History/Revision Form

Document Number: WSRC-TR-2004-00386 Revision 2

Document Title: Characterization of Supernate Samples from High Level Waste Tanks 13H, 30H, 37H, 39H, 45F, 46F and 49H

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Document Changes:

Item Changed	Description
Section 3.2.3.1 (p. 12), Figure 6 and subsequent paragraph	Revision 1 omitted the Tank 39H unfiltered data from Figure 6. The revision adds this data to the plot and adjusts the associated text appropriately.
Section 3.2.3.4 (p. 14) first paragraph	Clarifying statement added identifying the analytical method used for data reported in Figure 8.
Section 3.2.3.6 (pp. 15-18) Tables 7 -10 and supporting text	Uranium and plutonium solubility model calculations were updated using revised data from Revision 2 of the report as detailed in this summary.
Section 6.2.3 Tank 30H ICP-ES Data (p. 32)	Tank 30H (0.45 µ, No AMP) ICP-ES sodium data in Revision 1 was >10X the other measured values. Review indicates the measurement used a sample with low dilution and hence the sodium fell outside the linear response range for the measurement. The value is considered unreliable and is removed from the report.
Sections 6.4.1 (pp. 44-45) and 6.4.4 (pp. 49-51), Tank 39H ICP-MS Data	Tank 39H (0.45 µ, AMP) ICP-MS data in Revision 1 are much lower than other Tank 39H ICP-MS measurements. Many species fell below detection limits. The authors believe the sample received excessive dilution and the data are not reliable. These data are removed from the report.
Section 6.4.2 Tank 39H Salt and Organic Species (p. 46)	Revision 1 listed incorrect data for the aluminum concentration. [Rev. 1 reported the detection limit for the AMP sample rather than the measured value for the No AMP sample.] Revision 2 supplies the correct value.
Section 6.4.3 Tank 39H ICP-ES Data (p.47)	Sample 2 (0.45 µ, AMP) calcium data in Revision 1 contained a typographical error in the exponent. This value was ~10X higher than the other measurements for this waste. Revision 2 provides the correct value which agrees reasonably with the other measurements.

Sections 6.4.5, 6.4.6, and 6.4.7 Tank 39H Data (pp. 52-56)	• Revision 1 used an incorrect dilution factor for Tank 39H (0.02 µ, No AMP) data underreporting concentrations by ~2X. Revision 2 corrects this error throughout the report. • Additionally, the reported average value for sulfur in the Tank 39H (0.45 µ, No AMP) ICP-ES data contained a typographical error. Revision 2 provides the correct value.
Section 6.6.2 Tank 46F Salt and Organic Species (p. 72)	Sample 3 Total Base, Free Hydroxide, Carbonate and Aluminate titration data in Revision 1 are substantially lower than Sample 1 and 2 Tank 46H titration measurements. In contrast, for the other six tanks the variance between measurements for all three samples is much lower. The authors believe the sample received excessive dilution and the data are not reliable. Data are removed from the report.
Section 7.0 Appendix 1 (pp. 86-89)	• Three of the tables were incorrectly labeled. • Tank 39H (0.02 µ, No AMP) data are revised to correct the previously identified incorrect dilution factor for Tank 39H (0.02 µ, No AMP) data. Tank 39H (0.45 µ, AMP) ICP-MS data are revised to remove the previously identified suspect data (now reported as NA). • Tank 45F (0.1 µ) ICP-ES AMP data were incorrectly labeled as No AMP and the previously reported No AMP data was incorrect. Revision 2 corrects these errors.

Key Words:
Salt Disposition
Waste Tank
Characterization
WAC

Retention:
Permanent

Characterization of Supernate Samples from High Level Waste Tanks 13H, 30H, 37H, 39H, 45F, 46F and 49H

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LIST OF ACRONYMS

AA	Atomic Absorption
ADS	Analytical Development Section
ALARA	As Low As Reasonably Achievable
Am	Americium
AMP	Ammonium Molybdophosphate
ARP	Actinide Removal Processing
Cm	Curium
CN	Cellulose Nitrate
DOE	Department of Energy
HF	Hydrofluoric Acid
HLW	High Level Waste
HPLC	High Pressure Liquid Chromatography
IC	Ion Chromatography
ICP-ES	Inductively Coupled Plasma Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma Mass Spectroscopy
MST	Monosodium Titanate
Np	Neptunium
PHA	Pulse Height Analysis
Pu	Plutonium
PuTTA	Plutonium Thenoyltrifluoroacetone Extraction and Alpha Analysis
Sr	Strontium
SRNL	Savannah River National Laboratory
SRS	Savannah River Site
SVOA	Semi Volatile Organic Analysis
SWPF	Salt Waste Processing Facility
Tc	Technetium
TIC/TOC	Total Inorganic Carbon/Total Organic Carbon
TPB	Tetraphenylborate
TTQAP	Task Technical and Quality Assurance Plan
U	Uranium
VOA	Volatile Organic Analysis
WAC	Waste Acceptance Criteria
WCS	Waste Characterization System
WPT	Waste Processing Technology

1.0 EXECUTIVE SUMMARY

This document presents work conducted in support of technical needs expressed, in part, by the Engineering, Procurement, and Construction Contractor for the Salt Waste Processing Facility (SWPF). The Department of Energy (DOE) requested that Savannah River National Laboratory (SRNL) analyze and characterize supernate waste from seven selected High Level Waste (HLW) tanks to allow

- classification of feed to be sent to the SWPF,
- verification that SWPF processes will be able to meet Saltstone Waste Acceptance Criteria (WAC), and
- updating of the Waste Characterization System (WCS) database.

This document provides characterization data of samples obtained from Tanks 13H, 30H, 37H, 39H, 45F, 46F, and 49H and discusses results.

Characterization of the waste tank samples involved several treatments and analysis at various stages of sample processing. These analytical stages included as-received liquid, post-dilution to 6.44 M sodium (target), post-acid digestion, post-filtration (at 3 filtration pore sizes), and after cesium removal using ammonium molybdophosphate (AMP).

Results and observations obtained from testing include the following.

- All tanks will require cesium removal as well as treatment with Monosodium Titanate (MST) for ^{90}Sr (Strontium) decontamination.
- A small filtration effect for ^{90}Sr was observed for six of the seven tank wastes. No filtration effects were observed for Pu (Plutonium), Np (Neptunium), U (Uranium), or Tc (Technetium).
- ^{137}Cs (Cesium) concentration is ~E+09 pCi/mL for all the tank wastes.
- Tank 37H is significantly higher in ^{90}Sr than the other six tanks. ^{237}Np in the F-area tanks (45F and 46F) are at least 1 order of magnitude less than the H-Area tank wastes.
- The data indicate a constant ratio of ^{99}Tc to Cs in the seven tank wastes. This indicates the Tc remains largely soluble in Savannah River Site (SRS) waste and partitions similarly with Cs.
- ^{241}Am (Americium) concentration was low in the seven tank wastes. The majority of data were detection limit values, the largest being < 1.0E+04 pCi/mL.
- Measured values for Pu and U were generally well below solubility model predictions.

2.0 INTRODUCTION

This report is in support of technical needs expressed, in part, by the Engineering, Procurement, and Construction Contractor for Salt Waste Processing Facility (SWPF) as detailed in WSRC-TR-2003-00403, "Task Technical and Quality Assurance Plan (TTQAP) for Waste Characterization Support.[1] The DOE requested that SRNL analyze and characterize supernate waste from 7 selected High Level Waste (HLW) tanks for 1) classification of feed to be sent to the SWPF, 2) to update the Waste Characterization System (WCS) database, and 3) verification that SWPF processes will be able to meet Saltstone Waste Acceptance Criteria (WAC). This document provides characterization data of samples obtained from Tanks 13H, 30H, 37H, 39H, 45F, 46F, and 49H. This document also provides details of sample preparation, indicates the type of analyses performed on each sample, and discusses results from samples taken. The tank samples were prepared for analysis in the SRNL Shielded Cells Facility under the direction of personnel from Waste Processing Technology Section (WPTS).

Characterization of the waste tank samples involved several treatments and analysis at various stages of sample processing. These analytical stages included as-received liquid, post-dilution to 6.44 M sodium (target), post-acid digestion, post-filtration (at 3 filtration pore sizes), and after cesium removal using AMP. Insufficient solids were isolated after filtration and thus could not be analyzed.

The as-received liquid was analyzed for density and sodium and then diluted to 6.44 M sodium with the resulting samples analyzed per the WAC. The limited amount of tank material allowed for only partial analysis of the WAC components; a larger sample volume would be needed to complete a full WAC measurement. WAC analyses that were unable to be performed were organic analyses.

As noted previously, SRNL personnel were tasked to utilize AMP on selected tank samples to remove ^{137}Cs from the waste. Cesium 137 is a major radionuclide found in SRS HLW streams. Samples removed from the Shielded Cells typically require large dilutions because of the high gamma activity; treatment with AMP resin should aid analysis in two ways. First, the removal of ^{137}Cs from the waste permits lesser-diluted aliquots to be removed from the Shielded Cells, thus lowering sample detection limits in the analytical instrument. Second, the AMP treatment is a good As Low As Reasonably Achievable (ALARA) practice since it reduces whole body gamma radiation from samples.[1] To verify the AMP methodology, researchers were asked to perform AMP treatment on the seven HLW tank samples. Furthermore, for this demonstration, test samples without the use of AMP on two designated tank wastes, Tanks 39H and 45F, were used to provide comparative data on interferences (i.e., unwanted removal of non-cesium species) caused by the AMP treatment.

3.0 DISCUSSION

3.1 EXPERIMENTAL

Researchers measured radioactive and chemical constituents from seven High Level Waste tanks in F and H Area Tank Farms. The resulting information will be used to characterize the composition of feed expected for the SWPF. The HLW tanks were selected based on the following criteria.[2]

- High activity levels of H-Area tanks.
- Various ranges of hydroxide concentrations and ionic strengths.
- The potential to contain elevated Am and Curium (Cm) concentrations (e.g., Tank 39H).
- Tanks with waste intended for processing in the SWPF.
- An Actinide Removal Processing (ARP) tank (Tank 45F) was added to broaden the range of feeds tested.

3.1.1 Receipt of High Level Waste Tank Samples

Samples from High Level Waste Tanks 30H, 39H, 45F, and 46F were delivered to the Shielded Cells of SRNL in the months of May-July 2003. Supernate samples from Tanks 13H, 37H, and 49H were sampled and received at SRNL in October 2003. Three dip samples from the supernate level were removed from each tank, except Tank 39H, which had six samples removed. The supernate samples from each tank were combined yielding seven composite samples. These were stored in polypropylene bottles until analysis. Each dip bottle contained approximately 80 mL of material (liquid supernate) with the exception of Tanks 37H and 39H. Dip bottles from Tank 39H were larger in size and contained ~200 mL. The cumulative volume of sample obtained from the 3 dip samples taken from Tank 37H was 110 mL. Per procedure, each dip bottle contained a unique identification number for purpose of sample identification. Sample identification numbers for each tank's bottles and the total composite volume of as-received waste are provided below (see Table 1).

Table 1 Sample Identification of Tank Waste

Tank	Sample Receipt Date	Dip Bottle Identification	Volume of Sample (mL)
13H	October 20, 2003	HTF-606-608	200
30H	May 12, 2003	HTF-588-560	200
37H	October 10, 2003	HTF-602-604	110
39H	July 10-11, 2003	HTF-E-82-86	660
45F	June 9, 2003	FTF-198-200	220
46F	June 23, 2003	FTF-205-207	230
49H	October 20, 2003	HTF-142-144	250

3.1.2 As-received Tank Samples

Dip bottle samples from Tanks 13H, 30H, 37H, 39H, 45F, 46F, and 49H were composited into polybottles and allowed to settle overnight. Figure 1 and Figure 2 show the as-received samples and dip bottles for Tanks 30H, 39H, 45F, and 46F. Visual inspection of the supernate composites showed samples from Tanks 39H, 45F, and 46F were clear and light in color with no observable solids.

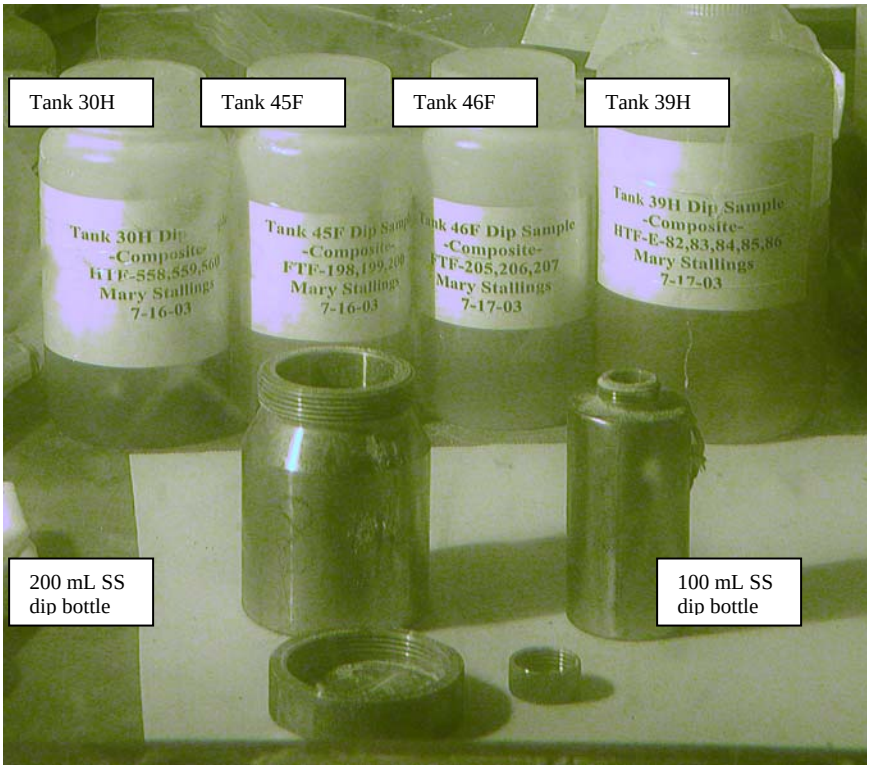


Figure 1 Photograph of as-received waste from Tanks 30H, 39H, 45F, and 46F

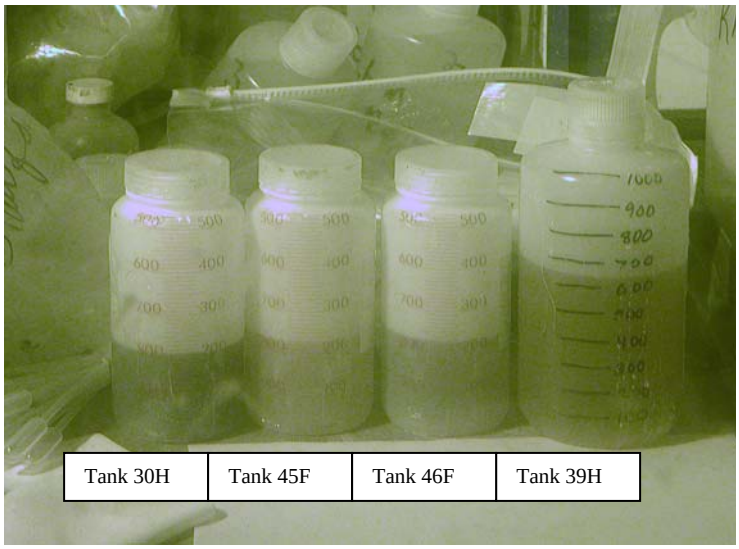


Figure 2 Photograph of as-received Tank 30H, 39H, 45F, and 46F samples after settling overnight

Tank 30H material was more opaque and dark in color, although it did not appear to contain solids. Researchers removed a 10 mL portion of the Tank 30H sample and filtered through a 0.45 micron cellulose nitrate syringe filter. No solids were visible on the surface of the filter (See Figure 3). Samples of Tanks 13H, 37H, and 49H are shown in Figure 4. Tanks 13H and 49H were clear and

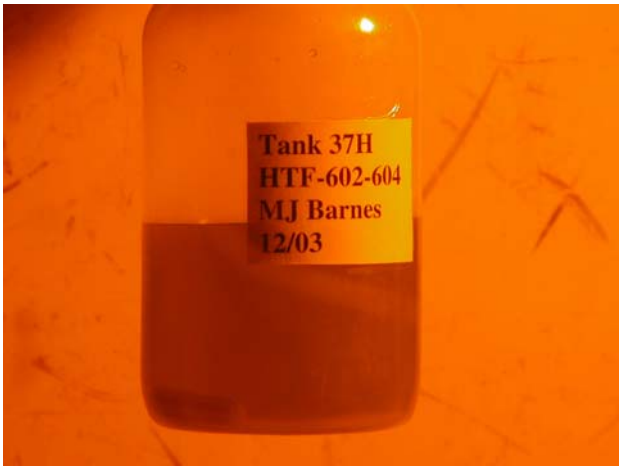
lightly colored. Tank 37H material was much darker. Figure 5 shows a close-up of Tank 37H waste after settling. The waste remained dark and no settled solids were observed.

Figure 3 Photographs show a 0.45 micron cellulose nitrate disc filter after passing 10 mL of Tank 30H supernate solution through the filter and the resulting filtrate

Figure 4 Photograph of as-received waste from Tanks 13H, 37H, and 49H

3.1.2.1 Physical Characterization of as-received Waste

Density measurements were made on the composite supernate samples using 2 mL glass Class A micro-volumetric flasks. Technicians measured the weight of 2-mL samples and calculated the density of the as-received supernate for each tank. Simple analytical characterization of as-received waste was performed to determine the sodium concentration of the waste. From these, the level of dilution required to obtain a 6.44 M sodium concentration was calculated.



(Note the stirbar in the lower left bottom of the bottle and that no settled solids are present)

Figure 5 Close-up of as-received waste from Tank 37H

3.1.3 Preparation of 6.44 M Diluted Supernate Samples

The sodium concentration of HLW supernate in SRS waste tanks varies from tank to tank and concentrations of 10 to 15 M are not uncommon. For treatment and analytical purposes, as well as comparison of tank wastes, a standard sodium concentration of 6.44 M was selected as a target for dilution of the wastes.[3] More importantly, this sodium concentration represents the target baseline sodium concentration for waste to be sent to the Salt Waste Processing Facility.

3.1.3.1 Sodium Dilution Utilizing 1.66M Sodium Hydroxide

Researchers prepared the supernate samples for WAC testing by diluting the waste with 1.66 M NaOH in two stages. The goal was to produce supernate samples with a sodium concentration at or below 6.44 M. Adjusting the supernate with a dilute sodium hydroxide solution (1.66 M) prevented precipitation of major components of interest due to fluctuating changes in pH. The first stage of the two stage dilution targets a sodium concentration approximately 10 % higher (i.e., ~7 M) than the final target concentration. This intermediate sample is analyzed by the same methods as the as-received samples. The second stage of dilution is accomplished using the newly measured sodium and anions concentration data to determine the second level of dilution required. The two stage dilution helps to overcome errors observed with a single stage dilution, primarily over-dilution (caused by inaccurate measurement of sodium from highly concentrated samples) and significant under dilution (caused by the presence of insoluble sodium salts that dissolve upon dilution). Even with a two-stage dilution technique, the accuracy of dilution is troublesome and can be both time consuming and costly.

After the second sample dilution (stage 2), the density of each tank composite was gravimetrically determined. The density of the resulting solution was used as an indicator to verify that the sodium concentration was near the target goal of 6.44 M.

3.1.3.2 Warm Acid Dissolution

For radiochemical and some analytical analyses on unfiltered samples of Tanks 30H, 39H, 45F, and 46F, warm acid dissolution was performed to dissolve any small entrained particles that may be present in the sample. Three 5-mL aliquots were taken from each of the diluted tank samples and placed in microwave Teflon™ vessels. A 10:1 concentrated nitric acid and hydrofluoric acid (HF) mixture was added to the samples and heated for 2 hours in a drying oven at 100 °C. The Teflon™ vessels were removed from the oven, cooled, and the sample aliquots diluted to 100 mL with distilled, de-ionized water in a plastic volumetric flask. Warm acid dissolutions were performed in triplicate only for Tanks 30H, 39H, 45F, and 46F. It was determined from the previous tank samples that unfiltered samples from Tanks 13H, 37H, and 49H did not need to undergo warm acid dissolution prior to analysis. Instead, dilution of samples into 2 M nitric acid was performed.

3.1.3.3 Filtration of Diluted Supernatant Samples

Diluted (6.44 M sodium) supernate waste was sequentially filtered through three levels of filtration: 0.45-μm pore size cellulose nitrate (CN) membrane filter, 0.10-μm pore size and 0.02-μm pore size mixed cellulose acetate/nitrate filters. Aliquots were obtained after each level of filtration for characterization.

3.1.3.4 Treatment with Ammonium Molybdophosphate

Prior to this testing, work was performed with simulants using ammonium molybdophosphate (AMP) to assess its affect on various salt solutions.[4] Previously, the bright yellow powder had been used analytically to remove cesium from waste solutions. The results of the testing showed AMP, under the conditions employed, to be effective for removing cesium while not affecting the strontium or actinide concentrations.[4] Since the AMP demonstration was successful with simulant, DOE requested that the researchers use AMP as part of this task's sample analysis protocols. The methodology involved transferring the diluted, acidified (~1 M residual nitric acid) sample to a second sample bottle which contained AMP (0.002 g/mL). The mixture was manually shaken for ~ 30 seconds and then immediately filtered using a 0.45 μ disposable cup filter (cellulose nitrate membrane). AMP treatment was performed on aliquots of diluted (6.44 M sodium target) supernate waste from all seven tanks after each filtration stage. For comparison purposes, untreated aliquots of Tanks 39H and 45F diluted waste were similarly analyzed.

3.1.3.5 Collected Solids after Filtration

Filtration at three different pore sizes on each tank waste sample (as noted previously) was conducted. The residual filter paper and any collected solids were isolated and air-dried. Less than 20 mg of solids were collected from all filtered tank samples. This small amount of solids did not permit the analysis of the residual solids.

3.1.4 Characterization

Chemical and radionuclide characterization of the supernate material was conducted on the various aliquots (i.e., unfiltered, filtered, AMP- and no AMP-treated) obtained from the wastes. Table 2 and Table 3 provide a synopsis of the various analytical methods and species involved relative to the specific sample treatment.

Table 2 List of Analyses for Samples of Tanks 30H, 39H, 45F, and 46F

Sample Description	Analyses
as-received supernate	Anions (Ion Chromatography (IC) Anions) (1) Inductively Couple Plasma Atomic Emission Spectroscopy (ICP-ES) Specific gravity
Diluted to 6.44 M sodium (unfiltered/digested)	Organics (Semi Volatile Organic Analysis (SVOA), Volatile Organic Analysis (VOA)) (1) Di-n-butyl phosphate (IC Anion) (1) Anions (IC Anions) (1) Tri-n-butyl phosphate (1) Alpha PHA Am/Cm (a technique which provides separate Am and Cm analysis) ^{14}C (1) Gamma spectroscopy Gross beta-gamma ^{129}I (1) Plutonium Thenoyltrifluoroacetone Extraction and Alpha Analysis (Pu-TTA) ^{90}Sr ^{99}Tc (1) ^{3}H (1) Atomic Absorption (AA) Spectroscopy (Na and K) AA (As, Se, Hg) (1) ICP-ES Specific gravity Total Inorganic Carbon/Total Organic Carbon (TIC/TOC) Total OH^-/Free OH^-/other bases
Filtrate (0.45 µ) (nominally AMP treated – however, Tanks 39H and 45F waste samples were also analyzed without AMP treatment)	Am/Cm (a technique which provides separate Am and Cm analysis) Pu-238/241 ^{90}Sr ICP-ES Inductively Coupled Plasma – Mass Spectroscopy (ICP-MS) (actinides and fissile products including ^{237}Np and U)
Filtrate (0.1 µ) (nominally AMP treated – however, Tanks 39H and 45F waste samples were also analyzed without AMP treatment)	^{241}Am Pu-TTA ^{90}Sr ICP-ES ICP-MS (actinides and fissile products including ^{237}Np and U)
Filtrate (0.02 µ) (nominally AMP treated – however, Tanks 39H and 45F waste samples were also analyzed without AMP treatment)	^{241}Am Pu-TTA ^{90}Sr ICP-ES ICP-MS (actinides and fissile products including ^{237}Np and U)

Analyses with a "(1)" notation indicate a single analysis instead of a triplicate analysis.

Table 3 List of Analyses for Samples of Tanks 13H, 37H, and 49H

Sample Description	Analyses
as-received supernate (unfiltered)	Anions (IC Anions) (1) ICP-ES Specific gravity
Diluted to 6.44 M sodium (filtered, 0.45 µ) (nominally AMP treated – however, some analyses of AMP treated filtrate were not possible since acidification would affect analysis)	Organics (SVOA, VOA) (1) Di-n-butyl phosphate (IC Anion) (1) Anions (IC Anions) (1) Tri-n-butyl phosphate (1) Alpha PHA ^{14}C (1) Gamma spectroscopy Gross beta-gamma ^{129}I (1) ^{99}Tc (1) ^{3}H (1) AA (Na and K) AA (As, Se, Hg) (1) Specific gravity TIC/TOC Total OH^-/Free OH^-/other bases Am/Cm (a technique which provides separate Am and Cm analysis) Pu-238/241 ^{90}Sr ICP-ES ICP-MS (actinides and fissile products including ^{237}Np and U)
Filtrate (0.1 µ) (AMP treated)	^{241}Am Pu-TTA ^{90}Sr ICP-ES ICP-MS (actinides and fissile products including ^{237}Np and U)
Filtrate (0.02 µ) (AMP treated)	^{241}Am Pu-TTA ^{90}Sr ICP-ES ICP-MS (actinides and fissile products including ^{237}Np and U)

Analyses with a "(1)" notation indicate a single analysis instead of a triplicate analysis.

Samples submitted for analysis for organics, anions, TIC/TOC, bases, ^{14}C, and ^{129}I were diluted (20 – 50 fold) in distilled, deionized water. All other samples were diluted in nitric acid. Those receiving AMP treatment were diluted five fold while those not receiving AMP treatment diluted 50 fold. The only samples which could not be analyzed (for sample integrity) after AMP treatment were those requiring cesium (gamma) analysis and gross beta.

3.1.5 Quality Assurance Parameters

3.1.5.1 Blanks and Controls

Blanks and control standards having similar bulk salt chemical make-up as the supernate samples were analyzed concurrently with the HLW supernate material for radiochemical analysis and routine analysis including ICP-ES and ICP-MS methods. The blank and control standards were processed in the Shielded Cells using the same methodology and procedures as the supernate samples. This provided a check to determine the amount of cross contamination of the samples as a result of handling in the Shielded Cells. The blanks used for Tanks 30H, 39H, 45F, and 46F consisted of 6.44 M sodium hydroxide salt solution prepared from reagent grade chemicals. The blanks used for samples from Tanks 13H, 37H, and 49H consisted of a nominal 6.4 M sodium salt solution simulant prepared with reagent grade chemicals. A simplified salt solution spiked with radionuclides of known concentrations comprised the control standard for Tanks 30H, 39H, 45F, and 46F. A residual sample of tank waste used in other testing in the Shielded Cells was used as the control standard for Tanks 13H, 37H, and 49H. The use of triplicate measurements evaluated the bias and precision of the methods being used. Analysis of blank and control data was performed in conjunction with that of actual samples to verify that significant levels of cross contamination did not occur and that accurate analysis of the actual samples occurred.

3.1.5.2 Treatment of "Less than" Data Values in Data Averaging

A large number of analytical results fell at or below detection limits. No rigorous statistical approach exists for handling the multiple of permutations when averaging the resulting data. The approach used seeks to provide the "best estimate" of the value as opposed to a conservative value for safety or regulatory purposes. The report uses the following conventions.

1. When all measured values exceed the respective method detection limits, the average of all values is reported. (In this discussion, we will use the term "real measurement" for a measurement that exceeds the method detection limit.)

2. When all measured values fall below the respective method detection limit (i.e., termed a "less than measurement"), the lowest of these method detection limits is reported. Hence, this approach treats all three values as "valid" and selects the most consistent interpretation of the multiple measurements.

3. In many cases, one analytical result may exceed the method detection limit (i.e., a "real measurement") while the second (or third) analytical results fall below the associated method detection limit (i.e., "less than measurements"). Two permutations exist.

    a. The "less than measurements" are larger than the "real measurements". In this case, the "less than measurement" is ignored and the average of the "real measurements" is reported.

    b. The "real measurements" are larger than the "less than measurements". In this case, the average of the real measurements and the method detection limit for the "less than measurement" is reported.

3.2 RESULTS

3.2.1 Densities and Sodium Concentrations of Tank Wastes

Table 4 contains both density and sodium concentration of as-received and Diluted (6.44 M Na target) waste from each tank. The as-received sodium concentration ranged from 6.2 to 15.7 M. All seven tank samples were below the target sodium concentration of 6.44 M after dilution. Several cases diluted more than desired but even the most dilute sample falls within concentration range covered by prior studies for the unit operations.

Table 4 Densities and Sodium Concentration of as-received and Diluted (6.44 M Na target) Tank Waste

	"As-Received"*		Diluted	
Tank	Density (g/mL)	Sodium[#] (M)	Density* (g/mL)	Sodium[$] (M)
13H	1.46	12.0	1.26	5.30 ± 0.16
30H	1.49	13.0	1.24	4.89 ± 0.13
37H	1.52	14.5	1.28	6.21 ± 0.12
39H	1.29	6.2	1.29	5.80 ± 0.01
45F	1.53	15.7	1.22	4.53 ± 0.73
46F	1.49	12.9	1.27	5.08 ± 0.14
49H	1.42	10.0	1.28	6.31 ± 0.18

*Data from unfiltered samples

[#]ICP-ES analysis of 0.45 μm filtered sample

[$]AA analysis

3.2.2 Characterization Results

Results from chemical and radiological analysis of the seven waste tank composite samples are contained in tables in Section 6 of this report. The data are presented in sub-sections for each tank (e.g., Tank 13H data are in Section 6.1, Tank 30H data are in Section 6.2, etc.). Each subsection contains four tables: Radiological Characterization, Salt and Organic Species, ICP-ES Characterization, and ICP-MS Characterization. Radiological data from ICP-MS is included in the Radiological Characterization table for comparative purposes and also in the ICP-MS Characterization table for completeness. To calculate total Pu and U we used the isotopes that were measured above detection limit.

3.2.3 Analysis of Results

Variables included in the characterization of the waste tanks included filtration at multiple levels and the use (or non-use) of AMP. Specific analysis of the characterization data with regards to these parameters, as well as a few other potential effects, follows.

3.2.3.1 Filtration Effects on Sr and the Actinides after AMP Treatment

One effect examined by the characterization program was the possible presence of particulate Sr (or possibly one of the actinides). If observed, filtration in plant operations could be used to affect a

level of decontamination without adding adsorbent. Characterization for ^{90}Sr and the actinides involved analysis of samples passing three filter sizes (0.45µm, 0.1 µm, and 0.02 µm). Figure 6 is a bar graph of ^{90}Sr data after AMP treatment where the values shown are given as percent of the initial or first measured concentration of the species.

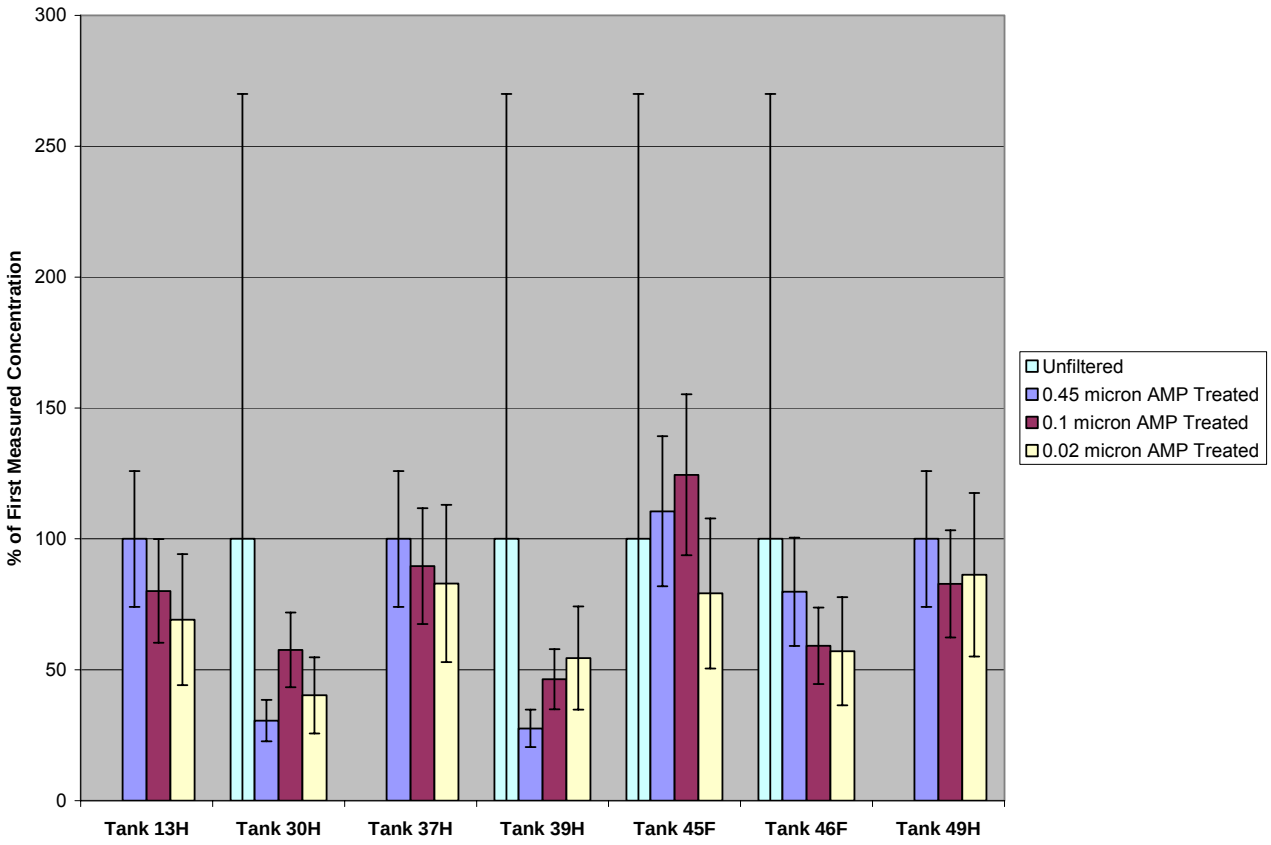


Figure 6 Graph of Normalized ^{90}Sr Data as a Function of Filtration Level

For Tanks 13H, 37H, and 49H, the first measured concentration was after filtration with a 0.45-µm filter. For Tanks 30H, 39H, 45F, and 46F, unfiltered (digested) waste solution was the first analyzed sample. The data is not conclusive. However, Tanks 13H, 30H, 37H, 39H, 46F, and 49H all show a decrease in concentration after filtration from the initially measured sample. The presence of AMP will lead to a filter cake that may increase filtering efficiency and hence detract from any observations of the fine Sr- bearing particles passing through the filters. A similar analysis of total Pu, ^{237}Np, total U, and ^{99}Tc data did not show any similar observed trends or effects.

3.2.3.2 Filtration Effects on Sr and the Actinides without AMP

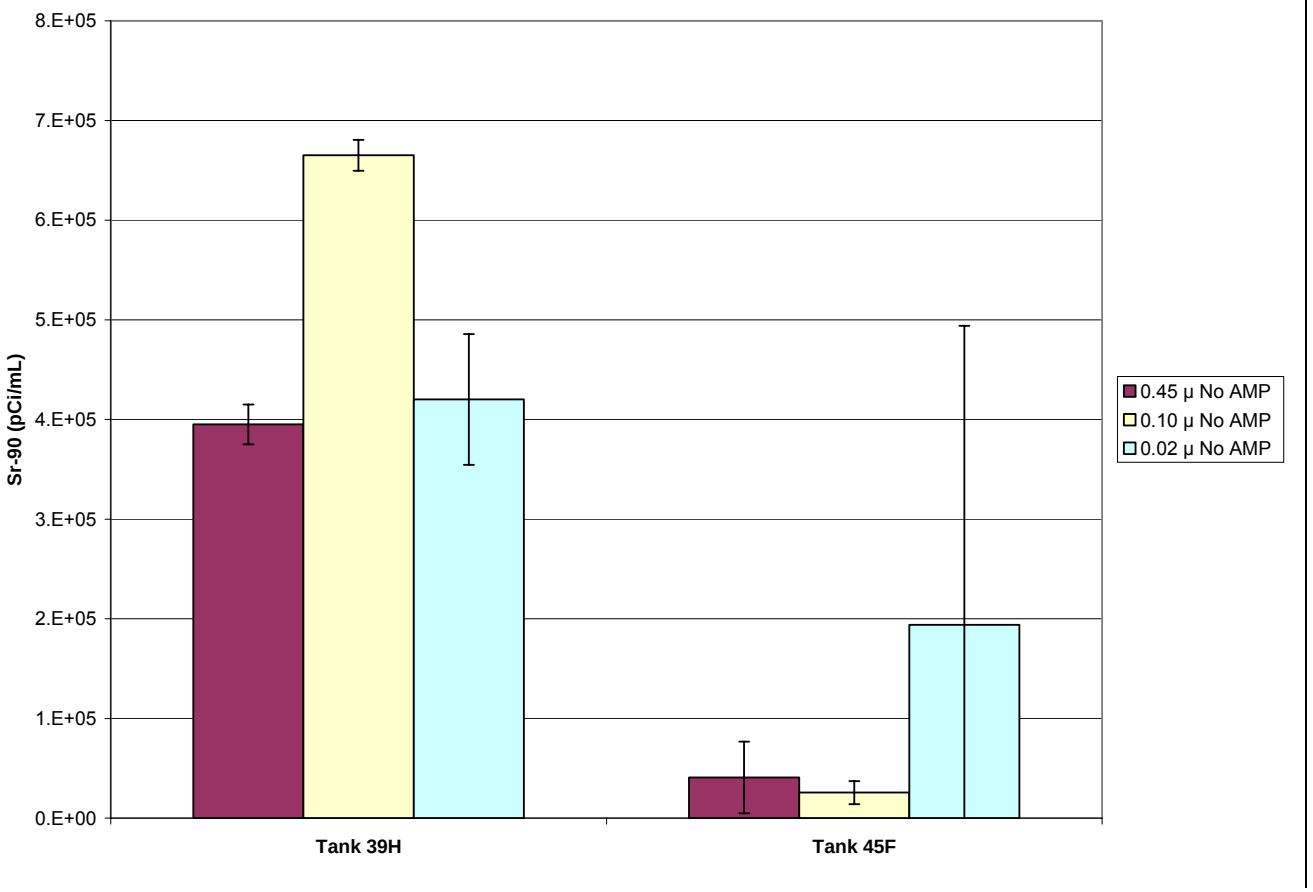


Figure 7 Graph of ^{90}Sr Data as a Function of Filtration Level

The graph in Figure 7 represents ^{90}Sr data plotted from supernate samples submitted from Tanks 39H and 45F. The measurements were taken after passing supernate through three filter sizes (0.45µm, 0.1 µm, and 0.02 µm) and without AMP treatment. Comparison of the AMP data vs no AMP data at the 0.45µm filtration level shows comparable amounts of ^{90}Sr removed. Due to the scatter in the measurements of ^{90}Sr for Tank 45F processed without AMP, the uncertainty in the data overshadows any evidence of a filtration effect.

3.2.3.3 Major Radionuclides vs Decontamination Requirements

Table 5 contains a list of the major radionuclide concentrations measured in the seven tank composite samples. The data show that all tanks contain about E+09 pCi/mL ^{137}Cs. Tank 37H is significantly higher in ^{90}Sr than the majority of the other tank wastes. Tanks 45F and 46F are at least 1 order of magnitude less than the H-Area tanks (with the exception of Tank 13H) with respect to ^{237}Np. Tank 39H contains the highest concentration of total alpha. All tanks will require cesium removal as well as treatment with MST for ^{90}Sr and actinides decontamination.

Table 5 Comparison of Major Radionuclide Species vs. Saltstone WAC Requirements

Species	Saltstone Limit #		Concentration (pCi/mL)						
	nCi/g	**pCi/mL**	**Tank 13H**	**Tank 30H**	**Tank 37H**	**Tank 39H**	**Tank 45F**	**Tank 46F**	**Tank 49H**
^{137}Cs	45	5.63E+04	1.54E+09	8.27E+08	1.70E+09	6.73E+08	3.47E+08	5.07E+08	7.95E+08
^{90}Sr	40	5.00E+04	3.04E+05	2.40E+05	1.46E+06	1.73E+05	2.30E+04	1.66E+04	8.54E+04
^{237}Np	0.03	3.75E+01	9.51E+00	7.89E+00	1.17E+01	1.02E+02**	<4.6E-01	<4.6E-01	1.06E+02
^{99}Tc*	320	4.00E+05	2.80E+05*	3.51E+05*	3.59E+05*	1.42E+06*	NA	1.80E+05	1.42E+05*
^{129}I	1	1.25E+03	2.33E+02	<5.15E+02	<4.30E+02	<1.14E+02	NA	<1.36E+02	<1.56E+02
^{14}C	800	1.00E+06	<1.96E+02	<2.70E+02	1.12E+02	<3.38E+02	NA	<2.45E+03	<2.02E+02
Total Alpha	18	2.25E+04	1.13E+04	2.09E+04	2.43E+04	5.88E+05	<1.12E+04	<8.84E+03*	8.13E+03

Values exceeding the Saltstone Limit are highlighted in orange.
Bases, Assumptions, and Results for the Decision Phase Alternatives, WSRC-RP-99-00006, Rev. 3
* unfiltered data
** 0.1 mm filter data

3.2.3.4 Plot of ^{99}Tc Concentrations vs. ^{137}Cs Concentrations

One trend observed in previous data sets was the correlation of ^{99}Tc with ^{137}Cs. The authors assessed this correlation using data from the waste tank samples. Figure 8 provides a graph of the ^{99}Tc data (note: ICP-MS Tc data was used for the graph) versus its ^{137}Cs counterpart. The figure clearly shows a linear correlation of the data. In order to hold true, both species must remain soluble and not partition in any way. Also, the waste must come from fission of the same fuel (i.e., ratios of ^{99}Tc to ^{137}Cs fission yields will vary depending upon whether the target is ^{235}U or ^{239}Pu). However, fission yields from both tank farms have similar ratios. Since the vast majority of H-Area waste is the fission yields from ^{235}U, and the F-Area waste is a fission yield from Pu ^{239} the correlation is expected to hold true. One effect which could be observed with a minimal distortion is the age of the waste. The half-life of ^{137}Cs is relatively short (30.1 y) relative to ^{99}Tc (2.1E+05 y). Therefore, the ratio will change slightly with increasing age of the waste.

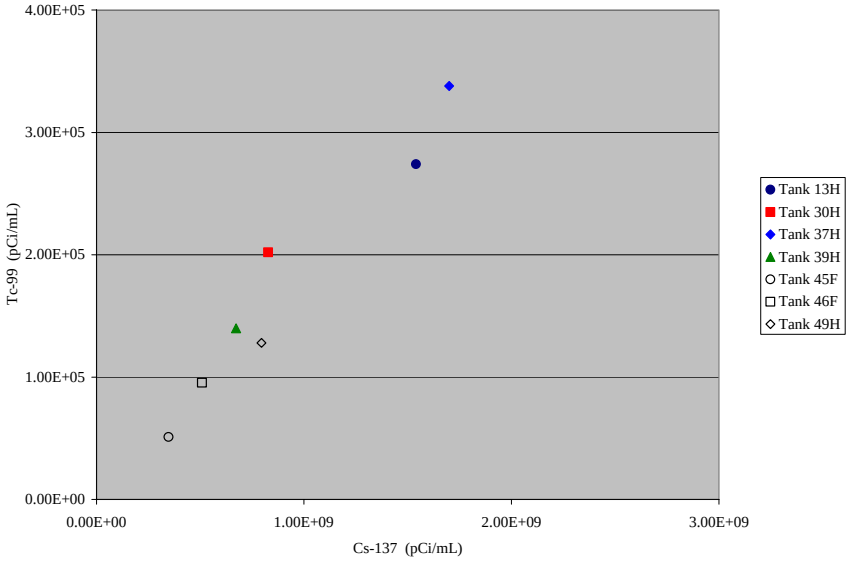


Figure 8 Graph of ^{99}Tc vs. Radioactive ^{137}Cs

3.2.3.5 ^{241}Am in Waste Tank Supernate

Table 6 contains the ^{241}Am results for the seven HLW tank supernate samples. The table provides a list of concentrations after sequential filtration through 0.45, 0.1, and 0.02 µ filters and treatment with AMP. Nearly all data were detection limit values and the less than data shown represent the highest measurement of triplicate analyses. The highest concentration observed was from Tank 49H (< 1.02E+04 pCi/mL). Analysis of the same sample by an alternate method showed the value to be < 1.68E+02 pCi/mL, nearly two orders of magnitude less than the other measured value and comparable to the other filtration level measurements for the tank and other tanks. The data as a whole show a low concentration of ^{241}Am present in SRS waste.

Table 6 ^{241} Am in Waste Tank Supernate

Tank Identification	0.45 µm filtered sample (pCi/mL)	0.1 µm filtered sample (pCi/mL)	0.02 µm filtered sample (pCi/mL)
13H	< 7.63E+02	< 2.17E+03	< 2.64E+02
30H	< 1.08E+03	< 2.38E+02	< 5.86E+02
37H	< 5.18E+02	< 2.72E+03	< 4.77E+02
39H	< 3.93E+03	1.60E+02	3.37E+02$
45F	5.09E+02	2.19E+02$	< 1.94E+02
46F	< 7.99E+03	< 7.68E+02	< 2.66E+02
49F	< 1.02E+04*	< 9.84E+02	< 3.43E+02

*Another analytical method - Gamma spectroscopy (after cesium removal) - of the same sample showed the ^{241}Am value was < 1.68E+02 pCi/mL.
$ = Results from single replicate

3.2.3.6 Comparison of Measured U and Pu vs. Solubility Model Predictions

We calculated total soluble plutonium and uranium concentrations for each of the tank samples using empirically derived solubility models.[5,6] We also calculated lower and upper limits for the 95% prediction intervals for each of the tank samples.[7] The predicted soluble uranium concentrations derive from the concentration data for the six major salt components in each of the seven waste tank samples. The predicted soluble plutonium concentrations derive from the hydroxide concentration only. The plutonium solubility model that includes the six major salt components (nitrate, hydroxide, aluminate, carbonate, nitrite and sulfate) predicts similar values to the hydroxide-only model. However, the results from this model are not provided, since many of the anion concentrations for the tank samples fall outside of the range of solution compositions used to derive this prediction model.

Tables 7 to 10 provide the predicted and measured soluble concentrations of uranium and plutonium for both the diluted and as-received supernate samples. The measured values reported in these tables for the diluted supernate values are those determined upon filtering the diluted samples through a 0.45-micron membrane, treating with AMP (except Tank 39H) and measuring the uranium content by ICP-MS and the plutonium content by radiochemical counting. The Tank 39H analytical results derive from aliquots filtered through a 0.45-micron membrane, but not treated with AMP.

Except for Tank 39H all of the as-received tank samples received significant dilution with 1.66 M sodium hydroxide solution prior to the performing the bulk of the chemical and radiochemical analyses. The as-received measured values are calculated by multiplying the diluted sample results by the appropriate dilution factor for each tank sample.[8] We calculated the predicted uranium and plutonium concentrations for the as-received samples using the calculated as-received anion concentrations.

For the diluted tank samples, only the Tank 39H sample exhibited measured values within the 95% prediction range for uranium and plutonium concentrations. This finding suggests that all of the diluted tank samples except that of Tank 39H are unsaturated in uranium and plutonium. For Tank 39H, the measured range of soluble uranium and plutonium concentrations overlap to a large degree with the 95% prediction intervals for both the diluted and as-received supernate samples. This suggests that the Tank 39H supernate is at or close to saturation in both uranium and plutonium.

For the as-received tank samples, the calculated upper 95% limits for the measured soluble uranium and plutonium concentrations of the Tanks 30H, 37H and 45F samples do not overlap with the solubility-model predicted lower 95% limit for the values. Thus, the supernate in these tanks appears unsaturated in both uranium and plutonium. The calculated upper 95% limit for the measured soluble uranium concentrations of the as-received Tank 46F and 49H samples and the measured plutonium concentrations for the as-received Tank 13H sample overlaps slightly with the solubility-model predicted lower 95% limit for the values. Thus, for these three tanks, although the measured values are well below the predicted values, we cannot conclude at the 95% level that the as-received supernates are unsaturated in uranium (Tanks 46F and 49H) or plutonium (Tank 13H).

Table 7 Predicted and Measured Uranium Concentrations for the Diluted Tank Supernate Samples

Tank #	Predicted Total Soluble U (mg/L)	95 % Prediction Interval Lower Limit (mg/L)	95 % Prediction Interval Upper Limit (mg/L)	Average Measured Total Soluble U (mg/L)	Std Dev Measured Total Soluble U (mg/L)	Measured Lower 95% Limit (mg/L)	Measured Upper 95% Limit (mg/L)
13H	1.25E+01	2.15E+00	7.33E+01	9.12E-01	1.34E-02	8.85E-01	9.39E-01
30H	2.34E+01	3.69E+00	1.49E+02	1.56E+00	2.12E-02	1.52E+00	1.60E+00
37H	3.63E+01	5.85E+00	2.26E+02	2.63E+00	5.61E-02	2.52E+00	2.74E+00
39H	6.93E+00	1.30E+00	3.68E+01	5.54E+00	5.06E-01	4.53E+00	6.55E+00
45F	4.00E+01	5.97E+00	2.68E+02	4.80E-01	9.68E-02	2.86E-01	6.74E-01
46F	2.66E+01	4.49E+00	1.58E+02	2.58E+00	1.09E-01	2.36E+00	2.80E+00
49H	1.56E+01	2.89E+00	8.41E+01	1.19E+00	4.67E-01	2.56E-01	2.12E+00

Table 8 Predicted and Measured Uranium Concentrations for the As-Received Tank Supernate Samples

Tank #	Predicted Total Soluble U (mg/L)	95 % Prediction Interval Lower Limit (mg/L)	95 % Prediction Interval Upper Limit (mg/L)	Average Measured Total Soluble U (mg/L)	Std Dev Measured Total Soluble U (mg/L)	Measured Lower 95% Limit (mg/L)	Measured Upper 95% Limit (mg/L)
13H	2.23E+01	3.34E+00	1.49E+02	2.01E+00	2.95E-02	1.95E+00	2.07E+00
30H	4.27E+01	5.18E+00	3.52E+02	5.15E+00	7.00E-02	5.01E+00	5.29E+00
37H	5.98E+01	8.13E+00	4.40E+02	6.05E+00	1.29E-01	5.79E+00	6.31E+00
39H	7.26E+00	1.34E+00	3.93E+01	6.09E+00	5.57E-01	4.98E+00	7.21E+00
45F	8.26E+01	8.82E+00	7.73E+02	2.02E+00	4.07E-01	1.20E+00	2.83E+00
46F	4.33E+01	5.59E+00	3.35E+02	8.26E+00	3.49E-01	7.56E+00	8.95E+00
49H	1.96E+01	3.10E+00	1.24E+02	2.14E+00	8.41E-01	4.61E-01	3.82E+00

Table 9 Predicted and Measured Plutonium Concentrations for the Diluted Tank Supernate Samples

Tank #	Predicted Total Soluble Pu (mg/L)	95% Prediction Interval Lower Limit (mg/L)	95% Prediction Interval Upper Limit (mg/L)	Average Measured Total Soluble Pu (mg/L)	Std Dev Measured Total Soluble Pu (mg/L)	Measured Lower 95% Limit (mg/L)	Measured Upper 95% Limit (mg/L)
13H	3.08E-01	2.37E-02	3.99E+00	7.23E-03	1.94E-03	3.36E-03	1.11E-02
30H	2.87E-01	2.21E-02	3.72E+00	<6.90E-03	nd	nd	nd
37H	7.67E-01	5.90E-02	9.98E+00	8.09E-03	1.09E-03	5.91E-03	1.03E-02
39H	2.54E-01	1.96E-02	3.29E+00	1.13E+00	4.27E-01	2.79E-01	1.99E+00
45F	6.84E-01	5.26E-02	8.88E+00	<3.90E-04	nd	nd	nd
46F	3.63E-01	2.80E-02	4.70E+00	1.60E-03	1.47E-04	1.31E-03	1.90E-03
49H	5.94E-01	4.57E-02	7.70E+00	2.84E-03	1.65E-03	0	6.14E-03

nd = not determinable

Table 10 Predicted and Measured Plutonium Concentrations for the As-Received Tank Supernate Samples

Tank #	Predicted Pu Conc (mg/L)	95% Prediction Interval Lower Limit (mg/L)	95% Prediction Interval Upper Limit (mg/L)	Average Measured Total Pu (mg/L)	Std Dev Measured Total Pu (mg/L)	Measured Lower 95% Total Pu (mg/L)	Measured Upper 95% Total Pu (mg/L)
13H	1.35E+00	1.03E-01	1.77E+01	1.59E-02	4.26E-03	7.39E-03	2.44E-02
30H	2.96E+00	2.21E-01	3.94E+01	<2.28E-02	nd	nd	nd
37H	4.49E+00	3.33E-01	6.06E+01	1.86E-02	2.51E-03	1.36E-02	2.36E-02
39H	2.98E-01	2.30E-02	3.86E+00	1.25E+00	4.70E-01	3.07E-01	2.19E+00
45F	1.68E+01	1.18E+00	2.40E+02	<1.64E-03	nd	nd	nd
46F	3.76E+00	2.80E-01	5.04E+01	5.13E-03	4.71E-04	4.19E-03	6.07E-03
49H	1.93E+00	1.46E-01	2.54E+01	5.11E-03	2.97E-03	0	1.10E-02

nd = not determinable

3.2.3.7 Comparison of Tank Samples 39H and 45F AMP vs No AMP Treatment

Researchers compared the data from the tests with the AMP addition with those from the no AMP experiments to provide insights as to reliability of performance of AMP to effectively remove ^{137}Cs and other radionuclide constituents of interest. Comparison of the Tank 39H and 45F AMP vs. No AMP samples, shown in Appendix 1, provided the basis for the analysis. After review, no conclusive pattern from either tank's samples can be made. At the species concentrations in these samples, the use of AMP appears to have no beneficial analytical effect.

4.0 CONCLUSIONS

This document provides characterization data from samples obtained from Tanks 13H, 30H, 37H, 39H, 45F, 46F, and 49H and discusses results from samples taken. Characterization of the waste tank samples involved several treatments and analysis at various stages of sample processing. These included as-received liquid, post-dilution to 6.44 M sodium (target), post-acid digestion, post-filtration (at 3 filtration pore sizes), and after cesium removal using AMP.

Results and observations obtained from testing include the following.

- All tanks will require cesium removal as well as treatment with MST for ^{90}Sr decontamination.
- A small filtration effect for ^{90}Sr AMP treated material was observed for six of the seven tank wastes. No filtration effects were observed for Pu, Np, U, or Tc.
- ^{137}Cs concentration is ~E+09 pCi/mL for all the tank wastes.
- Tank 37H is significantly higher in ^{90}Sr than the other 6 tanks. ^{237}Np in the F-Area tanks (45F and 46F) are at least 1 order of magnitude less than the H-Area tank wastes.
- The data indicate a constant ratio of ^{99}Tc to Cs in the 7 tank wastes. This indicates the Tc remains largely soluble in SRS waste and partitions similarly with Cs.
- ^{241}Am was low in the seven tank wastes. The majority of data were detection limit values, the largest being < 1.0E+04 pCi/mL.
- Measured values for Pu and U were generally well below solubility model predictions.

5.0 ACKNOWLEDGEMENTS

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6.0 DATA TABLES

6.1 TANK 13H CHARACTERIZATION

6.1.1 Tank 13H Radioactive Species

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	1.54E+09 ± 2.21E+07	1.87E+09 ± 2.70E+07	1.20E+09 ± 1.72E+07	1.54E+09	1.30E+07	3.38E+08
^{137}Cs	unfiltered	ICP-MS	pCi/mL	1.61E+09 ± 4.01E+08	1.67E+09 ± 4.18E+08	1.63E+09 ± 4.09E+08	1.64E+09	2.36E+08	3.31E+07
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL	3.31E+05 ± 2.52E+04	2.60E+05 ± 1.98E+04	3.20E+05 ± 2.43E+04	3.04E+05	1.34E+04	3.80E+04
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL	2.32E+05 ± 1.72E+04	2.51E+05 ± 1.86E+04	2.47E+05 ± 1.83E+04	2.43E+05	1.04E+04	1.02E+04
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	2.17E+05 ± 1.63E+04	2.07E+05 ± 1.51E+04	2.06E+05 ± 1.54E+04	2.10E+05	9.02E+03	6.27E+03
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	1.82E+04 ± 9.66E+02	2.03E+04 ± 9.95E+02	1.85E+04 ± 8.34E+02	1.90E+04	5.39E+02	1.12E+03
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	1.71E+04 ± 7.55E+02	1.71E+04 ± 7.87E+02	1.70E+04 ± 7.31E+02	1.71E+04	4.38E+02	7.18E+01
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	1.79E+04 ± 8.04E+02	1.79E+04 ± 8.77E+02	1.80E+04 ± 8.66E+02	1.79E+04	4.90E+02	9.04E+01
$^{239/40}$Pu	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	3.36E+02 ± 9.20E+01	5.82E+02 ± 8.27E+01	3.79E+02 ± 1.28E+02	4.32E+02	NA	1.32E+02
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	3.19E+02 ± 5.11E+01	2.98E+02 ± 3.91E+01	3.34E+02 ± 3.77E+01	3.17E+02	NA	1.77E+01
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	3.38E+02 ± 4.66E+01	3.66E+02 ± 8.01E+01	3.57E+02 ± 8.25E+01	3.54E+02	NA	1.44E+01
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL	< 2.69E+04 ± upper limit	< 3.52E+04 ± upper limit	< 2.79E+04 ± upper limit	< 2.69E+04	NA	upper limit
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL	NA	NA	NA		NA	
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL	NA	NA	NA		NA	
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	1.86E+04 NA	2.09E+04 NA	1.89E+04 NA	1.95E+04	NA	1.25E+03
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	1.75E+04 NA	1.74E+04 NA	1.73E+04 NA	1.74E+04	NA	8.95E+01
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	1.82E+04 NA	1.83E+04 NA	1.84E+04 NA	1.83E+04	NA	1.05E+02
^{235}U	unfiltered	ICP-MS	pCi/mL	2.37E-01 ± 5.92E-02	2.38E-01 ± 5.94E-02	2.15E-01 ± 5.38E-02	2.30E-01	NA	1.27E-02
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	3.04E-01 ± 7.60E-02	2.80E-01 ± 7.00E-02	2.92E-01 ± 7.29E-02	2.92E-01	NA	1.19E-02
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	1.56E-01 ± 3.89E-02	3.01E-01 ± 7.53E-02	2.76E-01 ± 6.90E-02	2.44E-01	NA	7.78E-02
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	3.57E-01 ± 8.94E-02	2.72E-01 ± 6.79E-02	2.76E-01 ± 6.90E-02	3.02E-01	NA	4.84E-02
^{238}U	unfiltered	ICP-MS	pCi/mL	2.70E-01 ± 6.75E-02	2.50E-01 ± 6.25E-02	2.39E-01 ± 5.97E-02	2.53E-01	NA	1.58E-02
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	2.26E-01 ± 5.65E-02	2.40E-01 ± 6.01E-02	2.30E-01 ± 5.74E-02	2.32E-01	NA	7.48E-03
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	2.35E-01 ± 5.87E-02	2.37E-01 ± 5.92E-02	2.43E-01 ± 6.08E-02	2.38E-01	NA	4.52E-03
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	2.44E-01 ± 6.09E-02	2.48E-01 ± 6.20E-02	2.45E-01 ± 6.13E-02	2.46E-01	NA	2.27E-03
Total U	unfiltered	ICP-MS	pCi/mL	5.07E-01 NA	4.88E-01 NA	4.54E-01 NA	4.83E-01	NA	2.85E-02
Total U	0.45 µ (AMP)	ICP-MS	pCi/mL	5.30E-01 NA	5.20E-01 NA	5.21E-01 NA	5.24E-01	NA	1.94E-02
Total U	0.1 µ (AMP)	ICP-MS	pCi/mL	3.90E-01 NA	5.38E-01 NA	5.19E-01 NA	4.82E-01	NA	8.23E-02
Total U	0.02 µ (AMP)	ICP-MS	pCi/mL	6.01E-01 NA	5.20E-01 NA	5.21E-01 NA	5.47E-01	NA	5.07E-02
^{237}Np	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	8.58E+00 ± 2.14E+00	9.99E+00 ± 2.50E+00	9.96E+00 ± 2.49E+00	9.51E+00	NA	8.07E-01
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	1.12E+01 ± 2.80E+00	9.21E+00 ± 2.30E+00	bdl ± bdl	1.02E+01	NA	1.42E+00
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	8.18E+00 ± 2.04E+00	7.71E+00 ± 1.93E+00	8.79E+00 ± 2.20E+00	8.22E+00	NA	5.42E-01

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{241}Am	0.45 µ (AMP)	Rad[#]	pCi/mL	< 2.72E+02 ± mda	< 2.79E+02 ± mda	< 2.79E+02 ± mda	< 2.72E+02	NA	mda
^{241}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 7.63E+02 ± upper limit	< 4.77E+02 ± upper limit	< 4.73E+02 ± upper limit	< 4.73E+02	NA	upper limit
^{241}Am	0.1 µ (AMP)	Rad[$]	pCi/mL	< 6.58E+02 ± mda	< 9.80E+02 ± mda	< 2.17E+03 ± mda	< 2.17E+03	NA	mda
^{241}Am	0.02 µ (AMP)	Rad[$]	pCi/mL	< 2.64E+02 ± mda	< 1.88E+02 ± mda	< 2.12E+02 ± mda	< 1.88E+02	NA	mda
^{242}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 4.98E+03 ± mda	< 3.31E+03 ± mda	< 2.56E+03 ± mda	< 2.56E+03	NA	mda
^{243}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 4.79E+02 ± mda	< 3.29E+02 ± mda	< 1.46E+02 ± mda	< 1.46E+02	NA	mda
^{99}Tc	0.45 µ (AMP)	Rad	pCi/mL	2.74E+05 ± 1.64E+04	NA	NA	2.74E+05	1.64E+04	1.64E+04
^{99}Tc	unfiltered	ICP-MS	pCi/mL	2.80E+05 ± 6.99E+04	2.81E+05 ± 7.02E+04	2.78E+05 ± 6.96E+04	2.80E+05	NA	1.25E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	3.13E+05 ± 7.83E+04	3.16E+05 ± 7.89E+04	3.21E+05 ± 8.03E+04	3.17E+05	NA	4.13E+03
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	2.83E+05 ± 7.08E+04	3.04E+05 ± 7.59E+04	3.09E+05 ± 7.72E+04	2.99E+05	NA	1.35E+04
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	3.07E+05 ± 7.67E+04	3.30E+05 ± 8.26E+04	3.10E+05 ± 7.75E+04	3.16E+05	NA	1.27E+04
Gross α	0.45 µ (AMP)	Rad	pCi/mL	1.03E+04 ± 1.03E+03	1.39E+04 ± 6.25E+03	9.80E+03 ± 1.76E+03	1.13E+04	2.19E+03	2.22E+03
Beta	0.45 µ (No AMP)	Rad	pCi/mL	1.72E+09 ± 2.58E+08	2.08E+09 ± 3.12E+08	1.29E+09 ± 1.93E+08	1.70E+09	1.50E+08	3.94E+08
Tritium	0.45 µ (AMP)	Rad	pCi/mL	4.35E+04 ± 4.35E+03	4.23E+04 ± 4.23E+03	< 4.59E+04 ± upper limit	4.29E+04	3.04E+03	8.60E+02
^{14}C	0.45 µ (No AMP)	Rad	pCi/mL	< 1.96E+02 ± mda	NA	NA	< 1.96E+02	NA	mda
^{129}I	0.45 µ (No AMP)	Rad	pCi/mL	2.33E+02 ± 3.10E+01	NA	NA	2.33E+02	3.10E+01	3.10E+01
^{26}Al	0.45 µ (AMP)	Rad	pCi/mL	< 1.69E+01 ± mda	< 1.54E+01 ± mda	< 1.84E+01 ± mda	< 1.54E+01	NA	mda
^{60}Co	0.45 µ (AMP)	Rad	pCi/mL	< 2.03E+01 ± mda	< 1.96E+01 ± mda	< 1.91E+01 ± mda	< 1.91E+01	NA	mda
^{94}Nb	0.45 µ (AMP)	Rad	pCi/mL	< 2.67E+01 ± mda	< 2.63E+01 ± mda	< 2.81E+01 ± mda	< 2.63E+01	NA	mda
^{106}Ru	0.45 µ (AMP)	Rad	pCi/mL	< 2.90E+02 ± mda	< 3.01E+02 ± mda	< 2.99E+02 ± mda	< 2.90E+02	NA	mda
^{125}Sb	0.45 µ (AMP)	Rad	pCi/mL	1.61E+03 ± 1.69E+00	1.71E+03 ± 2.20E+00	1.64E+03 ± 2.23E+00	1.65E+03	1.19E+00	5.31E+01
^{126}Sb	0.45 µ (AMP)	Rad	pCi/mL	1.60E+03 ± 3.62E+00	1.60E+03 ± 3.68E+00	1.60E+03 ± 3.61E+00	1.60E+03	2.10E+00	2.64E+00
^{126}Sn	0.45 µ (AMP)	Rad	pCi/mL	1.58E+03 ± 1.86E+01	1.61E+03 ± 2.19E+01	1.25E+03 ± 2.30E+01	1.48E+03	1.23E+01	1.97E+02
^{144}Ce	0.45 µ (AMP)	Rad	pCi/mL	< 2.37E+02 ± mda	< 2.40E+02 ± mda	< 2.40E+02 ± mda	< 2.37E+02	NA	mda
^{152}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 2.12E+02 ± mda	< 2.17E+02 ± mda	< 2.12E+02 ± mda	< 2.12E+02	NA	mda
^{154}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 6.12E+01 ± mda	< 6.03E+01 ± mda	< 6.67E+01 ± mda	< 6.03E+01	NA	mda
^{155}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 1.46E+02 ± mda	< 1.47E+02 ± mda	< 8.77E+01 ± mda	< 8.77E+01	NA	mda
^{231}Pa	0.45 µ (AMP)	Rad	pCi/mL	< 1.12E+03 ± mda	< 1.08E+03 ± mda	< 1.09E+03 ± mda	< 1.08E+03	NA	mda
^{232}U	0.45 µ (AMP)	Rad	pCi/mL	< 1.43E+02 ± upper limit	< 1.99E+02 ± upper limit	< 1.06E+02 ± upper limit	< 1.06E+02	NA	upper limit
^{59}Ni	0.45 µ (AMP)	Rad	pCi/mL	< 6.10E+01 ± mda	< 2.83E+02 ± mda	< 1.31E+02 ± mda	< 6.10E+01	NA	mda
^{63}Ni	0.45 µ (AMP)	Rad	pCi/mL	< 1.09E+02 ± mda	< 3.84E+02 ± mda	< 1.10E+02 ± mda	< 1.09E+02	NA	mda
^{147}Pm	0.45 µ (AMP)	Rad	pCi/mL	< 4.86E+02 ± upper limit	< 1.76E+02 ± upper limit	< 1.05E+02 ± mda	< 1.05E+02	NA	upper limit
^{151}Sm	0.45 µ (AMP)	Rad	pCi/mL	< 1.89E+03 ± upper limit	< 3.97E+02 ± upper limit	< 3.42E+02 ± mda	< 3.42E+02	NA	upper limit
^{79}Se	0.45 µ (AMP)	Rad	pCi/mL	< 2.90E+03 ± upper limit	< 1.99E+02 ± upper limit	< 1.97E+02 ± upper limit	< 1.97E+02	NA	upper limit
^{242}Cm/^{252}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 3.97E+00 ± mda	< 7.63E+00 ± mda	< 4.57E+00 ± mda	< 3.97E+00	NA	mda
^{243}Cm	0.45 µ (AMP)	Rad	pCi/mL	< 1.28E+03 ± mda	< 8.49E+02 ± mda	< 6.53E+02 ± mda	< 6.53E+02	NA	mda
^{244}Cm	0.45 µ (AMP)	Rad	pCi/mL	4.25E+01 ± 1.44E+01	1.05E+02 ± 2.66E+01	1.11E+02 ± 3.08E+01	8.61E+01	1.44E+01	3.79E+01
^{249}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 6.74E+02 ± mda	< 1.08E+03 ± mda	< 5.18E+02 ± mda	< 5.18E+02	NA	mda
^{251}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 8.56E+02 ± mda	< 1.32E+03 ± mda	< 6.76E+02 ± mda	< 6.76E+02	NA	mda

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

6.1.2 Tank 13H Salt and Organic Species

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Na	unfiltered	ICPES	M	6.15E+00 ± 3.07E-01	6.14E+00 ± 3.07E-01	6.19E+00 ± 3.10E-01	6.16E+00	3.08E-02
Na	0.45 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.45 µ (AMP)	AA	M	5.49E+00 ± 1.10E+00	5.20E+00 ± 1.04E+00	5.20E+00 ± 1.04E+00	5.30E+00	1.65E-01
K	unfiltered	ICPES	M	6.97E-02 ± 2.64E-01	< 2.64E-02 ± mdl	8.17E-02 ± 2.73E-01	5.93E-02	4.41E-02
K	0.45 µ (AMP)	ICPES	M	4.42E-02 ± 3.35E-02	4.03E-02 ± 3.29E-02	4.42E-02 ± 3.05E-02	4.29E-02	2.25E-03
K	0.45 µ (AMP)	AA	M	3.84E-02 ± 7.67E-03	4.12E-02 ± 8.25E-03	4.55E-02 ± 9.10E-03	4.17E-02	3.59E-03
Al	unfiltered	ICPES	M	3.60E-01 ± 1.80E-02	3.66E-01 ± 1.83E-02	3.69E-01 ± 1.84E-02	3.65E-01	4.25E-03
As	0.45 µ (AMP)	AA	mg/L	< 2.28E-01 ± mda	NA	NA	< 2.28E-01	mda
Se	0.45 µ (AMP)	AA	mg/L	< 1.27E-01 ± mda	NA	NA	< 1.27E-01	mda
Hg	0.45 µ (AMP)	AA	mg/L	< 5.58E-01 ± mda	NA	NA	< 5.58E-01	mda
Total Base	0.45 µ (No AMP)	Titration	M	4.43E+00 ± 4.43E-01	4.38E+00 ± 4.38E-01	4.47E+00 ± 4.47E-01	4.43E+00	4.42E-02
Free OH^-	0.45 µ (No AMP)	Titration	M	1.77E+00 ± 1.77E-01	2.80E+00 ± 2.80E-01	3.19E+00 ± 3.19E-01	2.58E+00	7.31E-01
CO_3^{2-}	0.45 µ (No AMP)	Titration	M	< 4.18E-01 ± mda	< 4.27E-01 ± mda	< 4.14E-01 ± mda	< 4.14E-01	mda
$Al(OH)_4^-$	0.45 µ (No AMP)	Titration	M	1.77E+00 ± 3.55E-01	1.33E+00 ± 2.67E-01	7.65E-01 ± 1.53E-01	1.29E+00	5.06E-01
NO_3^-	0.45 µ (No AMP)	IC	M	5.86E-01 ± 5.86E-02	NA	NA	5.86E-01	5.86E-02
NO_2^-	0.45 µ (No AMP)	IC	M	6.72E-01 ± 6.72E-02	NA	NA	6.72E-01	6.72E-02
SO_4^{2-}	0.45 µ (No AMP)	IC	M	3.25E-03 ± 3.25E-04	NA	NA	3.25E-03	3.25E-04
PO_4^{3-}	0.45 µ (No AMP)	IC	M	2.74E-03 ± 2.74E-04	NA	NA	2.74E-03	2.74E-04
F^-	0.45 µ (No AMP)	IC	M	< 5.48E-03 ± mda	NA	NA	< 5.48E-03	mda
Cl^-	0.45 µ (No AMP)	IC	M	2.93E-03 ± 2.93E-04	NA	NA	2.93E-03	2.93E-04
Br^-	0.45 µ (No AMP)	IC	M	< 6.51E-03 ± mda	NA	NA	< 6.51E-03	mda
$C_2O_4^{2-}$	0.45 µ (No AMP)	IC	M	< 5.91E-03 ± mda	NA	NA	< 5.91E-03	mda
CHO_2	0.45 µ (No AMP)	IC	M	< 1.16E-02 ± mda	NA	NA	< 1.16E-02	mda
TBP	unfiltered	IC	mg/L	< 5.09E+01 ± mdl	NA	NA	< 5.09E+01	mdl
TBP	0.45 µ (No AMP)	IC	mg/L	< 5.20E+01 ± mdl	NA	NA	< 5.20E+01	mdl
DBP	0.45 µ (No AMP)	IC	mg/L	1.61E+03 ± 1.61E+02	NA	NA	1.61E+03	1.61E+02
VOA	unfiltered	GC-MS	mg/L	< 2.55E+01 ± mdl	NA	NA	< 2.55E+01	mdl
VOA	0.45 µ (No AMP)	GC-MS	mg/L	< 2.60E+01 ± mdl	NA	NA	< 2.60E+01	mdl
SVOA	unfiltered	GC-MS	mg/L	< 5.09E+01 ± mdl	NA	NA	< 5.09E+01	mdl
SVOA	0.45 µ (No AMP)	GC-MS	mg/L	< 5.20E+01 ± mdl	NA	NA	< 5.20E+01	mdl
TIC	0.45 µ (No AMP)	Titration	mg/L	1.29E+02 ± 3.22E+01	4.79E+02 ± 1.20E+02	5.46E+02 ± 1.37E+02	3.84E+02	2.24E+02
TOC	0.45 µ (No AMP)	Titration	mg/L	2.45E+03 ± 2.45E+02	2.29E+03 ± 2.29E+02	1.69E+03 ± 1.69E+02	2.14E+03	3.99E+02
Total C	0.45 µ (No AMP)	Titration	mg/L	2.57E+03 ± 2.57E+02	2.76E+03 ± 2.76E+02	2.23E+03 ± 2.23E+02	2.52E+03	2.65E+02

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.1.3 Tank 13H ICP-ES Characterization

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 4.52E+00 ± mdl	< 4.65E+00 ± mdl	< 4.52E+00 ± mdl	< 4.52E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	1.73E+00 ± 1.73E-01	1.77E+00 ± 1.77E-01	1.81E+00 ± 1.81E-01	1.77E+00	3.80E-02
Ag	0.1 µ (AMP)	ICPES	mg/L	1.54E+00 ± 1.54E-01	1.32E+00 ± 1.32E-01	NA ± NA	1.43E+00	1.55E-01
Ag	0.02 µ (AMP)	ICPES	mg/L	1.69E+00 ± 1.69E-01	1.54E+00 ± 1.54E-01	1.33E+00 ± 1.33E-01	1.52E+00	1.82E-01
Al	unfiltered	ICPES	M	3.60E-01 ± 3.60E-02	3.66E-01 ± 3.66E-02	3.69E-01 ± 3.69E-02	3.65E-01	4.25E-03
Al	0.45 µ (AMP)	ICPES	M	3.66E-01 ± 3.66E-02	3.63E-01 ± 3.63E-02	3.64E-01 ± 3.64E-02	3.64E-01	1.88E-03
Al	0.1 µ (AMP)	ICPES	M	3.63E-01 ± 3.63E-02	3.61E-01 ± 3.61E-02	NA ± NA	3.62E-01	1.37E-03
Al	0.02 µ (AMP)	ICPES	M	3.91E-01 ± 3.91E-02	3.91E-01 ± 3.91E-02	3.89E-01 ± 3.89E-02	3.90E-01	1.34E-03
B	unfiltered	ICPES	mg/L	< 7.46E+01 ± mdl	< 7.67E+01 ± mdl	< 7.46E+01 ± mdl	< 7.46E+01	mdl
B	0.45 µ (AMP)	ICPES	mg/L	8.62E+01 ± 8.62E+00	8.62E+01 ± 8.62E+00	8.57E+01 ± 8.57E+00	8.60E+01	2.93E-01
B	0.1 µ (AMP)	ICPES	mg/L	8.76E+01 ± 8.76E+00	8.45E+01 ± 8.45E+00	NA ± NA	8.61E+01	2.21E+00
B	0.02 µ (AMP)	ICPES	mg/L	9.18E+01 ± 9.18E+00	9.43E+01 ± 9.43E+00	9.24E+01 ± 9.24E+00	9.29E+01	1.30E+00
Ba	unfiltered	ICPES	mg/L	1.08E+01 ± 1.08E+00	1.09E+01 ± 1.09E+00	1.16E+01 ± 1.16E+00	1.11E+01	4.72E-01
Ba	0.45 µ (AMP)	ICPES	mg/L	4.73E+00 ± 4.73E-01	4.92E+00 ± 4.92E-01	4.87E+00 ± 4.87E-01	4.84E+00	9.78E-02
Ba	0.1 µ (AMP)	ICPES	mg/L	4.65E+00 ± 4.65E-01	4.57E+00 ± 4.57E-01	NA ± NA	4.61E+00	5.90E-02
Ba	0.02 µ (AMP)	ICPES	mg/L	4.58E+00 ± 4.58E-01	4.27E+00 ± 4.27E-01	4.28E+00 ± 4.28E-01	4.38E+00	1.75E-01
Ca	unfiltered	ICPES	mg/L	3.78E+01 ± 3.78E+00	< 1.39E+01 ± mdl	< 1.36E+01 ± mdl	2.18E+01	2.18E+01
Ca	0.45 µ (AMP)	ICPES	mg/L	8.82E+00 ± 8.82E-01	9.23E+00 ± 9.23E-01	9.23E+00 ± 9.23E-01	9.09E+00	2.34E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	1.53E+01 ± 1.53E+00	1.53E+01 ± 1.53E+00	NA ± NA	1.53E+01	0.00E+00
Ca	0.02 µ (AMP)	ICPES	mg/L	2.45E+01 ± 2.45E+00	2.37E+01 ± 2.37E+00	2.29E+01 ± 2.29E+00	2.37E+01	8.43E-01
Cd	unfiltered	ICPES	mg/L	< 1.36E+01 ± mdl	< 1.39E+01 ± mdl	< 1.36E+01 ± mdl	< 1.36E+01	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	< 1.22E+00 ± mdl	< 1.22E+00 ± mdl	< 1.22E+00 ± mdl	< 1.22E+00	mdl
Cd	0.1 µ (AMP)	ICPES	mg/L	< 1.25E+00 ± mdl	< 1.25E+00 ± mdl	NA ± NA	< 1.25E+00	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 1.50E+00 ± mdl	< 1.50E+00 ± mdl	< 1.50E+00 ± mdl	< 1.50E+00	mdl
Ce	unfiltered	ICPES	mg/L	6.90E+01 ± 6.90E+00	5.92E+01 ± mdl	8.70E+01 ± 8.70E+00	7.17E+01	1.41E+01
Ce	0.45 µ (AMP)	ICPES	mg/L	2.56E+01 ± 2.56E+00	2.64E+01 ± 2.64E+00	2.62E+01 ± 2.62E+00	2.60E+01	3.94E-01
Ce	0.1 µ (AMP)	ICPES	mg/L	2.33E+01 ± 2.33E+00	2.08E+01 ± 2.08E+00	NA ± NA	2.21E+01	1.77E+00
Ce	0.02 µ (AMP)	ICPES	mg/L	2.61E+01 ± 2.61E+00	2.40E+01 ± 2.40E+00	2.20E+01 ± 2.20E+00	2.40E+01	2.03E+00
Cr	unfiltered	ICPES	mg/L	2.46E+02 ± 2.46E+01	2.52E+02 ± 2.52E+01	2.64E+02 ± 2.64E+01	2.54E+02	9.25E+00
Cr	0.45 µ (AMP)	ICPES	mg/L	2.37E+02 ± 2.37E+01	2.48E+02 ± 2.48E+01	2.45E+02 ± 2.45E+01	2.43E+02	5.48E+00
Cr	0.1 µ (AMP)	ICPES	mg/L	2.47E+02 ± 2.47E+01	2.48E+02 ± 2.48E+01	NA ± NA	2.47E+02	7.38E-01
Cr	0.02 µ (AMP)	ICPES	mg/L	2.72E+02 ± 2.72E+01	2.74E+02 ± 2.74E+01	2.72E+02 ± 2.72E+01	2.72E+02	1.08E+00
Cu	unfiltered	ICPES	mg/L	< 1.13E+01 ± mdl	< 1.16E+01 ± mdl	< 1.13E+01 ± mdl	< 1.13E+01	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	< 1.01E+00 ± mdl	< 1.01E+00 ± mdl	< 1.01E+00 ± mdl	< 1.01E+00	mdl
Cu	0.1 µ (AMP)	ICPES	mg/L	< 1.04E+00 ± mdl	< 1.04E+00 ± mdl	NA ± NA	< 1.04E+00	mdl
Cu	0.02 µ (AMP)	ICPES	mg/L	< 1.25E+00 ± mdl	< 1.25E+00 ± mdl	< 1.25E+00 ± mdl	< 1.25E+00	mdl
Fe	unfiltered	ICPES	mg/L	< 9.04E+00 ± mdl	< 9.29E+00 ± mdl	< 9.04E+00 ± mdl	< 9.04E+00	mdl
Fe	0.45 µ (AMP)	ICPES	mg/L	6.34E+00 ± 6.34E-01	7.50E+00 ± 7.50E-01	6.64E+00 ± 6.64E-01	6.83E+00	6.05E-01
Fe	0.1 µ (AMP)	ICPES	mg/L	4.93E+00 ± 4.93E-01	4.71E+00 ± 4.71E-01	NA ± NA	4.82E+00	1.55E-01
Fe	0.02 µ (AMP)	ICPES	mg/L	2.05E+00 ± 2.05E-01	1.80E+00 ± 1.80E-01	2.28E+00 ± 2.28E-01	2.04E+00	2.41E-01
Gd	unfiltered	ICPES	mg/L	1.32E+01 ± 1.32E+00	1.32E+01 ± 1.32E+00	1.50E+01 ± 1.50E+00	1.38E+01	1.02E+00
Gd	0.45 µ (AMP)	ICPES	mg/L	3.12E+00 ± 3.12E-01	3.14E+00 ± 3.14E-01	3.32E+00 ± 3.32E-01	3.19E+00	1.12E-01
Gd	0.1 µ (AMP)	ICPES	mg/L	2.83E+00 ± 2.83E-01	2.60E+00 ± 2.60E-01	NA ± NA	2.71E+00	1.62E-01
Gd	0.02 µ (AMP)	ICPES	mg/L	3.22E+00 ± 3.22E-01	2.95E+00 ± 2.95E-01	2.78E+00 ± 2.78E-01	2.98E+00	2.20E-01
K	unfiltered	ICPES	M	6.97E-02 ± 6.97E-03	< 2.64E-02 ± mdl	8.17E-02 ± 8.17E-03	5.93E-02	4.41E-02
K	0.45 µ (AMP)	ICPES	M	4.42E-02 ± 4.42E-03	4.03E-02 ± 4.03E-03	4.42E-02 ± 4.42E-03	4.29E-02	2.25E-03
K	0.1 µ (AMP)	ICPES	M	4.32E-02 ± 4.32E-03	4.43E-02 ± 4.43E-03	NA ± NA	4.38E-02	7.55E-04
K	0.02 µ (AMP)	ICPES	M	4.90E-02 ± 4.90E-03	4.70E-02 ± 4.70E-03	4.94E-02 ± 4.94E-03	4.85E-02	1.30E-03
La	unfiltered	ICPES	mg/L	1.80E+01 ± 1.80E+00	1.50E+01 ± 1.50E+00	1.89E+01 ± 1.89E+00	1.73E+01	2.03E+00
La	0.45 µ (AMP)	ICPES	mg/L	3.68E+00 ± 3.68E-01	3.75E+00 ± 3.75E-01	4.03E+00 ± 4.03E-01	3.82E+00	1.89E-01
La	0.1 µ (AMP)	ICPES	mg/L	3.36E+00 ± 3.36E-01	2.96E+00 ± 2.96E-01	NA ± NA	3.16E+00	2.84E-01
La	0.02 µ (AMP)	ICPES	mg/L	3.83E+00 ± 3.83E-01	3.49E+00 ± 3.49E-01	3.21E+00 ± 3.21E-01	3.51E+00	3.13E-01
Li	unfiltered	ICPES	mg/L	2.28E+01 ± 2.28E+00	1.63E+01 ± 1.63E+00	2.10E+01 ± 2.10E+00	2.00E+01	3.39E+00
Li	0.45 µ (AMP)	ICPES	mg/L	9.63E+00 ± 9.63E-01	1.18E+01 ± 1.18E+00	1.02E+01 ± 1.02E+00	1.05E+01	1.10E+00
Li	0.1 µ (AMP)	ICPES	mg/L	9.60E+00 ± 9.60E-01	9.07E+00 ± 9.07E-01	NA ± NA	9.34E+00	3.69E-01
Li	0.02 µ (AMP)	ICPES	mg/L	9.93E+00 ± 9.93E-01	8.81E+00 ± 8.81E-01	8.62E+00 ± 8.62E-01	9.12E+00	7.09E-01
Mg	unfiltered	ICPES	mg/L	< 2.26E+00 ± mdl	< 2.32E+00 ± mdl	< 2.26E+00 ± mdl	< 2.26E+00	mdl
Mg	0.45 µ (AMP)	ICPES	mg/L	6.69E-01 ± 6.69E-02	7.25E-01 ± 7.25E-02	6.54E-01 ± 6.54E-02	6.83E-01	3.74E-02
Mg	0.1 µ (AMP)	ICPES	mg/L	1.75E+00 ± 1.75E-01	1.75E+00 ± 1.75E-01	NA ± NA	1.75E+00	0.00E+00
Mg	0.02 µ (AMP)	ICPES	mg/L	3.32E+00 ± 3.32E-01	3.32E+00 ± 3.32E-01	3.30E+00 ± 3.30E-01	3.31E+00	1.30E-02

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Mn	unfiltered	ICPES	mg/L	< 3.39E+00 ± mdl	< 3.48E+00 ± mdl	< 3.39E+00 ± mdl	< 3.39E+00	
Mn	0.45 µ (AMP)	ICPES	mg/L	5.78E-01 ± 5.78E-02	1.36E+00 ± 1.36E-01	7.15E-01 ± 7.15E-02	8.85E-01	4.20E-01
Mn	0.1 µ (AMP)	ICPES	mg/L	1.13E+00 ± 1.13E-01	1.17E+00 ± 1.17E-01	NA ± NA	1.15E+00	2.58E-02
Mn	0.02 µ (AMP)	ICPES	mg/L	5.87E-01 ± 5.87E-02	6.31E-01 ± 6.31E-02	7.56E-01 ± 7.56E-02	6.58E-01	8.75E-02
Mo	unfiltered	ICPES	mg/L	1.88E+02 ± 1.88E+01	1.89E+02 ± 1.89E+01	2.06E+02 ± 2.06E+01	1.94E+02	1.03E+01
Mo	0.45 µ (AMP)	ICPES	mg/L	1.98E+02 ± 1.98E+01	1.95E+02 ± 1.95E+01	1.98E+02 ± 1.98E+01	1.97E+02	1.46E+00
Mo	0.1 µ (AMP)	ICPES	mg/L	1.98E+02 ± 1.98E+01	1.99E+02 ± 1.99E+01	NA ± NA	1.98E+02	7.38E-01
Mo	0.02 µ (AMP)	ICPES	mg/L	2.17E+02 ± 2.17E+01	2.19E+02 ± 2.19E+01	2.14E+02 ± 2.14E+01	2.17E+02	2.82E+00
Na	unfiltered	ICPES	M	6.15E+00 ± 6.15E-01	6.14E+00 ± 6.14E-01	6.19E+00 ± 6.19E-01	6.16E+00	3.08E-02
Na	0.45 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.1 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.02 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Ni	unfiltered	ICPES	mg/L	< 5.09E+01 ± mdl	< 5.23E+01 ± mdl	< 5.09E+01 ± mdl	< 5.09E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	< 4.56E+00 ± mdl	< 4.56E+00 ± mdl	< 4.56E+00 ± mdl	< 4.56E+00	mdl
Ni	0.1 µ (AMP)	ICPES	mg/L	< 4.69E+00 ± mdl	< 4.69E+00 ± mdl	NA ± NA	< 4.69E+00	mdl
Ni	0.02 µ (AMP)	ICPES	mg/L	< 5.62E+00 ± mdl	< 5.62E+00 ± mdl	< 5.62E+00 ± mdl	< 5.62E+00	mdl
P	unfiltered	ICPES	mg/L	< 4.74E+02 ± mdl	< 4.87E+02 ± mdl	< 4.74E+02 ± mdl	< 4.74E+02	mdl
P	0.45 µ (AMP)	ICPES	mg/L	1.47E+02 ± 1.47E+01	1.43E+02 ± 1.43E+01	1.41E+02 ± 1.41E+01	1.44E+02	2.88E+00
P	0.1 µ (AMP)	ICPES	mg/L	1.48E+02 ± 1.48E+01	1.42E+02 ± 1.42E+01	NA ± NA	1.45E+02	4.06E+00
P	0.02 µ (AMP)	ICPES	mg/L	1.70E+02 ± 1.70E+01	1.59E+02 ± 1.59E+01	1.64E+02 ± 1.64E+01	1.64E+02	5.63E+00
Pb	unfiltered	ICPES	mg/L	< 3.23E+02 ± mdl	< 3.32E+02 ± mdl	< 3.23E+02 ± mdl	< 3.23E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 2.90E+01 ± mdl	< 2.90E+01 ± mdl	< 2.90E+01 ± mdl	< 2.90E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 2.98E+01 ± mdl	< 2.98E+01 ± mdl	NA ± NA	< 2.98E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 3.57E+01 ± mdl	< 3.57E+01 ± mdl	< 3.57E+01 ± mdl	< 3.57E+01	mdl
S	unfiltered	ICPES	mg/L	4.11E+02 ± 4.11E+01	4.43E+02 ± 4.43E+01	4.22E+02 ± 4.22E+01	4.25E+02	1.61E+01
S	0.45 µ (AMP)	ICPES	mg/L	2.90E+02 ± 2.90E+01	3.15E+02 ± 3.15E+01	3.13E+02 ± 3.13E+01	3.06E+02	1.40E+01
S	0.1 µ (AMP)	ICPES	mg/L	3.14E+02 ± 3.14E+01	3.11E+02 ± 3.11E+01	NA ± NA	3.13E+02	2.21E+00
S	0.02 µ (AMP)	ICPES	mg/L	3.54E+02 ± 3.54E+01	3.54E+02 ± 3.54E+01	3.51E+02 ± 3.51E+01	3.53E+02	1.65E+00
Sb	unfiltered	ICPES	mg/L	< 8.03E+01 ± mdl	< 8.25E+01 ± mdl	< 8.03E+01 ± mdl	< 8.03E+01	mdl
Sb	0.45 µ (AMP)	ICPES	mg/L	3.57E+01 ± 3.57E+00	3.45E+01 ± 3.45E+00	3.38E+01 ± 3.38E+00	3.46E+01	9.74E-01
Sb	0.1 µ (AMP)	ICPES	mg/L	3.65E+01 ± 3.65E+00	3.23E+01 ± 3.23E+00	NA ± NA	3.44E+01	2.95E+00
Sb	0.02 µ (AMP)	ICPES	mg/L	3.69E+01 ± 3.69E+00	3.85E+01 ± 3.85E+00	3.50E+01 ± 3.50E+00	3.68E+01	1.75E+00
Si	unfiltered	ICPES	mg/L	< 2.83E+01 ± mdl	< 2.90E+01 ± mdl	< 2.83E+01 ± mdl	< 2.83E+01	mdl
Si	0.45 µ (AMP)	ICPES	mg/L	1.67E+01 ± 1.67E+00	1.77E+01 ± 1.77E+00	1.75E+01 ± 1.75E+00	1.73E+01	5.36E-01
Si	0.1 µ (AMP)	ICPES	mg/L	1.79E+01 ± 1.79E+00	1.81E+01 ± 1.81E+00	NA ± NA	1.80E+01	1.11E-01
Si	0.02 µ (AMP)	ICPES	mg/L	1.32E+01 ± 1.32E+00	1.41E+01 ± 1.41E+00	1.44E+01 ± 1.44E+00	1.39E+01	6.50E-01
Sn	unfiltered	ICPES	mg/L	< 1.29E+02 ± mdl	< 1.32E+02 ± mdl	< 1.29E+02 ± mdl	< 1.29E+02	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	2.26E+01 ± 2.26E+00	2.27E+01 ± 2.27E+00	2.30E+01 ± 2.30E+00	2.28E+01	2.11E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	2.22E+01 ± 2.22E+00	1.92E+01 ± 1.92E+00	NA ± NA	2.07E+01	2.10E+00
Sn	0.02 µ (AMP)	ICPES	mg/L	2.73E+01 ± 2.73E+00	2.34E+01 ± 2.34E+00	2.34E+01 ± 2.34E+00	2.47E+01	2.24E+00
Sr	unfiltered	ICPES	mg/L	1.03E+01 ± 1.03E+00	< 9.29E+00 ± mdl	< 9.04E+00 ± mdl	9.54E+00	5.94E+00
Sr	0.45 µ (AMP)	ICPES	mg/L	3.99E+00 ± 3.99E-01	4.18E+00 ± 4.18E-01	3.98E+00 ± 3.98E-01	4.05E+00	1.11E-01
Sr	0.1 µ (AMP)	ICPES	mg/L	5.42E+00 ± 5.42E-01	5.11E+00 ± 5.11E-01	NA ± NA	5.27E+00	2.21E-01
Sr	0.02 µ (AMP)	ICPES	mg/L	7.68E+00 ± 7.68E-01	7.43E+00 ± 7.43E-01	7.18E+00 ± 7.18E-01	7.43E+00	2.50E-01
Ti	unfiltered	ICPES	mg/L	< 1.47E+01 ± mdl	< 1.51E+01 ± mdl	< 1.47E+01 ± mdl	< 1.47E+01	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 1.32E+00 ± mdl	< 1.32E+00 ± mdl	< 1.32E+00 ± mdl	< 1.32E+00	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 1.36E+00 ± mdl	< 1.36E+00 ± mdl	NA ± NA	< 1.36E+00	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 1.62E+00 ± mdl	< 1.62E+00 ± mdl	< 1.62E+00 ± mdl	< 1.62E+00	mdl
U	unfiltered	ICPES	mg/L	< 1.97E+02 ± mdl	< 2.02E+02 ± mdl	< 1.97E+02 ± mdl	< 1.97E+02	mdl
U	0.45 µ (AMP)	ICPES	mg/L	5.93E+01 ± 5.93E+00	6.03E+01 ± 6.03E+00	5.78E+01 ± 5.78E+00	5.91E+01	1.28E+00
U	0.1 µ (AMP)	ICPES	mg/L	5.37E+01 ± 5.37E+00	4.54E+01 ± 4.54E+00	NA ± NA	4.96E+01	5.86E+00
U	0.02 µ (AMP)	ICPES	mg/L	6.20E+01 ± 6.20E+00	5.68E+01 ± 5.68E+00	4.95E+01 ± 4.95E+00	5.61E+01	6.31E+00
V	unfiltered	ICPES	mg/L	< 1.24E+01 ± mdl	< 1.28E+01 ± mdl	< 1.24E+01 ± mdl	< 1.24E+01	mdl
V	0.45 µ (AMP)	ICPES	mg/L	4.39E+00 ± 4.39E-01	4.62E+00 ± 4.62E-01	4.15E+00 ± 4.15E-01	4.39E+00	4.15E-02
V	0.1 µ (AMP)	ICPES	mg/L	4.04E+00 ± 4.04E-01	4.11E+00 ± 4.11E-01	NA ± NA	4.08E+00	4.79E-02
V	0.02 µ (AMP)	ICPES	mg/L	4.46E+00 ± 4.46E-01	4.42E+00 ± 4.42E-01	4.77E+00 ± 4.77E-01	4.55E+00	1.92E-01
Zn	unfiltered	ICPES	mg/L	7.97E+00 ± 7.97E-01	4.99E+00 ± 4.99E-01	7.74E+00 ± 7.74E-01	6.90E+00	1.66E+00
Zn	0.45 µ (AMP)	ICPES	mg/L	7.10E+00 ± 7.10E-01	7.55E+00 ± 7.55E-01	7.25E+00 ± 7.25E-01	7.30E+00	2.32E-01
Zn	0.1 µ (AMP)	ICPES	mg/L	7.14E+00 ± 7.14E-01	7.35E+00 ± 7.35E-01	NA ± NA	7.25E+00	1.48E-01
Zn	0.02 µ (AMP)	ICPES	mg/L	7.99E+00 ± 7.99E-01	7.81E+00 ± 7.81E-01	7.62E+00 ± 7.62E-01	7.81E+00	1.87E-01
Zr	unfiltered	ICPES	mg/L	< 1.58E+01 ± mdl	< 1.63E+01 ± mdl	< 1.58E+01 ± mdl	< 1.58E+01	mdl
Zr	0.45 µ (AMP)	ICPES	mg/L	< 1.42E+00 ± mdl	< 1.42E+00 ± mdl	< 1.42E+00 ± mdl	< 1.42E+00	mdl
Zr	0.1 µ (AMP)	ICPES	mg/L	< 1.46E+00 ± mdl	< 1.46E+00 ± mdl	NA ± NA	< 1.46E+00	mdl
Zr	0.02 µ (AMP)	ICPES	mg/L	< 1.75E+00 ± mdl	< 1.75E+00 ± mdl	< 1.75E+00 ± mdl	< 1.75E+00	mdl

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.1.4 Tank 13H ICP-MS Characterization

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Zr	unfiltered	ICP-MS	mg/L	1.84E+00 ± 4.60E-01	1.83E+00 ± 4.57E-01	1.50E+00 ± 3.75E-01	1.72E+00	1.93E-01
Zr	0.45 µ (AMP)	ICP-MS	mg/L	4.11E-01 ± 1.03E-01	4.58E-01 ± 1.15E-01	4.20E-01 ± 1.05E-01	4.30E-01	2.49E-02
Zr	0.1 µ (AMP)	ICP-MS	mg/L	6.16E-01 ± 1.54E-01	4.46E-01 ± 1.11E-01	2.31E-01 ± 5.78E-02	4.31E-01	1.93E-01
Zr	0.02 µ (AMP)	ICP-MS	mg/L	3.20E-01 ± 8.00E-02	3.67E-01 ± 9.17E-02	3.88E-01 ± 9.71E-02	3.58E-01	3.50E-02
Tc-99	unfiltered	ICP-MS	mg/L	1.65E+01 ± 4.13E+00	1.65E+01 ± 4.13E+00	1.64E+01 ± 4.10E+00	1.65E+01	5.77E-02
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	1.85E+01 ± 4.63E+00	1.86E+01 ± 4.65E+00	1.89E+01 ± 4.73E+00	1.87E+01	2.08E-01
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	1.67E+01 ± 4.18E+00	1.79E+01 ± 4.48E+00	1.82E+01 ± 4.55E+00	1.76E+01	7.94E-01
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	1.81E+01 ± 4.53E+00	1.95E+01 ± 4.88E+00	1.83E+01 ± 4.58E+00	1.86E+01	7.57E-01
Tc-99	unfiltered	ICP-MS	pCi/mL	2.80E+05 ± 6.99E+04	2.81E+05 ± 7.02E+04	2.78E+05 ± 6.96E+04	2.80E+05	1.25E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	3.13E+05 ± 7.83E+04	3.16E+05 ± 7.89E+04	3.21E+05 ± 8.03E+04	3.17E+05	4.13E+03
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	2.83E+05 ± 7.08E+04	3.04E+05 ± 7.59E+04	3.09E+05 ± 7.72E+04	2.99E+05	1.35E+04
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	3.07E+05 ± 7.67E+04	3.30E+05 ± 8.26E+04	3.10E+05 ± 7.75E+04	3.16E+05	1.27E+04
Mo	unfiltered	ICP-MS	mg/L	1.43E+02 ± 3.57E+01	1.41E+02 ± 3.52E+01	1.38E+02 ± 3.44E+01	1.41E+02	2.60E+00
Mo	0.45 µ (AMP)	ICP-MS	mg/L	1.45E+02 ± 3.63E+01	1.48E+02 ± 3.70E+01	1.49E+02 ± 3.74E+01	1.48E+02	2.16E+00
Mo	0.1 µ (AMP)	ICP-MS	mg/L	1.41E+02 ± 3.52E+01	1.32E+02 ± 3.31E+01	1.40E+02 ± 3.50E+01	1.38E+02	4.66E+00
Mo	0.02 µ (AMP)	ICP-MS	mg/L	1.58E+02 ± 3.95E+01	1.72E+02 ± 4.29E+01	1.65E+02 ± 4.13E+01	1.65E+02	6.86E+00
Ag	unfiltered	ICP-MS	mg/L	5.33E-02 ± 1.33E-02	bdl ± bdl	2.26E-02 ± 5.66E-03	3.80E-02	2.17E-02
Ag	0.45 µ (AMP)	ICP-MS	mg/L	5.53E-03 ± 1.38E-03	9.16E-03 ± 2.29E-03	5.58E-03 ± 1.40E-03	6.76E-03	2.08E-03
Ag	0.1 µ (AMP)	ICP-MS	mg/L	5.47E-03 ± 1.37E-03	bdl ± bdl	5.84E-03 ± 1.46E-03	5.66E-03	2.60E-04
Ag	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pd	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	7.93E-02 ± 1.98E-02	7.93E-02	1.98E-02
Pd	0.45 µ (AMP)	ICP-MS	mg/L	1.20E-02 ± 3.01E-03	1.23E-02 ± 3.08E-03	1.39E-02 ± 3.48E-03	1.28E-02	1.01E-03
Pd	0.1 µ (AMP)	ICP-MS	mg/L	1.59E-02 ± 3.98E-03	1.49E-02 ± 3.73E-03	2.04E-02 ± 5.11E-03	1.71E-02	2.94E-03
Pd	0.02 µ (AMP)	ICP-MS	mg/L	2.21E-02 ± 5.53E-03	2.64E-02 ± 6.60E-03	2.50E-02 ± 6.25E-03	2.45E-02	2.16E-03
Rh	unfiltered	ICP-MS	mg/L	2.74E+00 ± 6.84E-01	2.78E+00 ± 6.94E-01	2.68E+00 ± 6.70E-01	2.73E+00	4.92E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	2.64E+00 ± 6.60E-01	2.62E+00 ± 6.56E-01	2.70E+00 ± 6.75E-01	2.66E+00	3.99E-02
Rh	0.1 µ (AMP)	ICP-MS	mg/L	2.60E+00 ± 6.51E-01	2.67E+00 ± 6.68E-01	3.01E+00 ± 7.53E-01	2.76E+00	2.19E-01
Rh	0.02 µ (AMP)	ICP-MS	mg/L	3.15E+00 ± 7.87E-01	3.42E+00 ± 8.54E-01	3.29E+00 ± 8.23E-01	3.28E+00	1.35E-01
Ru	unfiltered	ICP-MS	mg/L	1.13E+00 ± 2.83E-01	1.14E+00 ± 2.86E-01	1.17E+00 ± 2.93E-01	1.15E+00	2.05E-02
Ru	0.45 µ (AMP)	ICP-MS	mg/L	1.11E+00 ± 2.77E-01	1.13E+00 ± 2.83E-01	1.18E+00 ± 2.95E-01	1.14E+00	3.61E-02
Ru	0.1 µ (AMP)	ICP-MS	mg/L	1.15E+00 ± 2.87E-01	1.11E+00 ± 2.78E-01	1.25E+00 ± 3.13E-01	1.17E+00	7.24E-02
Ru	0.02 µ (AMP)	ICP-MS	mg/L	1.38E+00 ± 3.44E-01	1.47E+00 ± 3.67E-01	1.40E+00 ± 3.51E-01	1.42E+00	4.62E-02
Cd	unfiltered	ICP-MS	mg/L	1.11E+00 ± 2.77E-01	6.73E-01 ± 1.68E-01	8.68E-01 ± 2.17E-01	8.84E-01	2.18E-01
Cd	0.45 µ (AMP)	ICP-MS	mg/L	2.73E-01 ± 6.81E-02	2.86E-01 ± 7.16E-02	2.69E-01 ± 6.73E-02	2.76E-01	9.22E-03
Cd	0.1 µ (AMP)	ICP-MS	mg/L	2.26E-01 ± 5.65E-02	1.53E-01 ± 3.83E-02	3.49E-01 ± 8.73E-02	2.43E-01	9.89E-02
Cd	0.02 µ (AMP)	ICP-MS	mg/L	3.87E-01 ± 9.68E-02	4.02E-01 ± 1.01E-01	3.83E-01 ± 9.58E-02	3.91E-01	1.01E-02
Sn	unfiltered	ICP-MS	mg/L	4.52E+00 ± 1.13E+00	4.74E+00 ± 1.18E+00	4.50E+00 ± 1.12E+00	4.59E+00	1.32E-01
Sn	0.45 µ (AMP)	ICP-MS	mg/L	2.71E+00 ± 6.78E-01	2.54E+00 ± 6.34E-01	2.69E+00 ± 6.73E-01	2.65E+00	9.51E-02
Sn	0.1 µ (AMP)	ICP-MS	mg/L	2.44E+00 ± 6.11E-01	2.52E+00 ± 6.30E-01	2.44E+00 ± 6.11E-01	2.47E+00	4.39E-02
Sn	0.02 µ (AMP)	ICP-MS	mg/L	3.97E+00 ± 9.92E-01	4.23E+00 ± 1.06E+00	4.00E+00 ± 1.00E+00	4.07E+00	1.42E-01
La	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
La	0.45 µ (AMP)	ICP-MS	mg/L	2.44E-03 ± 6.09E-04	2.12E-03 ± 5.29E-04	2.93E-03 ± 7.32E-04	2.49E-03	4.09E-04
La	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	5.20E-03 ± 1.30E-03	5.20E-03	1.30E-03
La	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ce	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ce	0.45 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ce	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	4.86E-03 ± 1.21E-03	bdl ± bdl	4.86E-03	1.21E-03
Ce	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
W	unfiltered	ICP-MS	mg/L	9.35E-01 ± 2.34E-01	1.06E+00 ± 2.66E-01	7.48E-01 ± 1.87E-01	9.16E-01	1.59E-01
W	0.45 µ (AMP)	ICP-MS	mg/L	6.40E-01 ± 1.60E-01	6.13E-01 ± 1.53E-01	6.23E-01 ± 1.56E-01	6.25E-01	1.34E-02
W	0.1 µ (AMP)	ICP-MS	mg/L	7.53E-01 ± 1.88E-01	3.20E-01 ± 8.01E-02	7.94E-01 ± 1.98E-01	6.22E-01	2.62E-01
W	0.02 µ (AMP)	ICP-MS	mg/L	3.28E-01 ± 8.21E-02	3.58E-01 ± 8.94E-02	3.38E-01 ± 8.46E-02	3.41E-01	1.50E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Re	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	4.33E-02	±	1.08E-02	4.33E-02	1.08E-02
Re	0.45 µ (AMP)	ICP-MS	mg/L	7.95E-03	±	1.99E-03	1.14E-02	±	2.84E-03	8.87E-03	±	2.22E-03	9.39E-03	1.76E-03
Re	0.1 µ (AMP)	ICP-MS	mg/L	1.24E-02	±	3.10E-03	bdl	±	bdl	2.06E-02	±	5.15E-03	1.65E-02	5.79E-03
Re	0.02 µ (AMP)	ICP-MS	mg/L	3.91E-03	±	9.79E-04	3.97E-03	±	9.93E-04	4.53E-03	±	1.13E-03	4.14E-03	3.41E-04
Os	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	4.78E-03	±	1.20E-03	bdl	±	bdl	bdl	±	bdl	4.78E-03	1.20E-03
Os	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	1.27E-02	±	3.18E-03	1.27E-02	3.18E-03
Ir	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	2.96E-03	±	7.39E-04	bdl	±	bdl	2.96E-03	7.39E-04
Ir	0.1 µ (AMP)	ICP-MS	mg/L	3.43E-03	±	8.58E-04	2.23E-03	±	5.58E-04	6.28E-03	±	1.57E-03	3.98E-03	2.08E-03
Ir	0.02 µ (AMP)	ICP-MS	mg/L	2.70E-03	±	6.75E-04	2.35E-03	±	5.88E-04	2.42E-03	±	6.04E-04	2.49E-03	1.85E-04
Pt	unfiltered	ICP-MS	mg/L	5.86E-02	±	1.46E-02	bdl	±	bdl	bdl	±	bdl	5.86E-02	1.46E-02
Pt	0.45 µ (AMP)	ICP-MS	mg/L	1.55E-02	±	3.88E-03	1.72E-02	±	4.29E-03	1.81E-02	±	4.53E-03	1.69E-02	1.31E-03
Pt	0.1 µ (AMP)	ICP-MS	mg/L	1.79E-02	±	4.49E-03	8.81E-03	±	2.20E-03	1.69E-02	±	4.22E-03	1.45E-02	5.00E-03
Pt	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.02 µ (AMP)	ICP-MS	mg/L	6.79E-04	±	1.70E-04	5.82E-04	±	1.46E-04	bdl	±	bdl	6.31E-04	6.88E-05
Hg	unfiltered	ICP-MS	mg/L	1.11E+00	±	2.77E-01	1.21E+00	±	3.03E-01	1.15E+00	±	2.86E-01	1.15E+00	5.21E-02
Hg	0.45 µ (AMP)	ICP-MS	mg/L	1.28E+00	±	3.19E-01	6.67E-01	±	1.67E-01	5.58E-01	±	1.39E-01	8.33E-01	3.87E-01
Hg	0.1 µ (AMP)	ICP-MS	mg/L	4.91E-01	±	1.23E-01	2.36E-01	±	5.90E-02	bdl	±	bdl	3.63E-01	1.80E-01
Hg	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	unfiltered	ICP-MS	mg/L	3.35E+00	±	8.38E-01	3.42E+00	±	8.54E-01	3.42E+00	±	8.55E-01	3.40E+00	3.93E-02
Pb	0.45 µ (AMP)	ICP-MS	mg/L	2.28E+00	±	5.71E-01	2.26E+00	±	5.66E-01	2.31E+00	±	5.77E-01	2.29E+00	2.20E-02
Pb	0.1 µ (AMP)	ICP-MS	mg/L	1.73E+00	±	4.33E-01	1.62E+00	±	4.05E-01	2.02E+00	±	5.04E-01	1.79E+00	2.04E-01
Pb	0.02 µ (AMP)	ICP-MS	mg/L	3.28E-01	±	8.20E-02	3.58E-01	±	8.96E-02	3.25E-01	±	8.13E-02	3.37E-01	1.82E-02
U-233	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-233	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-233	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-233	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-234	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-234	0.45 µ (AMP)	ICP-MS	mg/L	1.46E-02	±	3.65E-03	1.07E-02	±	2.68E-03	1.41E-02	±	3.52E-03	1.31E-02	2.11E-03
U-234	0.1 µ (AMP)	ICP-MS	mg/L	7.46E-03	±	1.86E-03	1.25E-02	±	3.12E-03	1.32E-02	±	3.30E-03	1.11E-02	3.14E-03
U-234	0.02 µ (AMP)	ICP-MS	mg/L	1.44E-02	±	3.59E-03	1.46E-02	±	3.66E-03	1.60E-02	±	4.00E-03	1.50E-02	8.65E-04
U-235	unfiltered	ICP-MS	mg/L	1.09E-01	±	2.72E-02	1.09E-01	±	2.73E-02	9.90E-02	±	2.48E-02	1.06E-01	5.85E-03
U-235	0.45 µ (AMP)	ICP-MS	mg/L	1.40E-01	±	3.49E-02	1.29E-01	±	3.22E-02	1.34E-01	±	3.35E-02	1.34E-01	5.48E-03
U-235	0.1 µ (AMP)	ICP-MS	mg/L	7.15E-02	±	1.79E-02	1.38E-01	±	3.46E-02	1.27E-01	±	3.17E-02	1.12E-01	3.58E-02
U-235	0.02 µ (AMP)	ICP-MS	mg/L	1.64E-01	±	4.11E-02	1.25E-01	±	3.12E-02	1.27E-01	±	3.17E-02	1.39E-01	2.23E-02
U-236	unfiltered	ICP-MS	mg/L	6.38E-02	±	1.59E-02	7.30E-02	±	1.83E-02	bdl	±	bdl	6.84E-02	6.55E-03
U-236	0.45 µ (AMP)	ICP-MS	mg/L	6.83E-02	±	1.71E-02	6.57E-02	±	1.64E-02	7.03E-02	±	1.76E-02	6.81E-02	2.33E-03
U-236	0.1 µ (AMP)	ICP-MS	mg/L	3.69E-02	±	9.21E-03	6.64E-02	±	1.66E-02	8.07E-02	±	2.02E-02	6.13E-02	2.24E-02
U-236	0.02 µ (AMP)	ICP-MS	mg/L	6.96E-02	±	1.74E-02	5.98E-02	±	1.50E-02	6.22E-02	±	1.56E-02	6.39E-02	5.09E-03
U-238	unfiltered	ICP-MS	mg/L	8.10E-01	±	2.03E-01	7.50E-01	±	1.88E-01	7.17E-01	±	1.79E-01	7.59E-01	4.75E-02
U-238	0.45 µ (AMP)	ICP-MS	mg/L	6.78E-01	±	1.70E-01	7.22E-01	±	1.80E-01	6.90E-01	±	1.72E-01	6.96E-01	2.25E-02
U-238	0.1 µ (AMP)	ICP-MS	mg/L	7.05E-01	±	1.76E-01	7.11E-01	±	1.78E-01	7.31E-01	±	1.83E-01	7.16E-01	1.36E-02
U-238	0.02 µ (AMP)	ICP-MS	mg/L	7.31E-01	±	1.83E-01	7.45E-01	±	1.86E-01	7.37E-01	±	1.84E-01	7.38E-01	6.81E-03
Total U	unfiltered	ICP-MS	mg/L	9.83E-01		NA	9.33E-01		NA	8.16E-01		NA	9.10E-01	8.59E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	9.01E-01		NA	9.27E-01		NA	9.08E-01		NA	9.12E-01	1.34E-02
Total U	0.1 µ (AMP)	ICP-MS	mg/L	8.21E-01		NA	9.29E-01		NA	9.52E-01		NA	9.00E-01	6.99E-02
Total U	0.02 µ (AMP)	ICP-MS	mg/L	9.80E-01		NA	9.44E-01		NA	9.42E-01		NA	9.55E-01	2.12E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
% U233	unfiltered	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U234	unfiltered	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U235	unfiltered	ICP-MS	%	1.11E+01 ± 2.77E+00	1.17E+01 ± 2.93E+00	1.21E+01 ± 3.03E+00	1.16E+01	5.33E-01
% U236	unfiltered	ICP-MS	%	6.49E+00 ± 1.62E+00	7.83E+00 ± 1.96E+00	0.00E+00 ± 0.00E+00	4.77E+00	4.19E+00
% U238	unfiltered	ICP-MS	%	8.24E+01 ± 2.06E+01	8.04E+01 ± 2.01E+01	8.79E+01 ± 2.20E+01	8.36E+01	3.84E+00
% U233	0.45 µ (AMP)	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U234	0.45 µ (AMP)	ICP-MS	%	1.62E+00 ± 4.05E-01	1.16E+00 ± 2.89E-01	1.55E+00 ± 3.87E-01	1.44E+00	2.50E-01
% U235	0.45 µ (AMP)	ICP-MS	%	1.55E+01 ± 3.88E+00	1.39E+01 ± 3.47E+00	1.48E+01 ± 3.69E+00	1.47E+01	8.09E-01
% U236	0.45 µ (AMP)	ICP-MS	%	7.58E+00 ± 1.89E+00	7.08E+00 ± 1.77E+00	7.74E+00 ± 1.94E+00	7.47E+00	3.42E-01
% U238	0.45 µ (AMP)	ICP-MS	%	7.53E+01 ± 1.88E+01	7.79E+01 ± 1.95E+01	7.59E+01 ± 1.90E+01	7.64E+01	1.34E+00
% U233	0.1 µ (AMP)	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U234	0.1 µ (AMP)	ICP-MS	%	9.09E-01 ± 2.27E-01	1.35E+00 ± 3.36E-01	1.39E+00 ± 3.47E-01	1.21E+00	2.66E-01
% U235	0.1 µ (AMP)	ICP-MS	%	8.71E+00 ± 2.18E+00	1.49E+01 ± 3.73E+00	1.33E+01 ± 3.33E+00	1.23E+01	3.22E+00
% U236	0.1 µ (AMP)	ICP-MS	%	4.49E+00 ± 1.12E+00	7.16E+00 ± 1.79E+00	8.48E+00 ± 2.12E+00	6.71E+00	2.03E+00
% U238	0.1 µ (AMP)	ICP-MS	%	8.59E+01 ± 2.15E+01	7.66E+01 ± 1.91E+01	7.68E+01 ± 1.92E+01	7.98E+01	5.31E+00
% U233	0.02 µ (AMP)	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U234	0.02 µ (AMP)	ICP-MS	%	1.47E+00 ± 3.67E-01	1.55E+00 ± 3.87E-01	1.70E+00 ± 4.24E-01	1.57E+00	1.17E-01
% U235	0.02 µ (AMP)	ICP-MS	%	1.68E+01 ± 4.19E+00	1.32E+01 ± 3.31E+00	1.35E+01 ± 3.37E+00	1.45E+01	1.99E+00
% U236	0.02 µ (AMP)	ICP-MS	%	7.10E+00 ± 1.78E+00	6.34E+00 ± 1.58E+00	6.60E+00 ± 1.65E+00	6.68E+00	3.89E-01
% U238	0.02 µ (AMP)	ICP-MS	%	7.47E+01 ± 1.87E+01	7.89E+01 ± 1.97E+01	7.82E+01 ± 1.96E+01	7.73E+01	2.28E+00
U-235	unfiltered	ICP-MS	pCi/mL	2.37E-01 ± 5.92E-02	2.38E-01 ± 5.94E-02	2.15E-01 ± 5.38E-02	2.30E-01	1.27E-02
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	3.04E-01 ± 7.60E-02	2.80E-01 ± 7.00E-02	2.92E-01 ± 7.29E-02	2.92E-01	1.19E-02
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	1.56E-01 ± 3.89E-02	3.01E-01 ± 7.53E-02	2.76E-01 ± 6.90E-02	2.44E-01	7.78E-02
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	3.57E-01 ± 8.94E-02	2.72E-01 ± 6.79E-02	2.76E-01 ± 6.90E-02	3.02E-01	4.84E-02
U-238	unfiltered	ICP-MS	pCi/mL	2.70E-01 ± 6.75E-02	2.50E-01 ± 6.25E-02	2.39E-01 ± 5.97E-02	2.53E-01	1.58E-02
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	2.26E-01 ± 5.65E-02	2.40E-01 ± 6.01E-02	2.30E-01 ± 5.74E-02	2.32E-01	7.48E-03
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	2.35E-01 ± 5.87E-02	2.37E-01 ± 5.92E-02	2.43E-01 ± 6.08E-02	2.38E-01	4.52E-03
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	2.44E-01 ± 6.09E-02	2.48E-01 ± 6.20E-02	2.45E-01 ± 6.13E-02	2.46E-01	2.27E-03
Np-237	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	1.22E-02 ± 3.04E-03	1.42E-02 ± 3.54E-03	1.41E-02 ± 3.53E-03	1.35E-02	1.14E-03
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	1.59E-02 ± 3.98E-03	1.31E-02 ± 3.26E-03	bdl ± bdl	1.45E-02	2.01E-03
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	1.16E-02 ± 2.90E-03	1.09E-02 ± 2.73E-03	1.25E-02 ± 3.12E-03	1.17E-02	7.69E-04
Np-237	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	8.58E+00 ± 2.14E+00	9.99E+00 ± 2.50E+00	9.96E+00 ± 2.49E+00	9.51E+00	8.07E-01
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	1.12E+01 ± 2.80E+00	9.21E+00 ± 2.30E+00	bdl ± bdl	1.02E+01	1.42E+00
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	8.18E+00 ± 2.04E+00	7.71E+00 ± 1.93E+00	8.79E+00 ± 2.20E+00	8.22E+00	5.42E-01
Pu-239	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	1.06E-02 ± 2.66E-03	8.23E-03 ± 2.06E-03	6.47E-03 ± 1.62E-03	8.45E-03	2.09E-03
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	7.05E-03 ± 1.76E-03	bdl ± bdl	bdl ± bdl	7.05E-03	1.76E-03
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	9.59E-03 ± 2.40E-03	9.59E-03	2.40E-03
Pu-239	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	6.53E+02 ± 1.63E+02	5.05E+02 ± 1.26E+02	3.97E+02 ± 9.94E+01	5.19E+02	1.28E+02
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	4.33E+02 ± 1.08E+02	bdl ± bdl	bdl ± bdl	4.33E+02	1.08E+02
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	5.88E+02 ± 1.47E+02	5.88E+02	1.47E+02
Pu-240	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	2.98E-03 ± 7.45E-04	bdl ± bdl	2.98E-03	7.45E-04
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	6.79E+02 ± 1.70E+02	bdl ± bdl	6.79E+02	1.70E+02
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.2 TANK 30H CHARACTERIZATION

6.2.1 Tank 30H Radioactive Species

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{137}Cs	acid digested	Rad	pCi/mL	1.02E+09	±	3.24E+07	9.98E+08	±	3.18E+07	9.81E+08	±	1.44E+07	1.00E+09	1.59E+07	1.96E+07
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	8.60E+08	±	1.25E+07	5.75E+08	±	8.79E+06	1.05E+09	±	1.49E+07	8.27E+08	7.10E+06	2.38E+08
^{90}Sr	acid digested	Rad	pCi/mL	7.02E+05	±	6.45E+04	1.31E+06	±	1.24E+05	3.47E+05	±	3.12E+04	7.86E+05	4.79E+04	4.87E+05
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL	2.33E+05	±	1.81E+04		NA		2.48E+05	±	1.93E+04	2.40E+05	1.33E+04	1.06E+04
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL	4.79E+05	±	6.09E+04	4.02E+05	±	4.90E+04	4.77E+05	±	6.06E+04	4.53E+05	3.30E+04	4.41E+04
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	2.67E+05	±	1.99E+04	3.03E+05	±	2.21E+04	3.79E+05	±	3.53E+04	3.16E+05	1.54E+04	5.73E+04
^{238}Pu	acid digested	Rad	pCi/mL	8.86E+03	±	4.72E+02	2.37E+04	±	1.18E+03	1.27E+04	±	6.81E+02	1.51E+04	4.81E+02	7.68E+03
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	8.80E+03	±	2.66E+02	9.48E+03	±	2.64E+02	8.89E+03	±	2.93E+02	9.06E+03	1.59E+02	3.70E+02
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	1.28E+04	±	3.62E+02	1.27E+04	±	3.62E+02	1.34E+04	±	3.87E+02	1.30E+04	2.14E+02	3.79E+02
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	1.24E+04	±	2.88E+01	1.12E+04	±	3.11E+01	1.12E+04	±	4.95E+02	1.16E+04	1.65E+02	6.93E+02
$^{239/40}$Pu	acid digested	Rad	pCi/mL	1.19E+03	±	1.04E+02	1.05E+05	±	1.28E+04	1.26E+03	±	1.28E+02	3.58E+04	4.28E+03	5.99E+04
$^{239/40}$Pu	acid digested	ICP-MS	pCi/mL	4.27E+02	±	1.07E+02	4.81E+02	±	1.20E+02	3.71E+02	±	9.29E+01	4.27E+02	NA	5.50E+01
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	< 4.50E+02	±	upper limit	< 4.93E+02	±	upper limit	< 4.76E+02	±	upper limit	< 4.50E+02	NA	upper limit
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl		NA		bdl	NA	bdl
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	3.95E+02	±	3.89E+01	4.18E+02	±	3.89E+01	6.49E+02	±	6.68E+01	4.87E+02	2.89E+01	1.40E+02
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl		NA		bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	2.59E+02	±	2.88E+01	3.41E+02	±	3.11E+01	2.91E+02	±	3.11E+01	2.97E+02	1.75E+01	4.13E+01
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{241}Pu	acid digested	Rad	pCi/mL	< 1.25E+04	±	upper limit	< 3.40E+04	±	upper limit	< 1.02E+04	±	upper limit	< 3.40E+04	NA	upper limit
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
Total Pu	acid digested	Rad	pCi/mL	1.01E+04		NA	1.29E+05		NA	1.40E+04		NA	5.09E+04	NA	6.74E+04
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	8.80E+03		NA	9.48E+03		NA	8.89E+03		NA	9.06E+03	NA	3.70E+02
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	1.32E+04		NA	1.31E+04		NA	1.40E+04		NA	1.35E+04	NA	5.16E+02
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	1.27E+04		NA	1.15E+04		NA	1.15E+04		NA	1.19E+04	NA	6.60E+02
^{235}U	acid digested	ICP-MS	pCi/mL	2.14E-01	±	5.35E-02	2.14E-01	±	5.35E-02	2.19E-01	±	5.48E-02	2.16E-01	NA	3.07E-03
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	2.13E-01	±	5.33E-02	1.85E-01	±	4.63E-02		NA		1.99E-01	NA	1.98E-02
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	3.24E-01	±	8.11E-02		NA		2.74E-01	±	6.84E-02	2.99E-01	NA	3.59E-02
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	2.41E-01	±	6.02E-02	2.11E-01	±	5.27E-02	3.10E-01	±	7.74E-02	2.54E-01	NA	5.06E-02
^{238}U	acid digested	ICP-MS	pCi/mL	4.66E-01	±	1.16E-01	4.63E-01	±	1.16E-01	4.77E-01	±	1.19E-01	4.69E-01	NA	7.51E-03
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	4.60E-01	±	1.15E-01	4.75E-01	±	1.19E-01		NA		4.68E-01	NA	1.12E-02
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	5.53E-01	±	1.38E-01		NA		6.37E-01	±	1.59E-01	5.95E-01	NA	5.93E-02
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	5.18E-01	±	1.29E-01	5.12E-01	±	1.28E-01	4.96E-01	±	1.24E-01	5.08E-01	NA	1.11E-02
Total U	acid digested	ICP-MS	mg/L	1.55E+00		NA	1.55E+00		NA	1.60E+00		NA	1.57E+00	NA	2.89E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	1.54E+00		NA	1.57E+00		NA	NA		NA	1.56E+00	NA	2.12E-02
Total U	0.1 µ (AMP)	ICP-MS	mg/L	1.86E+00		NA	NA		NA	2.10E+00		NA	1.98E+00	NA	1.70E-01
Total U	0.02 µ (AMP)	ICP-MS	mg/L	1.73E+00		NA	1.70E+00		NA	1.71E+00		NA	1.71E+00	NA	1.53E-02
^{237}Np	acid digested	ICP-MS	pCi/mL	8.06E+00	±	2.02E+00	8.03E+00	±	2.01E+00	8.74E+00	±	2.19E+00	8.28E+00	NA	4.02E-01
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	9.66E+00	±	2.42E+00	6.11E+00	±	1.53E+00		NA		7.89E+00	NA	2.51E+00
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	1.56E+01	±	3.90E+00		NA		1.65E+01	±	4.13E+00	1.61E+01	NA	6.36E-01
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	8.00E+00	±	2.00E+00	1.26E+01	±	3.14E+00	1.25E+01	±	3.12E+00	1.10E+01	NA	2.61E+00

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{241}Am	acid digested	Rad#	pCi/mL	NA			NA			NA			NA	NA	NA
^{241}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 5.01E+02	±	upper limit	< 4.39E+02	±	upper limit	< 1.08E+03	±	upper limit	< 4.39E+02	NA	upper limit
^{241}Am	0.1 µ (AMP)	Rad$	pCi/mL	< 2.38E+02	±	mda	< 2.10E+02	±	mda	< 1.37E+02	±	mda	< 1.37E+02	NA	mda
^{241}Am	0.02 µ (AMP)	Rad$	pCi/mL	< 5.86E+02	±	mda	< 1.42E+03	±	mda	< 3.27E+02	±	mda	< 3.27E+02	NA	mda
^{242}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 9.71E+02	±	mda	< 6.43E+02	±	mda	< 7.08E+02	±	mda	< 6.43E+02	NA	mda
^{243}Am	acid digested	Rad$	pCi/mL	NA			NA			NA			NA	NA	NA
^{243}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 1.11E+03	±	mda	< 8.97E+02	±	mda	< 7.16E+02	±	mda	< 7.16E+02	NA	mda
^{99}Tc	unfiltered	Rad	pCi/mL	3.51E+05	±	1.95E+06		NA			NA		3.51E+05	1.95E+06	1.95E+06
^{99}Tc	0.45 µ (No AMP)	Rad	pCi/mL	1.86E+05	±	1.28E+06							1.86E+05	1.28E+06	1.28E+06
^{99}Tc	acid digested	ICP-MS	pCi/mL	2.18E+05	±	5.46E+04	2.17E+05	±	5.43E+04	2.13E+05	±	5.32E+04	2.16E+05	NA	2.84E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	2.02E+05	±	5.05E+04	2.01E+05	±	5.03E+04		NA		2.02E+05	NA	5.50E+02
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	2.25E+05	±	5.63E+04		NA		2.60E+05	±	6.50E+04	2.43E+05	NA	2.47E+04
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	2.06E+05	±	5.15E+04	2.11E+05	±	5.28E+04	2.01E+05	±	5.03E+04	2.06E+05	NA	4.94E+03
Gross α	acid digested	Rad	pCi/mL	1.12E+04	±	2.24E+03	1.21E+04	±	1.21E+03	1.72E+04	±	1.89E+03	1.35E+04	1.06E+03	3.25E+03
Gross α	0.45 µ (No AMP)	Rad	pCi/mL	< 2.32E+04	±	upper	2.02E+04	±	4.05E+03	2.15E+04	±	6.46E+03	2.09E+04	3.81E+03	9.26E+02
Beta	acid digested	Rad	pCi/mL	1.15E+09	±	3.45E+08	1.16E+09	±	3.48E+08	1.14E+09	±	3.42E+08	1.15E+09	1.99E+08	1.12E+07
Beta	0.45 µ (No AMP)	Rad	pCi/mL	1.14E+09	±	1.72E+08	1.17E+09	±	1.76E+08	1.17E+09	±	1.75E+08	1.16E+09	1.01E+08	1.56E+07
Tritium	acid digested	Rad	pCi/mL	8.58E+03	±	1.72E+03		NA			NA		8.58E+03	1.72E+03	1.72E+03
^{14}C	unfiltered	Rad	pCi/mL	< 2.50E+03	±	mda		NA			NA		< 2.50E+03	NA	mda
^{14}C	0.45 µ (No AMP)	Rad	pCi/mL	< 2.70E+02	±	upper limit		NA			NA		< 2.70E+02	NA	upper limit
^{129}I	unfiltered	Rad	pCi/mL	1.35E+02	±	1.64E+01		NA			NA		1.35E+02	1.64E+01	1.64E+01
^{129}I	0.45 µ (No AMP)	Rad	pCi/mL	< 5.15E+02	±	upper limit		NA			NA		< 5.15E+02	NA	upper limit
^{26}Al	digested	Rad	pCi/mL	< 1.22E+02	±	mda	< 1.02E+02	±	mda	< 1.15E+02	±	mda	< 1.02E+02	NA	mda
^{26}Al	0.45 µ (No AMP)	Rad	pCi/mL	< 1.49E+02	±	mda	< 1.27E+02	±	mda	< 1.60E+02	±	mda	< 1.27E+02	NA	mda
^{60}Co	acid digested	Rad	pCi/mL	6.00E+02	±	3.66E+01	6.95E+02	±	3.96E+01	7.40E+02	±	4.00E+01	6.78E+02	2.24E+01	7.15E+01
^{60}Co	0.45 µ (No AMP)	Rad	pCi/mL	< 2.02E+02	±	mda	< 2.01E+02	±	mda	< 2.17E+02	±	mda	< 2.01E+02	NA	mda
^{94}Nb	acid digested	Rad	pCi/mL	< 1.51E+02	±	mda	< 1.51E+02	±	mda	< 1.34E+02	±	mda	< 1.34E+02	NA	mda
^{94}Nb	0.45 µ (No AMP)	Rad	pCi/mL	< 1.82E+02	±	mda	< 1.80E+02	±	mda	< 2.23E+02	±	mda	< 1.80E+02	NA	mda
^{106}Ru	acid digested	Rad	pCi/mL	< 1.40E+03	±	mda	< 1.15E+03	±	mda	< 1.32E+03	±	mda	< 1.15E+03	NA	mda
^{106}Ru	0.45 µ (No AMP)	Rad	pCi/mL	< 1.72E+03	±	mda	< 1.76E+03	±	mda	< 1.93E+03	±	mda	< 1.72E+03	NA	mda
^{125}Sb	acid digested	Rad	pCi/mL	1.59E+03	±	1.08E+02	1.60E+03	±	9.93E+01	1.67E+03	±	1.24E+02	1.67E+03	6.42E+01	4.38E+01
^{125}Sb	0.45 µ (No AMP)	Rad	pCi/mL	1.28E+03	±	7.95E+01	1.55E+03	±	1.14E+02	1.32E+03	±	1.47E+02	1.38E+03	6.74E+01	1.46E+02
^{126}Sb	acid digested	Rad	pCi/mL	1.68E+03	±	3.74E+01	1.71E+03	±	3.87E+01	1.67E+03	±	6.89E+01	1.69E+03	2.91E+01	2.02E+01
^{126}Sb	0.45 µ (No AMP)	Rad	pCi/mL	1.61E+03	±	7.29E+01	1.53E+03	±	4.90E+01	1.39E+03	±	6.42E+01	1.51E+03	3.63E+01	1.10E+02
^{126}Sn	acid digested	Rad	pCi/mL	< 3.31E+02	±	mda	< 3.29E+02	±	mda	< 3.15E+02	±	mda	< 3.15E+02	NA	mda
^{126}Sn	0.45 µ (No AMP)	Rad	pCi/mL	1.88E+03	±	2.56E+02	1.78E+03	±	2.49E+02	2.23E+03	±	3.02E+02	1.96E+03	1.56E+02	2.37E+02
^{144}Ce	acid digested	Rad	pCi/mL	< 9.14E+02	±	mda	< 8.92E+02	±	mda	< 8.58E+02	±	mda	< 8.58E+02	NA	mda
^{144}Ce	0.45 µ (No AMP)	Rad	pCi/mL	< 1.02E+03	±	mda	< 1.02E+03	±	mda	< 1.19E+03	±	mda	< 1.02E+03	NA	mda
^{152}Eu	acid digested	Rad	pCi/mL	< 1.07E+03	±	mda	< 1.14E+03	±	mda	< 1.13E+03	±	mda	< 1.07E+03	NA	mda
^{152}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 1.44E+03	±	mda	< 1.42E+03	±	mda	< 1.49E+03	±	mda	< 1.42E+03	NA	mda
^{154}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 2.47E+02	±	mda	< 2.44E+02	±	mda	< 2.30E+02	±	mda	< 2.30E+02	NA	mda
^{154}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 2.87E+02	±	mda	< 2.87E+02	±	mda	< 3.46E+02	±	mda	< 2.87E+02	NA	mda
^{155}Eu	acid digested	Rad	pCi/mL	< 4.36E+02	±	mda	< 4.35E+02	±	mda	< 4.17E+02	±	mda	< 4.17E+02	NA	mda
^{155}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 5.92E+02	±	mda	< 5.82E+02	±	mda	< 6.67E+02	±	mda	< 5.82E+02	NA	mda
^{231}Pa	acid digested	Rad	pCi/mL	< 4.91E+03	±	mda	< 4.83E+03	±	mda	< 4.68E+03	±	mda	< 4.68E+03	NA	mda
^{231}Pa	0.45 µ (No AMP)	Rad	pCi/mL	< 5.54E+03	±	mda	< 5.51E+03	±	mda	< 6.50E+03	±	mda	< 5.51E+03	NA	mda
^{232}U	acid digested	Rad	pCi/mL	< 1.88E+02	±	upper limit	< 1.40E+02	±	upper limit	< 1.47E+02	±	upper limit	< 1.40E+02	NA	mda
^{59}Ni	acid digested	Rad	pCi/mL	< 2.29E+02	±	mda	< 2.23E+02	±	mda	< 2.42E+02	±	mda	< 2.23E+02	NA	mda
^{63}Ni	acid digested	Rad	pCi/mL	< 6.23E+02	±	upper limit	< 3.85E+02	±	mda	< 1.10E+03	±	upper limit	< 3.85E+02	NA	mda
^{147}Pm	acid digested	Rad	pCi/mL	< 5.31E+02	±	mda	< 3.62E+03	±	upper limit	< 4.54E+02	±	upper limit	< 3.62E+03	NA	mda
^{151}Sm	acid digested	Rad	pCi/mL	< 1.31E+03	±	mda	< 5.43E+03	±	upper limit	< 4.42E+02	±	upper limit	< 4.42E+02	NA	mda
^{79}Se	acid digested	Rad	pCi/mL	< 9.14E+02	±	upper limit	< 1.21E+03	±	upper limit	< 1.07E+03	±	upper limit	< 9.14E+02	NA	mda
^{242}Cm/^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.82E+01	±	mda	< 1.03E+02	±	mda	< 6.76E+02	±	mda	< 2.82E+01	NA	mda
^{242}Cm/^{252}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 1.19E+03	±	mda	3.37E+00	±	2.02E+00	< 9.91E+00	±	mda	3.37E+00	2.02E+00	2.02E+00
^{243}Cm	0.45 µ (No AMP)	Rad	pCi/mL	< 1.96E+04	±	mda	< 6.61E+02	±	mda	< 7.27E+04	±	upper limit	< 6.61E+02	NA	mda
^{243}Cm	0.45 µ (AMP)	Rad	pCi/mL	< 2.49E+02	±	mda	< 1.65E+02	±	mda	< 1.81E+02	±	mda	< 1.65E+02	NA	mda
^{244}Cm	0.45 µ (No AMP)	Rad	pCi/mL	5.42E+02	±	1.58E+02	1.74E+03	±	4.26E+02	< 2.57E+05	±	upper limit	1.14E+03	2.27E+02	8.47E+02
^{244}Cm	0.45 µ (AMP)	Rad	pCi/mL	2.24E+03	±	4.71E+02	8.44E+02	±	1.90E+02	6.09E+02	±	1.17E+02	1.23E+03	1.74E+02	8.85E+02
^{249}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 4.59E+03	±	mda	< 4.79E+03	±	mda	< 3.41E+03	±	mda	< 3.41E+03	NA	mda
^{249}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 2.89E+02	±	mda	< 1.97E+02	±	mda		NA		< 1.97E+02	NA	mda
^{251}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 5.52E+03	±	mda	< 7.13E+03	±	mda	< 5.08E+03	±	mda	< 5.08E+03	NA	mda
^{251}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 3.79E+02	±	mda	< 3.28E+02	±	mda	< 2.03E+02	±	mda	< 2.03E+02	NA	mda

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

#Analysis conducted using gamma spectroscopy after cesium removal.

$Analysis conducted using more specific Am separation and radiocounting methodology.

6.2.2 Tank 30H Salt and Organic Species

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Na	unfiltered	ICPES	M	5.71E+00	±	5.71E-01	6.00E+00	±	6.00E-01		NA		5.86E+00	2.03E-01
Na	0.45 µ (AMP)	ICPES	M	4.29E+00	±	4.29E-01	4.23E+00	±	4.23E-01		NA		4.27E+00	3.54E-02
Na	0.45 µ (No AMP)	AA	M	4.93E+00	±	9.86E-01	4.82E+00	±	9.64E-01	4.81E+00	±	9.62E-01	4.85E+00	6.66E-02
K	unfiltered	ICPES	M	1.64E-01	±	1.64E-02	1.62E-01	±	1.62E-02		NA		1.63E-01	1.41E-03
K	0.45 µ (AMP)	ICPES	M	2.89E-01	±	2.98E-02	3.21E-01	±	3.20E-02		NA		3.05E-01	2.26E-02
K	0.45 µ (No AMP)	AA	M	2.78E-02	±	2.78E-03	2.98E-02	±	2.98E-03		NA		2.88E-02	1.41E-03
Al	unfiltered	ICPES	M	2.98E-01	±	2.98E-02	3.12E-01	±	3.12E-02		NA		3.05E-01	9.90E-03
As	0.45 µ (No AMP)	AA	mg/L	< 1.32E+00	±	mdl	< 1.31E+00	±	mdl	< 1.32E+00	±	mdl	< 1.31E+00	mdl
Se	0.45 µ (No AMP)	AA	mg/L	< 1.32E+00	±	mdl	< 1.31E+00	±	mdl	< 1.32E+00	±	mdl	< 1.31E+00	mdl
Hg	0.45 µ (No AMP)	AA	mg/L	< 2.32E+01	±	mdl	< 2.31E+01	±	mdl	< 2.33E+01	±	mdl	< 2.31E+01	mdl
Total Base	unfiltered	Titration	M	3.72E+00	±	3.72E-01	3.43E+00	±	3.43E-01	3.60E+00	±	3.60E-01	3.58E+00	1.46E-01
Free OH^-	unfiltered	Titration	M	2.26E+00	±	2.26E-01	2.82E+00	±	2.82E-01	2.35E+00	±	2.35E-01	2.48E+00	3.03E-01
CO_3^{2-}	unfiltered	Titration	M	< 1.97E-01	±	mdl	< 2.10E-01	±	mdl	< 2.03E-01	±	mdl	< 1.97E-01	mdl
$Al(OH)_4^-$	unfiltered	Titration	M	9.37E-01	±	9.37E-02	6.18E-01	±	6.18E-02	8.08E-01	±	8.08E-02	7.88E-01	1.60E-01
NO_3^-	unfiltered	IC	M	5.30E-01	±	5.30E-02		NA			NA		5.30E-01	5.30E-02
NO_2^-	unfiltered	IC	M	7.23E-01	±	7.23E-02		NA			NA		7.23E-01	7.23E-02
SO_4^{2-}	unfiltered	IC	M	1.96E-03	±	1.96E-04		NA			NA		1.96E-03	1.96E-04
PO_4^{3-}	unfiltered	IC	M	3.53E-03	±	1.96E-04		NA			NA		3.53E-03	1.96E-04
F^-	unfiltered	IC	M	< 2.20E-03	±	mdl		NA			NA		< 2.20E-03	mdl
Cl^-	unfiltered	IC	M	3.54E-03	±	3.54E-04		NA			NA		3.54E-03	3.54E-04
Br^-	unfiltered	IC	M		NA			NA			NA		NA	NA
$C_2O_4^{2-}$	unfiltered	IC	M		NA			NA			NA		NA	NA
CHO_2	unfiltered	IC	M		NA			NA			NA		NA	NA
TBP	unfiltered	IC	mg/L	< 5.26E+00	±	mdl		NA			NA		< 5.26E+00	mdl
DBP	unfiltered	IC	mg/L	< 5.36E+02	±	mdl		NA			NA		< 5.36E+02	mdl
VOA	unfiltered	GC-MS	mg/L	1.47E+01	±	1.47E+00		NA			NA		1.47E+01	1.47E+00
SVOA	unfiltered	GC-MS	mg/L	< 1.05E+00	±	mdl		NA			NA		< 1.05E+00	mdl
TIC	unfiltered	Titration	mg/L	1.36E+03	±	3.40E+02	1.23E+03	±	3.08E+02	1.32E+03	±	6.60E+02	1.30E+03	6.66E+01
TOC	unfiltered	Titration	mg/L	1.69E+03	±	4.23E+02	1.68E+03	±	4.20E+02	1.80E+03	±	9.00E+02	1.72E+03	6.66E+01
Total C	unfiltered	Titration	mg/L	3.05E+03	±	7.63E+02	2.92E+03	±	7.30E+02	3.12E+03	±	1.56E+03	3.03E+03	1.01E+02

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.
#Non-representative sample indicates that the data was determined to be inaccurate and unreflective of the actual sample value.

6.2.3 Tank 30H ICP-ES Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 1.01E+01	±	mdl	< 9.96E+00	±	mdl		NA		< 9.96E+00	mdl
Ag	0.45 µ (No AMP)	ICPES	mg/L	< 2.11E+00	±	mdl	< 2.10E+00	±	mdl	< 2.12E+00	±	mdl	< 2.10E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	< 5.03E-01	±	mdl	< 5.03E-01	±	mdl		NA		< 5.03E-01	mdl
Ag	0.1 µ (AMP)	ICPES	mg/L	< 5.10E-01	±	mdl	< 5.10E-01	±	mdl	5.10E-01	±	5.10E-02	5.10E-01	5.10E-02
Ag	0.02 µ (AMP)	ICPES	mg/L	2.65E-01	±	2.65E-02	3.30E-01	±	3.30E-02	< 2.59E-01	±	mdl	2.85E-01	1.75E-01
Al	unfiltered	ICPES	M	2.98E-01	±	2.98E-02	3.12E-01	±	3.12E-02		NA		3.05E-01	9.90E-03
Al	0.45 µ (No AMP)	ICPES	M	4.37E-01	±	4.37E-02	2.28E-01	±	2.28E-02	3.80E-01	±	3.80E-02	3.48E-01	1.08E-01
Al	0.45 µ (AMP)	ICPES	M	2.56E-01	±	2.56E-02	2.54E-01	±	2.54E-02		NA		2.55E-01	1.41E-03
Al	0.1 µ (AMP)	ICPES	M	2.78E-01	±	2.78E-02	2.77E-01	±	2.77E-02	3.36E-01	±	3.36E-02	2.97E-01	3.38E-02
Al	0.02 µ (AMP)	ICPES	M	2.66E-01	±	2.66E-02	2.66E-01	±	2.66E-02	2.61E-01	±	2.61E-02	2.64E-01	2.89E-03
B	unfiltered	ICPES	mg/L	< 1.09E+03	±	mdl	< 1.08E+03	±	mdl		NA		< 1.08E+03	mdl
B	0.45 µ (No AMP)	ICPES	mg/L	5.43E+02	±	5.43E+01	3.04E+02	±	3.04E+01	4.77E+02	±	4.77E+01	4.41E+02	1.23E+02
B	0.45 µ (AMP)	ICPES	mg/L	9.30E+01	±	9.30E+00	9.24E+01	±	9.24E+00		NA		9.27E+01	4.44E-01
B	0.1 µ (AMP)	ICPES	mg/L	9.81E+01	±	9.81E+00	9.76E+01	±	9.76E+00	1.18E+02	±	1.18E+01	1.05E+02	1.16E+01
B	0.02 µ (AMP)	ICPES	mg/L	9.26E+01	±	9.26E+00	9.19E+01	±	9.19E+00	9.06E+01	±	9.06E+00	9.17E+01	9.87E-01
Ba	unfiltered	ICPES	mg/L	< 1.01E+01	±	mdl	< 9.96E+00	±	mdl		NA		< 9.96E+00	mdl
Ba	0.45 µ (No AMP)	ICPES	mg/L	9.33E+00	±	9.33E-01	3.52E+00	±	3.52E-01	6.82E+00	±	6.82E-01	6.56E+00	2.91E+00
Ba	0.45 µ (AMP)	ICPES	mg/L	1.76E+00	±	1.76E-01	1.56E+00	±	1.56E-01		NA		1.66E+00	1.42E-01
Ba	0.1 µ (AMP)	ICPES	mg/L	1.02E+00	±	1.02E-01	1.02E+00	±	1.02E-01	1.29E+00	±	1.29E-01	1.11E+00	1.54E-01
Ba	0.02 µ (AMP)	ICPES	mg/L	9.45E-01	±	9.45E-02	9.06E-01	±	9.06E-02	7.90E-01	±	7.90E-02	8.80E-01	8.08E-02
Ca	unfiltered	ICPES	mg/L	< 3.04E+02	±	mdl	< 3.01E+02	±	mdl		NA		< 3.01E+02	mdl
Ca	0.45 µ (No AMP)	ICPES	mg/L	1.92E+02	±	1.92E+01	9.41E+01	±	9.41E+00	1.63E+02	±	1.63E+01	1.50E+02	5.03E+01
Ca	0.45 µ (AMP)	ICPES	mg/L	2.74E+01	±	2.74E+00	2.67E+01	±	2.67E+00		NA		2.71E+01	4.89E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	6.87E+01	±	6.87E+00	6.47E+01	±	6.47E+00	8.63E+01	±	8.63E+00	7.32E+01	1.15E+01
Ca	0.02 µ (AMP)	ICPES	mg/L	3.74E+01	±	3.74E+00	3.59E+01	±	3.59E+00	3.40E+01	±	3.40E+00	3.58E+01	1.72E+00
Cd	unfiltered	ICPES	mg/L	< 1.34E+01	±	mdl	< 1.33E+01	±	mdl		NA		< 1.33E+01	mdl
Cd	0.45 µ (No AMP)	ICPES	mg/L	< 6.33E+00	±	mdl	< 6.31E+00	±	mdl	< 6.35E+00	±	mdl	< 6.31E+00	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	< 1.51E+00	±	mdl	< 1.51E+00	±	mdl		NA		< 1.51.E+00	mdl
Cd	0.1 µ (AMP)	ICPES	mg/L	< 1.53E+00	±	mdl	< 1.53E+00	±	mdl	< 1.53E+00	±	mdl	< 1.53E+00	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 7.77E-01	±	mdl	< 7.77E-01	±	mdl	< 7.77E-01	±	mdl	< 7.77.E-01	mdl
Ce	unfiltered	ICPES	mg/L	< 1.66E+02	±	mdl	< 1.65E+02	±	mdl		NA		< 1.65E+02	mdl
Ce	0.45 µ (No AMP)	ICPES	mg/L	7.33E+01	±	7.33E+00	< 2.68E+01	±	mdl	3.16E+01	±	3.16E+00	4.39E+01	3.68E+01
Ce	0.45 µ (AMP)	ICPES	mg/L	2.05E+01	±	2.05E+00	1.57E+01	±	1.57E+01		NA		1.81E+01	3.42E+00
Ce	0.1 µ (AMP)	ICPES	mg/L	6.94E+00	±	6.94E-01	< 6.50E+00	±	6.50E+00	9.66E+00	±	9.66E-01	7.70E+00	4.98E+00
Ce	0.02 µ (AMP)	ICPES	mg/L	4.62E+00	±	4.62E-01	5.67E+00	±	4.21E+01	< 3.30E+00	±	mdl	4.53E+00	3.02E+00
Cr	unfiltered	ICPES	mg/L	1.56E+02	±	1.56E+01	1.71E+02	±	1.71E+01		NA		1.64E+02	1.06E+01
Cr	0.45 µ (No AMP)	ICPES	mg/L	< 2.11E+01	±	mdl	< 2.10E+01	±	mdl	< 2.12E+01	±	mdl	< 2.10E+01	mdl
Cr	0.45 µ (AMP)	ICPES	mg/L	1.34E+02	±	1.34E+01	1.32E+02	±	1.32E+01		NA		1.33E+02	1.78E+00
Cr	0.1 µ (AMP)	ICPES	mg/L	1.41E+02	±	1.41E+01	1.39E+02	±	1.39E+01	1.71E+02	±	1.71E+01	1.50E+02	1.77E+01
Cr	0.02 µ (AMP)	ICPES	mg/L	1.34E+02	±	1.34E+01	1.33E+02	±	1.33E+01	1.29E+02	±	1.29E+01	1.32E+02	2.75E+00
Cu	unfiltered	ICPES	mg/L	< 2.08E+01	±	mdl	< 2.06E+01	±	mdl		NA		< 2.06E+01	mdl
Cu	0.45 µ (No AMP)	ICPES	mg/L	< 5.27E+00	±	mdl	< 5.26E+00	±	mdl	< 5.29E+00	±	mdl	< 5.26E+00	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	< 1.26E+00	±	mdl	< 1.26E+00	±	mdl		NA		< 1.26E+00	mdl
Cu	0.1 µ (AMP)	ICPES	mg/L	2.41E+00	±	2.41E-01	2.41E+00	±	2.41E-01	2.85E+00	±	2.85E-01	2.56E+00	2.57E-01
Cu	0.02 µ (AMP)	ICPES	mg/L	1.95E+00	±	1.95E-01	2.12E+00	±	2.12E-01	2.01E+00	±	2.01E-01	2.03E+00	8.44E-02
Fe	unfiltered	ICPES	mg/L	< 1.47E+01	±	mdl	< 1.46E+01	±	mdl		NA		< 1.46E+01	mdl
Fe	0.45 µ (No AMP)	ICPES	mg/L	4.72E+01	±	4.72E+00	1.84E+01	±	1.84E+00	3.28E+01	±	3.28E+00	3.28E+01	1.44E+01
Fe	0.45 µ (AMP)	ICPES	mg/L	6.07E+00	±	6.07E-01	5.70E+00	±	5.70E-01		NA		5.88E+00	2.62E-01
Fe	0.1 µ (AMP)	ICPES	mg/L	8.47E+00	±	8.47E-01	8.41E+00	±	8.41E-01	1.06E+01	±	1.06E+00	9.15E+00	1.23E+00
Fe	0.02 µ (AMP)	ICPES	mg/L	7.31E+00	±	7.31E-01	7.51E+00	±	7.51E-01	7.77E+00	±	7.77E-01	7.53E+00	2.27E-01
Gd	unfiltered	ICPES	mg/L	< 1.81E+01	±	mdl	< 1.79E+01	±	mdl		NA		< 1.79E+01	mdl
Gd	0.45 µ (No AMP)	ICPES	mg/L	9.54E+00	±	9.54E-01	< 4.21E+00	±	mdl	5.03E+00	±	5.03E-01	7.29E+00	3.19E+00
Gd	0.45 µ (AMP)	ICPES	mg/L	2.66E+00	±	2.66E-01	1.97E+00	±	1.97E-01		NA		2.32E+00	4.93E-01
Gd	0.1 µ (AMP)	ICPES	mg/L	< 1.02E+00	±	mdl	< 1.02E+00	±	mdl	1.06E+00	±	1.06E-01	1.06E+00	1.06E-01
Gd	0.02 µ (AMP)	ICPES	mg/L	6.34E-01	±	6.34E-02	6.86E-01	±	6.86E-02	< 5.18E-01	±	mdl	6.60E-01	3.65E-02
K	unfiltered	ICPES	M	< 1.64E-01	±	mdl	< 1.62E-01	±	mdl		NA		< 1.64E-01	mdl
K	0.45 µ (No AMP)	ICPES	M	2.59E-01	±	2.59E-02	1.55E-01	±	1.55E-02	2.43E-01	±	2.43E-02	2.19E-01	5.60E-02
K	0.45 µ (AMP)	ICPES	M	2.98E-02	±	2.98E-03	3.21E-02	±	3.21E-03		NA		3.09E-02	1.63E-03
K	0.1 µ (AMP)	ICPES	M	3.09E-02	±	3.09E-03	3.13E-02	±	3.13E-03	3.79E-02	±	3.79E-03	3.34E-02	3.93E-03
K	0.02 µ (AMP)	ICPES	M	3.22E-02	±	3.22E-03	3.04E-02	±	3.04E-03	3.07E-02	±	3.07E-03	3.11E-02	9.73E-04
La	unfiltered	ICPES	mg/L	< 1.34E+01	±	mdl	< 1.33E+01	±	mdl		NA		< 1.34E+01	mdl
La	0.45 µ (No AMP)	ICPES	mg/L	1.07E+01	±	1.07E+00	< 4.73E+00	±	mdl	6.35E+00	±	6.35E-01	8.53E+00	5.38E+00
La	0.45 µ (AMP)	ICPES	mg/L	2.54E+00	±	2.54E-01	2.00E+00	±	2.00E-01		NA		2.27E+00	3.87E-01
La	0.1 µ (AMP)	ICPES	mg/L	1.16E+00	±	1.16E-01	< 1.15E+00	±	mdl	1.59E+00	±	1.59E-01	1.30E+00	8.24E-01
La	0.02 µ (AMP)	ICPES	mg/L	8.16E-01	±	8.16E-02	8.67E-01	±	8.67E-02	< 5.83E-01	±	mdl	7.55E-01	4.86E-01
Li	unfiltered	ICPES	mg/L	< 5.70E+01	±	mdl	< 5.64E+01	±	mdl		NA		< 5.64E+01	mdl
Li	0.45 µ (No AMP)	ICPES	mg/L	2.35E+01	±	2.35E+00	2.42E+00	±	2.42E-01	1.24E+01	±	1.24E+00		
Li	0.45 µ (AMP)	ICPES	mg/L	7.23E+00	±	7.23E-01	5.40E+00	±	5.40E-01		NA		6.31E+00	1.29E+00
Li	0.1 µ (AMP)	ICPES	mg/L	2.33E+00	±	2.33E-01	1.33E+00	±	1.33E-01	2.80E+00	±	2.80E-01	2.15E+00	7.55E-01
Li	0.02 µ (AMP)	ICPES	mg/L	1.28E+00	±	1.28E-01	1.72E+00	±	1.72E-01	6.54E-01	±	6.54E-02	1.22E+00	5.36E-01
Mg	unfiltered	ICPES	mg/L	< 4.16E+01	±	mdl	< 4.12E+01	±	mdl		NA		< 4.12E+01	mdl
Mg	0.45 µ (No AMP)	ICPES	mg/L	3.62E+01	±	3.62E+00	1.80E+01	±	1.80E+00	3.14E+01	±	3.14E+00	2.85E+01	9.43E+00
Mg	0.45 µ (AMP)	ICPES	mg/L	3.01E+00	±	3.01E-01	2.68E+00	±	2.68E-01		NA		2.85E+00	2.31E-01
Mg	0.1 µ (AMP)	ICPES	mg/L	1.10E+01	±	1.10E+00	1.09E+01	±	1.09E+00	1.35E+01	±	1.35E+00	1.18E+01	1.48E+00
Mg	0.02 µ (AMP)	ICPES	mg/L	5.55E+00	±	5.55E-01	5.52E+00	±	5.52E-01	5.42E+00	±	5.42E-01	5.50E+00	7.07E-02

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Mn	unfiltered	ICPES	mg/L	< 1.47E+01	±	mdl	< 1.46E+01	±	mdl		NA		< 1.46E+01	mdl
Mn	0.45 µ (No AMP)	ICPES	mg/L	1.95E+00	±	1.95E-01	< 1.58E+00	±	mdl	< 1.59E+00	±	mdl	1.71E+00	1.13E+00
Mn	0.45 µ (AMP)	ICPES	mg/L	< 3.77E-01	±	mdl	< 3.77E-01	±	mdl		NA		< 3.77E-01	mdl
Mn	0.1 µ (AMP)	ICPES	mg/L	4.97E-01	±	4.97E-02	4.33E-01	±	4.33E-02	4.97E-01	±	4.97E-02	4.76E-01	3.68E-02
Mn	0.02 µ (AMP)	ICPES	mg/L	3.63E-01	±	3.63E-02	3.75E-01	±	3.75E-02	3.69E-01	±	3.69E-02	3.69E-01	6.25E-03
Mo	unfiltered	ICPES	mg/L	< 1.37E+02	±	mdl	< 1.35E+02	±	mdl		NA		< 1.35E+02	mdl
Mo	0.45 µ (No AMP)	ICPES	mg/L	1.57E+02	±	1.57E+01	8.36E+01	±	8.36E+00	1.20E+02		1.20E+01	1.20E+02	3.67E+01
Mo	0.45 µ (AMP)	ICPES	mg/L	8.86E+01	±	8.86E+00	8.86E+01	±	8.86E+00		NA		8.86E+01	0.00E+00
Mo	0.1 µ (AMP)	ICPES	mg/L	9.58E+01	±	9.58E+00	9.30E+01	±	9.30E+00	1.19E+02	±	1.19E+01	1.03E+02	1.41E+01
Mo	0.02 µ (AMP)	ICPES	mg/L	8.87E+01	±	8.87E+00	9.19E+01	±	9.19E+00	8.93E+01	±	8.93E+00	9.00E+01	1.71E+00
Na	unfiltered	ICPES	M	5.71E+00	±	5.71E-01	6.00E+00	±	6.00E-01		NA		5.86E+00	2.05E-01
Na	0.45 µ (No AMP)	ICPES	M		NA			NA			NA		NA	NA
Na	0.45 µ (AMP)	ICPES	M	4.29E+00	±	4.29E-01	4.24E+00	±	4.24E-01		NA		4.26E+00	3.49E-02
Na	0.1 µ (AMP)	ICPES	M	5.82E+00	±	5.82E-01	5.65E+00	±	5.65E-01	6.76E+00	±	6.76E-01	6.08E+00	5.98E-01
Na	0.02 µ (AMP)	ICPES	M	5.46E+00	±	5.46E-01	5.38E+00	±	5.38E-01	5.40E+00	±	5.40E-01	5.41E+00	4.30E-02
Ni	unfiltered	ICPES	mg/L	< 5.03E+01	±	mdl	< 4.98E+01	±	mdl		NA		< 4.98E+01	mdl
Ni	0.45 µ (No AMP)	ICPES	mg/L	< 2.37E+01	±	mdl	< 2.37E+01	±	mdl	< 2.38E+01	±	mdl	< 2.37E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	< 5.66E+00	±	mdl	< 5.66E+00	±	mdl		NA		< 5.66E+00	mdl
Ni	0.1 µ (AMP)	ICPES	mg/L	< 5.73E+00	±	mdl	< 5.73E+00	±	mdl	< 5.73E+00	±	mdl	< 5.73E+00	mdl
Ni	0.02 µ (AMP)	ICPES	mg/L	< 2.91E+00	±	mdl	< 2.91E+00	±	mdl	< 2.91E+00	±	mdl	< 2.91E+00	mdl
P	unfiltered	ICPES	mg/L	< 3.25E+02	±	mdl	< 3.22E+02	±	mdl		NA		< 3.22E+02	mdl
P	0.45 µ (No AMP)	ICPES	mg/L	7.80E+02	±	7.80E+01	3.95E+02	±	3.95E+01	6.67E+02		6.67E+01	6.14E+02	1.98E+02
P	0.45 µ (AMP)	ICPES	mg/L	1.52E+02	±	1.52E+01	1.46E+02	±	1.46E+01		NA		1.49E+02	4.00E+00
P	0.1 µ (AMP)	ICPES	mg/L	1.47E+02	±	1.47E+01	1.66E+02	±	1.66E+01	1.95E+02	±	1.95E+01	1.69E+02	2.44E+01
P	0.02 µ (AMP)	ICPES	mg/L	1.55E+02	±	1.55E+01	1.52E+02	±	mdl	1.50E+02	±	1.50E+01	1.52E+02	2.92E+00
Pb	unfiltered	ICPES	mg/L	< 1.65E+02	±	mdl	< 1.63E+01	±	mdl		NA		< 1.63E+01	mdl
Pb	0.45 µ (No AMP)	ICPES	mg/L	< 1.51E+02	±	mdl	< 1.50E+02	±	mdl	< 1.51E+02	±	mdl	1.50E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 3.59E+01	±	mdl	< 3.59E+01	±	mdl		NA		< 3.59E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 3.64E+01	±	mdl	< 3.64E+01	±	mdl	< 3.64E+01	±	mdl	< 3.64E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 1.85E+01	±	mdl	< 1.85E+01	±	mdl	< 1.85E+01	±	mdl	< 1.85E+01	mdl
S	unfiltered	ICPES	mg/L	3.03E+02	±	3.03E+01	< 2.54E+02	±	mdl		NA		2.79E+02	2.14E+02
S	0.45 µ (No AMP)	ICPES	mg/L	9.70E+02	±	9.70E+01	5.06E+02	±	5.06E+01	8.04E+02		8.04E+01	7.60E+02	2.35E+02
S	0.45 µ (AMP)	ICPES	mg/L	2.20E+02	±	2.20E+01	2.10E+02	±	2.10E+01		NA		2.15E+02	7.11E+00
S	0.1 µ (AMP)	ICPES	mg/L	2.20E+02	±	2.20E+01	2.24E+02	±	2.24E+01	2.68E+02	±	2.68E+01	2.37E+02	2.62E+01
S	0.02 µ (AMP)	ICPES	mg/L	2.11E+02	±	2.11E+01	2.10E+02	±	2.10E+01	2.05E+02	±	2.05E+01	2.09E+02	3.57E+00
Sb	unfiltered	ICPES	mg/L	< 1.01E+02	±	mdl	< 1.00E+01	±	mdl		NA		< 1.00E+01	mdl
Sb	0.45 µ (No AMP)	ICPES	mg/L	4.44E+01	±	4.44E+00	< 3.73E+01	±	mdl	< 3.76E+01	±	mdl	4.44E+01	2.56E+01
Sb	0.45 µ (AMP)	ICPES	mg/L	2.82E+01	±	2.82E+00	2.43E+01	±	2.43E+00		NA		2.62E+01	2.75E+00
Sb	0.1 µ (AMP)	ICPES	mg/L	2.40E+01	±	2.40E+00	2.19E+01	±	2.19E+00	2.94E+01	±	2.94E+00	2.51E+01	3.89E+00
Sb	0.02 µ (AMP)	ICPES	mg/L	2.19E+01	±	2.19E+00	2.18E+01	±	2.18E+00	2.12E+01	±	2.12E+00	2.16E+01	4.04E-01
Si	unfiltered	ICPES	mg/L	< 2.48E+01	±	mdl	< 2.46E+01	±	mdl		NA		< 2.46E+01	mdl
Si	0.45 µ (No AMP)	ICPES	mg/L	7.12E+01	±	7.12E+00	1.33E+01	±	1.33E+00	5.50E+01		5.50E+00	4.65E+01	2.99E+01
Si	0.45 µ (AMP)	ICPES	mg/L	1.16E+01	±	1.16E+00	8.55E+00	±	8.55E-01		NA		1.01E+01	2.13E+00
Si	0.1 µ (AMP)	ICPES	mg/L	3.71E+01	±	3.71E+00	3.73E+01	±	3.73E+00	5.49E+01	±	5.49E+00	4.31E+01	1.02E+01
Si	0.02 µ (AMP)	ICPES	mg/L	3.30E+01	±	3.30E+00	3.30E+01	±	3.30E+00	3.15E+01	±	3.15E+00	3.25E+01	8.59E-01
Sn	unfiltered	ICPES	mg/L	< 1.64E+02	±	mdl	< 1.63E+02	±	mdl		NA		< 1.63E+02	mdl
Sn	0.45 µ (No AMP)	ICPES	mg/L	< 6.01E+01	±	mdl	< 6.00E+01	±	mdl	< 6.03E+01	±	mdl	< 6.00E+01	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	2.39E+01	±	2.39E+00	2.26E+01	±	2.26E+00		NA		2.33E+01	9.33E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	1.47E+01	±	1.47E+00	<1.45E+01	±	mdl	1.61E+01	±	1.61E+00	1.51E+01	8.89E+00
Sn	0.02 µ (AMP)	ICPES	mg/L	1.33E+01	±	1.33E+00	1.04E+01	±	1.04E+00	1.08E+01	±	1.08E+00	1.15E+01	1.55E+00
Sr	unfiltered	ICPES	mg/L	< 6.70E+01	±	mdl	< 6.64E+01	±	mdl		NA		< 6.64E+01	mdl
Sr	0.45 µ (No AMP)	ICPES	mg/L	4.79E+01	±	4.79E+00	2.00E+01	±	2.00E+00	3.79E+01		3.79E+00	3.53E+01	1.41E+01
Sr	0.45 µ (AMP)	ICPES	mg/L	5.72E+00	±	5.72E-01	5.15E+00	±	5.15E-01		NA		5.44E+00	4.04E-01
Sr	0.1 µ (AMP)	ICPES	mg/L	1.61E+01	±	1.61E+00	1.50E+01	±	1.50E+00	1.99E+01	±	1.99E+00	1.70E+01	2.55E+00
Sr	0.02 µ (AMP)	ICPES	mg/L	9.06E+00	±	9.06E-01	8.87E+00	±	8.87E-01	8.16E+00	±	8.16E-01	8.70E+00	4.77E-01
Ti	unfiltered	ICPES	mg/L	< 4.02E+00	±	mdl	< 3.98E+00	±	mdl		NA		< 3.98E+00	mdl
Ti	0.45 µ (No AMP)	ICPES	mg/L	< 6.85E+01	±	mdl	< 6.84E+00	±	mdl	<6.88E+00	±	mdl	< 6.84E+00	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 1.63E+00	±	mdl	< 1.63E+00	±	mdl		NA		< 1.63E+00	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 1.66E+00	±	mdl	< 1.66E+00	±	mdl	< 1.66E+00	±	mdl	< 1.66E+00	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 8.42E-01	±	mdl	< 8.42E-01	±	mdl	< 8.42E-01	±	mdl	< 8.42E-01	mdl
U	unfiltered	ICPES	mg/L	< 5.06E+01	±	mdl	< 5.01E+02	±	mdl		NA		< 5.01E+02	mdl
U	0.45 µ (No AMP)	ICPES	mg/L	1.67E+02	±	1.67E+01	< 9.15E+01	±	mdl	9.26E+01		9.26E+00	1.17E+02	8.37E+01
U	0.45 µ (AMP)	ICPES	mg/L	4.64E+01	±	4.64E+00	3.78E+01	±	3.78E+00		NA		4.21E+01	6.04E+00
U	0.1 µ (AMP)	ICPES	mg/L	< 2.22E+01	±	mdl	< 2.22E+01	±	mdl	< 2.22E+01	±	mdl	< 2.22E+01	mdl
U	0.02 µ (AMP)	ICPES	mg/L	1.25E+01	±	1.25E+00	1.50E+01	±	1.50E+00	< 1.13E+01	±	mdl	1.29E+01	8.04E+00
V	unfiltered	ICPES	mg/L	< 7.37E+00	±	mdl	< 7.30E+00	±	mdl		NA		< 7.30E+00	mdl
V	0.45 µ (No AMP)	ICPES	mg/L	2.70E+01	±	2.70E+00	1.58E+01	±	1.58E+00	2.29E+01	±	2.29E+00	2.19E+01	5.67E+00
V	0.45 µ (AMP)	ICPES	mg/L	3.02E+00	±	3.02E-01	3.17E+00	±	3.17E-01		NA		3.09E+00	1.07E-01
V	0.1 µ (AMP)	ICPES	mg/L	3.70E+00	±	3.70E-01	3.45E+00	±	3.45E-01	4.41E+00	±	4.41E-01	3.85E+00	4.97E-01
V	0.02 µ (AMP)	ICPES	mg/L	3.48E+00	±	3.48E-01	3.57E+00	±	3.57E-01	3.31E+00	±	3.31E-01	3.46E+00	1.30E-01
Zn	unfiltered	ICPES	mg/L	< 3.69E+01	±	mdl	< 3.65E+01	±	mdl		NA		< 3.65E+01	mdl
Zn	0.45 µ (No AMP)	ICPES	mg/L	8.12E+01	±	8.12E+00	3.61E+01	±	3.61E+00	6.72E+01		6.72E+00	6.15E+01	2.31E+01

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.2.4 Tank 30H ICP-MS Characterization

Sample				Sample										Standard
Analyte	Preparation*	Method	Units	1			2			3			Average	Deviation
Zr	acid digestion	ICP-MS	mg/L	7.71E-01	±	1.93E-01	7.38E-01	±	1.84E-01	7.27E-01	±	1.82E-01	7.46E-01	2.30E-02
Zr	0.45 µ (AMP)	ICP-MS	mg/L	2.50E-01	±	6.26E-02	2.59E-01	±	6.47E-02		NA		2.55E-01	5.94E-03
Zr	0.1 µ (AMP)	ICP-MS	mg/L	1.13E+00	±	2.82E-01		NA		1.28E+00	±	3.19E-01	1.20E+00	1.06E-01
Zr	0.02 µ (AMP)	ICP-MS	mg/L	1.12E+00	±	2.79E-01	1.03E+00	±	2.58E-01	1.10E+00	±	2.76E-01	1.08E+00	4.52E-02
Tc-99	acid digested	ICP-MS	mg/L	1.29E+01	±	3.21E+00	1.28E+01	±	3.20E+00	1.25E+01	±	3.14E+00	1.27E+01	1.67E-01
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	1.19E+01	±	2.98E+00	1.19E+01	±	2.98E+00		NA		1.19E+01	0.00E+00
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	1.33E+01	±	3.32E+00		NA		1.53E+01	±	3.83E+00	1.43E+01	1.46E+00
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	1.21E+01	±	3.03E+00	1.24E+01	±	3.10E+00	1.19E+01	±	2.96E+00	1.21E+01	2.74E-01
Tc-99	acid digested	ICP-MS	pCi/mL	2.18E+05	±	5.46E+04	2.17E+05	±	5.43E+04	2.13E+05	±	5.32E+04	2.16E+05	2.84E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	2.02E+05	±	5.05E+04	2.01E+05	±	5.03E+04		NA		2.02E+05	5.50E+02
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	2.25E+05	±	5.63E+04		NA		2.60E+05	±	6.50E+04	2.43E+05	2.47E+04
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	2.06E+05	±	5.15E+04	2.11E+05	±	5.28E+04	2.01E+05	±	5.03E+04	2.06E+05	4.94E+03
Mo	acid digestion	ICP-MS	mg/L	6.40E+01	±	1.60E+01	6.44E+01	±	1.61E+01	6.11E+01	±	1.53E+01	6.32E+01	1.81E+00
Mo	0.45 µ (AMP)	ICP-MS	mg/L	6.48E+01	±	1.62E+01	6.45E+01	±	1.61E+01		NA		6.46E+01	2.06E-01
Mo	0.1 µ (AMP)	ICP-MS	mg/L	6.99E+01	±	1.75E+01		NA		8.33E+01	±	2.08E+01	7.66E+01	9.48E+00
Mo	0.02 µ (AMP)	ICP-MS	mg/L	6.40E+01	±	1.60E+01	6.63E+01	±	1.66E+01	6.48E+01	±	1.62E+01	6.51E+01	1.16E+00
Ag	acid digested	ICP-MS	mg/L	9.29E-02	±	2.32E-02	8.21E-02	±	2.05E-02	7.78E-02	±	1.94E-02	8.43E-02	7.77E-03
Ag	0.45 µ (AMP)	ICP-MS	mg/L	4.21E-02	±	1.05E-02	3.99E-02	±	9.96E-03		NA		4.10E-02	1.58E-03
Ag	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Ag	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pd	acid digestion	ICP-MS	mg/L	1.40E-02	±	3.51E-03	1.74E-02	±	4.34E-03	1.44E-02	±	3.61E-03	1.53E-02	1.82E-03
Pd	0.45 µ (AMP)	ICP-MS	mg/L	1.75E-02	±	4.37E-03	1.76E-02	±	4.39E-03		NA		1.75E-02	6.66E-05
Pd	0.1 µ (AMP)	ICP-MS	mg/L	3.58E-02	±	8.95E-03		NA		2.79E-02	±	6.98E-03	3.19E-02	5.58E-03
Pd	0.02 µ (AMP)	ICP-MS	mg/L	2.04E-02	±	5.11E-03	2.20E-02	±	5.50E-03	2.69E-02	±	6.73E-03	2.31E-02	3.37E-03
Rh	acid digested	ICP-MS	mg/L	1.40E+00	±	3.49E-01	1.42E+00	±	3.54E-01	1.39E+00	±	3.47E-01	1.40E+00	1.48E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	1.36E+00	±	3.40E-01	1.39E+00	±	3.48E-01		NA		1.38E+00	2.09E-02
Rh	0.1 µ (AMP)	ICP-MS	mg/L	1.71E+00	±	4.27E-01		NA		2.07E+00	±	5.16E-01	1.89E+00	2.53E-01
Rh	0.02 µ (AMP)	ICP-MS	mg/L	1.63E+00	±	4.09E-01	1.61E+00	±	4.03E-01	1.61E+00	±	4.02E-01	1.62E+00	1.48E-02
Ru	acid digestion	ICP-MS	mg/L	1.47E+00	±	3.67E-01	1.51E+00	±	3.78E-01	1.47E+00	±	3.66E-01	1.48E+00	2.52E-02
Ru	0.45 µ (AMP)	ICP-MS	mg/L	1.42E+00	±	3.56E-01	1.42E+00	±	3.56E-01		NA		1.42E+00	0.00E+00
Ru	0.1 µ (AMP)	ICP-MS	mg/L	1.83E+00	±	4.57E-01		NA		2.15E+00	±	5.38E-01	1.99E+00	2.30E-01
Ru	0.02 µ (AMP)	ICP-MS	mg/L	1.66E+00	±	4.16E-01	1.69E+00	±	4.23E-01	1.73E+00	±	4.32E-01	1.69E+00	3.13E-02
Cd	acid digested	ICP-MS	mg/L	1.44E-01	±	3.60E-02	1.42E-01	±	3.55E-02	1.49E-01	±	3.73E-02	1.45E-01	3.54E-03
Cd	0.45 µ (AMP)	ICP-MS	mg/L	1.17E-01	±	2.91E-02	1.08E-01	±	2.70E-02		NA		1.12E-01	6.19E-03
Cd	0.1 µ (AMP)	ICP-MS	mg/L	1.42E-01	±	3.54E-02		NA		1.89E-01	±	4.73E-02	1.65E-01	3.35E-02
Cd	0.02 µ (AMP)	ICP-MS	mg/L	1.17E-01	±	2.93E-02	1.37E-01	±	3.43E-02	1.53E-01	±	3.82E-02	1.36E-01	1.79E-02
Sn	acid digestion	ICP-MS	mg/L	2.31E+00	±	5.78E-01	2.33E+00	±	5.83E-01	2.36E+00	±	5.89E-01	2.33E+00	2.14E-02
Sn	0.45 µ (AMP)	ICP-MS	mg/L	1.20E+00	±	2.99E-01	1.25E+00	±	3.13E-01		NA		1.22E+00	3.80E-02
Sn	0.1 µ (AMP)	ICP-MS	mg/L	2.35E+00	±	5.87E-01		NA		3.03E+00	±	7.58E-01	2.69E+00	4.82E-01
Sn	0.02 µ (AMP)	ICP-MS	mg/L	2.17E+00	±	5.42E-01	2.19E+00	±	5.48E-01	2.18E+00	±	5.46E-01	2.18E+00	1.13E-02
La	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
La	0.45 µ (AMP)	ICP-MS	mg/L	1.47E-03	±	3.69E-04	1.29E-03	±	3.22E-04		NA		1.38E-03	1.30E-04
La	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
La	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	acid digestion	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Ce	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Ce	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	1.07E-02	±	2.66E-03	1.07E-02	2.66E-03
W	acid digested	ICP-MS	mg/L	5.93E-01	±	1.48E-01	5.72E-01	±	1.43E-01	6.03E-01	±	1.51E-01	5.89E-01	1.59E-02
W	0.45 µ (AMP)	ICP-MS	mg/L	5.84E-01	±	1.46E-01	5.90E-01	±	1.48E-01		NA		5.87E-01	4.23E-03
W	0.1 µ (AMP)	ICP-MS	mg/L	5.94E-01	±	1.49E-01		NA		7.32E-01	±	1.83E-01	6.63E-01	9.72E-02
W	0.02 µ (AMP)	ICP-MS	mg/L	5.41E-01	±	1.35E-01	6.14E-01	±	1.54E-01	5.45E-01	±	1.36E-01	5.67E-01	4.10E-02

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Re	acid digestion	ICP-MS	mg/L	4.05E-03	±	1.01E-03	7.07E-03	±	1.77E-03	4.34E-03	±	1.09E-03	5.16E-03	1.67E-03
Re	0.45 µ (AMP)	ICP-MS	mg/L	7.21E-03	±	1.80E-03	6.92E-03	±	1.73E-03		NA		7.06E-03	2.02E-04
Re	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Re	0.02 µ (AMP)	ICP-MS	mg/L	9.84E-03	±	2.46E-03	8.22E-03	±	2.05E-03	8.74E-03	±	2.18E-03	8.93E-03	3.50E-03
Os	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA	bdl	bdl	bdl
Os	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	acid digestion	ICP-MS	mg/L	3.39E-03	±	8.48E-04	3.16E-03	±	7.89E-04	bdl	±	bdl	3.27E-03	1.69E-04
Ir	0.45 µ (AMP)	ICP-MS	mg/L	2.45E-03	±	6.12E-04	2.40E-03	±	6.00E-04		NA		2.42E-03	3.35E-05
Ir	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Ir	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	acid digested	ICP-MS	mg/L	1.58E-02	±	3.96E-03	1.86E-02	±	4.65E-03	2.06E-02	±	5.15E-03	1.84E-02	2.41E-03
Pt	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Pt	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Pt	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	acid digestion	ICP-MS	mg/L	1.82E+00	±	4.56E-01	2.02E+00	±	5.06E-01	2.28E+00	±	5.70E-01	2.04E+00	2.29E-01
Au	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Au	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Au	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	acid digestion	ICP-MS	mg/L	2.72E-02	±	6.79E-03	1.68E-02	±	4.20E-03	1.82E-02	±	4.56E-03	2.07E-02	5.62E-03
Hg	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Hg	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Hg	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	acid digestion	ICP-MS	mg/L	1.53E+00	±	3.84E-01	1.62E+00	±	4.05E-01	1.59E+00	±	3.97E-01	1.58E+00	4.26E-02
Pb	0.45 µ (AMP)	ICP-MS	mg/L	1.62E+00	±	4.05E-01	1.60E+00	±	4.00E-01		NA		1.61E+00	1.49E-02
Pb	0.1 µ (AMP)	ICP-MS	mg/L	1.72E+00	±	4.29E-01		NA		1.96E+00	±	4.89E-01	1.84E+00	1.71E-01
Pb	0.02 µ (AMP)	ICP-MS	mg/L	1.58E+00	±	3.96E-01	1.48E+00	±	3.69E-01	1.52E+00	±	3.81E-01	1.53E+00	5.35E-02
U-235	acid digested	ICP-MS	mg/L	9.84E-02	±	2.46E-02	9.84E-02	±	2.46E-02	1.01E-01	±	2.52E-02	9.92E-02	1.41E-03
U-235	0.45 µ (AMP)	ICP-MS	mg/L	9.81E-02	±	2.45E-02	8.52E-02	±	2.13E-02		NA		9.17E-02	9.11E-03
U-235	0.1 µ (AMP)	ICP-MS	mg/L	1.49E-01	±	3.73E-02		NA		1.26E-01	±	3.14E-02	1.37E-01	1.65E-02
U-235	0.02 µ (AMP)	ICP-MS	mg/L	1.11E-01	±	2.77E-02	9.70E-02	±	2.42E-02	1.42E-01	±	3.56E-02	1.17E-01	2.33E-02
U-238	acid digested	ICP-MS	mg/L	1.40E+00	±	3.50E-01	1.39E+00	±	3.48E-01	1.43E+00	±	3.58E-01	1.41E+00	2.26E-02
U-238	0.45 µ (AMP)	ICP-MS	mg/L	1.38E+00	±	3.45E-01	1.43E+00	±	3.57E-01		NA		1.40E+00	3.36E-02
U-238	0.1 µ (AMP)	ICP-MS	mg/L	1.66E+00	±	4.15E-01		NA		1.91E+00	±	4.78E-01	1.79E+00	1.77E-01
U-238	0.02 µ (AMP)	ICP-MS	mg/L	1.55E+00	±	3.89E-01	1.55E+00	±	3.88E-01	1.60E+00	±	3.99E-01	1.57E+00	2.57E-02
Total U	acid digested	ICP-MS	mg/L	1.55E+00		NA	1.55E+00		NA	1.60E+00		NA	1.57E+00	2.89E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	1.54E+00		NA	1.57E+00		NA		NA		1.56E+00	2.12E-02
Total U	0.1 µ (AMP)	ICP-MS	mg/L	1.86E+00		NA		NA		2.10E+00		NA	1.98E+00	1.70E-01
Total U	0.02 µ (AMP)	ICP-MS	mg/L	1.73E+00		NA	1.70E+00		NA	1.71E+00		NA	1.71E+00	1.53E-02

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
% U235	acid digested	ICP-MS	%	6.33E+00	±	1.58E+00	6.34E+00	±	1.58E+00	6.31E+00	±	1.58E+00	6.33E+00	1.44E-02
% U238	acid digested	ICP-MS	%	8.99E+01	±	2.25E+01	8.96E+01	±	2.24E+01	8.97E+01	±	2.24E+01	8.98E+01	1.61E-01
% U235	0.45 µ (AMP)	ICP-MS	%	6.38E+00	±	1.59E+00	5.43E+00	±	1.36E+00		NA		5.90E+00	6.71E-01
% U238	0.45 µ (AMP)	ICP-MS	%	8.98E+01	±	2.24E+01	9.10E+01	±	2.28E+01		NA		9.04E+01	8.80E-01
% U235	0.1 µ (AMP)	ICP-MS	%	8.01E+00	±	2.00E+00		NA		5.98E+00	±	1.50E+00	6.99E+00	1.43E+00
% U238	0.1 µ (AMP)	ICP-MS	%	8.91E+01	±	2.23E+01		NA		9.09E+01	±	2.27E+01	9.00E+01	1.29E+00
% U235	0.02 µ (AMP)	ICP-MS	%	6.39E+00	±	1.60E+00	5.70E+00	±	1.42E+00	8.33E+00	±	2.08E+00	6.80E+00	1.36E+00
% U238	0.02 µ (AMP)	ICP-MS	%	8.97E+01	±	2.24E+01	9.03E+01	±	2.26E+01	8.72E+01	±	2.18E+01	8.90E+01	1.65E+00
U-235	acid digested	ICP-MS	pCi/mL	2.14E-01	±	5.35E-02	2.14E-01	±	5.35E-02	2.19E-01	±	5.48E-02	2.16E-01	3.07E-03
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	2.13E-01	±	5.33E-02	1.85E-01	±	4.63E-02		NA		1.99E-01	1.98E-02
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	3.24E-01	±	8.11E-02		NA		2.74E-01	±	6.84E-02	2.99E-01	3.59E-02
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	2.41E-01	±	6.02E-02	2.11E-01	±	5.27E-02	3.10E-01	±	7.74E-02	2.54E-01	5.06E-02
U-238	acid digested	ICP-MS	pCi/mL	4.66E-01	±	1.16E-01	4.63E-01	±	1.16E-01	4.77E-01	±	1.19E-01	4.69E-01	7.51E-03
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	4.60E-01	±	1.15E-01	4.75E-01	±	1.19E-01		NA		4.68E-01	1.12E-02
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	5.53E-01	±	1.38E-01		NA		6.37E-01	±	1.59E-01	5.95E-01	5.93E-02
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	5.18E-01	±	1.29E-01	5.12E-01	±	1.28E-01	4.96E-01	±	1.24E-01	5.08E-01	1.11E-02
Np-237	acid digested	ICP-MS	mg/L	1.14E-02	±	2.86E-03	1.06E-02	±	2.65E-03	1.24E-02	±	3.10E-03	1.15E-02	8.94E-04
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	1.37E-02	±	3.42E-03	8.67E-03	±	2.17E-03		NA		1.12E-02	3.55E-03
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	2.21E-02	±	5.53E-03		NA		2.33E-02	±	5.83E-03	2.27E-02	8.54E-04
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	1.13E-02	±	2.84E-03	1.78E-02	±	4.46E-03	1.77E-02	±	4.42E-03	1.56E-02	3.70E-03
Np-237	acid digested	ICP-MS	pCi/mL	8.06E+00	±	2.02E+00	7.49E+00	±	1.87E+00	8.74E+00	±	2.19E+00	8.10E+00	6.30E-01
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	9.66E+00	±	2.41E+00	6.11E+00	±	1.53E+00		NA		7.88E+00	2.51E+00
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	1.56E+01	±	3.90E+00		NA		1.65E+01	±	4.11E+00	1.60E+01	6.02E-01
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	8.00E+00	±	2.00E+00	1.26E+01	±	3.14E+00	1.25E+01	±	3.12E+00	1.10E+01	2.61E+00
Pu-239	acid digested	ICP-MS	mg/L	6.96E-03	±	1.74E-03	3.65E-03	±	9.13E-04	6.05E-03	±	1.51E-03	5.55E-03	1.71E-03
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	acid digested	ICP-MS	pCi/mL	4.27E+02	±	1.07E+02	2.24E+02	±	5.60E+01	3.71E+02	±	9.29E+01	3.41E+02	1.05E+02
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl		NA		bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl		NA		bdl	±	bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl

Note: NA = no sample analyzed, bdl = below detection limit
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.3 TANK 37H CHARACTERIZATION

6.3.1 Tank 37H Radioactive Species

Analyte	Sample Preparation	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	1.67E+09	±	2.31E+07	1.70E+09	±	2.34E+07	1.72E+09	±	2.35E+07	1.70E+09	1.35E+07	2.40E+07
^{137}Cs	unfiltered	ICP-MS	pCi/mL	1.41E+09	±	3.54E+08	1.39E+09	±	3.47E+08	1.32E+09	±	3.31E+08	1.38E+09	1.99E+08	4.68E+07
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL	1.30E+06	±	9.77E+04	1.50E+06	±	1.13E+05	1.53E+06	±	1.24E+05	1.45E+06	6.46E+04	1.24E+05
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL	1.15E+06	±	8.62E+04	1.24E+06	±	9.53E+04	1.50E+06	±	1.29E+05	1.29E+06	6.06E+04	1.81E+05
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	1.30E+06	±	1.04E+05	1.16E+06	±	9.02E+04	1.14E+06	±	9.04E+04	1.20E+06	5.49E+04	8.53E+04
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	4.78E+03	±	2.29E+02	4.92E+03	±	2.21E+02	5.15E+03	±	2.47E+02	4.95E+03	1.34E+02	1.88E+02
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	4.50E+03	±	2.29E+02	4.66E+03	±	2.42E+02	4.64E+03	±	2.04E+02	4.60E+03	1.30E+02	8.96E+01
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	4.84E+03	±	2.23E+02	4.70E+03	±	2.21E+02	4.79E+03	±	2.11E+02	4.77E+03	1.26E+02	7.21E+01
$^{239/40}$Pu	unfiltered	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	4.80E+02	±	4.56E+01	6.32E+02	±	5.31E+01	5.41E+02	±	5.79E+01	5.51E+02	3.03E+01	7.63E+01
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	4.87E+02	±	1.47E+02	4.07E+02	±	5.94E+01	4.83E+02	±	7.29E+01	4.59E+02	5.81E+01	4.51E+01
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	3.78E+02	±	5.96E+01	5.17E+02	±	4.86E+01	4.91E+02	±	3.83E+01	4.62E+02	2.86E+01	7.40E+01
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL	< 7.86E+03	±	upper limit	< 8.25E+03	±	upper limit	< 7.51E+03	±	upper limit	< 8.25E+03	NA	upper limit
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL		NA			NA			NA			NA	
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL		NA			NA			NA			NA	
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	5.26E+03		NA	5.55E+03		NA	5.69E+03		NA	5.50E+03	NA	2.65E+02
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	4.98E+03		NA	5.07E+03		NA	5.12E+03		NA	5.06E+03	NA	1.35E+02
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	5.21E+03		NA	5.21E+03		NA	5.28E+03		NA	5.24E+03	NA	1.46E+02
^{235}U	unfiltered	ICP-MS	pCi/mL	3.40E-01	±	8.50E-02	2.63E-01	±	6.56E-02	3.56E-01	±	8.90E-02	3.20E-01	NA	5.00E-02
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	2.03E-01	±	5.08E-02	1.90E-01	±	4.74E-02	2.05E-01	±	5.13E-02	1.99E-01	NA	8.52E-03
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	2.82E-01	±	7.04E-02	NA	±	NA	1.87E-01	±	4.68E-02	2.34E-01	4.23E-02	6.70E-02
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	1.77E-01	±	4.43E-02	1.87E-01	±	4.68E-02	2.05E-01	±	5.13E-02	1.90E-01	NA	1.43E-02
^{238}U	unfiltered	ICP-MS	pCi/mL	8.82E-01	±	2.21E-01	8.47E-01	±	2.12E-01	8.36E-01	±	2.09E-01	8.55E-01	NA	2.42E-02
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	8.27E-01	±	2.07E-01	8.06E-01	±	2.02E-01	8.39E-01	±	2.10E-01	8.24E-01	NA	1.66E-02
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	2.38E-01	±	5.95E-02	NA	±	NA	8.12E-01	±	2.03E-01	5.25E-01	NA	4.06E-01
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	8.28E-01	±	2.07E-01	8.32E-01	±	2.08E-01	8.27E-01	±	2.07E-01	8.29E-01	NA	2.35E-03
Total U	unfiltered	ICP-MS	pCi/mL	1.22E+00		NA	1.11E+00		NA	1.19E+00		NA	1.17E+00	NA	7.42E-02
Total U	0.45 µ (AMP)	ICP-MS	pCi/mL	1.03E+00		NA	9.96E-01		NA	1.04E+00		NA	1.02E+00	NA	2.51E-02
Total U	0.1 µ (AMP)	ICP-MS	pCi/mL	5.20E-01		NA	NA		NA	9.99E-01		NA	7.59E-01	NA	4.73E-01
Total U	0.02 µ (AMP)	ICP-MS	pCi/mL	1.00E+00		NA	1.02E+00		NA	1.03E+00		NA	1.02E+00	NA	1.67E-02
^{237}Np	unfiltered	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	1.08E+01	±	2.70E+00	1.15E+01	±	2.88E+00	1.28E+01	±	3.19E+00	1.17E+01	NA	1.01E+00
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	NA	±	NA	1.12E+01	±	2.80E+00	1.12E+01	NA	2.80E+00
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	1.10E+01	±	2.76E+00	1.00E+01	±	2.51E+00	1.12E+01	±	2.80E+00	1.08E+01	NA	6.24E-01

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.
[#]Analysis conducted using gamma spectroscopy after cesium removal.
[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{241}Am	0.45 µ (AMP)	Rad[#]	pCi/mL	< 5.55E+02 ± mda	< 2.87E+02 ± mda	< 5.41E+02 ± mda	< 2.87E+02	NA	mda
^{241}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 3.78E+02 ± upper limit	< 2.73E+02 ± mda	< 5.18E+02 ± upper limit	< 2.73E+02	NA	upper limit
^{241}Am	0.1 µ (AMP)	Rad[$]	pCi/mL	< 1.50E+03 ± mda	< 1.86E+03 ± mda	< 2.72E+03 ± mda	< 1.50E+03	NA	mda
^{241}Am	0.02 µ (AMP)	Rad[$]	pCi/mL	< 1.07E+02 ± mda	< 4.32E+02 ± mda	< 4.77E+02 ± mda	< 1.07E+02	NA	mda
^{242}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 1.99E+03 ± mda	< 2.91E+03 ± mda	< 3.01E+03 ± mda	< 1.99E+03	NA	mda
^{243}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 1.74E+02 ± mda	< 2.63E+02 ± mda	< 2.63E+02 ± mda	< 1.74E+02	NA	mda
^{99}Tc	0.45 µ (AMP)	Rad	pCi/mL	3.38E+05 ± 2.04E+04	NA	NA	3.38E+05	2.04E+04	2.04E+04
^{99}Tc	unfiltered	ICP-MS	pCi/mL	3.66E+05 ± 9.15E+04	3.58E+05 ± 8.95E+04	3.53E+05 ± 8.82E+04	3.59E+05	NA	6.67E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	3.66E+05 ± 9.14E+04	3.70E+05 ± 9.26E+04	3.92E+05 ± 9.80E+04	3.76E+05	NA	1.41E+04
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	2.98E+05 ± 7.44E+04	NA ± NA	3.53E+05 ± 8.83E+04	3.25E+05	NA	3.94E+04
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	3.65E+05 ± 9.12E+04	3.41E+05 ± 8.54E+04	3.50E+05 ± 8.74E+04	3.52E+05	NA	1.18E+04
Gross α	0.45 µ (AMP)	Rad	pCi/mL	3.80E+04 ± 2.01E+04	1.91E+04 ± 1.91E+03	1.58E+04 ± 1.63E+03	2.43E+04	6.77E+03	1.20E+04
Beta	0.45 µ (No AMP)	Rad	pCi/mL	1.91E+09 ± 2.87E+08	1.97E+09 ± 2.96E+08	1.98E+09 ± 2.98E+08	1.96E+09	1.69E+08	3.89E+07
Tritium	0.45 µ (AMP)	Rad	pCi/mL	< 1.38E+04 ± upper limit	< 9.78E+03 ± upper limit	3.97E+03 ± 5.96E+02	3.97E+03	5.96E+02	5.96E+02
^{14}C	0.45 µ (No AMP)	Rad	pCi/mL	1.12E+02 ± 4.48E+01	NA	NA	1.12E+02	4.48E+01	4.48E+01
^{129}I	0.45 µ (No AMP)	Rad	pCi/mL	< 4.30E+02 ± upper limit	NA	NA	< 4.30E+02	NA	upper limit
^{26}Al	0.45 µ (AMP)	Rad	pCi/mL	< 2.01E+01 ± mda	< 2.14E+01 ± mda	< 1.93E+01 ± mda	< 1.93E+01	NA	mda
^{60}Co	0.45 µ (AMP)	Rad	pCi/mL	1.15E+03 ± 1.70E+00	1.17E+03 ± 1.70E+00	1.10E+03 ± 1.70E+00	1.14E+03	9.81E-01	3.43E+01
^{94}Nb	0.45 µ (AMP)	Rad	pCi/mL	< 4.99E+01 ± mda	< 4.94E+01 ± mda	< 4.90E+01 ± mda	< 4.90E+01	NA	mda
^{106}Ru	0.45 µ (AMP)	Rad	pCi/mL	7.32E+02 ± 1.39E+01	5.43E+02 ± 1.08E+01	< 2.80E+02 ± mda	5.18E+02	5.86E+00	3.80E+02
^{125}Sb	0.45 µ (AMP)	Rad	pCi/mL	1.46E+03 ± 2.73E+00	1.38E+03 ± 2.76E+00	1.38E+03 ± 2.77E+00	1.41E+03	1.59E+00	4.17E+01
^{126}Sb	0.45 µ (AMP)	Rad	pCi/mL	1.68E+03 ± 3.66E+00	1.68E+03 ± 3.66E+00	1.59E+03 ± 3.67E+00	1.65E+03	2.12E+00	5.52E+01
^{126}Sn	0.45 µ (AMP)	Rad	pCi/mL	2.31E+03 ± 1.08E+01	2.32E+03 ± 1.09E+01	1.87E+03 ± 3.20E+01	2.16E+03	1.18E+01	2.56E+02
^{144}Ce	0.45 µ (AMP)	Rad	pCi/mL	< 4.71E+02 ± mda	< 4.71E+02 ± mda	< 4.66E+02 ± mda	< 4.66E+02	NA	mda
^{152}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 3.52E+02 ± mda	< 3.43E+02 ± mda	< 3.36E+02 ± mda	< 3.36E+02	NA	mda
^{154}Eu	0.45 µ (AMP)	Rad	pCi/mL	6.88E+02 ± 3.53E+00	5.32E+02 ± 3.95E+00	6.01E+02 ± 3.64E+00	6.07E+02	2.14E+00	7.82E+01
^{155}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 2.91E+02 ± mda	< 2.89E+02 ± mda	< 2.87E+02 ± mda	< 2.87E+02	NA	mda
^{231}Pa	0.45 µ (AMP)	Rad	pCi/mL	< 1.74E+03 ± mda	< 1.70E+03 ± mda	< 1.71E+03 ± mda	< 1.70E+03	NA	mda
^{232}U	0.45 µ (AMP)	Rad	pCi/mL	< 1.31E+02 ± upper limit	< 4.08E+01 ± upper limit	< 1.17E+02 ± upper limit	< 4.08E+01	NA	upper limit
^{59}Ni	0.45 µ (AMP)	Rad	pCi/mL	< 6.46E+01 ± mda	< 1.64E+02 ± mda	< 5.66E+01 ± mda	< 5.66E+01	NA	mda
^{63}Ni	0.45 µ (AMP)	Rad	pCi/mL	< 9.60E+01 ± mda	< 8.42E+01 ± mda	< 6.39E+01 ± mda	< 6.39E+01	NA	mda
^{147}Pm	0.45 µ (AMP)	Rad	pCi/mL	< 9.86E+02 ± upper limit	< 5.52E+02 ± upper limit	< 7.27E+02 ± upper limit	< 5.52E+02	NA	upper limit
^{151}Sm	0.45 µ (AMP)	Rad	pCi/mL	< 2.70E+03 ± upper limit	< 7.65E+03 ± upper limit	< 1.92E+03 ± upper limit	< 1.92E+03	NA	upper limit
^{79}Se	0.45 µ (AMP)	Rad	pCi/mL	< 2.35E+03 ± upper limit	< 2.20E+03 ± upper limit	< 2.08E+03 ± upper limit	< 2.08E+03	NA	upper limit
^{242}Cm/^{252}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 2.03E+00 ± mda	< 1.25E+01 ± mda	< 4.31E+00 ± mda	< 2.03E+00	NA	mda
^{243}Cm	0.45 µ (AMP)	Rad	pCi/mL	< 5.08E+02 ± mda	< 7.46E+02 ± mda	< 7.65E+02 ± mda	< 5.08E+02	NA	mda
^{244}Cm	0.45 µ (AMP)	Rad	pCi/mL	3.36E+02 ± 6.92E+01	2.33E+02 ± 5.22E+01	2.66E+02 ± 6.22E+01	2.78E+02	3.56E+01	5.24E+01
^{249}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 4.17E+02 ± mda	< 5.83E+02 ± mda	< 6.90E+02 ± mda	< 4.17E+02	NA	mda
^{251}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 3.61E+02 ± mda	< 4.22E+02 ± mda	< 4.97E+02 ± mda	< 3.61E+02	NA	mda

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

6.3.2 Tank 37H Salt and Organic Species

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Na	unfiltered	ICPES	M	6.87E+00 ± 3.43E-01	6.86E+00 ± 3.43E-01	6.78E+00 ± 3.39E-01	6.83E+00	4.91E-02
Na	0.45 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.45 µ (AMP)	AA	M	6.24E+00 ± 1.25E+00	6.08E+00 ± 1.22E+00	6.30E+00 ± 1.26E+00	6.21E+00	1.16E-01
K	unfiltered	ICPES	M	6.60E-02 ± 2.64E-01	7.04E-02 ± 2.86E-01	8.62E-02 ± 2.58E-01	7.42E-02	1.06E-02
K	0.45 µ (AMP)	ICPES	M	5.40E-02 ± 3.26E-02	5.24E-02 ± 2.98E-02	5.32E-02 ± 3.05E-02	5.32E-02	7.94E-04
K	0.45 µ (AMP)	AA	M	4.71E-02 ± 9.42E-03	4.71E-02 ± 9.42E-03	4.25E-02 ± 8.50E-03	4.56E-02	2.67E-03
Al	unfiltered	ICPES	M	1.98E-01 ± 9.91E-03	1.96E-01 ± 1.17E-02	1.95E-01 ± 1.08E-02	1.97E-01	1.40E-03
As	0.45 µ (AMP)	AA	mg/L	< 2.33E-01 ± mda	NA	NA	< 2.33E-01	mda
Se	0.45 µ (AMP)	AA	mg/L	< 2.33E-01 ± mda	NA	NA	< 2.33E-01	mda
Hg	0.45 µ (AMP)	AA	mg/L	< 5.69E-01 ± mda	NA	NA	< 5.69E-01	mda
Total Base	0.45 µ (No AMP)	Titration	M	5.11E+00 ± 5.11E-01	5.41E+00 ± 5.41E-01	5.35E+00 ± 5.35E-01	5.29E+00	1.62E-01
Free OH^-	0.45 µ (No AMP)	Titration	M	4.25E+00 ± 4.25E-01	4.46E+00 ± 4.46E-01	4.09E+00 ± 4.09E-01	4.27E+00	1.82E-01
CO_3^{2-}	0.45 µ (No AMP)	Titration	M	< 4.29E-01 ± mda	< 4.35E-01 ± mda	< 4.47E-01 ± mda	< 4.47E-01	mda
$Al(OH)_4^-$	0.45 µ (No AMP)	Titration	M	6.22E-01 ± 1.24E-01	5.94E-01 ± 1.19E-01	7.14E-01 ± 1.43E-01	6.43E-01	6.27E-02
NO_3^-	0.45 µ (No AMP)	IC	M	4.42E-01 ± 4.42E-02	NA	NA	4.42E-01	4.42E-02
NO_2^-	0.45 µ (No AMP)	IC	M	5.77E-01 ± 5.77E-02	NA	NA	5.77E-01	5.77E-02
SO_4^{2-}	0.45 µ (No AMP)	IC	M	< 2.70E-03 ± mda	NA	NA	< 2.70E-03	mda
PO_4^{3-}	0.45 µ (No AMP)	IC	M	6.01E-03 ± 6.01E-04	NA	NA	6.01E-03	6.01E-04
F^-	0.45 µ (No AMP)	IC	M	5.46E-03 ± 5.46E-04	NA	NA	5.46E-03	5.46E-04
Cl^-	0.45 µ (No AMP)	IC	M	7.32E-03 ± 7.32E-04	NA	NA	7.32E-03	7.32E-04
Br^-	0.45 µ (No AMP)	IC	M	< 6.49E-03 ± mda	NA	NA	< 6.49E-03	mda
$C_2O_4^{2-}$	0.45 µ (No AMP)	IC	M	< 5.89E-03 ± mda	NA	NA	< 5.89E-03	mda
CHO_2	0.45 µ (No AMP)	IC	M	< 1.15E-02 ± mda	NA	NA	< 1.15E-02	mda
TBP	unfiltered	IC	mg/L	< 5.30E+01 ± mdl	NA	NA	< 5.30E+01	mdl
TBP	0.45 µ (No AMP)	IC	mg/L	< 5.19E+01 ± mdl	NA	NA	< 5.19E+01	mdl
DBP	0.45 µ (No AMP)	IC	mg/L	< 5.19E+02 ± mdl	NA	NA	< 5.19E+02	mdl
VOA	unfiltered	GC-MS	mg/L	< 2.65E+01 ± mdl	NA	NA	< 2.65E+01	mdl
VOA	0.45 µ (No AMP)	GC-MS	mg/L	< 2.59E+01 ± mdl	NA	NA	< 2.59E+01	mdl
SVOA	unfiltered	GC-MS	mg/L	< 5.30E+01 ± mdl	NA	NA	< 5.30E+01	mdl
SVOA	0.45 µ (No AMP)	GC-MS	mg/L	< 5.19E+01 ± mdl	NA	NA	< 5.19E+01	mdl
TIC	0.45 µ (No AMP)	Titration	mg/L	6.48E+02 ± 1.62E+02	1.04E+03 ± 2.59E+02	1.19E+03 ± 2.96E+02	9.56E+02	2.77E+02
TOC	0.45 µ (No AMP)	Titration	mg/L	1.23E+03 ± 1.23E+02	9.05E+02 ± 9.05E+01	7.43E+02 ± 7.43E+01	9.60E+02	2.49E+02
Total C	0.45 µ (No AMP)	Titration	mg/L	1.88E+03 ± 1.88E+02	1.94E+03 ± 1.94E+02	1.93E+03 ± 1.93E+02	1.92E+03	3.20E+01

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.3.3 Tank 37H ICP-ES Characterization

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 4.40E+00 ± mdl	< 4.40E+00 ± mdl	< 4.30E+00 ± mdl	< 4.30E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	1.32E+00 ± 1.32E-01	1.21E+00 ± 1.21E-01	1.25E+00 ± 1.25E-01	1.26E+00	5.53E-02
Ag	0.1 µ (AMP)	ICPES	mg/L	1.52E+00 ± 1.52E-01	1.56E+00 ± 1.56E-01	1.80E+00 ± 1.80E-01	1.63E+00	1.53E-01
Ag	0.02 µ (AMP)	ICPES	mg/L	1.08E+00 ± 1.08E-01	1.34E+00 ± 1.34E-01	1.15E+00 ± 1.15E-01	1.19E+00	1.34E-01
Al	unfiltered	ICPES	M	1.98E-01 ± 1.98E-02	1.96E-01 ± 1.96E-02	1.95E-01 ± 1.95E-02	1.97E-01	1.40E-03
Al	0.45 µ (AMP)	ICPES	M	1.92E-01 ± 1.92E-02	1.94E-01 ± 1.94E-02	1.94E-01 ± 1.94E-02	1.93E-01	1.11E-03
Al	0.1 µ (AMP)	ICPES	M	1.86E-01 ± 1.86E-02	1.85E-01 ± 1.85E-02	1.87E-01 ± 1.87E-02	1.86E-01	1.14E-03
Al	0.02 µ (AMP)	ICPES	M	1.94E-01 ± 1.94E-02	1.92E-01 ± 1.92E-02	1.96E-01 ± 1.96E-02	1.94E-01	1.85E-03
B	unfiltered	ICPES	mg/L	< 7.26E+01 ± mdl	< 7.25E+01 ± mdl	< 7.09E+01 ± mdl	< 7.09E+01	mdl
B	0.45 µ (AMP)	ICPES	mg/L	1.69E+02 ± 1.69E+01	1.68E+02 ± 1.68E+01	1.68E+02 ± 1.68E+01	1.69E+02	5.98E-01
B	0.1 µ (AMP)	ICPES	mg/L	1.67E+02 ± 1.67E+01	1.68E+02 ± 1.68E+01	1.66E+02 ± 1.66E+01	1.67E+02	1.05E+00
B	0.02 µ (AMP)	ICPES	mg/L	1.70E+02 ± 1.70E+01	1.70E+02 ± 1.70E+01	1.72E+02 ± 1.72E+01	1.71E+02	1.39E+00
Ba	unfiltered	ICPES	mg/L	9.95E+00 ± 9.95E-01	9.51E+00 ± 9.51E-01	1.01E+01 ± 1.01E+00	9.85E+00	3.10E-01
Ba	0.45 µ (AMP)	ICPES	mg/L	2.74E+00 ± 2.74E-01	2.56E+00 ± 2.56E-01	2.63E+00 ± 2.63E-01	2.64E+00	9.36E-02
Ba	0.1 µ (AMP)	ICPES	mg/L	2.28E+00 ± 2.28E-01	2.42E+00 ± 2.42E-01	2.62E+00 ± 2.62E-01	2.44E+00	1.69E-01
Ba	0.02 µ (AMP)	ICPES	mg/L	3.02E+00 ± 3.02E-01	3.14E+00 ± 3.14E-01	3.03E+00 ± 3.03E-01	3.06E+00	6.67E-02
Ca	unfiltered	ICPES	mg/L	< 1.32E+01 ± mdl	< 1.32E+01 ± mdl	< 1.29E+01 ± mdl	< 1.29E+01	mdl
Ca	0.45 µ (AMP)	ICPES	mg/L	8.28E+00 ± 8.28E-01	8.44E+00 ± 8.44E-01	8.49E+00 ± 8.49E-01	8.40E+00	1.08E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	1.71E+01 ± 1.71E+00	1.62E+01 ± 1.62E+00	1.92E+01 ± 1.92E+00	1.75E+01	1.53E+00
Ca	0.02 µ (AMP)	ICPES	mg/L	1.93E+01 ± 1.93E+00	1.89E+01 ± 1.89E+00	1.87E+01 ± 1.87E+00	1.90E+01	2.92E-01
Cd	unfiltered	ICPES	mg/L	< 1.32E+01 ± mdl	< 1.32E+01 ± mdl	< 1.29E+01 ± mdl	< 1.29E+01	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	< 1.24E+00 ± mdl	< 1.24E+00 ± mdl	< 1.24E+00 ± mdl	< 1.24E+00	mdl
Cd	0.1 µ (AMP)	ICPES	mg/L	< 1.26E+00 ± mdl	< 1.26E+00 ± mdl	< 1.26E+00 ± mdl	< 1.26E+00	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 1.26E+00 ± mdl	< 1.26E+00 ± mdl	< 1.26E+00 ± mdl	< 1.26E+00	mdl
Ce	unfiltered	ICPES	mg/L	8.80E+01 ± 8.80E+00	8.63E+01 ± 8.63E+00	8.70E+01 ± 8.70E+00	8.71E+01	8.58E-01
Ce	0.45 µ (AMP)	ICPES	mg/L	2.02E+01 ± 2.02E+00	1.86E+01 ± 1.86E+00	2.01E+01 ± 2.01E+00	1.96E+01	9.12E-01
Ce	0.1 µ (AMP)	ICPES	mg/L	< 5.36E+00 ± mdl	< 5.36E+00 ± mdl	< 5.36E+00 ± mdl	< 5.36E+00	mdl
Ce	0.02 µ (AMP)	ICPES	mg/L	1.83E+01 ± 1.83E+00	2.12E+01 ± 2.12E+00	1.78E+01 ± 1.78E+00	1.91E+01	1.84E+00
Cr	unfiltered	ICPES	mg/L	2.72E+02 ± 2.72E+01	2.71E+02 ± 2.71E+01	2.72E+02 ± 2.72E+01	2.72E+02	5.01E-01
Cr	0.45 µ (AMP)	ICPES	mg/L	2.59E+02 ± 2.59E+01	2.58E+02 ± 2.58E+01	2.57E+02 ± 2.57E+01	2.58E+02	1.08E+00
Cr	0.1 µ (AMP)	ICPES	mg/L	2.47E+02 ± 2.47E+01	2.53E+02 ± 2.53E+01	2.53E+02 ± 2.53E+01	2.51E+02	3.34E+00
Cr	0.02 µ (AMP)	ICPES	mg/L	2.50E+02 ± 2.50E+01	2.53E+02 ± 2.53E+01	2.52E+02 ± 2.52E+01	2.52E+02	1.32E+00
Cu	unfiltered	ICPES	mg/L	< 1.10E+01 ± mdl	< 1.10E+01 ± mdl	< 1.07E+01 ± mdl	< 1.07E+01	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	< 1.04E+00 ± mdl	< 1.04E+00 ± mdl	1.10E+00 ± 1.10E-01	1.06E+00	6.36E-01
Cu	0.1 µ (AMP)	ICPES	mg/L	< 1.05E+00 ± mdl	< 1.05E+00 ± mdl	< 1.05E+00 ± mdl	< 1.05E+00	mdl
Cu	0.02 µ (AMP)	ICPES	mg/L	< 1.05E+00 ± mdl	< 1.05E+00 ± mdl	< 1.05E+00 ± mdl	< 1.05E+00	mdl
Fe	unfiltered	ICPES	mg/L	< 8.80E+00 ± mdl	< 8.79E+00 ± mdl	< 8.60E+00 ± mdl	< 8.60E+00	mdl
Fe	0.45 µ (AMP)	ICPES	mg/L	5.85E+00 ± 5.85E-01	5.49E+00 ± 5.49E-01	5.49E+00 ± 5.49E-01	5.61E+00	2.09E-01
Fe	0.1 µ (AMP)	ICPES	mg/L	4.53E+00 ± 4.53E-01	4.81E+00 ± 4.81E-01	4.79E+00 ± 4.79E-01	4.71E+00	1.56E-01
Fe	0.02 µ (AMP)	ICPES	mg/L	4.74E+00 ± 4.74E-01	4.66E+00 ± 4.66E-01	4.70E+00 ± 4.70E-01	4.70E+00	4.20E-02
Gd	unfiltered	ICPES	mg/L	1.61E+01 ± 1.61E+00	1.62E+01 ± 1.62E+00	1.60E+01 ± 1.60E+00	1.61E+01	7.40E-02
Gd	0.45 µ (AMP)	ICPES	mg/L	2.66E+00 ± 2.66E-01	2.38E+00 ± 2.38E-01	2.46E+00 ± 2.46E-01	2.50E+00	1.46E-01
Gd	0.1 µ (AMP)	ICPES	mg/L	2.40E+00 ± 2.40E-01	2.62E+00 ± 2.62E-01	2.67E+00 ± 2.67E-01	2.56E+00	1.45E-01
Gd	0.02 µ (AMP)	ICPES	mg/L	2.22E+00 ± 2.22E-01	2.71E+00 ± 2.71E-01	2.34E+00 ± 2.34E-01	2.42E+00	2.59E-01
K	unfiltered	ICPES	M	6.60E-02 ± 6.60E-03	7.04E-02 ± 7.04E-03	8.62E-02 ± 8.62E-03	7.42E-02	1.06E-02
K	0.45 µ (AMP)	ICPES	M	5.40E-02 ± 5.40E-03	5.24E-02 ± 5.24E-03	5.32E-02 ± 5.32E-03	5.32E-02	7.94E-04
K	0.1 µ (AMP)	ICPES	M	4.96E-02 ± 4.96E-03	5.68E-02 ± 5.68E-03	5.05E-02 ± 5.05E-03	5.23E-02	3.94E-03
K	0.02 µ (AMP)	ICPES	M	5.64E-02 ± 5.64E-03	5.76E-02 ± 5.76E-03	5.17E-02 ± 5.17E-03	5.52E-02	3.11E-03
La	unfiltered	ICPES	mg/L	1.94E+01 ± 1.94E+00	1.95E+01 ± 1.95E+00	1.88E+01 ± 1.88E+00	1.92E+01	3.81E-01
La	0.45 µ (AMP)	ICPES	mg/L	2.83E+00 ± 2.83E-01	2.82E+00 ± 2.82E-01	2.92E+00 ± 2.92E-01	2.86E+00	6.00E-02
La	0.1 µ (AMP)	ICPES	mg/L	2.82E+00 ± 2.82E-01	3.19E+00 ± 3.19E-01	3.20E+00 ± 3.20E-01	3.07E+00	2.18E-01
La	0.02 µ (AMP)	ICPES	mg/L	2.71E+00 ± 2.71E-01	3.13E+00 ± 3.13E-01	2.78E+00 ± 2.78E-01	2.87E+00	2.24E-01
Li	unfiltered	ICPES	mg/L	2.89E+01 ± 2.89E+00	2.71E+01 ± 2.71E+00	2.94E+01 ± 2.94E+00	2.85E+01	1.18E+00
Li	0.45 µ (AMP)	ICPES	mg/L	9.73E+00 ± 9.73E-01	9.83E+00 ± 9.83E-01	9.78E+00 ± 9.78E-01	9.78E+00	5.18E-02
Li	0.1 µ (AMP)	ICPES	mg/L	8.56E+00 ± 8.56E-01	8.67E+00 ± 8.67E-01	9.56E+00 ± 9.56E-01	8.93E+00	5.48E-01
Li	0.02 µ (AMP)	ICPES	mg/L	9.59E+00 ± 9.59E-01	1.01E+01 ± 1.01E+00	9.11E+00 ± 9.11E-01	9.60E+00	4.98E-01
Mg	unfiltered	ICPES	mg/L	< 2.20E+00 ± mdl	< 2.20E+00 ± mdl	< 2.15E+00 ± mdl	< 2.15E+00	mdl
Mg	0.45 µ (AMP)	ICPES	mg/L	6.93E-01 ± 6.93E-02	7.14E-01 ± 7.14E-02	6.99E-01 ± 6.99E-02	7.02E-01	1.08E-02
Mg	0.1 µ (AMP)	ICPES	mg/L	2.32E+00 ± 2.32E-01	2.32E+00 ± 2.32E-01	2.57E+00 ± 2.57E-01	2.40E+00	1.47E-01
Mg	0.02 µ (AMP)	ICPES	mg/L	2.66E+00 ± 2.66E-01	2.70E+00 ± 2.70E-01	2.70E+00 ± 2.70E-01	2.69E+00	2.42E-02

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Mn	unfiltered	ICPES	mg/L	< 3.30E+00 ± mdl	< 3.30E+00 ± mdl	< 3.22E+00 ± mdl	< 3.22E+00	mdl
Mn	0.45 µ (AMP)	ICPES	mg/L	2.44E+00 ± 2.44E-01	2.48E+00 ± 2.48E-01	2.52E+00 ± 2.52E-01	2.48E+00	3.88E-02
Mn	0.1 µ (AMP)	ICPES	mg/L	2.10E+00 ± 2.10E-01	2.07E+00 ± 2.07E-01	2.14E+00 ± 2.14E-01	2.10E+00	3.21E-02
Mn	0.02 µ (AMP)	ICPES	mg/L	2.24E+00 ± 2.24E-01	2.07E+00 ± 2.07E-01	2.24E+00 ± 2.24E-01	2.18E+00	9.53E-02
Mo	unfiltered	ICPES	mg/L	1.51E+02 ± 1.51E+01	1.58E+02 ± 1.58E+01	1.85E+02 ± 1.85E+01	1.65E+02	1.78E+01
Mo	0.45 µ (AMP)	ICPES	mg/L	1.58E+02 ± 1.58E+01	1.60E+02 ± 1.60E+01	1.56E+02 ± 1.56E+01	1.58E+02	1.82E+00
Mo	0.1 µ (AMP)	ICPES	mg/L	1.54E+02 ± 1.54E+01	1.55E+02 ± 1.55E+01	1.51E+02 ± 1.51E+01	1.53E+02	1.89E+00
Mo	0.02 µ (AMP)	ICPES	mg/L	2.80E+02 ± 2.80E+01	2.91E+02 ± 2.91E+01	3.19E+02 ± 3.19E+01	2.97E+02	2.01E+01
Na	unfiltered	ICPES	M	6.87E+00 ± 6.87E-01	6.86E+00 ± 6.86E-01	6.78E+00 ± 6.78E-01	6.83E+00	4.91E-02
Na	0.45 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.1 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.02 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Ni	unfiltered	ICPES	mg/L	< 4.95E+01 ± mdl	< 4.95E+01 ± mdl	< 4.84E+01 ± mdl	< 4.84E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	< 4.66E+00 ± mdl	< 4.66E+00 ± mdl	< 4.66E+00 ± mdl	< 4.66E+00	mdl
Ni	0.1 µ (AMP)	ICPES	mg/L	< 4.73E+00 ± mdl	< 4.73E+00 ± mdl	< 4.73E+00 ± mdl	< 4.73E+00	mdl
Ni	0.02 µ (AMP)	ICPES	mg/L	< 4.71E+00 ± mdl	< 4.71E+00 ± mdl	< 4.71E+00 ± mdl	< 4.71E+00	mdl
P	unfiltered	ICPES	mg/L	< 4.61E+02 ± mdl	< 4.60E+02 ± mdl	< 4.50E+02 ± mdl	< 4.50E+02	mdl
P	0.45 µ (AMP)	ICPES	mg/L	2.40E+02 ± 2.40E+01	2.32E+02 ± 2.32E+01	2.31E+02 ± 2.31E+01	2.35E+02	4.81E+00
P	0.1 µ (AMP)	ICPES	mg/L	2.37E+02 ± 2.37E+01	2.39E+02 ± 2.39E+01	2.49E+02 ± 2.49E+01	2.42E+02	6.27E+00
P	0.02 µ (AMP)	ICPES	mg/L	2.44E+02 ± 2.44E+01	2.40E+02 ± 2.40E+01	2.32E+02 ± 2.32E+01	2.38E+02	6.18E+00
Pb	unfiltered	ICPES	mg/L	< 3.15E+02 ± mdl	< 3.14E+02 ± mdl	< 3.07E+02 ± mdl	< 3.07E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 2.96E+01 ± mdl	< 2.96E+01 ± mdl	< 2.96E+01 ± mdl	< 2.96E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 3.00E+01 ± mdl	< 3.00E+01 ± mdl	< 3.00E+01 ± mdl	< 3.00E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 3.00E+01 ± mdl	< 3.00E+01 ± mdl	< 3.00E+01 ± mdl	< 3.00E+01	mdl
S	unfiltered	ICPES	mg/L	2.96E+02 ± 2.96E+01	3.26E+02 ± 3.26E+01	3.14E+02 ± 3.14E+01	3.12E+02	1.48E+01
S	0.45 µ (AMP)	ICPES	mg/L	2.13E+02 ± 2.13E+01	2.13E+02 ± 2.13E+01	2.10E+02 ± 2.10E+01	2.12E+02	1.66E+00
S	0.1 µ (AMP)	ICPES	mg/L	2.22E+02 ± 2.22E+01	2.22E+02 ± 2.22E+01	2.17E+02 ± 2.17E+01	2.20E+02	3.03E+00
S	0.02 µ (AMP)	ICPES	mg/L	2.10E+02 ± 2.10E+01	2.21E+02 ± 2.21E+01	2.15E+02 ± 2.15E+01	2.15E+02	5.77E+00
Sb	unfiltered	ICPES	mg/L	< 7.81E+01 ± mdl	< 7.80E+01 ± mdl	< 7.63E+01 ± mdl	< 7.63E+01	mdl
Sb	0.45 µ (AMP)	ICPES	mg/L	2.16E+01 ± 2.16E+00	2.41E+01 ± 2.41E+00	2.39E+01 ± 2.39E+00	2.32E+01	1.36E+00
Sb	0.1 µ (AMP)	ICPES	mg/L	2.14E+01 ± 2.14E+00	2.12E+01 ± 2.12E+00	2.11E+01 ± 2.11E+00	2.12E+01	1.69E-01
Sb	0.02 µ (AMP)	ICPES	mg/L	2.30E+01 ± 2.30E+00	2.33E+01 ± 2.33E+00	2.16E+01 ± 2.16E+00	2.27E+01	9.02E-01
Si	unfiltered	ICPES	mg/L	< 2.75E+01 ± mdl	< 2.75E+01 ± mdl	< 2.69E+01 ± mdl	< 2.69E+01	mdl
Si	0.45 µ (AMP)	ICPES	mg/L	3.87E+01 ± 3.87E+00	3.87E+01 ± 3.87E+00	3.94E+01 ± 3.94E+00	3.89E+01	4.34E-01
Si	0.1 µ (AMP)	ICPES	mg/L	3.49E+01 ± 3.49E+00	3.61E+01 ± 3.61E+00	3.64E+01 ± 3.64E+00	3.58E+01	7.74E-01
Si	0.02 µ (AMP)	ICPES	mg/L	3.66E+01 ± 3.66E+00	3.75E+01 ± 3.75E+00	3.75E+01 ± 3.75E+00	3.72E+01	4.84E-01
Sn	unfiltered	ICPES	mg/L	< 1.25E+02 ± mdl	< 1.25E+02 ± mdl	< 1.23E+02 ± mdl	< 1.23E+02	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	1.70E+01 ± 1.70E+00	1.53E+01 ± 1.53E+00	1.64E+01 ± 1.64E+00	1.62E+01	8.64E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	1.34E+01 ± 1.34E+00	1.33E+01 ± 1.33E+00	1.31E+01 ± 1.31E+00	1.33E+01	1.84E-01
Sn	0.02 µ (AMP)	ICPES	mg/L	1.70E+01 ± 1.70E+00	1.79E+01 ± 1.79E+00	1.77E+01 ± 1.77E+00	1.75E+01	4.95E-01
Sr	unfiltered	ICPES	mg/L	< 8.80E+00 ± mdl	< 8.79E+00 ± mdl	< 8.60E+00 ± mdl	< 8.60E+00	mdl
Sr	0.45 µ (AMP)	ICPES	mg/L	3.79E+00 ± 3.79E-01	3.56E+00 ± 3.56E-01	3.58E+00 ± 3.58E-01	3.64E+00	1.28E-01
Sr	0.1 µ (AMP)	ICPES	mg/L	5.83E+00 ± 5.83E-01	5.52E+00 ± 5.52E-01	6.36E+00 ± 6.36E-01	5.90E+00	4.25E-01
Sr	0.02 µ (AMP)	ICPES	mg/L	5.92E+00 ± 5.92E-01	6.02E+00 ± 6.02E-01	5.87E+00 ± 5.87E-01	5.94E+00	8.00E-02
Ti	unfiltered	ICPES	mg/L	< 1.43E+01 ± mdl	< 1.43E+01 ± mdl	< 1.40E+01 ± mdl	< 1.40E+01	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 1.35E+00 ± mdl	< 1.35E+00 ± mdl	< 1.35E+00 ± mdl	< 1.35E+00	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 1.37E+00 ± mdl	< 1.37E+00 ± mdl	< 1.37E+00 ± mdl	< 1.37E+00	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 1.36E+00 ± mdl	< 1.36E+00 ± mdl	< 1.36E+00 ± mdl	< 1.36E+00	mdl
U	unfiltered	ICPES	mg/L	< 1.91E+02 ± mdl	< 1.91E+02 ± mdl	< 1.87E+02 ± mdl	< 1.87E+02	mdl
U	0.45 µ (AMP)	ICPES	mg/L	4.53E+01 ± 4.53E+00	4.46E+01 ± 4.46E+00	4.65E+01 ± 4.65E+00	4.55E+01	9.71E-01
U	0.1 µ (AMP)	ICPES	mg/L	< 1.83E+01 ± mdl	< 1.83E+01 ± mdl	< 1.83E+01 ± mdl	< 1.83E+01	mdl
U	0.02 µ (AMP)	ICPES	mg/L	4.55E+01 ± 4.55E+00	5.10E+01 ± 5.10E+00	4.03E+01 ± 4.03E+00	4.56E+01	5.34E+00
V	unfiltered	ICPES	mg/L	< 1.21E+01 ± mdl	< 1.21E+01 ± mdl	< 1.18E+01 ± mdl	< 1.18E+01	mdl
V	0.45 µ (AMP)	ICPES	mg/L	3.95E+00 ± 3.95E-01	3.87E+00 ± 3.87E-01	3.77E+00 ± 3.77E-01	3.86E+00	9.07E-02
V	0.1 µ (AMP)	ICPES	mg/L	3.10E+00 ± 3.10E-01	2.45E+00 ± 2.45E-01	2.97E+00 ± 2.97E-01	2.84E+00	3.43E-01
V	0.02 µ (AMP)	ICPES	mg/L	3.99E+00 ± 3.99E-01	4.42E+00 ± 4.42E-01	3.83E+00 ± 3.83E-01	4.08E+00	3.06E-01
Zn	unfiltered	ICPES	mg/L	1.00E+01 ± 1.00E+00	1.05E+01 ± 1.05E+00	1.05E+01 ± 1.05E+00	1.03E+01	2.92E-01
Zn	0.45 µ (AMP)	ICPES	mg/L	9.47E+00 ± 9.47E-01	9.32E+00 ± 9.32E-01	9.52E+00 ± 9.52E-01	9.44E+00	1.08E-01
Zn	0.1 µ (AMP)	ICPES	mg/L	9.14E+00 ± 9.14E-01	9.30E+00 ± 9.30E-01	9.56E+00 ± 9.56E-01	9.33E+00	2.12E-01
Zn	0.02 µ (AMP)	ICPES	mg/L	9.27E+00 ± 9.27E-01	9.27E+00 ± 9.27E-01	9.32E+00 ± 9.32E-01	9.29E+00	3.02E-02
Zr	unfiltered	ICPES	mg/L	< 1.54E+01 ± mdl	< 1.54E+01 ± mdl	< 1.50E+01 ± mdl	< 1.50E+01	mdl
Zr	0.45 µ (AMP)	ICPES	mg/L	< 1.45E+00 ± mdl	< 1.45E+00 ± mdl	< 1.45E+00 ± mdl	< 1.45E+00	mdl
Zr	0.1 µ (AMP)	ICPES	mg/L	< 1.47E+00 ± mdl	< 1.47E+00 ± mdl	< 1.47E+00 ± mdl	< 1.47E+00	mdl
Zr	0.02 µ (AMP)	ICPES	mg/L	< 1.47E+00 ± mdl	< 1.47E+00 ± mdl	< 1.47E+00 ± mdl	< 1.47E+00	mdl

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.3.4 Tank 37H ICP-MS Characterization

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Zr	unfiltered	ICP-MS	mg/L	1.08E+00 ± 2.69E-01	1.29E+00 ± 3.24E-01	1.40E+00 ± 3.49E-01	1.26E+00	1.64E-01
Zr	0.45 µ (AMP)	ICP-MS	mg/L	4.99E-01 ± 1.25E-01	5.08E-01 ± 1.27E-01	5.51E-01 ± 1.38E-01	5.19E-01	2.82E-02
Zr	0.1 µ (AMP)	ICP-MS	mg/L	2.59E-01 ± 6.49E-02	NA ± NA	3.53E-01 ± 8.82E-02	3.06E-01	6.62E-02
Zr	0.02 µ (AMP)	ICP-MS	mg/L	4.63E-01 ± 1.16E-01	4.59E-01 ± 1.15E-01	4.54E-01 ± 1.13E-01	4.59E-01	4.66E-03
Tc-99	unfiltered	ICP-MS	mg/L	2.16E+01 ± 5.40E+00	2.11E+01 ± 5.28E+00	2.08E+01 ± 5.20E+00	2.12E+01	4.04E-01
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	2.15E+01 ± 5.38E+00	2.18E+01 ± 5.45E+00	2.31E+01 ± 5.78E+00	2.21E+01	8.50E-01
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	1.75E+01 ± 4.38E+00	NA ± NA	2.08E+01 ± 5.20E+00	1.92E+01	2.33E+00
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	2.15E+01 ± 5.37E+00	2.01E+01 ± 5.03E+00	2.06E+01 ± 5.15E+00	2.07E+01	6.97E-01
Tc-99	unfiltered	ICP-MS	pCi/mL	3.66E+05 ± 9.15E+04	3.58E+05 ± 8.95E+04	3.53E+05 ± 8.82E+04	3.59E+05	6.67E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	3.66E+05 ± 9.14E+04	3.70E+05 ± 9.26E+04	3.92E+05 ± 9.80E+04	3.76E+05	1.41E+04
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	2.98E+05 ± 7.44E+04	NA ± NA	3.53E+05 ± 8.83E+04	3.25E+05	3.94E+04
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	3.65E+05 ± 9.12E+04	3.41E+05 ± 8.54E+04	3.50E+05 ± 8.74E+04	3.52E+05	1.18E+04
Mo	unfiltered	ICP-MS	mg/L	1.18E+02 ± 2.95E+01	1.14E+02 ± 2.85E+01	1.12E+02 ± 2.81E+01	1.15E+02	2.94E+00
Mo	0.45 µ (AMP)	ICP-MS	mg/L	1.20E+02 ± 2.99E+01	1.20E+02 ± 3.01E+01	1.27E+02 ± 3.17E+01	1.22E+02	3.83E+00
Mo	0.1 µ (AMP)	ICP-MS	mg/L	1.36E+02 ± 3.40E+01	NA ± NA	1.15E+02 ± 2.88E+01	1.25E+02	1.47E+01
Mo	0.02 µ (AMP)	ICP-MS	mg/L	2.11E+02 ± 5.27E+01	2.17E+02 ± 5.44E+01	2.31E+02 ± 5.77E+01	2.20E+02	1.02E+01
Ag	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ag	0.45 µ (AMP)	ICP-MS	mg/L	8.48E-03 ± 2.12E-03	6.26E-03 ± 1.57E-03	7.52E-03 ± 1.88E-03	7.42E-03	1.11E-03
Ag	0.1 µ (AMP)	ICP-MS	mg/L	5.64E-03 ± 1.41E-03	NA ± NA	7.57E-03 ± 1.89E-03	6.60E-03	1.36E-03
Ag	0.02 µ (AMP)	ICP-MS	mg/L	2.22E-02 ± 5.55E-03	1.65E-02 ± 4.12E-03	1.65E-02 ± 4.13E-03	1.84E-02	3.28E-03
Pd	unfiltered	ICP-MS	mg/L	9.28E-02 ± 2.32E-02	bdl ± bdl	9.05E-02 ± 2.26E-02	9.17E-02	1.59E-03
Pd	0.45 µ (AMP)	ICP-MS	mg/L	1.58E-02 ± 3.96E-03	1.40E-02 ± 3.51E-03	1.56E-02 ± 3.89E-03	1.51E-02	9.79E-04
Pd	0.1 µ (AMP)	ICP-MS	mg/L	1.81E-02 ± 4.52E-03	NA ± NA	3.25E-02 ± 8.13E-03	2.53E-02	1.02E-02
Pd	0.02 µ (AMP)	ICP-MS	mg/L	5.05E-02 ± 1.26E-02	4.64E-02 ± 1.16E-02	4.69E-02 ± 1.17E-02	4.79E-02	2.28E-03
Rh	unfiltered	ICP-MS	mg/L	2.74E+00 ± 6.86E-01	2.73E+00 ± 6.84E-01	2.61E+00 ± 6.51E-01	2.69E+00	7.78E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	2.53E+00 ± 6.32E-01	2.56E+00 ± 6.40E-01	2.67E+00 ± 6.68E-01	2.59E+00	7.39E-02
Rh	0.1 µ (AMP)	ICP-MS	mg/L	2.96E+00 ± 7.41E-01	NA ± NA	2.96E+00 ± 7.40E-01	2.96E+00	2.54E-03
Rh	0.02 µ (AMP)	ICP-MS	mg/L	2.92E+00 ± 7.30E-01	2.92E+00 ± 7.31E-01	2.86E+00 ± 7.16E-01	2.90E+00	3.44E-02
Ru	unfiltered	ICP-MS	mg/L	2.80E+00 ± 7.00E-01	2.89E+00 ± 7.21E-01	2.81E+00 ± 7.03E-01	2.83E+00	4.65E-02
Ru	0.45 µ (AMP)	ICP-MS	mg/L	2.52E+00 ± 6.30E-01	2.54E+00 ± 6.34E-01	2.66E+00 ± 6.66E-01	2.57E+00	7.88E-02
Ru	0.1 µ (AMP)	ICP-MS	mg/L	1.21E+00 ± 3.02E-01	NA ± NA	2.90E+00 ± 7.25E-01	2.05E+00	1.20E+00
Ru	0.02 µ (AMP)	ICP-MS	mg/L	2.99E+00 ± 7.48E-01	2.94E+00 ± 7.34E-01	2.94E+00 ± 7.35E-01	2.96E+00	3.10E-02
Cd	unfiltered	ICP-MS	mg/L	bdl ± bdl	3.73E-01 ± 9.33E-02	bdl ± bdl	3.73E-01	9.33E-02
Cd	0.45 µ (AMP)	ICP-MS	mg/L	4.72E-01 ± 1.18E-01	4.84E-01 ± 1.21E-01	5.19E-01 ± 1.30E-01	4.92E-01	2.40E-02
Cd	0.1 µ (AMP)	ICP-MS	mg/L	3.33E-01 ± 8.33E-02	NA ± NA	5.81E-01 ± 1.45E-01	4.57E-01	1.75E-01
Cd	0.02 µ (AMP)	ICP-MS	mg/L	6.38E-01 ± 1.59E-01	6.14E-01 ± 1.54E-01	6.93E-01 ± 1.73E-01	6.48E-01	4.01E-02
Sn	unfiltered	ICP-MS	mg/L	5.72E+00 ± 1.43E+00	4.43E+00 ± 1.11E+00	5.12E+00 ± 1.28E+00	5.09E+00	6.49E-01
Sn	0.45 µ (AMP)	ICP-MS	mg/L	3.01E+00 ± 7.53E-01	3.01E+00 ± 7.53E-01	3.17E+00 ± 7.94E-01	3.07E+00	9.36E-02
Sn	0.1 µ (AMP)	ICP-MS	mg/L	2.51E+00 ± 6.28E-01	NA ± NA	3.16E+00 ± 7.89E-01	2.83E+00	4.56E-01
Sn	0.02 µ (AMP)	ICP-MS	mg/L	3.38E+00 ± 8.44E-01	3.27E+00 ± 8.19E-01	3.25E+00 ± 8.14E-01	3.30E+00	6.52E-02
La	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
La	0.45 µ (AMP)	ICP-MS	mg/L	2.06E-03 ± 5.15E-04	2.26E-03 ± 5.64E-04	2.57E-03 ± 6.42E-04	2.29E-03	2.55E-04
La	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	NA ± NA	bdl ± bdl	bdl	bdl
La	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ce	unfiltered	ICP-MS	mg/L	3.85E-02 ± 9.61E-03	bdl ± bdl	bdl ± bdl	3.85E-02	9.61E-03
Ce	0.45 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ce	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	NA ± NA	bdl ± bdl	bdl	bdl
Ce	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
W	unfiltered	ICP-MS	mg/L	5.76E-01 ± 1.44E-01	5.08E-01 ± 1.27E-01	4.20E-01 ± 1.05E-01	5.01E-01	7.82E-02
W	0.45 µ (AMP)	ICP-MS	mg/L	7.58E-01 ± 1.90E-01	7.55E-01 ± 1.89E-01	8.18E-01 ± 2.04E-01	7.77E-01	3.53E-02
W	0.1 µ (AMP)	ICP-MS	mg/L	8.15E-01 ± 2.04E-01	NA ± NA	1.01E+00 ± 2.53E-01	9.13E-01	1.38E-01
W	0.02 µ (AMP)	ICP-MS	mg/L	3.60E-01 ± 9.00E-02	3.31E-01 ± 8.27E-02	3.32E-01 ± 8.30E-02	3.41E-01	1.65E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Re	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Re	0.45 µ (AMP)	ICP-MS	mg/L	8.33E-03	±	2.08E-03	8.43E-03	±	2.11E-03	1.23E-02	±	3.07E-03	9.68E-03	2.25E-03
Re	0.1 µ (AMP)	ICP-MS	mg/L	1.37E-02	±	3.43E-03	NA	±	NA	1.79E-02	±	4.47E-03	1.58E-02	2.95E-03
Re	0.02 µ (AMP)	ICP-MS	mg/L	4.51E-03	±	1.13E-03	5.15E-03	±	1.29E-03	4.96E-03	±	1.24E-03	4.87E-03	3.32E-04
Os	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	2.37E-03	±	5.91E-04	bdl	±	bdl	2.37E-03	5.91E-04
Ir	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Ir	0.02 µ (AMP)	ICP-MS	mg/L	1.07E-03	±	2.67E-04	1.17E-03	±	2.92E-04	1.67E-03	±	4.16E-04	1.30E-03	3.19E-04
Pt	unfiltered	ICP-MS	mg/L	1.13E-02	±	2.81E-03	7.52E-03	±	1.88E-03	7.42E-03	±	1.86E-03	8.73E-03	2.18E-03
Pt	0.45 µ (AMP)	ICP-MS	mg/L	1.65E-02	±	4.12E-03	1.97E-02	±	4.93E-03	1.76E-02	±	4.39E-03	1.79E-02	1.66E-03
Pt	0.1 µ (AMP)	ICP-MS	mg/L	1.40E-02	±	3.50E-03	NA	±	NA	2.54E-02	±	6.35E-03	1.97E-02	8.06E-03
Pt	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Au	0.02 µ (AMP)	ICP-MS	mg/L	5.12E-04	±	1.28E-04	6.79E-04	±	1.70E-04	5.45E-04	±	1.36E-04	5.79E-04	8.87E-05
Hg	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.45 µ (AMP)	ICP-MS	mg/L	3.54E-02	±	8.86E-03	2.01E-02	±	5.03E-03	1.02E-02	±	2.54E-03	2.19E-02	1.27E-02
Hg	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Hg	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	0.45 µ (AMP)	ICP-MS	mg/L	1.94E+00	±	4.84E-01	1.91E+00	±	4.78E-01	1.97E+00	±	4.92E-01	1.94E+00	2.80E-02
Pb	0.1 µ (AMP)	ICP-MS	mg/L	2.08E+00	±	5.20E-01	NA	±	NA	1.43E+00	±	3.59E-01	1.76E+00	4.55E-01
Pb	0.02 µ (AMP)	ICP-MS	mg/L	6.24E-01	±	1.56E-01	5.65E-01	±	1.41E-01	5.59E-01	±	1.40E-01	5.83E-01	3.61E-02
U-233	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-233	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-233	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
U-233	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-234	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-234	0.45 µ (AMP)	ICP-MS	mg/L	1.71E-02	±	4.27E-03	1.80E-02	±	4.51E-03	1.76E-02	±	4.41E-03	1.76E-02	4.79E-04
U-234	0.1 µ (AMP)	ICP-MS	mg/L	1.59E-02	±	3.97E-03	NA	±	NA	1.98E-02	±	4.96E-03	1.79E-02	2.81E-03
U-234	0.02 µ (AMP)	ICP-MS	mg/L	1.83E-02	±	4.57E-03	1.83E-02	±	4.57E-03	1.88E-02	±	4.69E-03	1.84E-02	2.75E-04
U-235	unfiltered	ICP-MS	mg/L	1.56E-01	±	3.91E-02	1.21E-01	±	3.02E-02	1.64E-01	±	4.09E-02	1.47E-01	2.30E-02
U-235	0.45 µ (AMP)	ICP-MS	mg/L	9.34E-02	±	2.33E-02	8.72E-02	±	2.18E-02	9.44E-02	±	2.36E-02	9.16E-02	3.92E-03
U-235	0.1 µ (AMP)	ICP-MS	mg/L	1.30E-01	±	3.24E-02	NA	±	NA	8.60E-02	±	2.15E-02	1.08E-01	3.08E-02
U-235	0.02 µ (AMP)	ICP-MS	mg/L	8.14E-02	±	2.03E-02	8.60E-02	±	2.15E-02	9.44E-02	±	2.36E-02	8.73E-02	6.57E-03
U-236	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-236	0.45 µ (AMP)	ICP-MS	mg/L	4.66E-02	±	1.17E-02	3.95E-02	±	9.88E-03	4.37E-02	±	1.09E-02	4.33E-02	3.58E-03
U-236	0.1 µ (AMP)	ICP-MS	mg/L	7.23E-02	±	1.81E-02	NA	±	NA	3.84E-02	±	9.60E-03	5.53E-02	2.40E-02
U-236	0.02 µ (AMP)	ICP-MS	mg/L	3.79E-02	±	9.48E-03	4.03E-02	±	1.01E-02	4.29E-02	±	1.07E-02	4.04E-02	2.51E-03
U-238	unfiltered	ICP-MS	mg/L	2.65E+00	±	6.62E-01	2.54E+00	±	6.36E-01	2.51E+00	±	6.28E-01	2.57E+00	7.26E-02
U-238	0.45 µ (AMP)	ICP-MS	mg/L	2.48E+00	±	6.21E-01	2.42E+00	±	6.05E-01	2.52E+00	±	6.30E-01	2.48E+00	4.99E-02
U-238	0.1 µ (AMP)	ICP-MS	mg/L	7.15E-01	±	1.79E-01	NA	±	NA	2.44E+00	±	6.10E-01	1.58E+00	1.22E+00
U-238	0.02 µ (AMP)	ICP-MS	mg/L	2.49E+00	±	6.22E-01	2.50E+00	±	6.24E-01	2.48E+00	±	6.21E-01	2.49E+00	7.06E-03
Total U	unfiltered	ICP-MS	mg/L	2.81E+00		NA	2.66E+00		NA	2.67E+00		NA	2.71E+00	7.90E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	2.64E+00		NA	2.57E+00		NA	2.68E+00		NA	2.63E+00	5.61E-02
Total U	0.1 µ (AMP)	ICP-MS	mg/L	9.32E-01		NA	NA		NA	2.58E+00		NA	1.76E+00	1.17E+00
Total U	0.02 µ (AMP)	ICP-MS	mg/L	2.62E+00		NA	2.64E+00		NA	2.64E+00		NA	2.64E+00	1.03E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Sample				Sample								Standard
Analyte	Preparation	Method	Units	1			2			3			Average	Deviation
% U233	unfiltered	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U234	unfiltered	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U235	unfiltered	ICP-MS	%	5.57E+00	±	1.39E+00	4.53E+00	±	1.13E+00	6.12E+00	±	1.53E+00	5.41E+00	8.08E-01
% U236	unfiltered	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U238	unfiltered	ICP-MS	%	9.44E+01	±	2.36E+01	9.55E+01	±	2.39E+01	9.39E+01	±	2.35E+01	9.46E+01	8.08E-01
% U233	0.45 µ (AMP)	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U234	0.45 µ (AMP)	ICP-MS	%	6.47E-01	±	1.62E-01	7.03E-01	±	1.76E-01	6.59E-01	±	1.65E-01	6.69E-01	2.94E-02
% U235	0.45 µ (AMP)	ICP-MS	%	3.53E+00	±	8.84E-01	3.40E+00	±	8.49E-01	3.53E+00	±	8.82E-01	3.49E+00	7.80E-02
% U236	0.45 µ (AMP)	ICP-MS	%	1.77E+00	±	4.42E-01	1.54E+00	±	3.85E-01	1.63E+00	±	4.09E-01	1.65E+00	1.14E-01
% U238	0.45 µ (AMP)	ICP-MS	%	9.41E+01	±	2.35E+01	9.44E+01	±	2.36E+01	9.42E+01	±	2.35E+01	9.42E+01	1.55E-01
% U233	0.1 µ (AMP)	ICP-MS	%	0.00E+00	±	0.00E+00	NA	±	NA	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U234	0.1 µ (AMP)	ICP-MS	%	1.70E+00	±	4.26E-01	NA	±	NA	7.68E-01	±	1.92E-01	1.24E+00	6.61E-01
% U235	0.1 µ (AMP)	ICP-MS	%	1.39E+01	±	3.47E+00	NA	±	NA	3.33E+00	±	8.32E-01	8.61E+00	7.47E+00
% U236	0.1 µ (AMP)	ICP-MS	%	7.76E+00	±	1.94E+00	NA	±	NA	1.49E+00	±	3.72E-01	4.62E+00	4.43E+00
% U238	0.1 µ (AMP)	ICP-MS	%	7.66E+01	±	1.92E+01	NA	±	NA	9.44E+01	±	2.36E+01	8.55E+01	1.26E+01
% U233	0.02 µ (AMP)	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U234	0.02 µ (AMP)	ICP-MS	%	6.97E-01	±	1.74E-01	6.92E-01	±	1.73E-01	7.10E-01	±	1.78E-01	7.00E-01	9.49E-03
% U235	0.02 µ (AMP)	ICP-MS	%	3.10E+00	±	7.75E-01	3.26E+00	±	8.14E-01	3.57E+00	±	8.93E-01	3.31E+00	2.40E-01
% U236	0.02 µ (AMP)	ICP-MS	%	1.44E+00	±	3.61E-01	1.53E+00	±	3.81E-01	1.63E+00	±	4.06E-01	1.53E+00	9.04E-02
% U238	0.02 µ (AMP)	ICP-MS	%	9.48E+01	±	2.37E+01	9.45E+01	±	2.36E+01	9.41E+01	±	2.35E+01	9.45E+01	3.38E-01
U-235	unfiltered	ICP-MS	pCi/mL	3.40E-01	±	8.50E-02	2.63E-01	±	6.56E-02	3.56E-01	±	8.90E-02	3.20E-01	5.00E-02
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	2.03E-01	±	5.08E-02	1.90E-01	±	4.74E-02	2.05E-01	±	5.13E-02	1.99E-01	8.52E-03
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	2.82E-01	±	7.04E-02	NA	±	NA	1.87E-01	±	4.68E-02	2.34E-01	6.70E-02
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	1.77E-01	±	4.43E-02	1.87E-01	±	4.68E-02	2.05E-01	±	5.13E-02	1.90E-01	1.43E-02
U-238	unfiltered	ICP-MS	pCi/mL	8.82E-01	±	2.21E-01	8.47E-01	±	2.12E-01	8.36E-01	±	2.09E-01	8.55E-01	2.42E-02
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	8.27E-01	±	2.07E-01	8.06E-01	±	2.02E-01	8.39E-01	±	2.10E-01	8.24E-01	1.66E-02
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	2.38E-01	±	5.95E-02	NA	±	NA	8.12E-01	±	2.03E-01	5.25E-01	4.06E-01
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	8.28E-01	±	2.07E-01	8.32E-01	±	2.08E-01	8.27E-01	±	2.07E-01	8.29E-01	2.35E-03
Np-237	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	1.53E-02	±	3.83E-03	1.64E-02	±	4.09E-03	1.81E-02	±	4.53E-03	1.66E-02	1.43E-03
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	1.59E-02	±	3.97E-03	1.59E-02	3.97E-03
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	1.56E-02	±	3.91E-03	1.42E-02	±	3.56E-03	1.59E-02	±	3.97E-03	1.53E-02	8.85E-04
Np-237	unfiltered	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	1.08E+01	±	2.70E+00	1.15E+01	±	2.88E+00	1.28E+01	±	3.19E+00	1.17E+01	1.01E+00
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	NA	±	NA	1.12E+01	±	2.80E+00	1.12E+01	2.80E+00
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	1.10E+01	±	2.76E+00	1.00E+01	±	2.51E+00	1.12E+01	±	2.80E+00	1.08E+01	6.24E-01
Pu-239	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	8.95E-03	±	2.24E-03	9.10E-03	±	2.27E-03	9.17E-03	±	2.29E-03	9.07E-03	1.15E-04
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	8.86E-03	±	2.21E-03	1.11E-02	±	2.77E-03	1.25E-02	±	3.13E-03	1.08E-02	1.84E-03
Pu-239	unfiltered	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	5.49E+02	±	1.37E+02	5.58E+02	±	1.40E+02	5.63E+02	±	1.41E+02	5.57E+02	7.04E+00
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	5.44E+02	±	1.36E+02	6.80E+02	±	1.70E+02	7.68E+02	±	1.92E+02	6.64E+02	1.13E+02
Pu-240	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	unfiltered	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	NA	±	NA	bdl	±	bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.4 TANK 39H CHARACTERIZATION

6.4.1 Tank 39H Radioactive Species

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{137}Cs	acid digested	Rad	pCi/mL	6.61E+08 ± 2.50E+07	6.96E+08 ± 9.53E+06	6.67E+08 ± 9.33E+06	6.75E+08	9.44E+06	1.87E+07
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	6.93E+08 ± 1.11E+07	6.56E+08 ± 1.06E+07	6.69E+08 ± 1.08E+07	6.73E+08	6.24E+06	1.88E+07
^{90}Sr	acid digested	Rad	pCi/mL	3.18E+05 ± 2.83E+04	9.16E+05 ± 9.53E+04	6.51E+05 ± 5.99E+04	6.28E+05	3.87E+04	3.00E+05
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL	1.69E+05 ± 4.23E+04	1.71E+05 ± 4.27E+04	1.80E+05 ± 4.50E+04	1.73E+05	2.50E+04	5.90E+03
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL	2.62E+05 ± 1.96E+04	3.21E+05 ± 2.47E+04	2.92E+05 ± 2.27E+04	2.91E+05	1.30E+04	2.96E+04
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	3.13E+05 ± 2.38E+04	3.45E+05 ± 2.62E+04	3.69E+05 ± 2.99E+04	3.42E+05	1.54E+04	2.82E+04
^{238}Pu	acid digested	Rad	pCi/mL	1.11E+06 7.44E+04	5.72E+05 ± 2.97E+04	6.28E+05 ± 3.20E+04	7.70E+05	2.88E+04	2.96E+05
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	5.01E+05 ± 2.50E+04	4.89E+05 ± 2.45E+04	4.99E+05 ± 2.54E+04	4.96E+05	1.44E+04	6.43E+03
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	6.79E+05 ± 2.39E+04	7.10E+05 ± 1.93E+04	8.37E+05 ± 2.49E+04	7.42E+05	1.32E+04	8.37E+04
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	7.54E+05 ± 2.23E+04	7.54E+05 ± 2.41E+04	8.88E+05 ± 4.93E+04	7.99E+05	1.97E+04	7.74E+04
$^{239/40}$Pu	acid digested	Rad	pCi/mL	5.67E+04 ± 4.14E+03	2.99E+04 ± 1.82E+03	3.40E+04 ± 1.94E+03	4.02E+04	1.64E+03	1.44E+04
$^{239/40}$Pu	acid digested	ICP-MS	pCi/mL	4.97E+04 ± 1.19E+04	5.03E+04 ± 1.21E+04	4.87E+04 ± 1.17E+04	4.96E+04	6.87E+03	8.08E+02
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	2.62E+04 ± 1.34E+03	2.50E+04 ± 1.28E+03	2.60E+04 ± 1.35E+03	2.57E+04	7.64E+02	6.43E+02
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA	NA
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	3.24E+04 ± 1.26E+03	4.80E+04 ± 1.35E+03	4.66E+04 ± 1.44E+04	4.23E+04	4.84E+03	8.63E+03
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	2.35E+04 ± 5.88E+03	4.77E+04 ± 1.19E+04	4.88E+04 ± 1.22E+04	4.00E+04	NA	1.43E+04
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	3.96E+04 ± 3.01E+03	4.08E+04 ± 1.42E+03	4.37E+04 ± 2.49E+03	4.14E+04	1.39E+03	2.11E+03
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	4.37E+04 ± 1.09E+04	4.65E+04 ± 1.16E+04	5.22E+04 ± 1.31E+04	4.75E+04	NA	4.33E+03
^{241}Pu	acid digested	Rad	pCi/mL	9.65E+05 ± 6.61E+04	5.33E+05 ± 3.15E+04	5.00E+05 ± 2.72E+04	6.66E+05	2.60E+04	2.59E+05
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
Total Pu	acid digested	Rad	pCi/mL	2.13E+06 NA	1.14E+06 NA	1.16E+06 NA	1.48E+06	NA	5.68E+05
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	5.27E+05 NA	5.14E+05 NA	5.25E+05 NA	5.22E+05	NA	7.07E+03
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	7.11E+05 NA	7.58E+05 NA	8.84E+05 NA	7.84E+05	NA	8.91E+04
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	7.94E+05 NA	7.95E+05 NA	9.32E+05 NA	8.40E+05	NA	7.94E+04
^{235}U	acid digested	ICP-MS	pCi/mL	4.92E+00 ± 1.23E+00	4.97E+00 ± 1.24E+00	4.87E+00 ± 1.22E+00	4.92E+00	NA	5.00E-02
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA	NA
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	1.94E+00 ± 4.85E-01	3.88E+00 ± 9.69E-01	3.94E+00 ± 9.86E-01	3.25E+00	NA	1.14E+00
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	3.74E+00 ± 9.36E-01	3.95E+00 ± 9.87E-01	3.70E+00 ± 9.25E-01	3.80E+00	NA	1.32E-01
^{238}U	acid digested	ICP-MS	pCi/mL	1.09E+00 ± 2.73E-01	1.11E+00 ± 2.78E-01	1.08E+00 ± 2.70E-01	4.92E+00	NA	5.00E-02
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA	NA
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	5.54E-01 ± 1.38E-01	1.15E+00 ± 2.87E-01	1.15E+00 ± 2.86E-01	9.49E-01	NA	3.42E-01
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	1.04E+00 ± 2.59E-01	1.04E+00 ± 2.59E-01	1.05E+00 ± 2.62E-01	1.04E+00	NA	7.54E-03
Total U	acid digested	ICP-MS	mg/L	6.44E+00 NA	6.53E+00 NA	6.39E+00 NA	6.45E+00	NA	7.09E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA	NA
Total U	0.1 µ (AMP)	ICP-MS	mg/L	2.90E+00 NA	5.93E+00 NA	5.97E+00 NA	4.93E+00	NA	1.76E+00
Total U	0.02 µ (AMP)	ICP-MS	mg/L	5.58E+00 NA	5.69E+00 NA	5.61E+00 NA	5.63E+00	NA	5.69E-02
^{237}Np	acid digested	ICP-MS	pCi/mL	1.18E+02 ± 2.95E+01	1.23E+02 ± 3.08E+01	1.16E+02 ± 2.90E+01	1.19E+02	NA	3.56E+00
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA	NA
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	6.29E+01 ± 1.57E+01	1.17E+02 ± 2.92E+01	1.26E+02 ± 3.16E+01	1.02E+02	NA	3.41E+01
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	1.31E+02 ± 3.27E+01	1.42E+02 ± 3.56E+01	1.28E+02 ± 3.21E+01	1.34E+02	NA	7.36E+00

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average		Standard Deviation
^{241}Am	acid digested	Rad	pCi/mL	4.04E+03 ± 4.53E+02	2.72E+03 ± 3.01E+02	2.62E+03 ± 2.87E+02	3.13E+03	2.05E+02	7.93E+02
^{241}Am	0.45 µ (AMP)	Rad#	pCi/mL	< 7.20E+02 ± upper limit	< 1.37E+03 ± upper limit	< 3.93E+03 ± upper limit	< 7.20E+02	NA	upper limit
^{241}Am	0.1 µ (AMP)	Rad$	pCi/mL	2.99E+01 ± 7.47E+00	2.24E+02 ± 3.26E+01	2.27E+02 ± 3.67E+01	1.60E+02	1.66E+01	1.13E+02
^{241}Am	0.02 µ (AMP)	Rad$	pCi/mL	< 1.20E+03 ± mda	3.37E+02 ± 8.97E+01	< 2.88E+02 ± mda	3.13E+02	4.48E+01	2.38E+02
^{242}Am	acid digested	Rad	pCi/mL	< 1.43E+03 ± mda	< 7.60E+02 ± mda	< 3.84E+02 ± mda	< 3.84E+02	NA	mda
^{242}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 2.82E+02 ± mda	< 9.65E+02 ± mda	< 3.36E+03 ± mda	< 2.82E+02	NA	mda
^{243}Am	acid digested	Rad	pCi/mL	< 9.12E+01 ± mda	1.97E+01 ± 4.39E+00	1.02E+02 ± 2.56E+01	7.10E+01	8.66E+00	5.41E+01
^{243}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 2.65E+02 ± mda	< 9.47E+02 ± mda	< 2.89E+02 ± mda	< 2.65E+02	NA	mda
^{99}Tc	0.45 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
^{99}Tc	unfiltered	Rad	pCi/mL	1.42E+06 ± 3.55E+05	NA	NA	1.42E+06	3.55E+05	3.55E+05
^{99}Tc	acid digested	ICP-MS	pCi/mL	1.47E+05 ± 3.68E+04	1.46E+05 ± 3.50E+04	1.44E+05 ± 3.48E+04	1.46E+05	NA	1.53E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA	NA
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	7.32E+04 ± 1.83E+04	1.49E+05 ± 3.73E+04	1.54E+05 ± 3.85E+04	1.25E+05	NA	4.53E+04
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	1.59E+05 ± 3.98E+04	1.55E+05 ± 3.88E+04	1.56E+05 ± 3.90E+04	1.57E+05	NA	2.22E+03
Gross α	acid digestion	Rad	pCi/mL	5.72E+05 ± 1.43E+05	5.85E+05 ± 5.85E+04	6.08E+05 ± 6.08E+04	5.88E+05	5.53E+04	1.84E+04
Gross α	0.45 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
Beta	acid digestion	Rad	pCi/mL	7.48E+08 ± 7.48E+07	7.66E+08 ± 7.66E+07	7.60E+08 ± 7.60E+07	7.58E+08	4.38E+07	8.93E+06
Beta	0.45 µ (no AMP)	Rad	pCi/mL	7.43E+08 7.43E+07	7.36E+08 ± 7.36E+07	7.51E+08 ± 7.51E+07	7.43E+08	4.29E+07	7.51E+06
Tritium	acid digested	Rad	pCi/mL	1.04E+05 ± 1.04E+04	NA	NA	1.04E+05	1.04E+04	1.04E+04
^{14}C	unfiltered	Rad	pCi/mL	1.55E+03 ± 8.16E+04	NA	NA	1.55E+03	8.16E+04	8.16E+04
^{14}C	0.45 µ (No AMP)	Rad	pCi/mL	< 3.38E+02 ± upper limit	NA	NA	< 3.38E+02	NA	upper limit
^{129}I	unfiltered	Rad	pCi/mL	< 4.56E+01 ± mda	NA	NA	< 4.56E+01	NA	mda
^{129}I	0.45 µ (No AMP)	Rad	pCi/mL	< 1.14E+02 ± mda	NA	NA	< 1.14E+02	NA	mda
^{26}Al	0.45 µ (No AMP)	Rad	pCi/mL	< 1.54E+02 ± mda	< 1.39E+02 ± mda	< 1.58E+02 ± mda	< 1.39E+02	NA	mda
^{60}Co	0.45 µ (No AMP)	Rad	pCi/mL	< 2.31E+02 ± mda	< 2.32E+02 ± mda	< 2.40E+02 ± mda	< 2.31E+02	NA	mda
^{94}Nb	0.45 µ (No AMP)	Rad	pCi/mL	< 2.87E+02 ± mda	< 2.67E+02 ± mda	< 2.87E+02 ± mda	< 2.67E+02	NA	mda
^{106}Ru	0.45 µ (No AMP)	Rad	pCi/mL	6.64E+03 ± 6.84E+02	6.21E+03 ± 7.12E+02	5.30E+03 ± 6.95E+02	6.05E+03	4.02E+02	6.83E+02
^{125}Sb	0.45 µ (No AMP)	Rad	pCi/mL	1.07E+04 ± 2.58E+02	1.02E+04 ± 2.57E+02	1.09E+04 ± 2.72E+02	1.09E+04	1.51E+02	2.72E+02
^{126}Sb	0.45 µ (No AMP)	Rad	pCi/mL	9.63E+02 ± 5.84E+01	1.02E+03 ± 6.14E+01	9.71E+02 ± 4.73E+01	9.85E+02	3.23E+01	3.09E+01
^{126}Sn	0.45 µ (No AMP)	Rad	pCi/mL	9.63E+02 ± 1.53E+02	6.46E+02 ± 1.21E+02	6.09E+02 ± 9.66E+01	7.39E+02	7.27E+01	1.95E+02
^{144}Ce	0.45 µ (No AMP)	Rad	pCi/mL	< 1.42E+03 ± mda	< 1.46E+03 ± mda	< 1.51E+03 ± mda	< 1.42E+03	NA	mda
^{152}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 1.84E+03 ± mda	< 1.78E+03 ± mda	< 1.87E+03 ± mda	< 1.78E+03	NA	mda
^{154}Eu	0.45 µ (No AMP)	Rad	pCi/mL	2.01E+03 ± 9.88E+01	2.30E+03 ± 1.15E+02	2.11E+03 ± 1.04E+02	2.01E+03	6.13E+01	1.51E+02
^{155}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 8.59E+02 ± mda	< 8.51E+02 ± mda	< 9.03E+02 ± mda	< 8.51E+02	NA	mda
^{231}Pa	0.45 µ (No AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
^{232}U	acid digested	Rad	pCi/mL	< 3.23E+02 ± upper limit	< 2.00E+02 ± upper limit	< 1.92E+02 ± upper limit	< 1.92E+02	NA	upper limit
^{59}Ni	acid digested	Rad	pCi/mL	< 3.89E+02 ± mda	< 3.95E+02 ± mda	< 4.90E+02 ± mda	< 3.89E+02	NA	mda
^{63}Ni	acid digested	Rad	pCi/mL	< 5.13E+03 ± mda	< 4.99E+03 ± mda	< 3.93E+03 ± mda	< 3.93E+03	NA	mda
^{147}Pm	acid digested	Rad	pCi/mL	< 6.55E+04 ± upper limit	< 5.22E+04 ± upper limit	< 5.41E+04 ± upper limit	< 5.22E+04	NA	upper limit
^{151}Sm	acid digested	Rad	pCi/mL	< 1.31E+05 ± upper limit	< 1.01E+05 ± upper limit	< 1.00E+05 ± upper limit	< 1.00E+05	NA	upper limit
^{79}Se	acid digested	Rad	pCi/mL	< 6.02E+03 ± upper limit	< 4.58E+03 ± upper limit	< 4.40E+03 ± upper limit	< 4.40E+03	NA	upper
^{242}Cm/^{252}Cf	acid digested	Rad	pCi/mL	1.52E+01 ± 7.60E+00	5.04E+00 ± 2.52E+00	5.26E+00 ± 2.63E+00	8.50E+00	2.81E+00	5.80E+00
^{242}Cm/^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 1.58E+01 ± mda	< 1.94E+01 ± mda	3.37E+00 ± 1.95E-02	3.37E+00	1.95E-02	1.95E-02
^{243}Cm	acid digested	Rad	pCi/mL	< 3.67E+02 ± mda	< 1.94E+02 ± mda	< 9.82E+01 ± mda	< 9.82E+01	NA	mda
^{243}Cm	0.45 µ (No AMP)	Rad	pCi/mL	< 5.50E+02 ± mda	< 6.97E+02 ± mda	< 4.13E+02 ± mda	< 4.13E+02	NA	mda
^{244}Cm	acid digested	Rad	pCi/mL	3.27E+04 ± 4.91E+03	1.87E+04 ± 2.81E+03	1.92E+04 ± 2.88E+03	2.35E+04	2.11E+03	7.94E+03
^{244}Cm	0.45 µ (No AMP)	Rad	pCi/mL	5.21E+03 ± 9.90E+02	3.74E+03 ± 7.11E+02	3.96E+03 ± 7.52E+02	4.30E+03	4.77E+02	7.94E+02
^{249}Cf	acid digested	Rad	pCi/mL	< 5.35E+02 ± mda	< 1.33E+02 ± mda	< 6.26E+01 ± mda	< 6.26E+01	NA	mda
^{249}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 4.32E+02 ± mda	< 6.51E+02 ± mda	< 3.37E+02 ± mda	< 3.37E+02	NA	mda
^{251}Cf	acid digested	Rad	pCi/mL	< 2.58E+02 ± mda	< 1.13E+02 ± mda	< 7.48E+01 ± mda	< 7.48E+01	NA	mda
^{251}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 4.85E+02 ± upper limit	< 6.48E+02 ± upper limit	< 3.37E+02 ± upper limit	< 3.37E+02	NA	upper limit

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

#Analysis conducted using gamma spectroscopy after cesium removal.

$Analysis conducted using more specific Am separation and radiocounting methodology.

6.4.2 Tank 39H Salt and Organic Species

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Na	0.45 µ (No AMP)	ICPES	M	6.07E+00	±	6.07E-01	6.00E+00	±	6.00E-01	6.08E+00	±	6.08E-01	6.05E+00	4.36E-02
Na	0.45 µ (AMP)	ICPES	M	6.47E+00	±	6.47E-01	6.42E+00	±	6.42E-01	6.45E+00	±	6.45E-01	6.45E+00	2.52E-02
Na	0.45 µ (AMP)	AA	M		NA			NA			NA		NA	NA
K	unfiltered	ICPES	M	<1.34E-01	±	mdl	< 1.62E-01	±	mdl		NA		< 1.34E-01	mdl
K	0.45 µ (AMP)	ICPES	M	5.86E-02	±	5.86E-03	9.64E-02	±	9.64E-03	3.94E-02	±	3.94E-03	6.48E-02	2.90E-02
K	0.45 µ (No AMP)	AA	M		NA			NA			NA		NA	NA
Al	0.45 µ (No AMP)	ICPES	M	3.07E-01	±	3.07E-02	3.05E-01	±	3.05E-02	3.09E-01	±	3.09E-02	3.09E-01	3.09E-02
As	0.45 µ (AMP)	AA	mg/L	< 2.75E-01	±	mdl	< 2.75E-01	±	mdl		NA		< 2.75E-01	mdl
Se	0.45 µ (AMP)	AA	mg/L	< 1.86E+00	±	mdl	< 1.86E+00	±	mdl		NA		< 1.86E+00	mdl
Hg	0.45 µ (AMP)	AA	mg/L	< 6.04E-01	±	mdl	< 6.04E-01	±	mdl		NA		< 6.04E-01	mdl
Total Base	unfiltered	Titration	M	3.12E+00	±	3.12E-01	2.98E+00	±	2.98E-01	2.84E+00	±	2.84E-01	2.98E+00	1.42E-01
Free OH-	unfiltered	Titration	M	2.32E+00	±	2.32E-01	2.40E+00	±	2.40E-01	2.18E+00	±	2.18E-01	2.30E+00	1.11E-01
CO32-	unfiltered	Titration	M	< 3.90E-02	±	mdl	< 3.90E-02	±	mdl	< 4.00E-02	±	mdl	< 3.90E-02	mdl
Al(OH)4-	unfiltered	Titration	M	6.73E-01	±	6.73E-02	6.55E-01	±	6.55E-02	6.21E-01	±	6.21E-02	6.50E-01	2.64E-02
NO3-	unfiltered	IC	M	2.30E+00	±	2.30E-01		NA			NA		2.30E+00	2.30E-01
NO2-	unfiltered	IC	M	4.92E-01	±	4.92E-02		NA			NA		4.92E-01	4.92E-02
SO42-	unfiltered	IC	M	9.05E-02	±	9.05E-03		NA			NA		9.05E-02	9.05E-03
PO43-	unfiltered	IC	M	< 2.38E-02	±	mdl		NA			NA		< 2.38E-02	mdl
F-	unfiltered	IC	M	< 2.38E-02	±	mdl		NA			NA		< 2.38E-02	mdl
Cl-	unfiltered	IC	M	< 1.28E-02	±	mdl		NA			NA		< 1.28E-02	mdl
Br-	unfiltered	IC	M		NA			NA			NA		NA	NA
C2O42-	unfiltered	IC	M		NA			NA			NA		NA	NA
CHO2	unfiltered	IC	M		NA			NA			NA		NA	NA
TBP	unfiltered	IC	mg/L	< 1.06E+00	±	mdl		NA			NA		< 1.06E+00	mdl
DBP	unfiltered	IC	mg/L	< 1.09E+02	±	mdl		NA			NA		< 1.09E+02	mdl
VOA	unfiltered	GC-MS	mg/L	9.77E+00	±	9.77E-01		NA			NA		9.77E+00	9.77E-01
SVOA	unfiltered	GC-MS	mg/L	< 2.12E+01	±	mdl		NA			NA		< 2.12E+01	mdl
TIC	unfiltered	Titration	mg/L	5.76E+02	±	1.44E+02	6.50E+02	±	1.63E+02	8.51E+02	±	4.26E+02	6.92E+02	1.42E+02
TOC	unfiltered	Titration	mg/L	1.36E+03	±	3.40E+02	1.11E+03	±	2.77E+02	5.77E+02	±	2.89E+02	1.01E+03	3.99E+02
Total C	unfiltered	Titration	mg/L	1.93E+03	±	4.84E+02	1.76E+03	±	4.39E+02	1.43E+03	±	7.15E+02	1.71E+03	2.56E+02

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.4.3 Tank 39H ICP-ES Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 8.22E+00 mdl	< 9.96E+00 ± mdl	NA	< 8.22E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	< 4.39E-01 ± mdl	< 4.39E-01 ± mdl	< 4.39E-01 ± mdl	< 4.39E-01	mdl
Ag	0.1 µ (AMP)	ICPES	mg/L	2.99E-01 ± 2.99E-02	3.09E-01 ± 3.09E-02	2.99E-01 ± 2.99E-02	3.02E-01	5.77E-03
Ag	0.02 µ (AMP)	ICPES	mg/L	2.44E-01 ± 2.44E-02	3.80E-01 ± 3.80E-02	4.18E-01 ± 4.18E-02	3.47E-01	9.15E-02
Al	unfiltered	ICPES	M	3.49E-01 ± 3.49E-02	3.47E-01 ± 3.47E-02	NA	3.48E-01	1.77E-03
Al	0.45 µ (AMP)	ICPES	M	< 5.04E-04 ± mdl	< 5.04E-04 ± mdl	< 5.04E-04 ± mdl	< 5.04E-04	mdl
Al	0.1 µ (AMP)	ICPES	M	3.30E-01 ± 3.30E-02	3.29E-01 ± 3.29E-02	3.30E-01 ± 3.30E-02	3.30E-01	5.77E-04
Al	0.02 µ (AMP)	ICPES	M	3.11E-01 ± 3.11E-02	3.13E-01 ± 3.13E-02	3.13E-01 ± 3.13E-02	3.12E-01	1.15E-03
B	unfiltered	ICPES	mg/L	< 8.88E+02 ± mdl	< 1.08E+03 ± mdl	NA	< 8.88E+02	mdl
B	0.45 µ (AMP)	ICPES	mg/L	< 7.25E+00 ± mdl	< 7.25E+00 ± mdl	< 7.25E+00 ± mdl	< 7.25E+00	mdl
B	0.1 µ (AMP)	ICPES	mg/L	2.15E+02 ± 2.15E+01	2.15E+02 ± 2.15E+01	2.15E+02 ± 2.15E+01	2.15E+02	0.00E+00
B	0.02 µ (AMP)	ICPES	mg/L	2.09E+02 ± 2.09E+01	2.09E+02 ± 2.09E+01	2.09E+02 ± 2.09E+01	2.09E+02	0.00E+00
Ba	unfiltered	ICPES	mg/L	< 8.22E+00 ± mdl	< 9.96E+00 ± mdl	NA	< 8.22E+00	mdl
Ba	0.45 µ (AMP)	ICPES	mg/L	1.26E+00 ± 1.26E-01	1.43E+00 ± 1.43E-01	1.35E+00 ± 1.35E-01	1.35E+00	8.50E-02
Ba	0.1 µ (AMP)	ICPES	mg/L	1.08E+00 ± 1.08E-01	1.21E+00 ± 1.21E-01	1.22E+00 ± 1.22E-01	1.17E+00	7.81E-02
Ba	0.02 µ (AMP)	ICPES	mg/L	7.97E-01 ± 7.97E-02	8.90E-01 ± 8.90E-02	1.06E+00 ± 1.06E-01	9.16E-01	1.33E-01
Ca	unfiltered	ICPES	mg/L	< 2.48E+02 ± mdl	< 3.01E+02 ± mdl	NA	< 2.48E+02	mdl
Ca	0.45 µ (AMP)	ICPES	mg/L	4.92E+01 ± 4.92E+00	4.75E+01 ± 4.75E+00	4.78E+01 ± 4.78E+00	4.82E+01	9.07E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	4.26E+01 ± 4.26E+00	4.29E+01 ± 4.29E+00	4.32E+01 ± 4.32E+00	4.29E+01	3.00E-01
Ca	0.02 µ (AMP)	ICPES	mg/L	4.12E+01 ± 4.12E+00	4.13E+01 ± 4.13E+00	4.18E+01 ± 4.18E+00	4.14E+01	3.21E-01
Cd	unfiltered	ICPES	mg/L	< 1.10E+01 ± mdl	< 1.33E+01 ± mdl	NA	< 1.10E+01	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	< 1.32E+00 ± mdl	< 1.32E+00 ± mdl	< 1.32E+00 ± mdl	< 1.32E+00	mdl
Cd	0.1 µ (AMP)	ICPES	mg/L	< 6.63E-01 ± mdl	< 6.62E-01 ± mdl	< 6.64E-01 ± mdl	< 6.62E-01	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 6.51E-01 ± mdl	< 6.51E-01 ± mdl	< 6.51E-01 ± mdl	< 6.51E-01	mdl
Ce	unfiltered	ICPES	mg/L	< 1.36E+02 ± mdl	< 1.65E+02 ± mdl	NA	< 1.36E+02	mdl
Ce	0.45 µ (AMP)	ICPES	mg/L	2.03E+01 ± 2.03E+00	2.42E+01 ± 2.42E+00	2.39E+01 ± 2.39E+00	2.28E+01	2.17E+00
Ce	0.1 µ (AMP)	ICPES	mg/L	1.63E+01 ± 1.63E+00	1.71E+01 ± 1.71E+00	1.68E+01 ± 1.68E+00	1.67E+01	4.04E-01
Ce	0.02 µ (AMP)	ICPES	mg/L	1.11E+01 ± 1.11E+00	1.25E+01 ± 1.25E+00	1.39E+01 ± 1.39E+00	1.25E+01	1.40E+00
Cr	unfiltered	ICPES	mg/L	8.93E+01 ± 8.93E+00	8.83E+01 ± 8.83E+00	NA	8.88E+01	7.07E-01
Cr	0.45 µ (AMP)	ICPES	mg/L	< 4.39E+00 ± mdl	< 4.39E+00 ± mdl	< 4.39E+00 ± mdl	< 4.39E+00	mdl
Cr	0.1 µ (AMP)	ICPES	mg/L	1.00E+02 ± 1.00E+01	9.99E+01 ± 9.99E+00	9.90E+01 ± 9.90E+00	9.96E+01	5.51E-01
Cr	0.02 µ (AMP)	ICPES	mg/L	9.60E+01 ± 9.60E+00	9.66E+01 ± 9.66E+00	9.66E+01 ± 9.66E+00	9.64E+01	3.46E-01
Cu	unfiltered	ICPES	mg/L	< 1.70E+01 ± mdl	< 2.06E+01 ± mdl	NA	< 1.70E+01	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	< 1.10E+00 ± mdl	< 1.10E+00 ± mdl	< 1.10E+00 ± mdl	< 1.10E+00	mdl
Cu	0.1 µ (AMP)	ICPES	mg/L	5.86E-01 ± 5.86E-02	7.12E-01 ± 7.12E-02	6.75E-01 ± 6.75E-02	6.58E-01	6.48E-02
Cu	0.02 µ (AMP)	ICPES	mg/L	8.90E-01 ± 8.90E-02	8.62E-01 ± 8.62E-02	9.87E-01 ± 9.87E-02	9.13E-01	6.56E-02
Fe	unfiltered	ICPES	mg/L	< 1.21E+01 ± mdl	< 1.46E+01 ± mdl	NA	< 1.21E+01	mdl
Fe	0.45 µ (AMP)	ICPES	mg/L	1.44E+01 ± 1.44E+00	6.53E+00 ± 6.53E-01	1.92E+00 ± 1.92E-01	7.62E+00	6.31E+00
Fe	0.1 µ (AMP)	ICPES	mg/L	6.97E+00 ± 6.97E-01	7.29E+00 ± 7.29E-01	7.30E+00 ± 7.30E-01	7.19E+00	1.88E-01
Fe	0.02 µ (AMP)	ICPES	mg/L	7.00E+00 ± 7.00E-01	7.21E+00 ± 7.21E-01	7.92E+00 ± 7.92E-01	7.38E+00	4.82E-01
Gd	unfiltered	ICPES	mg/L	< 1.48E+01 ± mdl	< 1.79E+01 ± mdl	NA	< 1.48E+01	mdl
Gd	0.45 µ (AMP)	ICPES	mg/L	2.41E+00 ± 2.41E-01	2.76E+00 ± 2.76E-01	2.78E+00 ± 2.78E-01	2.65E+00	2.08E-01
Gd	0.1 µ (AMP)	ICPES	mg/L	2.05E+00 ± 2.05E-01	2.11E+00 ± 2.11E-01	2.10E+00 ± 2.10E-01	2.09E+00	3.21E-02
Gd	0.02 µ (AMP)	ICPES	mg/L	1.28E+00 ± 1.28E-01	1.46E+00 ± 1.46E-01	1.59E+00 ± 1.59E-01	1.44E+00	1.56E-01
K	0.45	ICPES	M	< 1.34E-01 ± mdl	< 1.62E-01 ± mdl	NA	< 1.34E-01	mdl
K	0.45 µ (AMP)	ICPES	M	5.86E-03 ± 5.86E-04	9.64E-03 ± 9.64E-04	3.94E-03 ± 3.94E-04	6.48E-03	2.90E-03
K	0.1 µ (AMP)	ICPES	M	1.97E-02 ± 1.97E-03	2.00E-02 ± 2.00E-03	2.01E-02 ± 2.01E-03	1.99E-02	2.08E-04
K	0.02 µ (AMP)	ICPES	M	1.91E-02 ± 1.91E-03	1.98E-02 ± 1.98E-03	2.18E-02 ± 2.18E-03	2.02E-02	1.40E-03
La	unfiltered	ICPES	mg/L	< 1.10E+01 ± mdl	< 1.33E+01 ± mdl	NA	< 1.10E+01	mdl
La	0.45 µ (AMP)	ICPES	mg/L	2.99E+00 ± 2.99E-01	3.10E+00 ± 3.10E-01	3.09E+00 ± 3.09E-01	3.06E+00	6.08E-02
La	0.1 µ (AMP)	ICPES	mg/L	2.46E+00 ± 2.46E-01	2.58E+00 ± 2.58E-01	2.53E+00 ± 2.53E-01	2.52E+00	6.03E-02
La	0.02 µ (AMP)	ICPES	mg/L	1.36E+00 ± 1.36E-01	1.59E+00 ± 1.59E-01	1.83E+00 ± 1.83E-01	1.59E+00	2.35E-01
Li	unfiltered	ICPES	mg/L	< 4.66E+01 ± mdl	< 5.64E+01 ± mdl	NA	< 4.66E+01	mdl
Li	0.45 µ (AMP)	ICPES	mg/L	5.55E+00 ± 5.55E-01	6.70E+00 ± 6.70E-01	6.59E+00 ± 6.59E-01	6.28E+00	6.35E-01
Li	0.1 µ (AMP)	ICPES	mg/L	4.30E+00 ± 4.30E-01	4.42E+00 ± 4.42E-01	4.38E+00 ± 4.38E-01	4.37E+00	6.11E-02
Li	0.02 µ (AMP)	ICPES	mg/L	2.76E+00 ± 2.76E-01	3.28E+00 ± 3.28E-01	3.77E+00 ± 3.77E-01	3.27E+00	5.05E-01
Mg	unfiltered	ICPES	mg/L	< 3.40E+01 ± mdl	< 4.12E+01 ± mdl	NA	< 3.40E+01	mdl
Mg	0.45 µ (AMP)	ICPES	mg/L	7.58E+00 ± 7.58E-01	7.58E+00 ± 7.58E-01	8.46E+00 ± 8.46E-01	7.87E+00	5.08E-01
Mg	0.1 µ (AMP)	ICPES	mg/L	8.13E+00 ± 8.13E-01	8.17E+00 ± 8.17E-01	8.19E+00 ± 8.19E-01	8.16E+00	3.06E-02
Mg	0.02 µ (AMP)	ICPES	mg/L	7.87E+00 ± 7.87E-01	7.87E+00 ± 7.87E-01	7.87E+00 ± 7.87E-01	7.87E+00	0.00E+00
Mn	unfiltered	ICPES	mg/L	< 1.21E+01 ± mdl	< 1.46E+01 ± mdl	NA	< 1.21E+01	mdl
Mn	0.45 µ (AMP)	ICPES	mg/L	< 3.29E-01 ± mdl	< 3.29E-01 ± mdl	< 3.29E-01 ± mdl	< 3.29E-01	mdl
Mn	0.1 µ (AMP)	ICPES	mg/L	3.70E-01 ± 3.70E-02	4.03E-01 ± 4.03E-02	4.31E-01 ± 4.31E-02	4.01E-01	3.05E-02
Mn	0.02 µ (AMP)	ICPES	mg/L	4.12E-01 ± 4.12E-02	4.45E-01 ± 4.45E-02	5.70E-01 ± 5.70E-02	4.76E-01	8.33E-02

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Mo	unfiltered	ICPES	mg/L	< 1.12E+02 ± mdl	< 1.35E+02 ± mdl	NA	< 1.12E+02	mdl
Mo	0.45 µ (AMP)	ICPES	mg/L	8.73E+00 ± 8.73E-01	9.83E+00 ± 9.83E-01	8.62E+00 ± 8.62E-01	9.06E+00	6.69E-01
Mo	0.1 µ (AMP)	ICPES	mg/L	3.80E+01 ± 3.80E+00	3.64E+01 ± 3.64E+00	3.55E+01 ± 3.55E+00	3.66E+01	1.27E+00
Mo	0.02 µ (AMP)	ICPES	mg/L	3.36E+01 ± 3.36E+00	3.62E+00 ± 3.62E-01	3.41E+01 ± 3.41E+00	2.38E+01	1.75E+01
Na	unfiltered	ICPES	M	6.84E+00 ± 6.84E-01	6.70E+00 ± 6.70E-01	NA	6.77E+00	9.90E-02
Na	0.45 µ (AMP)	ICPES	M	6.47E+00 ± 6.47E-01	6.42E+00 ± 6.42E-01	6.45E+00 ± 6.45E-01	6.45E+00	2.52E-02
Na	0.1 µ (AMP)	ICPES	M	5.84E+00 ± 5.84E-01	5.64E+00 ± 5.64E-01	5.31E+00 ± 5.31E-01	5.60E+00	2.68E-01
Na	0.02 µ (AMP)	ICPES	M	6.11E+00 ± 6.11E-01	6.08E+00 ± 6.08E-01	6.06E+00 ± 6.06E-01	6.08E+00	2.52E-02
Ni	unfiltered	ICPES	mg/L	< 4.11E+01 ± mdl	< 4.98E+01 ± mdl	NA	< 4.11E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	5.16E+00 ± 5.16E-01	< 4.94E+00 ± mdl	< 4.94E+00 ± mdl	5.01E+00	2.98E+00
Ni	0.1 µ (AMP)	ICPES	mg/L	2.53E+00 ± 2.53E-01	< 2.48E+00 ± mdl	< 2.49E+00 ± mdl	2.50E+00	1.46E+00
Ni	0.02 µ (AMP)	ICPES	mg/L	< 2.44E+00 ± mdl	3.06E+00 ± 3.06E-01	2.49E+00 ± 2.49E-01	2.66E+00	1.63E+00
P	unfiltered	ICPES	mg/L	< 2.66E+02 ± mdl	< 3.22E+02 ± mdl	NA	< 2.66E+02	mdl
P	0.45 µ (AMP)	ICPES	mg/L	< 4.60E+01 ± mdl	< 4.60E+01 ± mdl	< 4.60E+01 ± mdl	< 4.60E+01	mdl
P	0.1 µ (AMP)	ICPES	mg/L	1.44E+02 ± 1.44E+01	1.48E+02 ± 1.48E+01	1.42E+02 ± 1.42E+01	1.45E+02	3.06E+00
P	0.02 µ (AMP)	ICPES	mg/L	1.41E+02 ± 1.41E+01	1.45E+02 ± 1.45E+01	1.44E+02 ± 1.44E+01	1.43E+02	2.08E+00
Pb	unfiltered	ICPES	mg/L	< 1.35E+02 ± mdl	< 1.63E+02 ± mdl	NA	< 1.35E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 3.14E+01 ± mdl	< 3.14E+01 ± mdl	< 3.14E+01 ± mdl	< 3.14E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 1.58E+01 ± mdl	< 1.58E+01 ± mdl	< 1.58E+01 ± mdl	< 1.58E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 1.55E+01 ± mdl	< 1.55E+01 ± mdl	< 1.55E+01 ± mdl	< 1.55E+01	mdl
S	unfiltered	ICPES	mg/L	3.48E+03 ± 3.48E+02	3.36E+03 ± 3.36E+02	NA	3.42E+03	8.49E+01
S	0.45 µ (AMP)	ICPES	mg/L	1.58E+01 ± 1.58E+00	1.67E+01 ± 1.67E+00	1.67E+01 ± 1.67E+00	1.64E+01	5.20E-01
S	0.1 µ (AMP)	ICPES	mg/L	3.73E+03 ± 3.73E+02	3.74E+03 ± 3.74E+02	3.69E+03 ± 3.69E+02	3.72E+03	2.65E+01
S	0.02 µ (AMP)	ICPES	mg/L	3.69E+03 ± 3.69E+02	3.70E+03 ± 3.70E+02	3.72E+03 ± 3.72E+02	3.70E+03	1.53E+01
Sb	unfiltered	ICPES	mg/L	< 8.28E+01 ± mdl	< 1.00E+02 ± mdl	NA	< 8.28E+01	mdl
Sb	0.45 µ (AMP)	ICPES	mg/L	< 7.80E+00 ± mdl	< 7.80E+00 ± mdl	< 7.80E+00 ± mdl	< 7.80E+00	mdl
Sb	0.1 µ (AMP)	ICPES	mg/L	2.75E+01 ± 2.75E+00	2.73E+01 ± 2.73E+00	2.75E+01 ± 2.75E+00	2.74E+01	1.15E-01
Sb	0.02 µ (AMP)	ICPES	mg/L	2.58E+01 ± 2.58E+00	2.74E+01 ± 2.74E+00	2.69E+01 ± 2.69E+00	2.67E+01	8.36E-01
Si	unfiltered	ICPES	mg/L	< 2.03E+01 ± mdl	< 2.46E+01 ± mdl	NA	< 2.03E+01	mdl
Si	0.45 µ (AMP)	ICPES	mg/L	< 2.75E+00 ± mdl	< 2.75E+00 ± mdl	< 2.75E+00 ± mdl	< 2.75E+00	mdl
Si	0.1 µ (AMP)	ICPES	mg/L	1.07E+01 ± 1.07E+00	1.09E+01 ± 1.09E+00	1.09E+01 ± 1.09E+00	1.08E+01	1.15E-01
Si	0.02 µ (AMP)	ICPES	mg/L	9.66E+00 ± 9.66E-01	9.66E+00 ± 9.66E-01	9.66E+00 ± 9.66E-01	9.66E+00	0.00E+00
Sn	unfiltered	ICPES	mg/L	< 1.34E+02 ± mdl	< 1.63E+02 ± mdl	NA	< 1.34E+02	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	1.31E+01 ± 1.31E+00	1.35E+01 ± 1.35E+00	1.48E+01 ± 1.48E+00	1.38E+01	8.89E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	1.36E+01 ± 1.36E+00	1.42E+01 1.42E+00	1.43E+01 ± 1.43E+00	1.40E+01	3.79E-01
Sn	0.02 µ (AMP)	ICPES	mg/L	1.38E+01 ± 1.38E+00	1.22E+01 1.22E+00	1.43E+01 ± 1.43E+00	1.34E+01	1.10E+00
Sr	unfiltered	ICPES	mg/L	< 5.48E+01 ± mdl	< 6.64E+01 ± mdl	NA	< 5.48E+01	mdl
Sr	0.45 µ (AMP)	ICPES	mg/L	1.11E+01 ± 1.11E+00	1.08E+01 ± 1.08E+00	1.09E+01 ± 1.09E+00	1.09E+01	1.53E-01
Sr	0.1 µ (AMP)	ICPES	mg/L	1.11E+01 ± 1.11E+00	1.11E+01 ± 1.11E+00	1.12E+01 ± 1.12E+00	1.11E+01	5.77E-02
Sr	0.02 µ (AMP)	ICPES	mg/L	9.71E+00 ± 9.71E-01	9.98E+00 ± 9.98E-01	9.87E+00 ± 9.87E-01	9.85E+00	1.36E-01
Ti	unfiltered	ICPES	mg/L	< 3.29E+00 ± mdl	< 3.98E+00 ± mdl	NA	< 3.29E+00	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 1.43E+00 ± mdl	< 1.43E+00 ± mdl	< 1.43E+00 ± mdl	< 1.43E+00	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 7.19E-01 ± mdl	< 7.18E-01 ± mdl	< 7.19E-01 ± mdl	< 7.18E-01	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 7.05E-01 ± mdl	< 7.05E-01 ± mdl	< 7.05E-01 ± mdl	< 7.05E-01	mdl
U	unfiltered	ICPES	mg/L	< 4.14E+02 ± mdl	< 5.01E+02 ± mdl	NA	< 4.14E+02	mdl
U	0.45 µ (AMP)	ICPES	mg/L	4.52E+01 ± 4.52E+00	5.44E+01 ± 5.44E+00	5.11E+01 ± 5.11E+00	5.02E+01	4.66E+00
U	0.1 µ (AMP)	ICPES	mg/L	3.96E+01 ± 3.96E+00	4.18E+01 4.18E+00	4.65E+02 ± 4.65E+01	1.82E+02	2.45E+02
U	0.02 µ (AMP)	ICPES	mg/L	2.96E+01 ± 2.96E+00	3.43E+01 3.43E+00	3.67E+01 ± 3.67E+00	3.35E+01	3.61E+00
V	unfiltered	ICPES	mg/L	< 6.03E+00 ± mdl	< 7.30E+00 ± mdl	NA	< 6.03E+00	mdl
V	0.45 µ (AMP)	ICPES	mg/L	< 1.21E+00 ± mdl	< 1.21E+00 ± mdl	< 1.21E+00 ± mdl	< 1.21E+00	mdl
V	0.1 µ (AMP)	ICPES	mg/L	3.88E+00 ± 3.88E-01	4.26E+00 ± 4.26E-01	3.59E+00 ± 3.59E-01	3.91E+00	3.36E-01
V	0.02 µ (AMP)	ICPES	mg/L	3.70E+00 ± 3.70E-01	3.99E+00 ± 3.99E-01	4.12E+00 ± 4.12E-01	3.94E+00	2.15E-01
Zn	unfiltered	ICPES	mg/L	< 3.01E+01 ± mdl	< 3.65E+01 ± mdl	NA	< 3.01E+01	mdl
Zn	0.45 µ (AMP)	ICPES	mg/L	< 2.20E-01 ± mdl	< 2.20E-01 mdl	< 2.20E-01 ± mdl	< 2.20E-01	mdl
Zn	0.1 µ (AMP)	ICPES	mg/L	1.68E+00 ± 1.68E-01	1.73E+00 1.73E-01	1.71E+00 ± 1.71E-01	1.71E+00	2.52E-02
Zn	0.02 µ (AMP)	ICPES	mg/L	3.27E+00 ± 3.27E-01	3.34E+00 3.34E-01	3.36E+00 ± 3.36E-01	3.32E+00	4.73E-02
Zr	unfiltered	ICPES	mg/L	< 6.58E+00 ± mdl	< 7.97E+01 ± mdl	NA	< 6.58E+00	mdl
Zr	0.45 µ (AMP)	ICPES	mg/L	< 1.54E+00 ± mdl	< 1.54E+00 ± mdl	< 1.54E+00 ± mdl	< 1.54E+00	mdl
Zr	0.1 µ (AMP)	ICPES	mg/L	< 7.74E-01 ± mdl	< 7.74E-01 ± mdl	< 7.74E-01 ± mdl	< 7.74E-01	mdl
Zr	0.02 µ (AMP)	ICPES	mg/L	< 7.59E-01 ± mdl	< 7.59E-01 ± mdl	< 7.59E-01 ± mdl	< 7.59E-01	mdl

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.4.4 Tank 39H ICP-MS Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Zr	acid digested	ICP-MS	mg/L	9.01E-01 ± 2.25E-01	8.93E-01 ± 2.23E-01	8.76E-01 ± 2.19E-01	8.90E-01	1.29E-02
Zr	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Zr	0.1 µ (AMP)	ICP-MS	mg/L	2.25E-01 ± 5.63E-02	3.90E-01 ± 9.75E-02	3.82E-01 ± 9.55E-02	3.32E-01	9.30E-02
Zr	0.02 µ (AMP)	ICP-MS	mg/L	4.71E-01 ± 1.18E-01	5.16E-01 ± 1.29E-01	4.65E-01 ± 1.16E-01	4.84E-01	2.81E-02
Tc-99	acid digested	ICP-MS	mg/L	8.67E+00 ± 2.17E+00	8.60E+00 ± 2.15E+00	8.51E+00 ± 1.32E+00	8.59E+00	8.02E-02
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	4.32E+00 ± 1.08E+00	8.79E+00 ± 2.20E+00	9.06E+00 ± 2.27E+00	7.39E+00	2.66E+00
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	9.39E+00 ± 2.35E+00	9.15E+00 ± 2.29E+00	9.19E+00 ± 2.30E+00	9.24E+00	1.29E-01
Tc-99	acid digested	ICP-MS	pCi/mL	1.47E+05 ± 3.68E+04	1.46E+05 ± 3.65E+04	1.44E+05 ± 3.60E+04	1.46E+05	1.53E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	7.32E+04 ± 1.83E+04	1.49E+05 ± 3.73E+04	1.54E+05 ± 3.85E+04	1.25E+05	4.53E+04
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	1.59E+05 ± 3.98E+04	1.55E+05 ± 3.88E+04	1.56E+05 ± 3.90E+04	1.57E+05	2.22E+03
Mo	acid digested	ICP-MS	mg/L	2.07E+01 ± 5.18E+00	2.11E+01 ± 5.28E+00	2.07E+01 ± 5.18E+00	2.08E+01	2.31E-01
Mo	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Mo	0.1 µ (AMP)	ICP-MS	mg/L	1.17E+01 ± 2.93E+00	2.35E+01 ± 5.88E+00	2.47E+01 ± 6.18E+00	2.00E+01	7.18E+00
Mo	0.02 µ (AMP)	ICP-MS	mg/L	2.50E+01 ± 6.26E+00	2.47E+01 ± 6.18E+00	2.45E+01 ± 6.12E+00	2.48E+01	2.65E-01
Ag	acid digested	ICP-MS	mg/L	2.58E-01 ± 6.45E-02	2.89E-01 ± 7.23E-02	3.20E-01 ± 8.00E-02	2.89E-01	3.10E-02
Ag	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Ag	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ag	0.02 µ (AMP)	ICP-MS	mg/L	7.21E-02 ± 1.80E-02	bdl ± bdl	bdl ± bdl	7.21E-02	1.80E-02
Pd	acid digested	ICP-MS	mg/L	4.25E-01 ± 1.06E-01	2.80E-01 ± 7.00E-02	6.86E-01 ± 1.72E-01	4.64E-01	2.06E-01
Pd	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Pd	0.1 µ (AMP)	ICP-MS	mg/L	8.73E-03 ± 2.18E-03	1.46E-02 ± 3.65E-03	2.10E-02 ± 5.25E-03	1.48E-02	6.14E-03
Pd	0.02 µ (AMP)	ICP-MS	mg/L	1.92E-02 ± 4.81E-03	2.88E-02 ± 7.20E-03	2.15E-02 ± 5.38E-03	2.32E-02	5.00E-03
Rh	acid digested	ICP-MS	mg/L	1.04E+00 ± 2.60E-01	1.10E+00 ± 2.75E-01	1.09E+00 ± 2.73E-01	1.08E+00	3.21E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Rh	0.1 µ (AMP)	ICP-MS	mg/L	5.84E-01 ± 1.46E-01	1.15E+00 ± 2.88E-01	1.19E+00 ± 2.98E-01	9.75E-01	3.39E-01
Rh	0.02 µ (AMP)	ICP-MS	mg/L	1.29E+00 ± 3.24E-01	1.26E+00 ± 3.15E-01	1.26E+00 ± 3.14E-01	1.27E+00	2.09E-02
Ru	acid digested	ICP-MS	mg/L	3.25E+00 ± 8.13E-01	3.34E+00 ± 8.35E-01	3.32E+00 ± 8.30E-01	3.30E+00	4.73E-02
Ru	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Ru	0.1 µ (AMP)	ICP-MS	mg/L	1.81E+00 ± 4.53E-01	3.58E+00 ± 8.95E-01	3.65E+00 ± 9.13E-01	3.01E+00	1.04E+00
Ru	0.02 µ (AMP)	ICP-MS	mg/L	3.85E+00 ± 9.62E-01	3.79E+00 ± 9.48E-01	3.75E+00 ± 9.38E-01	3.80E+00	4.94E-02
Cd	acid digested	ICP-MS	mg/L	1.01E-01 ± 2.53E-02	8.77E-02 ± 2.19E-02	2.13E-01 ± 5.33E-02	1.34E-01	6.88E-02
Cd	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Cd	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	4.75E-02 ± 1.19E-02	6.20E-02 ± 1.55E-02	5.48E-02	1.03E-02
Cd	0.02 µ (AMP)	ICP-MS	mg/L	7.43E-02 ± 1.86E-02	4.70E-02 ± 1.17E-02	5.48E-02 ± 1.37E-02	5.87E-02	1.41E-02
Sn	acid digested	ICP-MS	mg/L	1.61E+00 ± 4.03E-01	1.58E+00 ± 3.95E-01	1.59E+00 ± 3.98E-01	1.59E+00	1.53E-02
Sn	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Sn	0.1 µ (AMP)	ICP-MS	mg/L	6.76E-01 ± 1.69E-01	1.31E+00 ± 3.28E-01	1.41E+00 ± 3.53E-01	1.13E+00	3.98E-01
Sn	0.02 µ (AMP)	ICP-MS	mg/L	1.26E+00 ± 3.16E-01	1.19E+00 ± 2.98E-01	1.31E+00 ± 3.28E-01	1.26E+00	6.10E-02
La	acid digested	ICP-MS	mg/L	3.20E-02 ± 8.00E-03	3.16E-02 ± 7.90E-03	3.19E-02 ± 7.98E-03	3.18E-02	2.08E-04
La	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
La	0.1 µ (AMP)	ICP-MS	mg/L	4.19E-03 ± 1.05E-03	7.98E-03 ± 2.00E-03	7.92E-03 ± 1.98E-03	6.70E-03	2.17E-03
La	0.02 µ (AMP)	ICP-MS	mg/L	1.96E-02 ± 4.90E-03	5.92E-03 ± 1.48E-03	9.84E-03 ± 2.46E-03	1.18E-02	7.05E-03
Ce	acid digested	ICP-MS	mg/L	6.43E-02 ± 1.61E-02	6.39E-02 ± 1.60E-02	6.02E-02 ± 1.51E-02	6.28E-02	2.26E-03
Ce	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Ce	0.1 µ (AMP)	ICP-MS	mg/L	7.89E-03 ± 1.97E-03	1.08E-02 ± 2.70E-03	1.19E-02 ± 2.98E-03	1.02E-02	2.07E-03
Ce	0.02 µ (AMP)	ICP-MS	mg/L	1.79E-02 ± 4.48E-03	1.43E-02 ± 3.58E-03	1.63E-02 ± 4.06E-03	1.62E-02	1.81E-03
W	acid digested	ICP-MS	mg/L	3.94E-01 ± 9.85E-02	4.23E-01 ± 1.06E-01	5.27E+00 ± 1.32E+00	2.03E+00	2.81E+00
W	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
W	0.1 µ (AMP)	ICP-MS	mg/L	1.71E-01 ± 4.28E-02	3.46E-01 ± 8.65E-02	3.77E-01 ± 9.43E-02	2.98E-01	1.11E-01
W	0.02 µ (AMP)	ICP-MS	mg/L	4.51E-01 ± 1.13E-01	4.20E-01 ± 1.05E-01	4.00E-01 ± 1.00E-01	4.24E-01	2.56E-02

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Re	acid digested	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Re	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Re	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Re	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Os	acid digested	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Os	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ir	acid digested	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ir	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Ir	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Ir	0.02 µ (AMP)	ICP-MS	mg/L	2.55E-03 ± 6.38E-04	1.29E-03 ± 3.23E-04	1.47E-03 ± 3.68E-04	1.77E-03	6.81E-04
Pt	acid digested	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pt	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Pt	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pt	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Au	acid digested	ICP-MS	mg/L	2.17E+00 ± 5.43E-01	1.95E+00 ± 4.88E-01	2.12E+00 ± 5.30E-01	2.08E+00	1.15E-01
Au	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Au	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Au	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Hg	acid digested	ICP-MS	mg/L	4.08E+01 ± 1.02E+01	4.20E+01 ± 1.05E+01	4.34E+01 ± 1.09E+01	4.21E+01	1.31E+00
Hg	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Hg	0.1 µ (AMP)	ICP-MS	mg/L	5.28E+00 ± 1.32E+00	9.83E+00 ± 2.46E+00	1.07E+01 ± 2.68E+00	8.60E+00	2.91E+00
Hg	0.02 µ (AMP)	ICP-MS	mg/L	1.23E+01 ± 3.07E+00	1.26E+01 ± 3.15E+00	1.20E+01 ± 3.00E+00	1.23E+01	3.10E-01
Pb	acid digested	ICP-MS	mg/L	1.51E-01 ± 3.78E-02	1.54E-01 ± 3.85E-02	1.80E-01 ± 4.51E-02	1.62E-01	1.60E-02
Pb	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Pb	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	1.29E-01 ± 3.23E-02	2.53E-01 ± 6.33E-02	1.91E-01	8.77E-02
Pb	0.02 µ (AMP)	ICP-MS	mg/L	1.16E-01 ± 2.89E-02	1.02E-01 ± 2.56E-02	9.88E-02 ± 2.47E-02	1.06E-01	8.92E-03
U-235	acid digested	ICP-MS	mg/L	2.26E+00 ± 5.65E-01	2.28E+00 ± 5.71E-01	2.24E+00 ± 5.60E-01	2.26E+00	2.21E-02
U-235	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
U-235	0.1 µ (AMP)	ICP-MS	mg/L	8.92E-01 ± 2.23E-01	1.78E+00 ± 4.45E-01	1.81E+00 ± 4.53E-01	1.49E+00	5.22E-01
U-235	0.02 µ (AMP)	ICP-MS	mg/L	1.72E+00 ± 4.30E-01	1.81E+00 ± 4.54E-01	1.70E+00 ± 4.25E-01	1.75E+00	6.06E-02
U-238	acid digested	ICP-MS	mg/L	3.28E+00 ± 8.20E-01	3.32E+00 ± 8.31E-01	3.24E+00 ± 8.09E-01	3.28E+00	4.31E-02
U-238	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
U-238	0.1 µ (AMP)	ICP-MS	mg/L	1.66E+00 ± 4.15E-01	3.44E+00 ± 8.60E-01	3.44E+00 ± 8.60E-01	2.85E+00	1.03E+00
U-238	0.02 µ (AMP)	ICP-MS	mg/L	3.11E+00 ± 7.78E-01	3.11E+00 ± 7.78E-01	3.15E+00 ± 7.88E-01	3.12E+00	2.26E-02
Total U	acid digested	ICP-MS	mg/L	6.44E+00 NA	6.53E+00 NA	6.39E+00 NA	6.46E+00	7.35E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Total U	0.1 µ (AMP)	ICP-MS	mg/L	2.90E+00 NA	5.93E+00 NA	5.97E+00 NA	4.93E+00	1.76E+00
Total U	0.02 µ (AMP)	ICP-MS	mg/L	5.58E+00 NA	5.69E+00 NA	5.61E+00 NA	5.63E+00	5.57E-02

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
% U235	acid digested	ICP-MS	%	3.51E+01 ± 8.78E+00	3.50E+01 ± 8.74E+00	3.51E+01 ± 8.77E+00	3.50E+01	8.19E-02
% U238	acid digested	ICP-MS	%	5.09E+01 ± 1.27E+01	5.08E+01 ± 1.27E+01	5.07E+01 ± 1.27E+01	5.08E+01	1.42E-01
% U235	0.45 µ (AMP)	ICP-MS	%	NA	NA	NA	NA	NA
% U238	0.45 µ (AMP)	ICP-MS	%	NA	NA	NA	NA	NA
% U235	0.1 µ (AMP)	ICP-MS	%	3.07E+01 ± 7.69E+00	3.00E+01 ± 7.51E+00	3.03E+01 ± 7.59E+00	3.04E+01	3.56E-01
% U238	0.1 µ (AMP)	ICP-MS	%	5.73E+01 ± 1.43E+01	5.80E+01 ± 1.45E+01	5.76E+01 ± 1.44E+01	5.76E+01	3.62E-01
% U235	0.02 µ (AMP)	ICP-MS	%	3.08E+01 ± 7.71E+00	3.19E+01 ± 7.98E+00	3.03E+01 ± 7.58E+00	3.10E+01	8.18E-01
% U238	0.02 µ (AMP)	ICP-MS	%	5.57E+01 ± 1.39E+01	5.47E+01 ± 1.37E+01	5.61E+01 ± 1.40E+01	5.55E+01	7.27E-01
U-235	acid digested	ICP-MS	pCi/mL	4.92E+00 ± 1.23E+00	4.97E+00 ± 1.24E+00	4.87E+00 ± 1.22E+00	4.92E+00	4.80E-02
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	1.94E+00 ± 4.85E-01	3.88E+00 ± 9.69E-01	3.94E+00 ± 9.85E-01	3.25E+00	1.14E+00
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	3.74E+00 ± 9.36E-01	3.95E+00 ± 9.87E-01	3.70E+00 ± 9.25E-01	3.80E+00	1.32E-01
U-238	acid digested	ICP-MS	pCi/mL	1.09E+00 ± 2.73E-01	1.11E+00 ± 2.77E-01	1.08E+00 ± 2.69E-01	1.09E+00	1.43E-02
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	5.54E-01 ± 1.38E-01	1.15E+00 ± 2.87E-01	1.15E+00 ± 2.88E-01	9.50E-01	3.43E-01
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	1.04E+00 ± 2.59E-01	1.04E+00 ± 2.59E-01	1.05E+00 ± 2.62E-01	1.04E+00	7.54E-03
Np-237	acid digested	ICP-MS	mg/L	1.67E-01 ± 4.18E-02	1.75E-01 ± 4.36E-02	1.65E-01 ± 4.12E-02	1.69E-01	5.05E-03
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	8.92E-02 ± 2.23E-02	1.65E-01 ± 4.13E-02	1.79E-01 ± 4.48E-02	1.44E-01	4.83E-02
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	1.86E-01 ± 4.64E-02	2.02E-01 ± 5.04E-02	1.82E-01 ± 4.56E-02	1.90E-01	1.04E-02
Np-237	acid digested	ICP-MS	pCi/mL	1.18E+02 ± 2.95E+01	1.23E+02 ± 3.08E+01	1.16E+02 ± 2.90E+01	1.19E+02	3.56E+00
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	6.29E+01 ± 1.57E+01	1.17E+02 ± 2.93E+01	1.26E+02 ± 3.15E+01	1.02E+02	3.41E+01
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	1.31E+02 ± 3.27E+01	1.42E+02 ± 3.56E+01	1.28E+02 ± 3.21E+01	1.34E+02	7.36E+00
Pu-239	acid digested	ICP-MS	mg/L	5.38E-01 ± 1.35E-01	5.48E-01 ± 1.37E-01	5.41E-01 ± 1.35E-01	5.43E-01	5.14E-03
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	2.60E-01 ± 6.50E-02	5.17E-01 ± 1.29E-01	5.49E-01 ± 1.37E-01	4.42E-01	1.58E-01
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	4.97E-01 ± 1.24E-01	5.13E-01 ± 1.28E-01	5.11E-01 ± 1.28E-01	5.07E-01	8.72E-03
Pu-239	acid digested	ICP-MS	pCi/mL	3.30E+04 ± 8.26E+03	3.36E+04 ± 8.41E+03	3.32E+04 ± 8.30E+03	3.33E+04	3.16E+02
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	1.60E+04 ± 3.99E+03	3.17E+04 ± 7.93E+03	3.37E+04 ± 8.43E+03	2.71E+04	9.73E+03
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	3.05E+04 ± 7.63E+03	3.15E+04 ± 7.87E+03	3.14E+04 ± 7.84E+03	3.11E+04	5.35E+02
Pu-240	acid digested	ICP-MS	mg/L	7.32E-02 ± 1.83E-02	7.32E-02 ± 1.83E-02	6.77E-02 ± 1.69E-02	7.14E-02	3.18E-03
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	NA	NA	NA	NA	NA
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	3.31E-02 ± 8.28E-03	6.69E-02 ± 1.67E-02	6.63E-02 ± 1.66E-02	5.54E-02	1.93E-02
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	5.79E-02 ± 1.45E-02	6.60E-02 ± 1.65E-02	9.14E-02 ± 2.29E-02	7.17E-02	1.75E-02
Pu-240	acid digested	ICP-MS	pCi/mL	1.67E+04 ± 4.17E+03	1.67E+04 ± 4.17E+03	1.54E+04 ± 3.86E+03	1.63E+04	7.17E+02
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	NA	NA	NA	NA	NA
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	7.55E+03 ± 1.89E+03	1.59E+04 ± 3.98E+03	1.51E+04 ± 3.78E+03	1.29E+04	4.61E+03
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	1.32E+04 ± 3.30E+03	1.50E+04 ± 3.76E+03	2.08E+04 ± 5.20E+03	1.63E+04	3.97E+03

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.4.5 Tank 39H Radioactive Species No AMP

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	6.93E+08	±	1.11E+07	6.56E+08	±	1.06E+07	6.69E+08	±	1.08E+07	6.73E+08	6.24E+06	1.87E+07
^{90}Sr	0.45 µ (No AMP)	Rad	pCi/mL	3.72E+05	±	2.79E+04	4.04E+05	±	3.07E+04	4.08E+05	±	3.06E+04	3.95E+05	1.72E+04	1.99E+04
^{90}Sr	0.1 µ (No AMP)	Rad	pCi/mL	7.04E+05	±	5.49E+04	6.26E+05	±	4.69E+04		NA		6.65E+05	3.61E+04	5.56E+04
^{90}Sr	0.02 µ (No AMP)	Rad	pCi/mL	4.96E+05	±	3.77E+04	3.86E+05	±	2.90E+04	3.79E+05	±	2.73E+04	4.20E+05	1.83E+04	6.56E+04
^{238}Pu	0.45 µ (No AMP)	Rad	pCi/mL	8.42E+05	±	8.42E+04	8.95E+05	±	8.95E+04	7.63E+05	±	7.63E+04	8.34E+05	4.82E+04	6.64E+04
^{238}Pu	0.1 µ (No AMP)	Rad	pCi/mL	7.88E+05	±	2.15E+05	7.79E+05	±	2.28E+04		NA		7.84E+05	1.08E+05	6.09E+03
^{238}Pu	0.02 µ (No AMP)	Rad	pCi/mL	7.27E+05	±	2.04E+04	7.63E+05	±	1.97E+04	8.39E+05	±	2.19E+04	7.76E+05	1.19E+04	5.72E+04
$^{239/40}$Pu	0.45 µ (No AMP)	Rad	pCi/mL	7.82E+04	±	7.82E+03	1.06E+05	±	1.06E+04	4.59E+04	±	4.59E+03	7.66E+04	4.64E+03	2.99E+04
$^{239/40}$Pu	0.45 µ (No AMP)	ICP-MS	pCi/mL	5.24E+04	±	1.31E+04	4.40E+04	±	1.10E+04	4.45E+04	±	1.11E+04	4.70E+04	NA	4.71E+03
$^{239/40}$Pu	0.1 µ (No AMP)	Rad	pCi/mL	4.09E+04	±	1.64E+03	4.51E+04	±	2.71E+03		NA		4.30E+04	1.58E+03	2.97E+03
$^{239/40}$Pu	0.1 µ (No AMP)	ICP-MS	pCi/mL	3.04E+04	±	7.60E+03	3.32E+04	±	8.30E+03	3.30E+04	±	8.25E+03	3.22E+04	NA	1.56E+03
$^{239/40}$Pu	0.02 µ (No AMP)	Rad	pCi/mL	3.83E+04	±	1.42E+03	4.10E+04	±	1.55E+03	4.07E+04	±	1.90E+03	4.00E+04	9.46E+02	1.48E+03
$^{239/40}$Pu	0.02 µ (No AMP)	ICP-MS	pCi/mL	5.58E+04	±	1.40E+04	4.71E+04	±	1.18E+04	5.46E+04	±	1.37E+04	5.25E+04	NA	4.71E+03
^{241}Pu	0.45 µ (No AMP)	Rad	pCi/mL	9.65E+05	±	6.61E+04	5.33E+05	±	3.15E+04	5.00E+05	±	2.72E+04	6.66E+05	2.60E+04	2.59E+05
^{241}Pu	0.1 µ (No AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.02 µ (No AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
Total Pu	0.45 µ (No AMP)	Rad	pCi/mL	1.89E+06		NA	1.53E+06		NA	1.31E+06		NA	1.58E+06	NA	2.90E+05
Total Pu	0.1 µ (No AMP)	Rad	pCi/mL	8.29E+05		NA	8.25E+05		NA		NA		8.27E+05	NA	3.12E+03
Total Pu	0.02 µ (No AMP)	Rad	pCi/mL	7.65E+05		NA	8.04E+05		NA	8.80E+05		NA	8.16E+05	NA	5.82E+04
^{235}U	0.45 µ (No AMP)	ICP-MS	pCi/mL	4.47E+00	±	1.12E+00	3.69E+00	±	9.23E-01	3.86E+00	±	9.65E-01	4.01E+00	NA	4.08E-01
^{235}U	0.1 µ (No AMP)	ICP-MS	pCi/mL	4.31E+00	±	1.08E+00	4.28E+00	±	1.07E+00	4.29E+00	±	1.07E+00	4.30E+00	NA	1.62E-02
^{235}U	0.02 µ (No AMP)	ICP-MS	pCi/mL	3.11E+00	±	7.78E-01	3.31E+00	±	8.28E-01	3.46E+00	±	8.65E-01	3.29E+00	NA	1.76E-01
^{238}U	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.07E+00	±	2.69E-01	9.26E-01	±	2.31E-01	9.46E-01	±	2.36E-01	9.82E-01	NA	8.05E-02
^{238}U	0.1 µ (No AMP)	ICP-MS	pCi/mL	1.02E+00	±	2.54E-01	1.09E+00	±	2.72E-01	1.02E+00	±	2.55E-01	1.04E+00	NA	4.00E-02
^{238}U	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.31E+00	±	3.28E-01	1.02E+00	±	2.55E-01	1.04E+00	±	2.60E-01	1.12E+00	NA	1.62E-01
Total U	0.45 µ (No AMP)	ICP-MS	mg/L	6.12E+00		NA	5.19E+00		NA	5.30E+00		NA	5.54E+00	NA	5.08E-01
Total U	0.1 µ (No AMP)	ICP-MS	mg/L	5.88E+00		NA	6.03E+00		NA	5.81E+00		NA	5.91E+00	NA	1.12E-01
Total U	0.02 µ (No AMP)	ICP-MS	mg/L	6.00E+00		NA	5.28E+00		NA	5.39E+00		NA	5.56E+00	NA	3.88E-01
^{237}Np	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.07E+02	±	2.69E+01	1.27E+02	±	3.18E+01	1.21E+02	±	3.02E+01	1.18E+02	NA	9.98E+00
^{237}Np	0.1 µ (No AMP)	ICP-MS	pCi/mL	1.26E+02	±	3.16E+01	1.21E+02	±	3.03E+01	7.38E+01	±	1.84E+01	1.07E+02	NA	2.89E+01
^{237}Np	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.62E+02	±	4.05E+01	1.19E+02	±	2.98E+01	1.73E+02	±	4.33E+01	1.51E+02	NA	2.85E+01
^{241}Am	0.45 µ (No AMP)	Rad#	pCi/mL	1.50E+03	±	2.35E+02	1.51E+03	±	2.71E+02	1.29E+03	±	2.06E+02	1.43E+03	1.38E+02	1.23E+02
^{241}Am	0.1 µ (No AMP)	Rad$	pCi/mL	9.12E+02	±	2.49E+02	< 1.37E+03	±	mda		NA		9.12E+02	1.24E+02	2.49E+02
^{241}Am	0.02 µ (No AMP)	Rad$	pCi/mL	7.72E+02	±	2.29E+02	< 8.41E+02	±	mda	< 1.03E+03	±	mda	7.72E+02	7.62E+01	2.29E+02
^{242}Am	0.45 µ (No AMP)	Rad$	pCi/mL	< 2.16E+03	±	mda	< 2.72E+03	±	mda	< 1.61E+03	±	mda	< 1.61E+03	NA	mda
^{243}Am	0.45 µ (No AMP)	Rad$	pCi/mL	< 1.91E+02	±	mda	< 2.33E+02	±	mda	< 1.35E+02	±	mda	< 1.91E+02	NA	mda
^{99}Tc	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.41E+05	±	3.52E+04	1.30E+05	±	3.26E+04	1.29E+05	±	3.23E+04	1.34E+05	NA	6.43E+03
^{99}Tc	0.1 µ (No AMP)	ICP-MS	pCi/mL	1.48E+05	±	3.69E+04	1.51E+05	±	3.79E+04	1.51E+05	±	3.77E+04	1.50E+05	NA	2.08E+03
^{99}Tc	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.34E+05	±	3.35E+04	1.39E+05	±	3.48E+04	1.34E+05	±	3.35E+04	1.36E+05	NA	2.89E+03
Gross α	0.45 µ (No AMP)	Rad	pCi/mL	7.92E+05	±	7.92E+04	7.58E+05	±	7.58E+04	7.91E+05	±	7.91E+04	7.80E+05	4.51E+04	1.91E+04
Beta	0.45 µ (No AMP)	Rad	pCi/mL	7.43E+08	±	7.43E+07	7.36E+08	±	7.36E+07	7.51E+08	±	7.51E+07	7.43E+08	4.29E+07	7.17E+06
Tritium	acid digested	Rad	pCi/mL	1.04E+05	±	1.04E+04		NA			NA		1.04E+05	1.04E+04	1.04E+04
^{14}C	unfiltered	Rad	pCi/mL	1.55E+03	±	4.65E+02		NA			NA		1.55E+03	4.65E+02	4.65E+02
^{129}I	unfiltered	Rad	pCi/mL	< 4.56E+01	±	mda		NA			NA		< 4.56E+01	NA	mda
^{26}Al	acid digested	Rad	pCi/mL	< 1.03E+02	±	mda	< 1.18E+02	±	mda	< 1.69E+02	±	mda	< 1.03E+02	NA	mda
^{60}Co	acid digested	Rad	pCi/mL	3.34E+00	±	3.41E-01	2.83E+02	±	3.17E+01	2.85E+00	±	3.82E-01	9.64E+01	1.06E+01	1.62E+02
^{94}Nb	acid digested	Rad	pCi/mL	< 2.23E+02	±	mda	< 1.60E+02	±	mda	< 2.28E+02	±	mda	< 1.60E+02	NA	mda
^{106}Ru	acid digested	Rad	pCi/mL	5.57E+03	±	4.37E+02	5.96E+03	±	3.55E+02	4.79E+03	±	5.84E+02	5.44E+03	2.70E+02	5.98E+02
^{125}Sb	acid digested	Rad	pCi/mL	1.17E+04	±	2.20E+02	1.16E+04	±	1.94E+02	1.13E+04	±	2.34E+02	1.15E+04	1.25E+02	1.79E+02
^{126}Sb	acid digested	Rad	pCi/mL	1.06E+03	±	3.31E+01	1.06E+03	±	4.79E+01	1.11E+03	±	5.80E+01	1.07E+03	2.74E+01	2.70E+01
^{126}Sn	acid digested	Rad	pCi/mL	< 4.37E+02	±	mda	< 2.67E+02	±	mda	< 4.16E+02	±	mda	< 2.67E+02	NA	mda
^{144}Ce	acid digested	Rad	pCi/mL	< 1.20E+06	±	mda	< 8.24E+05	±	mda	< 1.21E+06	±	mda	< 8.24E+05	NA	mda
^{152}Eu	acid digested	Rad	pCi/mL	< 1.32E+03	±	mda	< 1.10E+03	±	mda	< 1.58E+03	±	mda	< 1.10E+03	NA	mda
^{154}Eu	acid digested	Rad	pCi/mL	6.43E+03	±	1.11E+02	3.17E+02	±	6.57E+01	1.99E+03	±	1.25E+02	2.91E+03	5.99E+01	3.16E+03
^{155}Eu	acid digested	Rad	pCi/mL	1.94E+03	±	1.99E+02	< 3.79E+02	±	mda	1.05E+02	±	2.76E+01	8.07E+02	6.71E+01	1.09E+03
^{231}Pa	acid digested	Rad	pCi/mL	< 6.02E+03	±	mda	< 5.04E+03	±	mda	< 6.90E+03	±	mda	< 5.04E+03	NA	mda
^{232}U	acid digested	Rad	pCi/mL	< 3.23E+02	±	mda	< 2.00E+02	±	mda	< 1.92E+02	±	mda	< 1.92E+02	NA	mda
^{59}Ni	acid digested	Rad	pCi/mL	< 3.89E+02	±	mda	< 3.95E+02	±	mda	< 4.90E+02	±	mda	< 3.89E+02	NA	mda
^{63}Ni	acid digested	Rad	pCi/mL	< 5.13E+03	±	mda	< 4.99E+03	±	mda	< 3.93E+03	±	mda	< 3.93E+03	NA	mda
^{147}Pm	acid digested	Rad	pCi/mL	< 6.55E+04	±	upper limit	< 5.22E+04	±	upper limit	< 5.41E+04	±	upper limit	< 5.22E+04	NA	upper limit
^{151}Sm	acid digested	Rad	pCi/mL	< 1.31E+05	±	upper limit	< 1.01E+05	±	upper limit	< 1.00E+05	±	upper limit	< 1.00E+05	NA	upper limit
^{79}Se	acid digested	Rad	pCi/mL	< 6.02E+03	±	mda	< 4.58E+03	±	mda	< 4.40E+03	±	mda	< 4.40E+03	NA	mda
^{242}Cm/^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 1.58E+01	±	mda	< 1.94E+01	±	mda	3.37E+00	±	1.95E-02	3.37E+00	1.95E-02	1.95E-02
^{243}Cm	0.45 µ (No AMP)	Rad	pCi/mL	< 5.50E+02	±	mda	< 6.97E+02	±	mda	< 4.13E+02	±	mda	< 4.13E+02	NA	mda
^{244}Cm	0.45 µ (No AMP)	Rad	pCi/mL	5.21E+03	±	9.90E+02	3.74E+03	±	7.11E+02	3.96E+03	±	7.52E+02	3.74E+03	4.77E+02	7.94E+02
^{249}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 4.32E+02	±	mda	< 6.51E+02	±	mda	< 3.37E+02	±	mda	< 3.37E+02	NA	mda
^{251}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 4.85E+02	±	mda	< 6.48E+02	±	mda	< 3.37E+02	±	mda	< 3.37E+02	NA	mda

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

6.4.6 Tank 39H ICP-ES Characterization No AMP

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Ag	0.45 µ (No AMP)	ICPES	mg/L	< 2.09E+00	±	bdl	< 2.11E+00	±	bdl	< 2.19E+00	±	bdl	< 2.09E+00	bdl
Ag	0.1 µ (No AMP)	ICPES	mg/L	< 2.52E+00	±	bdl	< 1.86E+01	±	bdl		NA		< 2.52E+00	bdl
Ag	0.02 µ (No AMP)	ICPES	mg/L	< 2.08E+00	±	bdl	<2.36E+00	±	bdl	<2.23E+00	±	bdl	< 2.36E+00	bdl
Al	0.45 µ (No AMP)	ICPES	M	3.07E-01	±	3.07E-02	3.05E-01	±	3.05E-02	3.09E-01	±	3.09E-02	3.07E-01	2.00E-03
Al	0.1 µ (No AMP)	ICPES	M	3.29E-01	±	3.29E-02	3.28E-01	±	3.28E-02		NA		3.29E-01	7.07E-04
Al	0.02 µ (No AMP)	ICPES	M	3.11E-01	±	3.11E-02	3.13E-01	±	3.13E-02	3.12E-01	±	3.12E-02	3.12E-01	1.00E-03
B	0.45 µ (No AMP)	ICPES	mg/L	2.17E+02	±	2.17E+01	2.17E+02	±	2.17E+01	2.20E+02	±	2.20E+01	2.18E+02	1.51E+00
B	0.1 µ (No AMP)	ICPES	mg/L	2.33E+02	±	2.33E+01	3.65E+02	±	3.65E+01		NA		2.99E+02	9.33E+01
B	0.02 µ (No AMP)	ICPES	mg/L	< 3.43E+01	±	bdl	< 3.90E+01	±	bdl	< 3.68E+01	±	bdl	< 3.90E+01	bdl
Ba	0.45 µ (No AMP)	ICPES	mg/L	< 2.61E+00	±	bdl	< 2.64E+00	±	bdl	< 2.74E+00	±	bdl	< 2.61E+00	bdl
Ba	0.1 µ (No AMP)	ICPES	mg/L	< 3.15E+00	±	bdl	< 2.33E+01	±	bdl		NA		< 3.15E+00	bdl
Ba	0.02 µ (No AMP)	ICPES	mg/L	6.70E+00	±	6.70E-01	5.61E+00	±	5.61E-01	5.07E+00	±	5.07E-01	5.79E+00	8.30E-01
Ca	0.45 µ (No AMP)	ICPES	mg/L	9.28E+00	±	9.28E-01	6.39E+00	±	6.39E-01	< 6.58E+00	±	bdl	7.42E+00	1.62E+00
Ca	0.1 µ (No AMP)	ICPES	mg/L	< 7.57E+00	±	bdl	< 5.59E+01	±	bdl		NA		< 7.57E+00	bdl
Ca	0.02 µ (No AMP)	ICPES	mg/L	9.08E+00	±	9.08E-01	<7.09E+00	±	bdl	<6.69E+00	±	bdl	9.08E+00	9.08E-01
Cd	0.45 µ (No AMP)	ICPES	mg/L	< 6.26E+00	±	bdl	< 6.34E+00	±	bdl	< 6.58E+00	±	bdl	< 6.26E+00	bdl
Cd	0.1 µ (No AMP)	ICPES	mg/L	1.04E+01	±	1.04E+00	6.88E+00	±	6.88E-01		NA		8.64E+00	2.49E+00
Cd	0.02 µ (No AMP)	ICPES	mg/L	<6.23E+00	±	bdl	<7.09E+00	±	bdl	<6.69E+00	±	bdl	<7.09E+00	bdl
Ce	0.45 µ (No AMP)	ICPES	mg/L	3.05E+01	±	3.05E+00	4.38E+01	±	4.38E+00	3.80E+01	±	3.80E+00	3.74E+01	6.64E+00
Ce	0.1 µ (No AMP)	ICPES	mg/L	4.39E+01	±	4.39E+00	< 2.37E+02	±	bdl		NA		4.39E+01	4.39E+00
Ce	0.02 µ (No AMP)	ICPES	mg/L	4.25E+01	±	4.25E+00	6.03E+01	±	6.03E+00	5.74E+01	±	5.74E+00	5.34E+01	9.55E+00
Cr	0.45 µ (No AMP)	ICPES	mg/L	9.75E+01	±	9.75E+00	9.83E+01	±	9.83E+00	9.86E+01	±	9.86E+00	9.81E+01	5.76E-01
Cr	0.1 µ (No AMP)	ICPES	mg/L	9.53E+01	±	9.53E+00	< 1.86E+02	±	bdl		NA		9.53E+01	9.53E+00
Cr	0.02 µ (No AMP)	ICPES	mg/L	9.60E+01	±	9.60E+00	9.63E+01	±	9.63E+00	9.59E+01	±	9.59E+00	9.61E+01	2.08E-01
Cu	0.45 µ (No AMP)	ICPES	mg/L	5.21E+00	±	5.21E-01	< 5.28E+00	±	bdl	< 5.48E+00	±	bdl	5.21E+00	5.21E-01
Cu	0.1 µ (No AMP)	ICPES	mg/L	7.12E+00	±	7.12E-01	< 4.66E+01	±	bdl		NA		7.12E+00	7.12E-01
Cu	0.02 µ (No AMP)	ICPES	mg/L	<5.19E+00	±	bdl	< 5.91E+00	±	bdl	<5.58E+00	±	bdl	< 5.91E+00	bdl
Fe	0.45 µ (No AMP)	ICPES	mg/L	7.92E+00	±	7.92E-01	8.08E+00	±	8.08E-01	6.14E+00	±	6.14E-01	7.38E+00	1.08E+00
Fe	0.1 µ (No AMP)	ICPES	mg/L	< 5.04E+00	±	bdl	< 3.72E+01	±	bdl		NA		< 5.04E+00	bdl
Fe	0.02 µ (No AMP)	ICPES	mg/L	6.59E+01	±	6.59E+00	1.00E+01	±	1.00E+00	1.41E+01	±	1.41E+00	3.00E+01	3.12E+01
Gd	0.45 µ (No AMP)	ICPES	mg/L	< 4.17E+00	±	bdl	5.39E+00	±	5.39E-01	4.49E+00	±	4.49E-01	4.68E+00	2.89E+00
Gd	0.1 µ (No AMP)	ICPES	mg/L	< 5.04E+00	±	bdl	< 3.72E+01	±	bdl		NA		< 5.04E+00	bdl
Gd	0.02 µ (No AMP)	ICPES	mg/L	7.94E+00	±	7.94E-01	1.04E+01	±	1.04E+00	9.81E+00	±	9.81E-01	9.38E+00	1.28E+00
K	0.45 µ (No AMP)	ICPES	M	3.92E-02	±	3.92E-03	1.83E-02	±	1.83E-03	< 1.25E-02	±	bdl	2.33E-02	1.96E-02
K	0.1 µ (No AMP)	ICPES	M	2.30E-02	±	2.30E-03	2.33E-01	±	2.33E-02		NA		1.28E-01	1.48E-01
K	0.02 µ (No AMP)	ICPES	M	3.98E-02	±	3.98E-03	5.21E-02	±	5.21E-03	< 1.27E-02	±	bdl	4.60E-02	8.70E-03
La	0.45 µ (No AMP)	ICPES	mg/L	< 4.69E+00	±	bdl	5.34E+00	±	5.34E-01	5.15E+00	±	5.15E-01	5.06E+00	3.03E+00
La	0.1 µ (No AMP)	ICPES	mg/L	< 5.67E+00	±	bdl	< 4.19E+01	±	bdl		NA		< 5.67E+00	bdl
La	0.02 µ (No AMP)	ICPES	mg/L	1.06E+01	±	1.06E+00	1.23E+01	±	1.23E+00	1.16E+01	±	1.16E+00	1.15E+01	8.54E-01
Li	0.45 µ (No AMP)	ICPES	mg/L	9.28E+00	±	9.28E-01	1.42E+01	±	1.42E+00	1.31E+01	±	1.31E+00	1.22E+01	2.58E+00
Li	0.1 µ (No AMP)	ICPES	mg/L	7.88E+00	±	7.88E-01	< 1.40E+01	±	bdl		NA		7.88E+00	7.88E-01
Li	0.02 µ (No AMP)	ICPES	mg/L	1.36E+01	±	1.36E+00	1.62E+01	±	1.62E+00	1.69E+01	±	1.69E+00	1.56E+01	1.74E+00
Mg	0.45 µ (No AMP)	ICPES	mg/L	< 1.04E+00	±	bdl	< 1.06E+00	±	bdl	< 1.10E+00	±	bdl	< 1.04E+00	bdl
Mg	0.1 µ (No AMP)	ICPES	mg/L	< 1.26E+00	±	bdl	< 9.31E+00	±	bdl		NA		< 1.26E+00	bdl
Mg	0.02 µ (No AMP)	ICPES	mg/L	<1.04E+00	±	bdl	<1.18E+00	±	bdl	<1.12E+00	±	bdl	<1.18E+00	bdl
Mn	0.45 µ (No AMP)	ICPES	mg/L	< 1.56E+00	±	bdl	< 1.58E+00	±	bdl	< 1.64E+00	±	bdl	< 1.56E+00	bdl
Mn	0.1 µ (No AMP)	ICPES	mg/L	< 1.89E+00	±	bdl	< 1.40E+01	±	bdl		NA		< 1.40E+01	bdl
Mn	0.02 µ (No AMP)	ICPES	mg/L	8.57E+00	±	8.57E-01	<1.77E+00	±	bdl	<1.67E+00	±	bdl	8.57E+00	8.57E-01

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Mo	0.45 µ (No AMP)	ICPES	mg/L	3.78E+01	±	3.78E+00	4.80E+01	±	4.80E+00	4.03E+01	±	4.03E+00	4.20E+01	5.32E+00
Mo	0.1 µ (No AMP)	ICPES	mg/L	4.87E+01	±	4.87E+00	< 3.12E+02	±	bdl		NA		4.87E+01	4.87E+00
Mo	0.02 µ (No AMP)	ICPES	mg/L	<3.48E+01	±	bdl	<3.96E+01	±	bdl	<3.74E+01	±	bdl	< 3.96E+01	bdl
Na	0.45 µ (No AMP)	ICPES	M	6.07E+00	±	6.07E-01	6.00E+00	±	6.00E-01	6.08E+00	±	6.08E-01	6.05E+00	4.36E-02
Na	0.1 µ (No AMP)	ICPES	M	6.22E+00	±	6.22E-01	6.34E+00	±	6.34E-01		NA		6.28E+00	8.49E-02
Na	0.02 µ (No AMP)	ICPES	M	6.18E+00	±	6.18E-01	5.91E+00	±	5.91E-01	5.87E+00	±	5.87E-01	5.99E+00	1.69E-01
Ni	0.45 µ (No AMP)	ICPES	mg/L	< 2.35E+01	±	bdl	< 2.38E+01	±	bdl	< 2.47E+01	±	bdl	< 2.35E+01	bdl
Ni	0.1 µ (No AMP)	ICPES	mg/L	< 2.84E+01	±	bdl	< 2.10E+02	±	bdl		NA		< 2.84E+01	bdl
Ni	0.02 µ (No AMP)	ICPES	mg/L	<2.34E+01	±	bdl	<2.66E+01	±	bdl	<2.51E+01	±	bdl	<2.66E+01	bdl
P	0.45 µ (No AMP)	ICPES	mg/L	< 2.18E+02	±	bdl	< 2.21E+02	±	bdl	< 2.30E+02	±	bdl	< 2.18E+02	bdl
P	0.1 µ (No AMP)	ICPES	mg/L	< 2.64E+02	±	bdl	< 1.95E+03	±	bdl		NA		< 2.64E+02	bdl
P	0.02 µ (No AMP)	ICPES	mg/L	<2.18E+02	±	bdl	<2.48E+02	±	bdl	<2.34E+02	±	bdl	<2.48E+02	bdl
Pb	0.45 µ (No AMP)	ICPES	mg/L	< 1.49E+02	±	bdl	< 1.51E+02	±	bdl	< 1.57E+02	±	bdl	< 1.49E+02	bdl
Pb	0.1 µ (No AMP)	ICPES	mg/L	< 1.80E+02	±	bdl	< 1.33E+03	±	bdl		NA		< 1.80E+02	bdl
Pb	0.02 µ (No AMP)	ICPES	mg/L	<1.48E+02	±	bdl	<1.69E+02	±	bdl	<1.59E+02	±	bdl	<1.69E+02	bdl
S	0.45 µ (No AMP)	ICPES	mg/L	3.40E+03	±	3.40E+02	3.44E+03	±	3.44E+02	3.41E+03	±	3.41E+02	3.42E+03	1.92E+01
S	0.1 µ (No AMP)	ICPES	mg/L	3.66E+03	±	3.66E+02	3.90E+03	±	3.90E+02		NA		3.78E+03	1.70E+02
S	0.02 µ (No AMP)	ICPES	mg/L	3.43E+03	±	3.43E+02	3.48E+03	±	3.48E+02	3.38E+03	±	3.38E+02	3.43E+03	5.00E+01
Sb	0.45 µ (No AMP)	ICPES	mg/L	< 3.70E+01	±	bdl	< 3.75E+01	±	bdl	< 3.89E+01	±	bdl	< 3.70E+01	bdl
Sb	0.1 µ (No AMP)	ICPES	mg/L	< 4.48E+01	±	bdl	< 3.31E+02	±	bdl		NA		< 4.48E+01	bdl
Sb	0.02 µ (No AMP)	ICPES	mg/L	4.12E+01	±	4.12E+00	< 4.20E+01	±	bdl	4.63E+01	±	4.63E+00	4.38E+01	3.61E+00
Si	0.45 µ (No AMP)	ICPES	mg/L	< 1.30E+01	±	bdl	< 1.32E+01	±	bdl	< 1.37E+01	±	bdl	< 1.30E+01	bdl
Si	0.1 µ (No AMP)	ICPES	mg/L	< 1.58E+01	±	bdl	< 1.16E+02	±	bdl		NA		< 1.58E+01	bdl
Si	0.02 µ (No AMP)	ICPES	mg/L	<1.30E+01	±	bdl	<1.48E+01	±	bdl	<1.39E+01	±	bdl	<1.48E+01	bdl
Sn	0.45 µ (No AMP)	ICPES	mg/L	< 5.94E+01	±	bdl	< 6.02E+01	±	bdl	< 6.25E+01	±	bdl	< 5.94E+01	bdl
Sn	0.1 µ (No AMP)	ICPES	mg/L	< 7.19E+01	±	bdl	< 5.31E+02	±	bdl		NA		< 7.19E+01	bdl
Sn	0.02 µ (No AMP)	ICPES	mg/L	<5.92E+01	±	bdl	<6.74E+01	±	bdl	<6.36E+01	±	bdl	<6.74E+01	bdl
Sr	0.45 µ (No AMP)	ICPES	mg/L	< 4.17E+00	±	bdl	< 4.23E+00	±	bdl	< 4.38E+00	±	bdl	< 4.17E+00	bdl
Sr	0.1 µ (No AMP)	ICPES	mg/L	< 5.04E+00	±	bdl	< 3.72E+01	±	bdl		NA		< 5.04E+00	bdl
Sr	0.02 µ (No AMP)	ICPES	mg/L	9.60E+00	±	9.60E-01	<4.73E+00	±	bdl	<4.46E+00	±	bdl	9.60E+00	9.60E-01
Ti	0.45 µ (No AMP)	ICPES	mg/L	< 6.78E+00	±	bdl	< 6.87E+00	±	bdl	< 7.12E+00	±	bdl	< 6.78E+00	bdl
Ti	0.1 µ (No AMP)	ICPES	mg/L	< 8.20E+00	±	bdl	< 6.05E+01	±	bdl		NA		< 8.20E+00	bdl
Ti	0.02 µ (No AMP)	ICPES	mg/L	<6.75E+00	±	bdl	<7.68E+00	±	bdl	<7.25E+00	±	bdl	<7.68E+00	bdl
U	0.45 µ (No AMP)	ICPES	mg/L	< 9.07E+01	±	bdl	< 1.07E+02	±	bdl	< 9.70E+01	±	bdl	< 9.07E+01	bdl
U	0.1 µ (No AMP)	ICPES	mg/L	< 4.09E+02	±	bdl	< 3.02E+03	±	bdl		NA		< 4.09E+02	bdl
U	0.02 µ (No AMP)	ICPES	mg/L	9.66E+01	±	9.66E+00	1.21E+02	±	1.21E+01	1.15E+02	±	1.15E+01	1.11E+02	1.27E+01
V	0.45 µ (No AMP)	ICPES	mg/L	< 5.73E+00	±	bdl	< 5.81E+00	±	bdl	< 6.03E+00	±	bdl	< 5.73E+00	bdl
V	0.1 µ (No AMP)	ICPES	mg/L	1.05E+01	±	1.05E+00	< 5.12E+01	±	bdl		NA		1.05E+01	1.05E+00
V	0.02 µ (No AMP)	ICPES	mg/L	<5.71E+00	±	bdl	<6.50E+00	±	bdl	<6.13E+00	±	bdl	<6.50E+00	bdl
Zn	0.45 µ (No AMP)	ICPES	mg/L	< 1.04E+00	±	bdl	< 1.06E+00	±	bdl	< 1.10E+00	±	bdl	< 1.04E+00	bdl
Zn	0.1 µ (No AMP)	ICPES	mg/L	9.39E+00	±	9.39E-01	3.62E+01	±	3.62E+00		NA		2.28E+01	1.90E+01
Zn	0.02 µ (No AMP)	ICPES	mg/L	1.69E+01	±	1.69E+00	4.55E+00	±	4.55E-01	4.80E+00	±	4.80E-01	8.75E+00	7.06E+00
Zr	0.45 µ (No AMP)	ICPES	mg/L	< 7.30E+00	±	bdl	< 7.40E+00	±	bdl	< 7.67E+00	±	bdl	< 7.30E+00	bdl
Zr	0.1 µ (No AMP)	ICPES	mg/L	< 8.83E+00	±	bdl	< 6.52E+01	±	bdl		NA		< 8.83E+00	bdl
Zr	0.02 µ (No AMP)	ICPES	mg/L	<7.27E+00	±	bdl	<8.27E+00	±	bdl	<7.81E+00	±	bdl	<8.27E+00	bdl

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

6.4.7 Tank 39H ICP-MS Characterization No AMP

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Zr	0.45 µ (No AMP)	ICP-MS	mg/L	1.18E+00	±	2.95E-01	1.25E+00	±	3.13E-01	1.25E+00	±	3.11E-01	1.23E+00	3.85E-02
Zr	0.1 µ (No AMP)	ICP-MS	mg/L	1.20E+00	±	3.01E-01	1.31E+00	±	3.28E-01	1.73E+00	±	4.34E-01	1.42E+00	2.80E-01
Zr	0.02 µ (No AMP)	ICP-MS	mg/L	8.48E-01	±	2.12E-01	9.40E-01	±	2.35E-01	1.11E+00	±	2.78E-01	9.66E-01	1.33E-01
Tc-99	0.45 µ (No AMP)	ICP-MS	mg/L	8.30E+00	±	2.08E+00	7.69E+00	±	1.92E+00	7.62E+00	±	1.90E+00	7.87E+00	3.79E-01
Tc-99	0.1 µ (No AMP)	ICP-MS	mg/L	8.70E+00	±	2.18E+00	8.93E+00	±	2.23E+00	8.90E+00	±	2.22E+00	8.84E+00	1.23E-01
Tc-99	0.02 µ (No AMP)	ICP-MS	mg/L	7.92E+00	±	1.98E+00	8.18E+00	±	2.05E+00	7.89E+00	±	1.97E+00	8.00E+00	1.59E-01
Tc-99	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.41E+05	±	3.52E+04	1.30E+05	±	3.26E+04	1.29E+05	±	3.23E+04	1.34E+05	6.43E+03
Tc-99	0.1 µ (No AMP)	ICP-MS	pCi/mL	1.48E+05	±	3.69E+04	1.51E+05	±	3.79E+04	1.51E+05	±	3.77E+04	1.50E+05	2.08E+03
Tc-99	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.34E+05	±	3.35E+04	1.39E+05	±	3.48E+04	1.34E+05	±	3.35E+04	1.36E+05	2.89E+03
Mo	0.45 µ (No AMP)	ICP-MS	mg/L	2.56E+01	±	6.40E+00	2.42E+01	±	6.06E+00	2.40E+01	±	6.01E+00	2.46E+01	8.62E-01
Mo	0.1 µ (No AMP)	ICP-MS	mg/L	2.54E+01	±	6.35E+00	2.86E+01	±	7.14E+00	2.40E+01	±	6.00E+00	2.60E+01	2.34E+00
Mo	0.02 µ (No AMP)	ICP-MS	mg/L	2.10E+01	±	5.25E+00	2.21E+01	±	5.53E+00	2.10E+01	±	5.25E+00	2.14E+01	6.35E-01
Ag	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ag	0.1 µ (No AMP)	ICP-MS	mg/L	5.52E-01	±	1.38E-01	bdl	±	bdl	9.44E-01	±	2.36E-01	7.48E-01	2.77E-01
Ag	0.02 µ (No AMP)	ICP-MS	mg/L	3.37E-01	±	8.43E-02	6.60E-01	±	1.65E-01	3.83E-01	±	9.58E-02	4.60E-01	1.75E-01
Pd	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	7.96E-02	±	1.99E-02	bdl	±	bdl	7.96E-02	1.99E-02
Pd	0.1 µ (No AMP)	ICP-MS	mg/L	6.30E-02	±	1.57E-02	2.41E-01	±	6.03E-02	1.41E-01	±	3.52E-02	1.48E-01	8.94E-02
Pd	0.02 µ (No AMP)	ICP-MS	mg/L	6.56E-01	±	1.64E-01	9.93E-01	±	2.48E-01	2.97E-01	±	7.43E-02	6.49E-01	3.48E-01
Rh	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Rh	0.1 µ (No AMP)	ICP-MS	mg/L	1.27E+00	±	3.18E-01	1.18E+00	±	2.95E-01	1.22E+00	±	3.06E-01	1.22E+00	4.57E-02
Rh	0.02 µ (No AMP)	ICP-MS	mg/L	1.13E+00	±	2.83E-01	1.06E+00	±	2.65E-01	1.04E+00	±	2.60E-01	1.08E+00	4.73E-02
Ru	0.45 µ (No AMP)	ICP-MS	mg/L	4.74E+00	±	1.18E+00	4.18E+00	±	1.05E+00	4.19E+00	±	1.05E+00	4.37E+00	3.19E-01
Ru	0.1 µ (No AMP)	ICP-MS	mg/L	3.93E+00	±	9.83E-01	3.85E+00	±	9.63E-01	4.11E+00	±	1.03E+00	3.96E+00	1.31E-01
Ru	0.02 µ (No AMP)	ICP-MS	mg/L	3.43E+00	±	8.58E-01	3.39E+00	±	8.48E-01	3.33E+00	±	8.33E-01	3.38E+00	5.03E-02
Cd	0.45 µ (No AMP)	ICP-MS	mg/L	2.83E-01	±	7.06E-02	bdl	±	bdl	bdl	±	bdl	2.83E-01	7.06E-02
Cd	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Cd	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Sn	0.45 µ (No AMP)	ICP-MS	mg/L	1.41E+00	±	3.53E-01	1.51E+00	±	3.78E-01	1.25E+00	±	3.12E-01	1.39E+00	1.34E-01
Sn	0.1 µ (No AMP)	ICP-MS	mg/L	1.50E+00	±	3.75E-01	1.45E+00	±	3.61E-01	1.24E+00	±	3.09E-01	1.39E+00	1.38E-01
Sn	0.02 µ (No AMP)	ICP-MS	mg/L	1.85E+00	±	4.63E-01	1.69E+00	±	4.23E-01	1.74E+00	±	4.35E-01	1.76E+00	8.19E-02
La	0.45 µ (No AMP)	ICP-MS	mg/L	2.59E-02	±	6.47E-03	1.24E-02	±	3.11E-03	bdl	±	bdl	1.92E-02	9.51E-03
La	0.1 µ (No AMP)	ICP-MS	mg/L	3.25E-02	±	8.12E-03	3.23E-02	±	8.07E-03	5.08E-02	±	1.27E-02	3.85E-02	1.06E-02
La	0.02 µ (No AMP)	ICP-MS	mg/L	1.47E-01	±	3.68E-02	1.15E-02	±	2.88E-03	1.73E-02	±	4.33E-03	5.86E-02	7.66E-02
Ce	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	6.90E-02	±	1.72E-02	bdl	±	bdl	6.90E-02	1.72E-02
Ce	0.02 µ (No AMP)	ICP-MS	mg/L	1.32E-01	±	3.30E-02	bdl	±	bdl	bdl	±	bdl	1.32E-01	3.30E-02
W	0.45 µ (No AMP)	ICP-MS	mg/L	5.30E-01	±	1.33E-01	3.86E-01	±	9.65E-02	4.76E-01	±	1.19E-01	4.64E-01	7.29E-02
W	0.1 µ (No AMP)	ICP-MS	mg/L	4.54E-01	±	1.13E-01	7.74E-01	±	1.94E-01	5.35E-01	±	1.34E-01	5.88E-01	1.67E-01
W	0.02 µ (No AMP)	ICP-MS	mg/L	4.45E-01	±	1.11E-01	4.06E-01	±	1.02E-01	4.24E-01	±	1.06E-01	4.25E-01	1.95E-02
Re	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Re	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	1.94E-02	±	4.86E-03	bdl	±	bdl	1.94E-02	4.86E-03
Re	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.1 µ (No AMP)	ICP-MS	mg/L	1.40E-02	±	3.50E-03	8.37E-03	±	2.09E-03	2.06E-02	±	5.15E-03	1.43E-02	6.12E-03
Ir	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.45 µ (No AMP)	ICP-MS	mg/L	2.32E+01	±	5.81E+00	2.17E+01	±	5.43E+00	2.23E+01	±	5.58E+00	2.24E+01	7.60E-01
Hg	0.1 µ (No AMP)	ICP-MS	mg/L	4.14E+01	±	1.03E+01	4.09E+01	±	1.02E+01	3.37E+01	±	8.42E+00	3.87E+01	4.30E+00
Hg	0.02 µ (No AMP)	ICP-MS	mg/L	4.27E+01	±	1.07E+01	4.50E+01	±	1.13E+01	4.38E+01	±	1.10E+01	4.38E+01	1.15E+00
Pb	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	0.1 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	0.02 µ (No AMP)	ICP-MS	mg/L	1.02E+00	±	2.55E-01	bdl	±	bdl	2.60E-01	±	6.50E-02	6.40E-01	5.37E-01
U-235	0.45 µ (No AMP)	ICP-MS	mg/L	2.05E+00	±	5.14E-01	1.70E+00	±	4.25E-01	1.77E+00	±	4.44E-01	1.84E+00	1.88E-01
U-235	0.1 µ (No AMP)	ICP-MS	mg/L	1.98E+00	±	4.96E-01	1.97E+00	±	4.92E-01	1.97E+00	±	4.94E-01	1.97E+00	7.46E-03
U-235	0.02 µ (No AMP)	ICP-MS	mg/L	1.43E+00	±	3.58E-01	1.52E+00	±	3.80E-01	1.59E+00	±	3.98E-01	1.51E+00	8.02E-02
U-238	0.45 µ (No AMP)	ICP-MS	mg/L	3.23E+00	±	8.06E-01	2.78E+00	±	6.95E-01	2.84E+00	±	7.10E-01	2.95E+00	2.42E-01
U-238	0.1 µ (No AMP)	ICP-MS	mg/L	3.05E+00	±	7.64E-01	3.27E+00	±	8.16E-01	3.06E+00	±	7.65E-01	3.13E+00	1.20E-01
U-238	0.02 µ (No AMP)	ICP-MS	mg/L	3.95E+00	±	9.88E-01	3.06E+00	±	7.65E-01	3.14E+00	±	7.85E-01	3.38E+00	4.92E-01
Total U	0.45 µ (No AMP)	ICP-MS	mg/L	6.12E+00		NA	5.19E+00		NA	5.30E+00		NA	5.54E+00	5.06E-01
Total U	0.1 µ (No AMP)	ICP-MS	mg/L	5.88E+00		NA	6.03E+00		NA	5.81E+00		NA	5.91E+00	1.16E-01
Total U	0.02 µ (No AMP)	ICP-MS	mg/L	6.00E+00		NA	5.28E+00		NA	5.39E+00		NA	5.56E+00	3.88E-01

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
% U235	0.45 µ (No AMP)	ICP-MS	%	3.36E+01 ± 8.40E+00	3.27E+01 ± 8.18E+00	3.35E+01 ± 8.38E+00	3.33E+01	4.85E-01
% U238	0.45 µ (No AMP)	ICP-MS	%	5.27E+01 ± 1.32E+01	5.35E+01 ± 1.34E+01	5.36E+01 ± 1.34E+01	5.33E+01	4.89E-01
% U235	0.1 µ (No AMP)	ICP-MS	%	3.37E+01 ± 8.43E+00	3.26E+01 ± 8.15E+00	3.40E+01 ± 8.50E+00	3.34E+01	7.39E-01
% U238	0.1 µ (No AMP)	ICP-MS	%	5.19E+01 ± 1.30E+01	5.41E+01 ± 1.35E+01	5.27E+01 ± 1.32E+01	5.29E+01	1.11E+00
% U235	0.02 µ (No AMP)	ICP-MS	%	2.38E+01 ± 5.95E+00	2.88E+01 ± 7.20E+00	2.95E+01 ± 7.38E+00	2.74E+01	3.11E+00
% U238	0.02 µ (No AMP)	ICP-MS	%	6.58E+01 ± 1.64E+01	5.79E+01 ± 1.45E+01	5.82E+01 ± 1.46E+01	6.07E+01	4.45E+00
U-235	0.45 µ (No AMP)	ICP-MS	pCi/mL	4.47E+00 ± 1.12E+00	3.69E+00 ± 9.23E-01	3.86E+00 ± 9.65E-01	4.01E+00	4.08E-01
U-235	0.1 µ (No AMP)	ICP-MS	pCi/mL	4.31E+00 ± 1.08E+00	4.28E+00 ± 1.07E+00	4.29E+00 ± 1.07E+00	4.30E+00	1.62E-02
U-235	0.02 µ (No AMP)	ICP-MS	pCi/mL	3.11E+00 ± 7.78E-01	3.31E+00 ± 8.28E-01	3.46E+00 ± 8.65E-01	3.29E+00	1.76E-01
U-238	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.07E+00 ± 2.69E-01	9.26E-01 ± 2.31E-01	9.46E-01 ± 2.36E-01	9.82E-01	8.05E-02
U-238	0.1 µ (No AMP)	ICP-MS	pCi/mL	1.02E+00 ± 2.54E-01	1.09E+00 ± 2.72E-01	1.02E+00 ± 2.55E-01	1.04E+00	4.00E-02
U-238	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.31E+00 ± 3.28E-01	1.02E+00 ± 2.55E-01	1.04E+00 ± 2.60E-01	1.12E+00	1.62E-01
Np-237	0.45 µ (No AMP)	ICP-MS	mg/L	1.52E-01 ± 3.81E-02	1.80E-01 ± 4.50E-02	1.71E-01 ± 4.28E-02	1.68E-01	1.40E-02
Np-237	0.1 µ (No AMP)	ICP-MS	mg/L	1.79E-01 ± 4.48E-02	1.71E-01 ± 4.28E-02	1.05E-01 ± 2.62E-02	1.52E-01	4.09E-02
Np-237	0.02 µ (No AMP)	ICP-MS	mg/L	2.29E-01 ± 5.73E-02	1.69E-01 ± 4.23E-02	2.45E-01 ± 6.13E-02	2.14E-01	4.01E-02
Np-237	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.07E+02 ± 2.69E+01	1.27E+02 ± 3.17E+01	1.21E+02 ± 3.02E+01	1.18E+02	9.88E+00
Np-237	0.1 µ (No AMP)	ICP-MS	pCi/mL	1.26E+02 ± 3.16E+01	1.21E+02 ± 3.02E+01	7.38E+01 ± 1.84E+01	1.07E+02	2.88E+01
Np-237	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.62E+02 ± 4.05E+01	1.19E+02 ± 2.98E+01	1.73E+02 ± 4.33E+01	1.51E+02	2.85E+01
Pu-239	0.45 µ (No AMP)	ICP-MS	mg/L	5.20E-01 ± 1.30E-01	4.86E-01 ± 1.21E-01	4.88E-01 ± 1.22E-01	4.98E-01	1.93E-02
Pu-239	0.1 µ (No AMP)	ICP-MS	mg/L	4.95E-01 ± 1.24E-01	5.41E-01 ± 1.35E-01	5.38E-01 ± 1.34E-01	5.25E-01	2.56E-02
Pu-239	0.02 µ (No AMP)	ICP-MS	mg/L	6.01E-01 ± 1.50E-01	5.60E-01 ± 1.40E-01	5.49E-01 ± 1.37E-01	5.70E-01	2.74E-02
Pu-239	0.45 µ (No AMP)	ICP-MS	pCi/mL	3.19E+04 ± 7.98E+03	2.98E+04 ± 7.45E+03	2.99E+04 ± 7.49E+03	3.06E+04	1.18E+03
Pu-239	0.1 µ (No AMP)	ICP-MS	pCi/mL	3.04E+04 ± 7.60E+03	3.32E+04 ± 8.30E+03	3.30E+04 ± 8.25E+03	3.22E+04	1.57E+03
Pu-239	0.02 µ (No AMP)	ICP-MS	pCi/mL	3.69E+04 ± 9.23E+03	3.44E+04 ± 8.60E+03	3.37E+04 ± 8.43E+03	3.50E+04	1.68E+03
Pu-240	0.45 µ (No AMP)	ICP-MS	mg/L	8.98E-02 ± 2.25E-02	6.21E-02 ± 1.55E-02	6.39E-02 ± 1.60E-02	7.19E-02	1.55E-02
Pu-240	0.1 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (No AMP)	ICP-MS	mg/L	8.29E-02 ± 2.07E-02	5.55E-02 ± 1.39E-02	9.18E-02 ± 2.30E-02	7.67E-02	1.89E-02
Pu-240	0.45 µ (No AMP)	ICP-MS	pCi/mL	2.05E+04 ± 5.12E+03	1.42E+04 ± 3.54E+03	1.46E+04 ± 3.65E+03	1.64E+04	3.53E+03
Pu-240	0.1 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (No AMP)	ICP-MS	pCi/mL	1.89E+04 ± 4.73E+03	1.27E+04 ± 3.18E+03	2.09E+04 ± 5.23E+03	1.75E+04	4.28E+03

*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

6.5 TANK 45F CHARACTERIZATION

6.5.1 Tank 45F Radioactive Species

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{137}Cs	acid digested	Rad	pCi/mL	2.94E+08	±	4.68E+06	3.16E+08	±	4.99E+06	3.20E+08	±	5.02E+06	3.10E+08	2.83E+06	1.39E+07
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL		NA		3.51E+08	±	5.86E+06	3.43E+08	±	5.80E+06	3.47E+08	4.12E+06	5.41E+06
^{90}Sr	acid digested	Rad	pCi/mL	2.28E+04	±	2.21E+03	1.76E+04	±	1.56E+03	2.20E+04	±	2.49E+03	2.08E+04	1.23E+03	2.84E+03
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL		NA		2.28E+04	±	2.03E+03	2.31E+04	±	1.99E+03	2.30E+04	1.42E+03	2.10E+02
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL		NA		2.59E+04	±	3.26E+03		NA		2.59E+04	3.26E+03	3.26E+03
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	1.88E+04	±	1.50E+03	1.49E+04	±	1.08E+03	1.58E+04	±	1.24E+03	1.65E+04	7.44E+02	2.06E+03
^{238}Pu	acid digested	Rad	pCi/mL	6.73E+02	±	6.06E+01	3.21E+03	±	2.63E+02	1.11E+03	±	9.76E+01	1.66E+03	9.58E+01	1.36E+03
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	2.42E+02	±	4.21E+01	1.56E+02	±	7.85E+01	2.07E+02	±	4.82E+01	2.02E+02	3.38E+01	4.32E+01
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	7.12E+02	±	3.29E+01	1.00E+03	±	4.35E+01	7.72E+02	±	4.12E+01	8.28E+02	2.28E+01	1.53E+02
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	2.55E+02	±	2.20E+01	2.96E+02	±	2.87E+01	1.75E+02	±	2.73E+01	2.42E+02	1.51E+01	6.16E+01
$^{239/40}$Pu	acid digested	Rad	pCi/mL	6.84E+02	±	5.82E+01	1.00E+03	±	2.70E+02	6.73E+02	±	8.75E+01	7.87E+02	9.66E+01	1.88E+02
$^{239/40}$Pu	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	< 9.15E+01	±	upper limit	< 1.20E+02	±	upper limit	< 2.67E+01	±	upper limit	< 2.67E+01	NA	upper limit
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl		bdl	bdl	NA	bdl
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	3.81E+01	±	7.51E+01	2.95E+02	±	3.54E+01	2.09E+02	±	6.01E+01	1.81E+02	3.42E+01	1.31E+02
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl		bdl	bdl	NA	bdl
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	3.11E+01	±	1.42E+01	1.37E+02	±	2.46E+01	< 1.30E+01	±	upper	6.04E+01	9.45E+00	7.19E+01
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	1.13E+03	±	2.83E+02	1.18E+03	±	2.95E+02	bdl		bdl	1.16E+03	NA	3.54E+01
^{241}Pu	acid digested	Rad	pCi/mL	< 2.70E+03	±	mda	< 5.90E+03	±	mda	< 2.64E+03	±	mda	< 2.64E+03	NA	mda
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
Total Pu	acid digested	Rad	pCi/mL	1.36E+03		NA	4.22E+03		NA	1.78E+03		NA	2.45E+03	NA	1.54E+03
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	2.42E+02		NA	1.56E+02		NA	2.07E+02		NA	2.02E+02	NA	4.32E+01
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	7.50E+02		NA	1.30E+03		NA	9.80E+02		NA	1.01E+03	NA	2.74E+02
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	2.87E+02		NA	4.33E+02		NA	1.75E+02		NA	2.98E+02	NA	1.29E+02
^{235}U	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	3.90E-02	±	9.75E-03	bdl	±	bdl	3.90E-02	NA	9.75E-03
^{238}U	acid digested	ICP-MS	pCi/mL	1.17E-01	±	2.94E-02	1.31E-01	±	3.26E-02	1.28E-01	±	3.20E-02	1.25E-01	NA	6.96E-03
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	1.87E-01	±	4.69E-02	1.24E-01	±	3.11E-02	1.68E-01	±	4.19E-02	1.60E-01	NA	3.22E-02
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	1.57E-01	±	3.92E-02	1.60E-01	±	4.01E-02	1.58E-01	±	3.30E-02	1.58E-01	NA	1.76E-03
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	2.63E-01	±	6.58E-02	2.93E-01	±	7.32E-02	1.63E-01	±	4.08E-02	2.40E-01	NA	6.78E-02
Total U	acid digested	ICP-MS	pCi/mL	1.17E-01		NA	1.31E-01		NA	1.28E-01		NA	1.25E-01	NA	6.96E-03
Total U	0.45 µ (AMP)	ICP-MS	pCi/mL	1.87E-01		NA	1.24E-01		NA	1.68E-01		NA	1.60E-01	NA	3.22E-02
Total U	0.1 µ (AMP)	ICP-MS	pCi/mL	1.57E-01		NA	1.60E-01		NA	1.58E-01		NA	1.58E-01	NA	1.76E-03
Total U	0.02 µ (AMP)	ICP-MS	pCi/mL	2.63E-01		NA	3.32E-01		NA	1.63E-01		NA	2.53E-01	NA	8.47E-02
^{237}Np	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{241}Am	acid digested	Rad#	pCi/mL	4.75E+02	±	6.52E+01	2.06E+02	±	3.88E+01	2.32E+02	±	3.30E+01	3.05E+02	2.76E+01	1.48E+02
^{241}Am	0.45 µ (AMP)	Rad#	pCi/mL	9.11E+01	±	1.18E+01	8.25E+02	±	9.90E+01	6.11E+02	±	7.33E+01	5.09E+02	4.12E+01	3.77E+02
^{241}Am	0.1 µ (AMP)	Rad$	pCi/mL	< 9.33E+02	±	mda	2.19E+02	±	5.75E+00	< 1.59E+03	±	mda	2.19E+02	5.75E+00	5.75E+00
^{241}Am	0.02 µ (AMP)	Rad$	pCi/mL	< 1.21E+02	±	mda	< 1.60E+02	±	mda	< 1.94E+02	±	mda	< 1.21E+02	NA	mda
^{242}Am	acid digested	Rad$	pCi/mL	< 1.50E+02	±	mda	< 1.81E+02	±	mda	< 1.03E+03	±	mda	< 1.50E+02	NA	mda
^{242}Am	0.45 µ (AMP)	Rad#	pCi/mL	< 1.37E+00	±	mda	< 8.13E+00	±	mda	< 2.43E+00	±	mda	< 1.37E+00	NA	mda
^{243}Am	acid digested	Rad$	pCi/mL	< 1.62E+01	±	mda	< 1.87E+01	±	mda	< 8.39E+01	±	mda	< 1.62E+01	NA	mda
^{243}Am	0.45 µ (AMP)	Rad#	pCi/mL	< 1.31E+00	±	mda	< 8.54E+00	±	mda	< 3.65E+00	±	mda	< 1.31E+00	NA	mda
^{99}Tc	unfiltered	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{99}Tc	acid digested	ICP-MS	pCi/mL	4.31E+04	±	1.08E+04	4.64E+04	±	1.16E+04	4.56E+04	±	1.14E+04	4.50E+04	NA	1.73E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	5.41E+04	±	1.35E+04	5.11E+04	±	1.28E+04	4.82E+04	±	1.20E+04	5.11E+04	NA	2.99E+03
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	4.77E+04	±	1.19E+04	4.72E+04	±	1.18E+04	4.95E+04	±	1.24E+04	4.81E+04	NA	1.21E+03
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	4.46E+04	±	1.11E+04	4.44E+04	±	1.11E+04	4.58E+04	±	1.15E+04	4.49E+04	NA	7.57E+02
Gross α	acid digested	Rad	pCi/mL	< 1.12E+04	±	upper limit	< 7.45E+03	±	mda	< 5.57E+03	±	mda	< 5.57E+03	NA	mda
Beta	acid digested	Rad	pCi/mL	3.42E+08	±	3.42E+07	3.39E+08	±	3.39E+07	3.49E+08	±	3.49E+07	3.43E+08	1.98E+07	5.13E+06
Tritium	acid digested	Rad	pCi/mL	< 6.61E+03	±	mda		NA			NA		< 6.61E+03	NA	mda
^{14}C	unfiltered	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{129}I	unfiltered	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{26}Al	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 2.22E+02	±	mda	< 2.14E+02	±	mda	< 2.14E+02	NA	mda
^{60}Co	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 3.20E+02	±	mda	< 3.24E+02	±	mda	< 3.20E+02	NA	mda
^{94}Nb	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 3.17E+02	±	mda	< 3.16E+02	±	mda	< 3.16E+02	NA	mda
^{106}Ru	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 2.74E+03	±	mda	< 2.82E+03	±	mda	< 2.74E+03	NA	mda
^{125}Sb	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 8.46E+02	±	mda	< 8.53E+02	±	mda	< 8.46E+02	NA	mda
^{126}Sb	0.45 µ (No AMP)	Rad	pCi/mL		NA		6.01E+02	±	4.99E+01	< 2.20E+02	±	mda	4.10E+02	2.49E+01	4.25E+02
^{126}Sn	0.45 µ (No AMP)	Rad	pCi/mL		NA		6.01E+02	±	4.99E+01	< 4.58E+02	±	mda	5.30E+02	2.49E+01	4.25E+02
^{144}Ce	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 1.59E+03	±	mda	< 1.65E+03	±	mda	< 1.59E+03	NA	mda
^{152}Eu	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 2.45E+03	±	mda	< 2.48E+03	±	mda	< 2.45E+03	NA	mda
^{154}Eu	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 4.08E+02	±	mda	< 4.09E+02	±	mda	< 4.08E+02	NA	mda
^{155}Eu	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 7.38E+02	±	mda	< 7.28E+03	±	mda	< 7.28E+03	NA	mda
^{231}Pa	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 9.66E+03	±	mda	< 9.95E+02	±	mda	< 9.66E+03	NA	mda
^{232}U	acid digested	Rad	pCi/mL	< 2.24E+02	±	upper limit	< 4.53E+02	±	upper limit	< 8.55E+02	±	upper limit	< 2.24E+02	NA	upper limit
^{59}Ni	acid digested	Rad	pCi/mL	< 3.29E+02	±	mda	< 2.87E+02	±	mda	< 1.60E+02	±	mda	< 1.60E+02	NA	mda
^{63}Ni	acid digested	Rad	pCi/mL	< 1.59E+03	±	mda	< 1.14E+03	±	mda	< 1.51E+03	±	mda	< 1.14E+03	NA	mda
^{147}Pm	acid digested	Rad	pCi/mL	< 6.07E+02	±	upper limit	< 1.07E+03	±	upper limit	< 2.13E+03	±	upper limit	< 6.07E+02	NA	upper limit
^{151}Sm	acid digested	Rad	pCi/mL	< 1.97E+03	±	upper	< 2.35E+03	±	upper limit	< 2.57E+03	±	upper limit	< 1.97E+03	NA	upper limit
^{79}Se	acid digested	Rad	pCi/mL	< 3.93E+02	±	mda	< 2.46E+02	±	mda	< 3.97E+02	±	mda	< 2.46E+02	NA	upper limit
^{242}Cm/^{252}Cf	acid digested	Rad	pCi/mL	2.46E+00	±	8.09E-01	2.12E+00	±	7.84E-01	< 1.24E+00	±	mda	1.94E+00	3.76E-01	1.33E+00
^{242}Cm/^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.76E+01	±	mda	< 6.73E+01	±	mda	< 9.90E+01	±	mda	< 2.76E+01	NA	mda
^{243}Cm	acid digested	Rad	pCi/mL	< 4.07E+01	±	mda	< 4.91E+01	±	mda	< 2.80E+02	±	mda	< 4.07E+01	NA	mda
^{243}Cm	0.45 µ (No AMP)	Rad	pCi/mL	< 9.09E+03	±	mda	< 9.90E+02	±	mda	< 9.39E+02	±	mda	< 9.90E+02	NA	mda
^{244}Cm	acid digested	Rad	pCi/mL	2.86E+03	±	5.58E+02	1.12E+03	±	2.21E+02	1.50E+03	±	2.93E+02	1.83E+03	2.22E+02	9.15E+02
^{244}Cm	0.45 µ (No AMP)	Rad	pCi/mL	3.14E+03	±	7.35E+02	1.51E+03	±	4.44E+02	8.06E+02	±	2.36E+02	1.82E+03	2.97E+02	1.20E+03
^{249}Cf	acid digestion	Rad	pCi/mL	< 5.42E+01	±	mda	< 1.57E+01	±	mda	< 1.60E+01	±	mda	< 1.57E+01	NA	mda
^{249}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.04E+03	±	mda	< 5.60E+03	±	mda	< 2.94E+03	±	mda	< 2.04E+03	NA	mda
^{251}Cf	acid digestion	Rad	pCi/mL	< 7.31E+01	±	mda	< 1.45E+02	±	mda	< 9.12E+01	±	mda	< 7.31E+01	NA	mda
^{251}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 3.00E+03	±	mda	< 5.98E+03	±	mda	< 3.55E+03	±	mda	< 3.00E+03	NA	mda

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

#Analysis conducted using gamma spectroscopy after cesium removal.

$Analysis conducted using more specific Am separation and radiocounting methodology.

6.5.2 Tank 45F Salt and Organic Species

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Na	unfiltered	ICPES	M	6.11E+00	±	6.11E-01	6.03E+00	±	6.03E-01		NA		6.07E+00	5.66E-02
Na	0.45 µ (No AMP)	ICPES	M	4.19E+00	±	4.19E-01	3.11E+00	±	3.11E-01	3.76E+00	±	3.76E-01	3.69E+00	5.44E-01
Na	0.45 µ (AMP)	ICPES	M	6.07E+00	±	6.07E-01	6.04E+00	±	6.04E-01	6.07E+00	±	6.07E-01	6.06E+00	1.73E-02
Na	0.45 µ (AMP)	AA	M	4.72E+00	±	4.72E-01	4.90E+00	±	4.90E-01	4.90E+00	±	4.90E-01	4.84E+00	1.00E-01
K	unfiltered	ICPES	M	1.56E-01	±	1.56E-02	1.56E-01	±	1.56E-02		NA		1.56E-01	0.00E+00
K	0.45 µ (AMP)	ICPES	M	5.64E-02	±	5.64E-03	5.54E-02	±	5.54E-03	5.76E-02	±	5.76E-03	5.65E-02	1.10E-03
K	0.45 µ (AMP)	AA	M	1.96E-03	±	1.96E-04	1.79E-03	±	1.79E-04	1.77E-03	±	1.77E-04	1.84E-03	1.04E-04
Al	unfiltered	ICPES	M	7.97E-02	±	7.97E-03	7.86E-02	±	7.86E-03		NA		7.92E-02	7.78E-04
As	0.45 µ (AMP)	AA	mg/L	4.24E-01	±	4.24E-02	4.14E-01	±	4.14E-02	4.08E-01	±	4.08E-02	4.15E-01	8.05E-03
Se	0.45 µ (AMP)	AA	mg/L	< 3.29E-01	±	mdl	< 3.29E-01	±	mdl	< 3.29E-01	±	mdl	< 3.29E-01	mda
Hg	0.45 µ (AMP)	AA	mg/L	< 2.90E+00	±	mdl	< 2.90E+00	±	mdl	< 2.90E+00	±	mdl	< 2.90E+00	mdl
Total Base	unfiltered	Titration	M	4.56E+00	±	4.56E-01	4.67E+00	±	4.67E-01	4.77E+00	±	4.77E-01	4.67E+00	1.06E-01
Free OH-	unfiltered	Titration	M	4.05E+00	±	4.05E-01	4.00E+00	±	4.00E-01	4.00E+00	±	4.00E-01	4.02E+00	2.97E-02
CO32-	unfiltered	Titration	M	< 2.25E-01	±	mdl	< 2.13E-01	±	mdl	< 2.16E-01	±	mdl	< 2.13E-01	mdl
Al(OH)4-	unfiltered	Titration	M	2.35E-01	±	2.35E-02	2.91E-01	±	2.91E-02	3.05E-01	±	3.05E-02	2.77E-01	3.70E-02
NO3-	unfiltered	IC	M	3.67E-01	±	3.67E-02		NA			NA		3.67E-01	3.67E-02
NO2-	unfiltered	IC	M	4.10E-01	±	4.10E-02		NA			NA		4.10E-01	4.10E-02
SO42-	unfiltered	IC	M	9.49E-04	±	9.49E-05		NA			NA		9.49E-04	9.49E-05
PO43-	unfiltered	IC	M	1.93E-03		1.93E-04		NA			NA		1.93E-03	1.93E-04
F-	unfiltered	IC	M	< 2.40E-03	±	mda		NA			NA		< 2.40E-03	mda
Cl-	unfiltered	IC	M	5.78E-03	±	5.78E-04		NA			NA		5.78E-03	5.78E-04
Br-	unfiltered	IC	M		NA			NA			NA		NA	NA
C2O42-	unfiltered	IC	M		NA			NA			NA		NA	NA
CHO2	unfiltered	IC	M		NA			NA			NA		NA	NA
TBP	unfiltered	IC	mg/L	< 5.63E+00	±	mda		NA			NA		< 5.63E+00	mda
DBP	unfiltered	IC	mg/L	< 5.32E+02	±	mda		NA			NA		< 5.32E+02	mda
VOA	unfiltered	GC-MS	mg/L	2.81E+01	±	2.81E+00		NA			NA		2.81E+01	2.81E+00
SVOA	unfiltered	GC-MS	mg/L	< 1.13E+02	±	mdl		NA			NA		< 1.13E+02	mdl
TIC	unfiltered	Titration	mg/L	9.20E+02	±	9.20E+01	1.51E+03	±	1.51E+02	1.87E+02	±	1.87E+01	8.72E+02	6.63E+02
TOC	unfiltered	Titration	mg/L	3.30E+03	±	8.25E+02	1.81E+03	±	4.53E+02	3.08E+03	±	7.70E+02	2.73E+03	8.04E+02
Total C	unfiltered	Titration	mg/L	4.22E+03	±	4.22E+02	3.33E+03	±	3.33E+02	3.27E+03	±	3.27E+02	3.61E+03	5.32E+02

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.
#Non-representative sample indicates that the data was determined to be inaccurate and unreflective of the actual sample value.

6.5.3 Tank 45F ICP-ES Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 9.58E+00	±	mdl	< 9.59E+00	±	mdl		NA		< 9.58E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	9.48E-01	±	mdl	8.82E-01	±	8.82E-02	9.61E-01	±	9.61E-02	9.31E-01	4.23E-02
Ag	0.1 µ (AMP)	ICPES	mg/L	< 2.62E-01	±	mdl	< 2.62E-01	±	mdl	< 2.62E-01	±	mdl	< 2.62E-01	mdl
Ag	0.02 µ (AMP)	ICPES	mg/L	6.33E-01	±	6.33E-02	5.89E-01	±	5.89E-02	7.38E-01	±	7.38E-02	6.53E-01	7.65E-02
Al	unfiltered	ICPES	M	7.97E-02	±	7.97E-03	7.86E-02	±	7.86E-03		NA		7.92E-02	7.78E-04
Al	0.45 µ (AMP)	ICPES	M	7.83E-02	±	7.83E-03	7.78E-02	±	7.78E-03	7.78E-02	±	7.78E-03	7.79E-02	2.96E-04
Al	0.1 µ (AMP)	ICPES	M	6.50E-02	±	6.50E-03	6.50E-02	±	6.50E-03	6.50E-02	±	6.50E-03	6.50E-02	9.31E-10
Al	0.02 µ (AMP)	ICPES	M	6.95E-02	±	6.95E-03	6.89E-02	±	6.89E-03	6.94E-02	±	6.94E-03	6.93E-02	3.07E-04
B	unfiltered	ICPES	mg/L	< 1.03E+03	±	mdl	< 1.04E+03	±	mdl		NA		< 1.03E+03	mdl
B	0.45 µ (AMP)	ICPES	mg/L	1.07E+02	±	1.07E+01	1.06E+02	±	1.06E+01	1.07E+02	±	1.07E+01	1.07E+02	6.58E-01
B	0.1 µ (AMP)	ICPES	mg/L	7.93E+01	±	7.93E+00	8.00E+01	±	8.00E+00	7.86E+01	±	7.86E+00	7.93E+01	6.55E-01
B	0.02 µ (AMP)	ICPES	mg/L	5.50E+01	±	5.50E+00	5.46E+01	±	5.46E+00	5.44E+01	±	5.44E+00	5.47E+01	3.18E-01
Ba	unfiltered	ICPES	mg/L	< 9.58E+00	±	mdl	< 9.58E+00	±	mdl		NA		< 9.58E+00	mdl
Ba	0.45 µ (AMP)	ICPES	mg/L	2.65E+00	±	2.65E-01	2.60E+00	±	2.60E-01	2.66E+00	±	2.66E-01	2.64E+00	3.11E-02
Ba	0.1 µ (AMP)	ICPES	mg/L	1.43E+00	±	1.43E-01	1.31E+00	±	1.31E-01	1.32E+00	±	1.32E-01	1.35E+00	6.63E-02
Ba	0.02 µ (AMP)	ICPES	mg/L	1.71E+00	±	1.71E-01	1.70E+00	±	1.70E-01	1.84E+00	±	1.84E-01	1.75E+00	7.66E-02
Ca	unfiltered	ICPES	mg/L	< 2.90E+02	±	mdl	< 2.90E+02	±	mdl		NA		< 2.90E+02	mdl
Ca	0.45 µ (AMP)	ICPES	mg/L	2.57E+01	±	2.57E+00	2.60E+01	±	2.60E+00	2.57E+01	±	2.57E+00	2.58E+01	1.74E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	5.24E+01	±	5.24E+00	5.22E+01	±	5.22E+00	5.19E+01	±	5.19E+00	5.22E+01	2.65E-01
Ca	0.02 µ (AMP)	ICPES	mg/L	3.31E+01	±	3.31E+00	3.18E+01	±	3.18E+00	3.27E+01	±	3.27E+00	3.25E+01	6.68E-01
Cd	unfiltered	ICPES	mg/L	< 1.28E+01	±	mdl	< 1.28E+01	±	mdl		NA		< 1.28E+01	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	1.23E+00	±	1.23E-01	1.46E+00	±	1.46E-01	1.24E+00	±	1.24E-01	1.31E+00	1.29E-01
Cd	0.1 µ (AMP)	ICPES	mg/L	< 7.86E-01	±	mdl	< 7.86E-01	±	mdl	< 7.86E-01	±	mdl	< 7.86E-01	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 7.45E-01	±	mdl	< 7.45E-01	±	mdl	< 7.44E-01	±	mdl	< 7.44E-01	mdl
Ce	unfiltered	ICPES	mg/L	< 1.59E+02	±	mdl	< 1.59E+02	±	mdl		NA		< 1.59E+02	mdl
Ce	0.45 µ (AMP)	ICPES	mg/L	1.22E+01	±	1.22E+00	1.15E+01	±	1.15E+00	1.30E+01	±	1.30E+00	1.22E+01	7.58E-01
Ce	0.1 µ (AMP)	ICPES	mg/L	< 3.34E+00	±	mdl	< 3.34E+00	±	mdl	< 3.34E+00	±	mdl	< 3.34E+00	mdl
Ce	0.02 µ (AMP)	ICPES	mg/L	1.37E+01	±	1.37E+00	1.26E+01	±	1.26E+00	1.46E+01	±	1.46E+00	1.36E+01	9.97E-01
Cr	unfiltered	ICPES	mg/L	< 1.09E+01	±	mdl	< 1.09E+01	±	mdl		NA		< 1.09E+01	mdl
Cr	0.45 µ (AMP)	ICPES	mg/L	< 2.63E+00	±	mdl	< 2.63E+00	±	mdl	< 2.63E+00	±	mdl	< 2.63E+00	mdl
Cr	0.1 µ (AMP)	ICPES	mg/L	1.11E+01	±	1.11E+00	7.47E+00	±	7.47E-01	7.14E+00	±	7.14E-01	8.56E+00	2.18E+00
Cr	0.02 µ (AMP)	ICPES	mg/L	< 2.48E+00	±	mdl	< 2.48E+00	±	mdl	< 2.48E+00	±	mdl	< 2.48E+00	mdl
Cu	unfiltered	ICPES	mg/L	< 1.98E+01	±	mdl	< 1.98E+01	±	mdl		NA		< 1.98E+01	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	1.25E+00	±	1.25E-01	1.34E+00	±	1.34E-01	1.30E+00	±	1.30E-01	1.30E+00	4.32E-02
Cu	0.1 µ (AMP)	ICPES	mg/L	1.02E+00	±	1.02E-01	1.00E+00	±	1.00E-01	1.00E+00	±	1.00E-01	1.01E+00	1.14E-02
Cu	0.02 µ (AMP)	ICPES	mg/L	< 6.21E-01	±	mdl	< 6.21E-01	±	mdl	< 6.20E-01	±	mdl	< 6.20E-01	mdl
Fe	unfiltered	ICPES	mg/L	< 1.41E+01	±	mdl	< 1.41E+01	±	mdl		NA		< 1.41E+01	mdl
Fe	0.45 µ (AMP)	ICPES	mg/L	4.68E+00	±	4.68E-01	4.85E+00	±	4.85E-01	4.90E+00	±	4.90E-01	4.81E+00	1.18E-01
Fe	0.1 µ (AMP)	ICPES	mg/L	5.11E+01	±	5.11E+00	3.10E+01	±	3.10E+00	3.01E+01	±	3.01E+00	3.74E+01	1.19E+01
Fe	0.02 µ (AMP)	ICPES	mg/L	9.75E+00	±	9.75E-01	6.58E+00	±	6.58E-01	6.15E+00	±	6.15E-01	7.49E+00	1.97E+00
Gd	unfiltered	ICPES	mg/L	< 1.72E+01	±	mdl	< 1.72E+01	±	mdl		NA		< 1.72E+01	mdl
Gd	0.45 µ (AMP)	ICPES	mg/L	1.05E+00	±	1.05E-01	9.75E-01	±	9.75E-02	1.10E+00	±	1.10E-01	1.04E+00	6.33E-02
Gd	0.1 µ (AMP)	ICPES	mg/L	6.55E-01	±	6.55E-02	< 5.24E-01	±	mdl	< 5.24E-01	±	mdl	5.68E-01	3.78E-01
Gd	0.02 µ (AMP)	ICPES	mg/L	1.91E+00	±	1.91E-01	1.85E+00	±	1.85E-01	2.07E+00	±	2.07E-01	1.94E+00	1.13E-01
K	unfiltered	ICPES	M	1.56E-01	±	1.56E-02	1.56E-01	±	1.56E-02		NA		1.56E-01	0.00E+00
K	0.45 µ (AMP)	ICPES	M	5.64E-02	±	5.64E-03	5.54E-02	±	5.54E-03	5.76E-02	±	5.76E-03	5.65E-02	1.10E-03
K	0.1 µ (AMP)	ICPES	M	4.60E-02	±	4.60E-03	4.40E-02	±	4.40E-03	4.54E-02	±	4.54E-03	4.51E-02	1.03E-03
K	0.02 µ (AMP)	ICPES	M	4.79E-02	±	4.79E-03	4.76E-02	±	4.76E-03	4.85E-02	±	4.85E-03	4.80E-02	4.51E-04
La	unfiltered	ICPES	mg/L	< 1.28E+01	±	mdl	< 1.28E+01	±	mdl		NA		< 1.28E+01	mdl
La	0.45 µ (AMP)	ICPES	mg/L	1.51E+00	±	1.51E-01	1.51E+00	±	1.51E-01	1.58E+00	±	1.58E-01	1.54E+00	3.80E-02
La	0.1 µ (AMP)	ICPES	mg/L	1.17E+00	±	1.17E-01	8.58E-01	±	8.58E-02	7.21E-01	±	7.21E-02	9.17E-01	2.32E-01
La	0.02 µ (AMP)	ICPES	mg/L	2.30E+00	±	2.30E-01	2.16E+00	±	2.16E-01	2.52E+00	±	2.52E-01	2.33E+00	1.81E-01
Li	unfiltered	ICPES	mg/L	< 5.43E+01	±	mdl	< 5.43E+01	±	mdl		NA		< 5.43E+01	mdl
Li	0.45 µ (AMP)	ICPES	mg/L	2.36E+00	±	2.36E-01	2.35E+00	±	2.35E-01	2.33E+00	±	2.33E-01	2.35E+00	1.37E-02
Li	0.1 µ (AMP)	ICPES	mg/L	6.49E-01	±	6.49E-02	< 1.97E-01	±	mdl	< 1.97E-01	±	1.97E-02	3.47E-01	3.75E-01
Li	0.02 µ (AMP)	ICPES	mg/L	3.66E+00	±	3.66E-01	3.48E+00	±	3.48E-01	4.11E+00	±	4.11E-01	3.75E+00	3.25E-01
Mg	unfiltered	ICPES	mg/L	< 3.96E+01	±	mdl	< 3.96E+01	±	mdl		NA		< 3.96E+01	mdl
Mg	0.45 µ (AMP)	ICPES	mg/L	3.45E+00	±	3.45E-01	3.45E+00	±	3.45E-01	3.48E+00	±	3.48E-01	3.46E+00	1.90E-02
Mg	0.1 µ (AMP)	ICPES	mg/L	8.91E+00	±	8.91E-01	8.85E+00	±	8.85E-01	8.78E+00	±	8.78E-01	8.85E+00	6.55E-02
Mg	0.02 µ (AMP)	ICPES	mg/L	5.61E+00	±	5.61E-01	5.47E+00	±	5.47E-01	5.64E+00	±	5.64E-01	5.58E+00	9.09E-02

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Mn	unfiltered	ICPES	mg/L	< 1.41E+01	±	mdl	< 1.41E+01	±	mdl		NA		< 1.41E+01	mdl
Mn	0.45 µ (AMP)	ICPES	mg/L	< 1.98E-01	±	mdl	< 1.98E-01	±	mdl	< 1.98E-01	±	mdl	< 1.98E-01	mdl
Mn	0.1 µ (AMP)	ICPES	mg/L	6.75E+00	±	6.75E-01	4.44E+00	±	4.44E-01	4.48E+00	±	4.48E-01	5.22E+00	1.32E+00
Mn	0.02 µ (AMP)	ICPES	mg/L	< 1.86E-01	±	mdl	< 1.86E-01	±	mdl	< 1.86E-01	±	mdl	< 1.86E-01	mdl
Mo	unfiltered	ICPES	mg/L	< 1.30E+02	±	mdl	< 1.30E+02	±	mdl		NA		< 1.30E+02	mdl
Mo	0.45 µ (AMP)	ICPES	mg/L	6.35E+02	±	6.35E+01	6.30E+02	±	6.30E+01	6.45E+02	±	6.45E+01	6.37E+02	7.69E+00
Mo	0.1 µ (AMP)	ICPES	mg/L	2.61E+01	±	2.61E+00	2.25E+01	±	2.25E+00	2.44E+01	±	2.44E+00	2.43E+01	1.77E+00
Mo	0.02 µ (AMP)	ICPES	mg/L	2.58E+01	±	2.58E+00	2.53E+01	±	2.53E+00	2.59E+01	±	2.59E+00	2.57E+01	3.07E-01
Na	unfiltered	ICPES	M	6.11E+00	±	6.11E-01	6.03E+00	±	6.03E-01		NA		6.07E+00	5.66E-02
Na	0.45 µ (AMP)	ICPES	M	6.07E+00	±	6.07E-01	6.04E+00	±	6.04E-01	6.07E+00	±	6.07E-01	6.06E+00	1.73E-02
Na	0.1 µ (AMP)	ICPES	M	4.99E+00	±	4.99E-01	5.01E+00	±	5.01E-01	4.93E+00	±	4.93E-01	4.98E+00	4.16E-02
Na	0.02 µ (AMP)	ICPES	M	5.37E+00	±	5.37E-01	5.29E+00	±	5.29E-01	5.29E+00	±	5.29E-01	5.32E+00	4.62E-02
Ni	unfiltered	ICPES	mg/L	< 4.79E+01	±	mdl	< 4.79E+01	±	mdl		NA		< 4.79E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	< 2.96E+00	±	mdl	< 2.96E+00	±	mdl	< 2.96E+00	±	mdl	< 2.96E+00	mdl
Ni	0.1 µ (AMP)	ICPES	mg/L	4.29E+00	±	4.29E-01	3.57E+00	±	3.57E-01	< 2.95E+00	±	mdl	3.60E+00	2.30E+00
Ni	0.02 µ (AMP)	ICPES	mg/L	< 2.79E+00	±	mdl	< 2.79E+00	±	mdl	< 2.79E+00	±	mdl	< 2.79E+00	mdl
P	unfiltered	ICPES	mg/L	< 3.10E+02	±	mdl	< 3.10E+02	±	mdl		NA		3.10E+02	mdl
P	0.45 µ (AMP)	ICPES	mg/L	1.57E+02	±	1.57E+01	1.55E+02	±	1.55E+01	1.54E+02	±	1.54E+01	1.55E+02	1.37E+00
P	0.1 µ (AMP)	ICPES	mg/L	1.08E+02	±	1.08E+01	9.50E+01	±	9.50E+00	1.02E+02	±	1.02E+01	1.02E+02	6.56E+00
P	0.02 µ (AMP)	ICPES	mg/L	1.30E+02	±	1.30E+01	1.29E+02	±	1.29E+01	1.25E+02	±	1.25E+01	1.28E+02	2.84E+00
Pb	unfiltered	ICPES	mg/L	< 1.57E+02	±	mdl	< 1.57E+02	±	mdl		NA		< 1.57E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 1.88E+01	±	mdl	< 1.88E+01	±	mdl	< 1.88E+01	±	mdl	< 1.88E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 1.87E+01	±	mdl	< 1.87E+01	±	mdl	< 1.87E+01	±	mdl	< 1.87E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 1.78E+01	±	mdl	< 1.78E+01	±	mdl	< 1.78E+01	±	mdl	< 1.78E+01	mdl
S	unfiltered	ICPES	mg/L	< 2.44E+02	±	mdl	< 2.44E+02	±	mdl		NA		< 2.44E+02	mdl
S	0.45 µ (AMP)	ICPES	mg/L	1.26E+02	±	1.26E+01	1.24E+02	±	1.24E+01	1.24E+02	±	1.24E+01	1.25E+02	7.60E-01
S	0.1 µ (AMP)	ICPES	mg/L	1.37E+02	±	1.37E+01	1.30E+02	±	1.30E+01	1.32E+02	±	1.32E+01	1.33E+02	3.73E+00
S	0.02 µ (AMP)	ICPES	mg/L	1.62E+02	±	1.62E+01	1.56E+02	±	1.56E+01	1.60E+02	±	1.60E+01	1.60E+02	2.82E+00
Sb	unfiltered	ICPES	mg/L	< 9.65E+01	±	mdl	< 9.65E+01	±	mdl		NA		< 9.65E+01	mdl
Sb	0.45 µ (AMP)	ICPES	mg/L	1.11E+01	±	1.11E+00	1.15E+01	±	1.15E+00	1.21E+01	±	1.21E+00	1.15E+01	4.67E-01
Sb	0.1 µ (AMP)	ICPES	mg/L	7.47E+00	±	7.47E-01	6.88E+00	±	6.88E-01	6.53E+00	±	6.53E-01	6.96E+00	4.74E-01
Sb	0.02 µ (AMP)	ICPES	mg/L	9.50E+00	±	9.50E-01	9.13E+00	±	9.13E-01	9.18E+00	±	9.18E-01	9.27E+00	2.02E-01
Si	unfiltered	ICPES	mg/L	< 2.36E+01	±	mdl	< 2.36E+01	±	mdl		NA		< 2.36E+01	mdl
Si	0.45 µ (AMP)	ICPES	mg/L	1.84E+01	±	1.84E+00	1.90E+01	±	1.90E+00	1.89E+01	±	1.89E+00	1.88E+01	2.87E-01
Si	0.1 µ (AMP)	ICPES	mg/L	1.38E+01	±	1.38E+00	1.38E+01	±	1.38E+00	1.33E+01	±	1.33E+00	1.36E+01	2.65E-01
Si	0.02 µ (AMP)	ICPES	mg/L	3.32E+00	±	3.32E-01	2.17E+00	±	2.17E-01	2.36E+00	±	2.36E-01	2.62E+00	6.17E-01
Sn	unfiltered	ICPES	mg/L	< 1.57E+02	±	mdl	< 1.57E+02	±	mdl		NA		< 1.57E+02	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	9.15E+00	±	9.15E-01	1.03E+01	±	1.03E+00	9.15E+00	±	9.15E-01	9.53E+00	6.46E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	< 7.47E+00	±	mdl	< 7.47E+00	±	mdl	< 7.47E+00	±	mdl	< 7.47E+00	mdl
Sn	0.02 µ (AMP)	ICPES	mg/L	7.64E+00	±	7.64E-01	7.58E+00	±	7.58E-01	8.99E+00	±	8.99E-01	8.07E+00	7.99E-01
Sr	unfiltered	ICPES	mg/L	< 6.39E+01	±	mdl	< 6.39E+01	±	mdl		NA		< 6.39E+01	mdl
Sr	0.45 µ (AMP)	ICPES	mg/L	6.19E+00	±	6.19E-01	6.18E+00	±	6.18E-01	6.28E+00	±	6.28E-01	6.22E+00	5.14E-02
Sr	0.1 µ (AMP)	ICPES	mg/L	1.23E+01	±	1.23E+00	1.22E+01	±	1.22E+00	1.23E+01	±	1.23E+00	1.23E+01	7.57E-02
Sr	0.02 µ (AMP)	ICPES	mg/L	8.51E+00	±	8.51E-01	8.26E+00	±	8.26E-01	8.37E+00	±	8.37E-01	8.38E+00	1.24E-01
Ti	unfiltered	ICPES	mg/L	< 3.83E+00	±	mdl	< 3.83E+00	±	mdl		NA		< 3.83E+00	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 8.56E-01	±	mdl	< 8.56E-01	±	mdl	< 8.56E-01	±	mdl	< 8.56E-01	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 8.07E-01	±	mdl	< 8.06E-01	±	mdl	< 8.06E-01	±	mdl	< 8.06E-01	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 8.07E-01	±	mdl	< 8.07E-01	±	mdl	< 8.07E-01	±	mdl	< 8.07E-01	mdl
U	unfiltered	ICPES	mg/L	< 4.82E+02	±	mdl	< 4.82E+02	±	mdl		NA		4.82E+02	mdl
U	0.45 µ (AMP)	ICPES	mg/L	< 4.27E+01	±	mdl	< 4.27E+01	±	mdl	< 4.27E+01	±	mdl	< 4.27E+01	mdl
U	0.1 µ (AMP)	ICPES	mg/L	< 1.14E+01	±	mdl	< 1.14E+01	±	mdl	< 1.14E+01	±	mdl	< 1.14E+01	mdl
U	0.02 µ (AMP)	ICPES	mg/L	2.94E+01	±	2.94E+00	2.81E+01	±	2.81E+00	3.31E+01	±	3.31E+00	3.02E+01	2.60E+00
V	unfiltered	ICPES	mg/L	< 7.03E+00	±	mdl	< 7.03E+00	±	mdl		NA		< 7.03E+00	mdl
V	0.45 µ (AMP)	ICPES	mg/L	3.79E+00	±	3.79E-01	3.66E+00	±	3.66E-01	4.14E+00	±	4.14E-01	3.87E+00	2.48E-01
V	0.1 µ (AMP)	ICPES	mg/L	3.06E+00	±	3.06E-01	3.17E+00	±	3.17E-01	2.96E+00	±	2.96E-01	3.06E+00	1.02E-01
V	0.02 µ (AMP)	ICPES	mg/L	2.25E+00	±	2.25E-01	2.21E+00	±	2.21E-01	2.25E+00	±	2.25E-01	2.24E+00	2.21E-02
Zn	unfiltered	ICPES	mg/L	< 7.67E+00	±	mdl	< 7.67E+00	±	mdl		NA		< 7.67E+00	mdl
Zn	0.45 µ (AMP)	ICPES	mg/L	1.67E+01	±	1.67E+00	1.67E+01	±	1.67E+00	1.68E+01	±	1.68E+00	1.67E+01	7.60E-02
Zn	0.1 µ (AMP)	ICPES	mg/L	1.39E+01	±	1.39E+00	1.36E+01	±	1.36E+00	1.36E+01	±	1.36E+00	1.37E+01	1.89E-01
Zn	0.02 µ (AMP)	ICPES	mg/L	1.54E+01	±	1.54E+00	1.47E+01	±	1.47E+00	1.48E+01	±	1.48E+00	1.50E+01	3.95E-01
Zr	unfiltered	ICPES	mg/L	< 7.67E+00	±	mdl	< 7.67E+00	±	mdl		NA		< 7.67E+00	mdl
Zr	0.45 µ (AMP)	ICPES	mg/L	< 9.22E-01	±	mdl	< 9.22E-01	±	mdl	< 9.22E-01	±	mdl	9.22E-01	mdl
Zr	0.1 µ (AMP)	ICPES	mg/L	< 9.17E-01	±	mdl	< 9.17E-01	±	mdl	< 9.17E-01	±	mdl	9.17E-01	mdl
Zr	0.02 µ (AMP)	ICPES	mg/L	< 8.69E-01	±	mdl	< 8.69E-01	±	mdl	< 8.69E-01	±	mdl	8.69E-01	mdl

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.5.4 Tank 45F ICP-MS Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Zr	acid digested	ICP-MS	mg/L	2.11E-01	±	5.28E-02	1.86E-01	±	4.65E-02	2.02E-01	±	5.06E-02	2.00E-01	1.27E-02
Zr	0.45 µ (AMP)	ICP-MS	mg/L	7.44E-02	±	1.86E-02	bdl	±	bdl	9.22E-02	±	2.31E-02	8.33E-02	1.26E-02
Zr	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	7.90E-02	±	1.98E-02	bdl	±	bdl	7.90E-02	1.98E-02
Zr	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Tc-99	acid digested	ICP-MS	mg/L	2.54E+00	±	6.34E-01	2.73E+00	±	6.83E-01	2.69E+00	±	6.72E-01	2.65E+00	1.02E-01
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	3.19E+00	±	7.98E-01	3.01E+00	±	7.53E-01	2.84E+00	±	7.10E-01	3.01E+00	1.76E-01
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	2.81E+00	±	7.03E-01	2.78E+00	±	6.95E-01	2.92E+00	±	7.29E-01	2.84E+00	1.65E+00
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	2.63E+00	±	6.56E-01	2.62E+00	±	6.55E-01	2.70E+00	±	6.75E-01	2.65E+00	1.54E+00
Tc-99	acid digested	ICP-MS	pCi/mL	4.31E+04	±	1.08E+04	4.64E+04	±	1.16E+04	4.56E+04	±	1.14E+04	4.50E+04	1.73E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	5.41E+04	±	1.35E+04	5.11E+04	±	1.28E+04	4.82E+04	±	1.20E+04	5.11E+04	2.99E+03
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	4.77E+04	±	1.19E+04	4.72E+04	±	1.18E+04	4.95E+04	±	1.24E+04	4.81E+04	1.21E+03
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	4.46E+04	±	1.11E+04	4.44E+04	±	1.11E+04	4.58E+04	±	1.15E+04	4.49E+04	7.57E+02
Mo	acid digested	ICP-MS	mg/L	1.63E+01	±	4.07E+00	1.79E+01	±	4.48E+00	1.76E+01	±	4.41E+00	1.73E+01	8.68E-01
Mo	0.45 µ (AMP)	ICP-MS	mg/L	1.47E+02	±	3.66E+01	1.40E+02	±	3.50E+01	1.32E+02	±	3.29E+01	1.39E+02	7.46E+00
Mo	0.1 µ (AMP)	ICP-MS	mg/L	4.17E+01	±	1.04E+01	3.23E+01	±	8.08E+00	3.93E+01	±	9.83E+00	3.78E+01	4.89E+00
Mo	0.02 µ (AMP)	ICP-MS	mg/L	4.71E+01	±	1.18E+01	4.89E+01	±	1.22E+01	3.86E+01	±	9.65E+00	4.49E+01	5.50E+00
Ag	acid digested	ICP-MS	mg/L	4.96E-02	±	1.24E-02	5.51E-02	±	1.38E-02	5.91E-02	±	1.48E-02	5.46E-02	4.75E-03
Ag	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ag	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ag	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pd	acid digested	ICP-MS	mg/L	1.80E-02	±	4.50E-03	1.53E-02	±	3.81E-03	2.04E-02	±	5.09E-03	1.79E-02	2.56E-03
Pd	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	6.19E-03	±	1.55E-03	bdl	±	bdl	6.19E-03	1.55E-03
Pd	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	9.56E-03	±	2.39E-03	9.56E-03	2.39E-03
Pd	0.02 µ (AMP)	ICP-MS	mg/L	7.27E-03	±	1.82E-03	bdl	±	bdl	9.66E-03	±	2.41E-03	9.66E-03	2.41E-03
Rh	acid digested	ICP-MS	mg/L	6.78E-01	±	1.70E-01	7.28E-01	±	1.82E-01	7.37E-01	±	1.84E-01	7.15E-01	3.16E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	8.02E-01	±	2.01E-01	7.78E-01	±	1.95E-01	7.08E-01	±	1.77E-01	7.63E-01	4.88E-02
Rh	0.1 µ (AMP)	ICP-MS	mg/L	7.02E-01	±	1.75E-01	6.69E-01	±	1.67E-01	7.65E-01	±	1.91E-01	7.12E-01	4.86E-02
Rh	0.02 µ (AMP)	ICP-MS	mg/L	7.10E-01	±	1.78E-01	5.46E-01	±	1.37E-01	7.33E-01	±	1.83E-01	6.63E-01	1.02E-01
Ru	acid digested	ICP-MS	mg/L	6.15E-02	±	1.54E-02	7.02E-02	±	1.76E-02	7.99E-02	±	2.00E-02	7.06E-02	9.19E-03
Ru	0.45 µ (AMP)	ICP-MS	mg/L	3.47E-02	±	8.67E-03	4.50E-03	±	1.13E-03	3.59E-02	±	8.98E-03	2.50E-02	1.78E-02
Ru	0.1 µ (AMP)	ICP-MS	mg/L	4.79E-02	±	1.20E-02	3.09E-02	±	7.72E-03	3.26E-03	±	8.16E-04	2.74E-02	2.25E-02
Ru	0.02 µ (AMP)	ICP-MS	mg/L	3.53E-03	±	bdl	bdl	±	bdl	4.80E-03	±	1.20E-03	4.17E-03	1.20E-03
Cd	acid digested	ICP-MS	mg/L	1.02E-01	±	2.55E-02	1.05E-01	±	2.64E-02	1.10E-01	±	2.75E-02	1.06E-01	3.99E-03
Cd	0.45 µ (AMP)	ICP-MS	mg/L	3.10E-01	±	7.76E-02	2.69E-01	±	6.72E-02	3.86E-01	±	9.64E-02	3.22E-01	5.92E-02
Cd	0.1 µ (AMP)	ICP-MS	mg/L	1.43E-01	±	3.57E-02	1.73E-01	±	4.33E-02	1.15E-01	±	2.89E-02	1.44E-01	2.89E-02
Cd	0.02 µ (AMP)	ICP-MS	mg/L	1.59E-01	±	3.97E-02	1.72E-01	±	4.31E-02	1.07E-01	±	2.66E-02	1.46E-01	3.47E-02
Sn	acid digested	ICP-MS	mg/L	1.96E+00	±	4.89E-01	2.11E+00	±	5.29E-01	2.09E+00	±	5.23E-01	2.05E+00	8.49E-02
Sn	0.45 µ (AMP)	ICP-MS	mg/L	2.27E+00	±	5.67E-01	2.17E+00	±	5.43E-01	2.04E+00	±	5.11E-01	2.16E+00	1.13E-01
Sn	0.1 µ (AMP)	ICP-MS	mg/L	1.94E+00	±	4.84E-01	1.93E+00	±	4.83E-01	2.28E+00	±	5.70E-01	2.05E+00	1.99E-01
Sn	0.02 µ (AMP)	ICP-MS	mg/L	2.41E+00	±	6.03E-01	2.04E+00	±	5.11E-01	2.14E+00	±	5.36E-01	2.20E+00	1.91E-01
La	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
La	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
La	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
La	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.02 µ (AMP)	ICP-MS	mg/L	6.50E-03	±	1.63E-03	bdl	±	bdl	bdl	±	bdl	6.50E-03	1.63E-03
W	acid digested	ICP-MS	mg/L	6.33E-01	±	1.58E-01	6.63E-01	±	1.66E-01	6.51E-01	±	1.63E-01	6.49E-01	1.53E-02
W	0.45 µ (AMP)	ICP-MS	mg/L	1.09E+00	±	2.71E-01	7.35E-01	±	1.84E-01	9.25E-01	±	2.31E-01	9.15E-01	1.76E-01
W	0.1 µ (AMP)	ICP-MS	mg/L	8.77E-01	±	2.19E-01	8.74E-01	±	2.18E-01	6.63E-01	±	1.66E-01	8.05E-01	1.23E-01
W	0.02 µ (AMP)	ICP-MS	mg/L	6.71E-01	±	1.68E-01	5.92E-01	±	1.48E-01	6.21E-01	±	1.55E-01	6.28E-01	3.99E-02

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Re	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Re	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	8.75E-03	±	2.19E-03	bdl	±	bdl	8.75E-03	2.19E-03
Re	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	8.04E-03	±	2.01E-03	8.04E-03	2.01E-03
Re	0.02 µ (AMP)	ICP-MS	mg/L	1.10E-02	±	2.75E-03	bdl	±	bdl	7.68E-03	±	1.92E-03	1.10E-02	2.75E-03
Os	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	acid digested	ICP-MS	mg/L	2.24E-02	±	5.60E-03	2.87E-02	±	7.17E-03	2.39E-02	±	5.98E-03	2.50E-02	3.28E-03
Pt	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	2.29E-02	±	5.72E-03	bdl	±	bdl	2.29E-02	5.72E-03
Pt	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	
Au	acid digested	ICP-MS	mg/L	2.26E+00	±	5.66E-01	1.85E+00	±	4.63E-01	1.77E+00	±	4.43E-01	2.06E+00	2.64E-01
Au	0.45 µ (AMP)	ICP-MS	mg/L	1.07E+00	±	2.67E-01	bdl	±	bdl	1.05E+00	±	2.62E-01	1.06E+00	1.51E-02
Au	0.1 µ (AMP)	ICP-MS	mg/L	7.04E-01	±	1.76E-01	3.91E-01	±	9.78E-02	bdl	±	bdl	5.48E-01	2.21E-01
Au	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.45 µ (AMP)	ICP-MS	mg/L	1.08E-02	±	2.70E-03	bdl	±	bdl	bdl	±	bdl	1.08E-02	2.70E-03
Hg	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	acid digested	ICP-MS	mg/L	1.49E+00	±	3.73E-01	1.59E+00	±	3.97E-01	1.58E+00	±	3.96E-01	1.55E+00	5.49E-02
Pb	0.45 µ (AMP)	ICP-MS	mg/L	1.88E+00	±	4.69E-01	1.38E+00	±	3.45E-01	1.69E+00	±	4.21E-01	1.65E+00	2.52E-01
Pb	0.1 µ (AMP)	ICP-MS	mg/L	1.66E+00	±	4.16E-01	1.57E+00	±	3.93E-01	1.38E+00	±	3.45E-01	1.54E+00	1.43E-01
Pb	0.02 µ (AMP)	ICP-MS	mg/L	1.16E+00	±	2.90E-01	1.11E+00	±	2.77E-01	1.14E+00	±	2.86E-01	1.14E+00	2.70E-02
U-235	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-235	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-235	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-235	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	1.79E-02	±	4.48E-03	bdl	±	bdl	1.79E-02	4.48E-03
U-238	acid digested	ICP-MS	mg/L	3.53E-01	±	8.82E-02	3.92E-01	±	9.80E-02	3.84E-01	±	9.61E-02	3.76E-01	2.09E-02
U-238	0.45 µ (AMP)	ICP-MS	mg/L	5.63E-01	±	1.41E-01	3.74E-01	±	9.34E-02	5.04E-01	±	1.26E-01	4.80E-01	9.68E-02
U-238	0.1 µ (AMP)	ICP-MS	mg/L	4.71E-01	±	1.18E-01	4.81E-01	±	1.20E-01	3.97E-01	±	9.92E-02	4.50E-01	4.59E-02
U-238	0.02 µ (AMP)	ICP-MS	mg/L	7.89E-01	±	1.97E-01	8.79E-01	±	2.20E-01	4.90E-01	±	1.23E-01	7.20E-01	2.04E-01
Total U	acid digested	ICP-MS	mg/L	3.53E-01			3.92E-01			3.84E-01			3.76E-01	2.09E-02
Total U	0.45 µ (AMP)	ICP-MS	mg/L	5.63E-01			3.74E-01			5.04E-01			4.80E-01	9.68E-02
Total U	0.1 µ (AMP)	ICP-MS	mg/L	4.71E-01			4.81E-01			3.97E-01			4.50E-01	4.59E-02
Total U	0.02 µ (AMP)	ICP-MS	mg/L	8.03E-01			9.12E-01			4.90E-01			4.90E-01	2.19E-01

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
% U235	acid digested	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U238	acid digested	ICP-MS	%	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	0.00E+00
% U235	0.45 µ (AMP)	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U238	0.45 µ (AMP)	ICP-MS	%	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	0.00E+00
% U235	0.1 µ (AMP)	ICP-MS	%	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U238	0.1 µ (AMP)	ICP-MS	%	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	0.00E+00
% U235	0.02 µ (AMP)	ICP-MS	%	0.00E+00	±	0.00E+00	1.97E+00	±	0.00E+00	0.00E+00	±	0.00E+00	0.00E+00	0.00E+00
% U238	0.02 µ (AMP)	ICP-MS	%	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	±	2.50E+01	1.00E+02	0.00E+00
U-235	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	3.90E-02	±	9.75E-03	bdl	±	bdl	3.90E-02	9.75E-03
U-238	acid digested	ICP-MS	pCi/mL	1.17E-01	±	2.93E-02	1.31E-01	±	3.26E-02	1.28E-01	±	3.20E-02	1.25E-01	7.20E-03
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	1.87E-01	±	4.68E-02	1.24E-01	±	3.10E-02	1.68E-01	±	4.20E-02	1.60E-01	3.23E-02
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	1.57E-01	±	3.93E-02	1.60E-01	±	4.00E-02	1.32E-01	±	3.30E-02	1.50E-01	1.54E-02
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	2.63E-01	±	6.58E-02	2.93E-01	±	7.32E-02	1.63E-01	±	4.08E-02	2.40E-01	6.78E-02
Np-237	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	1.85E-02	±	4.62E-03	1.92E-02	±	4.81E-03	bdl	±	bdl	1.89E-02	5.48E-04
Pu-239	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	1.13E+03	±	2.83E+02	1.18E+03	±	2.96E+02	bdl	±	bdl	1.16E+03	3.48E+01
Pu-240	acid digested	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	acid digested	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.5.5 Tank 45F Radioactive Species No AMP Treatment

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Method Uncertainty	Standard Deviation
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL		NA		3.51E+08	±	5.86E+06	3.43E+08	±	5.80E+06	3.47E+08	4.12E+06	5.66E+06
^{90}Sr	0.45 µ (No AMP)	Rad	pCi/mL	1.70E+04	±	1.45E+03	8.22E+04	±	6.33E+03	2.33E+04	±	2.00E+03	4.08E+04	2.26E+03	3.60E+04
^{90}Sr	0.1 µ (No AMP)	Rad	pCi/mL	2.62E+04	±	4.82E+03	1.75E+04	±	3.05E+03	3.30E+03	±	5.91E+02	1.57E+04	1.91E+03	1.16E+04
^{90}Sr	0.02 µ (No AMP)	Rad	pCi/mL	5.40E+05	±	9.29E+04	2.02E+04	±	3.64E+03	2.09E+04	±	3.74E+03	1.94E+05	3.10E+04	3.00E+05
^{238}Pu	0.45 µ (No AMP)	Rad	pCi/mL	< 1.76E+02	±	upper limit	< 7.64E+03	±	upper limit	< 2.37E+03	±	upper limit	< 1.76E+02	NA	upper limit
^{238}Pu	0.1 µ (No AMP)	Rad	pCi/mL	1.15E+03	±	2.48E+02	9.25E+02	±	1.42E+02	1.28E+03	±	1.32E+02	1.12E+03	1.05E+02	1.80E+02
^{238}Pu	0.02 µ (No AMP)	Rad	pCi/mL	1.81E+03	±	3.49E+02	1.32E+03	±	2.82E+02	1.16E+03	±	1.74E+02	1.43E+03	1.61E+02	3.39E+02
$^{239/40}$Pu	0.45 µ (No AMP)	Rad	pCi/mL	< 2.33E+02	±	upper limit	< 2.98E+02	±	upper limit	< 3.87E+02	±	upper limit	< 2.33E+02	NA	upper limit
$^{239/40}$Pu	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.1 µ (No AMP)	Rad	pCi/mL	< 6.75E+01	±	mda	2.10E+02	±	5.46E+01	5.77E+02	±	1.05E+02	2.85E+02	3.94E+01	2.92E+02
$^{239/40}$Pu	0.1 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
$^{239/40}$Pu	0.02 µ (No AMP)	Rad	pCi/mL	7.83E+02	±	2.33E+02	6.91E+02	±	3.03E+02	2.53E+02	±	1.37E+02	5.76E+02	1.35E+02	2.83E+02
$^{239/40}$Pu	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{241}Pu	0.45 µ (No AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.1 µ (No AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
^{241}Pu	0.02 µ (No AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA
Total Pu	0.45 µ (No AMP)	Rad	pCi/mL	< 2.33E+02		NA	< 7.64E+03		NA	< 2.37E+03		NA	< 2.33E+02	NA	bdl
Total Pu	0.1 µ (No AMP)	Rad	pCi/mL	1.15E+03		NA	1.14E+03		NA	1.86E+03		NA	1.38E+03	NA	4.13E+02
Total Pu	0.02 µ (No AMP)	Rad	pCi/mL	2.59E+03		NA	2.01E+03		NA	1.41E+03		NA	2.01E+03	NA	5.90E+02
^{235}U	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{235}U	0.1 µ (No AMP)	ICP-MS	pCi/mL		NA		bdl	±	bdl		NA		bdl	NA	bdl
^{235}U	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{238}U	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.76E-01	±	4.40E-02	2.27E-01	±	5.68E-02	2.16E-01	±	5.40E-02	2.06E-01	NA	2.68E-02
^{238}U	0.1 µ (No AMP)	ICP-MS	pCi/mL		NA		2.00E-01	±	5.00E-02	1.96E-01	±	4.90E-02	1.98E-01	NA	2.83E-03
^{238}U	0.02 µ (No AMP)	ICP-MS	pCi/mL	2.06E-01	±	5.15E-02	1.85E-01	±	4.63E-02	2.14E-01	±	5.35E-02	2.02E-01	NA	1.50E-02
Total U	0.45 µ (No AMP)	ICP-MS	mg/L	5.30E-01		NA	6.83E-01		NA	6.48E-01		NA	6.20E-01	NA	8.02E-02
Total U	0.1 µ (No AMP)	ICP-MS	mg/L		NA		6.01E-01		NA	5.87E-01		NA	5.94E-01	NA	9.90E-03
Total U	0.02 µ (No AMP)	ICP-MS	mg/L	6.19E-01		NA	5.55E-01		NA	6.44E-01		NA	6.06E-01	NA	4.59E-02
^{237}Np	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{237}Np	0.1 µ (No AMP)	ICP-MS	pCi/mL		NA		bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{237}Np	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl
^{241}Am	0.45 µ (No AMP)	Rad#	pCi/mL	< 1.06E+04	±	upper limit	< 6.15E+03	±	upper limit	< 2.94E+03	±	upper limit	< 2.94E+03	NA	upper limit
^{241}Am	0.1 µ (No AMP)	Rad$	pCi/mL	< 4.67E+02	±	mda	< 4.86E+02	±	mda	< 3.93E+02	±	mda	< 3.93E+02	NA	mda
^{241}Am	0.02 µ (No AMP)	Rad$	pCi/mL	< 7.05E+02	±	mda	< 2.75E+02	±	mda	< 3.34E+02	±	mda	< 2.75E+02	NA	mda
^{242}Am	0.45 µ (No AMP)	Rad$	pCi/mL	< 3.57E+04	±	mda	< 3.87E+03	±	mda	< 3.68E+03	±	mda	< 3.57E+04	NA	mda
^{243}Am	0.45 µ (No AMP)	Rad$	pCi/mL	< 2.78E+03	±	mda	< 3.44E+02	±	mda	< 3.41E+02	±	mda	< 3.41E+02	NA	mda
^{99}Tc	0.45 µ (No AMP)	ICP-MS	pCi/mL	4.36E+04	±	1.09E+04	5.89E+04	±	1.47E+04	5.86E+04	±	1.47E+04	5.13E+04	NA	1.08E+04
^{99}Tc	0.1 µ (No AMP)	ICP-MS	pCi/mL		NA		4.57E+04	±	1.14E+04	4.59E+04	±	1.15E+04	4.58E+04	NA	1.41E+02
^{99}Tc	0.02 µ (No AMP)	ICP-MS	pCi/mL	4.46E+04	±	1.12E+04	4.45E+04	±	1.11E+04	4.62E+04	±	1.16E+04	4.51E+04	NA	9.54E+02
Gross α	0.45 µ (No AMP)	Rad	pCi/mL	< 3.72E+04	±	upper limit	1.00E+05	±	1.50E+04	< 1.48E+04	±	mda	5.07E+04	5.00E+03	5.77E+04
Beta	0.45 µ (No AMP)	Rad	pCi/mL		NA		3.70E+08	±	5.55E+07	3.65E+08	±	5.48E+07	3.68E+08	3.90E+07	3.54E+06
^{26}Al	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 2.22E+02	±	mda	< 2.14E+02	±	mda	< 2.14E+02	NA	mda
^{60}Co	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 3.20E+02	±	mda	< 3.24E+02	±	mda	< 3.20E+02	NA	mda
^{94}Nb	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 3.17E+02	±	mda	< 3.16E+02	±	mda	< 3.16E+02	NA	mda
^{106}Ru	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 2.74E+03	±	mda	< 2.82E+03	±	mda	< 2.74E+03	NA	mda
^{125}Sb	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 8.46E+02	±	mda	< 8.53E+02	±	mda	< 8.46E+02	NA	mda
^{126}Sb	0.45 µ (No AMP)	Rad	pCi/mL		NA		6.01E+02	±	4.99E+01	< 2.20E+02	±	mda	4.11E+02	2.49E+01	4.25E+02
^{126}Sn	0.45 µ (No AMP)	Rad	pCi/mL		NA		6.01E+02	±	4.99E+01	< 4.58E+02	±	mda	5.30E+02	2.49E+01	4.25E+02
^{144}Ce	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 1.59E+03	±	mda	< 1.65E+03	±	mda	< 1.59E+03	NA	mda
^{152}Eu	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 2.45E+03	±	mda	< 2.48E+03	±	mda	< 2.45E+03	NA	mda
^{154}Eu	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 4.08E+02	±	mda	< 4.09E+02	±	mda	< 4.08E+02	NA	mda
^{155}Eu	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 7.38E+02	±	mda	< 7.28E+02	±	mda	< 7.28E+02	NA	mda
^{231}Pa	0.45 µ (No AMP)	Rad	pCi/mL		NA		< 9.66E+03	±	mda	< 9.95E+03	±	mda	< 9.66E+03	NA	mda
^{242}Cm/^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.76E+01	±	mda	< 6.73E+01	±	mda	< 9.90E+01	±	mda	< 2.76E+01	NA	mda
^{243}Cm	0.45 µ (No AMP)	Rad	pCi/mL	< 9.09E+03	±	mda	< 9.90E+02	±	mda	< 9.39E+02	±	mda	< 9.39E+02	NA	mda
^{244}Cm	0.45 µ (No AMP)	Rad	pCi/mL	3.14E+03	±	7.35E+02	1.51E+03	±	4.42E+02	8.06E+02	±	2.94E+02	1.82E+03	3.02E+02	1.20E+03
^{249}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.04E+03	±	mda	< 5.60E+03	±	mda	< 2.94E+03	±	mda	< 2.04E+03	NA	mda
^{251}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 3.00E+03	±	mda	< 5.98E+03	±	mda	< 3.55E+03	±	mda	< 3.00E+03	NA	mda

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

6.5.6 Tank 45F ICP-ES Characterization No AMP Treatment

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Ag	0.45 µ (No AMP)	ICPES	mg/L	< 2.13E+00	±	mdl	< 2.13E+00	±	mdl	< 2.18E+00	±	mdl	< 2.13E+00	mdl
Ag	0.1 µ (No AMP)	ICPES	mg/L	< 3.43E+00	±	mdl	< 1.90E+00	±	mdl	< 1.91E+00	±	mdl	< 1.91E+00	mdl
Ag	0.02 µ (No AMP)	ICPES	mg/L	< 4.06E+00	±	mdl	< 2.28E+00	±	mdl	< 2.23E+00	±	mdl	< 2.23E+00	mdl
Al	0.45 µ (No AMP)	ICPES	M	5.36E-02	±	5.36E-03	3.91E-02	±	3.91E-03	4.78E-02	±	4.78E-03	4.68E-02	7.30E-03
Al	0.1 µ (No AMP)	ICPES	M	6.92E-02	±	6.92E-03	1.34E-01	±	1.34E-02	6.79E-02	±	6.79E-03	9.04E-02	3.78E-02
Al	0.02 µ (No AMP)	ICPES	M	7.26E-02	±	7.26E-03	7.28E-02	±	7.28E-03	7.15E-02	±	7.15E-03	7.23E-02	7.00E-04
B	0.45 µ (No AMP)	ICPES	mg/L	7.62E+01	±	7.62E+00	5.87E+01	±	5.87E+00	6.31E+01	±	6.31E+00	6.60E+01	9.10E+00
B	0.1 µ (No AMP)	ICPES	mg/L	1.06E+02	±	1.06E+01	< 3.14E+01	±	mdl	1.00E+02	±	1.00E+01	1.03E+02	4.24E+00
B	0.02 µ (No AMP)	ICPES	mg/L	8.54E+01	±	8.54E+00	8.72E+01	±	8.72E+00	8.91E+01	±	8.91E+00	8.72E+01	1.85E+00
Ba	0.45 µ (No AMP)	ICPES	mg/L	< 2.66E+00	±	mdl	< 2.67E+00	±	mdl	< 2.72E+00	±	mdl	< 2.66E+00	mdl
Ba	0.1 µ (No AMP)	ICPES	mg/L	8.48E+00	±	8.48E-01	3.33E+00	±	3.33E-01	4.10E+00	±	4.10E-01	5.30E+00	2.78E+00
Ba	0.02 µ (No AMP)	ICPES	mg/L	< 5.08E+00	±	mdl	7.58E+00	±	7.58E-01	< 2.78E+00	±	mdl	5.15E+00	4.38E+00
Ca	0.45 µ (No AMP)	ICPES	mg/L	< 6.39E+00	±	mdl	< 6.40E+00	±	mdl	< 6.53E+00	±	mdl	< 6.39E+00	mdl
Ca	0.1 µ (No AMP)	ICPES	mg/L	1.37E+02	±	1.37E+01	1.31E+01	±	1.31E+00	1.38E+01	±	1.38E+00	5.46E+01	7.13E+01
Ca	0.02 µ (No AMP)	ICPES	mg/L	< 1.22E+01	±	mdl	< 6.84E+01	±	mdl	< 6.68E+01	±	mdl	< 1.22E+01	mdl
Cd	0.45 µ (No AMP)	ICPES	mg/L	< 6.39E+00	±	mdl	< 6.40E+00	±	mdl	< 6.53E+00	±	mdl	< 6.39E+00	mdl
Cd	0.1 µ (No AMP)	ICPES	mg/L	< 1.03E+01	±	mdl	< 5.71E+00	±	mdl	< 5.72E+00	±	mdl	< 5.71E+00	mdl
Cd	0.02 µ (No AMP)	ICPES	mg/L	< 1.22E+01	±	mdl	< 6.84E+00	±	mdl	< 6.68E+00	±	mdl	< 6.68E+00	mdl
Ce	0.45 µ (No AMP)	ICPES	mg/L	< 2.72E+01	±	mdl	< 2.72E+01	±	mdl	< 2.78E+01	±	mdl	< 2.72E+01	mdl
Ce	0.1 µ (No AMP)	ICPES	mg/L	< 4.37E+01	±	mdl	5.66E+01	±	5.66E+00	5.48E+01	±	5.48E+00	5.17E+01	3.22E+01
Ce	0.02 µ (No AMP)	ICPES	mg/L	< 5.18E+01	±	mdl	< 2.91E+01	±	mdl	< 2.84E+01	±	mdl	< 2.84E+01	mdl
Cr	0.45 µ (No AMP)	ICPES	mg/L	< 2.13E+01	±	mdl	< 2.13E+01	±	mdl	< 2.18E+01	±	mdl	< 2.13E+01	mdl
Cr	0.1 µ (No AMP)	ICPES	mg/L	< 3.43E+01	±	mdl	< 1.90E+01	±	mdl	< 1.91E+01	±	mdl	< 1.90E+01	mdl
Cr	0.02 µ (No AMP)	ICPES	mg/L	< 4.06E+01	±	mdl	< 2.28E+01	±	mdl	< 2.23E+01	±	mdl	< 2.23E+01	mdl
Cu	0.45 µ (No AMP)	ICPES	mg/L	< 5.33E+00	±	mdl	< 5.33E+00	±	mdl	< 5.44E+00	±	mdl	< 5.33E+00	mdl
Cu	0.1 µ (No AMP)	ICPES	mg/L	< 8.57E+00	±	mdl	< 4.76E+00	±	mdl	< 4.76E+00	±	mdl	< 4.76E+00	mdl
Cu	0.02 µ (No AMP)	ICPES	mg/L	< 1.02E+01	±	mdl	< 5.70E+00	±	mdl	< 5.57E+00	±	mdl	< 5.57E+00	mdl
Fe	0.45 µ (No AMP)	ICPES	mg/L	4.79E+00	±	4.79E-01	< 4.27 E+00	±	mdl	4.52E+00	±	4.52E-01	4.66E+00	1.91E-01
Fe	0.1 µ (No AMP)	ICPES	mg/L	< 6.85E+00	±	mdl	< 3.81E+00	±	mdl	3.78E+01	±	3.78E+00	3.78E+01	3.78E+00
Fe	0.02 µ (No AMP)	ICPES	mg/L	3.35E+01	±	3.35E+00	1.45E+01	±	1.45E+00	< 4.45E+00	±	mdl	2.40E+01	1.34E+01
Gd	0.45 µ (No AMP)	ICPES	mg/L	< 4.26E+00	±	mdl	< 4.27E+00	±	mdl	< 4.35E+00	±	mdl	< 4.26E+00	mdl
Gd	0.1 µ (No AMP)	ICPES	mg/L	< 6.85E+00	±	mdl	8.13E+00	±	8.13E-01	7.72E+00	±	7.72E-01	7.57E+00	4.58E+00
Gd	0.02 µ (No AMP)	ICPES	mg/L	< 8.13E+00	±	mdl	< 4.56E+00	±	mdl	< 4.45E+00	±	mdl	< 4.45E+00	mdl
K	0.45 µ (No AMP)	ICPES	M	3.36E-02	±	3.36E-03	1.83E-02	±	1.83E-03	4.66E-02	±	4.66E-03	3.28E-02	1.42E-02
K	0.1 µ (No AMP)	ICPES	M	6.46E-02	±	6.46E-03	4.02E-02	±	4.02E-03	5.31E-02	±	5.31E-03	5.26E-02	1.22E-02
K	0.02 µ (No AMP)	ICPES	M	< 2.31E-02	±	mdl	6.28E-02	±	6.28E-03	1.83E-02	±	1.83E-03	3.47E-02	3.23E-02
La	0.45 µ (No AMP)	ICPES	mg/L	< 4.79E+00	±	mdl	< 4.80E+00	±	mdl	< 4.90E+00	±	mdl	< 4.79E+00	mdl
La	0.1 µ (No AMP)	ICPES	mg/L	< 7.71E+00	±	mdl	8.75E+00	±	mdl	8.81E+00	±	8.81E-01	8.42E+00	5.07E+00
La	0.02 µ (No AMP)	ICPES	mg/L	< 9.14E+00	±	mdl	< 5.13E+00	±	mdl	< 5.01E+00	±	mdl	< 5.01E+00	mdl
Li	0.45 µ (No AMP)	ICPES	mg/L	4.42E+00	±	4.42E-01	< 1.60E+00	±	mdl	< 1.63E+00	±	mdl	4.42E+00	2.55E+00
Li	0.1 µ (No AMP)	ICPES	mg/L	< 2.57E+00	±	mdl	1.91E+01	±	1.91E+00	1.99E+01	±	1.99E+00	1.95E+01	5.66E-01
Li	0.02 µ (No AMP)	ICPES	mg/L	< 3.05E+00	±	mdl	< 1.71E+00	±	mdl	< 1.67E+00	±	mdl	< 1.67E+00	mdl
Mg	0.45 µ (No AMP)	ICPES	mg/L	< 1.07E+00	±	mdl	< 1.07E+00	±	mdl	< 1.09E+00	±	mdl	< 1.07E+00	mdl
Mg	0.1 µ (No AMP)	ICPES	mg/L	< 1.71E+00	±	mdl	< 9.51E-01	±	mdl	< 9.53E-01	±	mdl	< 9.51E-01	mdl
Mg	0.02 µ (No AMP)	ICPES	mg/L	< 2.03E+00	±	mdl	< 1.14E+00	±	mdl	< 1.11E+00	±	mdl	< 1.11E+00	mdl
Mn	0.45 µ (No AMP)	ICPES	mg/L	< 1.60E+00	±	mdl	< 1.60E+00	±	mdl	< 1.63E+00	±	mdl	< 1.60E+00	mdl
Mn	0.1 µ (No AMP)	ICPES	mg/L	< 2.57E+00	±	mdl	< 1.43E+00	±	mdl	< 1.43E+00	±	mdl	1.43E+00	mdl
Mn	0.02 µ (No AMP)	ICPES	mg/L	< 3.05E+00	±	mdl	1.88E+00	±	1.88E-01	< 1.67E+00	±	mdl	1.78E+00	1.33E+00

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Mo	0.45 µ (No AMP)	ICPES	mg/L	< 3.57E+01	±	mdl	< 3.57E+01	±	mdl	< 3.65E+01	±	mdl	< 3.57E+01	mdl
Mo	0.1 µ (No AMP)	ICPES	mg/L	< 5.74E+01	±	mdl	< 3.19E+01	±	mdl	3.87E+01	±	3.87E+00	3.53E+01	2.74E+01
Mo	0.02 µ (No AMP)	ICPES	mg/L	< 6.81E+01	±	mdl	< 3.82E+01	±	mdl	< 3.73E+01	±	mdl	< 3.73E+01	mdl
Na	0.45 µ (No AMP)	ICPES	M	4.19E+00	±	4.19E-01	3.11E+00	±	3.11E-01	3.76E+00	±	3.76E-01	3.69E+00	5.44E-01
Na	0.1 µ (No AMP)	ICPES	M	4.95E+00	±	4.95E-01	2.50E+00	±	2.50E-01	5.07E+00	±	5.07E-01	4.17E+00	1.45E+00
Na	0.02 µ (No AMP)	ICPES	M	5.48E+00	±	5.48E-01	5.40E+00	±	5.40E-01	5.35E+00	±	5.35E-01	5.41E+00	6.56E-02
Ni	0.45 µ (No AMP)	ICPES	mg/L	< 2.40E+01	±	mdl	< 2.40E+01	±	mdl	< 2.45E+01	±	mdl	< 2.40E+01	mdl
Ni	0.1 µ (No AMP)	ICPES	mg/L	< 3.86E+01	±	mdl	< 2.14E+01	±	mdl	< 2.14E+01	±	mdl	< 2.14E+01	mdl
Ni	0.02 µ (No AMP)	ICPES	mg/L	< 4.57E+01	±	mdl	< 2.56E+01	±	mdl	< 2.51E+01	±	mdl	<2.51E+01	mdl
P	0.45 µ (No AMP)	ICPES	mg/L	< 2.23E+02	±	mdl	< 2.23E+02	±	mdl	< 2.28E+02	±	mdl	< 2.23E+02	mdl
P	0.1 µ (No AMP)	ICPES	mg/L	< 3.59E+02	±	mdl	< 1.99E+02	±	mdl	< 2.00E+02	±	mdl	< 1.99E+02	mdl
P	0.02 µ (No AMP)	ICPES	mg/L	< 4.26E+02	±	mdl	< 2.39E+02	±	mdl	< 2.33E+02	±	mdl	<2.33E+02	mdl
Pb	0.45 µ (No AMP)	ICPES	mg/L	< 1.52E+02	±	mdl	< 1.53E+02	±	mdl	< 1.56E+02	±	mdl	< 1.52E+02	mdl
Pb	0.1 µ (No AMP)	ICPES	mg/L	< 2.45E+02	±	mdl	< 1.36E+02	±	mdl	< 1.36E+02	±	mdl	< 1.36E+02	mdl
Pb	0.02 µ (No AMP)	ICPES	mg/L	< 2.91E+02	±	mdl	< 1.63E+02	±	mdl	< 1.59E+02	±	mdl	< 1.59E+02	mdl
S	0.45 µ (No AMP)	ICPES	mg/L	1.02E+02	±	1.02E+01	7.36E+01	±	7.36E+00	8.76E+01	±	8.76E+00	8.77E+01	1.42E+01
S	0.1 µ (No AMP)	ICPES	mg/L	1.25E+02	±	1.25E+01	2.48E+03	±	2.48E+02	1.35E+02	±	1.35E+01	9.13E+02	1.36E+03
S	0.02 µ (No AMP)	ICPES	mg/L	< 1.29E+02	±	mdl	1.33E+02	±	1.33E+01	1.15E+02	±	1.15E+01	1.26E+02	7.22E+01
Sb	0.45 µ (No AMP)	ICPES	mg/L	< 3.78E+01	±	mdl	< 3.79E+01	±	mdl	< 3.86E+01	±	mdl	< 3.78E+01	mdl
Sb	0.1 µ (No AMP)	ICPES	mg/L	< 6.08E+01	±	mdl	< 3.38E+01	±	mdl	< 3.38E+01	±	mdl	< 3.38E+01	mdl
Sb	0.02 µ (No AMP)	ICPES	mg/L	< 7.21E+01	±	mdl	< 4.05E+01	±	mdl	< 3.95E+01	±	mdl	< 3.95E+01	mdl
Si	0.45 µ (No AMP)	ICPES	mg/L	< 1.33E+01	±	mdl	< 1.33E+01	±	mdl	< 1.36E+01	±	mdl	< 1.33E+01	mdl
Si	0.1 µ (No AMP)	ICPES	mg/L	< 2.14E+01	±	mdl	< 1.19E+01	±	mdl	< 1.19E+01	±	mdl	< 1.19E+01	mdl
Si	0.02 µ (No AMP)	ICPES	mg/L	< 2.54E+01	±	mdl	< 1.42E+01	±	mdl	< 1.39E+01	±	mdl	< 1.39E+01	mdl
Sn	0.45 µ (No AMP)	ICPES	mg/L	< 6.07E+01	±	mdl	< 6.08E+01	±	mdl	< 6.20E+01	±	mdl	< 6.07E+01	mdl
Sn	0.1 µ (No AMP)	ICPES	mg/L	< 9.77E+01	±	mdl	< 5.42E+01	±	mdl	< 5.43E+01	±	mdl	< 5.42E+01	mdl
Sn	0.02 µ (No AMP)	ICPES	mg/L	< 1.16E+01	±	mdl	< 6.50E+01	±	mdl	< 6.35E+01	±	mdl	< 1.16E+01	mdl
Sr	0.45 µ (No AMP)	ICPES	mg/L	< 4.26E+00	±	mdl	< 4.27E+00	±	mdl	< 4.35E+00	±	mdl	< 4.26E+00	mdl
Sr	0.1 µ (No AMP)	ICPES	mg/L	2.78E+01	±	2.78E+00	5.85E+00	±	5.85E-01	4.62E+00	±	4.62E-01	1.28E+01	1.30E+01
Sr	0.02 µ (No AMP)	ICPES	mg/L	< 8.13E+00	±	mdl	< 4.56E+00	±	mdl	< 4.45E+00	±	mdl	< 4.45E+00	mdl
Ti	0.45 µ (No AMP)	ICPES	mg/L	< 6.92E+00	±	mdl	< 6.93E+00	±	mdl	< 7.07E+00	±	mdl	< 6.92E+00	mdl
Ti	0.1 µ (No AMP)	ICPES	mg/L	< 1.11E+01	±	mdl	< 6.18E+00	±	mdl	< 6.19E+00	±	mdl	< 6.18E+00	mdl
Ti	0.02 µ (No AMP)	ICPES	mg/L	< 1.32E+01	±	mdl	< 7.41E+00	±	mdl	< 7.24E+00	±	mdl	< 7.24E+00	mdl
U	0.45 µ (No AMP)	ICPES	mg/L	< 9.27E+01	±	mdl	< 9.28E+01	±	mdl	< 9.47E+01	±	mdl	< 9.27E+01	mdl
U	0.1 µ (No AMP)	ICPES	mg/L	< 1.49E+02	±	mdl	1.13E+02	±	1.13E+01	1.19E+02	±	1.19E+01	1.16E+02	4.24E+00
U	0.02 µ (No AMP)	ICPES	mg/L	< 1.77E+02	±	mdl	< 9.92E+01	±	mdl	< 9.69E+01	±	mdl	< 9.69E+01	mdl
V	0.45 µ (No AMP)	ICPES	mg/L	< 5.86E+00	±	mdl	< 5.87E+00	±	mdl	< 5.99E+00	±	mdl	< 5.86E+00	mdl
V	0.1 µ (No AMP)	ICPES	mg/L	1.07E+01	±	1.07E+00	< 5.23E+00	±	mdl	6.53E+00	±	6.53E-01	7.49E+00	5.39E+00
V	0.02 µ (No AMP)	ICPES	mg/L	< 1.12E+01	±	mdl	< 6.27E+00	±	mdl	< 6.12E+00	±	mdl	< 6.12E+00	mdl
Zn	0.45 µ (No AMP)	ICPES	mg/L	2.24E+00	±	2.24E-01	< 1.07E+00	±	mdl	< 1.09E+00	±	mdl	1.47E+00	1.29E+00
Zn	0.1 µ (No AMP)	ICPES	mg/L	2.12E+01	±	2.12E+00	< 9.51E-01	±	mdl	< 9.53E-01	±	mdl	7.70E+00	1.22E+01
Zn	0.02 µ (No AMP)	ICPES	mg/L	9.16E+02	±	9.16E+01	1.62E+01	±	1.62E+00	1.11E+01	±	1.11E+00	3.14E+02	5.21E+02
Zr	0.45 µ (No AMP)	ICPES	mg/L	< 7.46E+00	±	mdl	< 7.47E+00	±	mdl	< 7.62E+00	±	mdl	< 7.46E+00	mdl
Zr	0.1 µ (No AMP)	ICPES	mg/L	< 1.20E+01	±	mdl	< 6.66E+00	±	mdl	< 6.67E+00	±	mdl	< 6.66E+00	mdl
Zr	0.02 µ (No AMP)	ICPES	mg/L	< 1.42E+01	±	mdl	< 7.98E+00	±	mdl	< 7.79E+00	±	mdl	< 7.79E+00	mdl

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

6.5.7 Tank 45F ICP-MS Characterization No AMP Treatment

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Zr	0.45 µ (No AMP)	ICP-MS	mg/L	1.77E-01	±	4.43E-02	9.01E-02	±	2.25E-02	1.06E-01	±	2.65E-02	1.24E-01	4.63E-02
Zr	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	bdl	±	bdl	bdl	bdl
Zr	0.02 µ (No AMP)	ICP-MS	mg/L	1.65E-01	±	4.13E-02	1.15E-01	±	2.88E-02	1.17E-01	±	2.93E-02	1.32E-01	2.83E-02
Tc-99	0.45 µ (No AMP)	ICP-MS	mg/L	2.57E+00	±	6.43E-01	3.47E+00	±	8.68E-01	3.45E+00	±	8.63E-01	3.16E+00	5.14E-01
Tc-99	0.1 µ (No AMP)	ICP-MS	mg/L		NA		2.07E+00	±	5.18E-01	2.71E+00	±	6.78E-01	2.39E+00	4.53E-01
Tc-99	0.02 µ (No AMP)	ICP-MS	mg/L	2.63E+00	±	6.58E-01	2.62E+00	±	6.55E-01	2.72E+00	±	6.80E-01	2.66E+00	5.51E-02
Tc-99	0.45 µ (No AMP)	ICP-MS	pCi/mL	4.36E+04	±	1.09E+04	5.89E+04	±	1.47E+04	5.86E+04	±	1.47E+04	5.37E+04	8.75E+03
Tc-99	0.1 µ (No AMP)	ICP-MS	pCi/mL		NA		4.57E+04	±	1.14E+04	4.59E+04	±	1.15E+04	4.58E+04	1.41E+02
Tc-99	0.02 µ (No AMP)	ICP-MS	pCi/mL	4.46E+04	±	1.12E+04	4.45E+04	±	1.11E+04	4.62E+04	±	1.16E+04	4.51E+04	9.54E+02
Mo	0.45 µ (No AMP)	ICP-MS	mg/L	2.26E+01	±	5.65E+00	2.91E+01	±	7.28E+00	2.82E+01	±	7.05E+00	2.66E+01	3.52E+00
Mo	0.1 µ (No AMP)	ICP-MS	mg/L		NA		1.85E+01	±	4.63E+00	1.95E+01	±	4.88E+00	1.90E+01	7.07E-01
Mo	0.02 µ (No AMP)	ICP-MS	mg/L	2.20E+01	±	5.50E+00	2.17E+01	±	5.43E+00	2.35E+01	±	5.88E+00	2.24E+01	9.64E-01
Ag	0.45 µ (No AMP)	ICP-MS	mg/L	1.22E-01	±	3.05E-02	bdl	±	bdl	bdl	±	bdl	1.22E-01	3.05E-02
Ag	0.1 µ (No AMP)	ICP-MS	mg/L		NA		1.65E-01	±	4.13E-02	4.63E-02	±	1.16E-02	1.06E-01	8.39E-02
Ag	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pd	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pd	0.1 µ (No AMP)	ICP-MS	mg/L		NA		7.45E-03	±	1.86E-03	bdl	±	bdl	7.45E-03	1.86E-03
Pd	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Rh	0.45 µ (No AMP)	ICP-MS	mg/L	6.39E-01	±	1.60E-01	8.50E-01	±	2.13E-01	8.37E-01	±	2.09E-01	7.75E-01	1.18E-01
Rh	0.1 µ (No AMP)	ICP-MS	mg/L		NA		6.42E-01	±	1.61E-01	6.50E-01	±	1.63E-01	6.46E-01	5.66E-03
Rh	0.02 µ (No AMP)	ICP-MS	mg/L	7.01E-01	±	1.75E-01	6.95E-01	±	1.74E-01	6.65E-01	±	1.66E-01	6.87E-01	1.93E-02
Ru	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ru	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	7.69E-03	±	1.92E-03	7.69E-03	1.92E-03
Ru	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Cd	0.45 µ (No AMP)	ICP-MS	mg/L	1.12E-01	±	2.80E-02	1.22E-01	±	3.05E-02	1.26E-01	±	3.15E-02	1.20E-01	7.21E-03
Cd	0.1 µ (No AMP)	ICP-MS	mg/L		NA		1.14E-01	±	2.85E-02	1.01E-01	±	2.53E-02	1.08E-01	9.19E-03
Cd	0.02 µ (No AMP)	ICP-MS	mg/L	1.35E-01	±	3.38E-02	1.02E-01	±	2.55E-02	8.82E-02	±	2.21E-02	1.08E-01	2.40E-02
Sn	0.45 µ (No AMP)	ICP-MS	mg/L	1.71E+00	±	4.28E-01	2.25E+00	±	5.63E-01	2.18E+00	±	5.45E-01	2.05E+00	2.94E-01
Sn	0.1 µ (No AMP)	ICP-MS	mg/L		NA		2.09E+00	±	5.23E-01	2.08E+00	±	5.20E-01	2.09E+00	7.07E-03
Sn	0.02 µ (No AMP)	ICP-MS	mg/L	1.72E+00	±	4.30E-01	1.75E+00	±	4.38E-01	1.77E+00	±	4.43E-01	1.75E+00	2.52E-02
La	0.45 µ (No AMP)	ICP-MS	mg/L	4.00E-03	±	1.00E-03	bdl	±	bdl	bdl	±	bdl	4.00E-03	1.00E-03
La	0.1 µ (No AMP)	ICP-MS	mg/L		NA		7.40E-03	±	1.85E-03	7.25E-03	±	1.81E-03	7.33E-03	1.06E-04
La	0.02 µ (No AMP)	ICP-MS	mg/L	1.26E-02	±	3.15E-03	7.32E-03	±	1.83E-03	6.77E-03	±	1.69E-03	8.90E-03	3.22E-03
Ce	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.1 µ (No AMP)	ICP-MS	mg/L		NA		2.57E-03	±	6.43E-04	6.79E-03	±	1.70E-03	4.68E-03	2.98E-03
Ce	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
W	0.45 µ (No AMP)	ICP-MS	mg/L	7.29E-01	±	1.82E-01	9.90E-01	±	2.48E-01	8.86E-01	±	2.22E-01	8.68E-01	1.31E-01
W	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	6.72E-01	±	1.68E-01	6.72E-01	1.68E-01
W	0.02 µ (No AMP)	ICP-MS	mg/L	7.59E-01	±	1.90E-01	6.72E-01	±	1.68E-01	7.01E-01	±	1.75E-01	7.11E-01	4.43E-02
Re	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	1.59E-02	±	3.98E-03	bdl	±	bdl	1.59E-02	3.98E-03
Re	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	bdl	±	bdl	bdl	bdl
Re	0.02 µ (No AMP)	ICP-MS	mg/L	1.61E-02	±	4.03E-03	1.10E-02	±	2.75E-03	bdl	±	bdl	1.36E-02	3.61E-03
Os	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	0.45 µ (No AMP)	ICP-MS	mg/L	1.18E-03	±	2.95E-04	bdl	±	bdl	bdl	±	bdl	1.18E-03	2.95E-04
Ir	0.1 µ (No AMP)	ICP-MS	mg/L		NA		7.53E-04	±	1.88E-04	1.58E-03	±	3.95E-04	1.17E-03	5.85E-04
Ir	0.02 µ (No AMP)	ICP-MS	mg/L	2.44E-03	±	6.10E-04	bdl	±	bdl	1.24E-03	±	3.10E-04	1.84E-03	8.49E-04
Pt	0.45 µ (No AMP)	ICP-MS	mg/L	2.32E-02	±	5.80E-03	1.02E-02	±	2.55E-03	5.51E-04	±	1.38E-04	1.13E-02	1.14E-02
Pt	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	1.49E-02	±	3.73E-03	1.49E-02	3.73E-03
Pt	0.02 µ (No AMP)	ICP-MS	mg/L	5.14E-03	±	1.29E-03	1.36E-03	±	3.40E-04	8.79E-03	±	2.20E-03	5.10E-03	3.72E-03
Au	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.02 µ (No AMP)	ICP-MS	mg/L	3.15E-02	±	7.88E-03	8.46E-03	±	2.12E-03	bdl	±	bdl	2.00E-02	1.63E-02
Pb	0.45 µ (No AMP)	ICP-MS	mg/L	1.52E+00	±	3.80E-01	2.08E+00	±	5.20E-01	1.79E+00	±	4.48E-01	1.80E+00	2.80E-01
Pb	0.1 µ (No AMP)	ICP-MS	mg/L		NA		1.61E+00	±	4.03E-01	1.68E+00	±	4.20E-01	1.65E+00	4.95E-02
Pb	0.02 µ (No AMP)	ICP-MS	mg/L	1.69E+00	±	4.23E-01	1.59E+00	±	3.98E-01	1.67E+00	±	4.18E-01	1.65E+00	5.29E-02
U-235	0.45 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	NA	bdl	bdl	bdl
U-235	0.1 µ (No AMP)	ICP-MS	mg/L		NA		bdl	±	bdl	bdl	NA	bdl	bdl	bdl
U-235	0.02 µ (No AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-238	0.45 µ (No AMP)	ICP-MS	mg/L	5.30E-01	±	1.33E-01	6.83E-01	±	1.71E-01	6.48E-01	±	1.62E-01	6.20E-01	8.02E-02
U-238	0.1 µ (No AMP)	ICP-MS	mg/L		NA		6.01E-01	±	1.50E-01	5.87E-01	±	1.47E-01	5.94E-01	9.90E-03
U-238	0.02 µ (No AMP)	ICP-MS	mg/L	6.19E-01	±	1.55E-01	5.55E-01	±	1.39E-01	6.44E-01	±	1.61E-01	6.06E-01	4.59E-02
Total U	0.45 µ (No AMP)	ICP-MS	mg/L	5.31E-01		NA	6.83E-01		NA	6.48E-01		NA	6.21E-01	7.96E-02
Total U	0.1 µ (No AMP)	ICP-MS	mg/L		NA		6.01E-01		NA	5.87E-01		NA	5.94E-01	9.90E-03
Total U	0.02 µ (No AMP)	ICP-MS	mg/L	6.19E-01		NA	5.55E-01		NA	6.44E-01		NA	6.06E-01	4.59E-02

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
% U235	0.45 µ (No AMP)	ICP-MS	%	0.00E+00 ± NA	0.00E+00 ± NA	0.00E+00 ± NA	0.00E+00	NA
% U238	0.45 µ (No AMP)	ICP-MS	%	1.00E+02 ± NA	1.00E+02 ± NA	1.00E+02 ± NA	1.00E+02	NA
% U235	0.1 µ (No AMP)	ICP-MS	%	NA	0.00E+00 ± NA	0.00E+00 ± NA	0.00E+00	0.00E+00
% U238	0.1 µ (No AMP)	ICP-MS	%	NA	1.00E+02 ± NA	1.00E+02 ± NA	1.00E+02	1.00E+02
% U235	0.02 µ (No AMP)	ICP-MS	%	0.00E+00 ± NA	0.00E+00 ± NA	0.00E+00 ± NA	0.00E+00	NA
% U238	0.02 µ (No AMP)	ICP-MS	%	1.00E+02 ± NA	1.00E+02 ± NA	1.00E+02 ± NA	1.00E+02	NA
U-235	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
U-235	0.1 µ (No AMP)	ICP-MS	pCi/mL	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
U-235	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
U-238	0.45 µ (No AMP)	ICP-MS	pCi/mL	1.76E-01 ± 4.40E-02	2.27E-01 ± 5.68E-02	2.16E-01 ± 5.40E-02	2.06E-01	2.68E-02
U-238	0.1 µ (No AMP)	ICP-MS	pCi/mL	NA	2.00E-01 ± 5.00E-02	1.96E-01 ± 4.90E-02	1.98E-01	2.83E-03
U-238	0.02 µ (No AMP)	ICP-MS	pCi/mL	2.06E-01 ± 5.15E-02	1.85E-01 ± 4.63E-02	2.14E-01 ± 5.35E-02	2.02E-01	1.50E-02
Np-237	0.45 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.1 µ (No AMP)	ICP-MS	mg/L	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.02 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.1 µ (No AMP)	ICP-MS	pCi/mL	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
Np-237	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.45 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.1 µ (No AMP)	ICP-MS	mg/L	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.02 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.1 µ (No AMP)	ICP-MS	pCi/mL	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.45 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.1 µ (No AMP)	ICP-MS	mg/L	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (No AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.45 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.1 µ (No AMP)	ICP-MS	pCi/mL	NA	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (No AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl

Note: NA = no sample analyzed, bdl = below detection limit

*Sample preparation identifies the level of filtration used on the sample. No AMP signifies No AMP treatment on the sample prior to analysis.

6.6 TANK 46F CHARACTERIZATION

6.6.1 Tank 46F Radioactive Species

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{137}Cs	acid digested	Rad	pCi/mL	5.18E+08 ± 7.88E+06	5.05E+08 ± 7.67E+06	5.24E+08 ± 7.97E+06	5.16E+08	4.53E+06	9.71E+06
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	5.71E+08 ± 8.80E+06	5.33E+08 ± 8.32E+06	4.17E+08 ± 6.75E+06	5.07E+08	4.62E+06	8.06E+07
^{90}Sr	acid digested	Rad	pCi/mL	8.84E+03 ± 2.21E+03	1.23E+04 ± 3.08E+03	4.11E+04 ± 1.03E+04	2.08E+04	3.65E+03	1.77E+04
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL	1.88E+04 ± 1.45E+03	1.61E+04 ± 1.31E+03	1.48E+04 ± 1.23E+03	1.66E+04	7.68E+02	2.02E+03
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL	1.30E+04 ± 9.93E+02	1.35E+04 ± 1.03E+03	1.05E+04 ± 8.34E+02	1.23E+04	5.53E+02	1.60E+03
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	1.17E+04 ± 9.37E+02	1.17E+04 ± 9.47E+02	1.22E+04 ± 9.77E+02	1.19E+04	5.51E+02	2.95E+02
^{238}Pu	acid digested	Rad	pCi/mL	4.01E+03 ± 2.38E+02	4.08E+03 ± 2.48E+02	2.11E+03 ± 1.40E+02	3.40E+03	1.24E+02	1.12E+03
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	4.90E+02 ± 2.45E+01	4.83E+02 ± 2.66E+01	6.11E+02 ± 3.24E+01	5.28E+02	1.62E+01	7.20E+01
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	1.43E+03 ± 8.14E+01	1.97E+03 ± 1.16E+02	1.65E+03 ± 1.25E+02	1.68E+03	6.30E+01	2.72E+02
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	< 3.21E+02 ± upper limit	< 3.55E+02 ± upper limit	< 3.41E+02 ± upper limit	< 3.21E+02	NA	upper limit
$^{239/40}$Pu	acid digested	Rad	pCi/mL	1.31E+03 ± 1.35E+02	1.09E+03 ± 1.31E+02	1.08E+03 ± 9.22E+01	1.16E+03	6.98E+01	1.30E+02
$^{239/40}$Pu	acid digested	ICP-MS	pCi/mL	mdl ± mdl	mdl ± mdl	mdl ± mdl	mdl	NA	mdl
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	1.06E+02 ± 1.04E+01	1.04E+02 ± 8.91E+00	1.22E+02 ± 1.90E+01	1.11E+02	7.80E+00	1.01E+01
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	6.72E+02 ± 1.68E+02	4.66E+02 ± 1.17E+02	NA	5.69E+02	1.02E+02	1.46E+02
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	8.69E+01 ± 4.95E+00	2.74E+02 ± 1.62E+01	2.99E+02 ± 2.27E+01	2.20E+02	9.44E+00	1.16E+02
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl ± mdl	mdl ± mdl	mdl ± mdl	mdl	NA	mdl
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	5.66E+01 ± 1.41E+01	4.94E+01 ± 1.24E+01	7.53E+01 ± 1.88E+01	6.04E+01	8.86E+00	1.34E+01
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	5.92E+02 ± 1.48E+02	5.30E+02 ± 1.32E+02	8.72E+02 ± 2.18E+02	6.64E+02	9.83E+01	1.82E+02
^{241}Pu	acid digested	Rad	pCi/mL	< 2.09E+03 ± upper limit	< 3.91E+03 ± upper limit	< 2.02E+03 ± upper limit	< 2.02E+03	NA	upper limit
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL	NA	NA	NA	NA	NA	NA
Total Pu	acid digested	Rad	pCi/mL	5.32E+03	5.17E+03	3.19E+03	4.56E+03	NA	1.19E+03
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	5.96E+02	5.86E+02	7.33E+02	6.39E+02	NA	8.19E+01
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	1.51E+03	2.24E+03	1.95E+03	1.90E+03	NA	3.66E+02
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	5.66E+01	4.94E+01	7.53E+01	6.04E+01	NA	1.34E+01
^{235}U	acid digested	ICP-MS	pCi/mL	1.75E-02 ± 4.38E-03	2.08E-02 ± 5.20E-03	2.73E-02 ± 6.82E-03	2.19E-02	3.21E-03	4.98E-03
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	2.53E-02 ± 6.31E-03	2.21E-02 ± 5.53E-03	NA	2.37E-02	4.19E-03	2.23E-03
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl ± mdl	2.41E-02 ± 6.02E-03	mdl ± mdl	2.41E-02	6.02E-03	6.02E-03
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	2.20E-02 ± 5.49E-03	1.69E-02 ± 4.23E-03	3.64E-02 ± 9.10E-03	2.51E-02	3.81E-03	1.01E-02
^{238}U	acid digested	ICP-MS	pCi/mL	8.78E-01 ± 2.20E-01	8.25E-01 ± 2.06E-01	8.04E-01 ± 5.53E-02	8.36E-01	1.02E-01	3.83E-02
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	8.28E-01 ± 2.07E-01	8.80E-01 ± 2.20E-01	NA	8.54E-01	1.04E-01	3.68E-02
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	6.71E-01 ± 1.68E-01	7.53E-01 ± 1.88E-01	6.71E-01 ± 1.68E-01	6.98E-01	1.01E-01	4.72E-02
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	9.44E-01 ± 2.36E-01	7.95E-01 ± 1.99E-01	8.40E-01 ± 2.10E-01	8.60E-01	1.24E-01	7.65E-02
Total U	acid digested	ICP-MS	pCi/mL	8.96E-01	8.46E-01	8.31E-01 ±	8.58E-01	NA	3.38E-02
Total U	0.45 µ (AMP)	ICP-MS	pCi/mL	8.54E-01	9.03E-01	NA	8.78E-01	NA	3.46E-02
Total U	0.1 µ (AMP)	ICP-MS	pCi/mL	6.71E-01	7.77E-01	6.71E-01 ±	7.07E-01	NA	6.11E-02
Total U	0.02 µ (AMP)	ICP-MS	pCi/mL	9.66E-01	8.12E-01	8.77E-01 ±	8.85E-01	NA	7.74E-02

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Sample				Sample												
Analyte	Preparation*	Method	Units	1			2			3			Average	Method Uncertainty	Standard Deviation
^{237}Np	acid digested	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	NA	mdl
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl		NA		mdl	NA	mdl
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	NA	mdl
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	NA	mdl
^{241}Am	acid digested	Rad$	pCi/mL	5.74E+04	±	6.31E+03	3.41E+04	±	4.10E+03	9.14E+03	±	1.92E+03	3.35E+04	2.59E+03	2.41E+04
^{241}Am	0.45 µ (No AMP)	Rad$	pCi/mL	2.58E+04	±	2.84E+03	1.54E+04	±	1.85E+05	4.12E+03	±	8.65E+04	1.51E+04	6.80E+04	1.08E+04
^{241}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 4.00E+03	±	upper limit	< 7.99E+03	±	upper limit	< 2.18E+03	±	upper limit	< 2.18E+03	NA	upper limit
^{241}Am	0.1 µ (AMP)	Rad$	pCi/mL	< 7.68E+02	±	mda	< 1.94E+02	±	mda	< 2.94E+02	±	mda	< 1.94E+02	NA	mda
^{241}Am	0.02 µ (AMP)	Rad$	pCi/mL	< 1.54E+02	±	mda	< 2.66E+02	±	mda	< 1.69E+02	±	mda	< 1.54E+02	NA	mda
^{242}Am	0.45 µ (No AMP)	Rad$	pCi/mL	< 1.20E+05	±	mda	< 1.16E+05	±	mda	< 2.84E+04	±	mda	< 1.16E+05	NA	mda
^{243}Am	0.45 µ (AMP)	Rad$	pCi/mL	< 3.51E+02	±	mda	< 1.38E+02	±	mda	< 1.31E+02	±	mda	< 1.31E+02	NA	mda
^{99}Tc	unfiltered	Rad	pCi/mL	9.55E+04	±	5.47E+03		NA			NA		9.55E+04	5.47E+03	5.47E+03
^{99}Tc	0.45 µ (No AMP)	Rad	pCi/mL	8.35E+04	±	5.85E+03		NA			NA		8.35E+04	5.85E+03	5.85E+03
^{99}Tc	acid digested	ICP-MS	pCi/mL	1.06E+05	±	2.64E+04	1.16E+05	±	2.90E+04	1.01E+05	±	2.53E+04	1.08E+05	1.56E+04	7.66E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	8.20E+04	±	2.05E+04	8.66E+04	±	2.16E+04		NA		8.43E+04	1.49E+04	3.20E+03
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	9.92E+04	±	2.48E+04	1.06E+05	±	2.64E+04	9.90E+04	±	2.47E+04	1.01E+05	1.46E+04	3.71E+03
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	9.48E+04	±	2.37E+04	8.32E+04	±	2.08E+04	9.23E+04	±	2.31E+04	9.01E+04	1.30E+04	6.09E+03
Gross α	acid digested	Rad	pCi/mL	<6.67E+03	±	upper limit	<8.84E+03	±	upper limit	<7.01E+03	±	upper limit	< 6.67E+03	NA	upper limit
Gross α	0.45 µ (No AMP)	Rad	pCi/mL	<1.92E+04	±	upper limit	1.99E+04	±	3.98E+03	1.85E+04	±	6.48E+03	1.92E+04	2.53E+03	1.11E+04
Beta	acid digested	Rad	pCi/mL	6.73E+08	±	6.73E+07	5.99E+08	±	5.99E+07	5.99E+08	±	5.99E+07	6.24E+08	3.61E+07	4.27E+07
Beta	0.45 µ (No AMP)	Rad	pCi/mL	5.96E+08	±	8.94E+07	5.73E+08	±	8.60E+07	6.98E+08	±	1.05E+08	6.22E+08	5.41E+07	6.65E+07
Tritium	acid digested	Rad	pCi/mL	4.57E+03	±	9.14E+02		NA			NA		4.57E+03	9.14E+02	9.14E+02
^{14}C	unfiltered	Rad	pCi/mL	< 2.45E+03	±	mda		NA			NA		< 2.45E+03	NA	mda
^{14}C	0.45 µ (No AMP)	Rad	pCi/mL	< 3.03E+02	±	upper limit		NA			NA		< 3.03E+02	NA	upper limit
^{129}I	unfiltered	Rad	pCi/mL	< 1.36E+02	±	mda		NA			NA		< 1.36E+02	NA	mda
^{129}I	0.45 µ (No AMP)	Rad	pCi/mL	< 3.63E+02	±	upper limit		NA			NA		< 3.63E+02	NA	upper limit
^{26}Al	0.45 µ (No AMP)	Rad	pCi/mL	< 2.21E+02	±	mda	< 2.58E+02	±	mda	< 2.29E+02	±	mda	< 2.21E+02	NA	mda
^{26}Al	acid digested	Rad	pCi/mL	< 1.23E+02	±	mda	< 1.21E+02	±	mda	< 1.13E+02	±	mda	< 1.13E+02	NA	mda
^{60}Co	0.45 µ (No AMP)	Rad	pCi/mL	< 3.55E+02	±	mda	< 3.65E+02	±	mda	< 3.35E+02	±	mda	< 3.35E+02	NA	mda
^{60}Co	acid digested	Rad	pCi/mL	< 1.54E+02	±	mda	< 1.53E+02	±	mda	< 1.57E+02	±	mda	< 1.53E+02	NA	mda
^{94}Nb	0.45 µ (No AMP)	Rad	pCi/mL	< 3.23E+02	±	mda	< 3.30E+00	±	mda	< 3.33E+00	±	mda	< 3.23E+02	NA	mda
^{94}Nb	acid digested	Rad	pCi/mL	< 1.39E+02	±	mda	< 1.31E+02	±	mda	< 1.31E+02	±	mda	< 1.31E+02	NA	mda
^{106}Ru	0.45 µ (No AMP)	Rad	pCi/mL	< 2.98E+03	±	mda	< 3.03E+03	±	mda	< 3.01E+03	±	mda	< 2.98E+03	NA	mda
^{106}Ru	acid digested	Rad	pCi/mL	< 9.47E+02	±	mda	1.82E+03	±	4.73E+02	< 1.32E+03	±	mda	1.82E+03	1.58E+02	1.05E+03
^{125}Sb	0.45 µ (No AMP)	Rad	pCi/mL	< 8.69E+02	±	mda	< 8.98E+02	±	mda	< 9.12E+02	±	mda	< 8.69E+02	NA	mda
^{125}Sb	acid digested	Rad	pCi/mL	< 3.93E+02	±	mda	< 4.03E+02	±	mda	< 3.78E+02	±	mda	< 3.78E+02	NA	mda
^{126}Sb	0.45 µ (No AMP)	Rad	pCi/mL	9.61E+02	±	5.68E+01	8.58E+02	±	5.04E+01	8.80E+02	±	7.69E+01	9.00E+02	3.60E+01	5.44E+01
^{126}Sb	acid digested	Rad	pCi/mL	5.55E+02	±	2.89E+01	6.23E+02	±	3.05E+01	8.86E+02	±	3.46E+01	6.88E+02	1.81E+01	1.75E+02
^{126}Sn	0.45 µ (No AMP)	Rad	pCi/mL	9.61E+02	±	5.68E+01	8.58E+02	±	4.79E+01	8.80E+02	±	7.69E+01	9.00E+02	3.56E+01	5.44E+01
^{126}Sn	acid digested	Rad	pCi/mL	< 2.30E+02	±	mda	< 2.41E+02	±	mda	< 2.32E+02	±	mda	< 2.30E+02	NA	mda
^{144}Ce	acid digested	Rad	pCi/mL	< 6.96E+02	±	mda	< 7.24E+02	±	mda	< 6.90E+02	±	mda	< 6.90E+02	NA	mda
^{144}Ce	0.45 µ (No AMP)	Rad	pCi/mL	< 1.68E+03	±	mda	< 1.68E+03	±	mda	< 1.65E+03	±	mda	< 1.65E+03	NA	mda
^{152}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 2.53E+03	±	mda	< 2.58E+03	±	mda	< 2.47E+03	±	mda	< 2.47E+03	NA	mda
^{152}Eu	acid digested	Rad	pCi/mL	< 1.04E+03	±	mda	< 1.09E+03	±	mda	< 1.08E+03	±	mda	< 1.04E+03	NA	mda
^{154}Eu	acid digested	Rad	pCi/mL	< 1.77E+02	±	mda	< 1.85E+02	±	mda	< 1.76E+02	±	mda	< 1.76E+02	NA	mda
^{154}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 4.30E+02	±	mda	< 4.29E+02	±	mda	< 4.29E+02	±	mda	< 4.29E+02	NA	mda
^{155}Eu	0.45 µ (No AMP)	Rad	pCi/mL	< 7.60E+02	±	mda	< 7.59E+02	±	mda	< 7.57E+02	±	mda	< 7.57E+02	NA	mda
^{155}Eu	acid digested	Rad	pCi/mL	< 3.10E+02	±	mda	< 3.24E+02	±	mda	< 3.20E+02	±	mda	< 3.10E+02	NA	mda
^{231}Pa	0.45 µ (No AMP)	Rad	pCi/mL	< 1.01E+04	±	mda	< 1.01E+04	±	mda	< 1.03E+04	±	mda	< 1.01E+04	NA	mda
^{231}Pa	acid digested	Rad	pCi/mL	< 4.28E+03	±	mda	< 4.37E+03	±	mda	< 4.23E+03	±	mda	< 4.23E+03	NA	mda
^{232}U	acid digested	Rad	pCi/mL	< 6.36E+01	±	mda	< 1.52E+01	±	mda	< 1.97E+01	±	mda	< 1.52E+01	NA	mda
^{59}Ni	acid digested	Rad	pCi/mL	< 2.42E+01	±	upper limit	< 1.94E+02	±	upper limit	< 9.07E+01	±	upper limit	< 2.42E+01	NA	upper limit
^{63}Ni	acid digested	Rad	pCi/mL	< 6.33E+02	±	mda	< 4.59E+02	±	mda	< 4.11E+02	±	mda	< 4.11E+02	NA	mda
^{147}Pm	acid digested	Rad	pCi/mL	< 4.21E+02	±	upper limit	< 2.63E+02	±	upper	< 4.98E+02	±	upper limit	< 2.63E+02	NA	upper limit
^{151}Sm	acid digested	Rad	pCi/mL	< 3.95E+03	±	upper limit	< 1.39E+03	±	mda	< 3.07E+03	±	mda	< 1.39E+03	NA	mda
^{79}Se	acid digested	Rad	pCi/mL	< 4.20E+02	±	upper limit	< 3.43E+02	±	upper limit	< 3.80E+02	±	mda	< 3.43E+02	NA	mda
^{242}Cm/^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.05E+01	±	mda	< 9.32E+01	±	upper limit	< 4.61E+01	±	upper limit	< 2.05E+01	NA	upper limit
^{242}Cm/^{252}Cf	0.45 µ (AMP)	Rad	pCi/mL	3.81E+00	±	2.20E+00	< 1.09E+01	±	mda	3.90E+00	±	2.25E+00	3.85E+00	1.57E+00	6.57E-02
^{243}Cm	0.45 µ (No AMP)	Rad	pCi/mL	< 3.08E+04	±	mda	< 2.98E+04	±	mda	< 7.30E+03	±	mda	< 7.30E+03	NA	mda
^{243}Cm	0.45 µ (AMP)	Rad	pCi/mL	< 1.11E+03	±	mda	< 4.04E+02	±	mda	< 3.95E+02	±	mda	< 3.95E+02	NA	mda
^{244}Cm	0.45 µ (No AMP)	Rad	pCi/mL	7.33E+03	±	1.47E+05	1.95E+03	±	3.71E+04	1.20E+04	±	2.64E+05	7.09E+03	1.01E+05	5.03E+03
^{244}Cm	0.45 µ (AMP)	Rad	pCi/mL	7.22E+03	±	1.33E+03	2.29E+04	±	4.15E+03	6.71E+03	±	1.23E+03	1.23E+04	1.51E+03	9.23E+03
^{249}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.51E+03	±	mda	< 2.85E+03	±	mda	< 4.31E+03	±	mda	< 2.51E+03	NA	mda
^{249}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 3.71E+02	±	mda	< 4.23E+02	±	mda	< 3.34E+02	±	mda	< 3.34E+02	NA	mda
^{251}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 3.58E+03	±	mda	< 3.12E+03	±	mda	< 5.47E+03	±	mda	< 3.12E+03	NA	mda
^{251}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 5.39E+02	±	mda	< 3.83E+02	±	mda	< 4.55E+02	±	mda	< 3.83E+02	NA	mda
^{252}Cf	0.45 µ (No AMP)	Rad	pCi/mL	< 2.05E+01	±	mda	< 9.32E+01	±	mda	< 4.61E+01	±	mda	< 2.05E+01	NA	mda
^{252}Cf	0.45 µ (AMP)	Rad	pCi/mL		NA			NA			NA		NA	NA	NA

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

#Analysis conducted using gamma spectroscopy after cesium removal.

$Analysis conducted using more specific Am separation and radiocounting methodology.

6.6.2 Tank 46F Salt and Organic Species

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Na	0.45 µ (No AMP)	ICPES	M	5.85E+00 ± 5.85E-01	5.86E+00 ± 5.86E-01	3.59E+00 ± 3.59E-01	5.10E+00	1.31E+00
Na	0.45 µ (AMP)	ICPES	M	5.24E+00 ± 5.24E-01	5.24E+00 ± 5.24E-01	5.22E+00 ± 5.22E-01	5.23E+00	1.15E-02
Na	0.45 µ (No AMP)	AA	M	5.25E+00 ± 5.25E-01	5.27E+00 ± 5.27E-01	5.02E+00 ± 5.02E-01	5.18E+00	1.39E-01
K	0.45 µ (No AMP)	ICPES	M	4.53E-02 ± 4.52E-03	5.11E-02 ± 5.10E-03	< 1.25E-02 ± mdl	3.63E-02	2.80E-02
K	0.45 µ (AMP)	ICPES	M	2.56E-02 ± 2.56E-03	2.63E-02 ± 2.63E-03	2.82E-02 ± 2.82E-03	2.67E-02	1.35E-03
K	0.45 µ (No AMP)	AA	M	1.68E-02 ± 1.68E-03	2.33E-02 ± 2.33E-03	2.25E-02 ± 2.25E-03	2.09E-02	3.54E-03
Al	0.45 µ (No AMP)	ICPES	M	2.79E-01 ± 2.79E-02	2.50E-01 ± 2.50E-02	1.16E-01 ± 1.16E-02	2.15E-01	8.70E-02
Al	0.45 µ (AMP)	ICPES	M	1.79E-01 ± 1.79E-02	1.81E-01 ± 1.81E-02	1.82E-01 ± 1.82E-02	1.81E-01	1.53E-03
As	0.45 µ (No AMP)	AA	mg/L	<1.21E+00 ± mdl	<1.57E+00 ± mdl	<1.29E+00 ± mdl	<1.21E+00	mdl
Se	0.45 µ (No AMP)	AA	mg/L	<1.38E+00 ± mdl	<1.38E+00 ± mdl	<1.37E+00 ± mdl	<1.37E+00	mdl
Hg	0.45 µ (No AMP)	AA	mg/L	<2.43E+00 ± mdl	<2.42E+00 ± mdl	<2.41E+00 ± mdl	<2.41E+00	mdl
Total Base	unfiltered	Titration	M	3.90E+00 ± 3.90E-01	4.00E+00 ± 4.00E-01	ND**	3.95E+00	7.42E-02
Free OH^-	unfiltered	Titration	M	3.01E+00 ± 3.01E-01	2.67E+00 ± 2.67E-01	ND**	2.84E+00	2.43E-01
CO_3^{2-}	unfiltered	Titration	M	< 2.03E-03 ± mdl	< 1.96E-03 ± mdl	ND**	2.00E-03	mdl
$Al(OH)_4^-$	unfiltered	Titration	M	8.70E-01 ± 8.70E-02	7.47E-01 ± 7.47E-02	ND**	8.09E-01	8.70E-02
NO_3^-	unfiltered	IC	M	6.22E-01 ± 6.22E-02	NA	NA	6.22E-01	6.22E-02
NO_2^-	unfiltered	IC	M	6.39E-01 ± 6.39E-02	NA	NA	6.39E-01	6.39E-02
SO_4^{2-}	unfiltered	IC	M	2.80E-03 ± 2.80E-04	NA	NA	2.80E-03	2.80E-04
PO_4^{3-}	unfiltered	IC	M	2.83E-03 ± 2.83E-04	NA	NA	2.83E-03	2.83E-04
F^-	unfiltered	IC	M	< 2.36E-03 ± mdl	NA	NA	< 2.36E-03	mdl
Cl^-	unfiltered	IC	M	5.70E-03 ± 5.70E-04	NA	NA	5.70E-03	5.70E-04
Br^-	unfiltered	IC	M	NA	NA	NA	NA	NA
$C_2O_4^{2-}$	unfiltered	IC	M	NA	NA	NA	NA	NA
CHO_2	unfiltered	IC	M	NA	NA	NA	NA	NA
TBP	unfiltered	IC	mg/L	< 5.49E+00 ± mdl	NA	NA	< 5.49E+00	mdl
DBP	unfiltered	IC	mg/L	< 5.26E+02 ± mdl	NA	NA	< 5.26E+02	mdl
VOA	unfiltered	GC-MS	mg/L	< 3.95E+01 ± mdl	NA	NA	< 3.95E+01	mdl
SVOA	unfiltered	GC-MS	mg/L	< 1.10E+02 ± mdl	NA	NA	< 1.10E+02	mdl
TIC	unfiltered	Titration	mg/L	1.66E+03 ± 4.15E+02	1.55E+03 ± 3.88E+02	1.53E+03 ± 7.65E+02	1.58E+03	7.00E+01
TOC	unfiltered	Titration	mg/L	1.02E+03 ± 2.56E+02	1.44E+03 ± 3.60E+02	1.26E+03 ± 6.28E+02	1.24E+03	2.09E+02
Total C	unfiltered	Titration	mg/L	2.69E+03 ± 6.73E+02	2.99E+03 ± 7.48E+02	2.79E+03 ± 1.40E+03	2.82E+03	1.53E+02

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.
** ND indicates the sample results were inaccurate.
#Non-representative sample indicates that the data was determined to be inaccurate and unreflective of the actual sample value.

6.6.3 Tank 46F ICP-ES Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 9.23E+00 ± mdl	NA	NA	< 9.23E+00	mdl
Ag	0.45 µ (NO AMP)	ICPES	mg/L	< 2.21E+00 ± mdl	< 2.20E+00 ± mdl	< 2.19E+00 ± mdl	< 2.19E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	4.95E-01 ± 4.95E-02	4.79E-01 ± 4.79E-02	3.45E-01 ± 3.45E-02	4.40E-01	8.22E-02
Ag	0.1 µ (AMP)	ICPES	mg/L	2.58E-01 ± 2.58E-02	3.12E-01 ± 3.12E-02	3.78E-01 ± 3.78E-02	3.16E-01	6.04E-02
Ag	0.02 µ (AMP)	ICPES	mg/L	2.27E-01 ± 2.27E-02	3.32E-01 ± 3.32E-02	< 2.11E-01 ± mdl	2.57E-01	1.70E-01
Al	unfiltered	ICPES	M	1.88E-01 ± 1.88E-02	NA	NA	1.88E-01	1.88E-02
Al	0.45 µ (NO AMP)	ICPES	M	2.79E-01 ± 2.79E-02	2.50E-01 ± 2.50E-02	1.16E-01 ± 1.16E-02	2.15E-01	8.70E-02
Al	0.45 µ (AMP)	ICPES	M	1.79E-01 ± 1.79E-02	1.81E-01 ± 1.81E-02	1.82E-01 ± 1.82E-02	1.81E-01	1.53E-03
Al	0.1 µ (AMP)	ICPES	M	1.76E-01 ± 1.76E-02	1.77E-01 ± 1.77E-02	1.75E-01 ± 1.75E-02	1.76E-01	1.13E-03
Al	0.02 µ (AMP)	ICPES	M	1.75E-01 ± 1.75E-02	1.74E-01 ± 1.74E-02	1.75E-01 ± 1.75E-02	1.75E-01	5.18E-04
B	unfiltered	ICPES	mg/L	<9.96E+02 ± mdl	NA	NA	< 9.96E+02	mdl
B	0.45 µ (NO AMP)	ICPES	mg/L	2.28E+02 ± 2.28E+01	2.04E+02 ± 2.04E+01	9.85E+01 ± 9.85E+00	1.77E+02	6.89E+01
B	0.45 µ (AMP)	ICPES	mg/L	1.43E+02 ± 1.43E+01	1.42E+02 ± 1.42E+01	1.42E+02 ± 1.42E+01	1.42E+02	5.95E-01
B	0.1 µ (AMP)	ICPES	mg/L	1.35E+02 ± 1.35E+01	1.35E+02 ± 1.35E+01	1.37E+02 ± 1.37E+01	1.36E+02	1.14E+00
B	0.02 µ (AMP)	ICPES	mg/L	1.36E+02 ± 1.36E+01	1.36E+02 ± 1.36E+01	1.35E+02 ± 1.35E+01	1.35E+02	3.04E-01
Ba	unfiltered	ICPES	mg/L	<9.23E+00 ± mdl	NA	NA	< 9.23E+00	mdl
Ba	0.45 µ (NO AMP)	ICPES	mg/L	3.81E+00 ± 3.81E-01	2.99E+00 ± 2.99E-01	< 2.74E+00 ± mdl	3.18E+00	2.01E+00
Ba	0.45 µ (AMP)	ICPES	mg/L	6.86E-01 ± 6.86E-02	7.06E-01 ± 7.06E-02	6.55E-01 ± 6.55E-02	6.82E-01	2.59E-02
Ba	0.1 µ (AMP)	ICPES	mg/L	4.11E-01 ± 4.11E-02	4.27E-01 ± 4.27E-02	4.60E-01 ± 4.60E-02	4.33E-01	2.51E-02
Ba	0.02 µ (AMP)	ICPES	mg/L	3.38E-01 ± 3.38E-02	3.80E-01 ± 3.80E-02	3.96E-01 ± 3.96E-02	3.71E-01	3.00E-02
Ca	unfiltered	ICPES	mg/L	<2.79E+02 ± mdl	NA	NA	< 2.79E+02	mdl
Ca	0.45 µ (NO AMP)	ICPES	mg/L	1.20E+01 ± 1.20E+00	1.06E+01 ± 1.06E+00	< 6.57E+00 ± mdl	9.73E+00	6.56E+00
Ca	0.45 µ (AMP)	ICPES	mg/L	1.31E+01 ± 1.31E+00	1.33E+01 ± 1.33E+00	1.37E+01 ± 1.37E+00	1.34E+01	2.84E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	3.14E+01 ± 3.14E+00	3.11E+01 ± 3.11E+00	3.22E+01 ± 3.22E+00	3.16E+01	5.93E-01
Ca	0.02 µ (AMP)	ICPES	mg/L	2.36E+01 ± 2.36E+00	2.37E+01 ± 2.37E+00	2.35E+01 ± 2.35E+00	2.36E+01	1.10E-01
Cd	unfiltered	ICPES	mg/L	<1.23E+01 ± mdl	NA	NA	< 1.23E+01	mdl
Cd	0.45 µ (NO AMP)	ICPES	mg/L	< 6.62E+00 ± mdl	< 6.61E+00 ± mdl	< 6.57E+00 ± mdl	< 6.57E+00	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	< 6.19E-01 ± mdl	< 6.19E-01 ± mdl	< 6.19E-01 ± mdl	< 6.19E-01	mdl
Cd	0.1 µ (AMP)	ICPES	mg/L	< 6.58E-01 ± mdl	< 6.58E-01 ± mdl	< 6.58E-01 ± mdl	< 6.58E-01	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 6.33E-01 ± mdl	< 6.33E-01 ± mdl	< 6.33E-01 ± mdl	< 6.33E-01	mdl
Ce	unfiltered	ICPES	mg/L	< 1.53E+02 ± mdl	NA	NA	< 1.53E+02	mdl
Ce	0.45 µ (NO AMP)	ICPES	mg/L	6.07E+01 ± 6.07E+00	4.96E+01 ± 4.96E+00	< 2.82E+01 ± mdl	4.61E+01	3.23E+01
Ce	0.45 µ (AMP)	ICPES	mg/L	6.91E+00 ± 6.91E-01	6.29E+00 ± 6.29E-01	5.26E+00 ± 5.26E-01	6.15E+00	8.33E-01
Ce	0.1 µ (AMP)	ICPES	mg/L	4.69E+00 ± 4.69E-01	5.45E+00 ± 5.45E-01	5.86E+00 ± 5.86E-01	5.34E+00	5.95E-01
Ce	0.02 µ (AMP)	ICPES	mg/L	4.00E+00 ± 4.00E-01	5.38E+00 ± 5.38E-01	4.02E+00 ± 4.02E-01	4.47E+00	7.90E-01
Cr	unfiltered	ICPES	mg/L	8.06E+01 ± 8.06E+00	NA	NA	8.06E+01	8.06E+00
Cr	0.45 µ (NO AMP)	ICPES	mg/L	1.24E+02 ± 1.24E+01	1.12E+02 ± 1.12E+01	5.12E+01 ± 5.12E+00	9.57E+01	3.89E+01
Cr	0.45 µ (AMP)	ICPES	mg/L	7.89E+01 ± 7.89E+00	8.25E+01 ± 8.25E+00	7.78E+01 ± 7.78E+00	7.97E+01	2.44E+00
Cr	0.1 µ (AMP)	ICPES	mg/L	7.45E+01 ± 7.45E+00	7.40E+01 ± 7.40E+00	7.78E+01 ± 7.78E+00	7.55E+01	2.07E+00
Cr	0.02 µ (AMP)	ICPES	mg/L	7.49E+01 ± 7.49E+00	7.54E+01 ± 7.54E+00	7.44E+01 ± 7.44E+00	7.49E+01	5.28E-01
Cu	unfiltered	ICPES	mg/L	<1.91E+01 ± mdl	NA	NA	< 1.91E+01	mdl
Cu	0.45 µ (NO AMP)	ICPES	mg/L	< 5.51E+00 ± mdl	< 5.51E+00 ± mdl	< 5.47E+00 ± mdl	< 5.47E+00	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	1.16E+00 ± 1.16E-01	1.63E+00 ± 1.63E-01	1.26E+00 ± 1.26E-01	1.35E+00	2.45E-01
Cu	0.1 µ (AMP)	ICPES	mg/L	1.09E+00 ± 1.09E-01	1.11E+00 ± 1.11E-01	1.11E+00 ± 1.11E-01	1.11E+00	1.27E-02
Cu	0.02 µ (AMP)	ICPES	mg/L	1.21E+00 ± 1.21E-01	1.12E+00 ± 1.12E-01	1.14E+00 ± 1.14E-01	1.16E+00	4.69E-02
Fe	unfiltered	ICPES	mg/L	<1.35E+01 ± mdl	NA	NA	< 1.35E+01	mdl
Fe	0.45 µ (NO AMP)	ICPES	mg/L	1.82E+01 ± 1.82E+00	1.53E+01 ± 1.53E+00	5.86E+00 ± 5.86E-01	1.31E+01	6.47E+00
Fe	0.45 µ (AMP)	ICPES	mg/L	1.01E+01 ± 1.01E+00	3.37E+01 ± 3.37E+00	1.37E+01 ± 1.37E+00	1.92E+01	1.27E+01
Fe	0.1 µ (AMP)	ICPES	mg/L	9.76E+00 ± 9.76E-01	9.59E+00 ± 9.59E-01	1.00E+01 ± 1.00E+00	9.79E+00	2.22E-01
Fe	0.02 µ (AMP)	ICPES	mg/L	1.30E+01 ± 1.30E+00	9.44E+00 ± 9.44E-01	9.23E+00 ± 9.23E-01	1.06E+01	2.10E+00
Gd	unfiltered	ICPES	mg/L	<1.66E+01 ± mdl	NA	NA	< 1.66E+01	mdl
Gd	0.45 µ (NO AMP)	ICPES	mg/L	7.17E+00 ± 7.17E-01	5.89E+00 ± 5.89E-01	< 4.38E+00 ± mdl	5.81E+00	3.82E+00
Gd	0.45 µ (AMP)	ICPES	mg/L	9.74E-01 ± 9.74E-02	9.84E-01 ± 9.84E-02	7.27E-01 ± 7.27E-02	8.95E-01	1.46E-01
Gd	0.1 µ (AMP)	ICPES	mg/L	5.37E-01 ± 5.37E-02	5.70E-01 ± 5.70E-02	7.07E-01 ± 7.07E-02	6.05E-01	9.01E-02
Gd	0.02 µ (AMP)	ICPES	mg/L	4.54E-01 ± 4.54E-02	5.80E-01 ± 5.80E-02	4.54E-01 ± 4.54E-02	4.96E-01	7.31E-02
K	unfiltered	ICPES	M	<1.50E-01 ± mdl	NA	NA	< 1.50E-01	mdl
K	0.45 µ (NO AMP)	ICPES	M	4.52E-02 ± 4.52E-03	5.10E-02 ± 5.10E-03	< 1.25E-02 ± mdl	3.62E-02	2.79E-02
K	0.45 µ (AMP)	ICPES	M	2.56E-02 ± 2.56E-03	2.63E-02 ± 2.63E-03	2.82E-02 ± 2.82E-03	2.67E-02	1.35E-03
K	0.1 µ (AMP)	ICPES	M	2.70E-02 ± 2.70E-03	2.50E-02 ± 2.50E-03	2.78E-02 ± 2.78E-03	2.66E-02	1.44E-03
K	0.02 µ (AMP)	ICPES	M	2.62E-02 ± 2.62E-03	2.61E-02 ± 2.61E-03	2.69E-02 ± 2.69E-03	2.64E-02	4.23E-04
La	unfiltered	ICPES	mg/L	<1.23E+01 ± mdl	NA	NA	< 1.23E+01	mdl
La	0.45 µ (NO AMP)	ICPES	mg/L	8.71E+00 ± 8.71E-01	7.71E+00 ± 7.71E-01	< 4.93E+00 ± mdl	7.12E+00	4.77E+00
La	0.45 µ (AMP)	ICPES	mg/L	1.19E+00 ± 1.19E-01	1.17E+00 ± 1.17E-01	1.02E+00 ± 1.02E-01	1.12E+00	9.41E-02
La	0.1 µ (AMP)	ICPES	mg/L	7.84E-01 ± 7.84E-02	7.51E-01 ± 7.51E-02	9.70E-01 ± 9.70E-02	8.35E-01	1.18E-01
La	0.02 µ (AMP)	ICPES	mg/L	5.91E-01 ± 5.91E-02	8.28E-01 ± 8.28E-02	6.75E-01 ± 6.75E-02	6.98E-01	1.20E-01
Li	unfiltered	ICPES	mg/L	<5.23E+01 ± mdl	NA	NA	< 5.23E+01	mdl
Li	0.45 µ (NO AMP)	ICPES	mg/L	2.25E+01 ± 2.25E+00	1.82E+01 ± 1.82E+00	< 1.64E+00 ± mdl	1.41E+01	1.19E+01
Li	0.45 µ (AMP)	ICPES	mg/L	1.15E+00 ± 1.15E-01	1.08E+00 ± 1.08E-01	8.45E-01 ± 8.45E-02	1.03E+00	1.62E-01
Li	0.1 µ (AMP)	ICPES	mg/L	5.37E-01 ± 5.37E-02	9.43E-01 ± 9.43E-02	1.12E+00 ± 1.12E-01	8.66E-01	2.98E-01
Li	0.02 µ (AMP)	ICPES	mg/L	4.01E-01 ± 4.01E-02	8.86E-01 ± 8.86E-02	4.91E-01 ± 4.91E-02	5.93E-01	2.58E-01
Mg	unfiltered	ICPES	mg/L	<3.81E+01 ± mdl	NA	NA	< 3.81E+01	mdl
Mg	0.45 µ (NO AMP)	ICPES	mg/L	< 1.10E+00 ± mdl	< 1.10E+00 ± mdl	< 1.09E+00 ± mdl	< 1.09E+00	mdl
Mg	0.45 µ (AMP)	ICPES	mg/L	1.98E+00 ± 1.98E-01	3.21E+00 ± 3.21E-01	2.06E+00 ± 2.06E-01	2.42E+00	6.89E-01
Mg	0.1 µ (AMP)	ICPES	mg/L	5.27E+00 ± 5.27E-01	5.24E+00 ± 5.24E-01	5.35E+00 ± 5.35E-01	5.29E+00	6.01E-02
Mg	0.02 µ (AMP)	ICPES	mg/L	4.06E+00 ± 4.06E-01	3.90E+00 ± 3.90E-01	3.87E+00 ± 3.87E-01	3.94E+00	1.01E-01

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Mn	unfiltered	ICPES	mg/L	<1.35E+01 ± mdl	NA	NA	< 1.35E+01	mdl
Mn	0.45 µ (NO AMP)	ICPES	mg/L	< 1.65E+00 ± mdl	< 1.65E+00 ± mdl	< 1.64E+00 ± mdl	< 1.64E+00	mdl
Mn	0.45 µ (AMP)	ICPES	mg/L	2.27E-01 ± 2.27E-02	1.01E+01 ± 1.01E+00	1.37E+00 ± 1.37E-01	3.90E+00	5.40E+00
Mn	0.1 µ (AMP)	ICPES	mg/L	2.14E-01 ± 2.14E-02	2.41E-01 ± 2.41E-02	2.58E-01 ± 2.58E-02	2.37E-01	2.22E-02
Mn	0.02 µ (AMP)	ICPES	mg/L	2.06E-01 ± 2.06E-02	2.11E-01 ± 2.11E-02	2.37E-01 ± 2.37E-02	2.18E-01	1.70E-02
Mo	unfiltered	ICPES	mg/L	<1.25E+02 ± mdl	NA	NA	< 1.25E+02	mdl
Mo	0.45 µ (NO AMP)	ICPES	mg/L	5.51E+01 ± 5.51E+00	5.16E+01 ± 5.16E+00	< 3.67E+01 ± mdl	4.78E+01	3.09E+01
Mo	0.45 µ (AMP)	ICPES	mg/L	5.93E+01 ± 5.93E+00	4.83E+01 ± 4.83E+00	5.62E+01 ± 5.62E+00	5.46E+01	5.63E+00
Mo	0.1 µ (AMP)	ICPES	mg/L	3.32E+01 ± 3.32E+00	3.36E+01 ± 3.36E+00	3.39E+01 ± 3.39E+00	3.36E+01	3.30E-01
Mo	0.02 µ (AMP)	ICPES	mg/L	3.16E+01 ± 3.16E+00	3.33E+01 ± 3.33E+00	3.41E+01 ± 3.41E+00	3.30E+01	1.27E+00
Na	unfiltered	ICPES	M	5.29E+00 ± 5.29E-01	NA	NA	5.29E+00	5.29E-01
Na	0.45 µ (NO AMP)	ICPES	M	5.85E+00 ± 5.85E-01	5.86E+00 ± 5.86E-01	3.59E+00 ± 3.59E-01	5.10E+00	1.31E+00
Na	0.45 µ (AMP)	ICPES	M	5.24E+00 ± 5.24E-01	5.24E+00 ± 5.24E-01	5.22E+00 ± 5.22E-01	5.23E+00	1.15E-02
Na	0.1 µ (AMP)	ICPES	M	5.27E+00 ± 5.27E-01	5.34E+00 ± 5.34E-01	5.29E+00 ± 5.29E-01	5.30E+00	3.61E-02
Na	0.02 µ (AMP)	ICPES	M	5.34E+00 ± 5.34E-01	5.37E+00 ± 5.37E-01	5.37E+00 ± 5.37E-01	5.36E+00	1.73E-02
Ni	unfiltered	ICPES	mg/L	< 4.61E+01 ± mdl	NA	NA	< 4.61E+01	mdl
Ni	0.45 µ (NO AMP)	ICPES	mg/L	< 2.48E+01 ± mdl	< 2.48E+01 ± mdl	< 2.46E+01 ± mdl	< 2.46E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	< 2.32E+00 ± mdl	3.58E+00 ± 3.58E-01	< 2.32E+00 ± mdl	2.74E+00	2.07E+00
Ni	0.1 µ (AMP)	ICPES	mg/L	< 2.47E+00 ± mdl	< 2.47E+00 ± mdl	< 2.47E+00 ± mdl	< 2.47E+00	mdl
Ni	0.02 µ (AMP)	ICPES	mg/L	< 2.37E+00 ± mdl	< 2.37E+00 ± mdl	< 2.37E+00 ± mdl	< 2.37E+00	mdl
P	unfiltered	ICPES	mg/L	< 2.98E+02 ± mdl	NA	NA	< 2.98E+02	mdl
P	0.45 µ (NO AMP)	ICPES	mg/L	< 2.31E+02 ± mdl	< 2.31E+02 ± mdl	< 2.29E+02 ± mdl	< 2.29E+02	mdl
P	0.45 µ (AMP)	ICPES	mg/L	1.51E+02 ± 1.51E+01	1.53E+02 ± 1.53E+01	1.46E+02 ± 1.46E+01	1.50E+02	3.43E+00
P	0.1 µ (AMP)	ICPES	mg/L	1.45E+02 ± 1.45E+01	1.45E+02 ± 1.45E+01	1.49E+02 ± 1.49E+01	1.46E+02	2.39E+00
P	0.02 µ (AMP)	ICPES	mg/L	1.42E+02 ± 1.42E+01	1.47E+02 ± 1.47E+01	1.46E+02 ± 1.46E+01	1.45E+02	2.20E+00
Pb	unfiltered	ICPES	mg/L	< 1.51E+02 ± mdl	NA	NA	< 1.51E+02	mdl
Pb	0.45 µ (NO AMP)	ICPES	mg/L	< 1.58E+02 ± mdl	< 1.57E+02 ± mdl	< 1.57E+02 ± mdl	< 1.57E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 1.47E+01 ± mdl	< 1.47E+01 ± mdl	< 1.47E+01 ± mdl	< 1.47E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 1.57E+01 ± mdl	< 1.57E+01 ± mdl	< 1.57E+01 ± mdl	< 1.57E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 1.51E+01 ± mdl	< 1.51E+01 ± mdl	< 1.51E+01 ± mdl	< 1.51E+01	mdl
S	unfiltered	ICPES	mg/L	2.68E+02 ± 2.68E+01	NA	NA	2.68E+02	2.68E+01
S	0.45 µ (NO AMP)	ICPES	mg/L	4.76E+02 ± 4.76E+01	4.30E+02 ± 4.30E+01	2.11E+02 ± 2.11E+01	3.72E+02	1.41E+02
S	0.45 µ (AMP)	ICPES	mg/L	3.08E+02 ± 3.08E+01	3.38E+02 ± 3.38E+01	3.03E+02 ± 3.03E+01	3.16E+02	1.87E+01
S	0.1 µ (AMP)	ICPES	mg/L	2.88E+02 ± 2.88E+01	2.82E+02 ± 2.82E+01	3.08E+02 ± 3.08E+01	2.93E+02	1.35E+01
S	0.02 µ (AMP)	ICPES	mg/L	2.85E+02 ± 2.85E+01	2.94E+02 ± 2.94E+01	2.82E+02 ± 2.82E+01	2.87E+02	6.29E+00
Sb	unfiltered	ICPES	mg/L	< 9.29E+01 ± mdl	NA	NA	< 9.29E+01	mdl
Sb	0.45 µ (NO AMP)	ICPES	mg/L	< 3.92E+01 ± mdl	< 3.91E+01 ± mdl	< 3.89E+01 ± mdl	< 3.89E+01	mdl
Sb	0.45 µ (AMP)	ICPES	mg/L	1.68E+01 ± 1.68E+00	1.66E+01 ± 1.66E+00	1.60E+01 ± 1.60E+00	1.65E+01	4.00E-01
Sb	0.1 µ (AMP)	ICPES	mg/L	1.42E+01 ± 1.42E+00	1.53E+01 ± 1.53E+00	1.61E+01 ± 1.61E+00	1.52E+01	9.40E-01
Sb	0.02 µ (AMP)	ICPES	mg/L	1.49E+01 ± 1.49E+00	1.49E+01 ± 1.49E+00	1.44E+01 ± 1.44E+00	1.48E+01	3.05E-01
Si	unfiltered	ICPES	mg/L	< 2.28E+01 ± mdl	NA	NA	< 2.28E+01	mdl
Si	0.45 µ (NO AMP)	ICPES	mg/L	< 1.38E+01 ± mdl	< 1.38E+01 ± mdl	< 1.37E+01 ± mdl	< 1.37E+01	mdl
Si	0.45 µ (AMP)	ICPES	mg/L	1.14E+01 ± 1.14E+00	1.33E+01 ± 1.33E+00	1.19E+01 ± 1.19E+00	1.22E+01	9.95E-01
Si	0.1 µ (AMP)	ICPES	mg/L	1.19E+01 ± 1.19E+00	1.14E+01 ± 1.14E+00	1.19E+01 ± 1.19E+00	1.17E+01	3.02E-01
Si	0.02 µ (AMP)	ICPES	mg/L	1.17E+01 ± 1.17E+00	1.16E+01 ± 1.16E+00	1.14E+01 ± 1.14E+00	1.16E+01	1.06E-01
Sn	unfiltered	ICPES	mg/L	< 1.51E+02 ± mdl	NA	NA	< 1.51E+02	mdl
Sn	0.45 µ (NO AMP)	ICPES	mg/L	< 6.29E+01 ± mdl	< 6.28E+01 ± mdl	< 6.24E+01 ± mdl	< 6.24E+01	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	9.69E+00 ± 9.69E-01	8.97E+00 ± 8.97E-01	8.97E+00 ± 8.97E-01	9.21E+00	4.17E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	7.07E+00 ± 7.07E-01	7.29E+00 ± 7.29E-01	8.50E+00 ± 8.50E-01	7.62E+00	7.67E-01
Sn	0.02 µ (AMP)	ICPES	mg/L	< 6.01E+00 ± mdl	7.65E+00 ± 7.65E-01	7.49E+00 ± 7.49E-01	7.05E+00	4.37E+00
Sr	unfiltered	ICPES	mg/L	< 6.15E+01 ± mdl	NA	NA	< 6.15E+01	mdl
Sr	0.45 µ (NO AMP)	ICPES	mg/L	< 4.41E+00 ± mdl	< 4.40E+00 ± mdl	< 4.38E+00 ± mdl	< 4.38E+00	mdl
Sr	0.45 µ (AMP)	ICPES	mg/L	3.87E+00 ± 3.87E-01	4.07E+00 ± 4.07E-01	3.86E+00 ± 3.86E-01	3.93E+00	1.16E-01
Sr	0.1 µ (AMP)	ICPES	mg/L	7.78E+00 ± 7.78E-01	7.89E+00 ± 7.89E-01	7.84E+00 ± 7.84E-01	7.84E+00	5.48E-02
Sr	0.02 µ (AMP)	ICPES	mg/L	6.07E+00 ± 6.07E-01	6.07E+00 ± 6.07E-01	6.07E+00 ± 6.07E-01	6.07E+00	0.00E+00
Ti	unfiltered	ICPES	mg/L	< 3.69E+00 ± mdl	NA	NA	< 3.69E+00	mdl
Ti	0.45 µ (NO AMP)	ICPES	mg/L	< 7.17E+00 ± mdl	< 7.16E+00 ± mdl	< 7.11E+00 ± mdl	< 7.11E+00	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 6.70E-01 ± mdl	< 6.70E-01 ± mdl	< 6.70E-01 ± mdl	< 6.70E-01	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 7.12E-01 ± mdl	< 7.12E-01 ± mdl	< 7.12E-01 ± mdl	< 7.12E-01	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 6.86E-01 ± mdl	< 6.86E-01 ± mdl	< 6.86E-01 ± mdl	< 6.86E-01	mdl
U	unfiltered	ICPES	mg/L	< 4.64E+02 ± mdl	NA	NA	< 4.64E+02	mdl
U	0.45 µ (NO AMP)	ICPES	mg/L	1.40E+02 ± 1.40E+01	1.17E+02 ± 1.17E+01	< 9.52E+01 ± mdl	< 1.17E+02	7.51E+01
U	0.45 µ (AMP)	ICPES	mg/L	1.59E+01 ± 1.59E+00	1.62E+01 ± 1.62E+00	1.30E+01 ± 1.30E+00	< 1.51E+01	1.75E+00
U	0.1 µ (AMP)	ICPES	mg/L	1.19E+01 ± 1.19E+00	1.35E+01 ± 1.35E+00	1.59E+01 ± 1.59E+00	< 1.38E+01	1.99E+00
U	0.02 µ (AMP)	ICPES	mg/L	1.14E+01 ± 1.14E+00	1.33E+01 ± 1.33E+00	1.12E+01 ± 1.12E+00	< 1.20E+01	1.13E+00
V	unfiltered	ICPES	mg/L	< 6.77E+00 ± mdl	NA	NA	< 6.77E+00	mdl
V	0.45 µ (NO AMP)	ICPES	mg/L	7.33E+00 ± 7.33E-01	6.33E+00 ± 6.33E-01	< 6.02E+00 ± mdl	< 6.56E+00	3.98E+00
V	0.45 µ (AMP)	ICPES	mg/L	2.88E+00 ± 2.88E-01	3.08E+00 ± 3.08E-01	2.77E+00 ± 2.77E-01	< 2.91E+00	1.55E-01
V	0.1 µ (AMP)	ICPES	mg/L	2.87E+00 ± 2.87E-01	2.88E+00 ± 2.88E-01	2.76E+00 ± 2.76E-01	< 2.84E+00	6.81E-02
V	0.02 µ (AMP)	ICPES	mg/L	2.61E+00 ± 2.61E-01	2.78E+00 ± 2.78E-01	2.64E+00 ± 2.64E-01	< 2.67E+00	9.27E-02
Zn	unfiltered	ICPES	mg/L	< 3.38E+01 ± mdl	NA	NA	< 3.38E+01	mdl
Zn	0.45 µ (NO AMP)	ICPES	mg/L	2.98E+00 ± 2.98E-01	1.98E+00 ± 1.98E-01	< 1.09E+00 ± mdl	< 2.02E+00	1.52E+00
Zn	0.45 µ (AMP)	ICPES	mg/L	7.06E+00 ± 7.06E-01	7.37E+00 ± 7.37E-01	7.01E+00 ± 7.01E-01	< 7.15E+00	1.95E-01
Zn	0.1 µ (AMP)	ICPES	mg/L	7.73E+00 ± 7.73E-01	6.69E+00 ± 6.69E-01	6.96E+00 ± 6.96E-01	< 7.12E+00	5.40E-01
Zn	0.02 µ (AMP)	ICPES	mg/L	6.65E+00 ± 6.65E-01	6.75E+00 ± 6.75E-01	6.59E+00 ± 6.59E-01	< 6.67E+00	8.06E-02
Zr	unfiltered	ICPES	mg/L	< 7.38E+00 ± mdl	NA	NA	< 7.38E+00	mdl
Zr	0.45 µ (NO AMP)	ICPES	mg/L	< 7.72E+00 ± mdl	< 7.71E+00 ± mdl	< 7.66E+00 ± mdl	< 7.66E+00	mdl
Zr	0.45 µ (AMP)	ICPES	mg/L	< 7.22E-01 ± mdl	< 7.22E-01 ± mdl	< 7.22E-01 ± mdl	< 7.22E-01	mdl
Zr	0.1 µ (AMP)	ICPES	mg/L	< 7.67E-01 ± mdl	< 7.67E-01 ± mdl	< 7.67E-01 ± mdl	< 7.67E-01	mdl
Zr	0.02 µ (AMP)	ICPES	mg/L	< 7.39E-01 ± mdl	< 7.39E-01 ± mdl	< 7.39E-01 ± mdl	< 7.39E-01	mdl

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.6.4 Tank 46F ICP-MS Characterization

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Zr	0.45 µ (NO AMP)	ICP-MS	mg/L	2.28E-01	±	5.71E-02	2.47E-01	±	6.18E-02	1.53E-01	±	3.83E-02	2.09E-01	4.98E-02
Zr	0.45 µ (AMP)	ICP-MS	mg/L	1.09E-01	±	2.72E-02	9.10E-02	±	2.27E-02		NA		9.98E-02	1.25E-02
Zr	0.1 µ (AMP)	ICP-MS	mg/L	1.38E-01	±	3.45E-02	1.21E-01	±	3.03E-02	1.24E-01	±	3.09E-02	1.28E-01	8.98E-03
Zr	0.02 µ (AMP)	ICP-MS	mg/L	1.59E-01	±	3.98E-02	1.01E-01	±	2.51E-02	1.31E-01	±	3.27E-02	1.30E-01	2.93E-02
Tc-99	0.45 µ (NO AMP)	ICP-MS	mg/L	6.23E+00	±	1.56E+00	6.81E+00	±	1.70E+00	5.94E+00	±	1.49E+00	6.33E+00	4.40E-01
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	4.83E+00	±	1.21E+00	5.10E+00	±	1.28E+00		NA		4.97E+00	1.89E-01
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	5.85E+00	±	1.46E+00	6.22E+00	±	1.55E+00	5.83E+00	±	1.46E+00	5.97E+00	2.18E-01
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	5.59E+00	±	1.40E+00	4.90E+00	±	1.23E+00	5.44E+00	±	1.36E+00	5.31E+00	3.59E-01
Tc-99	0.45 µ (NO AMP)	ICP-MS	pCi/mL	1.06E+05	±	2.64E+04	1.16E+05	±	2.90E+04	1.01E+05	±	2.53E+04	1.08E+05	7.66E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	8.20E+04	±	2.05E+04	8.66E+04	±	2.16E+04		NA		8.43E+04	3.20E+03
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	9.92E+04	±	2.48E+04	1.06E+05	±	2.64E+04	9.90E+04	±	2.47E+04	1.01E+05	3.71E+03
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	9.48E+04	±	2.37E+04	8.32E+04	±	2.08E+04	9.23E+04	±	2.31E+04	9.01E+04	6.09E+03
Mo	0.45 µ (NO AMP)	ICP-MS	mg/L	2.59E+01	±	6.48E+00	2.84E+01	±	7.10E+00	2.57E+01	±	6.43E+00	2.67E+01	1.50E+00
Mo	0.45 µ (AMP)	ICP-MS	mg/L	2.41E+01	±	6.03E+00	2.37E+01	±	5.92E+00		NA		2.39E+01	3.10E-01
Mo	0.1 µ (AMP)	ICP-MS	mg/L	2.42E+01	±	6.06E+00	2.66E+01	±	6.66E+00	2.43E+01	±	6.08E+00	2.51E+01	1.36E+00
Mo	0.02 µ (AMP)	ICP-MS	mg/L	2.71E+01	±	6.77E+00	2.31E+01	±	5.78E+00	2.61E+01	±	6.54E+00	2.54E+01	2.08E+00
Ag	0.45 µ (NO AMP)	ICP-MS	mg/L	2.50E-01	±	5.54E+00	3.38E-01	±	8.44E-02	2.61E-01	±	6.53E-02	2.83E-01	4.77E-02
Ag	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Ag	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Ag	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pd	0.45 µ (NO AMP)	ICP-MS	mg/L	1.12E-01	±	2.80E-02	1.47E-01	±	3.68E-02	1.22E-01	±	3.05E-02	1.27E-01	1.80E-02
Pd	0.45 µ (AMP)	ICP-MS	mg/L	1.77E-02	±	4.44E-03	1.92E-02	±	4.80E-03		NA		1.85E-02	1.04E-03
Pd	0.1 µ (AMP)	ICP-MS	mg/L	2.49E-02	±	6.22E-03	2.89E-02	±	7.23E-03	2.89E-02	±	7.23E-03	2.76E-02	2.33E-03
Pd	0.02 µ (AMP)	ICP-MS	mg/L	1.15E-02	±	2.87E-03	9.14E-03	±	2.28E-03	1.14E-02	±	2.84E-03	1.07E-02	1.32E-03
Rh	0.45 µ (NO AMP)	ICP-MS	mg/L	8.30E-01	±	2.08E-01	9.19E-01	±	2.30E-01	8.09E-01	±	2.02E-01	8.53E-01	5.83E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	7.10E-01	±	1.78E-01	7.04E-01	±	1.76E-01		NA		7.07E-01	4.36E-03
Rh	0.1 µ (AMP)	ICP-MS	mg/L	9.25E-01	±	2.31E-01	9.75E-01	±	2.44E-01	9.10E-01	±	2.27E-01	9.37E-01	3.42E-02
Rh	0.02 µ (AMP)	ICP-MS	mg/L	7.91E-01	±	1.98E-01	6.43E-01	±	1.61E-01	7.37E-01	±	1.84E-01	7.24E-01	7.52E-02
Ru	0.45 µ (NO AMP)	ICP-MS	mg/L	1.08E+00	±	2.71E-01	1.24E+00	±	3.10E-01	1.09E+00	±	2.73E-01	1.14E+00	8.85E-02
Ru	0.45 µ (AMP)	ICP-MS	mg/L	9.43E-01	±	2.36E-01	9.40E-01	±	2.35E-01		NA		9.41E-01	2.07E-03
Ru	0.1 µ (AMP)	ICP-MS	mg/L	1.21E+00	±	3.02E-01	1.34E+00	±	3.35E-01	1.20E+00	±	3.00E-01	1.25E+00	7.84E-02
Ru	0.02 µ (AMP)	ICP-MS	mg/L	1.07E+00	±	2.66E-01	8.95E-01	±	2.24E-01	1.01E+00	±	2.53E-01	9.91E-01	8.78E-02
Cd	0.45 µ (NO AMP)	ICP-MS	mg/L	3.31E-02	±	8.27E-03	5.90E-02	±	1.48E-02	4.70E-02	±	1.18E-02	4.64E-02	1.30E-02
Cd	0.45 µ (AMP)	ICP-MS	mg/L	5.93E-02	±	1.48E-02	6.19E-02	±	1.55E-02		NA		6.06E-02	1.82E-03
Cd	0.1 µ (AMP)	ICP-MS	mg/L	6.89E-02	±	1.72E-02	6.63E-02	±	1.66E-02	6.74E-02	±	1.69E-02	6.75E-02	1.29E-03
Cd	0.02 µ (AMP)	ICP-MS	mg/L	9.36E-02	±	2.34E-02	5.06E-02	±	1.26E-02	6.51E-02	±	1.63E-02	6.98E-02	2.19E-02
Sn	0.45 µ (NO AMP)	ICP-MS	mg/L	2.01E+00	±	5.04E-01	2.12E+00	±	5.29E-01	1.84E+00	±	4.60E-01	1.99E+00	1.40E-01
Sn	0.45 µ (AMP)	ICP-MS	mg/L	9.46E-01	±	2.36E-01	9.70E-01	±	2.42E-01		NA		9.58E-01	1.67E-02
Sn	0.1 µ (AMP)	ICP-MS	mg/L	7.59E-01	±	1.90E-01	7.59E-01	±	1.90E-01	7.01E-01	±	1.75E-01	7.40E-01	3.35E-02
Sn	0.02 µ (AMP)	ICP-MS	mg/L	1.46E+00	±	3.65E-01	1.15E+00	±	2.89E-01	1.46E+00	±	3.65E-01	1.36E+00	1.77E-01
La	0.45 µ (NO AMP)	ICP-MS	mg/L	3.07E-03	±	7.68E-04	mdl	±	mdl	mdl	±	mdl	3.07E-03	7.68E-04
La	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
La	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
La	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Ce	0.45 µ (NO AMP)	ICP-MS	mg/L	3.85E-03	±	9.63E-04	3.54E-03	±	8.85E-04	1.21E-03	±	3.03E-04	2.87E-03	1.44E-03
Ce	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Ce	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Ce	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
W	0.45 µ (NO AMP)	ICP-MS	mg/L	6.45E-01	±	1.61E-01	7.33E-01	±	1.83E-01	5.65E-01	±	1.41E-01	6.48E-01	8.42E-02
W	0.45 µ (AMP)	ICP-MS	mg/L	6.71E-01	±	1.68E-01	6.90E-01	±	1.72E-01		NA		6.80E-01	1.30E-02
W	0.1 µ (AMP)	ICP-MS	mg/L	5.42E-01	±	1.35E-01	5.40E-01	±	1.35E-01	5.76E-01	±	1.44E-01	5.53E-01	2.04E-02
W	0.02 µ (AMP)	ICP-MS	mg/L	6.42E-01	±	1.60E-01	5.73E-01	±	1.43E-01	6.63E-01	±	1.66E-01	6.26E-01	4.70E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Re	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Re	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Re	0.1 µ (AMP)	ICP-MS	mg/L	7.31E-03	±	1.83E-03	1.08E-02	±	2.69E-03	8.61E-03	±	2.15E-03	8.89E-03	1.74E-03
Re	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Os	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Os	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Ir	0.45 µ (NO AMP)	ICP-MS	mg/L	7.81E-04	±	1.95E-04	5.16E-04	±	1.29E-04	2.03E-03	±	5.07E-04	1.11E-03	8.06E-04
Ir	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA	mdl	mdl	mdl
Ir	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Ir	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pt	0.45 µ (NO AMP)	ICP-MS	mg/L	2.08E-02	±	5.21E-03	mdl	±	mdl	mdl	±	mdl	2.08E-02	5.21E-03
Pt	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Pt	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pt	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Au	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Au	0.45 µ (AMP)	ICP-MS	mg/L	8.31E-01	±	2.08E-01	8.17E-01	±	2.04E-01		NA		8.24E-01	9.99E-03
Au	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Au	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Hg	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Hg	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	1.14E-02	±	2.84E-03		NA		1.14E-02	2.84E-03
Hg	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Hg	0.02 µ (AMP)	ICP-MS	mg/L	5.40E-03	±	1.35E-03	5.57E-03	±	1.39E-03	1.33E-02	±	3.32E-03	8.08E-03	4.49E-03
Pb	0.45 µ (NO AMP)	ICP-MS	mg/L	8.65E-01	±	2.16E-01	9.77E-01	±	2.44E-01	8.69E-01	±	2.17E-01	9.04E-01	6.33E-02
Pb	0.45 µ (AMP)	ICP-MS	mg/L	8.96E-01	±	2.24E-01	9.85E-01	±	2.46E-01		NA		9.41E-01	6.28E-02
Pb	0.1 µ (AMP)	ICP-MS	mg/L	7.53E-01	±	1.88E-01	8.07E-01	±	2.02E-01	7.71E-01	±	1.93E-01	7.77E-01	2.72E-02
Pb	0.02 µ (AMP)	ICP-MS	mg/L	9.38E-01	±	2.35E-01	7.76E-01	±	1.94E-01	8.65E-01	±	2.16E-01	8.60E-01	8.14E-02
U-235	0.45 µ (NO AMP)	ICP-MS	mg/L	8.05E-03	±	2.01E-03	9.57E-03	±	2.39E-03	1.25E-02	±	3.14E-03	1.01E-02	2.29E-03
U-235	0.45 µ (AMP)	ICP-MS	mg/L	1.16E-02	±	2.90E-03	1.02E-02	±	2.54E-03		NA		1.09E-02	1.02E-03
U-235	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	1.11E-02	±	2.77E-03	mdl	±	mdl	1.11E-02	2.77E-03
U-235	0.02 µ (AMP)	ICP-MS	mg/L	1.01E-02	±	2.53E-03	7.79E-03	±	1.95E-03	1.67E-02	±	4.18E-03	1.15E-02	4.64E-03
U-238	0.45 µ (NO AMP)	ICP-MS	mg/L	2.64E+00	±	6.59E-01	2.48E+00	±	6.20E-01	2.41E+00	±	6.04E-01	2.51E+00	1.15E-01
U-238	0.45 µ (AMP)	ICP-MS	mg/L	2.49E+00	±	6.22E-01	2.64E+00	±	6.61E-01		NA		2.57E+00	1.10E-01
U-238	0.1 µ (AMP)	ICP-MS	mg/L	2.02E+00	±	5.04E-01	2.26E+00	±	5.66E-01	2.01E+00	±	5.04E-01	2.10E+00	1.43E-01
U-238	0.02 µ (AMP)	ICP-MS	mg/L	2.84E+00	±	7.09E-01	2.39E+00	±	5.97E-01	2.52E+00	±	6.31E-01	2.58E+00	2.30E-01
Total U	0.45 µ (NO AMP)	ICP-MS	mg/L	2.65E+00		NA	2.49E+00		NA	2.43E+00	±	NA	2.52E+00	1.13E-01
Total U	0.45 µ (AMP)	ICP-MS	mg/L	2.50E+00		NA	2.65E+00		NA		NA		2.58E+00	1.09E-01
Total U	0.1 µ (AMP)	ICP-MS	mg/L	2.02E+00		NA	2.27E+00		NA	2.01E+00	±	NA	2.10E+00	1.49E-01
Total U	0.02 µ (AMP)	ICP-MS	mg/L	2.85E+00		NA	2.40E+00		NA	2.54E+00	±	NA	2.59E+00	2.30E-01

Note: NA = no sample analyzed, bdl = below detection limit,

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation*	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
% U235	0.45 µ (NO AMP)	ICP-MS	%	3.04E-01	±	7.60E-02	3.84E-01	±	9.61E-02	5.17E-01	±	1.29E-01	4.02E-01	1.08E-01
% U238	0.45 µ (NO AMP)	ICP-MS	%	9.97E+01	±	2.49E+01	9.96E+01	±	2.49E+01	9.95E+01	±	2.49E+01	9.96E+01	1.08E-01
% U235	0.45 µ (AMP)	ICP-MS	%	4.65E-01	±	1.16E-01	3.83E-01	±	9.57E-02		NA		3.83E-01	9.57E-02
% U238	0.45 µ (AMP)	ICP-MS	%	9.95E+01	±	2.49E+01	9.96E+01	±	2.49E+01		NA		9.96E+01	5.77E-02
% U235	0.1 µ (AMP)	ICP-MS	%	mdl	±	mdl	4.87E-01	±	1.22E-01	mdl	±	mdl	4.87E-01	1.22E-01
% U238	0.1 µ (AMP)	ICP-MS	%	1.00E+02	±	2.50E+01	9.95E+01	±	2.49E+01	1.00E+02	±	2.50E+01	9.98E+01	2.81E-01
% U235	0.02 µ (AMP)	ICP-MS	%	3.55E-01	±	8.88E-02	3.25E-01	±	8.13E-02	6.59E-01	±	1.65E-01	4.46E-01	1.85E-01
% U238	0.02 µ (AMP)	ICP-MS	%	9.96E+01	±	2.49E+01	9.97E+01	±	2.49E+01	9.93E+01	±	2.48E+01	9.96E+01	1.85E-01
U-235	0.45 µ (NO AMP)	ICP-MS	pCi/mL	1.75E-02	±	4.38E-03	2.08E-02	±	5.20E-03	2.73E-02	±	6.82E-03	2.19E-02	4.98E-03
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	2.53E-02	±	6.31E-03	2.21E-02	±	5.53E-03		NA		2.37E-02	2.23E-03
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	2.41E-02	±	6.02E-03	mdl	±	mdl	2.41E-02	6.02E-03
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	2.20E-02	±	5.49E-03	1.69E-02	±	4.23E-03	3.64E-02	±	9.10E-03	2.51E-02	1.01E-02
U-238	0.45 µ (NO AMP)	ICP-MS	pCi/mL	8.78E-01	±	2.20E-01	8.25E-01	±	2.06E-01	8.04E-01	±	5.53E-02	8.36E-01	3.83E-02
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	8.28E-01	±	2.07E-01	8.80E-01	±	2.20E-01		NA		8.54E-01	3.68E-02
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	6.71E-01	±	1.68E-01	7.53E-01	±	1.88E-01	6.71E-01	±	1.68E-01	6.98E-01	4.72E-02
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	9.44E-01	±	2.36E-01	7.95E-01	±	1.99E-01	8.40E-01	±	2.10E-01	8.60E-01	7.65E-02
Np-237	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Np-237	0.45 µ (NO AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-239	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	1.10E-02	±	2.74E-03	7.60E-03	±	1.90E-03		NA		9.28E-03	2.37E-03
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	9.65E-03	±	2.41E-03	8.63E-03	±	2.16E-03	1.42E-02	±	3.55E-03	1.08E-02	2.97E-03
Pu-239	0.45 µ (NO AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	6.72E+02	±	1.68E+02	4.66E+02	±	1.17E+02		NA		5.69E+02	1.46E+02
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	5.92E+02	±	1.48E+02	5.30E+02	±	1.32E+02	8.72E+02	±	2.18E+02	6.64E+02	1.82E+02
Pu-240	0.45 µ (NO AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-240	0.45 µ (NO AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl		NA		mdl	mdl
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	mdl	±	mdl	mdl	±	mdl	mdl	±	mdl	mdl	mdl

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.7 TANK 49H CHARACTERIZATION

6.7.1 Tank 49H Radioactive Species

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{137}Cs	0.45 µ (No AMP)	Rad	pCi/mL	7.99E+08 ± 1.17E+07	8.02E+08 ± 1.17E+07	7.84E+08 ± 1.15E+07	7.95E+08	6.73E+06	9.84E+06
^{137}Cs	unfiltered	ICP-MS	pCi/mL	5.89E+08 ± 1.47E+08	5.85E+08 ± 1.46E+08	5.75E+08 ± 1.44E+08	5.83E+08	8.42E+07	7.67E+06
^{90}Sr	0.45 µ (AMP)	Rad	pCi/mL	8.63E+04 ± 7.08E+03	8.47E+04 ± 6.43E+03	8.51E+04 ± 6.73E+03	8.54E+04	3.90E+03	8.34E+02
^{90}Sr	0.1 µ (AMP)	Rad	pCi/mL	7.28E+04 ± 5.53E+03	6.60E+04 ± 4.75E+03	7.32E+04 ± 5.42E+03	7.07E+04	3.03E+03	4.05E+03
^{90}Sr	0.02 µ (AMP)	Rad	pCi/mL	6.96E+04 ± 5.43E+03	7.34E+04 ± 5.87E+03	7.80E+04 ± 6.08E+03	7.37E+04	3.35E+03	4.23E+03
^{238}Pu	0.45 µ (AMP)	Rad	pCi/mL	6.41E+03 ± 2.95E+02	6.34E+03 ± 2.92E+02	6.55E+03 ± 3.34E+02	6.43E+03	1.77E+02	1.06E+02
^{238}Pu	0.1 µ (AMP)	Rad	pCi/mL	5.90E+03 ± 2.60E+02	6.02E+03 ± 2.89E+02	6.23E+03 ± 3.36E+02	6.05E+03	1.71E+02	1.65E+02
^{238}Pu	0.02 µ (AMP)	Rad	pCi/mL	6.19E+03 ± 2.79E+02	5.99E+03 ± 2.81E+02	6.24E+03 ± 3.12E+02	6.14E+03	1.68E+02	1.35E+02
$^{239/40}$Pu	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
$^{239/40}$Pu	0.45 µ (AMP)	Rad	pCi/mL	7.66E+01 ± 5.15E+01	1.43E+02 ± 5.60E+01	3.03E+02 ± 8.03E+01	1.74E+02	3.69E+01	1.16E+02
$^{239/40}$Pu	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
$^{239/40}$Pu	0.1 µ (AMP)	Rad	pCi/mL	6.88E+01 ± 4.03E+01	4.52E+01 ± 5.40E+01	1.96E+02 ± 1.01E+02	1.03E+02	4.06E+01	8.09E+01
$^{239/40}$Pu	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
$^{239/40}$Pu	0.02 µ (AMP)	Rad	pCi/mL	6.73E+02 ± 6.26E+01	6.55E+01 ± 8.21E+01	9.00E+01 ± 5.89E+01	2.76E+02	3.96E+01	3.44E+02
$^{239/40}$Pu	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	NA	bdl
^{241}Pu	0.45 µ (AMP)	Rad	pCi/mL	< 2.78E+04 ± upper limit	< 1.23E+04 ± upper limit	< 1.06E+04 ± upper limit	< 1.06E+04	NA	upper limit
^{241}Pu	0.1 µ (AMP)	Rad	pCi/mL	NA	NA	NA		NA	
^{241}Pu	0.02 µ (AMP)	Rad	pCi/mL	NA	NA	NA		NA	
Total Pu	0.45 µ (AMP)	Rad	pCi/mL	6.48E+03 NA	6.48E+03 NA	6.85E+03 NA	6.61E+03	NA	2.22E+02
Total Pu	0.1 µ (AMP)	Rad	pCi/mL	5.97E+03 NA	6.06E+03 NA	6.42E+03 NA	6.15E+03	NA	2.46E+02
Total Pu	0.02 µ (AMP)	Rad	pCi/mL	6.86E+03 NA	6.05E+03 NA	6.33E+03 NA	6.41E+03	NA	4.79E+02
^{235}U	unfiltered	ICP-MS	pCi/mL	2.30E-01 ± 5.74E-02	2.68E-01 ± 6.71E-02	2.03E-01 ± 5.07E-02	2.34E-01	NA	3.30E-02
^{235}U	0.45 µ (AMP)	ICP-MS	pCi/mL	1.98E-01 ± 4.94E-02	1.90E-01 ± 4.76E-02	2.01E-01 ± 5.02E-02	1.96E-01	NA	5.35E-03
^{235}U	0.1 µ (AMP)	ICP-MS	pCi/mL	1.99E-01 ± 4.97E-02	1.99E-01 ± 4.97E-02	1.90E-01 ± 4.76E-02	1.96E-01	NA	5.01E-03
^{235}U	0.02 µ (AMP)	ICP-MS	pCi/mL	1.13E-01 ± 2.84E-02	1.07E-01 ± 2.67E-02	1.20E-01 ± 3.00E-02	1.13E-01	NA	6.61E-03
^{238}U	unfiltered	ICP-MS	pCi/mL	3.46E-01 ± 8.64E-02	2.72E-01 ± 6.79E-02	2.70E-01 ± 6.75E-02	2.96E-01	NA	4.32E-02
^{238}U	0.45 µ (AMP)	ICP-MS	pCi/mL	2.47E-01 ± 6.17E-02	5.21E-01 ± 1.30E-01	2.49E-01 ± 6.22E-02	3.39E-01	NA	1.58E-01
^{238}U	0.1 µ (AMP)	ICP-MS	pCi/mL	2.81E-01 ± 7.02E-02	2.70E-01 ± 6.74E-02	2.56E-01 ± 6.41E-02	2.69E-01	NA	1.23E-02
^{238}U	0.02 µ (AMP)	ICP-MS	pCi/mL	2.47E-01 ± 6.17E-02	2.56E-01 ± 6.40E-02	2.57E-01 ± 6.42E-02	2.53E-01	NA	5.43E-03
Total U	unfiltered	ICP-MS	pCi/mL	5.75E-01 NA	5.40E-01 NA	4.73E-01 NA	5.29E-01	NA	7.62E-02
Total U	0.45 µ (AMP)	ICP-MS	pCi/mL	4.44E-01 NA	7.11E-01 NA	4.50E-01 NA	5.35E-01	NA	1.63E-01
Total U	0.1 µ (AMP)	ICP-MS	pCi/mL	4.80E-01 NA	4.68E-01 NA	4.47E-01 NA	4.65E-01	NA	1.73E-02
Total U	0.02 µ (AMP)	ICP-MS	pCi/mL	3.60E-01 NA	3.63E-01 NA	3.77E-01 NA	3.67E-01	NA	1.20E-02
^{237}Np	unfiltered	ICP-MS	pCi/mL	1.56E+02 ± 3.90E+01	1.62E+02 ± 4.06E+01	1.56E+02 ± 3.90E+01	1.58E+02	NA	3.67E+00
^{237}Np	0.45 µ (AMP)	ICP-MS	pCi/mL	1.25E+02 ± 3.12E+01	7.04E+01 ± 1.76E+01	1.23E+02 ± 3.08E+01	1.06E+02	NA	3.10E+01
^{237}Np	0.1 µ (AMP)	ICP-MS	pCi/mL	1.38E+02 ± 3.44E+01	1.26E+02 ± 3.14E+01	1.22E+02 ± 3.06E+01	1.29E+02	NA	8.13E+00
^{237}Np	0.02 µ (AMP)	ICP-MS	pCi/mL	1.36E+02 ± 3.41E+01	1.38E+02 ± 3.46E+01	1.31E+02 ± 3.28E+01	1.35E+02	NA	3.62E+00

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.
[#]Analysis conducted using gamma spectroscopy after cesium removal.
[$]Analysis conducted using more specific Am separation and radiocounting methodology.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Method Uncertainty	Standard Deviation
^{241}Am	0.45 µ (AMP)	Rad[#]	pCi/mL	< 1.66E+02 ± mda	< 1.68E+02 ± mda	< 1.65E+02 ± mda	< 1.65E+02	NA	mda
^{241}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 1.02E+04 ± upper limit	< 1.27E+03 ± mda	< 4.12E+02 ± mda	< 4.12E+02	NA	mda
^{241}Am	0.1 µ (AMP)	Rad[$]	pCi/mL	< 7.88E+02 ± mda	< 8.30E+02 ± mda	< 9.84E+02 ± mda	< 7.88E+02	NA	mda
^{241}Am	0.02 µ (AMP)	Rad[$]	pCi/mL	< 3.43E+02 ± mda	< 2.14E+02 ± mda	< 2.22E+02 ± mda	< 2.14E+02	NA	mda
^{242}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 1.07E+05 ± mda	< 5.74E+03 ± mda	< 3.12E+02 ± mda	< 3.12E+02	NA	mda
^{243}Am	0.45 µ (AMP)	Rad[$]	pCi/mL	< 1.02E+04 ± mda	< 5.78E+02 ± mda	< 3.40E+01 ± mda	< 3.40E+01	NA	mda
^{99}Tc	0.45 µ (AMP)	Rad	pCi/mL	1.28E+05 ± 7.64E+03	NA	NA	1.28E+05	7.64E+03	7.64E+03
^{99}Tc	unfiltered	ICP-MS	pCi/mL	1.43E+05 ± 3.58E+04	1.46E+05 ± 3.65E+04	1.36E+05 ± 3.39E+04	1.42E+05	NA	5.42E+03
^{99}Tc	0.45 µ (AMP)	ICP-MS	pCi/mL	1.53E+05 ± 3.82E+04	2.60E+05 ± 6.51E+04	1.49E+05 ± 3.73E+04	1.87E+05	NA	6.31E+04
^{99}Tc	0.1 µ (AMP)	ICP-MS	pCi/mL	1.45E+05 ± 3.62E+04	1.44E+05 ± 3.60E+04	1.42E+05 ± 3.55E+04	1.44E+05	NA	1.51E+03
^{99}Tc	0.02 µ (AMP)	ICP-MS	pCi/mL	1.40E+05 ± 3.50E+04	1.37E+05 ± 3.42E+04	1.37E+05 ± 3.42E+04	1.38E+05	NA	1.92E+03
Gross α	0.45 µ (AMP)	Rad	pCi/mL	8.17E+03 ± 9.55E+02	7.10E+03 ± 2.20E+03	9.11E+03 ± 6.65E+02	8.13E+03	8.30E+02	1.01E+03
Beta	0.45 µ (No AMP)	Rad	pCi/mL	9.53E+08 ± 1.43E+08	9.05E+08 ± 1.36E+08	9.14E+08 ± 1.37E+08	9.24E+08	8.00E+07	2.57E+07
Tritium	0.45 µ (AMP)	Rad	pCi/mL	< 7.60E+03 ± upper limit	4.97E+03 ± 7.46E+02	< 5.09E+03 ± upper limit	4.97E+03	7.46E+02	7.46E+02
^{14}C	0.45 µ (No AMP)	Rad	pCi/mL	< 2.02E+02 ± mda	NA	NA	< 2.02E+02	NA	mda
^{129}I	0.45 µ (No AMP)	Rad	pCi/mL	< 1.56E+02 ± upper limit	NA	NA	< 1.56E+02	NA	upper limit
^{26}Al	0.45 µ (AMP)	Rad	pCi/mL	< 1.42E+01 ± mda	< 1.60E+01 ± mda	< 1.76E+01 ± mda	< 1.42E+01	NA	mda
^{60}Co	0.45 µ (AMP)	Rad	pCi/mL	< 1.98E+01 ± mda	< 2.07E+01 ± mda	< 2.12E+01 ± mda	< 1.98E+01	NA	mda
^{94}Nb	0.45 µ (AMP)	Rad	pCi/mL	< 2.19E+01 ± mda	< 2.21E+01 ± mda	< 1.91E+01 ± mda	< 1.91E+01	NA	mda
^{106}Ru	0.45 µ (AMP)	Rad	pCi/mL	< 2.24E+02 ± mda	1.98E+02 ± 1.88E+01	< 1.66E+02 ± mda	1.82E+02	1.88E+01	1.40E+02
^{125}Sb	0.45 µ (AMP)	Rad	pCi/mL	5.41E+02 ± 3.61E+00	5.69E+02 ± 3.31E+00	5.25E+02 ± 3.63E+00	5.45E+02	2.03E+00	2.22E+01
^{126}Sb	0.45 µ (AMP)	Rad	pCi/mL	4.93E+02 ± 1.79E+00	4.95E+02 ± 1.82E+00	4.79E+02 ± 3.90E+00	4.89E+02	1.55E+00	8.76E+00
^{126}Sn	0.45 µ (AMP)	Rad	pCi/mL	5.02E+02 ± 3.29E+01	6.96E+02 ± 2.55E+01	6.48E+02 ± 5.51E+00	6.15E+02	1.40E+01	1.01E+02
^{144}Ce	0.45 µ (AMP)	Rad	pCi/mL	< 1.41E+02 ± mda	< 1.45E+02 ± mda	< 1.44E+02 ± mda	< 1.41E+02	NA	mda
^{152}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 1.60E+02 ± mda	< 1.68E+02 ± mda	< 1.74E+02 ± mda	< 1.60E+02	NA	mda
^{154}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 4.23E+01 ± mda	< 4.21E+01 ± mda	< 4.07E+01 ± mda	< 4.07E+01	NA	mda
^{155}Eu	0.45 µ (AMP)	Rad	pCi/mL	< 8.74E+01 ± mda	< 8.84E+01 ± mda	< 8.56E+01 ± mda	< 8.56E+01	NA	mda
^{231}Pa	0.45 µ (AMP)	Rad	pCi/mL	< 7.40E+02 ± mda	< 6.94E+02 ± mda	< 7.13E+02 ± mda	< 6.94E+02	NA	mda
^{232}U	0.45 µ (AMP)	Rad	pCi/mL	< 1.39E+02 ± upper limit	< 5.23E+02 ± upper limit	< 9.90E+01 ± upper limit	< 9.90E+01	NA	upper limit
^{59}Ni	0.45 µ (AMP)	Rad	pCi/mL	< 6.89E+01 ± mda	< 2.91E+01 ± mda	< 1.03E+02 ± mda	< 2.91E+01	NA	mda
^{63}Ni	0.45 µ (AMP)	Rad	pCi/mL	< 6.69E+01 ± mda	< 5.88E+01 ± mda	< 4.70E+01 ± mda	< 4.70E+01	NA	mda
^{147}Pm	0.45 µ (AMP)	Rad	pCi/mL	< 5.88E+01 ± mda	< 5.32E+02 ± upper limit	< 2.25E+02 ± upper limit	< 5.88E+01	NA	mda
^{151}Sm	0.45 µ (AMP)	Rad	pCi/mL	< 1.90E+02 ± mda	< 4.90E+02 ± mda	< 8.65E+02 ± upper limit	< 1.90E+02	NA	mda
^{79}Se	0.45 µ (AMP)	Rad	pCi/mL	< 1.88E+03 ± upper limit	< 1.07E+03 ± upper limit	< 8.54E+02 ± upper limit	< 8.54E+02	NA	upper limit
^{242}Cm/^{252}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 5.90E+02 ± mda	< 3.82E+01 ± mda	< 7.91E+00 ± mda	< 7.91E+00	NA	mda
^{243}Cm	0.45 µ (AMP)	Rad	pCi/mL	< 2.75E+04 ± mda	< 1.46E+03 ± mda	< 7.98E+01 ± mda	< 7.98E+01	NA	mda
^{244}Cm	0.45 µ (AMP)	Rad	pCi/mL	< 4.35E+03 ± mda	1.69E+02 ± 7.48E+01	6.13E+01 ± 2.27E+01	1.15E+02	3.91E+01	7.64E+01
^{249}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 4.84E+02 ± mda	< 1.74E+03 ± mda	< 6.62E+02 ± mda	< 4.84E+02	NA	mda
^{251}Cf	0.45 µ (AMP)	Rad	pCi/mL	< 4.26E+02 ± mda	< 2.08E+03 ± mda	< 5.88E+02 ± mda	< 4.26E+02	NA	mda

Note: NA = no sample analyzed, bdl = below detection limit, upper limit and mda = error on a less than value matches the less than value.

*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

[#]Analysis conducted using gamma spectroscopy after cesium removal.

[$]Analysis conducted using more specific Am separation and radiocounting methodology.

6.7.2 Tank 49H Salt and Organic Species

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Na	unfiltered	ICPES	M	6.96E+00 ± 3.48E-01	7.05E+00 ± 3.52E-01	6.91E+00 ± 3.46E-01	6.98E+00	6.89E-02
Na	0.45 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.45 µ (AMP)	AA	M	6.14E+00 ± 1.23E+00	6.28E+00 ± 1.26E+00	6.50E+00 ± 1.30E+00	6.31E+00	1.81E-01
K	unfiltered	ICPES	M	4.74E-02 ± 2.87E-01	< 2.40E-02 ± mdl	2.53E-02 ± 2.48E-01	3.22E-02	2.37E-02
K	0.45 µ (AMP)	ICPES	M	4.45E-02 ± 3.21E-02	4.22E-02 ± 3.24E-02	3.89E-02 ± 3.17E-02	4.19E-02	2.84E-03
K	0.45 µ (AMP)	AA	M	3.17E-02 ± 6.33E-03	3.13E-02 ± 6.25E-03	3.24E-02 ± 6.49E-03	3.18E-02	6.02E-04
Al	unfiltered	ICPES	M	2.74E-01 ± 1.37E-02	2.87E-01 ± 1.43E-02	2.72E-01 ± 1.36E-02	2.78E-01	7.83E-03
As	0.45 µ (AMP)	AA	mg/L	< 2.31E-01 ± mda	NA	NA	< 2.31E-01	mda
Se	0.45 µ (AMP)	AA	mg/L	< 1.28E-01 ± mda	NA	NA	< 1.28E-01	mda
Hg	0.45 µ (AMP)	AA	mg/L	< 5.65E-01 ± mda	NA	NA	< 5.65E-01	mda
Total Base	0.45 µ (No AMP)	Titration	M	4.67E+00 ± 4.67E-01	5.04E+00 ± 5.04E-01	4.75E+00 ± 4.75E-01	4.82E+00	1.95E-01
Free OH^-	0.45 µ (No AMP)	Titration	M	3.55E+00 ± 3.55E-01	3.68E+00 ± 3.68E-01	3.96E+00 ± 3.96E-01	3.73E+00	2.06E-01
CO_3^{2-}	0.45 µ (No AMP)	Titration	M	< 4.31E-01 ± mda	< 4.18E-01 ± mda	< 4.16E-01 ± mda	< 4.16E-01	mda
$Al(OH)_4^-$	0.45 µ (No AMP)	Titration	M	6.29E-01 ± 1.26E-01	6.59E-01 ± 1.32E-01	5.52E-01 ± 1.10E-01	6.13E-01	5.52E-02
NO_3^-	0.45 µ (No AMP)	IC	M	1.40E+00 ± 1.40E-01	NA	NA	1.40E+00	1.40E-01
NO_2^-	0.45 µ (No AMP)	IC	M	8.72E-01 ± 8.72E-02	NA	NA	8.72E-01	8.72E-02
SO_4^{2-}	0.45 µ (No AMP)	IC	M	1.23E-02 ± 1.23E-03	NA	NA	1.23E-02	1.23E-03
PO_4^{3-}	0.45 µ (No AMP)	IC	M	8.13E-03 ± 8.13E-04	NA	NA	8.13E-03	8.13E-04
F^-	0.45 µ (No AMP)	IC	M	< 5.42E-03 ± mda	NA	NA	< 5.42E-03	mda
Cl^-	0.45 µ (No AMP)	IC	M	4.36E-03 ± 4.36E-04	NA	NA	4.36E-03	4.36E-04
Br^-	0.45 µ (No AMP)	IC	M	< 6.44E-03 ± mda	NA	NA	< 6.44E-03	mda
$C_2O_4^{2-}$	0.45 µ (No AMP)	IC	M	< 5.85E-03 ± mda	NA	NA	< 5.85E-03	mda
CHO_2	0.45 µ (No AMP)	IC	M	< 1.14E-02 ± mda	NA	NA	< 1.14E-02	mda
TBP	unfiltered	IC	mg/L	< 5.20E+01 ± mdl	NA	NA	< 5.20E+01	mdl
TBP	0.45 µ (No AMP)	IC	mg/L	< 5.15E+01 ± mdl	NA	NA	< 5.15E+01	mdl
DBP	0.45 µ (No AMP)	IC	mg/L	< 5.15E+02 ± mdl	NA	NA	< 5.15E+02	mdl
VOA	unfiltered	GC-MS	mg/L	< 2.60E+01 ± mdl	NA	NA	< 2.60E+01	mdl
VOA	0.45 µ (No AMP)	GC-MS	mg/L	< 2.57E+01 ± mdl	NA	NA	< 2.57E+01	mdl
SVOA	unfiltered	GC-MS	mg/L	< 5.20E+01 ± mdl	NA	NA	< 5.20E+01	mdl
SVOA	0.45 µ (No AMP)	GC-MS	mg/L	< 5.15E+01 ± mdl	NA	NA	< 5.15E+01	mdl
TIC	0.45 µ (No AMP)	Titration	mg/L	1.03E+03 ± 2.57E+02	1.18E+03 ± 2.94E+02	1.06E+03 ± 2.65E+02	1.09E+03	7.69E+01
TOC	0.45 µ (No AMP)	Titration	mg/L	2.07E+03 ± 2.07E+02	9.79E+02 ± 9.79E+01	9.33E+02 ± 9.33E+01	1.33E+03	6.44E+02
Total C	0.45 µ (No AMP)	Titration	mg/L	3.10E+03 ± 3.10E+02	2.15E+03 ± 2.15E+02	1.99E+03 ± 1.99E+02	2.42E+03	5.97E+02

Note: NA = no sample analyzed, mda and mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.7.3 Tank 49H ICP-ES Characterization

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Ag	unfiltered	ICPES	mg/L	< 4.48E+00 ± mdl	< 4.21E+00 ± mdl	< 4.32E+00 ± mdl	< 4.21E+00	mdl
Ag	0.45 µ (AMP)	ICPES	mg/L	2.01E+00 ± 2.01E-01	2.05E+00 ± 2.05E-01	1.93E+00 ± 1.93E-01	1.99E+00	6.28E-02
Ag	0.1 µ (AMP)	ICPES	mg/L	1.64E+00 ± 1.64E-01	1.51E+00 ± 1.51E-01	NA ± NA	1.57E+00	9.52E-02
Ag	0.02 µ (AMP)	ICPES	mg/L	7.84E-01 ± 7.84E-02	1.05E+00 ± 1.05E-01	1.16E+00 ± 1.16E-01	9.99E-01	1.95E-01
Al	unfiltered	ICPES	M	2.74E-01 ± 2.74E-02	2.87E-01 ± 2.87E-02	2.72E-01 ± 2.72E-02	2.78E-01	7.83E-03
Al	0.45 µ (AMP)	ICPES	M	2.70E-01 ± 2.70E-02	2.70E-01 ± 2.70E-02	2.72E-01 ± 2.72E-02	2.71E-01	1.10E-03
Al	0.1 µ (AMP)	ICPES	M	2.67E-01 ± 2.67E-02	2.67E-01 ± 2.67E-02	NA ± NA	2.67E-01	0.00E+00
Al	0.02 µ (AMP)	ICPES	M	2.63E-01 ± 2.63E-02	2.63E-01 ± 2.63E-02	2.63E-01 ± 2.63E-02	2.63E-01	0.00E+00
B	unfiltered	ICPES	mg/L	< 7.39E+01 ± mdl	< 6.95E+01 ± mdl	< 7.14E+01 ± mdl	< 6.95E+01	mdl
B	0.45 µ (AMP)	ICPES	mg/L	5.29E+01 ± 5.29E+00	5.14E+01 ± 5.14E+00	5.19E+01 ± 5.19E+00	5.20E+01	7.85E-01
B	0.1 µ (AMP)	ICPES	mg/L	5.33E+01 ± 5.33E+00	4.99E+01 ± 4.99E+00	NA ± NA	5.16E+01	2.45E+00
B	0.02 µ (AMP)	ICPES	mg/L	5.29E+01 ± 5.29E+00	5.18E+01 ± 5.18E+00	5.27E+01 ± 5.27E+00	5.25E+01	5.48E-01
Ba	unfiltered	ICPES	mg/L	7.50E+00 ± 7.50E-01	8.26E+00 ± 8.26E-01	6.76E+00 ± 6.76E-01	7.51E+00	7.52E-01
Ba	0.45 µ (AMP)	ICPES	mg/L	2.09E+00 ± 2.09E-01	2.08E+00 ± 2.08E-01	2.01E+00 ± 2.01E-01	2.06E+00	4.31E-02
Ba	0.1 µ (AMP)	ICPES	mg/L	1.74E+00 ± 1.74E-01	1.77E+00 ± 1.77E-01	NA ± NA	1.76E+00	2.20E-02
Ba	0.02 µ (AMP)	ICPES	mg/L	1.34E+00 ± 1.34E-01	1.43E+00 ± 1.43E-01	1.57E+00 ± 1.57E-01	1.45E+00	1.14E-01
Ca	unfiltered	ICPES	mg/L	< 1.34E+01 ± mdl	< 1.26E+01 ± mdl	< 1.30E+01 ± mdl	< 1.26E+01	mdl
Ca	0.45 µ (AMP)	ICPES	mg/L	1.06E+01 ± 1.06E+00	1.01E+01 ± 1.01E+00	1.01E+01 ± 1.01E+00	1.03E+01	2.83E-01
Ca	0.1 µ (AMP)	ICPES	mg/L	1.79E+01 ± 1.79E+00	1.76E+01 ± 1.76E+00	NA ± NA	1.77E+01	2.20E-01
Ca	0.02 µ (AMP)	ICPES	mg/L	1.78E+01 ± 1.78E+00	1.77E+01 ± 1.77E+00	1.80E+01 ± 1.80E+00	1.78E+01	1.43E-01
Cd	unfiltered	ICPES	mg/L	< 1.34E+01 ± mdl	< 1.26E+01 ± mdl	< 1.30E+01 ± mdl	< 1.26E+01	mdl
Cd	0.45 µ (AMP)	ICPES	mg/L	< 1.23E+00 ± mdl	< 1.23E+00 ± mdl	< 1.23E+00 ± mdl	< 1.23E+00	mdl
Cd	0.1 µ (AMP)	ICPES	mg/L	< 1.24E+00 ± mdl	< 1.24E+00 ± mdl	NA ± NA	< 1.24E+00	mdl
Cd	0.02 µ (AMP)	ICPES	mg/L	< 1.36E+00 ± mdl	< 1.36E+00 ± mdl	< 1.36E+00 ± mdl	< 1.36E+00	mdl
Ce	unfiltered	ICPES	mg/L	6.94E+01 ± 6.94E+00	7.31E+01 ± 7.31E+00	< 5.51E+01 ± mdl	6.59E+01	4.12E+01
Ce	0.45 µ (AMP)	ICPES	mg/L	2.97E+01 ± 2.97E+00	2.98E+01 ± 2.98E+00	2.83E+01 ± 2.83E+00	2.93E+01	8.02E-01
Ce	0.1 µ (AMP)	ICPES	mg/L	2.50E+01 ± 2.50E+00	2.32E+01 ± 2.32E+00	NA ± NA	2.41E+01	1.28E+00
Ce	0.02 µ (AMP)	ICPES	mg/L	1.48E+01 ± 1.48E+00	1.87E+01 ± 1.87E+00	1.95E+01 ± 1.95E+00	1.77E+01	2.54E+00
Cr	unfiltered	ICPES	mg/L	1.48E+02 ± 1.48E+01	1.60E+02 ± 1.60E+01	1.49E+02 ± 1.49E+01	1.52E+02	6.66E+00
Cr	0.45 µ (AMP)	ICPES	mg/L	1.37E+02 ± 1.37E+01	1.36E+02 ± 1.36E+01	1.37E+02 ± 1.37E+01	1.36E+02	7.85E-01
Cr	0.1 µ (AMP)	ICPES	mg/L	1.39E+02 ± 1.39E+01	1.37E+02 ± 1.37E+01	NA ± NA	1.38E+02	1.10E+00
Cr	0.02 µ (AMP)	ICPES	mg/L	1.39E+02 ± 1.39E+01	1.39E+02 ± 1.39E+01	1.37E+02 ± 1.37E+01	1.38E+02	8.67E-01
Cu	unfiltered	ICPES	mg/L	< 1.12E+01 ± mdl	< 1.05E+01 ± mdl	< 1.08E+01 ± mdl	< 1.05E+01	mdl
Cu	0.45 µ (AMP)	ICPES	mg/L	2.04E+00 ± 2.04E-01	1.83E+00 ± 1.83E-01	1.85E+00 ± 1.85E-01	1.91E+00	1.19E-01
Cu	0.1 µ (AMP)	ICPES	mg/L	1.55E+00 ± 1.55E-01	1.79E+00 ± 1.79E-01	NA ± NA	1.67E+00	1.68E-01
Cu	0.02 µ (AMP)	ICPES	mg/L	1.53E+00 ± 1.53E-01	1.58E+00 ± 1.58E-01	1.56E+00 ± 1.56E-01	1.56E+00	2.86E-02
Fe	unfiltered	ICPES	mg/L	1.68E+01 ± 1.68E+00	5.11E+01 ± 5.11E+00	2.39E+01 ± 2.39E+00	3.06E+01	1.81E+01
Fe	0.45 µ (AMP)	ICPES	mg/L	1.55E+01 ± 1.55E+00	1.45E+01 ± 1.45E+00	1.46E+01 ± 1.46E+00	1.49E+01	5.54E-01
Fe	0.1 µ (AMP)	ICPES	mg/L	1.14E+01 ± 1.14E+00	1.14E+01 ± 1.14E+00	NA ± NA	1.14E+01	0.00E+00
Fe	0.02 µ (AMP)	ICPES	mg/L	1.14E+01 ± 1.14E+00	1.15E+01 ± 1.15E+00	1.12E+01 ± 1.12E+00	1.14E+01	1.43E-01
Gd	unfiltered	ICPES	mg/L	1.58E+01 ± 1.58E+00	1.40E+01 ± 1.40E+00	1.10E+01 ± 1.10E+00	1.36E+01	2.44E+00
Gd	0.45 µ (AMP)	ICPES	mg/L	3.64E+00 ± 3.64E-01	3.61E+00 ± 3.61E-01	3.42E+00 ± 3.42E-01	3.56E+00	1.18E-01
Gd	0.1 µ (AMP)	ICPES	mg/L	3.08E+00 ± 3.08E-01	2.90E+00 ± 2.90E-01	NA ± NA	2.99E+00	1.24E-01
Gd	0.02 µ (AMP)	ICPES	mg/L	1.89E+00 ± 1.89E-01	2.23E+00 ± 2.23E-01	2.41E+00 ± 2.41E-01	2.17E+00	2.68E-01
K	unfiltered	ICPES	M	4.74E-02 ± 4.74E-03	< 2.40E-02 ± mdl	2.53E-02 ± 2.53E-03	3.22E-02	2.37E-02
K	0.45 µ (AMP)	ICPES	M	4.45E-02 ± 4.45E-03	4.22E-02 ± 4.22E-03	3.89E-02 ± 3.89E-03	4.19E-02	2.84E-03
K	0.1 µ (AMP)	ICPES	M	3.73E-02 ± 3.73E-03	4.04E-02 ± 4.04E-03	NA ± NA	3.89E-02	2.15E-03
K	0.02 µ (AMP)	ICPES	M	3.11E-02 ± 3.11E-03	3.73E-02 ± 3.73E-03	3.49E-02 ± 3.49E-03	3.44E-02	3.15E-03
La	unfiltered	ICPES	mg/L	1.88E+01 ± 1.88E+00	1.58E+01 ± 1.58E+00	1.54E+01 ± 1.54E+00	1.66E+01	1.84E+00
La	0.45 µ (AMP)	ICPES	mg/L	4.24E+00 ± 4.24E-01	4.34E+00 ± 4.34E-01	4.22E+00 ± 4.22E-01	4.27E+00	6.90E-02
La	0.1 µ (AMP)	ICPES	mg/L	3.61E+00 ± 3.61E-01	3.46E+00 ± 3.46E-01	NA ± NA	3.54E+00	1.03E-01
La	0.02 µ (AMP)	ICPES	mg/L	2.38E+00 ± 2.38E-01	2.52E+00 ± 2.52E-01	2.81E+00 ± 2.81E-01	2.57E+00	2.14E-01
Li	unfiltered	ICPES	mg/L	2.45E+01 ± 2.45E+00	3.25E+01 ± 3.25E+00	1.73E+01 ± 1.73E+00	2.48E+01	7.59E+00
Li	0.45 µ (AMP)	ICPES	mg/L	1.13E+01 ± 1.13E+00	1.10E+01 ± 1.10E+00	1.07E+01 ± 1.07E+00	1.10E+01	3.08E-01
Li	0.1 µ (AMP)	ICPES	mg/L	8.96E+00 ± 8.96E-01	8.08E+00 ± 8.08E-01	NA ± NA	8.52E+00	6.22E-01
Li	0.02 µ (AMP)	ICPES	mg/L	4.98E+00 ± 4.98E-01	5.91E+00 ± 5.91E-01	6.64E+00 ± 6.64E-01	5.84E+00	8.34E-01
Mg	unfiltered	ICPES	mg/L	< 2.24E+00 ± mdl	< 2.10E+00 ± mdl	< 2.16E+00 ± mdl	< 2.10E+00	mdl
Mg	0.45 µ (AMP)	ICPES	mg/L	8.37E-01 ± 8.37E-02	7.81E-01 ± 7.81E-02	7.96E-01 ± 7.96E-02	8.05E-01	2.92E-02
Mg	0.1 µ (AMP)	ICPES	mg/L	2.56E+00 ± 2.56E-01	2.55E+00 ± 2.55E-01	NA ± NA	2.55E+00	7.32E-03
Mg	0.02 µ (AMP)	ICPES	mg/L	2.81E+00 ± 2.81E-01	2.75E+00 ± 2.75E-01	2.91E+00 ± 2.91E-01	2.83E+00	8.06E-02

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
Mn	unfiltered	ICPES	mg/L	< 3.36E+00 ± mdl	2.15E+01 ± 2.15E+00	3.68E+00 ± 3.68E-01	9.50E+00	1.15E+01
Mn	0.45 µ (AMP)	ICPES	mg/L	1.43E+00 ± 1.43E-01	1.30E+00 ± 1.30E-01	1.32E+00 ± 1.32E-01	1.35E+00	7.01E-02
Mn	0.1 µ (AMP)	ICPES	mg/L	9.16E-01 ± 9.16E-02	9.73E-01 ± 9.73E-02	NA ± NA	9.45E-01	4.03E-02
Mn	0.02 µ (AMP)	ICPES	mg/L	9.88E-01 ± 9.88E-02	9.99E-01 ± 9.99E-02	9.20E-01 ± 9.20E-02	9.69E-01	4.30E-02
Mo	unfiltered	ICPES	mg/L	< 7.50E+01 ± mdl	< 7.05E+01 ± mdl	7.57E+01 ± 7.57E+00	7.37E+01	4.37E+01
Mo	0.45 µ (AMP)	ICPES	mg/L	7.50E+01 ± 7.50E+00	7.45E+01 ± 7.45E+00	7.76E+01 ± 7.76E+00	7.57E+01	1.65E+00
Mo	0.1 µ (AMP)	ICPES	mg/L	7.61E+01 ± 7.61E+00	7.04E+01 ± 7.04E+00	NA ± NA	7.33E+01	4.03E+00
Mo	0.02 µ (AMP)	ICPES	mg/L	6.76E+01 ± 6.76E+00	6.93E+01 ± 6.93E+00	6.98E+01 ± 6.98E+00	6.89E+01	1.18E+00
Na	unfiltered	ICPES	M	6.96E+00 ± 6.96E-01	7.05E+00 ± 7.05E-01	6.91E+00 ± 6.91E-01	6.98E+00	6.89E-02
Na	0.45 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.1 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Na	0.02 µ (AMP)	ICPES	M	NA ± NA	NA ± NA	NA ± NA	NA	NA
Ni	unfiltered	ICPES	mg/L	< 5.04E+01 ± mdl	< 4.74E+01 ± mdl	< 4.87E+01 ± mdl	< 4.74E+01	mdl
Ni	0.45 µ (AMP)	ICPES	mg/L	< 4.62E+00 ± mdl	< 4.62E+00 ± mdl	< 4.62E+00 ± mdl	< 4.62E+00	mdl
Ni	0.1 µ (AMP)	ICPES	mg/L	< 4.66E+00 ± mdl	< 4.66E+00 ± mdl	NA ± NA	< 4.66E+00	mdl
Ni	0.02 µ (AMP)	ICPES	mg/L	< 5.11E+00 ± mdl	< 5.11E+00 ± mdl	< 5.11E+00 ± mdl	< 5.11E+00	mdl
P	unfiltered	ICPES	mg/L	< 4.69E+02 ± mdl	< 4.41E+02 ± mdl	< 4.53E+02 ± mdl	< 4.41E+02	mdl
P	0.45 µ (AMP)	ICPES	mg/L	2.76E+02 ± 2.76E+01	2.75E+02 ± 2.75E+01	2.81E+02 ± 2.81E+01	2.78E+02	3.01E+00
P	0.1 µ (AMP)	ICPES	mg/L	2.89E+02 ± 2.89E+01	2.83E+02 ± 2.83E+01	NA ± NA	2.86E+02	4.39E+00
P	0.02 µ (AMP)	ICPES	mg/L	2.80E+02 ± 2.80E+01	2.79E+02 ± 2.79E+01	2.84E+02 ± 2.84E+01	2.81E+02	2.68E+00
Pb	unfiltered	ICPES	mg/L	< 3.20E+02 ± mdl	< 3.01E+02 ± mdl	< 3.09E+02 ± mdl	< 3.01E+02	mdl
Pb	0.45 µ (AMP)	ICPES	mg/L	< 2.94E+01 ± mdl	< 2.94E+01 ± mdl	< 2.94E+01 ± mdl	< 2.94E+01	mdl
Pb	0.1 µ (AMP)	ICPES	mg/L	< 2.96E+01 ± mdl	< 2.96E+01 ± mdl	NA ± NA	< 2.96E+01	mdl
Pb	0.02 µ (AMP)	ICPES	mg/L	< 3.25E+01 ± mdl	< 3.25E+01 ± mdl	< 3.25E+01 ± mdl	< 3.25E+01	mdl
S	unfiltered	ICPES	mg/L	8.40E+02 ± 8.40E+01	8.31E+02 ± 8.31E+01	8.65E+02 ± 8.65E+01	8.45E+02	1.75E+01
S	0.45 µ (AMP)	ICPES	mg/L	8.01E+02 ± 8.01E+01	7.76E+02 ± 7.76E+01	7.91E+02 ± 7.91E+01	7.89E+02	1.29E+01
S	0.1 µ (AMP)	ICPES	mg/L	8.13E+02 ± 8.13E+01	8.08E+02 ± 8.08E+01	NA ± NA	8.10E+02	3.66E+00
S	0.02 µ (AMP)	ICPES	mg/L	8.01E+02 ± 8.01E+01	8.18E+02 ± 8.18E+01	7.89E+02 ± 7.89E+01	8.03E+02	1.43E+01
Sb	unfiltered	ICPES	mg/L	< 7.95E+01 ± mdl	< 7.47E+01 ± mdl	< 7.68E+01 ± mdl	< 7.47E+01	mdl
Sb	0.45 µ (AMP)	ICPES	mg/L	2.98E+01 ± 2.98E+00	2.77E+01 ± 2.77E+00	2.83E+01 ± 2.83E+00	2.86E+01	1.09E+00
Sb	0.1 µ (AMP)	ICPES	mg/L	2.75E+01 ± 2.75E+00	2.70E+01 ± 2.70E+00	NA ± NA	2.73E+01	3.30E-01
Sb	0.02 µ (AMP)	ICPES	mg/L	2.19E+01 ± 2.19E+00	2.55E+01 ± 2.55E+00	2.62E+01 ± 2.62E+00	2.45E+01	2.31E+00
Si	unfiltered	ICPES	mg/L	< 2.80E+01 ± mdl	< 2.63E+01 ± mdl	< 2.70E+01 ± mdl	< 2.63E+01	mdl
Si	0.45 µ (AMP)	ICPES	mg/L	1.90E+01 ± 1.90E+00	1.96E+01 ± 1.96E+00	1.91E+01 ± 1.91E+00	1.92E+01	3.30E-01
Si	0.1 µ (AMP)	ICPES	mg/L	1.83E+01 ± 1.83E+00	1.90E+01 ± 1.90E+00	NA ± NA	1.86E+01	5.13E-01
Si	0.02 µ (AMP)	ICPES	mg/L	1.81E+01 ± 1.81E+00	1.80E+01 ± 1.80E+00	1.87E+01 ± 1.87E+00	1.83E+01	3.97E-01
Sn	unfiltered	ICPES	mg/L	< 1.28E+02 ± mdl	< 1.20E+02 ± mdl	< 1.23E+02 ± mdl	< 1.20E+02	mdl
Sn	0.45 µ (AMP)	ICPES	mg/L	2.01E+01 ± 2.01E+00	2.18E+01 ± 2.18E+00	2.12E+01 ± 2.12E+00	2.10E+01	8.30E-01
Sn	0.1 µ (AMP)	ICPES	mg/L	1.81E+01 ± 1.81E+00	1.79E+01 ± 1.79E+00	NA ± NA	1.80E+01	1.10E-01
Sn	0.02 µ (AMP)	ICPES	mg/L	1.72E+01 ± 1.72E+00	1.73E+01 ± 1.73E+00	1.81E+01 ± 1.81E+00	1.75E+01	5.09E-01
Sr	unfiltered	ICPES	mg/L	< 8.96E+00 ± mdl	< 8.42E+00 ± mdl	< 8.65E+00 ± mdl	< 8.42E+00	mdl
Sr	0.45 µ (AMP)	ICPES	mg/L	4.39E+00 ± 4.39E-01	4.21E+00 ± 4.21E-01	4.20E+00 ± 4.20E-01	4.27E+00	1.04E-01
Sr	0.1 µ (AMP)	ICPES	mg/L	6.06E+00 ± 6.06E-01	5.75E+00 ± 5.75E-01	NA ± NA	5.90E+00	2.20E-01
Sr	0.02 µ (AMP)	ICPES	mg/L	5.35E+00 ± 5.35E-01	5.68E+00 ± 5.68E-01	5.73E+00 ± 5.73E-01	5.59E+00	2.05E-01
Ti	unfiltered	ICPES	mg/L	< 1.46E+01 ± mdl	< 1.37E+01 ± mdl	< 1.41E+01 ± mdl	< 1.37E+01	mdl
Ti	0.45 µ (AMP)	ICPES	mg/L	< 1.34E+00 ± mdl	< 1.34E+00 ± mdl	< 1.34E+00 ± mdl	< 1.34E+00	mdl
Ti	0.1 µ (AMP)	ICPES	mg/L	< 1.35E+00 ± mdl	< 1.35E+00 ± mdl	NA ± NA	< 1.35E+00	mdl
Ti	0.02 µ (AMP)	ICPES	mg/L	< 1.48E+00 ± mdl	< 1.48E+00 ± mdl	< 1.48E+00 ± mdl	< 1.48E+00	mdl
U	unfiltered	ICPES	mg/L	< 1.95E+02 ± mdl	< 1.83E+02 ± mdl	< 1.88E+02 ± mdl	< 1.83E+02	mdl
U	0.45 µ (AMP)	ICPES	mg/L	6.63E+01 ± 6.63E+00	6.63E+01 ± 6.63E+00	6.37E+01 ± 6.37E+00	6.54E+01	1.48E+00
U	0.1 µ (AMP)	ICPES	mg/L	5.44E+01 ± 5.44E+00	5.59E+01 ± 5.59E+00	NA ± NA	5.51E+01	1.10E+00
U	0.02 µ (AMP)	ICPES	mg/L	3.26E+01 ± 3.26E+00	4.04E+01 ± 4.04E+00	4.26E+01 ± 4.26E+00	3.85E+01	5.26E+00
V	unfiltered	ICPES	mg/L	< 1.23E+01 ± mdl	< 1.16E+01 ± mdl	< 1.19E+01 ± mdl	< 1.16E+01	mdl
V	0.45 µ (AMP)	ICPES	mg/L	3.92E+00 ± 3.92E-01	3.17E+00 ± 3.17E-01	3.55E+00 ± 3.55E-01	3.55E+00	3.75E-01
V	0.1 µ (AMP)	ICPES	mg/L	3.19E+00 ± 3.19E-01	3.41E+00 ± 3.41E-01	NA ± NA	3.30E+00	1.54E-01
V	0.02 µ (AMP)	ICPES	mg/L	3.05E+00 ± 3.05E-01	2.98E+00 ± 2.98E-01	3.35E+00 ± 3.35E-01	3.13E+00	1.96E-01
Zn	unfiltered	ICPES	mg/L	7.33E+00 ± 7.33E-01	8.31E+00 ± 8.31E-01	7.51E+00 ± 7.51E-01	7.72E+00	5.22E-01
Zn	0.45 µ (AMP)	ICPES	mg/L	7.45E+00 ± 7.45E-01	7.34E+00 ± 7.34E-01	7.50E+00 ± 7.50E-01	7.43E+00	7.85E-02
Zn	0.1 µ (AMP)	ICPES	mg/L	7.09E+00 ± 7.09E-01	7.09E+00 ± 7.09E-01	NA ± NA	7.09E+00	0.00E+00
Zn	0.02 µ (AMP)	ICPES	mg/L	6.59E+00 ± 6.59E-01	6.81E+00 ± 6.81E-01	6.76E+00 ± 6.76E-01	6.72E+00	1.18E-01
Zr	unfiltered	ICPES	mg/L	< 1.57E+01 ± mdl	< 1.47E+01 ± mdl	< 1.51E+01 ± mdl	< 1.47E+01	mdl
Zr	0.45 µ (AMP)	ICPES	mg/L	< 1.44E+00 ± mdl	< 1.44E+00 ± mdl	< 1.44E+00 ± mdl	< 1.44E+00	mdl
Zr	0.1 µ (AMP)	ICPES	mg/L	< 1.45E+00 ± mdl	< 1.45E+00 ± mdl	NA ± NA	< 1.45E+00	mdl
Zr	0.02 µ (AMP)	ICPES	mg/L	< 1.59E+00 ± mdl	< 1.59E+00 ± mdl	< 1.59E+00 ± mdl	< 1.59E+00	mdl

Note: NA = no sample analyzed, mdl = method detection (error on a less than value matches the less than value).
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

6.7.4 Tank 49H ICP-MS Characterization

Analyte	Sample Preparation	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Zr	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Zr	0.45 µ (AMP)	ICP-MS	mg/L	2.08E-01	±	5.21E-02	3.79E-01	±	9.48E-02	2.38E-01	±	5.96E-02	2.75E-01	9.13E-02
Zr	0.1 µ (AMP)	ICP-MS	mg/L	1.51E-01	±	3.79E-02	1.71E-01	±	4.28E-02	1.60E-01	±	4.00E-02	1.61E-01	9.90E-03
Zr	0.02 µ (AMP)	ICP-MS	mg/L	2.77E-01	±	6.92E-02	3.12E-01	±	7.79E-02	3.20E-01	±	8.00E-02	3.03E-01	2.29E-02
Tc-99	unfiltered	ICP-MS	mg/L	8.45E+00	±	2.11E+00	8.61E+00	±	2.15E+00	7.99E+00	±	2.00E+00	8.35E+00	3.22E-01
Tc-99	0.45 µ (AMP)	ICP-MS	mg/L	9.00E+00	±	2.25E+00	1.53E+01	±	3.83E+00	8.80E+00	±	2.20E+00	1.10E+01	3.70E+00
Tc-99	0.1 µ (AMP)	ICP-MS	mg/L	8.53E+00	±	2.13E+00	8.48E+00	±	2.12E+00	8.36E+00	±	2.09E+00	8.46E+00	8.74E-02
Tc-99	0.02 µ (AMP)	ICP-MS	mg/L	8.26E+00	±	2.07E+00	8.07E+00	±	2.02E+00	8.06E+00	±	2.02E+00	8.13E+00	1.13E-01
Tc-99	unfiltered	ICP-MS	pCi/mL	1.43E+05	±	3.58E+04	1.46E+05	±	3.65E+04	1.36E+05	±	3.39E+04	1.42E+05	5.42E+03
Tc-99	0.45 µ (AMP)	ICP-MS	pCi/mL	1.53E+05	±	3.82E+04	2.60E+05	±	6.51E+04	1.49E+05	±	3.73E+04	1.87E+05	6.31E+04
Tc-99	0.1 µ (AMP)	ICP-MS	pCi/mL	1.45E+05	±	3.62E+04	1.44E+05	±	3.60E+04	1.42E+05	±	3.55E+04	1.44E+05	1.51E+03
Tc-99	0.02 µ (AMP)	ICP-MS	pCi/mL	1.40E+05	±	3.50E+04	1.37E+05	±	3.42E+04	1.37E+05	±	3.42E+04	1.38E+05	1.92E+03
Mo	unfiltered	ICP-MS	mg/L	4.76E+01	±	1.19E+01	4.76E+01	±	1.19E+01	4.54E+01	±	1.13E+01	4.68E+01	1.26E+00
Mo	0.45 µ (AMP)	ICP-MS	mg/L	5.42E+01	±	1.36E+01	8.62E+01	±	2.15E+01	5.31E+01	±	1.33E+01	6.45E+01	1.88E+01
Mo	0.1 µ (AMP)	ICP-MS	mg/L	5.19E+01	±	1.30E+01	5.10E+01	±	1.27E+01	4.97E+01	±	1.24E+01	5.09E+01	1.11E+00
Mo	0.02 µ (AMP)	ICP-MS	mg/L	5.12E+01	±	1.28E+01	5.15E+01	±	1.29E+01	5.27E+01	±	1.32E+01	5.18E+01	7.97E-01
Ag	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ag	0.45 µ (AMP)	ICP-MS	mg/L	1.02E-02	±	2.54E-03	7.84E-03	±	1.96E-03	1.11E-02	±	2.78E-03	9.71E-03	1.69E-03
Ag	0.1 µ (AMP)	ICP-MS	mg/L	1.08E-02	±	2.70E-03	1.05E-02	±	2.61E-03	9.92E-03	±	2.48E-03	1.04E-02	4.49E-04
Ag	0.02 µ (AMP)	ICP-MS	mg/L	1.60E-02	±	4.01E-03	1.80E-02	±	4.50E-03	1.33E-02	±	3.33E-03	1.58E-02	2.34E-03
Pd	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pd	0.45 µ (AMP)	ICP-MS	mg/L	2.69E-02	±	6.71E-03	2.08E-02	±	5.19E-03	2.75E-02	±	6.88E-03	2.50E-02	3.73E-03
Pd	0.1 µ (AMP)	ICP-MS	mg/L	3.54E-02	±	8.84E-03	3.82E-02	±	9.54E-03	3.37E-02	±	8.43E-03	3.57E-02	2.25E-03
Pd	0.02 µ (AMP)	ICP-MS	mg/L	2.66E-02	±	6.65E-03	2.51E-02	±	6.28E-03	2.54E-02	±	6.35E-03	2.57E-02	7.94E-04
Rh	unfiltered	ICP-MS	mg/L	9.97E-01	±	2.49E-01	1.08E+00	±	2.69E-01	1.02E+00	±	2.54E-01	1.03E+00	4.04E-02
Rh	0.45 µ (AMP)	ICP-MS	mg/L	1.04E+00	±	2.59E-01	1.77E+00	±	4.43E-01	1.01E+00	±	2.54E-01	1.27E+00	4.31E-01
Rh	0.1 µ (AMP)	ICP-MS	mg/L	1.09E+00	±	2.71E-01	1.11E+00	±	2.77E-01	1.12E+00	±	2.80E-01	1.10E+00	1.65E-02
Rh	0.02 µ (AMP)	ICP-MS	mg/L	9.89E-01	±	2.47E-01	1.02E+00	±	2.54E-01	1.02E+00	±	2.55E-01	1.01E+00	1.69E-02
Ru	unfiltered	ICP-MS	mg/L	1.38E+00	±	3.45E-01	1.24E+00	±	3.11E-01	1.34E+00	±	3.35E-01	1.32E+00	6.98E-02
Ru	0.45 µ (AMP)	ICP-MS	mg/L	1.21E+00	±	3.02E-01	1.89E+00	±	4.74E-01	1.22E+00	±	3.04E-01	1.44E+00	3.94E-01
Ru	0.1 µ (AMP)	ICP-MS	mg/L	1.34E+00	±	3.36E-01	1.34E+00	±	3.35E-01	1.38E+00	±	3.45E-01	1.35E+00	2.21E-02
Ru	0.02 µ (AMP)	ICP-MS	mg/L	1.19E+00	±	2.98E-01	1.22E+00	±	3.06E-01	1.22E+00	±	3.05E-01	1.21E+00	1.80E-02
Cd	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Cd	0.45 µ (AMP)	ICP-MS	mg/L	1.35E-01	±	3.37E-02	2.72E-01	±	6.81E-02	1.18E-01	±	2.95E-02	1.75E-01	8.46E-02
Cd	0.1 µ (AMP)	ICP-MS	mg/L	1.50E-01	±	3.75E-02	1.75E-01	±	4.37E-02	1.66E-01	±	4.16E-02	1.64E-01	1.26E-02
Cd	0.02 µ (AMP)	ICP-MS	mg/L	1.58E-01	±	3.94E-02	1.72E-01	±	4.29E-02	1.68E-01	±	4.20E-02	1.66E-01	7.26E-03
Sn	unfiltered	ICP-MS	mg/L	1.38E+00	±	3.45E-01	1.58E+00	±	3.94E-01	1.29E+00	±	3.22E-01	1.42E+00	1.47E-01
Sn	0.45 µ (AMP)	ICP-MS	mg/L	1.35E+00	±	3.36E-01	2.19E+00	±	5.48E-01	1.33E+00	±	3.31E-01	1.62E+00	4.95E-01
Sn	0.1 µ (AMP)	ICP-MS	mg/L	1.07E+00	±	2.69E-01	1.07E+00	±	2.66E-01	1.04E+00	±	2.60E-01	1.06E+00	1.73E-02
Sn	0.02 µ (AMP)	ICP-MS	mg/L	1.17E+00	±	2.92E-01	1.24E+00	±	3.10E-01	1.19E+00	±	2.98E-01	1.20E+00	3.77E-02
La	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
La	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	2.02E-03	±	5.05E-04	1.44E-03	±	3.60E-04	1.73E-03	4.10E-04
La	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
La	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	unfiltered	ICP-MS	mg/L	4.11E-02	±	1.03E-02	4.07E-02	±	1.02E-02	bdl	±	bdl	4.09E-02	2.53E-04
Ce	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ce	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
W	unfiltered	ICP-MS	mg/L	2.33E-01	±	5.83E-02	2.77E-01	±	6.93E-02	2.08E-01	±	5.21E-02	2.40E-01	3.48E-02
W	0.45 µ (AMP)	ICP-MS	mg/L	4.97E-01	±	1.24E-01	6.07E-01	±	1.52E-01	4.87E-01	±	1.22E-01	5.30E-01	6.65E-02
W	0.1 µ (AMP)	ICP-MS	mg/L	1.92E-01	±	4.79E-02	1.90E-01	±	4.74E-02	1.96E-01	±	4.90E-02	1.92E-01	3.23E-03
W	0.02 µ (AMP)	ICP-MS	mg/L	4.99E-01	±	1.25E-01	4.66E-01	±	1.16E-01	4.88E-01	±	1.22E-01	4.84E-01	1.68E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1			Sample 2			Sample 3			Average	Standard Deviation
Re	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Re	0.45 µ (AMP)	ICP-MS	mg/L	6.92E-03	±	1.73E-03	9.93E-03	±	2.48E-03	6.93E-03	±	1.73E-03	7.93E-03	1.73E-03
Re	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	3.54E-03	±	8.85E-04	3.74E-03	±	9.35E-04	3.64E-03	1.43E-04
Re	0.02 µ (AMP)	ICP-MS	mg/L	1.29E-02	±	3.23E-03	1.00E-02	±	2.50E-03	1.10E-02	±	2.76E-03	1.13E-02	1.47E-03
Os	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Os	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Ir	unfiltered	ICP-MS	mg/L	5.69E-03	±	1.42E-03	bdl	±	bdl	bdl	±	bdl	5.69E-03	1.42E-03
Ir	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	2.55E-03	±	6.38E-04	bdl	±	bdl	2.55E-03	6.38E-04
Ir	0.1 µ (AMP)	ICP-MS	mg/L	1.16E-03	±	2.91E-04	bdl	±	bdl	1.02E-03	±	2.55E-04	1.09E-03	1.02E-04
Ir	0.02 µ (AMP)	ICP-MS	mg/L	2.61E-03	±	6.52E-04	3.07E-03	±	7.68E-04	2.00E-03	±	4.99E-04	2.56E-03	5.40E-04
Pt	unfiltered	ICP-MS	mg/L	1.62E-02	±	4.04E-03	bdl	±	bdl	9.46E-03	±	2.36E-03	1.28E-02	4.74E-03
Pt	0.45 µ (AMP)	ICP-MS	mg/L	6.19E-03	±	1.55E-03	1.15E-02	±	2.89E-03	6.75E-03	±	1.69E-03	8.16E-03	2.95E-03
Pt	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pt	0.02 µ (AMP)	ICP-MS	mg/L	1.04E-02	±	2.60E-03	9.53E-03	±	2.38E-03	8.79E-03	±	2.20E-03	9.57E-03	7.97E-04
Au	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.45 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Au	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.45 µ (AMP)	ICP-MS	mg/L	1.59E-02	±	3.98E-03	7.48E-03	±	1.87E-03	7.06E-03	±	1.76E-03	1.02E-02	5.01E-03
Hg	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Hg	0.02 µ (AMP)	ICP-MS	mg/L	6.97E-02	±	1.74E-02	3.34E-02	±	8.34E-03	4.69E-03	±	1.17E-03	3.59E-02	3.26E-02
Pb	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
Pb	0.45 µ (AMP)	ICP-MS	mg/L	2.35E+00	±	5.87E-01	2.09E+00	±	5.23E-01	2.22E+00	±	5.56E-01	2.22E+00	1.27E-01
Pb	0.1 µ (AMP)	ICP-MS	mg/L	9.35E-01	±	2.34E-01	8.94E-01	±	2.23E-01	8.91E-01	±	2.23E-01	9.07E-01	2.48E-02
Pb	0.02 µ (AMP)	ICP-MS	mg/L	2.05E+00	±	5.11E-01	2.03E+00	±	5.07E-01	2.00E+00	±	5.00E-01	2.02E+00	2.28E-02
U-233	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-233	0.45 µ (AMP)	ICP-MS	mg/L	3.73E-03	±	9.31E-04	3.35E-03	±	8.38E-04	4.95E-03	±	1.24E-03	4.01E-03	8.34E-04
U-233	0.1 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	5.96E-03	±	1.49E-03	5.96E-03	1.49E-03
U-233	0.02 µ (AMP)	ICP-MS	mg/L	bdl	±	bdl	6.44E-03	±	1.61E-03	6.39E-03	±	1.60E-03	6.41E-03	4.16E-05
U-234	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-234	0.45 µ (AMP)	ICP-MS	mg/L	2.92E-02	±	7.30E-03	2.50E-02	±	6.24E-03	3.12E-02	±	7.81E-03	2.85E-02	3.20E-03
U-234	0.1 µ (AMP)	ICP-MS	mg/L	3.84E-02	±	9.59E-03	2.91E-02	±	7.28E-03	3.19E-02	±	7.98E-03	3.31E-02	4.75E-03
U-234	0.02 µ (AMP)	ICP-MS	mg/L	2.00E-02	±	5.01E-03	1.98E-02	±	4.95E-03	2.17E-02	±	5.43E-03	2.05E-02	1.04E-03
U-235	unfiltered	ICP-MS	mg/L	1.06E-01	±	2.64E-02	1.23E-01	±	3.09E-02	9.32E-02	±	2.33E-02	1.07E-01	1.52E-02
U-235	0.45 µ (AMP)	ICP-MS	mg/L	9.08E-02	±	2.27E-02	8.75E-02	±	2.19E-02	9.23E-02	±	2.31E-02	9.02E-02	2.46E-03
U-235	0.1 µ (AMP)	ICP-MS	mg/L	9.15E-02	±	2.29E-02	9.15E-02	±	2.29E-02	8.75E-02	±	2.19E-02	9.01E-02	2.31E-03
U-235	0.02 µ (AMP)	ICP-MS	mg/L	5.21E-02	±	1.30E-02	4.91E-02	±	1.23E-02	5.52E-02	±	1.38E-02	5.22E-02	3.04E-03
U-236	unfiltered	ICP-MS	mg/L	bdl	±	bdl	bdl	±	bdl	bdl	±	bdl	bdl	bdl
U-236	0.45 µ (AMP)	ICP-MS	mg/L	4.67E-02	±	1.17E-02	4.41E-02	±	1.10E-02	4.50E-02	±	1.12E-02	4.53E-02	1.32E-03
U-236	0.1 µ (AMP)	ICP-MS	mg/L	4.70E-02	±	1.17E-02	4.27E-02	±	1.07E-02	4.57E-02	±	1.14E-02	4.51E-02	2.17E-03
U-236	0.02 µ (AMP)	ICP-MS	mg/L	3.09E-02	±	7.73E-03	3.01E-02	±	7.51E-03	3.23E-02	±	8.09E-03	3.11E-02	1.15E-03
U-238	unfiltered	ICP-MS	mg/L	1.04E+00	±	2.60E-01	8.16E-01	±	2.04E-01	8.11E-01	±	2.03E-01	8.89E-01	1.30E-01
U-238	0.45 µ (AMP)	ICP-MS	mg/L	7.41E-01	±	1.85E-01	1.56E+00	±	3.91E-01	7.47E-01	±	1.87E-01	1.02E+00	4.74E-01
U-238	0.1 µ (AMP)	ICP-MS	mg/L	8.44E-01	±	2.11E-01	8.10E-01	±	2.02E-01	7.70E-01	±	1.92E-01	8.08E-01	3.69E-02
U-238	0.02 µ (AMP)	ICP-MS	mg/L	7.42E-01	±	1.85E-01	7.69E-01	±	1.92E-01	7.71E-01	±	1.93E-01	7.60E-01	1.63E-02
Total U	unfiltered	ICP-MS	mg/L	1.14E+00		NA	9.39E-01		NA	9.04E-01		NA	9.96E-01	1.29E-01
Total U	0.45 µ (AMP)	ICP-MS	mg/L	9.11E-01		NA	1.72E+00		NA	9.21E-01		NA	1.19E+00	4.67E-01
Total U	0.1 µ (AMP)	ICP-MS	mg/L	1.02E+00		NA	9.73E-01		NA	9.41E-01		NA	9.78E-01	4.00E-02
Total U	0.02 µ (AMP)	ICP-MS	mg/L	8.45E-01		NA	8.74E-01		NA	8.87E-01		NA	8.68E-01	2.15E-02

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

Analyte	Sample Preparation	Method	Units	Sample 1	Sample 2	Sample 3	Average	Standard Deviation
% U233	unfiltered	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U234	unfiltered	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U235	unfiltered	ICP-MS	%	9.23E+00 ± 2.31E+00	1.31E+01 ± 3.28E+00	1.03E+01 ± 2.58E+00	1.09E+01	2.02E+00
% U236	unfiltered	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	0.00E+00	0.00E+00
% U238	unfiltered	ICP-MS	%	9.08E+01 ± 2.27E+01	8.69E+01 ± 2.17E+01	8.97E+01 ± 2.24E+01	8.91E+01	2.02E+00
% U233	0.45 µ (AMP)	ICP-MS	%	4.09E-01 ± 1.02E-01	1.94E-01 ± 4.86E-02	5.37E-01 ± 1.34E-01	3.80E-01	1.73E-01
% U234	0.45 µ (AMP)	ICP-MS	%	3.20E+00 ± 8.01E-01	1.45E+00 ± 3.62E-01	3.39E+00 ± 8.48E-01	2.68E+00	1.07E+00
% U235	0.45 µ (AMP)	ICP-MS	%	9.97E+00 ± 2.49E+00	5.08E+00 ± 1.27E+00	1.00E+01 ± 2.51E+00	8.36E+00	2.84E+00
% U236	0.45 µ (AMP)	ICP-MS	%	5.13E+00 ± 1.28E+00	2.56E+00 ± 6.40E-01	4.88E+00 ± 1.22E+00	4.19E+00	1.42E+00
% U238	0.45 µ (AMP)	ICP-MS	%	8.13E+01 ± 2.03E+01	9.07E+01 ± 2.27E+01	8.12E+01 ± 2.03E+01	8.44E+01	5.48E+00
% U233	0.1 µ (AMP)	ICP-MS	%	0.00E+00 ± 0.00E+00	0.00E+00 ± 0.00E+00	6.33E-01 ± 1.58E-01	2.11E-01	3.66E-01
% U234	0.1 µ (AMP)	ICP-MS	%	3.76E+00 ± 9.40E-01	2.99E+00 ± 7.48E-01	3.39E+00 ± 8.48E-01	3.38E+00	3.84E-01
% U235	0.1 µ (AMP)	ICP-MS	%	8.96E+00 ± 2.24E+00	9.40E+00 ± 2.35E+00	9.30E+00 ± 2.32E+00	9.22E+00	2.28E-01
% U236	0.1 µ (AMP)	ICP-MS	%	4.60E+00 ± 1.15E+00	4.39E+00 ± 1.10E+00	4.86E+00 ± 1.21E+00	4.62E+00	2.33E-01
% U238	0.1 µ (AMP)	ICP-MS	%	8.27E+01 ± 2.07E+01	8.32E+01 ± 2.08E+01	8.18E+01 ± 2.05E+01	8.26E+01	7.03E-01
% U233	0.02 µ (AMP)	ICP-MS	%	0.00E+00 ± 0.00E+00	7.37E-01 ± 1.84E-01	7.20E-01 ± 1.80E-01	4.86E-01	4.21E-01
% U234	0.02 µ (AMP)	ICP-MS	%	2.37E+00 ± 5.93E-01	2.26E+00 ± 5.66E-01	2.45E+00 ± 6.12E-01	2.36E+00	9.22E-02
% U235	0.02 µ (AMP)	ICP-MS	%	6.17E+00 ± 1.54E+00	5.62E+00 ± 1.41E+00	6.23E+00 ± 1.56E+00	6.01E+00	3.35E-01
% U236	0.02 µ (AMP)	ICP-MS	%	3.66E+00 ± 9.15E-01	3.44E+00 ± 8.60E-01	3.65E+00 ± 9.12E-01	3.58E+00	1.25E-01
% U238	0.02 µ (AMP)	ICP-MS	%	8.78E+01 ± 2.19E+01	8.79E+01 ± 2.20E+01	8.70E+01 ± 2.17E+01	8.76E+01	5.31E-01
U-235	unfiltered	ICP-MS	pCi/mL	2.30E-01 ± 5.74E-02	2.68E-01 ± 6.71E-02	2.03E-01 ± 5.07E-02	2.34E-01	3.30E-02
U-235	0.45 µ (AMP)	ICP-MS	pCi/mL	1.98E-01 ± 4.94E-02	1.90E-01 ± 4.76E-02	2.01E-01 ± 5.02E-02	1.96E-01	5.35E-03
U-235	0.1 µ (AMP)	ICP-MS	pCi/mL	1.99E-01 ± 4.97E-02	1.99E-01 ± 4.97E-02	1.90E-01 ± 4.76E-02	1.96E-01	5.01E-03
U-235	0.02 µ (AMP)	ICP-MS	pCi/mL	1.13E-01 ± 2.84E-02	1.07E-01 ± 2.67E-02	1.20E-01 ± 3.00E-02	1.13E-01	6.61E-03
U-238	unfiltered	ICP-MS	pCi/mL	3.46E-01 ± 8.64E-02	2.72E-01 ± 6.79E-02	2.70E-01 ± 6.75E-02	2.96E-01	4.32E-02
U-238	0.45 µ (AMP)	ICP-MS	pCi/mL	2.47E-01 ± 6.17E-02	5.21E-01 ± 1.30E-01	2.49E-01 ± 6.22E-02	3.39E-01	1.58E-01
U-238	0.1 µ (AMP)	ICP-MS	pCi/mL	2.81E-01 ± 7.02E-02	2.70E-01 ± 6.74E-02	2.56E-01 ± 6.41E-02	2.69E-01	1.23E-02
U-238	0.02 µ (AMP)	ICP-MS	pCi/mL	2.47E-01 ± 6.17E-02	2.56E-01 ± 6.40E-02	2.57E-01 ± 6.42E-02	2.53E-01	5.43E-03
Np-237	unfiltered	ICP-MS	mg/L	2.21E-01 ± 5.54E-02	2.30E-01 ± 5.76E-02	2.21E-01 ± 5.53E-02	2.24E-01	5.21E-03
Np-237	0.45 µ (AMP)	ICP-MS	mg/L	1.77E-01 ± 4.42E-02	9.98E-02 ± 2.49E-02	1.75E-01 ± 4.37E-02	1.50E-01	4.39E-02
Np-237	0.1 µ (AMP)	ICP-MS	mg/L	1.95E-01 ± 4.89E-02	1.78E-01 ± 4.46E-02	1.74E-01 ± 4.34E-02	1.82E-01	1.15E-02
Np-237	0.02 µ (AMP)	ICP-MS	mg/L	1.93E-01 ± 4.83E-02	1.96E-01 ± 4.91E-02	1.86E-01 ± 4.66E-02	1.92E-01	5.13E-03
Np-237	unfiltered	ICP-MS	pCi/mL	1.56E+02 ± 3.90E+01	1.62E+02 ± 4.06E+01	1.56E+02 ± 3.90E+01	1.58E+02	3.67E+00
Np-237	0.45 µ (AMP)	ICP-MS	pCi/mL	1.25E+02 ± 3.12E+01	7.04E+01 ± 1.76E+01	1.23E+02 ± 3.08E+01	1.06E+02	3.10E+01
Np-237	0.1 µ (AMP)	ICP-MS	pCi/mL	1.38E+02 ± 3.44E+01	1.26E+02 ± 3.14E+01	1.22E+02 ± 3.06E+01	1.29E+02	8.13E+00
Np-237	0.02 µ (AMP)	ICP-MS	pCi/mL	1.36E+02 ± 3.41E+01	1.38E+02 ± 3.46E+01	1.31E+02 ± 3.28E+01	1.35E+02	3.62E+00
Pu-239	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	mg/L	3.59E-03 ± 8.97E-04	7.12E-03 ± 1.78E-03	6.04E-03 ± 1.51E-03	5.58E-03	1.81E-03
Pu-239	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	6.23E-03 ± 1.56E-03	bdl ± bdl	6.23E-03	1.56E-03
Pu-239	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	8.28E-03 ± 2.07E-03	bdl ± bdl	8.28E-03	2.07E-03
Pu-239	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-239	0.45 µ (AMP)	ICP-MS	pCi/mL	2.20E+02 ± 5.51E+01	4.37E+02 ± 1.09E+02	3.71E+02 ± 9.26E+01	3.43E+02	1.11E+02
Pu-239	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	3.83E+02 ± 9.57E+01	bdl ± bdl	3.83E+02	9.57E+01
Pu-239	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	5.08E+02 ± 1.27E+02	bdl ± bdl	5.08E+02	1.27E+02
Pu-240	unfiltered	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	mg/L	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	unfiltered	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.45 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.1 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl
Pu-240	0.02 µ (AMP)	ICP-MS	pCi/mL	bdl ± bdl	bdl ± bdl	bdl ± bdl	bdl	bdl

Note: NA = no sample analyzed, bdl = below detection limit,
*Sample preparation identifies the level of filtration used on the sample. AMP signifies AMP treatment on the sample prior to analysis.

7.0 APPENDIX 1

Tank 39H ICP-MS

		0.45 No AMP vs AMP			0.1 No AMP vs AMP			0.02 No AMP vs AMP	
Analytes	**Units**	**No AMP**	**AMP**		**No AMP**	**AMP**		**No AMP**	**AMP**
Zr	mg/L	1.23E+00	NA		1.42E+00	3.32E-01		9.66E-01	4.84E-01
Tc-99	mg/L	7.87E+00	NA		8.84E+00	7.39E+00		8.00E+00	9.24E+00
Tc-99	pCi/mL	1.34E+05	NA		1.50E+05	1.25E+05		1.36E+05	1.57E+05
Mo	mg/L	2.46E+01	NA		2.60E+01	2.00E+01		2.14E+01	2.48E+01
Ag	mg/L	bdl	NA		7.48E-01	bdl		4.60E-01	7.21E-02
Pd	mg/L	7.96E-02	NA		1.48E-01	1.48E-02		6.49E-01	2.32E-02
Rh	mg/L	bdl	NA		1.22E+00	9.74E-01		1.08E+00	1.27E+00
Ru	mg/L	4.37E+00	NA		3.96E+00	3.01E+00		3.38E+00	3.80E+00
Cd	mg/L	2.83E-01	NA		bdl	5.47E-02		bdl	5.87E-02
Sn	mg/L	1.39E+00	NA		1.39E+00	1.13E+00		1.76E+00	1.26E+00
La	mg/L	1.92E-02	NA		3.85E-02	6.69E-03		5.86E-02	1.18E-02
Ce	mg/L	bdl	NA		6.90E-02	1.02E-02		1.32E-01	1.62E-02
W	mg/L	4.64E-01	NA		5.88E-01	2.98E-01		4.25E-01	4.24E-01
Re	mg/L	bdl	NA		1.94E-02	bdl		bdl	bdl
Os	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Ir	mg/L	bdl	NA		1.43E-02	bdl		bdl	1.77E-03
Pt	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Au	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Hg	mg/L	2.24E+01	NA		3.87E+01	8.61E+00		4.38E+01	1.23E+01
Pb	mg/L	bdl	NA		bdl	1.91E-01		6.40E-01	1.06E-01
U-233	mg/L	bdl	NA		bdl	4.34E-03		bdl	7.49E-03
U-234	mg/L	1.48E-01	NA		1.59E-01	1.13E-01		1.39E-01	1.46E-01
U-235	mg/L	1.84E+00	NA		1.97E+00	1.50E+00		1.51E+00	1.75E+00
U-236	mg/L	5.97E-01	NA		6.47E-01	4.76E-01		5.22E-01	6.10E-01
U-238	mg/L	2.95E+00	NA		3.13E+00	2.85E+00		3.38E+00	3.12E+00
Total U	mg/L	5.54E+00	NA		5.91E+00	4.94E+00		5.56E+00	5.63E+00
% U233	%	0.00E+00	NA		0.00E+00	4.85E-02		0.00E+00	4.39E-02
% U234	%	2.69E+00	NA		2.69E+00	2.27E+00		2.52E+00	2.59E+00
% U235	%	3.33E+01	NA		3.34E+01	3.04E+01		2.74E+01	3.10E+01
% U236	%	1.07E+01	NA		1.09E+01	9.67E+00		9.45E+00	1.08E+01
% U238	%	5.33E+01	NA		5.29E+01	5.76E+01		6.07E+01	5.55E+01
U-235	pCi/mL	4.01E+00	NA		4.30E+00	3.25E+00		3.29E+00	3.80E+00
U-238	pCi/mL	9.82E-01	NA		1.04E+00	9.49E-01		1.12E+00	1.04E+00
Np-237	mg/L	1.68E-01	NA		1.52E-01	1.45E-01		2.14E-01	1.90E-01
Np-237	pCi/mL	1.18E+02	NA		1.07E+02	1.02E+02		1.51E+02	1.34E+02
Pu-239	mg/L	4.98E-01	NA		5.25E-01	4.42E-01		5.70E-01	5.07E-01
Pu-239	pCi/mL	3.06E+04	NA		3.22E+04	2.71E+04		3.50E+04	3.11E+04
Pu-240	mg/L	7.19E-02	NA		bdl	5.64E-02		7.67E-02	7.17E-02
Pu-240	pCi/mL	1.64E+04	NA		bdl	1.29E+04		1.75E+04	1.64E+04
Pu-241/Am-241	mg/L	bdl	NA		bdl	9.53E-03		bdl	1.07E-02
Pu-242	mg/L	5.18E-02	NA		bdl	4.49E-02		6.85E-02	5.39E-02
Total Pu	mg/L	5.87E-01	NA		5.25E-01	5.44E-01		7.15E-01	6.33E-01
Am-243/Cm-243	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Pu-244/Cm-244	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Cm-245	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Cm-246	mg/L	bdl	NA		bdl	bdl		bdl	bdl
Cm-247	mg/L	bdl	NA		bdl	bdl		bdl	bdl

Tank 39H ICP-ES

		0.45 No AMP vs AMP		0.1 No AMP vs AMP		0.02 No AMP vs AMP	
Analytes	**Units**	**No AMP**	**AMP**	**No AMP**	**AMP**	**No AMP**	**AMP**
Ag	mg/L	bdl	bdl	bdl	3.02E-01	bdl	3.47E-01
Al	mg/L	8.29E+03	bdl	8.87E+03	8.90E+03	8.41E+03	8.44E+03
B	mg/L	2.18E+02	bdl	2.99E+02	2.15E+02	bdl	2.09E+02
Ba	mg/L	bdl	1.35E+00	bdl	1.17E+00	5.79E+00	9.15E-01
Ca	mg/L	7.84E+00	4.82E+01	bdl	4.29E+01	9.08E+00	4.14E+01
Cd	mg/L	bdl	bdl	3.96E+01	bdl	bdl	bdl
Ce	mg/L	3.75E+01	2.28E+01	4.39E+01	1.67E+01	5.34E+01	1.25E+01
Cr	mg/L	9.81E+01	bdl	9.52E+01	9.97E+01	9.61E+01	9.64E+01
Cu	mg/L	bdl	bdl	7.12E+00	6.58E-01	bdl	9.13E-01
Fe	mg/L	7.38E+00	7.63E+00	bdl	7.18E+00	3.00E+01	7.38E+00
Gd	mg/L	4.94E+00	2.65E+00	bdl	2.09E+00	9.38E+00	1.45E+00
K	mg/L	1.02E+03	2.53E+02	4.99E+03	7.77E+02	1.80E+03	7.88E+02
La	mg/L	5.24E+00	3.06E+00	bdl	2.52E+00	1.15E+01	1.59E+00
Li	mg/L	1.22E+01	6.28E+00	7.88E+00	4.37E+00	1.56E+01	3.27E+00
Mg	mg/L	bdl	7.87E+00	bdl	8.16E+00	bdl	7.87E+00
Mn	mg/L	bdl	bdl	bdl	4.02E-01	8.57E+00	4.76E-01
Mo	mg/L	4.20E+01	9.06E+00	4.87E+01	3.66E+01	bdl	3.46E+01
Na	mg/L	1.39E+05	1.48E+05	1.44E+05	1.29E+05	1.38 E+05	1.40E+05
Ni	mg/L	bdl	5.16E+00	bdl	2.53E+00	bdl	2.78E+00
P	mg/L	bdl	bdl	bdl	1.45E+02	bdl	1.43E+02
Pb	mg/L	bdl	bdl	bdl	bdl	bdl	bdl
S	mg/L	3.42E+03	1.64E+01	3.78E+03	3.72E+03	3.43E+03	3.70E+03
Sb	mg/L	bdl	bdl	bdl	2.74E+01	4.38E+01	2.67E+01
Si	mg/L	bdl	bdl	bdl	1.08E+01	bdl	9.66E+00
Sn	mg/L	bdl	1.38E+01	bdl	1.41E+01	bdl	1.34E+01
Sr	mg/L	bdl	1.10E+01	bdl	1.12E+01	9.60E+00	9.85E+00
Ti	mg/L	bdl	bdl	bdl	bdl	bdl	bdl
U	mg/L	1.02E+02	5.02E+01	bdl	4.07E+01	1.11E+02	3.35E+01
V	mg/L	bdl	bdl	1.05E+01	3.91E+00	bdl	3.94E+00
Zn	mg/L	bdl	bdl	2.28E+01	1.71E+00	8.75E+00	3.33E+00
Zr	mg/L	bdl	bdl	bdl	bdl	bdl	bdl

Tank 45F ICP-MS

		0.45 No AMP vs AMP			0.1 No AMP vs AMP			0.02 No AMP vs AMP	
Analytes	**Units**	**No AMP**	**AMP**		**No AMP**	**AMP**		**No AMP**	**AMP**
Zr	mg/L	1.24E-01	8.33E-02		bdl	7.90E-02		1.26E-01	bdl
Tc-99	mg/L	3.16E+00	3.01E+00		2.70E+00	2.84E+00		2.63E+00	2.65E+00
Tc-99	pCi/mL	5.37E+04	5.11E+04		4.58E+04	4.81E+04		4.47E+04	4.49E+04
Mo	mg/L	2.66E+01	1.39E+02		1.90E+01	3.78E+01		2.18E+01	4.49E+01
Ag	mg/L	1.22E-01	bdl		1.06E-01	bdl		bdl	bdl
Pd	mg/L	bdl	6.19E-03		7.45E-03	9.56E-03		bdl	8.47E-03
Rh	mg/L	7.75E-01	7.63E-01		6.46E-01	7.12E-01		6.87E-01	6.63E-01
Ru	mg/L	bdl	2.50E-02		7.69E-03	2.74E-02		bdl	4.17E-03
Cd	mg/L	1.20E-01	3.22E-01		1.08E-01	1.44E-01		1.07E-01	1.46E-01
Sn	mg/L	2.05E+00	2.16E+00		2.09E+00	2.05E+00		1.73E+00	2.20E+00
La	mg/L	1.33E-03	bdl		7.33E-03	bdl		1.02E-02	bdl
Ce	mg/L	bdl	bdl		4.68E-03	bdl		bdl	6.50E-03
W	mg/L	8.69E-01	9.15E-01		6.72E-01	8.05E-01		7.50E-01	6.28E-01
Re	mg/L	1.59E-02	8.75E-03		bdl	8.04E-03		1.36E-02	9.35E-03
Os	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Ir	mg/L	1.18E-03	bdl		1.17E-03	bdl		2.05E-03	bdl
Pt	mg/L	1.13E-02	bdl		1.49E-02	2.29E-02		4.95E-03	bdl
Au	mg/L	bdl	1.06E+00		bdl	5.48E-01		bdl	bdl
Hg	mg/L	bdl	1.08E-02		bdl	bdl		2.00E-02	bdl
Pb	mg/L	1.80E+00	1.65E+00		1.65E+00	1.54E+00		1.66E+00	1.14E+00
U-233	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
U-234	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
U-235	mg/L	bdl	bdl		bdl	bdl		bdl	1.79E-02
U-236	mg/L	bdl	bdl		bdl	bdl		bdl	1.42E-02
U-238	mg/L	6.20E-01	4.80E-01		5.94E-01	4.50E-01		6.22E-01	7.20E-01
Total U	mg/L	6.20E-01	4.80E-01		5.94E-01	4.50E-01		6.22E-01	7.35E-01
% U233	%	0.00E+00	0.00E+00		0.00E+00	0.00E+00		0.00E+00	0.00E+00
% U234	%	0.00E+00	0.00E+00		0.00E+00	0.00E+00		0.00E+00	0.00E+00
% U235	%	0.00E+00	0.00E+00		0.00E+00	0.00E+00		0.00E+00	6.55E-01
% U236	%	0.00E+00	0.00E+00		0.00E+00	0.00E+00		0.00E+00	1.11E+00
% U238	%	1.00E+02	1.00E+02		1.00E+02	1.00E+02		1.00E+02	9.82E+01
U-235	pCi/mL	bdl	bdl		bdl	bdl		bdl	bdl
U-238	pCi/mL	2.07E-01	1.60E-01		1.98E-01	1.50E-01		2.07E-01	2.40E-01
Np-237	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Np-237	pCi/mL	bdl	bdl		bdl	bdl		bdl	bdl
Pu-239	mg/L	bdl	bdl		bdl	bdl		bdl	1.89E-02
Pu-239	pCi/mL	bdl	bdl		bdl	bdl		bdl	1.16E+03
Pu-240	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Pu-240	pCi/mL	bdl	bdl		bdl	bdl		bdl	bdl
Pu-241/Am-241	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Pu-242	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Total Pu	mg/L	bdl	bdl		bdl	bdl		bdl	1.89E-02
Am-243/Cm-243	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Pu-244/Cm-244	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Cm-245	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Cm-246	mg/L	bdl	bdl		bdl	bdl		bdl	bdl
Cm-247	mg/L	bdl	bdl		bdl	bdl		bdl	bdl

Tank 45F ICP-ES

		0.45 No AMP vs AMP			0.1 No AMP vs AMP		0.02 No AMP vs AMP	
Analytes	**Units**	**No AMP**	**AMP**		**No AMP**	**AMP**	**No AMP**	**AMP**
Ag	mg/L	bdl	9.31E-01		bdl	bdl	bdl	6.54E-01
Al	mg/L	1.26E+03	2.11E+03		2.44E+03	1.76E+03	1.95E+03	1.87E+03
B	mg/L	6.60E+01	1.07E+02		1.03E+02	7.93E+01	8.72E+01	5.46E+01
Ba	mg/L	bdl	2.64E+00		5.30E+00	1.35E+00	bdl	1.75E+00
Ca	mg/L	bdl	2.58E+01		5.46E+01	5.22E+01	bdl	3.25E+01
Cd	mg/L	bdl	1.31E+00		bdl	bdl	bdl	bdl
Ce	mg/L	bdl	1.22E+01		5.57E+01	bdl	bdl	1.36E+01
Cr	mg/L	bdl	bdl		bdl	8.56E+00	bdl	bdl
Cu	mg/L	bdl	1.30E+00		bdl	1.01E+00	bdl	bdl
Fe	mg/L	4.65E+00	4.81E+00		3.78E+01	3.74E+01	2.40E+01	7.49E+00
Gd	mg/L	bdl	1.04E+00		7.93E+00	6.55E-01	bdl	1.94E+00
K	mg/L	1.28E+03	2.20E+03		2.05E+03	1.76E+03	1.58E+03	1.87E+03
La	mg/L	bdl	1.54E+00		8.78E+00	9.17E-01	bdl	2.33E+00
Li	mg/L	4.42E+00	2.35E+00		1.95E+01	6.49E-01	bdl	3.75E+00
Mg	mg/L	bdl	3.46E+00		bdl	8.85E+00	bdl	5.57E+00
Mn	mg/L	bdl	bdl		bdl	5.22E+00	1.88E+00	bdl
Mo	mg/L	bdl	6.37E+02		3.87E+01	2.43E+01	bdl	2.57E+01
Na	mg/L	8.48E+04	1.39E+05		9.61E+04	1.14E+05	1.24E+05	1.22E+05
Ni	mg/L	bdl	bdl		bdl	3.93E+00	bdl	bdl
P	mg/L	bdl	1.55E+02		bdl	1.02E+02	bdl	1.28E+02
Pb	mg/L	bdl	bdl		bdl	bdl	bdl	bdl
S	mg/L	8.76E+01	1.25E+02		9.13E+02	1.33E+02	1.24E+02	1.59E+02
Sb	mg/L	bdl	1.15E+01		bdl	6.96E+00	bdl	9.27E+00
Si	mg/L	bdl	1.88E+01		bdl	1.36E+01	bdl	2.62E+00
Sn	mg/L	bdl	9.53E+00		bdl	bdl	bdl	8.07E+00
Sr	mg/L	bdl	6.22E+00		1.28E+01	1.23E+01	bdl	8.38E+00
Ti	mg/L	bdl	bdl		bdl	bdl	bdl	bdl
U	mg/L	bdl	bdl		1.16E+02	bdl	bdl	3.02E+01
V	mg/L	bdl	3.87E+00		8.62E+00	3.06E+00	bdl	2.23E+00
Zn	mg/L	2.24E+00	1.67E+01		2.12E+01	1.37E+01	3.15E+02	1.50E+01
Zr	mg/L	bdl	bdl		bdl	bdl	bdl	bdl

8.0 REFERENCES

[1] M. J. Barnes, D. T. Hobbs, T. B. Peters, M. E. Stallings and S. D. Fink, "Task Technical and Quality Assurance Plan for Waste Characterization Support," WSRC-TR-2003-00403, May 22, 2003.

[2] H.H. Elder, "Selection of Tanks to be Sampled in Support of SWPF Feed Characterization," CBU-SPT-2003-0034, Revision 0, February 26, 2003.

[3] F. A. Washburn, "SRS Soluble HLW Characterization," HLW-SDT-2001-00310, Revision 1, December 28, 2001.

[4] M. J. Barnes, D. P Diprete, D. T. Hobbs, T. B. Peters, M. E. Stallings and S. D. Fink, "Effects of Ammonium Molybdophosphate (AMP) on Strontium, Actinides, and RCRA Metals in SRS Simulated Waste," WSRC-TR-2003-00572, January 27, 2004.

[5] D. T. Hobbs and T. B Edwards, "Solubility of Plutonium in Alkaline Salt Solutions," WSRC-TR-93-131, February 26, 1993.

[6] D. T. Hobbs and T. B Edwards, "Solubility of Uranium in Alkaline Salt Solutions," WSRC-TR-93-454, March 29, 1994.

[7] T. B Edwards, "Confidence and Prediction Intervals for Recent Pu and U Solubility Models (U)," SRT-SCS-2004-00043, November 22, 2004.

[8] S. D. Fink, "Response to Questions Related to Waste Characterization Supernate Samples Report", SRNL-WPT-2005-00068, May 25, 2005.

Distribution

R. A.	Adams	241-162H, Rm. 4	**(E)**	D. B.	Little	703-H, Rm. 3	**(E)**
J. W.	Barber	704-2H, Rm. 197	**(E)**	S. R.	Loflin	773-41A, Rm. 223	**(E)**
J. L.	Barnes	704-S, Rm. 19	**(E)**	N. P.	Malik	704-26F, Rm. 11	**(E)**
M. J.	Barnes	773-A, Rm. B-132	**(E)**	J. C.	Marra	773-42A, Rm. 173	**(E)**
W. M.	Barnes	704-56H, Rm. 164	**(E)**	J. E.	Marra	773-A, Rm. A-263	**(P)**
S. M.	Blanco	766-H. Rm. 2434	**(E)**	D. J.	Martin	703-H, Rm. 84	**(E)**
L. R.	Bragg	766-H, Rm. 2434	**(E)**	K. B.	Martin	773-42A, Rm. 14	**(E)**
T. E.	Britt	742-4G, Rm. 3	**(E)**	C. J.	Martino	735-11A, Rm. 121	**(E)**
H. L.	Bui	742-4G, Rm. 3	**(E)**	G. A.	Mathis	724-9E, Rm. 1	**(E)**
S. G.	Campbell	703-H, Rm. 107	**(E)**	G. J.	Matis	766-H, Rm. 1066F	**(E)**
J. T.	Carter	703-H, Rm 122	**(E)**	D.	Maxwell	766-H, Rm. 2231	**(E)**
W. D.	Clark	766-H, Rm. 2412	**(E)**	S.	Mazul	730-1B, Rm. 2086	**(E)**
S. L.	Clifford	766-H, Rm. 2443	**(E)**	D. J.	McCabe	773-42-A, Rm. 153	**(E)**
J. J.	Connelly	773-41A, Rm. 231	**(E)**	J. W.	McCullough	766-H, Rm. 2411	**(E)**
D. T.	Conrad	766-H, Rm. 2007	**(E)**	L. T.	McGuire	766-H, Rm. 2441	**(E)**
D. R.	Cox	730-2B, Rm. 118	**(E)**	M. S.	Miller	772-7B, Rm. 6	**(E)**
A. D.	Cozzi	773-43A, Rm. 218	**(E)**	R. M.	Mobley	703-H, Rm. 16	**(E)**
C. L.	Crawford	773-41A, Rm. 180	**(E)**	C. A.	Nash	773-42A, Rm. 182	**(E)**
D. A.	Crowley	773-A, Rm. A-262	**(E)**	L. M.	Nelson	773-43A, Rm. 222	**(E)**
N. R.	Davis	766-H, Rm. 1006	**(E)**	M. A.	Norato	704-27S, Rm. 6	**(E)**
W. B.	Dean	766-H, Rm. 2243	**(E)**	M. R.	Norton	766-H, Rm. 2002	**(E)**
V. G.	Dickert	703-H, Rm. 4	**(E)**	J. E.	Occhipinti	704-S, Rm. 18	**(E)**
C. L.	Donahue	241-162H, Rm. 6	**(E)**	L. D.	Olson	703-H, Rm. 5	**(E)**
M. D.	Drumm	766-H, Rm. 2050	**(E)**	T. B.	Peters	773-42A, Rm. 128	**(E)**
M. C.	Duff	773-43A, Rm. 217	**(E)**	J. A.	Pike	703-H, Rm. 99	**(E)**
C. R.	Dyer	766-H, Rm. 2426	**(E)**	M. R.	Poirier	773-42A, Rm. 123	**(E)**
R. E.	Eibling	999-W, Rm. 335	**(E)**	S. H.	Reboul	703-H, Rm. 84	**(E)**
G. N.	Eide	241-121H, Rm. 6	**(E)**	T. R.	Reynolds	704-S, Rm. 65	**(E)**
H. H.	Elder	703-H, Rm. 95	**(E)**	M.A.	Rios-Armstron	766-H, Rm 2054	**(P)**
S. D.	Fink	773-A, Rm. B-112	**(E, P)**	S. J.	Robertson	766-H, Rm. 2500	**(E)**
F. F.	Fondeur	773-A, Rm. B-124	**(E)**	B. C.	Rogers	766-H, Rm. 2008	**(E)**
R. C.	Fowler	703-H, Rm. 98	**(E)**	R. A.	Runnels	766-H, Rm. 2011	**(E)**
L. M.	Fox	703-H, Rm. 3	**(E)**	P. J.	Ryan	704-61S, Rm. 6	**(E)**
M.W.	Geeting	766-H, Rm. 2035	**(E)**	E.	Saldivar	766-H, Rm. 2004	**(E)**
B. A.	Gifford	766-H, Rm. 1066D	**(E)**	S. C.	Shah	766-H, Rm. 2037	**(E)**
A. P.	Giordano	703-H, Rm 79	**(E)**	D. C.	Sherburne	704-S, Rm. 18	**(E)**
J. C.	Griffin	773-A, rm. A-231	**(E)**	T. J.	Spears	766-H, Rm. 2015	**(E)**
H. D.	Harmon	766-H, Rm. 2014	**(E)**	R. H.	Spires	766-H, Rm. 2003	**(E)**
K. D.	Harp	755-H, Rm. 1066B	**(P)**	M. E.	Stallings	773-A, Rm. B-117	**(E)**
E. W.	Harrison	766-H, Rm. 2034	**(E)**	W. E.	Stevens	773-A, Rm. A-261	**(E)**
K. A.	Hauer	703-H, Rm. 11	**(E)**	S. J.	Strohmeier	766-H, Rm. 2022	**(E)**
D. T.	Herman	735-11A, Rm. 104	**(E)**	S. G.	Subosits	766-H, Rm. 2052	**(E)**
R. N.	Hinds	766-H, Rm. 2430	**(E)**	P. C.	Suggs	766-H, Rm. 2436	**(E)**
D. T.	Hobbs	773-A, Rm. B-117	**(E)**	G. A.	Taylor	703-H, Rm. 96	**(E)**
E. W.	Holtzscheiter	773-A, Rm. A-230	**(E)**	S. A.	Thomas	766-H, Rm. 2016	**(E)**
C. M.	Jantzen	773-A, Rm. B-104	**(E)**	P. J.	Valenti	730-4B, Rm. 2062	**(E)**
R. T.	Jones	766-H, Rm. 2463	**(E)**	W. B.	Van-Pelt	704-S, Rm. 16	**(E)**
W. D.	Kerley	766-H, Rm. 2010	**(E)**	D. D.	Walker	773-A, Rm. B-124	**(E)**
				A. O.	Waring	766-H, Rm. 2423	**(E)**

E. T.	Ketusky	703-H, Rm. 83	**(E)**
D. P.	Lambert	773-A, Rm. B-132	**(E)**
C. A.	Lanigan	766-H, Rm. 2440B	**(E)**
C. A.	Langton	773-43A, Rm. 219	**(E)**
T. T.	Le	766-H, Rm. 2237	**(E)**
R. K.	Leugemors	766-H, Rm. 2013	**(E)**
P. D.	d'Entremont	766-H, Rm. 2208	**(E)**
W. G.	Dyer	766-H, Rm. 2246	**(E)**
R. A.	Eubanks	707-7F, Rm. 116	**(E)**
N.	Shanmuganath	245-9F, Rm. 8	**(E)**
W. B.	Brasel	PARSONS	**(E)**
W. M.	Howell	766-H, Rm. 2023	**(E)**
E. A.	Brass	730-1B, Rm. 2084	**(E)**
M. R.	Gober	730-1B, Rm. 216	**(E)**
D. K.	Noller	740-11A, Rm. 5	**(E)**
S. J.	Brown	730-1B, Rm. 2071	**(E)**
P. S.	Mukherjee	245-9F, Rm. 10	**(E)**
V. P.	LeDonne	730-1B, Rm. 2075	**(E)**
J. K.	Jeffrey	703-H, Rm. 98	**(E)**
M. J.	Barnes	773-A, Rm. C-152	**(E)**
F. A.	Washburn	766-H, Rm. 2054	**(E)**
V. B.	Wheeler	766-H, Rm. 2438	**(E)**
G. G.	Wicks	773-A, Rm. B-129	**(E)**
W. R.	Wilmarth	773-42A, Rm. 171	**(E)**
G. C.	Winship	766-H, Rm. 2024	**(E)**
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STI		703-43A	**(E)**

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