

RPP-RPT-37055, Rev. 0

# RESULTS OF IONSIV® IE-95 STUDIES FOR THE REMOVAL OF RADIOACTIVE CESIUM FROM KE BASIN SPENT NUCLEAR FUEL POOL DURING DECOMMISSIONING ACTIVITIES

J. B. Duncan

CH2M HILL Hanford Group, Inc.

Richland, WA 99352

U.S. Department of Energy Contract DE-AC27-99RL14047

S. P. Burke

Fluor Hanford

EDT/ECN: DRF

Cost Center: 74A10

B&amp;R Code:

UC:

Charge Code:

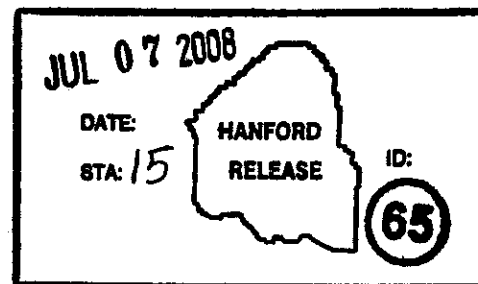
Total Pages: 65

**Key Words:** IONSIV, KE Basin, Effluent Treatment Facility, spent nuclear fuel, grout, analyses, calcium potassium, sodium, aluminum, strontium, water chemistry, ion exchange module, Cesium-137, nephelometric turbidity unit, testing, laboratory, IX column, distribution coefficient, filter, gamma energy analysis, inductively coupled plasma spectroscopy, IE-95, zeolite, RPP-PLAN-36158

**Abstract:** This report delineates the results obtained from laboratory testing of IONISIV® IE-95 to determine the efficacy of the zeolite for the removal of radioactive cesium from the KE Basin water prior to transport to the Effluent Treatment Facility, as described in RPP-PLAN-36158, IONSIV® IE-95 Studies for the Removal of Radioactive Cesium from KE Basin Spent Nuclear Fuel Pool during Decommissioning Activities. The spent nuclear fuel was removed from KE Basin and the remaining sludge was layered with a grout mixture consisting of 26% Lehigh Type I/II portland cement and 74% Boral Mohave type F fly ash with a water-to-cement ratio of 0.43. The first grout pour was added to the basin floor to a depth of approximately 14 in. covering an area of 12,000 square feet. A grout layer was also added to the sludge containers located in the attached Weasel and Technical View pits.

**TRADEMARK DISCLAIMER.** Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

Printed in the United States of America. To obtain copies of this document, contact: Document Control Services, P.O. Box 950, Mailstop H6-08, Richland WA 99352, Phone (509) 372-2420; Fax (509) 376-4989.



*Janis Aardal* 07/07/2008  
Release Approval Date

Release Stamp

## Approved For Public Release

# RESULTS OF IONSIV<sup>®</sup> IE-95 STUDIES FOR THE REMOVAL OF RADIOACTIVE CESIUM FROM KE BASIN SPENT NUCLEAR FUEL POOL DURING DECOMMISSIONING ACTIVITIES

**J. B. Duncan**  
CH2M HILL Hanford Group, Inc.

**S. P. Burke**  
Fluor Hanford

Date Published  
July 2008



Prepared for the U.S. Department of Energy  
Office of River Protection

Contract No. DE-AC27-99RL14047

**TABLE OF CONTENTS**

1. INTRODUCTION..... 1  
 2. MATERIALS AND METHODS ..... 4  
 3. RESULTS..... 8  
 4. CONCLUSIONS ..... 12  
 5. REFERENCES ..... 13  
 APPENDIX A KE BASIN IE-95 STUDY SAMPLE BREAKDOWN DIAGRAMS ..... A-i  
 APPENDIX B ANALYTICAL RESULTS ..... B-i

**List of Figures**

Figure 1. Cesium-137 Increase due to the Grout Pour in KE Basin..... 2  
 Figure 2. Turbidity Increase due to the Grout Pour in KE Basin. .... 3  
 Figure 3. Analysis Associated with Distribution Coefficient Determination..... 6  
 Figure 4. Filter Plugging Test with Associated Analysis. .... 7  
 Figure 5. Effluent Concentration of Cesium Expressed as C/Co..... 9  
 Figure 6. Effluent Concentrations of Sodium, Calcium, and Potassium Expressed as C/Co..... 9  
 Figure 7. 105 KE Basin Cesium-137 and Total Alpha Concentrations taken at the Center of  
 the Basin. .... 11  
 Figure 8. 105 KE Basin Turbidity..... 12

**List of Tables**

Table 1. KE Basin Water Chemistry after the First Grout Pour..... 1  
 Table 2. Transport Tanker Radionuclide Levels..... 3  
 Table 3. Sample Identification and Associated Laboratory Tests. .... 5  
 Table 4. Influent and Effluent Concentrations of Cesium, Sodium, Calcium, and Potassium..... 8  
 Table 5. Distribution Coefficients per Mass of Resin Tested..... 10  
 Table 6. Selectivity Coefficients per Mass of Resin Tested..... 10  
 Table 7. Filter Test and Rerun. .... 10

## List of Terms

### Abbreviations

BV	bed volumes
ICP	inductively coupled plasma spectroscopy
GEA	gamma energy analysis
IXM	ion exchange module
$K_d$	distribution coefficient
SNF	spent nuclear fuel

### Units

Bq/L	becquerel per liter
cm	centimeter
cm <sup>3</sup>	cubic centimeter
ft	foot
ft <sup>2</sup>	square foot
ft <sup>3</sup>	cubic foot
g	gram
gal	gallon
gpm	gallons per minute
gpm/ft <sup>3</sup>	gallons per minute per cubic foot
in.	inch
L	liter
μg/mL	microgram per milliliter
μ	micron
μCi/L	microcurie per liter
μCi/mL	microcurie per milliliter
μS/cm	microsiemen per centimeter
mg/L	milligrams per liter
mL	milliliter
mm	millimeter
M	million
NTU	nephelometric turbidity unit

## 1. INTRODUCTION

This report delineates the results obtained from laboratory testing of IONISIV<sup>®1</sup> IE-95 to determine the efficacy of the zeolite for the removal of radioactive cesium from the KE Basin water prior to transport to the Effluent Treatment Facility, as described in RPP-PLAN-36158, *IONSIV<sup>®</sup> IE-95 Studies for the Removal of Radioactive Cesium from KE Basin Spent Nuclear Fuel Pool during Decommissioning Activities*. The spent nuclear fuel (SNF) was removed from KE Basin and the remaining sludge was layered with a grout mixture consisting of 26% Lehigh Type I/II<sup>2</sup> portland cement and 74% Boral Mohave<sup>3</sup> type F fly ash with a water-to-cement ratio of 0.43. The first grout pour was added to the basin floor to a depth of approximately 14 in. covering an area of 12,000 ft<sup>2</sup>. A grout layer was also added to the sludge containers located in the attached Weasel and Technical View pits

When the first grout pour was carried out, the basin contained approximately 1.1 M gal of deionized water. The pH was 5.5 and the conductivity was nominally 1  $\mu$ S/cm. Since the deionized water contained minimal, if any buffering capacity, the concrete pour had a significant effect on the basin water chemistry. Table 1 shows the resulting analyses performed 2 weeks after grout was introduced into the SNF basin and the increase 8 weeks after the grout was introduced into the basin. Note the increased concentration of calcium, potassium, sodium, and presence of aluminum and strontium. The aluminum presence may be due to corrosion of aluminum in the high pH basin water. The strontium is in most probability a byproduct of the fly ash.

**Table 1. KE Basin Water Chemistry after the First Grout Pour.**

Analysis	Concentration <sup>a</sup>	
	Analysis 2 Weeks after Grout <sup>a</sup>	Analysis 8 Weeks after Grout <sup>b</sup>
Conductivity	288 $\mu$ S/cm	1200 $\mu$ S/cm
pH	10.5	11.4
Aluminum	0.381 mg/L	1.64 mg/L
Calcium	30 mg/L	117 mg/L
Potassium	6.7 mg/L	31.7 mg/L
Sodium	2.9 mg/L	17.0 mg/L
Strontium	0.231 mg/L	17.7 mg/L

<sup>a</sup> As reported in WSCF20071955, *WSCF Analytical Results Report*, dated November 14, 2007.

<sup>b</sup> As reported in WSCF20071955, dated December 27, 2007.

The KE Basin walls were unsealed concrete during the storage of the SNF. Due to the corroded condition of the fuel containers, radionuclides leached into the basin water. The concrete walls adsorbed cesium and have retained the adsorbed cesium for approximately the last 30 years.

<sup>1</sup> IONISIV<sup>®</sup> is a registered trademark of Universal Oil Products, Inc., Des Plaines, Illinois.

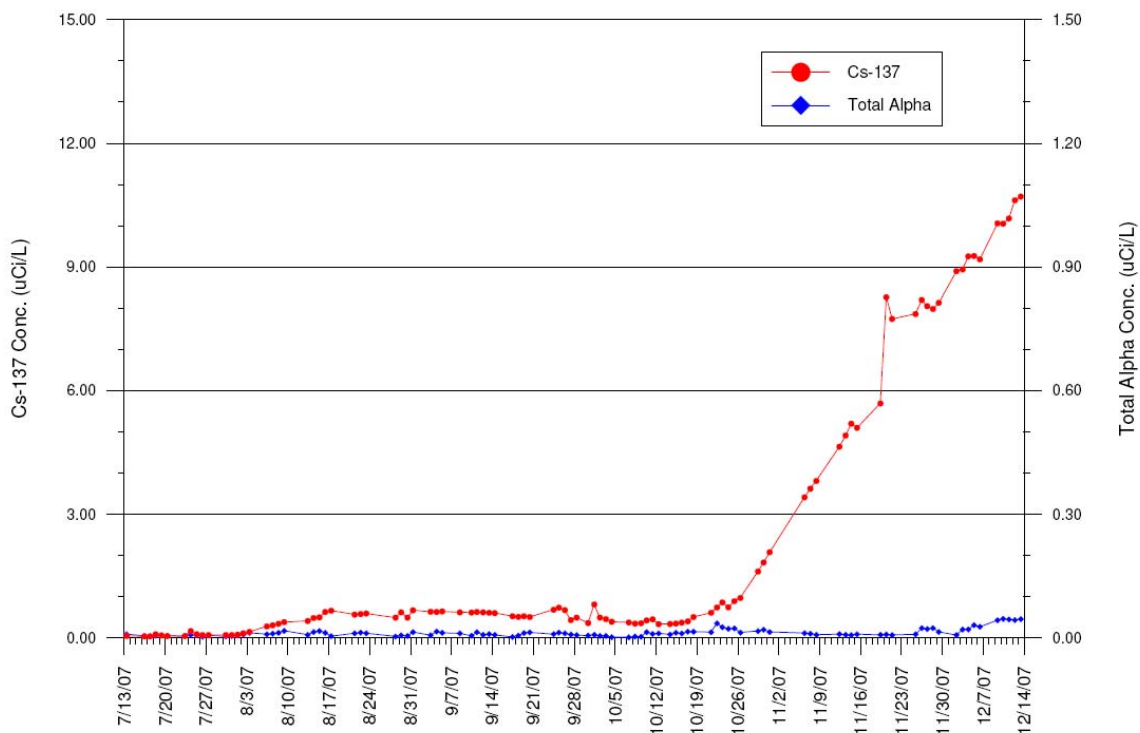
<sup>2</sup> Lehigh Type I/II portland cement is a product of Lehigh Southwest Cement Company, Allentown, Pennsylvania.

<sup>3</sup> Boral Mohave type F fly ash is a product of Boral Material Technologies, Inc., San Antonio, Texas.

Although speculative, it is within logic and rationale reasoning to determine that the increase in the ionic strength of the basin water is mimicking the regeneration mechanisms of ion exchange; i.e., allowing the concrete walls to release cesium and adsorb a replacement ion.

Figure 1 shows the increase in  $^{137}\text{Cs}$  activity. As can be determined from Figure 1, the cesium is continually increasing from a concentration of 0.5  $\mu\text{Ci/L}$  prior to grouting. The ion exchange module (IXM) then in service was loaded with ResinTech<sup>®4</sup> SIR-600 Zeolite (Clinoptilite) media that is specified by the manufacturer for selective removal of cesium from an aqueous stream within a pH range of 3 to 10. Prior to the grouting of the basin (pH=5.5), the IXM exhibited a  $^{137}\text{Cs}$  removal efficiency of ~95%. At the time the first sample was taken (pH=10.5),  $^{137}\text{Cs}$  removal efficiency was reduced to 30%. At the time of the second sample (pH=11.4),  $^{137}\text{Cs}$  removal efficiency was 5%.

**Figure 1. Cesium-137 Increase due to the Grout Pour in KE Basin.**



The KE Basin decontamination and decommissioning project installed equipment to begin dewatering of the basin in mid-January 2008. The project was concerned that the increased  $^{137}\text{Cs}$  concentrations would affect the radionuclide concentrations (Table 2) and prevent transport tankers from removing basin water to the Effluent Treatment Facility for treatment and disposal.

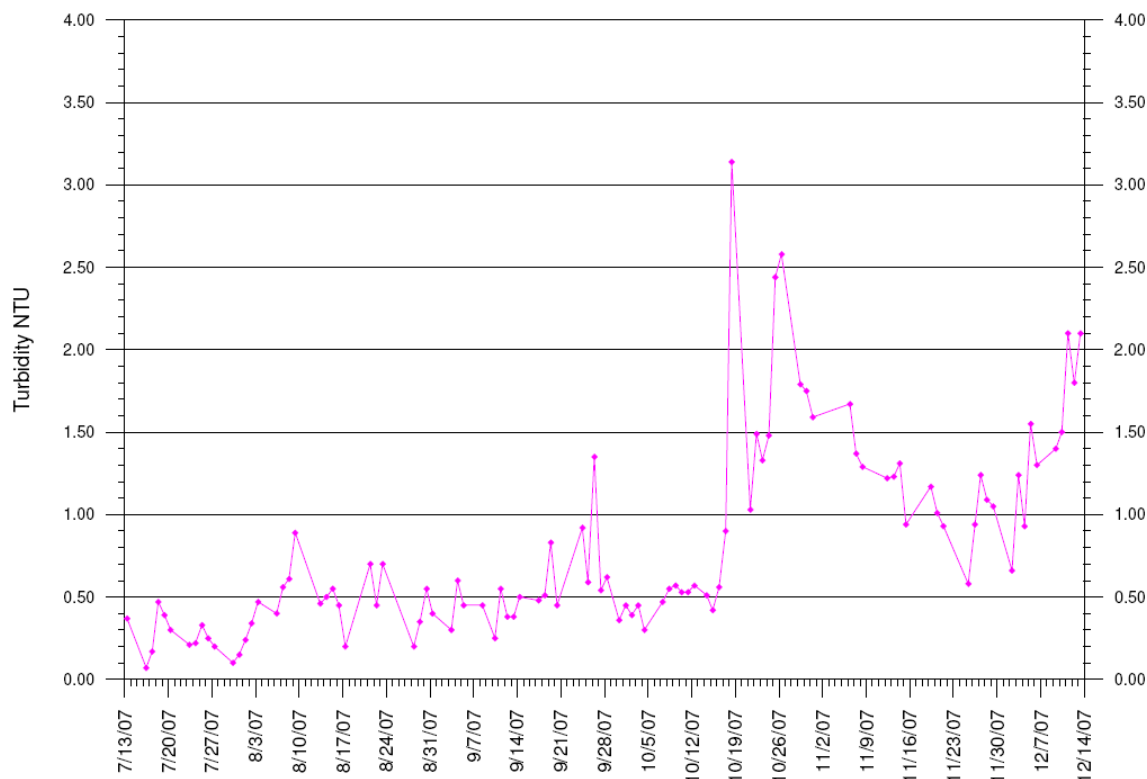
<sup>4</sup> ResinTech<sup>®</sup> SIR-600 Zeolite is a product of ResinTech, Inc., West Berlin, New Jersey.

**Table 2. Transport Tanker Radionuclide Levels.**

<b>Tanker (Volume, L)</b>	<b>Maximum Radionuclide Concentration (<math>\mu\text{Ci/L}</math>)</b>
Polar tanker (18,170)	13
Beale tanker (24,605)	10
Beale tanker (29,905)	8

The dewatering system drew water directly from sump pumps located on the floor of the basin and passed the water through banks of 5- $\mu$  filters and directly into tankers. The higher  $^{137}\text{Cs}$  concentrations in the water would also contribute to higher dose rates from the filters during operations and filter changeouts.

The grout pour also had deleterious effects on the basin water turbidity. Before the grout pour, the turbidity was approximately 0.1 nephelometric turbidity units (NTU) to around 1.3 NTU. It went from essentially drinking water clarity to greater than 2 NTUs. Figure 2 shows the turbidity increase that occurred in the basin. The presence of higher than anticipated suspended solids in the basin water would also affect the frequency of filter changeouts, along with the possibility that the filters would experience short operational runs.

**Figure 2. Turbidity Increase due to the Grout Pour in KE Basin.**

It was beyond the scope of this endeavor to establish a research effort on the selected resin. The work scope involved a rather rapid market and literature search to recommend a resin capable of removing  $^{137}\text{Cs}$  from the basin water at an elevated pH ( $>10$ ). The two main candidates were IONSIV<sup>®</sup> IE-911 and IONSIV<sup>®</sup> IE-95, a chabazite and erionite mixture [“Phillipsite in Cs Decontamination and Immobilization” (Komarneni 1985)]. Research at Oak Ridge National Laboratory reported that the cesium sorption capacity for IE-911 is approximately 15 times that of chabazite. It is also reported that at the low concentrations of  $^{137}\text{Cs}$  (110 Bq/L or  $2.97\text{E-}03$   $\mu\text{Ci/L}$ ) a 1% breakthrough occurred at 15,000 BV. Also reported was that cesium was selected over calcium, magnesium, and sodium for the IE-95 (ORNL/TM-13689, *Evaluation of Improved Techniques for the Removal of Fission Products from Process Wastewater and Groundwater: FY 1998 and FY 1999 Status*, and DOE/EM-0575, *Fission Products Separations Testing*). The IE-95 is reported to have similar cesium distribution coefficients ( $K_d$ ) as DUOLITE<sup>™5</sup> CS-100 (PNNL-11121, *Assessment of Commercially Available Ion Exchange Materials for Cesium Removal in Highly Alkaline Wastes*). Since the lead time for the expensive IE-911<sup>®</sup> is 9 months and the IE-95<sup>®</sup> is available and more economical, the IE-95<sup>®</sup> became the primary candidate.

The IE-95<sup>®</sup> was procured and placed into service along with a parallel laboratory effort. The resin was vacuumed into the existing IXMs and brought online for  $^{137}\text{Cs}$  removal.

## 2. MATERIALS AND METHODS

Appendix A shows the sample breakdown diagrams. Table 3 shows the OmniLIMS sample numbers along with the associated tests.

### 2.1 LABORATORY

#### 2.1.1 Column Testing

Approximately 400 mL of the composite was reserved for the  $K_d$  testing. The balance, approximately 3500 mL, was used to challenge a column of IE-95<sup>®</sup> Zeolite resin. The laboratory column was a Kontes<sup>®6</sup> 1 cm in diameter and 10 cm in length. The resin column and flow rate were scaled from the KE Basin IXM system. This calculated out to be a laboratory column height of 0.7 cm ( $0.58\text{ cm}^3$ ) and a flow rate of 7 mL/minute. The scaling was predicated on the available peristaltic pump, a Masterflex<sup>®7</sup> Model EW-77120-42. The first sample was collected after 5 minutes of run time; thereafter approximately 18 mL of column effluent was collected at 80-minute intervals and submitted for analysis. The column experienced plugging at after approximately 2275 mL had passed through the resin bed, or approximately 3922 bed volumes (BV).

<sup>5</sup> DUOLITE<sup>™</sup> is a registered trademark of Rohm and Haas Company, Philadelphia, Pennsylvania.

<sup>6</sup> Kontes is a registered trademark of Kontes Glass Company Corporation, Vineland, New Jersey.

<sup>7</sup> Masterflex is a registered trademark of Cole-Palmer Instrument and Equipment Company Corporation, Chicago, Illinois.



**Table 3. Sample Identification and Associated Laboratory Tests.**

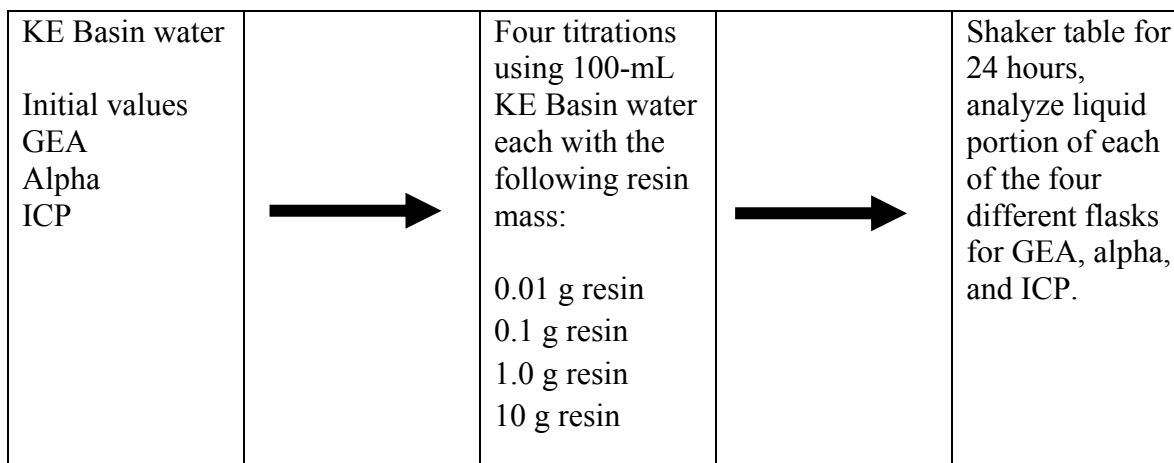
Parent	Daughter	Laboratory Test	Analytical Analysis	
015KEB10	S08K000001	Composite for IX column and distribution coefficient ( $K_d$ )	ICP-total metals Alpha GEA	
016KEB10				
017KEB10				
018KEB10				
031KEB10	S08K000013	Filter test	ICP-total metals Alpha GEA	
032KEB10	S08K000014	Filter test rerun	GEA	
	<b>Effluent Samples</b>			
S08K000001	S08K000002	Samples from the IX column effluent, first sample taken after 5 minutes, all others 80 minutes apart.	Each column effluent sample was analyzed for the following: ICP-total metals Alpha GEA	
	S08K000003			
	S08K000004			
	S08K000005			
	S08K000006			
	S08K000007			
		<b><math>K_d</math> Testing</b>	<b>Water (mL):resin (g)</b>	
		S08K000009	100:0.0106	ICP-total metals
		S08K000010	100:0.1001	Alpha
		S08K000011	100:1.008	GEA
	S08K000012	100:10.0058		
S08K000013	S08K000008	Filter test	ICP-total metals Alpha GEA	
S08K000014	S08K000015	Filter test rerun	GEA	

GEA = gamma energy analysis

ICP = inductively coupled plasma spectroscopy

### 2.1.2 Distribution Coefficient Testing

A titration was carried out using 100 mL KE Basin water against varying masses of IE-95 to determine a  $K_d$ . Figure 3 represents the flowsheet for determining the  $K_d$  with the associated analysis.

**Figure 3. Analysis Associated with Distribution Coefficient Determination.**

GEA = gamma energy analysis

ICP = inductively coupled plasma spectroscopy

Equation 1 shows the calculation for a  $K_d$ , which was run using 100 mL of KE Basin water to four different masses of resin.

$$K_d = [C_f]_s / [C_i]_l = \text{mass} / \text{mass} // \text{mass} / \text{volume} = \text{mL liquid} / \text{gram resin} \quad (1)$$

where

$[C_f]_s$  = Final concentration of Cs in the solid phase (IE-95)

$[C_i]_l$  = Initial concentration of Cs in the liquid phase.

Selectivity coefficients were also determined using Equation 2. If one of the ions is monovalent and exchanges for a ion of a different valence, then the monovalent molar concentration is raised to the power of the valence of the ion exchanged into the solid phase (IUPAC Compendium of Chemical Technology).

$$K_{A/B} = [A]_{\text{solid}} / [B]_{\text{solid}} / [A]_{\text{solution}} / [B]_{\text{solution}} \quad (2)$$

where

$[A]_{\text{solid}}$  = Molar concentration of ion entering solid phase

$[B]_{\text{solid}}$  = Molar concentration of ion leaving solid phase

$[A]_{\text{solution}}$  = Molar concentration of ion A in mobile phase

$[B]_{\text{solution}}$  = Molar concentration of ion B in mobile phase

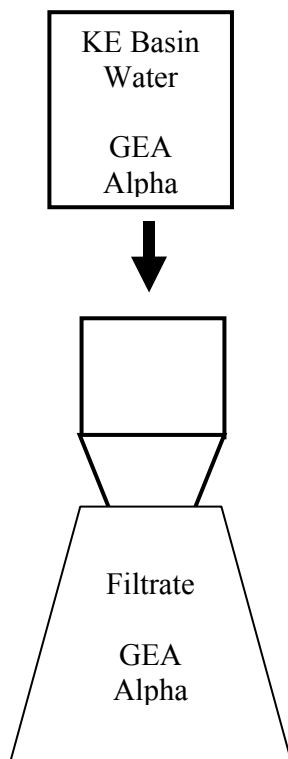
The difference between the initial concentrations of analytes of interest (S08K000001) and each of the final concentrations of analytes of interest (S08K000009 through S08K000012) were either adsorbed by the resin or released from the resin.

### 2.1.3 Filter Testing

Figure 4 represents the setup for the filter test with the associated analysis for S08K000013 and S08K000008. The results were not as expected based on previous work (RPP-RPT-30093, *Efficacy of Filtration processes to Obtain Water Clarity at K East Spent Nuclear Fuel Basin*). A rerun of the filter test was performed; for the rerun, the sample numbers were S08K000014 and S08K000015, and the only analysis for each sample was the GEA.

The KE Basin water was filtered through a Tri-Nuclear™<sup>8</sup> 5- $\mu$  filter to be provided by the customer (catalogue VCPH-5PE), pleated sheet configuration; flow pattern in to out. The laboratory test bed was a 47-mm filter cut from a Tri-Nuclear™ filter; the flow rate was adjusted to the gallons per square foot of the full-sized filter.

**Figure 4. Filter Plugging Test with Associated Analysis.**



<sup>8</sup> Tri-Nuclear™ is a trademark of the Tri-Nuclear Corporation, Ballston Lake, New York.

## 2.2 OPERATIONAL

The IXMs contain six parallel ion exchange columns each with a capacity of 3.5 ft<sup>3</sup> of media for a total of 21 ft<sup>3</sup>. The IXMs are supplied from the manufacturer with 0.75 ft<sup>3</sup> per tank (4.5 ft<sup>3</sup> total) of Purolite® NRW35<sup>9</sup> mixed-bed ion exchange resin. Fifteen cubic feet of additional resin can be vacuumed into each IXM (2.5 ft<sup>3</sup> per column). The ion exchange columns are 1.33 ft in diameter. The design flow rate is approximately 160 gpm/6 ion exchange columns yielding 16.6 gpm per column which yields 6.64 gpm/ft for IE-95® resin).

## 3. RESULTS

Appendix B contains the analytical results.

### 3.1 LABORATORY

#### 3.1.1 Column Testing Results

Approximately 2275 mL of KE Basin water was passed through the column at a concentration of 1.35E-02 µCi/mL of <sup>137</sup>Cs. The total curie amount introduced to the column was 30.7 µCi of <sup>137</sup>Cs. Table 4 shows the initial concentration of cesium, sodium, calcium, and potassium and the concentration at specific bed volumes of effluent. Figure 5 shows the <sup>137</sup>Cs in the effluent as a function of BV. Figure 6 shows the sodium, calcium, and potassium in the influent and the subsequent effluent by BV.

**Table 4. Influent and Effluent Concentrations of Cesium, Sodium, Calcium, and Potassium.**

Bed Volume	Cesium, (µCi/L)	Sodium (µg/mL)	Calcium (µg/mL)	Potassium (µg/mL)
Influent	1.35E-02	18	105	28.7
60	6.08E-03	37.8	96.4	20
1026	8.7E-03	24.1	108	27.7
1991	9.20E-03	21.3	111	28.6
2957	9.40E-03	20.9	110	29.6
3922	9.50E-03	21.1	106	30.4

<sup>9</sup> Purolite® NRW35 is a registered trademark of The Purolite Company, Bala Cynwyd, Pennsylvania.

Figure 5. Effluent Concentration of Cesium Expressed as C/Co.

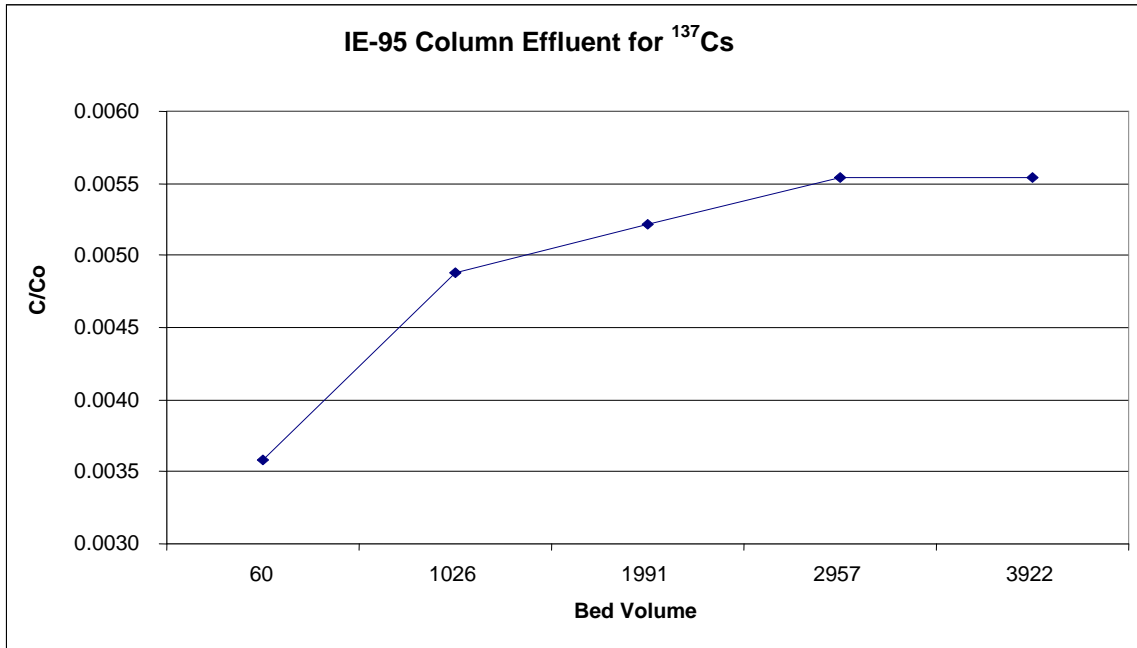
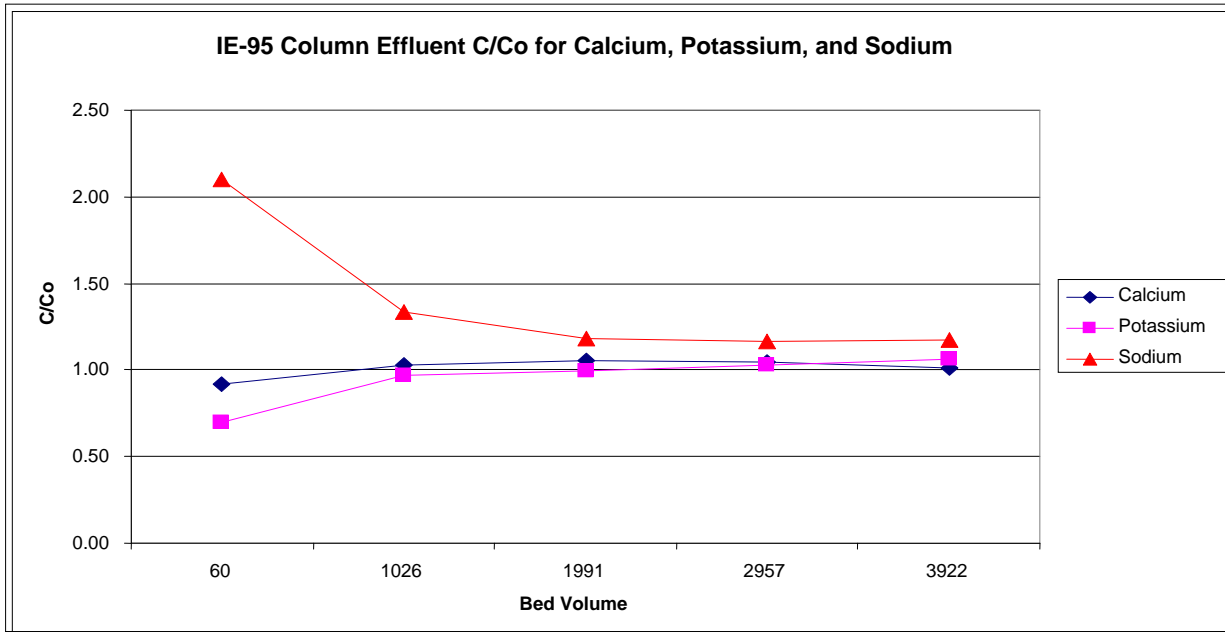


Figure 6. Effluent Concentrations of Sodium, Calcium, and Potassium Expressed as C/Co.



### 3.1.2 Distribution Coefficient Results

The distribution and selectivity coefficients were determined over a range of resin mass. Table 5 shows the  $K_d$  obtained for cesium, sodium, calcium, and potassium as a function of the mass of resin at constant volume of KE Basin water.

**Table 5. Distribution Coefficients per Mass of Resin Tested.**

Resin Mass (g)				
Analyte	0.0106	0.1001	1.0008	10.0058
Cesium	7.89E03	1.04E04	1.74E04	1.2E04

Sodium is considered the leaving ion; therefore selectivity coefficients were based on exchange with sodium. Table 6 shows the selectivity coefficients for Cs:Na; Ca:Na; and K:Na.

**Table 6. Selectivity Coefficients per Mass of Resin Tested.**

Resin Mass (g)				
Analytes	0.0106	0.1001	1.0008	10.0058
Cs:Na	4.04E00	1.72E01	2.02E02	1.28E03
Ca:Na	1.04E+01	7.72E-01	2.97E01	1.57E01
K:Na	8.72E-02	8.55E-01	8.55E-01	4.26E00

### 3.1.3 Filter Testing Results

Table 7 shows the results of the filter test.

**Table 7. Filter Test and Rerun.**

Sample Identification	Filtrant ( $\mu\text{Ci/mL}$ )	Filtrate ( $\mu\text{Ci/mL}$ )
S08K000013	8.54E-03	NA
S08K000008	NA	8.83E-03
Rerun		
S08K000014	1.08E-02	NA
S08K000015	NA	1.06E-02

The differences between the cesium concentration in S08K000013 and S08K000014 is that the S08K000013 came from the first set of KE Basin water sent to the laboratory, whereas the S08K000014 was sampled a week or so afterwards.

## 3.2 OPERATIONAL

Approximately 15 ft<sup>3</sup> of the IE-95<sup>®</sup> resin was loaded into IXM-1 and placed on line January 12, 2008. An impressive decrease in <sup>137</sup>Cs occurred almost immediately. Due to the nature of the

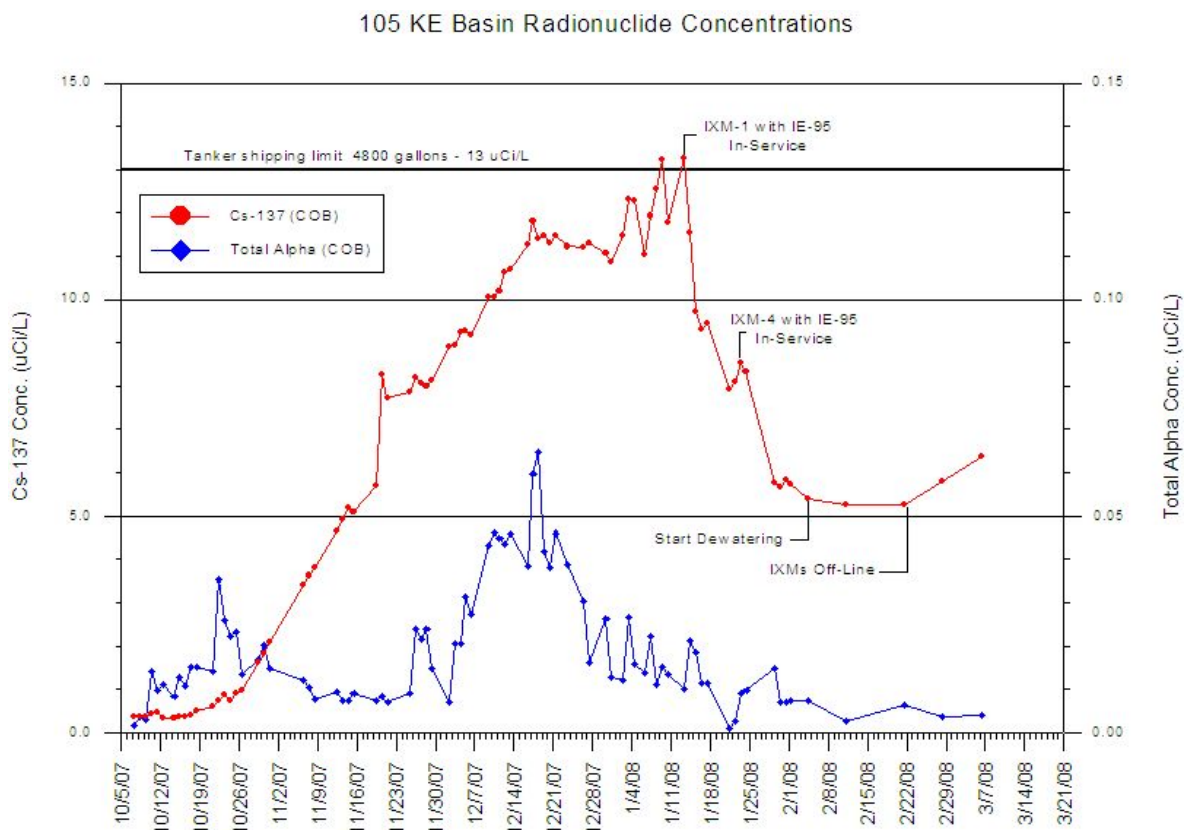
Zeolite resin, a lower flow rate than organic resin is required. Therefore KE Basin operations lowered the flow rate, which maintained as low an amount of  $^{137}\text{Cs}$  leakage as possible through the IXM. The initial flow rate was 150 gpm (10 gpm/ft<sup>3</sup>) of resin, which had to be lowered to 50–75 gpm (3– gpm/ft<sup>3</sup> of resin) to achieve a reasonable basin turnover while maintaining a low  $^{137}\text{Cs}$  leakage through the column.

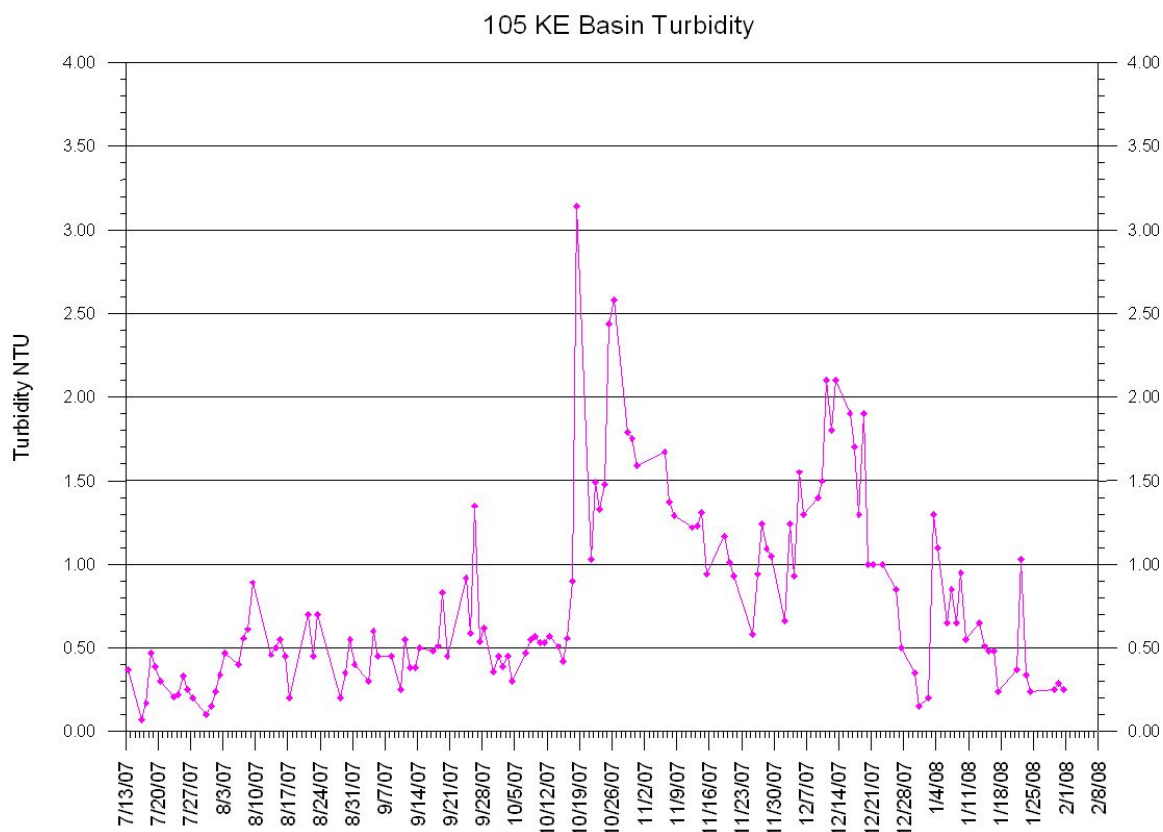
Due to the above balancing between basin turnover (flow rate) and  $^{137}\text{Cs}$  leakage (resin efficiency) a second IXM was needed. IE-95<sup>®</sup> resin was loaded into IXM-4 and brought into service on January 23, 2008. The second IXM allowed a combined flow rate of 100-150 gpm to be maintained while achieving a lower leakage (higher efficiency).

The basin dewatering began on February 4 and finished on March 19, 2008. Prior to loading the first tanker, the preliminary results of the laboratory testing were provided to the operations organization. Approximately 220 tankers (~1 M gal) transferred KE Basin water from the basin to the Liquid Effluent Retention Facility for treatment through the Effluent Treatment Facility advanced water treatment system.

Figure 7 shows the radionuclide concentrations of  $^{137}\text{Cs}$  and total alpha. Figure 8 shows the turbidity associated with the basin water from July 13, 2007, until dewatering commenced on March 7, 2008. Notice the turbidity and the  $^{137}\text{Cs}$  response on both figures beginning on October 19, 2008.

**Figure 7. 105 KE Basin Cesium-137 and Total Alpha Concentrations taken at the Center of the Basin.**



**Figure 8. 105 KE Basin Turbidity.**

#### 4. CONCLUSIONS

The leaching of the  $^{137}\text{Cs}$  was a completely unforeseen event. The KE Basin water was essentially deionized water which is devoid of alkalinity (buffering capacity). The grout pour allowed the KE Basin of approximately 1 M gal to become a high ionic strength, high pH, turbid mass of water. It is thought that the high pH and associated gain in ionic strength allowed an ion exchange effect with the cesium in the unlined concrete basin walls.

Before any SNF dewatering campaign begins, it is recommended that an adequate volume of the basin water be evaluated against the decontamination and decommissioning treatment methods and materials before a large-scale effort commences. Performing such a study would allow full-scale activities to go forward with minimal disruption to schedule.

The use of a zeolite, such as IE-95<sup>®</sup> that has a high selectivity for cesium in alkaline environments, enabled KE Basin to move the requisite volume to treatment. This allowed the final disposition of the basin to commence.



## 5. REFERENCES

- DOE/EM-0575, 2001, *Fission Products Separations Testing*, Innovative Technology Summary Report, U.S. Department of Energy, Office of Science and Technology, Washington, D.C.
- IUPAC Compendium of Chemical Technology, Electronic version, <http://goldbook.iupac.org/S05566.html>.
- Komarneni, S., "Phillipsite in Cs Decontamination and Immobilization," *Clays and Clay Minerals*, Vol. 33, No. 2, 145-151, 1985.
- ORNL/TM-13689, 2000, *Evaluation of Improved Techniques for the Removal of Fission Products from Process Wastewater and Groundwater: FY 1998 and FY 1999 Status*, Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- PNNL-11121, 1996, *Assessment of Commercially Available Ion Exchange Materials for Cesium Removal in Highly Alkaline Wastes*, Pacific Northwest National Laboratory, Richland, Washington.
- RPP-PLAN-36158, 2008, *IONSIV<sup>®</sup> IE-95 Studies for the Removal of Radioactive Cesium from KE Basin Spent Nuclear Fuel Pool during Decommissioning Activities*, Rev. 1, CH2MHILL Hanford Group, Inc., Richland, Washington.
- RPP-RPT-30093, 2006, *Efficacy of Filtration Processes to Obtain Water Clarity at K East Spent Nuclear Fuel Basin*, Rev. 0, CH2M HILL Hanford Group, Inc., Richland, Washington.
- WSCF20071955, 2007, *WSCF Analytical Results Report*, November 14, Fluor Hanford Group, Richland, Washington.
- WSCF20071955, 2007, *WSCF Analytical Results Report*, December 27, Fluor Hanford Group, Richland, Washington.

**APPENDIX A**

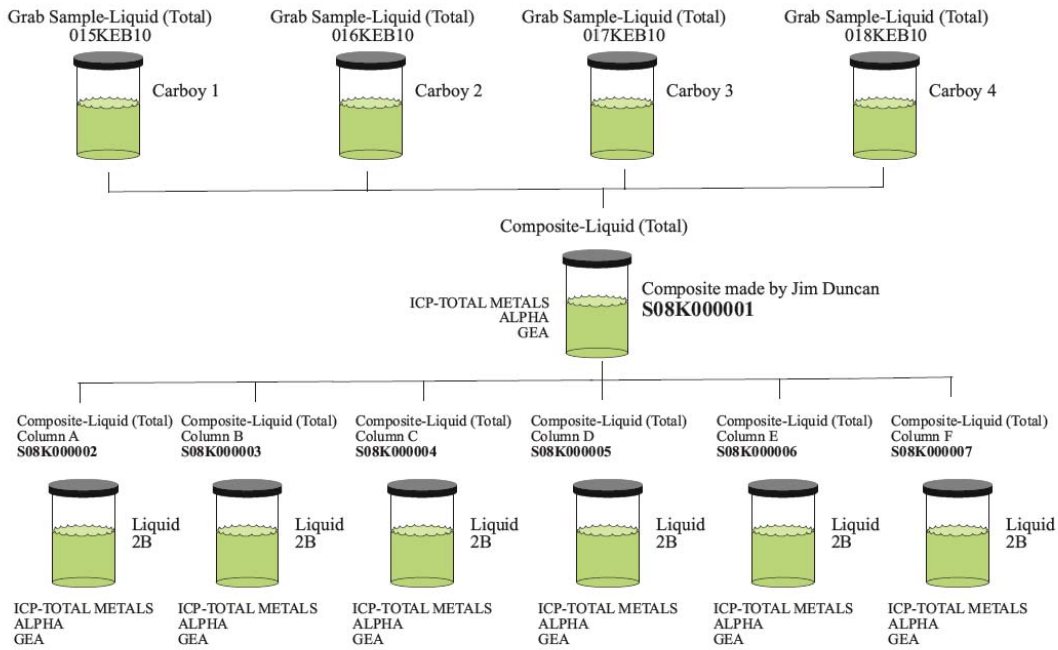
**KE BASIN IE-95 STUDY SAMPLE BREAKDOWN DIAGRAMS**

## KE BASIN IE-95 STUDY

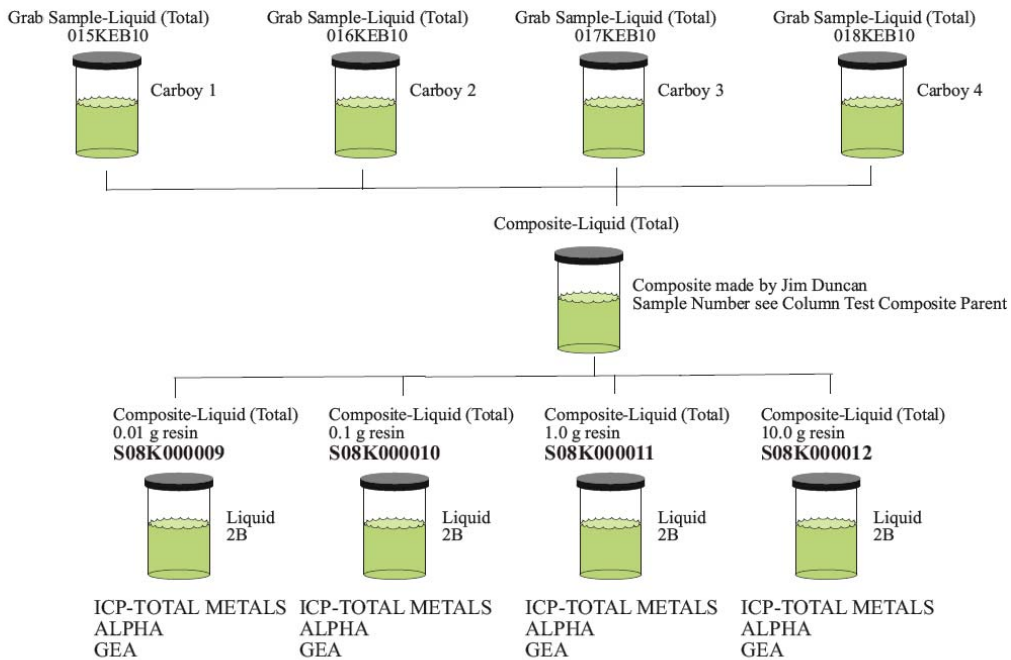
### LOGIN NOTES:

1. **Sampling Mode: Grab**
2. **GENERATOR KNOWLEDGE: Y**  
**SPECIAL SAFETY HAZARD: N**  
**MSDS AVAILABLE: N**
4. **Due Date: 01/31/08**
5. **QC Required: Procedure QC only - No DUPs & No Spks**
6. **Location: Samples are in 2B.**
7. **Project: KE BASIN IE-95 STUDY**
8. **CACN: 502806, COA: ES20**

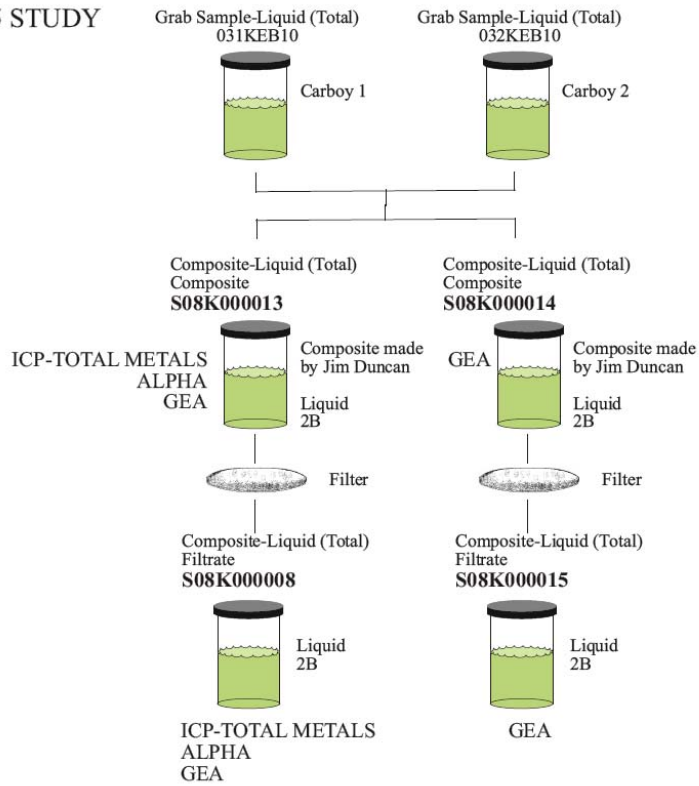
KE BASIN IE-95 STUDY  
 Column Test  
 Group 20080020



KE BASIN IE-95 STUDY  
 Kd Test  
 Group 20080020



KE BASIN IE-95 STUDY  
Filter Test  
Group 20080020



**APPENDIX B**

**ANALYTICAL RESULTS**

LABCORE Number	Analyte	Result	Unit
S08K000001	Gross alpha	9.16E-07	μCi/mL
S08K000001	Beryllium-7	<1.78E-04	μCi/mL
S08K000001	Sodium-22	<3.31E-06	μCi/mL
S08K000001	Sodium-24	<3.30E-06	μCi/mL
S08K000001	Aluminum-28	<8.71E-05	μCi/mL
S08K000001	Chlorine-38	<2.15E-05	μCi/mL
S08K000001	Potassium-40	<6.45E-05	μCi/mL
S08K000001	Argon-41	<4.94E-06	μCi/mL
S08K000001	Scandium-46	<3.83E-06	μCi/mL
S08K000001	Chromium-51	<1.15E-04	μCi/mL
S08K000001	Manganese-54	<3.22E-06	μCi/mL
S08K000001	Cobalt-56	<3.11E-06	μCi/mL
S08K000001	Manganese-56	<4.32E-06	μCi/mL
S08K000001	Cobalt-57	<6.61E-06	μCi/mL
S08K000001	Cobalt-58	<3.25E-06	μCi/mL
S08K000001	Iron-59	<6.63E-06	μCi/mL
S08K000001	Cobalt-60	<3.29E-06	μCi/mL
S08K000001	Copper-64	<6.52E-04	μCi/mL
S08K000001	Zinc-65	<7.57E-06	μCi/mL
S08K000001	Copper-66	<7.25E-04	μCi/mL
S08K000001	Selenium-75	<1.71E-05	μCi/mL
S08K000001	Selenium-79	<1.38E-03	μCi/mL
S08K000001	Krypton-85	<3.40E-03	μCi/mL
S08K000001	Strontium-85	<1.47E-05	μCi/mL
S08K000001	Yttrium-88	<2.46E-06	μCi/mL
S08K000001	Yttrium-91	<1.18E-03	μCi/mL
S08K000001	Niobium-94	<3.35E-06	μCi/mL
S08K000001	Zirconium/Niobium-95	<6.42E-06	μCi/mL
S08K000001	Ruthenium-103	<1.67E-05	μCi/mL
S08K000001	Ruthenium/Rhodium-106	<1.82E-04	μCi/mL
S08K000001	Silver-108	<3.27E-06	μCi/mL
S08K000001	Cadmium-109	<1.31E-04	μCi/mL
S08K000001	Silver-110	<9.35E-05	μCi/mL
S08K000001	Tin-113	<2.15E-05	μCi/mL
S08K000001	Tellurium-123	<8.10E-06	μCi/mL
S08K000001	Antimony-124	<9.36E-06	μCi/mL
S08K000001	Antimony-125	<5.82E-05	μCi/mL
S08K000001	Tellurium-125	<1.88E-05	μCi/mL
S08K000001	Antimony-126	<2.86E-06	μCi/mL
S08K000001	Tin-126	<1.06E-05	μCi/mL
S08K000001	Iodine-129	<1.07E-04	μCi/mL
S08K000001	Iodine-131	<1.57E-05	μCi/mL
S08K000001	Xenon-131	<3.54E-04	μCi/mL
S08K000001	Barium-133	<2.06E-05	μCi/mL
S08K000001	Cesium-134	<9.45E-06	μCi/mL
S08K000001	Cesium-136	<3.29E-06	μCi/mL

## RPP-RPT-37055, Rev. 0

LABCORE Number	Analyte	Result	Unit
S08K000001	Cesium-137	0.0135	µCi/mL
S08K000001	Cesium-138	<1.31E-05	µCi/mL
S08K000001	Cerium-139	<8.62E-06	µCi/mL
S08K000001	Barium-140	<5.06E-05	µCi/mL
S08K000001	Lanthanum-140	<2.97E-06	µCi/mL
S08K000001	Cerium-141	<1.27E-05	µCi/mL
S08K000001	Cerium-144	<5.33E-05	µCi/mL
S08K000001	Cerium/Praseodymium-144	<1.06E-04	µCi/mL
S08K000001	Europium-152	<1.43E-05	µCi/mL
S08K000001	Europium-154	<9.62E-06	µCi/mL
S08K000001	Europium-155	<2.33E-05	µCi/mL
S08K000001	Hafnium-181	<2.09E-05	µCi/mL
S08K000001	Tantalum-182	<1.10E-05	µCi/mL
S08K000001	Gold-198	<1.61E-05	µCi/mL
S08K000001	Mercury-203	<1.36E-05	µCi/mL
S08K000001	Bismuth-207	<4.40E-06	µCi/mL
S08K000001	Thallium-208	<1.12E-05	µCi/mL
S08K000001	Lead-210	<1.31E-04	µCi/mL
S08K000001	Bismuth-212	<2.52E-05	µCi/mL
S08K000001	Lead-212	<2.26E-05	µCi/mL
S08K000001	Bismuth-214	<1.99E-05	µCi/mL
S08K000001	Lead-214	<3.27E-05	µCi/mL
S08K000001	Radium-224	<2.57E-04	µCi/mL
S08K000001	Radium-226	<2.65E-04	µCi/mL
S08K000001	Actinium-228	<1.26E-05	µCi/mL
S08K000001	Thorium-228	<3.81E-04	µCi/mL
S08K000001	Thorium-229	<4.43E-05	µCi/mL
S08K000001	Uranium-232	<2.30E-03	µCi/mL
S08K000001	Protactinium-233	<2.87E-05	µCi/mL
S08K000001	Uranium/Thorium-233	<9.18E-03	µCi/mL
S08K000001	Protactinium-234	<5.24E-04	µCi/mL
S08K000001	Thorium-234	<1.17E-04	µCi/mL
S08K000001	Uranium-235	<1.59E-05	µCi/mL
S08K000001	Neptunium-237	<3.91E-05	µCi/mL
S08K000001	Uranium-237	<1.99E-05	µCi/mL
S08K000001	Neptunium-238	<1.15E-05	µCi/mL
S08K000001	Neptunium-239	<2.26E-05	µCi/mL
S08K000001	Plutonium-239	<0.0932	µCi/mL
S08K000001	Americium-241	<1.27E-05	µCi/mL
S08K000001	Americium-243	<7.93E-06	µCi/mL
S08K000001	Silver	<0.0100	µg/mL
S08K000001	Aluminum	1.68	µg/mL
S08K000001	Arsenic	<0.120	µg/mL
S08K000001	Boron	<0.0600	µg/mL
S08K000001	Barium	0.0722	µg/mL
S08K000001	Beryllium	<2.00E-03	µg/mL
S08K000001	Bismuth	<0.400	µg/mL



## RPP-RPT-37055, Rev. 0

LABCORE Number	Analyte	Result	Unit
S08K000001	Calcium	105	µg/mL
S08K000001	Cadmium	<0.0100	µg/mL
S08K000001	Cerium	<0.100	µg/mL
S08K000001	Cobalt	<0.0200	µg/mL
S08K000001	Chromium	0.0986	µg/mL
S08K000001	Copper	<0.0100	µg/mL
S08K000001	Europium	<0.0200	µg/mL
S08K000001	Iron	0.0104	µg/mL
S08K000001	Potassium	28.7	µg/mL
S08K000001	Lanthanum	<0.0200	µg/mL
S08K000001	Lithium	0.0331	µg/mL
S08K000001	Magnesium	<0.100	µg/mL
S08K000001	Manganese	<0.0100	µg/mL
S08K000001	Molybdenum	<0.100	µg/mL
S08K000001	Sodium	18.0	µg/mL
S08K000001	Neodymium	<0.0400	µg/mL
S08K000001	Nickel	<0.0400	µg/mL
S08K000001	Niobium	<0.100	µg/mL
S08K000001	Phosphorus	<0.200	µg/mL
S08K000001	Lead	<0.100	µg/mL
S08K000001	Palladium	<0.200	µg/mL
S08K000001	Praseodymium	<0.100	µg/mL
S08K000001	Rubidium	<4.00	µg/mL
S08K000001	Rhodium	<0.400	µg/mL
S08K000001	Ruthenium	<0.200	µg/mL
S08K000001	Sulfur	46.3	µg/mL
S08K000001	Antimony	<0.200	µg/mL
S08K000001	Selenium	<0.200	µg/mL
S08K000001	Silicon	5.43	µg/mL
S08K000001	Samarium	<0.100	µg/mL
S08K000001	Tin	<0.100	µg/mL
S08K000001	Strontium	1.92	µg/mL
S08K000001	Tantalum	<0.100	µg/mL
S08K000001	Tellurium	<0.200	µg/mL
S08K000001	Thorium	<0.200	µg/mL
S08K000001	Titanium	<0.0100	µg/mL
S08K000001	Thallium	<0.200	µg/mL
S08K000001	Uranium	<0.200	µg/mL
S08K000001	Vanadium	<0.0200	µg/mL
S08K000001	Tungsten	<0.200	µg/mL
S08K000001	Yttrium	<0.0100	µg/mL
S08K000001	Zinc	<0.0100	µg/mL
S08K000001	Zirconium	<0.0100	µg/mL
S08K000002	Gross alpha	8.17E-07	µCi/mL
S08K000002	Beryllium-7	<1.21E-04	µCi/mL
S08K000002	Sodium-22	<3.53E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000002	Sodium-24	<3.09E-06	μCi/mL
S08K000002	Aluminum-28	<9.32E-05	μCi/mL
S08K000002	Chlorine-38	<2.17E-05	μCi/mL
S08K000002	Potassium-40	<6.44E-05	μCi/mL
S08K000002	Argon-41	<4.84E-06	μCi/mL
S08K000002	Scandium-46	<3.97E-06	μCi/mL
S08K000002	Chromium-51	<7.92E-05	μCi/mL
S08K000002	Manganese-54	<3.20E-06	μCi/mL
S08K000002	Cobalt-56	<3.05E-06	μCi/mL
S08K000002	Manganese-56	<4.23E-06	μCi/mL
S08K000002	Cobalt-57	<4.51E-06	μCi/mL
S08K000002	Cobalt-58	<3.00E-06	μCi/mL
S08K000002	Iron-59	<6.42E-06	μCi/mL
S08K000002	Cobalt-60	<3.29E-06	μCi/mL
S08K000002	Copper-64	<7.10E-04	μCi/mL
S08K000002	Zinc-65	<7.71E-06	μCi/mL
S08K000002	Copper-66	<7.03E-04	μCi/mL
S08K000002	Selenium-75	<1.18E-05	μCi/mL
S08K000002	Selenium-79	<9.33E-04	μCi/mL
S08K000002	Krypton-85	<2.31E-03	μCi/mL
S08K000002	Strontium-85	<1.00E-05	μCi/mL
S08K000002	Yttrium-88	<1.92E-06	μCi/mL
S08K000002	Yttrium-91	<1.16E-03	μCi/mL
S08K000002	Niobium-94	<3.01E-06	μCi/mL
S08K000002	Zirconium/Niobium-95	<6.15E-06	μCi/mL
S08K000002	Ruthenium-103	<1.15E-05	μCi/mL
S08K000002	Ruthenium/Rhodium-106	<1.29E-04	μCi/mL
S08K000002	Silver-108	<3.12E-06	μCi/mL
S08K000002	Cadmium-109	<9.03E-05	μCi/mL
S08K000002	Silver-110	<6.27E-05	μCi/mL
S08K000002	Tin-113	<1.46E-05	μCi/mL
S08K000002	Tellurium-123	<5.55E-06	μCi/mL
S08K000002	Antimony-124	<6.41E-06	μCi/mL
S08K000002	Antimony-125	<3.92E-05	μCi/mL
S08K000002	Tellurium-125	<1.28E-05	μCi/mL
S08K000002	Antimony-126	<2.88E-06	μCi/mL
S08K000002	Tin-126	<7.32E-06	μCi/mL
S08K000002	Iodine-129	<7.44E-05	μCi/mL
S08K000002	Iodine-131	<1.07E-05	μCi/mL
S08K000002	Xenon-131	<2.42E-04	μCi/mL
S08K000002	Barium-133	<1.41E-05	μCi/mL
S08K000002	Cesium-134	<6.66E-06	μCi/mL
S08K000002	Cesium-136	<2.93E-06	μCi/mL
S08K000002	Cesium-137	6.08E-03	μCi/mL
S08K000002	Cesium-138	<1.26E-05	μCi/mL
S08K000002	Cerium-139	<5.93E-06	μCi/mL
S08K000002	Barium-140	<3.45E-05	μCi/mL

## RPP-RPT-37055, Rev. 0

LABCORE Number	Analyte	Result	Unit
S08K000002	Lanthanum-140	<2.93E-06	µCi/mL
S08K000002	Cerium-141	<8.66E-06	µCi/mL
S08K000002	Cerium-144	<3.66E-05	µCi/mL
S08K000002	Cerium/Praseodymium-144	<7.32E-05	µCi/mL
S08K000002	Europium-152	<1.46E-05	µCi/mL
S08K000002	Europium-154	<1.02E-05	µCi/mL
S08K000002	Europium-155	<1.60E-05	µCi/mL
S08K000002	Hafnium-181	<1.43E-05	µCi/mL
S08K000002	Tantalum-182	<1.15E-05	µCi/mL
S08K000002	Gold-198	<1.08E-05	µCi/mL
S08K000002	Mercury-203	<9.14E-06	µCi/mL
S08K000002	Bismuth-207	<3.97E-06	µCi/mL
S08K000002	Thallium-208	<7.88E-06	µCi/mL
S08K000002	Lead-210	<9.18E-05	µCi/mL
S08K000002	Bismuth-212	<2.42E-05	µCi/mL
S08K000002	Lead-212	<1.54E-05	µCi/mL
S08K000002	Bismuth-214	<1.42E-05	µCi/mL
S08K000002	Lead-214	<2.25E-05	µCi/mL
S08K000002	Radium-224	<1.75E-04	µCi/mL
S08K000002	Radium-226	<1.80E-04	µCi/mL
S08K000002	Actinium-228	<1.28E-05	µCi/mL
S08K000002	Thorium-228	<2.62E-04	µCi/mL
S08K000002	Thorium-229	<3.01E-05	µCi/mL
S08K000002	Uranium-232	<1.58E-03	µCi/mL
S08K000002	Protactinium-233	<1.97E-05	µCi/mL
S08K000002	Uranium/Thorium-233	<6.25E-03	µCi/mL
S08K000002	Protactinium-234	<4.95E-04	µCi/mL
S08K000002	Thorium-234	<8.15E-05	µCi/mL
S08K000002	Uranium-235	<1.09E-05	µCi/mL
S08K000002	Neptunium-237	<2.71E-05	µCi/mL
S08K000002	Uranium-237	<1.36E-05	µCi/mL
S08K000002	Neptunium-238	<1.16E-05	µCi/mL
S08K000002	Neptunium-239	<1.55E-05	µCi/mL
S08K000002	Plutonium-239	<0.0640	µCi/mL
S08K000002	Americium-241	<8.72E-06	µCi/mL
S08K000002	Americium-243	<5.56E-06	µCi/mL
S08K000002	Silver	<0.0100	µg/mL
S08K000002	Aluminum	1.64	µg/mL
S08K000002	Arsenic	<0.120	µg/mL
S08K000002	Boron	<0.0600	µg/mL
S08K000002	Barium	0.0510	µg/mL
S08K000002	Beryllium	<2.00E-03	µg/mL
S08K000002	Bismuth	<0.400	µg/mL
S08K000002	Calcium	96.4	µg/mL
S08K000002	Cadmium	<0.0100	µg/mL
S08K000002	Cerium	<0.100	µg/mL
S08K000002	Cobalt	<0.0200	µg/mL

LABCORE Number	Analyte	Result	Unit
S08K000002	Chromium	0.0970	µg/mL
S08K000002	Copper	<0.0100	µg/mL
S08K000002	Europium	<0.0200	µg/mL
S08K000002	Iron	<0.0100	µg/mL
S08K000002	Potassium	20.0	µg/mL
S08K000002	Lanthanum	<0.0200	µg/mL
S08K000002	Lithium	0.0344	µg/mL
S08K000002	Magnesium	<0.100	µg/mL
S08K000002	Manganese	<0.0100	µg/mL
S08K000002	Molybdenum	<0.100	µg/mL
S08K000002	Sodium	37.8	µg/mL
S08K000002	Neodymium	<0.0400	µg/mL
S08K000002	Nickel	<0.0400	µg/mL
S08K000002	Niobium	<0.100	µg/mL
S08K000002	Phosphorus	<0.200	µg/mL
S08K000002	Lead	<0.100	µg/mL
S08K000002	Palladium	<0.200	µg/mL
S08K000002	Praseodymium	<0.100	µg/mL
S08K000002	Rubidium	<4.00	µg/mL
S08K000002	Rhodium	<0.400	µg/mL
S08K000002	Ruthenium	<0.200	µg/mL
S08K000002	Sulfur	47.3	µg/mL
S08K000002	Antimony	<0.200	µg/mL
S08K000002	Selenium	<0.200	µg/mL
S08K000002	Silicon	6.94	µg/mL
S08K000002	Samarium	<0.100	µg/mL
S08K000002	Tin	<0.100	µg/mL
S08K000002	Strontium	1.58	µg/mL
S08K000002	Tantalum	<0.100	µg/mL
S08K000002	Tellurium	<0.200	µg/mL
S08K000002	Thorium	<0.200	µg/mL
S08K000002	Titanium	<0.0100	µg/mL
S08K000002	Thallium	<0.200	µg/mL
S08K000002	Uranium	<0.200	µg/mL
S08K000002	Vanadium	<0.0200	µg/mL
S08K000002	Tungsten	<0.200	µg/mL
S08K000002	Yttrium	<0.0100	µg/mL
S08K000002	Zinc	<0.0100	µg/mL
S08K000002	Zirconium	<0.0100	µg/mL
S08K000003	Gross alpha	6.19E-07	µCi/mL
S08K000003	Beryllium-7	<1.44E-04	µCi/mL
S08K000003	Sodium-22	<3.38E-06	µCi/mL
S08K000003	Sodium-24	<3.24E-06	µCi/mL
S08K000003	Aluminum-28	<9.76E-05	µCi/mL
S08K000003	Chlorine-38	<2.50E-05	µCi/mL
S08K000003	Potassium-40	<6.52E-05	µCi/mL

## RPP-RPT-37055, Rev. 0

LABCORE Number	Analyte	Result	Unit
S08K000003	Argon-41	<5.29E-06	μCi/mL
S08K000003	Scandium-46	<4.11E-06	μCi/mL
S08K000003	Chromium-51	<9.28E-05	μCi/mL
S08K000003	Manganese-54	<3.13E-06	μCi/mL
S08K000003	Cobalt-56	<3.20E-06	μCi/mL
S08K000003	Manganese-56	<4.44E-06	μCi/mL
S08K000003	Cobalt-57	<5.36E-06	μCi/mL
S08K000003	Cobalt-58	<3.14E-06	μCi/mL
S08K000003	Iron-59	<6.71E-06	μCi/mL
S08K000003	Cobalt-60	<3.55E-06	μCi/mL
S08K000003	Copper-64	<7.64E-04	μCi/mL
S08K000003	Zinc-65	<8.10E-06	μCi/mL
S08K000003	Copper-66	<8.01E-04	μCi/mL
S08K000003	Selenium-75	<1.39E-05	μCi/mL
S08K000003	Selenium-79	<1.11E-03	μCi/mL
S08K000003	Krypton-85	<2.76E-03	μCi/mL
S08K000003	Strontium-85	<1.20E-05	μCi/mL
S08K000003	Yttrium-88	<2.31E-06	μCi/mL
S08K000003	Yttrium-91	<1.29E-03	μCi/mL
S08K000003	Niobium-94	<3.20E-06	μCi/mL
S08K000003	Zirconium/Niobium-95	<6.69E-06	μCi/mL
S08K000003	Ruthenium-103	<1.35E-05	μCi/mL
S08K000003	Ruthenium/Rhodium-106	<1.50E-04	μCi/mL
S08K000003	Silver-108	<3.34E-06	μCi/mL
S08K000003	Cadmium-109	<1.07E-04	μCi/mL
S08K000003	Silver-110	<7.50E-05	μCi/mL
S08K000003	Tin-113	<1.74E-05	μCi/mL
S08K000003	Tellurium-123	<6.57E-06	μCi/mL
S08K000003	Antimony-124	<7.64E-06	μCi/mL
S08K000003	Antimony-125	<4.69E-05	μCi/mL
S08K000003	Tellurium-125	<1.53E-05	μCi/mL
S08K000003	Antimony-126	<3.11E-06	μCi/mL
S08K000003	Tin-126	<8.66E-06	μCi/mL
S08K000003	Iodine-129	<8.73E-05	μCi/mL
S08K000003	Iodine-131	<1.28E-05	μCi/mL
S08K000003	Xenon-131	<2.87E-04	μCi/mL
S08K000003	Barium-133	<1.67E-05	μCi/mL
S08K000003	Cesium-134	<7.77E-06	μCi/mL
S08K000003	Cesium-136	<3.24E-06	μCi/mL
S08K000003	Cesium-137	8.71E-03	μCi/mL
S08K000003	Cesium-138	<1.41E-05	μCi/mL
S08K000003	Cerium-139	<7.06E-06	μCi/mL
S08K000003	Barium-140	<4.07E-05	μCi/mL
S08K000003	Lanthanum-140	<3.01E-06	μCi/mL
S08K000003	Cerium-141	<1.03E-05	μCi/mL
S08K000003	Cerium-144	<4.33E-05	μCi/mL
S08K000003	Cerium/Praseodymium-144	<8.65E-05	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000003	Europium-152	<1.45E-05	μCi/mL
S08K000003	Europium-154	<9.81E-06	μCi/mL
S08K000003	Europium-155	<1.90E-05	μCi/mL
S08K000003	Hafnium-181	<1.70E-05	μCi/mL
S08K000003	Tantalum-182	<1.15E-05	μCi/mL
S08K000003	Gold-198	<1.30E-05	μCi/mL
S08K000003	Mercury-203	<1.10E-05	μCi/mL
S08K000003	Bismuth-207	<4.74E-06	μCi/mL
S08K000003	Thallium-208	<9.15E-06	μCi/mL
S08K000003	Lead-210	<1.07E-04	μCi/mL
S08K000003	Bismuth-212	<2.57E-05	μCi/mL
S08K000003	Lead-212	<1.83E-05	μCi/mL
S08K000003	Bismuth-214	<1.66E-05	μCi/mL
S08K000003	Lead-214	<2.66E-05	μCi/mL
S08K000003	Radium-224	<2.08E-04	μCi/mL
S08K000003	Radium-226	<2.14E-04	μCi/mL
S08K000003	Actinium-228	<1.28E-05	μCi/mL
S08K000003	Thorium-228	<3.11E-04	μCi/mL
S08K000003	Thorium-229	<3.57E-05	μCi/mL
S08K000003	Uranium-232	<1.88E-03	μCi/mL
S08K000003	Protactinium-233	<2.33E-05	μCi/mL
S08K000003	Uranium/Thorium-233	<7.46E-03	μCi/mL
S08K000003	Protactinium-234	<5.31E-04	μCi/mL
S08K000003	Thorium-234	<9.59E-05	μCi/mL
S08K000003	Uranium-235	<1.29E-05	μCi/mL
S08K000003	Neptunium-237	<3.20E-05	μCi/mL
S08K000003	Uranium-237	<1.61E-05	μCi/mL
S08K000003	Neptunium-238	<1.22E-05	μCi/mL
S08K000003	Neptunium-239	<1.85E-05	μCi/mL
S08K000003	Plutonium-239	<0.0758	μCi/mL
S08K000003	Americium-241	<1.03E-05	μCi/mL
S08K000003	Americium-243	<6.51E-06	μCi/mL
S08K000003	Silver	<0.0100	μg/mL
S08K000003	Aluminum	1.71	μg/mL
S08K000003	Arsenic	<0.120	μg/mL
S08K000003	Boron	<0.0600	μg/mL
S08K000003	Barium	0.0616	μg/mL
S08K000003	Beryllium	<2.00E-03	μg/mL
S08K000003	Bismuth	<0.400	μg/mL
S08K000003	Calcium	108	μg/mL
S08K000003	Cadmium	<0.0100	μg/mL
S08K000003	Cerium	<0.100	μg/mL
S08K000003	Cobalt	<0.0200	μg/mL
S08K000003	Chromium	0.0972	μg/mL
S08K000003	Copper	<0.0100	μg/mL
S08K000003	Europium	<0.0200	μg/mL
S08K000003	Iron	<0.0100	μg/mL

LABCORE Number	Analyte	Result	Unit
S08K000003	Potassium	27.7	µg/mL
S08K000003	Lanthanum	<0.0200	µg/mL
S08K000003	Lithium	0.0345	µg/mL
S08K000003	Magnesium	<0.100	µg/mL
S08K000003	Manganese	<0.0100	µg/mL
S08K000003	Molybdenum	<0.100	µg/mL
S08K000003	Sodium	24.1	µg/mL
S08K000003	Neodymium	<0.0400	µg/mL
S08K000003	Nickel	<0.0400	µg/mL
S08K000003	Niobium	<0.100	µg/mL
S08K000003	Phosphorus	<0.200	µg/mL
S08K000003	Lead	<0.100	µg/mL
S08K000003	Palladium	<0.200	µg/mL
S08K000003	Praseodymium	<0.100	µg/mL
S08K000003	Rubidium	<4.00	µg/mL
S08K000003	Rhodium	<0.400	µg/mL
S08K000003	Ruthenium	<0.200	µg/mL
S08K000003	Sulfur	46.9	µg/mL
S08K000003	Antimony	<0.200	µg/mL
S08K000003	Selenium	<0.200	µg/mL
S08K000003	Silicon	5.84	µg/mL
S08K000003	Samarium	<0.100	µg/mL
S08K000003	Tin	<0.100	µg/mL
S08K000003	Strontium	1.86	µg/mL
S08K000003	Tantalum	<0.100	µg/mL
S08K000003	Tellurium	<0.200	µg/mL
S08K000003	Thorium	<0.200	µg/mL
S08K000003	Titanium	<0.0100	µg/mL
S08K000003	Thallium	<0.200	µg/mL
S08K000003	Uranium	<0.200	µg/mL
S08K000003	Vanadium	<0.0200	µg/mL
S08K000003	Tungsten	<0.200	µg/mL
S08K000003	Yttrium	<0.0100	µg/mL
S08K000003	Zinc	<0.0100	µg/mL
S08K000003	Zirconium	<0.0100	µg/mL
S08K000004	Gross alpha	3.72E-07	µCi/mL
S08K000004	Beryllium-7	<1.48E-04	µCi/mL
S08K000004	Sodium-22	<3.74E-06	µCi/mL
S08K000004	Sodium-24	<3.54E-06	µCi/mL
S08K000004	Aluminum-28	<9.76E-05	µCi/mL
S08K000004	Chlorine-38	<2.24E-05	µCi/mL
S08K000004	Potassium-40	<6.56E-05	µCi/mL
S08K000004	Argon-41	<5.24E-06	µCi/mL
S08K000004	Scandium-46	<3.93E-06	µCi/mL
S08K000004	Chromium-51	<9.54E-05	µCi/mL
S08K000004	Manganese-54	<3.38E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000004	Cobalt-56	<3.44E-06	μCi/mL
S08K000004	Manganese-56	<4.78E-06	μCi/mL
S08K000004	Cobalt-57	<5.51E-06	μCi/mL
S08K000004	Cobalt-58	<3.20E-06	μCi/mL
S08K000004	Iron-59	<6.24E-06	μCi/mL
S08K000004	Cobalt-60	<3.46E-06	μCi/mL
S08K000004	Copper-64	<7.36E-04	μCi/mL
S08K000004	Zinc-65	<7.88E-06	μCi/mL
S08K000004	Copper-66	<7.43E-04	μCi/mL
S08K000004	Selenium-75	<1.43E-05	μCi/mL
S08K000004	Selenium-79	<1.14E-03	μCi/mL
S08K000004	Krypton-85	<2.82E-03	μCi/mL
S08K000004	Strontium-85	<1.22E-05	μCi/mL
S08K000004	Yttrium-88	<2.34E-06	μCi/mL
S08K000004	Yttrium-91	<1.28E-03	μCi/mL
S08K000004	Niobium-94	<3.39E-06	μCi/mL
S08K000004	Zirconium/Niobium-95	<6.51E-06	μCi/mL
S08K000004	Ruthenium-103	<1.40E-05	μCi/mL
S08K000004	Ruthenium/Rhodium-106	<1.54E-04	μCi/mL
S08K000004	Silver-108	<3.41E-06	μCi/mL
S08K000004	Cadmium-109	<1.10E-04	μCi/mL
S08K000004	Silver-110	<7.72E-05	μCi/mL
S08K000004	Tin-113	<1.77E-05	μCi/mL
S08K000004	Tellurium-123	<6.77E-06	μCi/mL
S08K000004	Antimony-124	<7.72E-06	μCi/mL
S08K000004	Antimony-125	<4.81E-05	μCi/mL
S08K000004	Tellurium-125	<1.56E-05	μCi/mL
S08K000004	Antimony-126	<2.93E-06	μCi/mL
S08K000004	Tin-126	<8.95E-06	μCi/mL
S08K000004	Iodine-129	<8.97E-05	μCi/mL
S08K000004	Iodine-131	<1.31E-05	μCi/mL
S08K000004	Xenon-131	<2.95E-04	μCi/mL
S08K000004	Barium-133	<1.72E-05	μCi/mL
S08K000004	Cesium-134	<7.90E-06	μCi/mL
S08K000004	Cesium-136	<3.25E-06	μCi/mL
S08K000004	Cesium-137	9.22E-03	μCi/mL
S08K000004	Cesium-138	<1.38E-05	μCi/mL
S08K000004	Cerium-139	<7.24E-06	μCi/mL
S08K000004	Barium-140	<4.25E-05	μCi/mL
S08K000004	Lanthanum-140	<3.15E-06	μCi/mL
S08K000004	Cerium-141	<1.06E-05	μCi/mL
S08K000004	Cerium-144	<4.46E-05	μCi/mL
S08K000004	Cerium/Praseodymium-144	<8.90E-05	μCi/mL
S08K000004	Europium-152	<1.66E-05	μCi/mL
S08K000004	Europium-154	<1.09E-05	μCi/mL
S08K000004	Europium-155	<1.95E-05	μCi/mL
S08K000004	Hafnium-181	<1.74E-05	μCi/mL



LABCORE Number	Analyte	Result	Unit
S08K000004	Tantalum-182	<1.13E-05	μCi/mL
S08K000004	Gold-198	<1.33E-05	μCi/mL
S08K000004	Mercury-203	<1.12E-05	μCi/mL
S08K000004	Bismuth-207	<4.45E-06	μCi/mL
S08K000004	Thallium-208	<9.46E-06	μCi/mL
S08K000004	Lead-210	<1.09E-04	μCi/mL
S08K000004	Bismuth-212	<2.62E-05	μCi/mL
S08K000004	Lead-212	<1.88E-05	μCi/mL
S08K000004	Bismuth-214	<1.69E-05	μCi/mL
S08K000004	Lead-214	<2.73E-05	μCi/mL
S08K000004	Radium-224	<2.14E-04	μCi/mL
S08K000004	Radium-226	<2.20E-04	μCi/mL
S08K000004	Actinium-228	<1.30E-05	μCi/mL
S08K000004	Thorium-228	<3.20E-04	μCi/mL
S08K000004	Thorium-229	<3.69E-05	μCi/mL
S08K000004	Uranium-232	<1.93E-03	μCi/mL
S08K000004	Protactinium-233	<2.37E-05	μCi/mL
S08K000004	Uranium/Thorium-233	<7.63E-03	μCi/mL
S08K000004	Protactinium-234	<5.22E-04	μCi/mL
S08K000004	Thorium-234	<9.76E-05	μCi/mL
S08K000004	Uranium-235	<1.32E-05	μCi/mL
S08K000004	Neptunium-237	<3.30E-05	μCi/mL
S08K000004	Uranium-237	<1.66E-05	μCi/mL
S08K000004	Neptunium-238	<1.17E-05	μCi/mL
S08K000004	Neptunium-239	<1.90E-05	μCi/mL
S08K000004	Plutonium-239	<0.0778	μCi/mL
S08K000004	Americium-241	<1.05E-05	μCi/mL
S08K000004	Americium-243	<6.68E-06	μCi/mL
S08K000004	Silver	<0.0100	μg/mL
S08K000004	Aluminum	1.71	μg/mL
S08K000004	Arsenic	<0.120	μg/mL
S08K000004	Boron	<0.0600	μg/mL
S08K000004	Barium	0.0639	μg/mL
S08K000004	Beryllium	<2.00E-03	μg/mL
S08K000004	Bismuth	<0.400	μg/mL
S08K000004	Calcium	111	μg/mL
S08K000004	Cadmium	<0.0100	μg/mL
S08K000004	Cerium	<0.100	μg/mL
S08K000004	Cobalt	<0.0200	μg/mL
S08K000004	Chromium	0.0999	μg/mL
S08K000004	Copper	<0.0100	μg/mL
S08K000004	Europium	<0.0200	μg/mL
S08K000004	Iron	<0.0100	μg/mL
S08K000004	Potassium	28.6	μg/mL
S08K000004	Lanthanum	<0.0200	μg/mL
S08K000004	Lithium	0.0345	μg/mL
S08K000004	Magnesium	<0.100	μg/mL

<b>LABCORE Number</b>	<b>Analyte</b>	<b>Result</b>	<b>Unit</b>
S08K000004	Manganese	<0.0100	µg/mL
S08K000004	Molybdenum	<0.100	µg/mL
S08K000004	Sodium	21.3	µg/mL
S08K000004	Neodymium	<0.0400	µg/mL
S08K000004	Nickel	<0.0400	µg/mL
S08K000004	Niobium	<0.100	µg/mL
S08K000004	Phosphorus	<0.200	µg/mL
S08K000004	Lead	<0.100	µg/mL
S08K000004	Palladium	<0.200	µg/mL
S08K000004	Praseodymium	<0.100	µg/mL
S08K000004	Rubidium	<4.00	µg/mL
S08K000004	Rhodium	<0.400	µg/mL
S08K000004	Ruthenium	<0.200	µg/mL
S08K000004	Sulfur	46.8	µg/mL
S08K000004	Antimony	<0.200	µg/mL
S08K000004	Selenium	<0.200	µg/mL
S08K000004	Silicon	5.61	µg/mL
S08K000004	Samarium	<0.100	µg/mL
S08K000004	Tin	<0.100	µg/mL
S08K000004	Strontium	1.89	µg/mL
S08K000004	Tantalum	<0.100	µg/mL
S08K000004	Tellurium	<0.200	µg/mL
S08K000004	Thorium	<0.200	µg/mL
S08K000004	Titanium	<0.0100	µg/mL
S08K000004	Thallium	<0.200	µg/mL
S08K000004	Uranium	<0.200	µg/mL
S08K000004	Vanadium	<0.0200	µg/mL
S08K000004	Tungsten	<0.200	µg/mL
S08K000004	Yttrium	<0.0100	µg/mL
S08K000004	Zinc	<0.0100	µg/mL
S08K000004	Zirconium	<0.0100	µg/mL
<b>Radionuclides</b>			
S08K000005	Gross alpha	6.44E-07	µCi/mL
S08K000005	Beryllium-7	<2.49E-04	µCi/mL
S08K000005	Sodium-22	<3.57E-06	µCi/mL
S08K000005	Sodium-24	<3.45E-06	µCi/mL
S08K000005	Aluminum-28	<9.33E-05	µCi/mL
S08K000005	Chlorine-38	<2.12E-05	µCi/mL
S08K000005	Potassium-40	<6.51E-05	µCi/mL
S08K000005	Argon-41	<5.64E-06	µCi/mL
S08K000005	Scandium-46	<4.01E-06	µCi/mL
S08K000005	Chromium-51	<9.68E-05	µCi/mL
S08K000005	Manganese-54	<3.13E-06	µCi/mL
S08K000005	Cobalt-56	<3.23E-06	µCi/mL
S08K000005	Manganese-56	<4.48E-06	µCi/mL
S08K000005	Cobalt-57	<5.59E-06	µCi/mL
S08K000005	Cobalt-58	<3.19E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000005	Iron-59	<6.35E-06	μCi/mL
S08K000005	Cobalt-60	<3.04E-06	μCi/mL
S08K000005	Copper-64	<7.33E-04	μCi/mL
S08K000005	Zinc-65	<7.82E-06	μCi/mL
S08K000005	Copper-66	<7.48E-04	μCi/mL
S08K000005	Selenium-75	<1.44E-05	μCi/mL
S08K000005	Selenium-79	<1.16E-03	μCi/mL
S08K000005	Krypton-85	<2.82E-03	μCi/mL
S08K000005	Strontium-85	<1.22E-05	μCi/mL
S08K000005	Yttrium-88	<2.17E-06	μCi/mL
S08K000005	Yttrium-91	<1.26E-03	μCi/mL
S08K000005	Niobium-94	<3.24E-06	μCi/mL
S08K000005	Zirconium/Niobium-95	<6.69E-06	μCi/mL
S08K000005	Ruthenium-103	<1.40E-05	μCi/mL
S08K000005	Ruthenium/Rhodium-106	<1.56E-04	μCi/mL
S08K000005	Silver-108	<3.37E-06	μCi/mL
S08K000005	Cadmium-109	<1.11E-04	μCi/mL
S08K000005	Silver-110	<7.80E-05	μCi/mL
S08K000005	Tin-113	<1.79E-05	μCi/mL
S08K000005	Tellurium-123	<6.84E-06	μCi/mL
S08K000005	Antimony-124	<7.83E-06	μCi/mL
S08K000005	Antimony-125	<4.87E-05	μCi/mL
S08K000005	Tellurium-125	<1.58E-05	μCi/mL
S08K000005	Antimony-126	<3.02E-06	μCi/mL
S08K000005	Tin-126	<8.95E-06	μCi/mL
S08K000005	Iodine-129	<9.05E-05	μCi/mL
S08K000005	Iodine-131	<1.32E-05	μCi/mL
S08K000005	Xenon-131	<2.98E-04	μCi/mL
S08K000005	Barium-133	<1.74E-05	μCi/mL
S08K000005	Cesium-134	<7.98E-06	μCi/mL
S08K000005	Cesium-136	<3.24E-06	μCi/mL
S08K000005	Cesium-137	9.42E-03	μCi/mL
S08K000005	Cesium-138	<1.43E-05	μCi/mL
S08K000005	Cerium-139	<7.31E-06	μCi/mL
S08K000005	Barium-140	<4.23E-05	μCi/mL
S08K000005	Lanthanum-140	<3.26E-06	μCi/mL
S08K000005	Cerium-141	<1.07E-05	μCi/mL
S08K000005	Cerium-144	<4.47E-05	μCi/mL
S08K000005	Cerium/Praseodymium-144	<8.94E-05	μCi/mL
S08K000005	Europium-152	<1.48E-05	μCi/mL
S08K000005	Europium-154	<1.04E-05	μCi/mL
S08K000005	Europium-155	<1.97E-05	μCi/mL
S08K000005	Hafnium-181	<1.76E-05	μCi/mL
S08K000005	Tantalum-182	<1.14E-05	μCi/mL
S08K000005	Gold-198	<1.34E-05	μCi/mL
S08K000005	Mercury-203	<1.14E-05	μCi/mL
S08K000005	Bismuth-207	<4.54E-06	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000005	Thallium-208	<9.61E-06	μCi/mL
S08K000005	Lead-210	<1.10E-04	μCi/mL
S08K000005	Bismuth-212	<2.62E-05	μCi/mL
S08K000005	Lead-212	<1.89E-05	μCi/mL
S08K000005	Bismuth-214	<1.68E-05	μCi/mL
S08K000005	Lead-214	<2.76E-05	μCi/mL
S08K000005	Radium-224	<2.14E-04	μCi/mL
S08K000005	Radium-226	<2.22E-04	μCi/mL
S08K000005	Actinium-228	<1.21E-05	μCi/mL
S08K000005	Thorium-228	<3.23E-04	μCi/mL
S08K000005	Thorium-229	<3.71E-05	μCi/mL
S08K000005	Uranium-232	<1.94E-03	μCi/mL
S08K000005	Protactinium-233	<2.42E-05	μCi/mL
S08K000005	Uranium/Thorium-233	<7.66E-03	μCi/mL
S08K000005	Protactinium-234	<5.03E-04	μCi/mL
S08K000005	Thorium-234	<9.92E-05	μCi/mL
S08K000005	Uranium-235	<1.33E-05	μCi/mL
S08K000005	Neptunium-237	<3.31E-05	μCi/mL
S08K000005	Uranium-237	<1.67E-05	μCi/mL
S08K000005	Neptunium-238	<1.23E-05	μCi/mL
S08K000005	Neptunium-239	<1.91E-05	μCi/mL
S08K000005	Plutonium-239	<0.0781	μCi/mL
S08K000005	Americium-241	<1.07E-05	μCi/mL
S08K000005	Americium-243	<6.75E-06	μCi/mL
S08K000005	Silver	<0.0100	μg/mL
S08K000005	Aluminum	1.82	μg/mL
S08K000005	Arsenic	<0.120	μg/mL
S08K000005	Boron	<0.0600	μg/mL
S08K000005	Barium	0.0646	μg/mL
S08K000005	Beryllium	<2.00E-03	μg/mL
S08K000005	Bismuth	<0.400	μg/mL
S08K000005	Calcium	110	μg/mL
S08K000005	Cadmium	<0.0100	μg/mL
S08K000005	Cerium	<0.100	μg/mL
S08K000005	Cobalt	<0.0200	μg/mL
S08K000005	Chromium	0.0920	μg/mL
S08K000005	Copper	<0.0100	μg/mL
S08K000005	Europium	<0.0200	μg/mL
S08K000005	Iron	<0.0100	μg/mL
S08K000005	Potassium	29.6	μg/mL
S08K000005	Lanthanum	<0.0200	μg/mL
S08K000005	Lithium	0.0340	μg/mL
S08K000005	Magnesium	<0.100	μg/mL
S08K000005	Manganese	<0.0100	μg/mL
S08K000005	Molybdenum	<0.100	μg/mL
S08K000005	Sodium	20.9	μg/mL
S08K000005	Neodymium	<0.0400	μg/mL

LABCORE Number	Analyte	Result	Unit
S08K000005	Nickel	<0.0400	µg/mL
S08K000005	Niobium	<0.100	µg/mL
S08K000005	Phosphorus	<0.200	µg/mL
S08K000005	Lead	<0.100	µg/mL
S08K000005	Palladium	<0.200	µg/mL
S08K000005	Praseodymium	<0.100	µg/mL
S08K000005	Rubidium	<4.00	µg/mL
S08K000005	Rhodium	<0.400	µg/mL
S08K000005	Ruthenium	<0.200	µg/mL
S08K000005	Sulfur	46.8	µg/mL
S08K000005	Antimony	<0.200	µg/mL
S08K000005	Selenium	<0.200	µg/mL
S08K000005	Silicon	5.51	µg/mL
S08K000005	Samarium	<0.100	µg/mL
S08K000005	Tin	<0.100	µg/mL
S08K000005	Strontium	1.90	µg/mL
S08K000005	Tantalum	<0.100	µg/mL
S08K000005	Tellurium	<0.200	µg/mL
S08K000005	Thorium	<0.200	µg/mL
S08K000005	Titanium	<0.0100	µg/mL
S08K000005	Thallium	<0.200	µg/mL
S08K000005	Uranium	<0.200	µg/mL
S08K000005	Vanadium	<0.0200	µg/mL
S08K000005	Tungsten	<0.200	µg/mL
S08K000005	Yttrium	<0.0100	µg/mL
S08K000005	Zinc	<0.0100	µg/mL
S08K000005	Zirconium	<0.0100	µg/mL
S08K000006	Gross alpha	5.45E-07	µCi/mL
S08K000006	Beryllium-7	<1.51E-04	µCi/mL
S08K000006	Sodium-22	<3.60E-06	µCi/mL
S08K000006	Sodium-24	<3.42E-06	µCi/mL
S08K000006	Aluminum-28	<9.17E-05	µCi/mL
S08K000006	Chlorine-38	<2.46E-05	µCi/mL
S08K000006	Potassium-40	<6.62E-05	µCi/mL
S08K000006	Argon-41	<5.41E-06	µCi/mL
S08K000006	Scandium-46	<4.16E-06	µCi/mL
S08K000006	Chromium-51	<9.66E-05	µCi/mL
S08K000006	Manganese-54	<3.36E-06	µCi/mL
S08K000006	Cobalt-56	<3.47E-06	µCi/mL
S08K000006	Manganese-56	<4.81E-06	µCi/mL
S08K000006	Cobalt-57	<5.55E-06	µCi/mL
S08K000006	Cobalt-58	<3.32E-06	µCi/mL
S08K000006	Iron-59	<6.82E-06	µCi/mL
S08K000006	Cobalt-60	<3.28E-06	µCi/mL
S08K000006	Copper-64	<8.63E-04	µCi/mL
S08K000006	Zinc-65	<7.84E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000006	Copper-66	<8.17E-04	μCi/mL
S08K000006	Selenium-75	<1.45E-05	μCi/mL
S08K000006	Selenium-79	<1.16E-03	μCi/mL
S08K000006	Krypton-85	<2.86E-03	μCi/mL
S08K000006	Strontium-85	<1.24E-05	μCi/mL
S08K000006	Yttrium-88	<1.80E-06	μCi/mL
S08K000006	Yttrium-91	<1.28E-03	μCi/mL
S08K000006	Niobium-94	<3.51E-06	μCi/mL
S08K000006	Zirconium/Niobium-95	<6.52E-06	μCi/mL
S08K000006	Ruthenium-103	<1.40E-05	μCi/mL
S08K000006	Ruthenium/Rhodium-106	<1.58E-04	μCi/mL
S08K000006	Silver-108	<3.46E-06	μCi/mL
S08K000006	Cadmium-109	<1.11E-04	μCi/mL
S08K000006	Silver-110	<7.84E-05	μCi/mL
S08K000006	Tin-113	<1.81E-05	μCi/mL
S08K000006	Tellurium-123	<6.79E-06	μCi/mL
S08K000006	Antimony-124	<7.94E-06	μCi/mL
S08K000006	Antimony-125	<4.89E-05	μCi/mL
S08K000006	Tellurium-125	<1.59E-05	μCi/mL
S08K000006	Antimony-126	<3.04E-06	μCi/mL
S08K000006	Tin-126	<9.02E-06	μCi/mL
S08K000006	Iodine-129	<9.12E-05	μCi/mL
S08K000006	Iodine-131	<1.33E-05	μCi/mL
S08K000006	Xenon-131	<2.98E-04	μCi/mL
S08K000006	Barium-133	<1.74E-05	μCi/mL
S08K000006	Cesium-134	<8.19E-06	μCi/mL
S08K000006	Cesium-136	<3.41E-06	μCi/mL
S08K000006	Cesium-137	9.51E-03	μCi/mL
S08K000006	Cesium-138	<1.36E-05	μCi/mL
S08K000006	Cerium-139	<7.33E-06	μCi/mL
S08K000006	Barium-140	<4.26E-05	μCi/mL
S08K000006	Lanthanum-140	<3.30E-06	μCi/mL
S08K000006	Cerium-141	<1.07E-05	μCi/mL
S08K000006	Cerium-144	<4.49E-05	μCi/mL
S08K000006	Cerium/Praseodymium-144	<8.97E-05	μCi/mL
S08K000006	Europium-152	<1.80E-05	μCi/mL
S08K000006	Europium-154	<1.04E-05	μCi/mL
S08K000006	Europium-155	<1.97E-05	μCi/mL
S08K000006	Hafnium-181	<1.78E-05	μCi/mL
S08K000006	Tantalum-182	<1.19E-05	μCi/mL
S08K000006	Gold-198	<1.35E-05	μCi/mL
S08K000006	Mercury-203	<1.14E-05	μCi/mL
S08K000006	Bismuth-207	<4.81E-06	μCi/mL
S08K000006	Thallium-208	<9.53E-06	μCi/mL
S08K000006	Lead-210	<1.11E-04	μCi/mL
S08K000006	Bismuth-212	<2.78E-05	μCi/mL
S08K000006	Lead-212	<1.91E-05	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000006	Bismuth-214	<1.73E-05	µCi/mL
S08K000006	Lead-214	<2.79E-05	µCi/mL
S08K000006	Radium-224	<2.18E-04	µCi/mL
S08K000006	Radium-226	<2.22E-04	µCi/mL
S08K000006	Actinium-228	<1.34E-05	µCi/mL
S08K000006	Thorium-228	<3.22E-04	µCi/mL
S08K000006	Thorium-229	<3.73E-05	µCi/mL
S08K000006	Uranium-232	<1.96E-03	µCi/mL
S08K000006	Protactinium-233	<2.42E-05	µCi/mL
S08K000006	Uranium/Thorium-233	<7.74E-03	µCi/mL
S08K000006	Protactinium-234	<5.66E-04	µCi/mL
S08K000006	Thorium-234	<9.96E-05	µCi/mL
S08K000006	Uranium-235	<1.33E-05	µCi/mL
S08K000006	Neptunium-237	<3.33E-05	µCi/mL
S08K000006	Uranium-237	<1.67E-05	µCi/mL
S08K000006	Neptunium-238	<1.21E-05	µCi/mL
S08K000006	Neptunium-239	<1.91E-05	µCi/mL
S08K000006	Plutonium-239	<0.0782	µCi/mL
S08K000006	Americium-241	<1.08E-05	µCi/mL
S08K000006	Americium-243	<6.82E-06	µCi/mL
S08K000006	Silver	<0.0100	µg/mL
S08K000006	Aluminum	1.72	µg/mL
S08K000006	Arsenic	<0.120	µg/mL
S08K000006	Boron	<0.0600	µg/mL
S08K000006	Barium	0.0639	µg/mL
S08K000006	Beryllium	<2.00E-03	µg/mL
S08K000006	Bismuth	<0.400	µg/mL
S08K000006	Calcium	106	µg/mL
S08K000006	Cadmium	<0.0100	µg/mL
S08K000006	Cerium	<0.100	µg/mL
S08K000006	Cobalt	<0.0200	µg/mL
S08K000006	Chromium	0.102	µg/mL
S08K000006	Copper	<0.0100	µg/mL
S08K000006	Europium	<0.0200	µg/mL
S08K000006	Iron	<0.0100	µg/mL
S08K000006	Potassium	30.4	µg/mL
S08K000006	Lanthanum	<0.0200	µg/mL
S08K000006	Lithium	0.0354	µg/mL
S08K000006	Magnesium	<0.100	µg/mL
S08K000006	Manganese	<0.0100	µg/mL
S08K000006	Molybdenum	<0.100	µg/mL
S08K000006	Sodium	21.1	µg/mL
S08K000006	Neodymium	<0.0400	µg/mL
S08K000006	Nickel	0.0532	µg/mL
S08K000006	Niobium	<0.100	µg/mL
S08K000006	Phosphorus	<0.200	µg/mL
S08K000006	Lead	<0.100	µg/mL

LABCORE Number	Analyte	Result	Unit
S08K000006	Palladium	<0.200	µg/mL
S08K000006	Praseodymium	<0.100	µg/mL
S08K000006	Rubidium	<4.00	µg/mL
S08K000006	Rhodium	<0.400	µg/mL
S08K000006	Ruthenium	<0.200	µg/mL
S08K000006	Sulfur	46.7	µg/mL
S08K000006	Antimony	<0.200	µg/mL
S08K000006	Selenium	<0.200	µg/mL
S08K000006	Silicon	5.50	µg/mL
S08K000006	Samarium	<0.100	µg/mL
S08K000006	Tin	<0.100	µg/mL
S08K000006	Strontium	1.89	µg/mL
S08K000006	Tantalum	<0.100	µg/mL
S08K000006	Tellurium	<0.200	µg/mL
S08K000006	Thorium	<0.200	µg/mL
S08K000006	Titanium	<0.0100	µg/mL
S08K000006	Thallium	<0.200	µg/mL
S08K000006	Uranium	<0.200	µg/mL
S08K000006	Vanadium	<0.0200	µg/mL
S08K000006	Tungsten	<0.200	µg/mL
S08K000006	Yttrium	<0.0100	µg/mL
S08K000006	Zinc	<0.0100	µg/mL
S08K000006	Zirconium	<0.0100	µg/mL
S08K000007	Gross alpha	<5.25E-07	µCi/mL
S08K000007	Beryllium-7	<1.16E-04	µCi/mL
S08K000007	Sodium-22	<3.25E-06	µCi/mL
S08K000007	Sodium-24	<3.14E-06	µCi/mL
S08K000007	Aluminum-28	<1.08E-04	µCi/mL
S08K000007	Chlorine-38	<2.24E-05	µCi/mL
S08K000007	Potassium-40	<6.42E-05	µCi/mL
S08K000007	Argon-41	<5.36E-06	µCi/mL
S08K000007	Scandium-46	<3.92E-06	µCi/mL
S08K000007	Chromium-51	<7.60E-05	µCi/mL
S08K000007	Manganese-54	<3.24E-06	µCi/mL
S08K000007	Cobalt-56	<2.95E-06	µCi/mL
S08K000007	Manganese-56	<4.10E-06	µCi/mL
S08K000007	Cobalt-57	<4.36E-06	µCi/mL
S08K000007	Cobalt-58	<3.13E-06	µCi/mL
S08K000007	Iron-59	<6.03E-06	µCi/mL
S08K000007	Cobalt-60	<3.24E-06	µCi/mL
S08K000007	Copper-64	<7.30E-04	µCi/mL
S08K000007	Zinc-65	<7.52E-06	µCi/mL
S08K000007	Copper-66	<7.50E-04	µCi/mL
S08K000007	Selenium-75	<1.13E-05	µCi/mL
S08K000007	Selenium-79	<9.09E-04	µCi/mL
S08K000007	Krypton-85	<2.24E-03	µCi/mL



LABCORE Number	Analyte	Result	Unit
S08K000007	Strontium-85	<9.69E-06	μCi/mL
S08K000007	Yttrium-88	<2.24E-06	μCi/mL
S08K000007	Yttrium-91	<1.23E-03	μCi/mL
S08K000007	Niobium-94	<3.11E-06	μCi/mL
S08K000007	Zirconium/Niobium-95	<6.14E-06	μCi/mL
S08K000007	Ruthenium-103	<1.10E-05	μCi/mL
S08K000007	Ruthenium/Rhodium-106	<1.22E-04	μCi/mL
S08K000007	Silver-108	<3.35E-06	μCi/mL
S08K000007	Cadmium-109	<8.63E-05	μCi/mL
S08K000007	Silver-110	<6.02E-05	μCi/mL
S08K000007	Tin-113	<1.40E-05	μCi/mL
S08K000007	Tellurium-123	<5.32E-06	μCi/mL
S08K000007	Antimony-124	<6.28E-06	μCi/mL
S08K000007	Antimony-125	<3.80E-05	μCi/mL
S08K000007	Tellurium-125	<1.24E-05	μCi/mL
S08K000007	Antimony-126	<2.76E-06	μCi/mL
S08K000007	Tin-126	<7.00E-06	μCi/mL
S08K000007	Iodine-129	<7.09E-05	μCi/mL
S08K000007	Iodine-131	<1.02E-05	μCi/mL
S08K000007	Xenon-131	<2.34E-04	μCi/mL
S08K000007	Barium-133	<1.36E-05	μCi/mL
S08K000007	Cesium-134	<6.53E-06	μCi/mL
S08K000007	Cesium-136	<3.04E-06	μCi/mL
S08K000007	Cesium-137	5.61E-03	μCi/mL
S08K000007	Cesium-138	<1.32E-05	μCi/mL
S08K000007	Cerium-139	<5.73E-06	μCi/mL
S08K000007	Barium-140	<3.35E-05	μCi/mL
S08K000007	Lanthanum-140	<3.07E-06	μCi/mL
S08K000007	Cerium-141	<8.38E-06	μCi/mL
S08K000007	Cerium-144	<3.52E-05	μCi/mL
S08K000007	Cerium/Praseodymium-144	<7.03E-05	μCi/mL
S08K000007	Europium-152	<1.48E-05	μCi/mL
S08K000007	Europium-154	<9.43E-06	μCi/mL
S08K000007	Europium-155	<1.54E-05	μCi/mL
S08K000007	Hafnium-181	<1.37E-05	μCi/mL
S08K000007	Tantalum-182	<1.12E-05	μCi/mL
S08K000007	Gold-198	<1.05E-05	μCi/mL
S08K000007	Mercury-203	<8.88E-06	μCi/mL
S08K000007	Bismuth-207	<4.37E-06	μCi/mL
S08K000007	Thallium-208	<7.59E-06	μCi/mL
S08K000007	Lead-210	<8.73E-05	μCi/mL
S08K000007	Bismuth-212	<2.61E-05	μCi/mL
S08K000007	Lead-212	<1.49E-05	μCi/mL
S08K000007	Bismuth-214	<1.37E-05	μCi/mL
S08K000007	Lead-214	<2.17E-05	μCi/mL
S08K000007	Radium-224	<1.69E-04	μCi/mL
S08K000007	Radium-226	<1.75E-04	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000007	Actinium-228	<1.25E-05	μCi/mL
S08K000007	Thorium-228	<2.51E-04	μCi/mL
S08K000007	Thorium-229	<2.92E-05	μCi/mL
S08K000007	Uranium-232	<1.54E-03	μCi/mL
S08K000007	Protactinium-233	<1.90E-05	μCi/mL
S08K000007	Uranium/Thorium-233	<6.03E-03	μCi/mL
S08K000007	Protactinium-234	<4.81E-04	μCi/mL
S08K000007	Thorium-234	<7.85E-05	μCi/mL
S08K000007	Uranium-235	<1.05E-05	μCi/mL
S08K000007	Neptunium-237	<2.59E-05	μCi/mL
S08K000007	Uranium-237	<1.31E-05	μCi/mL
S08K000007	Neptunium-238	<1.16E-05	μCi/mL
S08K000007	Neptunium-239	<1.49E-05	μCi/mL
S08K000007	Plutonium-239	<0.0619	μCi/mL
S08K000007	Americium-241	<8.49E-06	μCi/mL
S08K000007	Americium-243	<5.35E-06	μCi/mL
S08K000007	Silver	<0.0100	μg/mL
S08K000007	Aluminum	1.81	μg/mL
S08K000007	Arsenic	<0.120	μg/mL
S08K000007	Boron	0.0689	μg/mL
S08K000007	Barium	0.0403	μg/mL
S08K000007	Beryllium	<2.00E-03	μg/mL
S08K000007	Bismuth	<0.400	μg/mL
S08K000007	Calcium	84.7	μg/mL
S08K000007	Cadmium	<0.0100	μg/mL
S08K000007	Cerium	<0.100	μg/mL
S08K000007	Cobalt	<0.0200	μg/mL
S08K000007	Chromium	0.0979	μg/mL
S08K000007	Copper	<0.0100	μg/mL
S08K000007	Europium	<0.0200	μg/mL
S08K000007	Iron	<0.0100	μg/mL
S08K000007	Potassium	26.8	μg/mL
S08K000007	Lanthanum	<0.0200	μg/mL
S08K000007	Lithium	0.0349	μg/mL
S08K000007	Magnesium	<0.100	μg/mL
S08K000007	Manganese	<0.0100	μg/mL
S08K000007	Molybdenum	<0.100	μg/mL
S08K000007	Sodium	27.7	μg/mL
S08K000007	Neodymium	<0.0400	μg/mL
S08K000007	Nickel	<0.0400	μg/mL
S08K000007	Niobium	<0.100	μg/mL
S08K000007	Phosphorus	<0.200	μg/mL
S08K000007	Lead	<0.100	μg/mL
S08K000007	Palladium	<0.200	μg/mL
S08K000007	Praseodymium	<0.100	μg/mL
S08K000007	Rubidium	<4.00	μg/mL
S08K000007	Rhodium	<0.400	μg/mL

LABCORE Number	Analyte	Result	Unit
S08K000007	Ruthenium	<0.200	µg/mL
S08K000007	Sulfur	47.4	µg/mL
S08K000007	Antimony	<0.200	µg/mL
S08K000007	Selenium	<0.200	µg/mL
S08K000007	Silicon	8.42	µg/mL
S08K000007	Samarium	<0.100	µg/mL
S08K000007	Tin	<0.100	µg/mL
S08K000007	Strontium	1.61	µg/mL
S08K000007	Tantalum	<0.100	µg/mL
S08K000007	Tellurium	<0.200	µg/mL
S08K000007	Thorium	<0.200	µg/mL
S08K000007	Titanium	<0.0100	µg/mL
S08K000007	Thallium	<0.200	µg/mL
S08K000007	Uranium	<0.200	µg/mL
S08K000007	Vanadium	<0.0200	µg/mL
S08K000007	Tungsten	<0.200	µg/mL
S08K000007	Yttrium	<0.0100	µg/mL
S08K000007	Zinc	<0.0100	µg/mL
S08K000007	Zirconium	<0.0100	µg/mL
S08K000008	Gross alpha	1.21E-06	µCi/mL
S08K000008	Beryllium-7	<8.11E-05	µCi/mL
S08K000008	Sodium-22	<1.55E-06	µCi/mL
S08K000008	Sodium-24	<1.36E-06	µCi/mL
S08K000008	Aluminum-28	<2.98E-05	µCi/mL
S08K000008	Chlorine-38	<7.97E-06	µCi/mL
S08K000008	Potassium-40	<2.20E-05	µCi/mL
S08K000008	Argon-41	<2.30E-06	µCi/mL
S08K000008	Scandium-46	<1.65E-06	µCi/mL
S08K000008	Chromium-51	<5.17E-05	µCi/mL
S08K000008	Manganese-54	<1.53E-06	µCi/mL
S08K000008	Cobalt-56	<1.55E-06	µCi/mL
S08K000008	Manganese-56	<2.16E-06	µCi/mL
S08K000008	Cobalt-57	<2.82E-06	µCi/mL
S08K000008	Cobalt-58	<1.53E-06	µCi/mL
S08K000008	Iron-59	<2.90E-06	µCi/mL
S08K000008	Cobalt-60	<1.40E-06	µCi/mL
S08K000008	Copper-64	<3.09E-04	µCi/mL
S08K000008	Zinc-65	<3.30E-06	µCi/mL
S08K000008	Copper-66	<3.48E-04	µCi/mL
S08K000008	Selenium-75	<7.65E-06	µCi/mL
S08K000008	Selenium-79	<5.81E-04	µCi/mL
S08K000008	Krypton-85	<1.53E-03	µCi/mL
S08K000008	Strontium-85	<6.63E-06	µCi/mL
S08K000008	Yttrium-88	<7.10E-07	µCi/mL
S08K000008	Yttrium-91	<5.34E-04	µCi/mL
S08K000008	Niobium-94	<1.52E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000008	Zirconium/Niobium-95	<3.02E-06	μCi/mL
S08K000008	Ruthenium-103	<7.54E-06	μCi/mL
S08K000008	Ruthenium/Rhodium-106	<8.19E-05	μCi/mL
S08K000008	Silver-108	<1.64E-06	μCi/mL
S08K000008	Cadmium-109	<5.52E-05	μCi/mL
S08K000008	Silver-110	<4.25E-05	μCi/mL
S08K000008	Tin-113	<9.64E-06	μCi/mL
S08K000008	Tellurium-123	<3.54E-06	μCi/mL
S08K000008	Antimony-124	<4.13E-06	μCi/mL
S08K000008	Antimony-125	<2.63E-05	μCi/mL
S08K000008	Tellurium-125	<1.32E-05	μCi/mL
S08K000008	Antimony-126	<1.45E-06	μCi/mL
S08K000008	Tin-126	<4.47E-06	μCi/mL
S08K000008	Iodine-129	<5.30E-05	μCi/mL
S08K000008	Iodine-131	<7.05E-06	μCi/mL
S08K000008	Xenon-131	<1.55E-04	μCi/mL
S08K000008	Barium-133	<9.31E-06	μCi/mL
S08K000008	Cesium-134	<4.16E-06	μCi/mL
S08K000008	Cesium-136	<1.49E-06	μCi/mL
S08K000008	Cesium-137	8.83E-03	μCi/mL
S08K000008	Cesium-138	<5.44E-06	μCi/mL
S08K000008	Cerium-139	<3.81E-06	μCi/mL
S08K000008	Barium-140	<2.26E-05	μCi/mL
S08K000008	Lanthanum-140	<1.13E-06	μCi/mL
S08K000008	Cerium-141	<5.49E-06	μCi/mL
S08K000008	Cerium-144	<2.30E-05	μCi/mL
S08K000008	Cerium/Praseodymium-144	<4.59E-05	μCi/mL
S08K000008	Europium-152	<6.49E-06	μCi/mL
S08K000008	Europium-154	<4.51E-06	μCi/mL
S08K000008	Europium-155	<9.93E-06	μCi/mL
S08K000008	Hafnium-181	<9.49E-06	μCi/mL
S08K000008	Tantalum-182	<4.75E-06	μCi/mL
S08K000008	Gold-198	<7.19E-06	μCi/mL
S08K000008	Mercury-203	<6.06E-06	μCi/mL
S08K000008	Bismuth-207	<2.13E-06	μCi/mL
S08K000008	Thallium-208	<4.98E-06	μCi/mL
S08K000008	Lead-210	<5.95E-05	μCi/mL
S08K000008	Bismuth-212	<1.25E-05	μCi/mL
S08K000008	Lead-212	<1.01E-05	μCi/mL
S08K000008	Bismuth-214	<8.76E-06	μCi/mL
S08K000008	Lead-214	<1.48E-05	μCi/mL
S08K000008	Radium-224	<1.15E-04	μCi/mL
S08K000008	Radium-226	<1.17E-04	μCi/mL
S08K000008	Actinium-228	<5.72E-06	μCi/mL
S08K000008	Thorium-228	<1.60E-04	μCi/mL
S08K000008	Thorium-229	<1.87E-05	μCi/mL
S08K000008	Uranium-232	<9.88E-04	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000008	Protactinium-233	<1.29E-05	μCi/mL
S08K000008	Uranium/Thorium-233	<4.11E-03	μCi/mL
S08K000008	Protactinium-234	<2.34E-04	μCi/mL
S08K000008	Thorium-234	<5.02E-05	μCi/mL
S08K000008	Uranium-235	<7.05E-06	μCi/mL
S08K000008	Neptunium-237	<1.65E-05	μCi/mL
S08K000008	Uranium-237	<8.43E-06	μCi/mL
S08K000008	Neptunium-238	<5.75E-06	μCi/mL
S08K000008	Neptunium-239	<9.66E-06	μCi/mL
S08K000008	Plutonium-239	<0.0400	μCi/mL
S08K000008	Americium-241	<5.42E-06	μCi/mL
S08K000008	Americium-243	<3.35E-06	μCi/mL
S08K000008	Silver	<0.0100	μg/mL
S08K000008	Aluminum	1.88	μg/mL
S08K000008	Arsenic	<0.120	μg/mL
S08K000008	Boron	<0.0600	μg/mL
S08K000008	Barium	0.0680	μg/mL
S08K000008	Beryllium	<2.00E-03	μg/mL
S08K000008	Bismuth	<0.400	μg/mL
S08K000008	Calcium	120	μg/mL
S08K000008	Cadmium	<0.0100	μg/mL
S08K000008	Cerium	<0.100	μg/mL
S08K000008	Cobalt	<0.0200	μg/mL
S08K000008	Chromium	0.0857	μg/mL
S08K000008	Copper	<0.0100	μg/mL
S08K000008	Europium	<0.0200	μg/mL
S08K000008	Iron	<0.0100	μg/mL
S08K000008	Potassium	34.0	μg/mL
S08K000008	Lanthanum	<0.0200	μg/mL
S08K000008	Lithium	0.0396	μg/mL
S08K000008	Magnesium	0.174	μg/mL
S08K000008	Manganese	<0.0100	μg/mL
S08K000008	Molybdenum	<0.100	μg/mL
S08K000008	Sodium	22.2	μg/mL
S08K000008	Neodymium	<0.0400	μg/mL
S08K000008	Nickel	<0.0400	μg/mL
S08K000008	Niobium	<0.100	μg/mL
S08K000008	Phosphorus	<0.200	μg/mL
S08K000008	Lead	<0.100	μg/mL
S08K000008	Palladium	<0.200	μg/mL
S08K000008	Praseodymium	<0.100	μg/mL
S08K000008	Rubidium	<4.00	μg/mL
S08K000008	Rhodium	<0.400	μg/mL
S08K000008	Ruthenium	<0.200	μg/mL
S08K000008	Sulfur	46.4	μg/mL
S08K000008	Antimony	<0.200	μg/mL
S08K000008	Selenium	<0.200	μg/mL

LABCORE Number	Analyte	Result	Unit
S08K000008	Silicon	6.11	µg/mL
S08K000008	Samarium	<0.100	µg/mL
S08K000008	Tin	<0.100	µg/mL
S08K000008	Strontium	2.02	µg/mL
S08K000008	Tantalum	<0.100	µg/mL
S08K000008	Tellurium	<0.200	µg/mL
S08K000008	Thorium	<0.200	µg/mL
S08K000008	Titanium	<0.0100	µg/mL
S08K000008	Thallium	<0.200	µg/mL
S08K000008	Uranium	<0.200	µg/mL
S08K000008	Vanadium	<0.0200	µg/mL
S08K000008	Tungsten	<0.200	µg/mL
S08K000008	Yttrium	<0.0100	µg/mL
S08K000008	Zinc	<0.0100	µg/mL
S08K000008	Zirconium	<0.0100	µg/mL
S08K000009	Gross alpha	1.09E-06	µCi/mL
S08K000009	Beryllium-7	<3.97E-05	µCi/mL
S08K000009	Sodium-22	<5.94E-07	µCi/mL
S08K000009	Sodium-24	<5.29E-07	µCi/mL
S08K000009	Aluminum-28	<1.86E-05	µCi/mL
S08K000009	Chlorine-38	<3.92E-06	µCi/mL
S08K000009	Potassium-40	<1.39E-05	µCi/mL
S08K000009	Argon-41	<9.55E-07	µCi/mL
S08K000009	Scandium-46	<7.05E-07	µCi/mL
S08K000009	Chromium-51	<2.46E-05	µCi/mL
S08K000009	Manganese-54	<6.34E-07	µCi/mL
S08K000009	Cobalt-56	<6.21E-07	µCi/mL
S08K000009	Manganese-56	<8.69E-07	µCi/mL
S08K000009	Cobalt-57	<1.78E-06	µCi/mL
S08K000009	Cobalt-58	<6.46E-07	µCi/mL
S08K000009	Iron-59	<1.13E-06	µCi/mL
S08K000009	Cobalt-60	<5.35E-07	µCi/mL
S08K000009	Copper-64	<1.10E-04	µCi/mL
S08K000009	Zinc-65	<1.40E-06	µCi/mL
S08K000009	Copper-66	<1.32E-04	µCi/mL
S08K000009	Selenium-75	<3.61E-06	µCi/mL
S08K000009	Selenium-79	<4.30E-04	µCi/mL
S08K000009	Krypton-85	<7.25E-04	µCi/mL
S08K000009	Strontium-85	<3.14E-06	µCi/mL
S08K000009	Yttrium-88	<4.24E-07	µCi/mL
S08K000009	Yttrium-91	<2.13E-04	µCi/mL
S08K000009	Niobium-94	<6.14E-07	µCi/mL
S08K000009	Zirconium/Niobium-95	<1.28E-06	µCi/mL
S08K000009	Ruthenium-103	<3.76E-06	µCi/mL
S08K000009	Ruthenium/Rhodium-106	<4.92E-05	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000009	Silver-108	<7.10E-07	μCi/mL
S08K000009	Cadmium-109	<4.66E-05	μCi/mL
S08K000009	Silver-110	<2.23E-05	μCi/mL
S08K000009	Tin-113	<5.16E-06	μCi/mL
S08K000009	Tellurium-123	<1.79E-06	μCi/mL
S08K000009	Antimony-124	<2.45E-06	μCi/mL
S08K000009	Antimony-125	<1.31E-05	μCi/mL
S08K000009	Tellurium-125	<0.0195	μCi/mL
S08K000009	Antimony-126	<6.33E-07	μCi/mL
S08K000009	Tin-126	<3.83E-06	μCi/mL
S08K000009	Iodine-129	<1.49E-03	μCi/mL
S08K000009	Iodine-131	<3.59E-06	μCi/mL
S08K000009	Xenon-131	<7.77E-05	μCi/mL
S08K000009	Barium-133	<4.72E-06	μCi/mL
S08K000009	Cesium-134	<2.47E-06	μCi/mL
S08K000009	Cesium-136	<6.29E-07	μCi/mL
S08K000009	Cesium-137	7.35E-03	μCi/mL
S08K000009	Cesium-138	<2.24E-06	μCi/mL
S08K000009	Cerium-139	<1.90E-06	μCi/mL
S08K000009	Barium-140	<1.09E-05	μCi/mL
S08K000009	Lanthanum-140	<4.79E-07	μCi/mL
S08K000009	Cerium-141	<3.07E-06	μCi/mL
S08K000009	Cerium-144	<1.34E-05	μCi/mL
S08K000009	Cerium/Praseodymium-144	<2.68E-05	μCi/mL
S08K000009	Europium-152	<2.67E-06	μCi/mL
S08K000009	Europium-154	<1.73E-06	μCi/mL
S08K000009	Europium-155	<6.21E-06	μCi/mL
S08K000009	Hafnium-181	<4.69E-06	μCi/mL
S08K000009	Tantalum-182	<2.02E-06	μCi/mL
S08K000009	Gold-198	<3.82E-06	μCi/mL
S08K000009	Mercury-203	<2.87E-06	μCi/mL
S08K000009	Bismuth-207	<7.92E-07	μCi/mL
S08K000009	Thallium-208	<2.83E-06	μCi/mL
S08K000009	Lead-210	<7.26E-04	μCi/mL
S08K000009	Bismuth-212	<5.46E-06	μCi/mL
S08K000009	Lead-212	<4.69E-06	μCi/mL
S08K000009	Bismuth-214	<5.21E-06	μCi/mL
S08K000009	Lead-214	<7.54E-06	μCi/mL
S08K000009	Radium-224	<5.33E-05	μCi/mL
S08K000009	Radium-226	<5.60E-05	μCi/mL
S08K000009	Actinium-228	<2.56E-06	μCi/mL
S08K000009	Thorium-228	<1.50E-04	μCi/mL
S08K000009	Thorium-229	<1.27E-05	μCi/mL
S08K000009	Uranium-232	<3.61E-03	μCi/mL
S08K000009	Protactinium-233	<6.15E-06	μCi/mL
S08K000009	Uranium/Thorium-233	<1.91E-03	μCi/mL
S08K000009	Protactinium-234	<9.19E-05	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000009	Thorium-234	<1.23E-04	µCi/mL
S08K000009	Uranium-235	<3.37E-06	µCi/mL
S08K000009	Neptunium-237	<1.46E-05	µCi/mL
S08K000009	Uranium-237	<5.61E-06	µCi/mL
S08K000009	Neptunium-238	<2.18E-06	µCi/mL
S08K000009	Neptunium-239	<5.98E-06	µCi/mL
S08K000009	Plutonium-239	<0.0239	µCi/mL
S08K000009	Americium-241	<1.72E-05	µCi/mL
S08K000009	Americium-243	<4.34E-06	µCi/mL
S08K000009	Silver	<0.0100	µg/mL
S08K000009	Aluminum	1.79	µg/mL
S08K000009	Arsenic	<0.120	µg/mL
S08K000009	Boron	<0.0600	µg/mL
S08K000009	Barium	0.0506	µg/mL
S08K000009	Beryllium	<2.00E-03	µg/mL
S08K000009	Bismuth	<0.400	µg/mL
S08K000009	Calcium	72.6	µg/mL
S08K000009	Cadmium	<0.0100	µg/mL
S08K000009	Cerium	<0.100	µg/mL
S08K000009	Cobalt	<0.0200	µg/mL
S08K000009	Chromium	0.103	µg/mL
S08K000009	Copper	<0.0100	µg/mL
S08K000009	Europium	<0.0200	µg/mL
S08K000009	Iron	0.0281	µg/mL
S08K000009	Potassium	29.2	µg/mL
S08K000009	Lanthanum	<0.0200	µg/mL
S08K000009	Lithium	0.0352	µg/mL
S08K000009	Magnesium	<0.100	µg/mL
S08K000009	Manganese	<0.0100	µg/mL
S08K000009	Molybdenum	<0.100	µg/mL
S08K000009	Sodium	22.7	µg/mL
S08K000009	Neodymium	<0.0400	µg/mL
S08K000009	Nickel	<0.0400	µg/mL
S08K000009	Niobium	<0.100	µg/mL
S08K000009	Phosphorus	<0.200	µg/mL
S08K000009	Lead	<0.100	µg/mL
S08K000009	Palladium	<0.200	µg/mL
S08K000009	Praseodymium	<0.100	µg/mL
S08K000009	Rubidium	<4.00	µg/mL
S08K000009	Rhodium	<0.400	µg/mL
S08K000009	Ruthenium	<0.200	µg/mL
S08K000009	Sulfur	47.7	µg/mL
S08K000009	Antimony	<0.200	µg/mL
S08K000009	Selenium	<0.200	µg/mL
S08K000009	Silicon	5.99	µg/mL
S08K000009	Samarium	<0.100	µg/mL
S08K000009	Tin	<0.100	µg/mL



LABCORE Number	Analyte	Result	Unit
S08K000009	Strontium	1.79	µg/mL
S08K000009	Tantalum	<0.100	µg/mL
S08K000009	Tellurium	<0.200	µg/mL
S08K000009	Thorium	<0.200	µg/mL
S08K000009	Titanium	<0.0100	µg/mL
S08K000009	Thallium	<0.200	µg/mL
S08K000009	Uranium	<0.200	µg/mL
S08K000009	Vanadium	<0.0200	µg/mL
S08K000009	Tungsten	<0.200	µg/mL
S08K000009	Yttrium	<0.0100	µg/mL
S08K000009	Zinc	<0.0100	µg/mL
S08K000009	Zirconium	<0.0100	µg/mL
S08K000010	Gross alpha	8.67E-07	µCi/mL
S08K000010	Beryllium-7	<1.63E-05	µCi/mL
S08K000010	Sodium-22	<5.56E-07	µCi/mL
S08K000010	Sodium-24	<5.00E-07	µCi/mL
S08K000010	Aluminum-28	<1.72E-05	µCi/mL
S08K000010	Chlorine-38	<3.52E-06	µCi/mL
S08K000010	Potassium-40	<1.37E-05	µCi/mL
S08K000010	Argon-41	<8.59E-07	µCi/mL
S08K000010	Scandium-46	<6.60E-07	µCi/mL
S08K000010	Chromium-51	<1.03E-05	µCi/mL
S08K000010	Manganese-54	<5.13E-07	µCi/mL
S08K000010	Cobalt-56	<4.95E-07	µCi/mL
S08K000010	Manganese-56	<6.87E-07	µCi/mL
S08K000010	Cobalt-57	<7.80E-07	µCi/mL
S08K000010	Cobalt-58	<4.82E-07	µCi/mL
S08K000010	Iron-59	<1.01E-06	µCi/mL
S08K000010	Cobalt-60	<5.40E-07	µCi/mL
S08K000010	Copper-64	<1.14E-04	µCi/mL
S08K000010	Zinc-65	<1.30E-06	µCi/mL
S08K000010	Copper-66	<1.14E-04	µCi/mL
S08K000010	Selenium-75	<1.53E-06	µCi/mL
S08K000010	Selenium-79	<1.84E-04	µCi/mL
S08K000010	Krypton-85	<3.12E-04	µCi/mL
S08K000010	Strontium-85	<1.35E-06	µCi/mL
S08K000010	Yttrium-88	<4.58E-07	µCi/mL
S08K000010	Yttrium-91	<2.09E-04	µCi/mL
S08K000010	Niobium-94	<4.90E-07	µCi/mL
S08K000010	Zirconium/Niobium-95	<9.90E-07	µCi/mL
S08K000010	Ruthenium-103	<1.57E-06	µCi/mL
S08K000010	Ruthenium/Rhodium-106	<2.09E-05	µCi/mL
S08K000010	Silver-108	<5.39E-07	µCi/mL
S08K000010	Cadmium-109	<2.07E-05	µCi/mL
S08K000010	Silver-110	<8.98E-06	µCi/mL
S08K000010	Tin-113	<2.14E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000010	Tellurium-123	<7.75E-07	μCi/mL
S08K000010	Antimony-124	<1.06E-06	μCi/mL
S08K000010	Antimony-125	<5.38E-06	μCi/mL
S08K000010	Tellurium-125	<8.48E-03	μCi/mL
S08K000010	Antimony-126	<4.86E-07	μCi/mL
S08K000010	Tin-126	<1.70E-06	μCi/mL
S08K000010	Iodine-129	<6.39E-04	μCi/mL
S08K000010	Iodine-131	<1.50E-06	μCi/mL
S08K000010	Xenon-131	<3.36E-05	μCi/mL
S08K000010	Barium-133	<1.99E-06	μCi/mL
S08K000010	Cesium-134	<1.11E-06	μCi/mL
S08K000010	Cesium-136	<4.74E-07	μCi/mL
S08K000010	Cesium-137	1.18E-03	μCi/mL
S08K000010	Cesium-138	<2.35E-06	μCi/mL
S08K000010	Cerium-139	<8.22E-07	μCi/mL
S08K000010	Barium-140	<4.64E-06	μCi/mL
S08K000010	Lanthanum-140	<4.80E-07	μCi/mL
S08K000010	Cerium-141	<1.33E-06	μCi/mL
S08K000010	Cerium-144	<5.81E-06	μCi/mL
S08K000010	Cerium/Praseodymium-144	<1.16E-05	μCi/mL
S08K000010	Europium-152	<2.51E-06	μCi/mL
S08K000010	Europium-154	<1.61E-06	μCi/mL
S08K000010	Europium-155	<2.73E-06	μCi/mL
S08K000010	Hafnium-181	<1.94E-06	μCi/mL
S08K000010	Tantalum-182	<1.90E-06	μCi/mL
S08K000010	Gold-198	<1.57E-06	μCi/mL
S08K000010	Mercury-203	<1.22E-06	μCi/mL
S08K000010	Bismuth-207	<7.20E-07	μCi/mL
S08K000010	Thallium-208	<1.24E-06	μCi/mL
S08K000010	Lead-210	<3.11E-04	μCi/mL
S08K000010	Bismuth-212	<4.13E-06	μCi/mL
S08K000010	Lead-212	<2.00E-06	μCi/mL
S08K000010	Bismuth-214	<2.34E-06	μCi/mL
S08K000010	Lead-214	<3.20E-06	μCi/mL
S08K000010	Radium-224	<2.28E-05	μCi/mL
S08K000010	Radium-226	<2.37E-05	μCi/mL
S08K000010	Actinium-228	<2.18E-06	μCi/mL
S08K000010	Thorium-228	<6.58E-05	μCi/mL
S08K000010	Thorium-229	<5.57E-06	μCi/mL
S08K000010	Uranium-232	<1.56E-03	μCi/mL
S08K000010	Protactinium-233	<2.59E-06	μCi/mL
S08K000010	Uranium/Thorium-233	<8.20E-04	μCi/mL
S08K000010	Protactinium-234	<7.76E-05	μCi/mL
S08K000010	Thorium-234	<5.34E-05	μCi/mL
S08K000010	Uranium-235	<1.43E-06	μCi/mL
S08K000010	Neptunium-237	<6.46E-06	μCi/mL
S08K000010	Uranium-237	<2.46E-06	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000010	Neptunium-238	<1.90E-06	µCi/mL
S08K000010	Neptunium-239	<2.61E-06	µCi/mL
S08K000010	Plutonium-239	<0.0104	µCi/mL
S08K000010	Americium-241	<7.42E-06	µCi/mL
S08K000010	Americium-243	<1.92E-06	µCi/mL
S08K000010	Silver	<0.0100	µg/mL
S08K000010	Aluminum	2.19	µg/mL
S08K000010	Arsenic	<0.120	µg/mL
S08K000010	Boron	<0.0600	µg/mL
S08K000010	Barium	0.0236	µg/mL
S08K000010	Beryllium	<2.00E-03	µg/mL
S08K000010	Bismuth	<0.400	µg/mL
S08K000010	Calcium	81.8	µg/mL
S08K000010	Cadmium	<0.0100	µg/mL
S08K000010	Cerium	<0.100	µg/mL
S08K000010	Cobalt	<0.0200	µg/mL
S08K000010	Chromium	0.0978	µg/mL
S08K000010	Copper	0.0115	µg/mL
S08K000010	Europium	<0.0200	µg/mL
S08K000010	Iron	0.197	µg/mL
S08K000010	Potassium	18.9	µg/mL
S08K000010	Lanthanum	<0.0200	µg/mL
S08K000010	Lithium	0.0381	µg/mL
S08K000010	Magnesium	0.126	µg/mL
S08K000010	Manganese	<0.0100	µg/mL
S08K000010	Molybdenum	<0.100	µg/mL
S08K000010	Sodium	45.7	µg/mL
S08K000010	Neodymium	<0.0400	µg/mL
S08K000010	Nickel	<0.0400	µg/mL
S08K000010	Niobium	<0.100	µg/mL
S08K000010	Phosphorus	<0.200	µg/mL
S08K000010	Lead	<0.100	µg/mL
S08K000010	Palladium	<0.200	µg/mL
S08K000010	Praseodymium	<0.100	µg/mL
S08K000010	Rubidium	<4.00	µg/mL
S08K000010	Rhodium	<0.400	µg/mL
S08K000010	Ruthenium	<0.200	µg/mL
S08K000010	Sulfur	47.3	µg/mL
S08K000010	Antimony	<0.200	µg/mL
S08K000010	Selenium	<0.200	µg/mL
S08K000010	Silicon	11.1	µg/mL
S08K000010	Samarium	<0.100	µg/mL
S08K000010	Tin	<0.100	µg/mL
S08K000010	Strontium	1.32	µg/mL
S08K000010	Tantalum	<0.100	µg/mL
S08K000010	Tellurium	<0.200	µg/mL
S08K000010	Thorium	<0.200	µg/mL

LABCORE Number	Analyte	Result	Unit
S08K000010	Titanium	<0.0100	µg/mL
S08K000010	Thallium	<0.200	µg/mL
S08K000010	Uranium	<0.200	µg/mL
S08K000010	Vanadium	<0.0200	µg/mL
S08K000010	Tungsten	<0.200	µg/mL
S08K000010	Yttrium	<0.0100	µg/mL
S08K000010	Zinc	<0.0100	µg/mL
S08K000010	Zirconium	<0.0100	µg/mL
S08K000011	Gross alpha	<5.85E-07	µCi/mL
S08K000011	Beryllium-7	<5.59E-06	µCi/mL
S08K000011	Sodium-22	<5.67E-07	µCi/mL
S08K000011	Sodium-24	<5.15E-07	µCi/mL
S08K000011	Aluminum-28	<1.82E-05	µCi/mL
S08K000011	Chlorine-38	<3.73E-06	µCi/mL
S08K000011	Potassium-40	<1.40E-05	µCi/mL
S08K000011	Argon-41	<8.18E-07	µCi/mL
S08K000011	Scandium-46	<6.81E-07	µCi/mL
S08K000011	Chromium-51	<4.17E-06	µCi/mL
S08K000011	Manganese-54	<5.01E-07	µCi/mL
S08K000011	Cobalt-56	<4.99E-07	µCi/mL
S08K000011	Manganese-56	<6.92E-07	µCi/mL
S08K000011	Cobalt-57	<3.34E-07	µCi/mL
S08K000011	Cobalt-58	<4.80E-07	µCi/mL
S08K000011	Iron-59	<1.06E-06	µCi/mL
S08K000011	Cobalt-60	<5.30E-07	µCi/mL
S08K000011	Copper-64	<1.12E-04	µCi/mL
S08K000011	Zinc-65	<1.37E-06	µCi/mL
S08K000011	Copper-66	<1.14E-04	µCi/mL
S08K000011	Selenium-75	<6.33E-07	µCi/mL
S08K000011	Selenium-79	<7.77E-05	µCi/mL
S08K000011	Krypton-85	<1.45E-04	µCi/mL
S08K000011	Strontium-85	<6.27E-07	µCi/mL
S08K000011	Yttrium-88	<4.33E-07	µCi/mL
S08K000011	Yttrium-91	<2.04E-04	µCi/mL
S08K000011	Niobium-94	<4.75E-07	µCi/mL
S08K000011	Zirconium/Niobium-95	<9.36E-07	µCi/mL
S08K000011	Ruthenium-103	<5.80E-07	µCi/mL
S08K000011	Ruthenium/Rhodium-106	<9.63E-06	µCi/mL
S08K000011	Silver-108	<5.26E-07	µCi/mL
S08K000011	Cadmium-109	<9.03E-06	µCi/mL
S08K000011	Silver-110	<2.35E-06	µCi/mL
S08K000011	Tin-113	<7.90E-07	µCi/mL
S08K000011	Tellurium-123	<3.37E-07	µCi/mL
S08K000011	Antimony-124	<5.06E-07	µCi/mL
S08K000011	Antimony-125	<1.83E-06	µCi/mL
S08K000011	Tellurium-125	<4.06E-03	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000011	Antimony-126	<4.51E-07	µCi/mL
S08K000011	Tin-126	<7.54E-07	µCi/mL
S08K000011	Iodine-129	<2.71E-04	µCi/mL
S08K000011	Iodine-131	<5.58E-07	µCi/mL
S08K000011	Xenon-131	<1.44E-05	µCi/mL
S08K000011	Barium-133	<8.31E-07	µCi/mL
S08K000011	Cesium-134	<6.09E-07	µCi/mL
S08K000011	Cesium-136	<4.82E-07	µCi/mL
S08K000011	Cesium-137	7.71E-05	µCi/mL
S08K000011	Cesium-138	<2.18E-06	µCi/mL
S08K000011	Cerium-139	<3.54E-07	µCi/mL
S08K000011	Barium-140	<1.96E-06	µCi/mL
S08K000011	Lanthanum-140	<4.78E-07	µCi/mL
S08K000011	Cerium-141	<5.74E-07	µCi/mL
S08K000011	Cerium-144	<2.52E-06	µCi/mL
S08K000011	Cerium/Praseodymium-144	<5.05E-06	µCi/mL
S08K000011	Europium-152	<2.54E-06	µCi/mL
S08K000011	Europium-154	<1.65E-06	µCi/mL
S08K000011	Europium-155	<1.17E-06	µCi/mL
S08K000011	Hafnium-181	<6.86E-07	µCi/mL
S08K000011	Tantalum-182	<1.96E-06	µCi/mL
S08K000011	Gold-198	<5.56E-07	µCi/mL
S08K000011	Mercury-203	<5.01E-07	µCi/mL
S08K000011	Bismuth-207	<7.16E-07	µCi/mL
S08K000011	Thallium-208	<6.35E-07	µCi/mL
S08K000011	Lead-210	<1.29E-04	µCi/mL
S08K000011	Bismuth-212	<4.06E-06	µCi/mL
S08K000011	Lead-212	<8.82E-07	µCi/mL
S08K000011	Bismuth-214	1.48E-06	µCi/mL
S08K000011	Lead-214	1.74E-06	µCi/mL
S08K000011	Radium-224	<1.02E-05	µCi/mL
S08K000011	Radium-226	<9.73E-06	µCi/mL
S08K000011	Actinium-228	<2.17E-06	µCi/mL
S08K000011	Thorium-228	<2.94E-05	µCi/mL
S08K000011	Thorium-229	<2.35E-06	µCi/mL
S08K000011	Uranium-232	<6.64E-04	µCi/mL
S08K000011	Protactinium-233	<1.04E-06	µCi/mL
S08K000011	Uranium/Thorium-233	<3.44E-04	µCi/mL
S08K000011	Protactinium-234	<7.91E-05	µCi/mL
S08K000011	Thorium-234	<2.28E-05	µCi/mL
S08K000011	Uranium-235	<5.88E-07	µCi/mL
S08K000011	Neptunium-237	<2.91E-06	µCi/mL
S08K000011	Uranium-237	<1.03E-06	µCi/mL
S08K000011	Neptunium-238	<1.83E-06	µCi/mL
S08K000011	Neptunium-239	<1.13E-06	µCi/mL
S08K000011	Plutonium-239	<4.50E-03	µCi/mL
S08K000011	Americium-241	<3.19E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000011	Americium-243	<8.71E-07	µCi/mL
S08K000011	Silver	<0.0100	µg/mL
S08K000011	Aluminum	0.477	µg/mL
S08K000011	Arsenic	<0.120	µg/mL
S08K000011	Boron	0.122	µg/mL
S08K000011	Barium	0.723	µg/mL
S08K000011	Beryllium	<2.00E-03	µg/mL
S08K000011	Bismuth	<0.400	µg/mL
S08K000011	Calcium	4.54	µg/mL
S08K000011	Cadmium	<0.0100	µg/mL
S08K000011	Cerium	<0.100	µg/mL
S08K000011	Cobalt	<0.0200	µg/mL
S08K000011	Chromium	0.102	µg/mL
S08K000011	Copper	<0.0100	µg/mL
S08K000011	Europium	<0.0200	µg/mL
S08K000011	Iron	0.156	µg/mL
S08K000011	Potassium	3.52	µg/mL
S08K000011	Lanthanum	<0.0200	µg/mL
S08K000011	Lithium	0.0460	µg/mL
S08K000011	Magnesium	0.728	µg/mL
S08K000011	Manganese	<0.0100	µg/mL
S08K000011	Molybdenum	<0.100	µg/mL
S08K000011	Sodium	132	µg/mL
S08K000011	Neodymium	<0.0400	µg/mL
S08K000011	Nickel	<0.0400	µg/mL
S08K000011	Niobium	<0.100	µg/mL
S08K000011	Phosphorus	0.256	µg/mL
S08K000011	Lead	<0.100	µg/mL
S08K000011	Palladium	<0.200	µg/mL
S08K000011	Praseodymium	<0.100	µg/mL
S08K000011	Rubidium	<4.00	µg/mL
S08K000011	Rhodium	<0.400	µg/mL
S08K000011	Ruthenium	<0.200	µg/mL
S08K000011	Sulfur	53.0	µg/mL
S08K000011	Antimony	<0.200	µg/mL
S08K000011	Selenium	<0.200	µg/mL
S08K000011	Silicon	34.3	µg/mL
S08K000011	Samarium	<0.100	µg/mL
S08K000011	Tin	<0.100	µg/mL
S08K000011	Strontium	0.0735	µg/mL
S08K000011	Tantalum	<0.100	µg/mL
S08K000011	Tellurium	<0.200	µg/mL
S08K000011	Thorium	<0.200	µg/mL
S08K000011	Titanium	<0.0100	µg/mL
S08K000011	Thallium	<0.200	µg/mL
S08K000011	Uranium	<0.200	µg/mL
S08K000011	Vanadium	0.0455	µg/mL

LABCORE Number	Analyte	Result	Unit
S08K000011	Tungsten	<0.200	µg/mL
S08K000011	Yttrium	<0.0100	µg/mL
S08K000011	Zinc	<0.0100	µg/mL
S08K000011	Zirconium	<0.0100	µg/mL
S08K000012	Gross alpha	<5.25E-07	µCi/mL
S08K000012	Beryllium-7	<4.06E-06	µCi/mL
S08K000012	Sodium-22	<5.46E-07	µCi/mL
S08K000012	Sodium-24	<5.13E-07	µCi/mL
S08K000012	Aluminum-28	<1.78E-05	µCi/mL
S08K000012	Chlorine-38	<3.75E-06	µCi/mL
S08K000012	Potassium-40	<1.39E-05	µCi/mL
S08K000012	Argon-41	<8.71E-07	µCi/mL
S08K000012	Scandium-46	<6.81E-07	µCi/mL
S08K000012	Chromium-51	<3.44E-06	µCi/mL
S08K000012	Manganese-54	<5.08E-07	µCi/mL
S08K000012	Cobalt-56	<5.00E-07	µCi/mL
S08K000012	Manganese-56	<6.94E-07	µCi/mL
S08K000012	Cobalt-57	<2.83E-07	µCi/mL
S08K000012	Cobalt-58	<4.93E-07	µCi/mL
S08K000012	Iron-59	<1.02E-06	µCi/mL
S08K000012	Cobalt-60	<5.27E-07	µCi/mL
S08K000012	Copper-64	<1.12E-04	µCi/mL
S08K000012	Zinc-65	<1.35E-06	µCi/mL
S08K000012	Copper-66	<1.17E-04	µCi/mL
S08K000012	Selenium-75	<5.28E-07	µCi/mL
S08K000012	Selenium-79	<6.64E-05	µCi/mL
S08K000012	Krypton-85	<1.30E-04	µCi/mL
S08K000012	Strontium-85	<5.65E-07	µCi/mL
S08K000012	Yttrium-88	<4.35E-07	µCi/mL
S08K000012	Yttrium-91	<2.12E-04	µCi/mL
S08K000012	Niobium-94	<4.98E-07	µCi/mL
S08K000012	Zirconium/Niobium-95	<9.73E-07	µCi/mL
S08K000012	Ruthenium-103	<4.63E-07	µCi/mL
S08K000012	Ruthenium/Rhodium-106	<8.78E-06	µCi/mL
S08K000012	Silver-108	<5.18E-07	µCi/mL
S08K000012	Cadmium-109	<7.60E-06	µCi/mL
S08K000012	Silver-110	<1.04E-06	µCi/mL
S08K000012	Tin-113	<6.13E-07	µCi/mL
S08K000012	Tellurium-123	<2.82E-07	µCi/mL
S08K000012	Antimony-124	<4.37E-07	µCi/mL
S08K000012	Antimony-125	<1.40E-06	µCi/mL
S08K000012	Tellurium-125	<3.03E-03	µCi/mL
S08K000012	Antimony-126	<4.51E-07	µCi/mL
S08K000012	Tin-126	<6.34E-07	µCi/mL
S08K000012	Iodine-129	<2.29E-04	µCi/mL
S08K000012	Iodine-131	<4.41E-07	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000012	Xenon-131	<1.24E-05	μCi/mL
S08K000012	Barium-133	<6.83E-07	μCi/mL
S08K000012	Cesium-134	<5.40E-07	μCi/mL
S08K000012	Cesium-136	<4.87E-07	μCi/mL
S08K000012	Cesium-137	1.12E-05	μCi/mL
S08K000012	Cesium-138	<2.19E-06	μCi/mL
S08K000012	Cerium-139	<3.02E-07	μCi/mL
S08K000012	Barium-140	<1.64E-06	μCi/mL
S08K000012	Lanthanum-140	<4.89E-07	μCi/mL
S08K000012	Cerium-141	<4.89E-07	μCi/mL
S08K000012	Cerium-144	<2.17E-06	μCi/mL
S08K000012	Cerium/Praseodymium-144	<4.33E-06	μCi/mL
S08K000012	Europium-152	<2.53E-06	μCi/mL
S08K000012	Europium-154	<1.59E-06	μCi/mL
S08K000012	Europium-155	<1.02E-06	μCi/mL
S08K000012	Hafnium-181	<5.16E-07	μCi/mL
S08K000012	Tantalum-182	<1.95E-06	μCi/mL
S08K000012	Gold-198	<4.31E-07	μCi/mL
S08K000012	Mercury-203	<4.16E-07	μCi/mL
S08K000012	Bismuth-207	<7.33E-07	μCi/mL
S08K000012	Thallium-208	<5.81E-07	μCi/mL
S08K000012	Lead-210	<1.08E-04	μCi/mL
S08K000012	Bismuth-212	<3.97E-06	μCi/mL
S08K000012	Lead-212	<7.50E-07	μCi/mL
S08K000012	Bismuth-214	<1.18E-06	μCi/mL
S08K000012	Lead-214	<1.29E-06	μCi/mL
S08K000012	Radium-224	<8.61E-06	μCi/mL
S08K000012	Radium-226	<8.18E-06	μCi/mL
S08K000012	Actinium-228	<2.14E-06	μCi/mL
S08K000012	Thorium-228	<2.53E-05	μCi/mL
S08K000012	Thorium-229	<2.01E-06	μCi/mL
S08K000012	Uranium-232	<5.59E-04	μCi/mL
S08K000012	Protactinium-233	<8.57E-07	μCi/mL
S08K000012	Uranium/Thorium-233	<2.88E-04	μCi/mL
S08K000012	Protactinium-234	<7.84E-05	μCi/mL
S08K000012	Thorium-234	<1.89E-05	μCi/mL
S08K000012	Uranium-235	<4.97E-07	μCi/mL
S08K000012	Neptunium-237	<2.51E-06	μCi/mL
S08K000012	Uranium-237	<8.83E-07	μCi/mL
S08K000012	Neptunium-238	<1.82E-06	μCi/mL
S08K000012	Neptunium-239	<9.76E-07	μCi/mL
S08K000012	Plutonium-239	<3.87E-03	μCi/mL
S08K000012	Americium-241	<2.65E-06	μCi/mL
S08K000012	Americium-243	<1.09E-06	μCi/mL
S08K000012	Silver	<0.0100	μg/mL
S08K000012	Aluminum	0.249	μg/mL
S08K000012	Arsenic	<0.120	μg/mL



LABCORE Number	Analyte	Result	Unit
S08K000012	Boron	0.323	µg/mL
S08K000012	Barium	0.552	µg/mL
S08K000012	Beryllium	<2.00E-03	µg/mL
S08K000012	Bismuth	<0.400	µg/mL
S08K000012	Calcium	7.03	µg/mL
S08K000012	Cadmium	<0.0100	µg/mL
S08K000012	Cerium	<0.100	µg/mL
S08K000012	Cobalt	<0.0200	µg/mL
S08K000012	Chromium	0.118	µg/mL
S08K000012	Copper	<0.0100	µg/mL
S08K000012	Europium	<0.0200	µg/mL
S08K000012	Iron	0.207	µg/mL
S08K000012	Potassium	5.72	µg/mL
S08K000012	Lanthanum	<0.0200	µg/mL
S08K000012	Lithium	0.196	µg/mL
S08K000012	Magnesium	3.75	µg/mL
S08K000012	Manganese	<0.0100	µg/mL
S08K000012	Molybdenum	<0.100	µg/mL
S08K000012	Sodium	316	µg/mL
S08K000012	Neodymium	<0.0400	µg/mL
S08K000012	Nickel	<0.0400	µg/mL
S08K000012	Niobium	<0.100	µg/mL
S08K000012	Phosphorus	1.17	µg/mL
S08K000012	Lead	<0.100	µg/mL
S08K000012	Palladium	<0.200	µg/mL
S08K000012	Praseodymium	<0.100	µg/mL
S08K000012	Rubidium	<4.00	µg/mL
S08K000012	Rhodium	<0.400	µg/mL
S08K000012	Ruthenium	<0.200	µg/mL
S08K000012	Sulfur	102	µg/mL
S08K000012	Antimony	<0.200	µg/mL
S08K000012	Selenium	<0.200	µg/mL
S08K000012	Silicon	24.1	µg/mL
S08K000012	Samarium	<0.100	µg/mL
S08K000012	Tin	<0.100	µg/mL
S08K000012	Strontium	0.182	µg/mL
S08K000012	Tantalum	<0.100	µg/mL
S08K000012	Tellurium	<0.200	µg/mL
S08K000012	Thorium	<0.200	µg/mL
S08K000012	Titanium	0.0132	µg/mL
S08K000012	Thallium	<0.200	µg/mL
S08K000012	Uranium	<0.200	µg/mL
S08K000012	Vanadium	0.185	µg/mL
S08K000012	Tungsten	<0.200	µg/mL
S08K000012	Yttrium	<0.0100	µg/mL
S08K000012	Zinc	<0.0100	µg/mL
S08K000012	Zirconium	<0.0100	µg/mL

LABCORE Number	Analyte	Result	Unit
S08K000013	Gross alpha	1.91E-06	μCi/mL
S08K000013	Beryllium-7	<7.95E-05	μCi/mL
S08K000013	Sodium-22	<1.75E-06	μCi/mL
S08K000013	Sodium-24	<1.78E-06	μCi/mL
S08K000013	Aluminum-28	<3.72E-05	μCi/mL
S08K000013	Chlorine-38	<9.94E-06	μCi/mL
S08K000013	Potassium-40	<2.26E-05	μCi/mL
S08K000013	Argon-41	<2.79E-06	μCi/mL
S08K000013	Scandium-46	<2.03E-06	μCi/mL
S08K000013	Chromium-51	<5.08E-05	μCi/mL
S08K000013	Manganese-54	<1.77E-06	μCi/mL
S08K000013	Cobalt-56	<1.80E-06	μCi/mL
S08K000013	Manganese-56	<2.51E-06	μCi/mL
S08K000013	Cobalt-57	<2.81E-06	μCi/mL
S08K000013	Cobalt-58	<1.79E-06	μCi/mL
S08K000013	Iron-59	<3.45E-06	μCi/mL
S08K000013	Cobalt-60	<1.71E-06	μCi/mL
S08K000013	Copper-64	<3.87E-04	μCi/mL
S08K000013	Zinc-65	<3.98E-06	μCi/mL
S08K000013	Copper-66	<4.05E-04	μCi/mL
S08K000013	Selenium-75	<7.60E-06	μCi/mL
S08K000013	Selenium-79	<5.77E-04	μCi/mL
S08K000013	Krypton-85	<1.51E-03	μCi/mL
S08K000013	Strontium-85	<6.53E-06	μCi/mL
S08K000013	Yttrium-88	<6.69E-07	μCi/mL
S08K000013	Yttrium-91	<6.55E-04	μCi/mL
S08K000013	Niobium-94	<1.81E-06	μCi/mL
S08K000013	Zirconium/Niobium-95	<3.39E-06	μCi/mL
S08K000013	Ruthenium-103	<7.42E-06	μCi/mL
S08K000013	Ruthenium/Rhodium-106	<8.18E-05	μCi/mL
S08K000013	Silver-108	<1.89E-06	μCi/mL
S08K000013	Cadmium-109	<5.46E-05	μCi/mL
S08K000013	Silver-110	<4.18E-05	μCi/mL
S08K000013	Tin-113	<9.51E-06	μCi/mL
S08K000013	Tellurium-123	<3.51E-06	μCi/mL
S08K000013	Antimony-124	<4.16E-06	μCi/mL
S08K000013	Antimony-125	<2.58E-05	μCi/mL
S08K000013	Tellurium-125	<1.31E-05	μCi/mL
S08K000013	Antimony-126	<1.64E-06	μCi/mL
S08K000013	Tin-126	<4.42E-06	μCi/mL
S08K000013	Iodine-129	<5.25E-05	μCi/mL
S08K000013	Iodine-131	<6.99E-06	μCi/mL
S08K000013	Xenon-131	<1.54E-04	μCi/mL
S08K000013	Barium-133	<9.15E-06	μCi/mL
S08K000013	Cesium-134	<4.24E-06	μCi/mL
S08K000013	Cesium-136	<1.80E-06	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000013	Cesium-137	8.54E-03	μCi/mL
S08K000013	Cesium-138	<7.56E-06	μCi/mL
S08K000013	Cerium-139	<3.76E-06	μCi/mL
S08K000013	Barium-140	<2.26E-05	μCi/mL
S08K000013	Lanthanum-140	<1.42E-06	μCi/mL
S08K000013	Cerium-141	<5.45E-06	μCi/mL
S08K000013	Cerium-144	<2.28E-05	μCi/mL
S08K000013	Cerium/Praseodymium-144	<4.56E-05	μCi/mL
S08K000013	Europium-152	<7.90E-06	μCi/mL
S08K000013	Europium-154	<5.07E-06	μCi/mL
S08K000013	Europium-155	<9.78E-06	μCi/mL
S08K000013	Hafnium-181	<9.32E-06	μCi/mL
S08K000013	Tantalum-182	<5.87E-06	μCi/mL
S08K000013	Gold-198	<7.14E-06	μCi/mL
S08K000013	Mercury-203	<6.01E-06	μCi/mL
S08K000013	Bismuth-207	<2.49E-06	μCi/mL
S08K000013	Thallium-208	<4.95E-06	μCi/mL
S08K000013	Lead-210	<5.98E-05	μCi/mL
S08K000013	Bismuth-212	<1.45E-05	μCi/mL
S08K000013	Lead-212	<9.99E-06	μCi/mL
S08K000013	Bismuth-214	<8.96E-06	μCi/mL
S08K000013	Lead-214	<1.46E-05	μCi/mL
S08K000013	Radium-224	<1.14E-04	μCi/mL
S08K000013	Radium-226	<1.16E-04	μCi/mL
S08K000013	Actinium-228	<6.60E-06	μCi/mL
S08K000013	Thorium-228	<1.59E-04	μCi/mL
S08K000013	Thorium-229	<1.86E-05	μCi/mL
S08K000013	Uranium-232	<9.89E-04	μCi/mL
S08K000013	Protactinium-233	<1.28E-05	μCi/mL
S08K000013	Uranium/Thorium-233	<4.07E-03	μCi/mL
S08K000013	Protactinium-234	<2.80E-04	μCi/mL
S08K000013	Thorium-234	<5.00E-05	μCi/mL
S08K000013	Uranium-235	<6.99E-06	μCi/mL
S08K000013	Neptunium-237	<1.63E-05	μCi/mL
S08K000013	Uranium-237	<8.33E-06	μCi/mL
S08K000013	Neptunium-238	<6.73E-06	μCi/mL
S08K000013	Neptunium-239	<9.50E-06	μCi/mL
S08K000013	Plutonium-239	<0.0398	μCi/mL
S08K000013	Americium-241	<5.42E-06	μCi/mL
S08K000013	Americium-243	<3.33E-06	μCi/mL
S08K000013	Silver	<0.0100	μg/mL
S08K000013	Aluminum	1.92	μg/mL
S08K000013	Arsenic	<0.120	μg/mL
S08K000013	Boron	<0.0600	μg/mL
S08K000013	Barium	0.0736	μg/mL
S08K000013	Beryllium	<2.00E-03	μg/mL
S08K000013	Bismuth	<0.400	μg/mL

LABCORE Number	Analyte	Result	Unit
S08K000013	Calcium	121	µg/mL
S08K000013	Cadmium	<0.0100	µg/mL
S08K000013	Cerium	<0.100	µg/mL
S08K000013	Cobalt	<0.0200	µg/mL
S08K000013	Chromium	0.0914	µg/mL
S08K000013	Copper	<0.0100	µg/mL
S08K000013	Europium	<0.0200	µg/mL
S08K000013	Iron	0.0102	µg/mL
S08K000013	Potassium	33.6	µg/mL
S08K000013	Lanthanum	<0.0200	µg/mL
S08K000013	Lithium	0.0396	µg/mL
S08K000013	Magnesium	<0.100	µg/mL
S08K000013	Manganese	<0.0100	µg/mL
S08K000013	Molybdenum	<0.100	µg/mL
S08K000013	Sodium	22.4	µg/mL
S08K000013	Neodymium	<0.0400	µg/mL
S08K000013	Nickel	<0.0400	µg/mL
S08K000013	Niobium	<0.100	µg/mL
S08K000013	Phosphorus	<0.200	µg/mL
S08K000013	Lead	<0.100	µg/mL
S08K000013	Palladium	<0.200	µg/mL
S08K000013	Praseodymium	<0.100	µg/mL
S08K000013	Rubidium	<4.00	µg/mL
S08K000013	Rhodium	<0.400	µg/mL
S08K000013	Ruthenium	<0.200	µg/mL
S08K000013	Sulfur	46.2	µg/mL
S08K000013	Antimony	<0.200	µg/mL
S08K000013	Selenium	<0.200	µg/mL
S08K000013	Silicon	6.17	µg/mL
S08K000013	Samarium	<0.100	µg/mL
S08K000013	Tin	<0.100	µg/mL
S08K000013	Strontium	2.04	µg/mL
S08K000013	Tantalum	<0.100	µg/mL
S08K000013	Tellurium	<0.200	µg/mL
S08K000013	Thorium	<0.200	µg/mL
S08K000013	Titanium	<0.0100	µg/mL
S08K000013	Thallium	<0.200	µg/mL
S08K000013	Uranium	<0.200	µg/mL
S08K000013	Vanadium	<0.0200	µg/mL
S08K000013	Tungsten	<0.200	µg/mL
S08K000013	Yttrium	<0.0100	µg/mL
S08K000013	Zinc	<0.0100	µg/mL
S08K000013	Zirconium	<0.0100	µg/mL
S08K000014	Beryllium-7	<8.89E-05	µCi/mL
S08K000014	Sodium-22	<1.77E-06	µCi/mL
S08K000014	Sodium-24	<1.78E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000014	Aluminum-28	<2.99E-05	μCi/mL
S08K000014	Chlorine-38	<8.71E-06	μCi/mL
S08K000014	Potassium-40	<2.24E-05	μCi/mL
S08K000014	Argon-41	<2.77E-06	μCi/mL
S08K000014	Scandium-46	<1.95E-06	μCi/mL
S08K000014	Chromium-51	<5.67E-05	μCi/mL
S08K000014	Manganese-54	<1.75E-06	μCi/mL
S08K000014	Cobalt-56	<1.74E-06	μCi/mL
S08K000014	Manganese-56	<2.43E-06	μCi/mL
S08K000014	Cobalt-57	<3.11E-06	μCi/mL
S08K000014	Cobalt-58	<1.71E-06	μCi/mL
S08K000014	Iron-59	<3.41E-06	μCi/mL
S08K000014	Cobalt-60	<1.76E-06	μCi/mL
S08K000014	Copper-64	<3.77E-04	μCi/mL
S08K000014	Zinc-65	<3.80E-06	μCi/mL
S08K000014	Copper-66	<3.98E-04	μCi/mL
S08K000014	Selenium-75	<8.49E-06	μCi/mL
S08K000014	Selenium-79	<6.39E-04	μCi/mL
S08K000014	Krypton-85	<1.68E-03	μCi/mL
S08K000014	Strontium-85	<7.27E-06	μCi/mL
S08K000014	Yttrium-88	<6.47E-07	μCi/mL
S08K000014	Yttrium-91	<5.99E-04	μCi/mL
S08K000014	Niobium-94	<1.71E-06	μCi/mL
S08K000014	Zirconium/Niobium-95	<3.31E-06	μCi/mL
S08K000014	Ruthenium-103	<8.34E-06	μCi/mL
S08K000014	Ruthenium/Rhodium-106	<9.06E-05	μCi/mL
S08K000014	Silver-108	<1.84E-06	μCi/mL
S08K000014	Cadmium-109	<6.06E-05	μCi/mL
S08K000014	Silver-110	<4.69E-05	μCi/mL
S08K000014	Tin-113	<1.06E-05	μCi/mL
S08K000014	Tellurium-123	<3.91E-06	μCi/mL
S08K000014	Antimony-124	<4.58E-06	μCi/mL
S08K000014	Antimony-125	<2.90E-05	μCi/mL
S08K000014	Tellurium-125	<1.45E-05	μCi/mL
S08K000014	Antimony-126	<1.61E-06	μCi/mL
S08K000014	Tin-126	<4.90E-06	μCi/mL
S08K000014	Iodine-129	<5.79E-05	μCi/mL
S08K000014	Iodine-131	<7.76E-06	μCi/mL
S08K000014	Xenon-131	<1.71E-04	μCi/mL
S08K000014	Barium-133	<1.02E-05	μCi/mL
S08K000014	Cesium-134	<4.61E-06	μCi/mL
S08K000014	Cesium-136	<1.76E-06	μCi/mL
S08K000014	Cesium-137	0.0108	μCi/mL
S08K000014	Cesium-138	<6.78E-06	μCi/mL
S08K000014	Cerium-139	<4.20E-06	μCi/mL
S08K000014	Barium-140	<2.49E-05	μCi/mL
S08K000014	Lanthanum-140	<1.29E-06	μCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000014	Cerium-141	<6.06E-06	µCi/mL
S08K000014	Cerium-144	<2.53E-05	µCi/mL
S08K000014	Cerium/Praseodymium-144	<5.05E-05	µCi/mL
S08K000014	Europium-152	<7.70E-06	µCi/mL
S08K000014	Europium-154	<5.15E-06	µCi/mL
S08K000014	Europium-155	<1.09E-05	µCi/mL
S08K000014	Hafnium-181	<1.04E-05	µCi/mL
S08K000014	Tantalum-182	<5.63E-06	µCi/mL
S08K000014	Gold-198	<7.95E-06	µCi/mL
S08K000014	Mercury-203	<6.68E-06	µCi/mL
S08K000014	Bismuth-207	<2.43E-06	µCi/mL
S08K000014	Thallium-208	<5.45E-06	µCi/mL
S08K000014	Lead-210	<6.54E-05	µCi/mL
S08K000014	Bismuth-212	<1.40E-05	µCi/mL
S08K000014	Lead-212	<1.11E-05	µCi/mL
S08K000014	Bismuth-214	<9.74E-06	µCi/mL
S08K000014	Lead-214	<1.63E-05	µCi/mL
S08K000014	Radium-224	<1.26E-04	µCi/mL
S08K000014	Radium-226	<1.29E-04	µCi/mL
S08K000014	Actinium-228	<6.61E-06	µCi/mL
S08K000014	Thorium-228	<1.76E-04	µCi/mL
S08K000014	Thorium-229	<2.06E-05	µCi/mL
S08K000014	Uranium-232	<1.09E-03	µCi/mL
S08K000014	Protactinium-233	<1.42E-05	µCi/mL
S08K000014	Uranium/Thorium-233	<4.53E-03	µCi/mL
S08K000014	Protactinium-234	<2.86E-04	µCi/mL
S08K000014	Thorium-234	<5.46E-05	µCi/mL
S08K000014	Uranium-235	<7.77E-06	µCi/mL
S08K000014	Neptunium-237	<1.81E-05	µCi/mL
S08K000014	Uranium-237	<9.25E-06	µCi/mL
S08K000014	Neptunium-238	<6.48E-06	µCi/mL
S08K000014	Neptunium-239	<1.06E-05	µCi/mL
S08K000014	Plutonium-239	<0.0441	µCi/mL
S08K000014	Americium-241	<5.95E-06	µCi/mL
S08K000014	Americium-243	<3.66E-06	µCi/mL
S08K000015	Beryllium-7	<8.86E-05	µCi/mL
S08K000015	Sodium-22	<1.78E-06	µCi/mL
S08K000015	Sodium-24	<1.77E-06	µCi/mL
S08K000015	Aluminum-28	<3.57E-05	µCi/mL
S08K000015	Chlorine-38	<1.09E-05	µCi/mL
S08K000015	Potassium-40	<2.37E-05	µCi/mL
S08K000015	Argon-41	<2.85E-06	µCi/mL
S08K000015	Scandium-46	<2.05E-06	µCi/mL
S08K000015	Chromium-51	<5.65E-05	µCi/mL
S08K000015	Manganese-54	<1.75E-06	µCi/mL
S08K000015	Cobalt-56	<1.76E-06	µCi/mL

LABCORE Number	Analyte	Result	Unit
S08K000015	Manganese-56	<2.44E-06	μCi/mL
S08K000015	Cobalt-57	<3.09E-06	μCi/mL
S08K000015	Cobalt-58	<1.75E-06	μCi/mL
S08K000015	Iron-59	<3.54E-06	μCi/mL
S08K000015	Cobalt-60	<1.83E-06	μCi/mL
S08K000015	Copper-64	<4.02E-04	μCi/mL
S08K000015	Zinc-65	<4.05E-06	μCi/mL
S08K000015	Copper-66	<3.96E-04	μCi/mL
S08K000015	Selenium-75	<8.41E-06	μCi/mL
S08K000015	Selenium-79	<6.32E-04	μCi/mL
S08K000015	Krypton-85	<1.67E-03	μCi/mL
S08K000015	Strontium-85	<7.23E-06	μCi/mL
S08K000015	Yttrium-88	<8.13E-07	μCi/mL
S08K000015	Yttrium-91	<6.57E-04	μCi/mL
S08K000015	Niobium-94	<1.80E-06	μCi/mL
S08K000015	Zirconium/Niobium-95	<3.39E-06	μCi/mL
S08K000015	Ruthenium-103	<8.29E-06	μCi/mL
S08K000015	Ruthenium/Rhodium-106	<9.05E-05	μCi/mL
S08K000015	Silver-108	<1.83E-06	μCi/mL
S08K000015	Cadmium-109	<6.00E-05	μCi/mL
S08K000015	Silver-110	<4.67E-05	μCi/mL
S08K000015	Tin-113	<1.06E-05	μCi/mL
S08K000015	Tellurium-123	<3.87E-06	μCi/mL
S08K000015	Antimony-124	<4.55E-06	μCi/mL
S08K000015	Antimony-125	<2.87E-05	μCi/mL
S08K000015	Tellurium-125	<1.44E-05	μCi/mL
S08K000015	Antimony-126	<1.62E-06	μCi/mL
S08K000015	Tin-126	<4.86E-06	μCi/mL
S08K000015	Iodine-129	<5.75E-05	μCi/mL
S08K000015	Iodine-131	<7.74E-06	μCi/mL
S08K000015	Xenon-131	<1.70E-04	μCi/mL
S08K000015	Barium-133	<1.02E-05	μCi/mL
S08K000015	Cesium-134	<4.56E-06	μCi/mL
S08K000015	Cesium-136	<1.76E-06	μCi/mL
S08K000015	Cesium-137	0.0106	μCi/mL
S08K000015	Cesium-138	<7.02E-06	μCi/mL
S08K000015	Cerium-139	<4.17E-06	μCi/mL
S08K000015	Barium-140	<2.50E-05	μCi/mL
S08K000015	Lanthanum-140	<1.33E-06	μCi/mL
S08K000015	Cerium-141	<6.02E-06	μCi/mL
S08K000015	Cerium-144	<2.51E-05	μCi/mL
S08K000015	Cerium/Praseodymium-144	<5.03E-05	μCi/mL
S08K000015	Europium-152	<8.06E-06	μCi/mL
S08K000015	Europium-154	<5.18E-06	μCi/mL
S08K000015	Europium-155	<1.08E-05	μCi/mL
S08K000015	Hafnium-181	<1.04E-05	μCi/mL
S08K000015	Tantalum-182	<5.86E-06	μCi/mL

<b>LABCORE Number</b>	<b>Analyte</b>	<b>Result</b>	<b>Unit</b>
S08K000015	Gold-198	<7.92E-06	μCi/mL
S08K000015	Mercury-203	<6.67E-06	μCi/mL
S08K000015	Bismuth-207	<2.54E-06	μCi/mL
S08K000015	Thallium-208	<5.43E-06	μCi/mL
S08K000015	Lead-210	<6.44E-05	μCi/mL
S08K000015	Bismuth-212	<1.42E-05	μCi/mL
S08K000015	Lead-212	<1.11E-05	μCi/mL
S08K000015	Bismuth-214	<9.62E-06	μCi/mL
S08K000015	Lead-214	<1.62E-05	μCi/mL
S08K000015	Radium-224	<1.26E-04	μCi/mL
S08K000015	Radium-226	<1.28E-04	μCi/mL
S08K000015	Actinium-228	<6.61E-06	μCi/mL
S08K000015	Thorium-228	<1.74E-04	μCi/mL
S08K000015	Thorium-229	<2.04E-05	μCi/mL
S08K000015	Uranium-232	<1.07E-03	μCi/mL
S08K000015	Protactinium-233	<1.41E-05	μCi/mL
S08K000015	Uranium/Thorium-233	<4.50E-03	μCi/mL
S08K000015	Protactinium-234	<2.77E-04	μCi/mL
S08K000015	Thorium-234	<5.41E-05	μCi/mL
S08K000015	Uranium-235	<7.71E-06	μCi/mL
S08K000015	Neptunium-237	<1.79E-05	μCi/mL
S08K000015	Uranium-237	<9.16E-06	μCi/mL
S08K000015	Neptunium-238	<6.54E-06	μCi/mL
S08K000015	Neptunium-239	<1.06E-05	μCi/mL
S08K000015	Plutonium-239	<0.0438	μCi/mL
S08K000015	Americium-241	<5.87E-06	μCi/mL
S08K000015	Americium-243	<3.63E-06	μCi/mL