <48 | <48 | <48 | <48 | <48 | <24 | <24 | |
| (+)-Neomenthol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Nicotine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Nonadecane | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Nonanoic acid | µg/L | <24 | <24 | <24 | <12 | <24 | <24 | <24 | <24 | <24 | <12 | <12 | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|---|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| 1-Octadecanol | µg/L | <24 | <24 | <24 | <12 | <24 | <24 | <24 | <24 | <24 | <24 | <12 | <12 |
| Octamethylcyclotetrasiloxane | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Octanoic acid | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 4-tert-Octylphenol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Oleic acid | µg/L | <80 | <80 | <80 | <40 | <80 | <80 | <80 | <80 | <80 | <80 | <40 | <40 |
| Oxindole | µg/L | <8 | <8 | <8 | <4 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Palmitic acid | µg/L | <240 | <240 | <240 | <120 | <240 | <240 | <240 | <240 | <240 | <240 | <120 | <120 |
| Palmitoleic acid | µg/L | <200 | <200 | <200 | <100 | <200 | <200 | <200 | <200 | <200 | <200 | <100 | <100 |
| Pentacosane | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| sec-Phenethyl alcohol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Phenol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| 2-Phenoxyethanol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| N-Phenyl-2-naphthylamine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| 2-Phenyl-2-propanol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| 2-Phenylacetic acid | µg/L | <32 | <32 | <32 | <16 | <32 | <32 | <32 | <32 | <32 | <32 | <16 | <16 |
| Phenethyl alcohol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| 2-Phenylphenol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Salicylic Acid | µg/L | <64 | <64 | <64 | <32 | <64 | <64 | <64 | <64 | <64 | <64 | <32 | <32 |
| trans-Squalene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Stearic acid | µg/L | <200 | <200 | <200 | <100 | <200 | <200 | <200 | <200 | <200 | <200 | <100 | <100 |
| 1-Tetradecanol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Tetramethylsuccinonitrile | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Tetramethyl thiourea | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Tetramethylurea | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Thymol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Tributylamine | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Tributyl phosphate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Triethyl phosphate | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Tripropylene glycol monomethyl ether | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Undecanoic acid | µg/L | <48 | <48 | <48 | <24 | <48 | <48 | <48 | <48 | <48 | <48 | <24 | <24 |
| 2-Undecanone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Valeric acid (Pentanoic acid) | µg/L | <48 | <48 | <48 | <24 | <48 | <48 | <48 | <48 | <48 | <48 | <24 | <24 |
| Vanillin | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Acid Extractables-EPA 625 List | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2-Chlorophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,4-Dichlorophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,4-Dimethylphenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,4-Dinitrophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2-Methyl-4,6-dinitrophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2-Nitrophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|---|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| 4-Nitrophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Pentachlorophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Phenol | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| 2,4,5-Trichlorophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,4,6-Trichlorophenol | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Base/Neutral Extractables - EPA 625 List | | | | | | | | | | | | | |
| Benzdine | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 3,3-Dichlorobenzidine | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| bis-(2-Ethylhexyl)phthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <16 | <8 | <8 | <8 | <4 | <4 |
| Benzyl butyl phthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Dibutylphthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Diethylphthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Dimethylphthalate | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Di-n-octyl phthalate | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| N-Nitrosodimethylamine | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| N-Nitrosodiphenylamine | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| N-Nitrosodi-n-propylamine | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,4-Dinitrotoluene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2,6-Dinitrotoluene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Isophorone | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Nitrobenzene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Acenaphthene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Acenaphthylene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Anthracene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Benzo(a)anthracene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Benzo(a)pyrene | µg/L | <10 | <10 | <10 | <5 | <10 | <10 | <10 | <10 | <10 | <10 | <5 | <5 |
| Benzo(b)fluoranthene | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Benzo(ghi)perylene | µg/L | <10 | <10 | <10 | <5 | <10 | <10 | <10 | <10 | <10 | <10 | <5 | <5 |
| Benzo(k)fluoranthene | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Chrysene | µg/L | <20 | <20 | <20 | <10 | <20 | <20 | <20 | <20 | <20 | <20 | <10 | <10 |
| Dibenzo(a,h)anthracene | µg/L | <10 | <10 | <10 | <5 | <10 | <10 | <10 | <10 | <10 | <10 | <5 | <5 |
| Fluoranthene | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Fluorene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Indeno(1,2,3-cd)pyrene | µg/L | <10 | <10 | <10 | <5 | <10 | <10 | <10 | <10 | <10 | <10 | <5 | <5 |
| Naphthalene | µg/L | <40 | <40 | <40 | <20 | <40 | <40 | <40 | <40 | <40 | <40 | <20 | <20 |
| Phenanthrene | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| Pyrene | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <8 | <4 | <4 |
| bis(2-Chloroethyl) ether | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| bis(2-Chloroethoxy) methane | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| bis(2-Chloroisopropyl) ether | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 4-Bromophenyl phenyl ether | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 4-Chlorophenyl phenyl ether | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 2-Chloronaphthalene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | Units | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|------------------------------------|-------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Sample Date | | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Analysis/Sample ID | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 1,3-Dichlorobenzene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 1,4-Dichlorobenzene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Hexachlorobenzene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Hexachlorobutadiene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Hexachlorocyclopentadiene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Hexachloroethane | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| 1,2,4-Trichlorobenzene | µg/L | <16 | <16 | <16 | <8 | <16 | <16 | <16 | <16 | <16 | <16 | <8 | <8 |
| Alcohols (DAI/GC/MS) | | | | | | | | | | | | | |
| 1-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Methanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | <100 | <100 | 1040 | <100 | <100 | <100 | 225 | <100 | <100 | <100 | <100 | <100 |
| Glycols (DAI/GC/MS) | | | | | | | | | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | | | | | | | | | |
| Acetate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Formate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Glycolate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Lactate | µg/L | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Propionate | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | | | | | | | | | |
| Formaldehyde | µg/L | <2 | <2 | <2 | 18 | <2 | <2 | 13 | 19 | 17 | 15 | 15 | 15 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | Soyuz 18/Exp. 20 | | ISS ULF2/Exp. 18 | | | | | ISS 15A/Exp. 18 | | | | |
|-----------------------------------|---------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | | WPA PWD Hot | WPA PWD Ambient | WPA RIP | WPA RIP | WPA RIP | WPA RIP | WPA PWD Aux Port | WPA RIP | WPA RIP | WPA RIP | WPA RIP | |
| Sample Location | | Potable Water | Potable Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | Processed Water | |
| Sample Description | | | | | | | | | | | | | |
| Sample Date | | 22-Sep-2009 | 22-Sep-2009 | 22-Nov-2008 | 25-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 26-Nov-2008 | 08-Dec-2008 | 09-Feb-2009 | 27-Feb-2009 | 10-Mar-2009 |
| Analysis/Sample ID | Units | 20091021005 | 20091021006 | 20081202012 | 20081202013 | 20081202014 | 20081202015 | 20081202016 | 20090330001 | 20090330010 | 20090330011 | 20090330012 | |
| Amines (CE) | | | | | | | | | | | | | |
| Ethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | |
| Methylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | |
| n-Propylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | |
| Trimethylamine | µg/L | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | <125 | |
| Non-volatiles (LC/UV-VIS) | | | | | | | | | | | | | |
| Urea | µg/L | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | <800 | |
| Caprolactam | µg/L | <8 | <8 | <8 | <4 | <8 | <8 | <8 | <8 | <8 | <4 | <4 | |
| Organic Carbon Recovery | percent | 8.26 | 14.49 | 69.97 | 12.31 | 4.46 | 5.21 | 38.89 | 8.49 | 5.67 | 5.12 | 7.04 | |
| Unaccounted Organic Carbon | mg/L | 0.19 | 0.17 | 0.32 | 0.31 | 0.22 | 0.18 | 0.29 | 0.21 | 0.11 | 0.11 | 0.08 | |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|---------------------------------|------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| Analysis/Sample ID | | | | | |
| Physical Characteristics | | | | | |
| pH | pH units | 6.03 | 5.87 | 5.47 | 7.45 |
| Conductivity | µS/cm | 3 | 2 | 3 | 3 |
| Turbidity | NTU | <0.1 | <0.1 | <0.1 | <0.1 |
| Color | Pt-Co unit | NA | NA | NA | <3 |
| Taste | TTN | NA | NA | 1 | NA |
| Odor | TON | NA | NA | <1 | NA |
| Total Solids | mg/L | <5 | <5 | <5 | NA |
| | | | | | |
| | | | | | |
| Iodine (LCV) | | | | | |
| Total I | mg/L | 2.71 | 1.83 | 2.52 | 2.54 |
| Iodine | mg/L | 1.97 | 1.23 | 1.87 | 1.68 |
| Iodide | mg/L | 0.74 | 0.60 | 0.65 | 0.86 |
| | | | | | |
| Anions (IC/ISE) | | | | | |
| Bromide | mg/L | <0.5 | <0.5 | <0.5 | <0.5 |
| Chloride | mg/L | <0.15 | <0.15 | <0.15 | <0.15 |
| Fluoride | mg/L | <0.1 | <0.1 | <0.1 | <0.1 |
| Nitrate as Nitrogen (NO3-N) | mg/L | <0.11 | <0.11 | <0.11 | <0.11 |
| Nitrite as Nitrogen (NO2-N) | mg/L | NA | NA | NA | <0.08 |
| Phosphate as P (PO4-P) | mg/L | <0.24 | <0.24 | <0.24 | <0.24 |
| Sulfate | mg/L | <0.75 | <0.75 | <0.75 | <0.75 |
| | | | | | |
| Cations (IC) | | | | | |
| Ammonia as Nitrogen (NH3-N) | mg/L | <0.002 | <0.002 | <0.002 | <0.002 |
| Lithium | mg/L | <0.002 | <0.002 | <0.002 | <0.002 |
| | | | | | |
| Metals (ICP/MS) | | | | | |
| Calcium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 |
| Magnesium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 |
| Potassium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 |
| Sodium | mg/L | <0.01 | <0.01 | <0.01 | <0.01 |
| Aluminum | µg/L | <2 | <2 | <2 | <2 |
| Antimony | µg/L | <2 | <2 | <2 | <2 |
| Arsenic | µg/L | <1 | <1 | <1 | <1 |
| Barium | µg/L | <1 | <1 | <1 | <1 |
| Beryllium | µg/L | <1 | <1 | <1 | <1 |
| Cadmium | µg/L | <1 | <1 | <1 | <1 |
| Chromium | µg/L | <5 | <5 | <5 | <5 |
| Cobalt | µg/L | <1 | <1 | <1 | <1 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|---------------------------------------|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| Copper | µg/L | <1 | <1 | <1 | <1 |
| Iron | µg/L | <5 | <5 | <5 | <5 |
| Lead | µg/L | <1 | <1 | <1 | <1 |
| Manganese | µg/L | <1 | <1 | <1 | <1 |
| Mercury | µg/L | <0.5 | <0.5 | <0.5 | <0.5 |
| Molybdenum | µg/L | <1 | <1 | <1 | <1 |
| Nickel | µg/L | 37 | 76 | 35 | 79 |
| Selenium | µg/L | <1 | <1 | <1 | <1 |
| Silver | µg/L | <1 | <2 | <2 | <2 |
| Zinc | µg/L | 2 | 2 | 2 | <1 |
| Total Organic Carbon (Sievers) | | | | | |
| Total Inorganic Carbon | mg/L | 0.76 | 0.96 | 0.72 | 0.78 |
| Total Organic Carbon | mg/L | 0.09 | 0.12 | 0.07 | 0.10 |
| Total Polysaccharides | | | | | |
| Total Polysaccharides (as Sucrose) | mg/L | NA | NA | NA | NA |
| Volatile Organics | | | | | |
| Acetone | µg/L | <2 | <2 | <2 | <2 |
| Acrylonitrile | µg/L | <2 | <2 | <2 | <2 |
| Allyl chloride (3-Chloropropene) | µg/L | <2 | <2 | <2 | <2 |
| Benzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromochloromethane | µg/L | <4 | <4 | <4 | <4 |
| Bromodichloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Bromoform | µg/L | <2 | <2 | <2 | <2 |
| Bromomethane | µg/L | <2 | <2 | <2 | <2 |
| 2-Butanone (Methyl ethyl ketone) | µg/L | <2 | <2 | <2 | <2 |
| n-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| sec-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| tert-Butylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Carbon disulfide | µg/L | <2 | <2 | <2 | <2 |
| Carbon tetrachloride | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroacetonitrile | µg/L | <10 | <10 | <10 | <10 |
| Chlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1-Chlorobutane (Butyl chloride) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 |
| Chloroform | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Chloromethane | µg/L | <2 | <2 | <2 | <2 |
| 2-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Chlorotoluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromochloromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dibromo-3-chloropropane (DBCP) | µg/L | <2 | <2 | <2 | <2 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|--------------------------------------|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| 1,2-Dibromoethane (EDB) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Dibromomethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,4-Dichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,4-Dichloro-2-butene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Dichlorodifluoromethane | µg/L | <2 | <2 | <2 | <2 |
| 1,1-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,2-Dichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 2,2-Dichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloropropanone | µg/L | <2 | <2 | <2 | <2 |
| 1,1-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| cis-1,3-Dichloropropene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| trans-1,3-Dichloropropene | µg/L | <2 | <2 | <2 | <2 |
| Diethyl ether | µg/L | <2 | <2 | <2 | <2 |
| Ethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Ethyl methacrylate | µg/L | <2 | <2 | <2 | <2 |
| Hexachlorobutadiene | µg/L | <2 | <2 | <2 | <2 |
| Hexachloroethane | µg/L | <2 | <2 | <2 | <2 |
| 2-Hexanone | µg/L | <2 | <2 | <2 | <2 |
| Iodomethane | µg/L | <2 | <2 | <2 | <2 |
| Isopropylbenzene (Cumene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 4-Isopropyltoluene (Cymene) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Methacrylonitrile | µg/L | <2 | <2 | <2 | <2 |
| Methyl acrylate | µg/L | <2 | <2 | <2 | <2 |
| Methyl-t-butylether (MTBE) | µg/L | <2 | <2 | <2 | <2 |
| Methylene chloride (Dichloromethane) | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Methyl methacrylate | µg/L | <2 | <2 | <2 | <2 |
| 4-Methyl-2-pentanone | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Naphthalene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Nitrobenzene | µg/L | <2 | <2 | <2 | <2 |
| 2-Nitropropane | µg/L | <2 | <2 | <2 | <2 |
| Pentachloroethane | µg/L | <2 | <2 | <2 | <2 |
| Propionitrile (Ethyl cyanide) | µg/L | <10 | <10 | <10 | <10 |
| n-Propylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Styrene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2,2-Tetrachloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Tetrachloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|---------------------------------|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | | | | |
| Sample Description | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Date | | | | | |
| Analysis/Sample ID | Units | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Tetrahydrofuran | µg/L | <2 | <2 | <2 | <2 |
| Toluene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trichlorobenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,1-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,1,2-Trichloroethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichloroethene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Trichlorofluoromethane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,3-Trichloropropane | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,2,4-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| 1,3,5-Trimethylbenzene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| Vinyl Acetate | µg/L | <2 | <2 | <2 | <2 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | <2 |
| m&p-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| o-Xylene | µg/L | <0.4 | <0.4 | <0.4 | <0.4 |
| | | | | | |
| | | | | | |
| Extractable Organics | | | | | |
| Acetophenone | µg/L | <16 | <16 | <8 | <16 |
| Benzaldehyde | µg/L | <8 | <8 | <4 | <8 |
| Benzoic acid | µg/L | <24 | <24 | <12 | <24 |
| Benothiazole | µg/L | <8 | <8 | <4 | <8 |
| Benzyl alcohol | µg/L | <8 | <8 | <4 | <8 |
| Benzyl butyl phthlate | µg/L | <8 | <8 | <4 | <8 |
| 2-Butoxyethanol | µg/L | <16 | <16 | <8 | <16 |
| 2-(2-Butoxyethoxy)ethanol | µg/L | <16 | <16 | <8 | <16 |
| 2-(2-Butoxyethoxy)ethyl acetate | µg/L | <8 | <8 | <4 | <8 |
| n-Butylpalmitate | µg/L | <16 | <16 | <8 | <16 |
| Butylated hydroxyanisole (BHA) | µg/L | <8 | <8 | <4 | <8 |
| N-Butylbenzenesulfonamide | µg/L | <8 | <8 | <4 | <8 |
| 3-tert-Butylphenol | µg/L | <24 | <24 | <12 | <24 |
| Caffeine | µg/L | <8 | <8 | <4 | <8 |
| tris-2-Chloroethyl phosphate | µg/L | <8 | <8 | <4 | <8 |
| Cholesterol | µg/L | <64 | <64 | <32 | <64 |
| o-Cresol (2-Methylphenol) | µg/L | <8 | <8 | <4 | <8 |
| Cyclododecane | µg/L | <8 | <8 | <4 | <8 |
| Decamethylcyclopentasiloxane | µg/L | <8 | <8 | <4 | <8 |
| Decanoic acid | µg/L | <16 | <16 | <8 | <16 |
| 2,6-Di-t-butyl-1,4-benzoquinone | µg/L | <8 | <8 | <4 | <8 |
| 2,4-Di-t-butylphenol | µg/L | <8 | <8 | <4 | <8 |
| 1,4-Diacetylbenzene | µg/L | <8 | <8 | <4 | <8 |
| N,N-Dibutylformamide | µg/L | <8 | <8 | <4 | <8 |
| Dibutyl phthalate | µg/L | <8 | <8 | <4 | <8 |
| Dibutylamine | µg/L | <8 | <8 | <4 | <8 |
| N,N-Diethyl-m-toluamide | µg/L | <8 | <8 | <4 | <8 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|--|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| Diethylphthalate | µg/L | <8 | <8 | <4 | <8 |
| Diethylene glycol monoethyl ether | µg/L | <8 | <8 | <4 | <8 |
| N,N-Diethylformamide | µg/L | <24 | <24 | <12 | <24 |
| Diiodomethane (Methyl iodide) | µg/L | <8 | <8 | <4 | <8 |
| Diisopropyl adipate | µg/L | <8 | <8 | <4 | <8 |
| Dimethyl phthalate | µg/L | <8 | <8 | <4 | <8 |
| N,N-Dimethyl acetamide | µg/L | <8 | <8 | <4 | <8 |
| N,N-Dimethylbenzylamine | µg/L | <8 | <8 | <4 | <8 |
| N,N-Dimethylformamide | µg/L | <16 | <16 | <8 | <16 |
| Dipropylene glycol methyl ether | µg/L | <8 | <8 | <4 | <8 |
| Dodecamethylcyclohexasiloxane | µg/L | <8 | <8 | <4 | <8 |
| 2-Ethoxyethanol | µg/L | <8 | <8 | <4 | <8 |
| 2-Ethyl-1-hexanol | µg/L | <8 | <8 | <4 | <8 |
| 2-Ethylhexanoic acid | µg/L | <8 | <8 | <4 | <8 |
| bis-2-Ethylhexyl adipate | µg/L | <8 | <8 | <4 | <8 |
| bis-2-Ethylhexyl phthalate (Diocetyl phthlate) | µg/L | <8 | <8 | <4 | <8 |
| 4-Ethylmorpholine | µg/L | <8 | <8 | <4 | <8 |
| 1-Formylpiperidine | µg/L | <8 | <8 | <4 | <8 |
| Heptanoic acid | µg/L | <8 | <8 | <4 | <8 |
| 2-Heptanone | µg/L | <8 | <8 | <4 | <8 |
| gamma-Hexalactone | µg/L | <8 | <8 | <4 | <8 |
| Hexanoic acid | µg/L | <16 | <16 | <8 | <16 |
| 2-Hexanol | µg/L | <8 | <8 | <4 | <8 |
| 2-Hydroxybenzothiazole | µg/L | <8 | <8 | <4 | <8 |
| Ibuprofen | µg/L | <8 | <8 | <4 | <8 |
| Iodoform | µg/L | <8 | <8 | <4 | <8 |
| Isophorone | µg/L | <8 | <8 | <4 | <8 |
| 4-Isopropylphenol | µg/L | <8 | <8 | <4 | <8 |
| Lauramide | µg/L | <8 | <8 | <4 | <8 |
| Lauric acid (Dodecanoic acid) | µg/L | <240 | <240 | <120 | <240 |
| p-Menth-1-en-8-ol (alpha-Terpineol) | µg/L | <8 | <8 | <4 | <8 |
| 2-Mercaptobenzothiazole | µg/L | <80 | <80 | <40 | <80 |
| 2-Methyl-2,4-pentandiol | µg/L | <8 | <8 | <4 | <8 |
| 1-Methyl-2-pyrrolidinone | µg/L | <8 | <8 | <4 | <8 |
| Methyl-4-hydroxybenzoate | µg/L | <8 | <8 | <4 | <8 |
| Methyl sulfone | µg/L | <8 | <8 | <4 | <8 |
| 2-Methyl butyric acid | µg/L | <24 | <24 | <12 | <24 |
| 2-Methylthiobenzothiazole | µg/L | <8 | <8 | <4 | <8 |
| Monomethyl phthalate | µg/L | <8 | <8 | <4 | <8 |
| Myristic acid | µg/L | <48 | <48 | <24 | <48 |
| (+)-Neomenthol | µg/L | <8 | <8 | <4 | <8 |
| Nicotine | µg/L | <8 | <8 | <4 | <8 |
| Nonadecane | µg/L | <8 | <8 | <4 | <8 |
| Nonanoic acid | µg/L | <24 | <24 | <12 | <24 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|--|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| Analysis/Sample ID | | | | | |
| 1-Octadecanol | µg/L | <24 | <24 | <12 | <24 |
| Octamethylcyclotetrasiloxane | µg/L | <8 | <8 | <4 | <8 |
| Octanoic acid | µg/L | <16 | <16 | <8 | <16 |
| 4-tert-Octylphenol | µg/L | <8 | <8 | <4 | <8 |
| Oleic acid | µg/L | <80 | <80 | <40 | <80 |
| Oxindole | µg/L | <8 | <8 | <4 | <8 |
| Palmitic acid | µg/L | <240 | <240 | <120 | <240 |
| Palmitoleic acid | µg/L | <200 | <200 | <100 | <200 |
| Pentacosane | µg/L | <8 | <8 | <4 | <8 |
| sec-Phenethyl alcohol | µg/L | <8 | <8 | <4 | <8 |
| Phenol | µg/L | <8 | <8 | <4 | <8 |
| 2-Phenoxyethanol | µg/L | <8 | <8 | <4 | <8 |
| N-Phenyl-2-naphthylamine | µg/L | <8 | <8 | <4 | <8 |
| 2-Phenyl-2-propanol | µg/L | <8 | <8 | <4 | <8 |
| 2-Phenylacetic acid | µg/L | <32 | <32 | <16 | <32 |
| Phenethyl alcohol | µg/L | <8 | <8 | <4 | <8 |
| 2-Phenylphenol | µg/L | <8 | <8 | <4 | <8 |
| Salicylic Acid | µg/L | <64 | <64 | <32 | <64 |
| trans-Squalene | µg/L | <16 | <16 | <8 | <16 |
| Stearic acid | µg/L | <200 | <200 | <100 | <200 |
| 1-Tetradecanol | µg/L | <8 | <8 | <4 | <8 |
| Tetramethylsuccinonitrile | µg/L | <8 | <8 | <4 | <8 |
| Tetramethyl thiourea | µg/L | <8 | <8 | <4 | <8 |
| Tetramethylurea | µg/L | <8 | <8 | <4 | <8 |
| Thymol | µg/L | <8 | <8 | <4 | <8 |
| 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | µg/L | <8 | <8 | <4 | <8 |
| Tributylamine | µg/L | <8 | <8 | <4 | <8 |
| Tributyl phosphate | µg/L | <8 | <8 | <4 | <8 |
| Triethyl phosphate | µg/L | <16 | <16 | <8 | <16 |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | µg/L | <16 | <16 | <8 | <16 |
| Tripropylene glycol monomethyl ether | µg/L | <8 | <8 | <4 | <8 |
| Undecanoic acid | µg/L | <48 | <48 | <24 | <48 |
| 2-Undecanone | µg/L | <8 | <8 | <4 | <8 |
| Valeric acid (Pentanoic acid) | µg/L | <48 | <48 | <24 | <48 |
| Vanillin | µg/L | <16 | <16 | <8 | <16 |
| | | | | | |
| | | | | | |
| Acid Extractables-EPA 625 List | | | | | |
| 4-Chloro-3-methylphenol | µg/L | <16 | <16 | <8 | <16 |
| 2-Chlorophenol | µg/L | <16 | <16 | <8 | <16 |
| 2,4-Dichlorophenol | µg/L | <16 | <16 | <8 | <16 |
| 2,4-Dimethylphenol | µg/L | <16 | <16 | <8 | <16 |
| 2,4-Dinitrophenol | µg/L | <16 | <16 | <8 | <16 |
| 2-Methyl-4,6-dinitrophenol | µg/L | <16 | <16 | <8 | <16 |
| 2-Nitrophenol | µg/L | <16 | <16 | <8 | <16 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|---|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| 4-Nitrophenol | µg/L | <16 | <16 | <8 | <16 |
| Pentachlorophenol | µg/L | <16 | <16 | <8 | <16 |
| Phenol | µg/L | <8 | <8 | <4 | <8 |
| 2,4,5-Trichlorophenol | µg/L | <16 | <16 | <8 | <16 |
| 2,4,6-Trichlorophenol | µg/L | <16 | <16 | <8 | <16 |
| Base/Neutral Extractables - EPA 625 List | | | | | |
| Benzidine | µg/L | <16 | <16 | <8 | <16 |
| 3,3-Dichlorobenzidine | µg/L | <16 | <16 | <8 | <16 |
| bis-(2-Ethylhexyl)phthalate | µg/L | <8 | <8 | <4 | <8 |
| Benzyl butyl phthalate | µg/L | <8 | <8 | <4 | <8 |
| Dibutylphthalate | µg/L | <8 | <8 | <4 | <8 |
| Diethylphthalate | µg/L | <8 | <8 | <4 | <8 |
| Dimethylphthalate | µg/L | <8 | <8 | <4 | <8 |
| Di-n-octyl phthalate | µg/L | <16 | <16 | <8 | <16 |
| N-Nitrosodimethylamine | µg/L | <16 | <16 | <8 | <16 |
| N-Nitrosodiphenylamine | µg/L | <16 | <16 | <8 | <16 |
| N-Nitrosodi-n-propylamine | µg/L | <16 | <16 | <8 | <16 |
| 2,4-Dinitrotoluene | µg/L | <16 | <16 | <8 | <16 |
| 2,6-Dinitrotoluene | µg/L | <16 | <16 | <8 | <16 |
| Isophorone | µg/L | <8 | <8 | <4 | <8 |
| Nitrobenzene | µg/L | <16 | <16 | <8 | <16 |
| Acenaphthene | µg/L | <16 | <16 | <8 | <16 |
| Acenaphthylene | µg/L | <16 | <16 | <8 | <16 |
| Anthracene | µg/L | <16 | <16 | <8 | <16 |
| Benzo(a)anthracene | µg/L | <16 | <16 | <8 | <16 |
| Benzo(a)pyrene | µg/L | <10 | <10 | <5 | <10 |
| Benzo(b)fluoranthene | µg/L | <8 | <8 | <4 | <8 |
| Benzo(ghi)perylene | µg/L | <10 | <10 | <5 | <10 |
| Benzo(k)fluoroanthene | µg/L | <8 | <8 | <4 | <8 |
| Chrysene | µg/L | <20 | <20 | <10 | <20 |
| Dibenzo(a,h)anthracene | µg/L | <10 | <10 | <5 | <10 |
| Fluoranthene | µg/L | <8 | <8 | <4 | <8 |
| Fluorene | µg/L | <16 | <16 | <8 | <16 |
| Indeno(1,2,3-cd)pyrene | µg/L | <10 | <10 | <5 | <10 |
| Naphthalene | µg/L | <40 | <40 | <20 | <40 |
| Phenanthrene | µg/L | <8 | <8 | <4 | <8 |
| Pyrene | µg/L | <8 | <8 | <4 | <8 |
| bis(2-Chloroethyl) ether | µg/L | <16 | <16 | <8 | <16 |
| bis(2-Chloroethoxy) methane | µg/L | <16 | <16 | <8 | <16 |
| bis(2-Chloroisopropyl) ether | µg/L | <16 | <16 | <8 | <16 |
| 4-Bromophenyl phenyl ether | µg/L | <16 | <16 | <8 | <16 |
| 4-Chlorophenyl phenyl ether | µg/L | <16 | <16 | <8 | <16 |
| 2-Chloronaphthalene | µg/L | <16 | <16 | <8 | <16 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|------------------------------------|-------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Sample Date | Units | | | | |
| 1,2-Dichlorobenzene | µg/L | <16 | <16 | <8 | <16 |
| 1,3-Dichlorobenzene | µg/L | <16 | <16 | <8 | <16 |
| 1,4-Dichlorobenzene | µg/L | <16 | <16 | <8 | <16 |
| Hexachlorobenzene | µg/L | <16 | <16 | <8 | <16 |
| Hexachlorobutadiene | µg/L | <16 | <16 | <8 | <16 |
| Hexachlorocyclopentadiene | µg/L | <16 | <16 | <8 | <16 |
| Hexachloroethane | µg/L | <16 | <16 | <8 | <16 |
| 1,2,4-Trichlorobenzene | µg/L | <16 | <16 | <8 | <16 |
| Alcohols (DAI/GC/MS) | | | | | |
| 1-Butanol | µg/L | <100 | <100 | <100 | <100 |
| 2-Butanol | µg/L | <100 | <100 | <100 | <100 |
| Ethanol | µg/L | <100 | <100 | <100 | <100 |
| Methanol | µg/L | <100 | <100 | <100 | <100 |
| 2-Methyl-1-butanol | µg/L | <100 | <100 | <100 | <100 |
| 2-Methyl-2-butanol | µg/L | <100 | <100 | <100 | <100 |
| 3-Methyl-1-butanol (Isopentanol) | µg/L | <100 | <100 | <100 | <100 |
| 2-Methyl-1-propanol | µg/L | <100 | <100 | <100 | <100 |
| 2-Methyl-2-propanol | µg/L | <100 | <100 | <100 | <100 |
| 1-Pentanol (Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 |
| 2-Pentanol (sec-Amyl alcohol) | µg/L | <100 | <100 | <100 | <100 |
| 3-Pentanol | µg/L | <100 | <100 | <100 | <100 |
| 1-Propanol | µg/L | <100 | <100 | <100 | <100 |
| 2-Propanol (Isopropanol) | µg/L | <100 | <100 | <100 | <100 |
| Glycols (DAI/GC/MS) | | | | | |
| 1,2-Ethanediol (Ethylene glycol) | µg/L | <1000 | <1000 | <1000 | <1000 |
| 1,2-Propanediol (Propylene glycol) | µg/L | <500 | <500 | <500 | <500 |
| Carboxylates (CE) | | | | | |
| Acetate | µg/L | <125 | <125 | <125 | <125 |
| Formate | µg/L | <125 | <125 | <125 | <125 |
| Glycolate | µg/L | <125 | <125 | <125 | <125 |
| Glyoxylate | µg/L | <125 | <125 | <125 | <125 |
| Lactate | µg/L | <1000 | <1000 | <1000 | <1000 |
| Oxalate | µg/L | <125 | <125 | <125 | <125 |
| Propionate | µg/L | <125 | <125 | <125 | <125 |
| Aldehydes | | | | | |
| Formaldehyde | µg/L | 22 | 16 | 23 | 28 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)

Appendix 4. ISS WPA RIP and PWD Summary for Expeditions 18 through 20

| Mission | | ISS 15A/Exp. 18 | | | Soyuz 17/Exp. 18 |
|----------------------------------|---------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| | | WPA RIP | WPA PWD Aux Port | WPA RIP after reconfig | WPA RIP |
| Sample Location | | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 25-Mar-2009 | Processed Water 02-Apr-2009 |
| Sample Description | | | | | |
| Sample Date | | | | | |
| Analysis/Sample ID | Units | 20090330015 | 20090330016 | 20090330018 | 20090419001 |
| Amines (CE) | | | | | |
| Ethylamine | µg/L | <125 | <125 | <125 | <125 |
| Methylamine | µg/L | <125 | <125 | <125 | <125 |
| n-Propylamine | µg/L | <125 | <125 | <125 | <125 |
| Trimethylamine | µg/L | <125 | <125 | <125 | <125 |
| Non-volatiles (LC/UV-VIS) | | | | | |
| Urea | µg/L | <800 | <800 | <800 | <800 |
| Caprolactam | µg/L | <8 | <8 | <4 | <8 |
| Organic Carbon Recovery | | | | | |
| Organic Carbon Recovery | percent | 10.35 | 5.42 | 12.60 | 14.4 |
| Unaccounted Organic Carbon | mg/L | 0.08 | 0.11 | 0.06 | 0.09 |

#Acetone slightly above cal curve (estimated concentration)
 NA=Not analyzed;
 MI=Matrix interference
 SWEG - 1000 days (11-2008)