

# Intelligent Preprocessing of Electronic Waste For Recycling: *A Source for Critical Materials*

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## **Abstract**

A study of the end of life treatment of mobile phones identified a major challenge to the optimization of the preprocessing stage of recycling. The lack of supply chain transparency in the mobile phone life cycle limits recyclers' knowledge of the chemical composition of incoming waste, reducing the effectiveness of this critical stage of resource recovery. X-Ray Fluorescence Spectroscopy (XRF) was employed to identify the chemical composition of shredded electronic waste, and the results support XRF implementation to enable intelligent sorting during preprocessing. By identifying profitable precious metals and hazardous materials in these waste streams with XRF, recyclers can make more informed decisions regarding electronic waste handling during preprocessing.

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# WPI

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## Executive Summary

The consumer electronics industry has provided today's society with the most advanced technologies on the market. Unfortunately, at the end of their useful lives, the majority of these devices are treated in the most rudimentary of ways. The material value of discarded electronics that are landfilled is physically buried, and the materials themselves may leach hazardous materials into the surrounding environment (Widmer et al, 2005). Electronic waste is the fastest growing waste stream worldwide (The Politics of e-waste, 2013). In 2008, recycling rates of electronic waste were less than 20% (Greenpeace, 2008). The electronic waste recycling industry is ripe for improvement, the results of which can ease the strain on new material mining and generate profits from recycling, encouraging a sustainable closed-loop material supply. Implementing such a closed loop system in our society is complex, as the solutions are not simply technological, but also involve manufacturing protocols, as well as federal policies to ensure that the goals are clear and well established.

Current efforts to minimize negative impacts of electronic waste are driven by legislation. The 2012 recast of the Waste Electrical and Electronic Equipment (WEEE) directive requires that by 2016, member nations must collect 45% of goods placed on the market annually for proper treatment and recycling (European Commission, 2012). Once the products are properly collected, the key aspect of the end of life management of these devices is the method in which they are taken apart. The optimization of this disassembly stage, known as preprocessing, is vital to enabling ideal material streams of certain mixed compositions to reach appropriate end refiners. Hagelüken estimates that mechanical preprocessing results in 20% precious metal loss prior to end refining, which contributes 43%-93% of the overall value of the recycled material (Hagelüken, 2006).

The preprocessing of cell phones can be carried out in one of two ways, either manually or automatically. Manual preprocessing is performed with human labor, making use of hydraulic screwdrivers and other tools. The cost of manual preprocessing is relatively high because it is human-intensive work, and this is



typically the limiting factor that will lead to the discarding of valuable materials that are not located on the printed wiring board (PWB). Although the PWB contains the largest amount of valuable materials, there are metals on other pieces that could also be recovered and refined.

In automated preprocessing, material processing facilities perform a relatively common sequence of steps to break devices into material fractions. First, entire devices are comminuted in a shredding step to initially break devices into generically separate pieces, typically 10cm<sup>2</sup> or smaller. Next, ferrous materials are separated from non-ferrous by a magnet. The resulting stream still contains metal and nonmetal materials, and eddy current separation with varying degrees of resolution separates the metal from nonmetal pieces to a high degree of purity. The final fraction of interest then typically contains aluminum and non-aluminum, non-ferrous metals that might be of recoverable value (Goosey, Kellner, 2002). Typical mechanical separation involves density separation in a fluid slurry (Ibid).

The drawback to automated preprocessing is optimizing the boundaries that differentiate material fractions. Comingled elements on printed wiring boards are often sorted into a fraction that will waste its material content (Meskers, Hagelüken, 2009). This forms the basis for an argument to treat devices with potentially significant value with greater attention. Additionally, it is often a challenge to remove the batteries from the phones before preprocessing, which is a requirement in order to avoid the small explosions and fires that could occur if they are mishandled.

The goal of this project was to test the possibility of using XRF technology as a means to better sort materials once they have been preprocessed in order to maximize the economic output, while also minimizing negative environmental impacts. X-Ray Fluorescence (XRF) Spectroscopy is a means of performing nondestructive testing for elemental analysis. Fundamentally, XRF Spectroscopy capitalizes on the unique energy values at which atoms 'fluoresce' when exposed to an X-ray. By measuring the energy response as X-rays dislodge electrons in the innermost shell of an atom in a homogenous or mixed material, and applying

appropriate algorithms, the presence of even very small concentrations of elements can be determined (X-Ray Fluorescence Spectroscopy, 2002).

In order to test the possibility of utilizing XRF technology during electronic waste preprocessing, the team started by analyzing the overall system surrounding electronic waste recycling, while establishing a list of materials that are found in cell phones, ranging from precious metals to hazardous substances. Additionally, the team used a series of site visits and interviews in order to establish a better understanding of the current conditions within the recycling and electronics industries, and how these two industries can work together to reduce environmental impacts. Following this, the team simulated the manual and automated methods of preprocessing in the laboratory in order to identify pieces to be tested using XRF. Once the XRF testing of twenty-one pieces was completed, the results were analyzed in order to establish which elements were present on each piece. Finally, the team had five pieces tested via SEM metallography in order to validate the material content found from XRF tests.

As a result of this study, the team found that through the use of XRF, one can obtain the knowledge needed to optimize preprocessing by providing accurate and meaningful electronic waste composition data. With such data, materials processing facilities can make more informed decisions regarding the optimal preprocessing treatment that their electronic waste should receive. In addition, the use of a proven tool to perform compositional analysis is more reliable than human analysis alone.

As a result of these findings, the team recommends that:

1. There be an increase in transparency regarding the design and composition of cell phones from the manufacturing process to the final recycler of the phone.
2. A complete life cycle analysis of the most recent iPhone be completed using available data as well as mathematical regression models when needed.
3. A system of algorithms be formulated in order to create a process through which individual shredded phone pieces can be separated after being scanned with an XRF machine.

4. Protocols be developed for the proper end of life handling of large handheld electronic devices such as tablets and electronic readers.
5. Handheld XRF analysis devices be used in cases where manual disassembly is still the most effective mode of end of life management for cell phones.
6. The evaluation schemes developed by the team and included in Appendix G and Appendix H, be further expanded upon and applied to collection and preprocessing systems in the EU and the US.

## Definitions

**End of Life** – The point in the life cycle of an electronic device in which it is no longer useful in performing the tasks that it was designed to execute

**Material Processing Facility** – The facility in which preprocessing takes place, after collection occurs, and prior to final material recovery

**Electronic waste** – Material that falls under a category of WEEE, but in this report focuses on discarded small consumer electronics, such as mobile phones, tablets, and music-playing devices.

**Sustainability** - Meeting the needs of current generations without compromising the ability of future generations to meet their own needs (Bärlund, 2005)

## Abbreviations

**EMI** – Electromagnetic Interference

**EU** – European Union

**eV** – Electron Volt

**E-Waste** – Electronic Waste

**LCD** – Liquid Crystal Display

**PWB** – Printed Wiring Board

**REACH** - Registration, Evaluation, Authorization and Restriction of Chemical Substances

**RoHS** – Restriction of Hazardous Substances

**SEM** – Scanning Electron Microscope

**SIM** – Subscriber Identification Module

**WEEE** – Waste Electrical and Electronic Equipment

**wTe** – Waste to Energy

**XRF** – X-Ray Fluorescence

**XRT** – X-Ray Transmission

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# 1. Introduction

## 1.1 Electronic Waste: A Global Problem

The consumer electronics industry has provided today's society with the most advanced technologies on the market. Unfortunately, at the end of their useful lives, the majority of these devices are treated in the most rudimentary of ways. The material value of discarded electronics that are landfilled is physically buried, and the materials themselves may leach hazardous materials into the surrounding environment (Widmer et al, 2005). When devices are incinerated, energy is recovered, but some of the recoverable material is lost to the process itself and harmful emissions may result as well (The World Bank, 1999) (European Commission, 2006). "Backyard recycling" practices in developing countries recover about 25% of gold and other elements from mountains of waste discarded by wealthier nations (Meskers, 2012). While this is profitable for the individuals partaking in the enterprise, this recovery process has significant negative impacts on human and environmental health in the short and long term, resulting in toxic groundwater, elevated cancer rates and miscarriages (Walsh, 2009). The negative impacts that result from poor end of life practices for consumer electronics can be resolved to an extent with proper recycling. In order to provide for a sustainable future, impacts of detrimental end of life treatments must be minimized, and the material value and content that is recovered and thus reintroduced to the material life cycle must be maximized.

Electronic waste is the fastest growing waste stream worldwide (The Politics of e-waste, 2013). In 2008, less than 20% of electronic waste was recovered for recycling in the United States (Greenpeace, 2008). The electronic waste recycling industry is ripe for improvement, the results of which can ease the strain on new material mining and produce profit from the recycling process, encouraging a sustainable closed-loop material supply. Actuating this improvement, however, is a complex task.

Current efforts to minimize negative impacts of electronic waste are driven by legislation. The 2012 recast of the Waste Electrical and Electronic Equipment

(WEEE) directive requires that by 2016, member nations must collect 45% of goods placed on the market annually for proper treatment and recycling (European Commission, 2012). Other regulations such as the Restriction of Hazardous Substances (RoHS) and the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH) aim to restrict material content that can impart harm, particularly as devices degrade in non-recycled end of life settings (WEEE, REACH, and RoHS, 2012). These regulations drive improved collection of electronic waste and restrict certain substances to minimize negative impact at the end of life, but do not specifically drive the positive impacts that could be capitalized upon as a result of these activities: appreciable recycled material streams and profit.

## **1.2 Space for Improving End of Life Material Recovery During Preprocessing**

High-tech refining processes are capable of achieving more than 95% material recovery for many profitable materials (Umicore, 2012). In order to produce the most volume and value of recycled raw material possible, the step prior to the extractive metallurgy processes needs to transfer as much scrap material from the collected devices to the refiners as possible. After devices are collected and channeled to appropriate material processing facilities, they are broken down into streams containing one or more elements that can be recovered by end refiners, which can refine particular combinations of materials depending on technologies employed (Habashi, 1997). The optimization of this disassembly stage, known as preprocessing, is vital to enable ideal material streams of certain mixed compositions to reach appropriate end refiners. Hagelüken estimates that mechanical preprocessing results in 20% precious metal loss prior to end refining (Hagelüken, 2006, p. 222). Precious metals contribute 43-93% of the value of recycled material (Ibid). As the economic drivers for recovery processes, precious metals and other materials prioritized for recovery need to be leveraged as they are prepared for refining. The challenges that face this leveraging activity to optimize the outgoing material fractions are constantly changing.

### 1.3 Challenges Facing End of Life Material Recovery During Preprocessing

The composition of incoming waste streams varies and the material content of incoming devices is widely unknown (Christina Meskers, personal interview, October 5, 2012). Not knowing which materials are present in a waste stream is a major detriment to preprocessing. Material processing facilities blindly dismantle and separate fractions of materials because there is little to no supply chain transparency concerning the material content of consumer electronic devices (New, Brown, 2013). Continuing miniaturization of components and the degree of integration among elements increases the challenge of identifying which elements are present in a device without divisive material about its composition (Chris Ryan, personal interview November 14, 2012). The newest, most complex devices reaching end of life, such as Apple's iPhone, pose all of these challenges to a material processing facility. In order to identify space for improvement during preprocessing, we will simulate mobile phone preprocessing, focusing on the iPhone, to explore methods of material handling that can be incorporated in material processing facilities to readily identify the elemental composition of complex and diverse electronic waste.

## 2. Background

### 2.1 Benchmarking Current Preprocessing Practices

As indicated previously, the preprocessing stage routes collected devices to appropriate extractive metallurgy operations, by dismantling and sorting the devices according to material composition that is expected to produce the most value during the refining process. This operation occurs in Material Processing Facilities, and is performed primarily in one of two ways: by manual means, or automated means.

### 2.2 Manual Preprocessing

Manual preprocessing is performed with human labor. If electronic waste is not already entering a materials processing facility as a separate fraction from municipal recyclables, then workers sort electronic waste from a larger incoming stream. From there, hydraulic screwdrivers and other hand tools aid laborers as they dismantle chassis and enclosing fixtures (Wang et al, 2012). The most material value has been shown to lie on logic-based printed wiring boards, as compared to power-controlling printed wiring boards and other generic parts in electronic devices (Meskers, Hagelüken, 2009) (Luda, 2011). Fractions are separated based on a laborer's familiarity with device composition; knowing where gold is contained even if it is not visible, or which components might contain comingled elements that should be organized according to one target material over another. The primary material fractions that leave manual preprocessing facilities include aluminum, gold-bearing, copper, hazardous materials (batteries), and other base metal-containing fractions (Spencer, 2005).

The cost of manual preprocessing is relatively high because it is human-intensive work. Often, personal data concerns are significant when dealing with discarded personal computers, mobile phones, and other data-containing devices. Therefore, a significant burden is placed on material processing facilities to prove that honest disassembly is being performed; that data is destroyed, not mined in the recycling process (*Why Choose an R2 Recycler*, 2012).

### 2.3 Automated Preprocessing

In automated preprocessing, material processing facilities perform a relatively common sequence of steps to break devices into material fractions. First, entire devices are comminuted in a shredding step to initially break devices into generically separate pieces, typically 10cm<sup>2</sup> or smaller. Next, ferrous materials are separated from non-ferrous by a magnet. The resulting stream still contains metal and nonmetal materials, and eddy current separation with varying degrees of resolution separates the metal from nonmetal pieces to a high degree of purity. The final fraction of interest then typically contains aluminum and non-aluminum, non-ferrous metals that might be of recoverable value (Goosey, Kellner, 2002). Typical mechanical separation at this point involves density separation in a fluid slurry (Ibid).

The drawback to automated preprocessing is optimizing the boundaries that differentiate material fractions. Comingled elements on printed wiring boards are often sorted into a fraction that will waste its material content (Meskers, Hagelüken, 2009). This forms the basis for an argument to treat devices with potentially significant value with greater attention.

While the value of a single logic-containing printed wiring board will contain nearly negligible value and precious metal content, one million recycled mobile phones will recover 50 lbs of gold (Electronics TakeBack, 2012). The presence of a battery in so many devices also presents a challenge to automated preprocessing; according to regulations in Europe and the United States, batteries are considered hazardous waste when discarded (European Commission Batteries, 2012). Therefore, they must be removed prior to any processing and dealt with separately from the rest of the device (Hazardous Waste, 2012). Huisman argues that entire mobile and small electronic devices should not be preprocessed in any mechanical way besides battery removal (Huisman, 2004). By sending the entire device into a recovery process like a complex copper smelter, without subjecting its material to the possibilities of material loss through processing, material recovery at very high

rates is guaranteed - but only if it contains materials that the refinery can recover from its extractive processes.

Herein lies the challenge to optimize preprocessing for particular end refining processes. Given a stream of devices that varies in chemical composition, and a multitude of refining processes that can recover only some elements, but not others; thus it is a challenge to optimize the final recovered material volume, purity, and value.

## **2.4 Extractive Metallurgy**

There are several methods for recovering individual elements from complex material streams that are produced at material processing facilities. While certain plastics, glass materials, and other non-metals can be profitable when recycled in pure streams, metals are the primary market for recycling devices such as mobile phones (Hagelüken, Meskers, 2008). There are three primary forms of extractive metallurgy that refine metallic chemicals: pyrometallurgy, hydrometallurgy, and electrometallurgy.

Pyrometallurgy relies on high-temperature chemical reactions, where a metal such as copper joins with metals of interest, such as gold and palladium, which are separated downstream by another process such as electrometallurgy, where the principle of an electrolytic cell is employed to complete the eletrowinning of the metal of interest on the cathode of the cell (Hagelüken, 2007) (Van Heukelem et al, 2004). Hydrometallurgy is the process used in “backyard recycling” processes, where valuable elements are leached in solution from printed wiring boards and other metal-containing parts (Kamberovic et al, 2009).

## **2.5 Meeting the Challenge of Identifying Elements with X-Ray Fluorescence**

As described above, one of the major challenges facing preprocessing optimization is the lack of supply chain transparency regarding material composition of electronic waste. If material processing facilities could know the precise content of incoming electronic waste, they would be better equipped to make decisions to maximize recoverable value and minimize risks associated with

the elements present. A technology that can perform rapid, high-precision elemental analysis in an open-air environment is X-Ray Fluorescence.

X-Ray Fluorescence (XRF) Spectroscopy is a means of performing nondestructive testing for elemental analysis. Fundamentally, XRF Spectroscopy capitalizes on the unique energy values at which atoms 'fluoresce' when exposed to an X-ray. By measuring the energy response as X-rays dislodge electrons in the innermost shell of an atom in a homogenous or mixed material, and applying appropriate algorithms, the presence of even very small concentrations of elements can be determined (X-Ray Fluorescence Spectroscopy, 2002). A simulation of preprocessing, involving a novel application of XRF Spectroscopy, will reveal whether or not it is a suitable technology in the application of identification of electronic waste composition.

## 3. Methodology

### 3.1 Mass Balance of Electronic Waste System

In order to better define the current scheme for electronic waste management, it was important for the team to examine the material flow conditions at each point in the system. The first step in this process was to define a mass balance for the system as a whole, starting at the end of life of the product, until the point where each material contained within the product is completely refined or safely disposed of. At each point within the system, economic, environmental, and material variables were established in order to evaluate the current effectiveness of the system. Additionally, losses within the system were explicitly defined in order to establish the scope of the project. This was important in order to establish reasonable bounds for the analysis, excluding losses such as the illegal shipment of electronic waste overseas. The results of this analysis are given in Appendix K.

### 3.2 Best Practices - Literature Review

In order to define best practices for the collection and preprocessing of electronic waste, an extensive literature review was conducted through the use of journals, periodicals, and books. For the purposes of the study, best practices were defined as the process having the lowest impact on the environment and materials usage, while also creating profit for each stakeholder. Additionally, collection was defined as the events that bring end of life devices to the preprocessor, including all transportation impacts. Lastly, preprocessing was defined as the activity where the electronic waste is first sorted, to when it reaches the refinery, including all transportation impacts.

### 3.3 Site Visits

In order to gain a better perspective of the current processes used within the recycling industry, the team visited several sites. One of the visits was to Umicore's precious metals refinery located in Hoboken, Belgium. The purpose of the visit was to examine the refinery process, and to understand the physical composition of the



materials that entered the smelter at the refinery. Additionally, it was important for the team to identify the incoming material needs of Umicore, as well as to identify any losses and inefficiencies of the system being employed. The team also attended the Center for Resource Recovery & Recycling's (CR3) Fall 2012 meeting in Leuven, Belgium, and the plant trip to Umicore was arranged in conjunction with the CR3 meeting.

The second site visit was to the wTe recycling plant located in Greenfield, MA. While on site, the team examined the processes used for general metal recycling. Although these processes are different from those used in the management of electronic waste, it was important to learn about the advanced separation and sorting technologies that are used at wTe to identify, dismantle, and recover different types of metals.

The next site visit completed by the team was to the Metech recycling plant in Worcester, MA. While there, the team set out to analyze the steps involved with the manual disassembly and sorting of electronic waste, and to see how cell phones and tablets fit into the current waste stream and business model. Additionally, the team was able to acquire several collected cell phones that could be used in this study.

### **3.4 Interviews**

The team also made use of interviews, as well as conferences in order to attain a wider base of information. Throughout the course of the project, the team formally interviewed Adam Powell, the CTO and co-founder of MOxST, Don Naugler, the President/General Manager of VJ Electronix, and Jeff Dahmus, the Environmental Program Manager for Apple. The team also spoke with Christina Meskers, from Umicore, and Jeff Webster, from wTe, several times as the project progressed. The purposes of the interviews with Adam Powell and Don Naugler were to examine possible refining and preprocessing techniques that could be applied to the project.

The interview with Jeff Dahmus was focused on environmental issues within the recycling industry, and how modern companies can adapt to meet ever-changing

government regulations and public perceptions. The interview with Jeff Dahmus helped us understand how Apple's recycling initiatives fit in to responsible recycling practices. Lastly, the conversations with Christina Meskers and Jeff Webster were in relation to the refining techniques practiced by Umicore, and X-Ray Fluorescent testing, respectively.

### **3.5 Materials Analysis**

In order to analyze the environmental, material, and economic impacts of the recycling of electronic waste, it was important to identify the materials that make up cell phones and tablets through interviews, research, and personal dismantling. The first step in this process was to review technical specifications for cell phones and tablets. Through this analysis, the team set out to identify common elements that were found within a majority of cell phones and tablets. The materials were broken up into four main categories, precious metals, base metals, hazardous/toxic materials, and all others. The precious metals category included Gold, Silver, Palladium, and Platinum. Base metals included Copper, Aluminum, Nickel, Tin, Zinc, Iron, etc. Lastly, hazardous and toxic materials included Mercury, Beryllium, Indium, Lead, Cadmium, Arsenic, Antimony, etc. While all of these materials were not found in the devices, these categories were used in order to establish benchmarks in each of the associated materials groups.

### **3.6 Cell Phone Dismantling and Shredding**

The next part of the project focused on the testing of cell phones in order to establish better preprocessing methods that could be used to sort dismantled phones. In order to do this, the team collected 37 phones, ranging from smart phones to small flip phones. Next, information for each phone was documented including: brand, model, year of manufacture, weight with battery, weight without battery (if applicable), weight of LCD screen (if applicable), and weight of printed wiring board (if applicable). Additionally, a short description regarding the type of phone and the current condition it was in was also noted (see Appendix E).

Following the cataloguing of the phones, the team selected 10 phones to dismantle based on model type, as well as how many of that particular model were present in the sample. Out of the 10 selected, 6 were dismantled carefully by hand, and 4 were shredded (See Appendix E). For those that were manually dismantled, the process was as follows, although there were some minor deviations from this process when necessary:

1. Remove the battery from the phone, mark which phone it came from, and place in battery bag
2. Remove the front and back panels of the phone and document the structure of the electronics and battery casing
3. For flip phones, break the phone in half
4. Note any wires that are present and what they appear to be composed of (copper, etc.)
5. Remove the printed wiring board, including the EMI shield
6. Make note of any connections that needed to be removed in order to remove the PWB
7. Remove the EMI shield from the PWB, noting any difficulties that arise with this process
8. Remove any of the electronics such as speakers and camera
9. Remove other components of the phone, noting in which order they are removed and if they appear to contain any metals
10. Count the number of pieces removed from the phone, and note the relative sizes or range of sizes of each of the pieces

Additionally, the tools used were a size zero screwdriver, a scale, tweezers, and plastic bags and containers. Below is an example of an iPhone being manually dismantled:

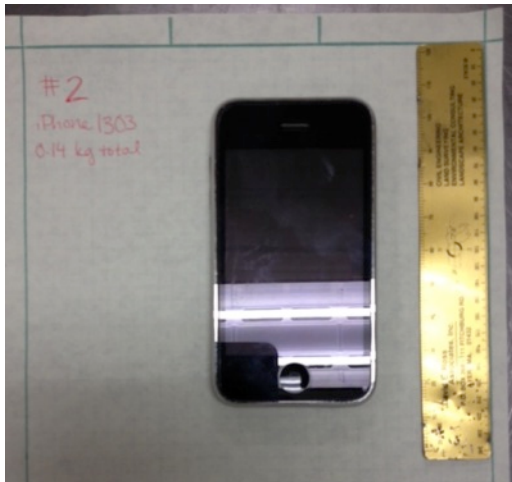


Figure 1. Complete iPhone 3



Figure 2. Step 2 - Separation of Front and Back Casing



Figure 3. Step 3 - Complete Separation of Front and Back Casing



Figure 4. Step 4 - Removal of EMI Shield



Figure 5. Liberation of PWB and SIM Card



Figure 6. Step 5 - Removal of PWB



**Figure 7. Step 7 - Removal of Bottom Connector**

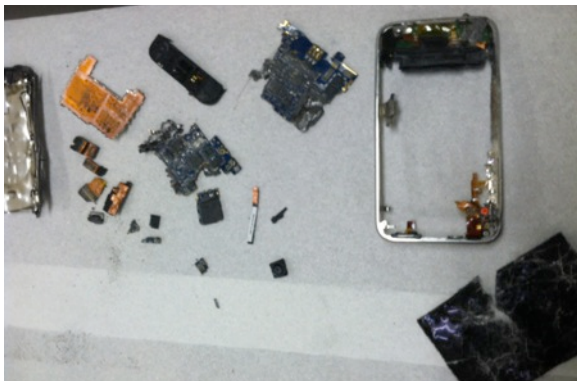
For those that were shredded, the pieces were placed in a small bag, and on top of a solid piece of metal. The bag was then impacted with the pointed end of a sledgehammer until most, if not all of the major components of the phone were liberated. Below is a sampling of pictures from the shredding process.



**Figure 9. Partially Shredded iPhone 3**



**Figure 8. Layers of Shredded LCD Backing**



**Figure 10. Shredded iPhone Pieces**



**Figure 11. Shredded iPhone Pieces**





Figure 12. Shredded iPhone Pieces



Figure 13. Shredded iPhone Pieces

### 3.7 XRF Testing and Data Analysis

In order to find methods for more intelligent sorting of the materials used in the design of electronic waste, the team researched methods used in other areas of recycling that could be applied in a different form. The team identified two types of sorting. The first was XRF and the second was X-Ray Transmission (XRT). For the purposes of this project, the XRF machine was used in order to characterize the individual pieces that are created when a cell phone is shredded. The purpose of this was to identify the elemental composition of each part so that they could be sorted more efficiently downstream. The XRT machine was not used due its limitations regarding the scanning of full phones, and what would be visible in the results.

Once the pieces were dismantled, certain samples were chosen to be sent out to be tested using an X-Ray Fluorescent (XRF) machine. The samples are shown in Table 1. The testing was completed by Jeff Webster from wTe, and included the scan of each sample. From each piece, the team received a set of 1,024 data points that represented photon counts at energy fluorescing values in eV. In order to find the fluorescence, the team applied Equation 1 to all 1,024 data points provided for each piece, where A2 represents the respective number between 1 and 1,024 that is being analyzed:

- **Equation 1.**  $(A2-1)*43-134.51$

In order to analyze the results, the team compiled the data into excel spreadsheets and graphed the data with eV on the x-axis and photon counts on the y-axis (See Appendix B). Along with this, a periodic table labeled with each element's corresponding K and L values in eV was acquired. This was necessary for identifying which element was represented by each peak in the graph. In order to reduce noise due to the machine, all data was normalized; the photon counts for each data set (for each piece) were divided by the maximum photon count for that given set. This was an important step for comparing the data later in the process.

**Table 1. Pieces Used in XRF Testing**

<b><i>Category/Label</i></b>	<b><i>Phones/Description</i></b>
<b><i>IPhones Manually Dismantled</i></b>	<b><i>2, 3</i></b>
A001	Green PWB
A002	LCD Screen
A003	LCD Protective Metal Backing
A004	EMI Shield
A005	EMI Shield
A006	Bottom Edge Connector
A007	Inside of Back Casing With Battery
<b><i>IPhones Shredded</i></b>	<b><i>15, 16</i></b>
B001	LCD Protective Metal Backing
B002	Green PWB With SIM Card Slot
B003	Green PWB
B004	Small Chip With Connector
B005	Blue PWB
<b><i>Other - Manually Dismantled and Shredded</i></b>	<b><i>4, 14, 18, 30, 37</i></b>
C001	EMI Shield
C002	Green PWB
C003	Small Cylinder Magnet
C004	Blue PWB
C005	Blue PWB
C006	Blue PWB
C007	Small Connector
C008	Green PWB
C009	Keyboard and LCD

Once all of the data were compiled, the team identified the associated energy value of each of the peaks, because each one represented a given element. In order to avoid the inclusion of remaining noise in the data, the team concluded a low count threshold, after normalization, of 0.01, which was appropriate for all the spectra. In order to identify each of the peaks and plateaus in the data, Equation 2 was applied in excel, where D2 and D3 represent different values for adjacent photon counts:

- **Equation 2.**  $IF(AND(\$D1<\$D2,\$D3<\$D2,\$D2>0.01),"PEAK",IF(AND(\$D2>0.01,\$D1=\$D2),"PLATEAU",IF(AND(\$D3=\$D2,\$D2>0.01),"PLATEAU",""))))$

Once all of the relative maxima were identified, the team needed an automated way to match each peak with its associated element based on Appendix J. To do this, the following steps were taken:

- In order to show the eV value of the relative maxima that exceeded the determined noise threshold (0.01 above), the team used Equation 3, where E3 was equal to the values of “peak” or “plateau,” and A3 was equal to the respective value for eV:
  - **Equation 3.**  $IF(OR(\$E3 = PEAK, \$E3 = PLATEAU)\$A3,)$
- In order to establish if the eV value of peaks in the histogram corresponded to fluorescing values of elements, the team made use of the following VLOOKUP function (Equation 4), where F3 was equal to the energy in eV at which the peak or plateau was located (See Appendix A):
  - **Equation 4.**  $IF(\$F3 = -, -, VLOOKUP(\$F3, Table15, 1, TRUE))$
- Next, the team plotted a histogram of normalized photon counts (y-axis) with fluorescing energy (eV) (x-axis).

After that process was applied, the team assigned elements to each peak, based on the noted eV levels from the VLOOKUP function, and kept the results standardized across each individual piece. In the end, this left a list of possible elements matched with their respective energy fluorescence levels. Each element



also had an associated photon count, giving an approximation of how much of that element was present.

The next step in our analysis was to create a matrix that would allow the team to effectively compare the concentrations of elements in each piece against the overall composition of the piece, while also checking the overall validity of the XRF results. To do this, each peak was ranked based on its associated photon count on a scale of one to four, with a 1 being from 0.0-0.1, a 2 from 0.1-0.3, a 3 from 0.3-0.6, and a 4 from 0.6-1.0. A "SUMIF" equation was then applied to the data in order to compile all of the ranks from each element for each given piece. This data was then converted into percent values based on the totals for all of the elements combined. These percent values were then put into the excel matrix that can be seen in Appendix D. Using the spreadsheet, the elements with the highest relative concentrations were identified from each piece.

### **3.8 SEM Testing and Data Analysis**

In order to validate the XRF results, two tests were completed. The first was a simple visual test to see if the elements listed on the XRF sheet made logical sense based on the appearance of the piece that it corresponded to. The second, and more important test was the scanning of five selected pieces with a scanning electron microscope (SEM). The five pieces that were selected can be seen in Figures 14 through 18. The pieces that were selected were uniform in nature, and allowed the team to test the XRF results versus very specific SEM results. Once this analysis was completed, the team was able to draw conclusions regarding the validity of XRF testing as an elemental identification technique during preprocessing of electronic waste.



Figure 14. Piece Used for SEM Testing

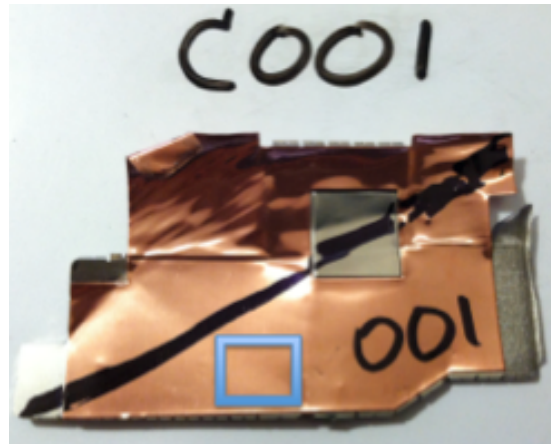


Figure 15. Piece Used for SEM Testing



Figure 16. Piece used for SEM Testing

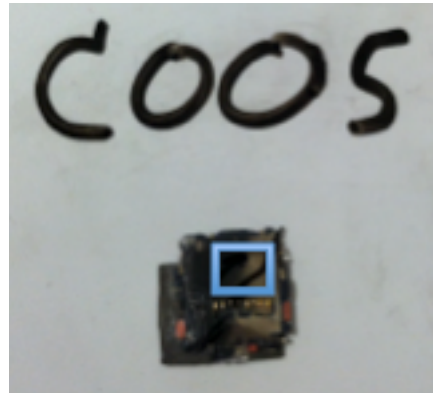


Figure 17. Piece used for SEM Testing



Figure 18. Piece used for SEM Testing

## 4. Results and Conclusions

After benchmarking the current processes involved in electronic waste recycling and identifying losses in the preprocessing stage of recovery to address, we pursued XRF spectroscopy to provide material information during preprocessing. We found that we could determine the usefulness of the results of our XRF testing and SEM validation by comparing our results to that of prior work. Umicore Precious Metals Refinery has identified elements commonly found in mobile phones and published this information. Greenpeace International has identified hazardous materials that were found in the first iPhone model, and Metech provided us with knowledge of the elements that are primary economic drivers of electronic waste recycling. By comparing our findings from SEM and XRF analyses to the composite of the elements that Umicore has found, Greenpeace identifies as hazardous, and Metech identifies as highly valuable, we realize that our preprocessing strategy has the capacity to identify the range of materials present according to these positive and negative attributes as well.

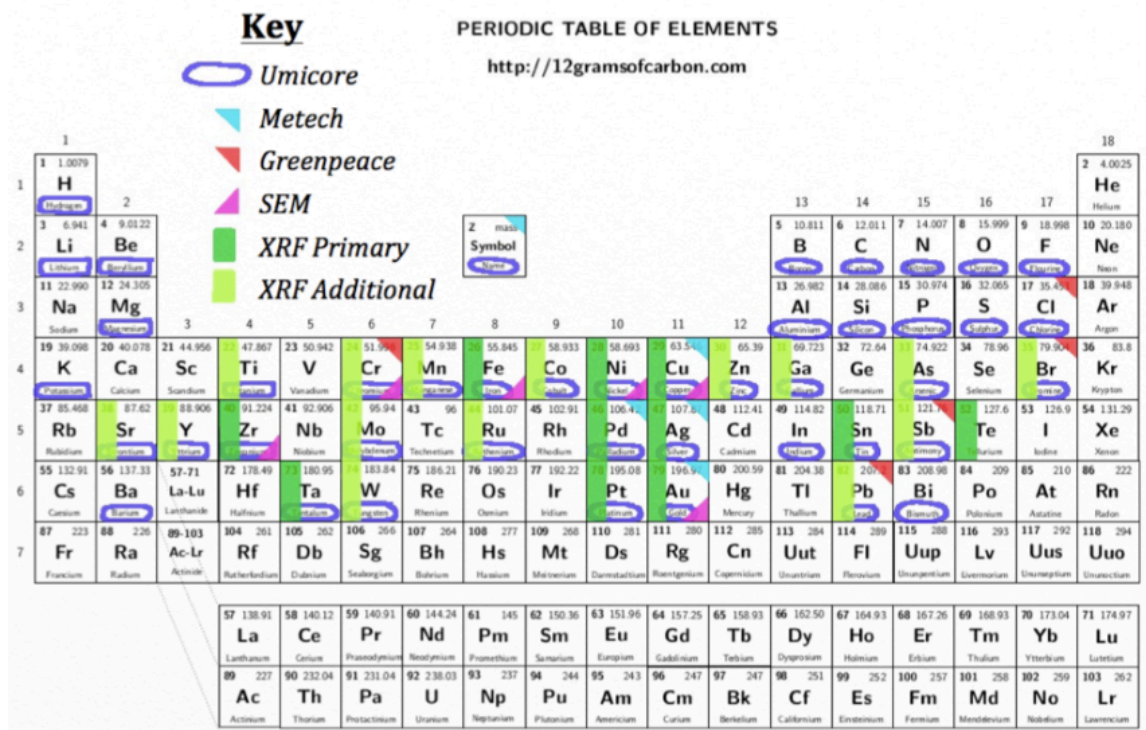


Figure 19. Materials Analysis Results

According to Umicore, the elements in blue were identified as existing in mobile phones (Meskers, Hagelüken, Van Damme, 2009). Greenpeace International's evaluation of the potentially hazardous elements found in the first generation of iPhone revealed the elements highlighted in red (but not above concentrations restricted by RoHS), present in some of the eighteen pieces of the phone that were analyzed with XRF spectroscopy in 2007 (Santillo, Walters, 2007). Elements highlighted in light blue were identified by the material processing facility, Metech, as the primary economic drivers in electronic waste recycling (Chris Ryan personal Interview, November 14, 2012). Within the limitations of the XRF spectramet machine that was used for the present study, all materials highlighted in green and yellow were identified in the samples prepared, which included smashed and dismantled iPhones and other dismantled mobile phones.

A subset of the pieces evaluated by XRF for this study were tested in an SEM, expected to produce obvious validating results (By sight, it seemed that there was an apparent existence of gold and copper on two of the pieces, for example). It is apparent from the visual summary above, that the method of XRF analysis employed for this study identifies a) materials anticipated present according to Umicore, b) potentially harmful materials identified previously by Greenpeace, and c) the most profitable elements identified by Metech.

The appearance of elements in this study that align with industry leader Umicore, and validated by SEM, indicates that the method by which XRF was employed for this study was valid itself.

The appearance of both harmful and profit-bearing elements in this study indicates that the employment of XRF in this manner can supply vital information for materials processing facilities that can help optimize preprocessing by providing accurate and meaningful electronic waste composition data. With this data, material processing facilities can make more informed decisions regarding the optimal preprocessing treatment that their electronic waste should receive.

In addition, the use of a tool proven to be accurate to perform compositional analysis is more reliable than human analysis alone.

## 5. Recommendations

**We recommend that there be an increase in transparency regarding the design and material composition of cell phones from the manufacturing process to the final recycler of the phone.**

Throughout the course of the team's research, interviews, and site visits, it quickly became evident that a severe lack of transparency in the electronics industry keeps recyclers from recovering materials at the highest possible level. While much information is protected by intellectual property, there is certain information regarding the design and makeup of products that is available, but not efficiently used. Rather, material processing facilities and end refining companies use websites such as [www.ifixit.com](http://www.ifixit.com) in order to find information regarding how to most effectively and efficiently dismantle a given phone. If certain key pieces of design information, such as the location of the battery and how it is secured within the phone, the location of the PWB and how it is secured, and the masses of precious metals such as silver, gold, platinum, and palladium were given to end of life recycler, the companies would be much more successful at recovering the most expensive elements, as well as those that have the highest potential for causing harm to the environment.

**We recommend that a complete life cycle analysis of the most recent iPhone be completed using available data as well as mathematical regression models when needed.**

In order to gain a more complete perspective of the current life cycle of an iPhone, a complete life cycle analysis should be completed using software such as sustainable minds (<http://sustainableminds.com>). One of the most important parts of this analysis will involve tracing elements to their original source, and if possible, to the area where they were originally mined or recovered from. Although this will be difficult considering the existing lack of transparency in the supply chain, mathematical regression models could be used to make assumptions based on the overall flow of materials on the world market today. This analysis could lead to increased levels of transparency by producers because it is often difficult for them to effectively identify where each piece within a given product originated.

**We recommend that a system of algorithms be formulated in order to create a process through which individual shredded phone pieces can be separated after being scanned with an XRF machine.**

From the results of the XRF testing completed in this project, it is evident that XRF spectroscopy was successful in identifying the elements present on a given piece of shredded or dismantled cell phone. However, the biggest challenge to this analysis was turning the counts and energies produced by the XRF machine into a

list of elements and their prevalence on a given piece. In order for this technology to be viable on a larger scale, it will be necessary for programs to be developed that will be able to turn the output of the machine into useable results at a significantly faster rate than was possible within the context of this project. Ideally, this program would be able to quickly identify, and then actuate subsequent sorting mechanisms to separate fractions downstream in the most widely optimal manner. This might involve removing pieces containing economically significant elements such as gold, silver, palladium, platinum, and copper, as well as pieces containing potentially harmful elements from an environmental perspective.

**We recommend that protocols be developed for the proper end of life handling of large handheld electronic devices such as tablets and electronic readers.**

In the recycling industry today, there is a lack of experience in properly handling new consumer electronics, and how to recover the most materials from them. The two products that are the most concerning are tablets, such as the iPad and electronic readers, such as the Kindle. The reason for this is that these products are often viewed as simply being oversized smart phones, which can result in non-ideal handling at their end of life stage. In order for the valuable and harmful materials within these devices to be recovered more efficiently, protocols similar to those currently being employed for smart phones should be developed by recyclers in conjunction with product developers.

**We recommend that handheld XRF analysis devices be used in cases where manual disassembly is still the most effective mode of end of life management for cell phones.**

Presently, there are many recycling companies that employ manual disassembly methods for electronic waste, including cell phones. When taking apart the phones, the two most important pieces are normally the PWB and the battery. However, within the PWB, and on other parts of the phone, there are often valuable materials that are not being properly accounted for simply because they cannot be effectively identified by the human eye. For this reason, the team recommends using handheld XRF devices, such as the portable XRF element analyzer produced by Element Check (<http://elementcheck.com/en/index.html>), in order to more effectively identify each material and where it is located, especially in areas not on the PWB. This may allow for higher recovery rates downstream in the recycling process, and will not add a significant cost to the manufacturer outside of the purchase of the additional equipment.

**We recommend that the evaluation schemes developed by the team and included in Appendix G and Appendix H, be further expanded upon and applied to collection and preprocessing systems in the EU and the US.**

In order to more effectively analyze specific environmental and economic costs and benefits within specific portions of a cell phone's life cycle, the attached sheets can be used to evaluate the collection and preprocessing steps. Due to the fact that a company such as Umicore can very efficiently recover metals after the pieces have been processed, the team identified the two preceding stages in recycling to be of the most concern. The collection evaluation scheme focuses on the negative impacts of incineration or landfilling at the end of life. The preprocessing evaluation concentrates on precious metals, rare earth metals, and critical elements, and the profits lost each year when devices are not properly recycled. Additionally, transportation, and the impacts it has on the industry, are taken into account for both schemes.

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## Appendix A. XRF Data Analysis

Table 2. Data Point to eV Conversion Chart

Data Point	Ev
1	-134.51
2	-91.51
3	-48.51
4	-5.51
5	37.49
6	80.49
7	123.49
8	166.49
9	209.49
10	252.49
11	295.49
12	338.49
13	381.49
14	424.49
15	467.49
16	510.49
17	553.49
18	596.49
19	639.49
20	682.49
21	725.49
22	768.49
23	811.49
24	854.49
25	897.49
26	940.49
27	983.49
28	1026.49
29	1069.49
30	1112.49
31	1155.49
32	1198.49
33	1241.49
34	1284.49
35	1327.49
36	1370.49

37	1413.49
38	1456.49
39	1499.49
40	1542.49
41	1585.49
42	1628.49
43	1671.49
44	1714.49
45	1757.49
46	1800.49
47	1843.49
48	1886.49
49	1929.49
50	1972.49
51	2015.49
52	2058.49
53	2101.49
54	2144.49
55	2187.49
56	2230.49
57	2273.49
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60	2402.49
61	2445.49
62	2488.49
63	2531.49
64	2574.49
65	2617.49
66	2660.49
67	2703.49
68	2746.49
69	2789.49
70	2832.49
71	2875.49
72	2918.49
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74	3004.49
75	3047.49
76	3090.49
77	3133.49

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83	3391.49
84	3434.49
85	3477.49
86	3520.49
87	3563.49
88	3606.49
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90	3692.49
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92	3778.49
93	3821.49
94	3864.49
95	3907.49
96	3950.49
97	3993.49
98	4036.49
99	4079.49
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101	4165.49
102	4208.49
103	4251.49
104	4294.49
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110	4552.49
111	4595.49
112	4638.49
113	4681.49
114	4724.49
115	4767.49
116	4810.49
117	4853.49
118	4896.49

119	4939.49
120	4982.49
121	5025.49
122	5068.49
123	5111.49
124	5154.49
125	5197.49
126	5240.49
127	5283.49
128	5326.49
129	5369.49
130	5412.49
131	5455.49
132	5498.49
133	5541.49
134	5584.49
135	5627.49
136	5670.49
137	5713.49
138	5756.49
139	5799.49
140	5842.49
141	5885.49
142	5928.49
143	5971.49
144	6014.49
145	6057.49
146	6100.49
147	6143.49
148	6186.49
149	6229.49
150	6272.49
151	6315.49
152	6358.49
153	6401.49
154	6444.49
155	6487.49
156	6530.49
157	6573.49
158	6616.49
159	6659.49



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162	6788.49
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164	6874.49
165	6917.49
166	6960.49
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169	7089.49
170	7132.49
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172	7218.49
173	7261.49
174	7304.49
175	7347.49
176	7390.49
177	7433.49
178	7476.49
179	7519.49
180	7562.49
181	7605.49
182	7648.49
183	7691.49
184	7734.49
185	7777.49
186	7820.49
187	7863.49
188	7906.49
189	7949.49
190	7992.49
191	8035.49
192	8078.49
193	8121.49
194	8164.49
195	8207.49
196	8250.49
197	8293.49
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199	8379.49
200	8422.49

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206	8680.49
207	8723.49
208	8766.49
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211	8895.49
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213	8981.49
214	9024.49
215	9067.49
216	9110.49
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218	9196.49
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221	9325.49
222	9368.49
223	9411.49
224	9454.49
225	9497.49
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227	9583.49
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229	9669.49
230	9712.49
231	9755.49
232	9798.49
233	9841.49
234	9884.49
235	9927.49
236	9970.49
237	10013.49
238	10056.49
239	10099.49
240	10142.49
241	10185.49

242	10228.49
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245	10357.49
246	10400.49
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251	10615.49
252	10658.49
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254	10744.49
255	10787.49
256	10830.49
257	10873.49
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261	11045.49
262	11088.49
263	11131.49
264	11174.49
265	11217.49
266	11260.49
267	11303.49
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269	11389.49
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272	11518.49
273	11561.49
274	11604.49
275	11647.49
276	11690.49
277	11733.49
278	11776.49
279	11819.49
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281	11905.49
282	11948.49

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289	12249.49
290	12292.49
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292	12378.49
293	12421.49
294	12464.49
295	12507.49
296	12550.49
297	12593.49
298	12636.49
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302	12808.49
303	12851.49
304	12894.49
305	12937.49
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307	13023.49
308	13066.49
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311	13195.49
312	13238.49
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319	13539.49
320	13582.49
321	13625.49
322	13668.49
323	13711.49

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328	13926.49
329	13969.49
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332	14098.49
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358	15216.49
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362	15388.49
363	15431.49
364	15474.49

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368	15646.49
369	15689.49
370	15732.49
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372	15818.49
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387	16463.49
388	16506.49
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390	16592.49
391	16635.49
392	16678.49
393	16721.49
394	16764.49
395	16807.49
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399	16979.49
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401	17065.49
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420	17882.49
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422	17968.49
423	18011.49
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426	18140.49
427	18183.49
428	18226.49
429	18269.49
430	18312.49
431	18355.49
432	18398.49
433	18441.49
434	18484.49
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436	18570.49
437	18613.49
438	18656.49
439	18699.49
440	18742.49
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443	18871.49
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452	19258.49
453	19301.49
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458	19516.49
459	19559.49
460	19602.49
461	19645.49
462	19688.49
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467	19903.49
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472	20118.49
473	20161.49
474	20204.49
475	20247.49
476	20290.49
477	20333.49
478	20376.49
479	20419.49
480	20462.49
481	20505.49
482	20548.49
483	20591.49
484	20634.49
485	20677.49
486	20720.49
487	20763.49



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490	20892.49
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501	21365.49
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525	22397.49
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558	23816.49
559	23859.49
560	23902.49
561	23945.49
562	23988.49
563	24031.49
564	24074.49
565	24117.49
566	24160.49
567	24203.49
568	24246.49
569	24289.49

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571	24375.49
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573	24461.49
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575	24547.49
576	24590.49
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578	24676.49
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580	24762.49
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583	24891.49
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593	25321.49
594	25364.49
595	25407.49
596	25450.49
597	25493.49
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604	25794.49
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615	26267.49
616	26310.49
617	26353.49
618	26396.49
619	26439.49
620	26482.49
621	26525.49
622	26568.49
623	26611.49
624	26654.49
625	26697.49
626	26740.49
627	26783.49
628	26826.49
629	26869.49
630	26912.49
631	26955.49
632	26998.49
633	27041.49
634	27084.49
635	27127.49
636	27170.49
637	27213.49
638	27256.49
639	27299.49
640	27342.49
641	27385.49
642	27428.49
643	27471.49
644	27514.49
645	27557.49
646	27600.49
647	27643.49
648	27686.49
649	27729.49
650	27772.49
651	27815.49

652	27858.49
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654	27944.49
655	27987.49
656	28030.49
657	28073.49
658	28116.49
659	28159.49
660	28202.49
661	28245.49
662	28288.49
663	28331.49
664	28374.49
665	28417.49
666	28460.49
667	28503.49
668	28546.49
669	28589.49
670	28632.49
671	28675.49
672	28718.49
673	28761.49
674	28804.49
675	28847.49
676	28890.49
677	28933.49
678	28976.49
679	29019.49
680	29062.49
681	29105.49
682	29148.49
683	29191.49
684	29234.49
685	29277.49
686	29320.49
687	29363.49
688	29406.49
689	29449.49
690	29492.49
691	29535.49
692	29578.49

693	29621.49
694	29664.49
695	29707.49
696	29750.49
697	29793.49
698	29836.49
699	29879.49
700	29922.49
701	29965.49
702	30008.49
703	30051.49
704	30094.49
705	30137.49
706	30180.49
707	30223.49
708	30266.49
709	30309.49
710	30352.49
711	30395.49
712	30438.49
713	30481.49
714	30524.49
715	30567.49
716	30610.49
717	30653.49
718	30696.49
719	30739.49
720	30782.49
721	30825.49
722	30868.49
723	30911.49
724	30954.49
725	30997.49
726	31040.49
727	31083.49
728	31126.49
729	31169.49
730	31212.49
731	31255.49
732	31298.49
733	31341.49

734	31384.49
735	31427.49
736	31470.49
737	31513.49
738	31556.49
739	31599.49
740	31642.49
741	31685.49
742	31728.49
743	31771.49
744	31814.49
745	31857.49
746	31900.49
747	31943.49
748	31986.49
749	32029.49
750	32072.49
751	32115.49
752	32158.49
753	32201.49
754	32244.49
755	32287.49
756	32330.49
757	32373.49
758	32416.49
759	32459.49
760	32502.49
761	32545.49
762	32588.49
763	32631.49
764	32674.49
765	32717.49
766	32760.49
767	32803.49
768	32846.49
769	32889.49
770	32932.49
771	32975.49
772	33018.49
773	33061.49
774	33104.49

775	33147.49
776	33190.49
777	33233.49
778	33276.49
779	33319.49
780	33362.49
781	33405.49
782	33448.49
783	33491.49
784	33534.49
785	33577.49
786	33620.49
787	33663.49
788	33706.49
789	33749.49
790	33792.49
791	33835.49
792	33878.49
793	33921.49
794	33964.49
795	34007.49
796	34050.49
797	34093.49
798	34136.49
799	34179.49
800	34222.49
801	34265.49
802	34308.49
803	34351.49
804	34394.49
805	34437.49
806	34480.49
807	34523.49
808	34566.49
809	34609.49
810	34652.49
811	34695.49
812	34738.49
813	34781.49
814	34824.49
815	34867.49



816	34910.49
817	34953.49
818	34996.49
819	35039.49
820	35082.49
821	35125.49
822	35168.49
823	35211.49
824	35254.49
825	35297.49
826	35340.49
827	35383.49
828	35426.49
829	35469.49
830	35512.49
831	35555.49
832	35598.49
833	35641.49
834	35684.49
835	35727.49
836	35770.49
837	35813.49
838	35856.49
839	35899.49
840	35942.49
841	35985.49
842	36028.49
843	36071.49
844	36114.49
845	36157.49
846	36200.49
847	36243.49
848	36286.49
849	36329.49
850	36372.49
851	36415.49
852	36458.49
853	36501.49
854	36544.49
855	36587.49
856	36630.49

857	36673.49
858	36716.49
859	36759.49
860	36802.49
861	36845.49
862	36888.49
863	36931.49
864	36974.49
865	37017.49
866	37060.49
867	37103.49
868	37146.49
869	37189.49
870	37232.49
871	37275.49
872	37318.49
873	37361.49
874	37404.49
875	37447.49
876	37490.49
877	37533.49
878	37576.49
879	37619.49
880	37662.49
881	37705.49
882	37748.49
883	37791.49
884	37834.49
885	37877.49
886	37920.49
887	37963.49
888	38006.49
889	38049.49
890	38092.49
891	38135.49
892	38178.49
893	38221.49
894	38264.49
895	38307.49
896	38350.49
897	38393.49

898	38436.49
899	38479.49
900	38522.49
901	38565.49
902	38608.49
903	38651.49
904	38694.49
905	38737.49
906	38780.49
907	38823.49
908	38866.49
909	38909.49
910	38952.49
911	38995.49
912	39038.49
913	39081.49
914	39124.49
915	39167.49
916	39210.49
917	39253.49
918	39296.49
919	39339.49
920	39382.49
921	39425.49
922	39468.49
923	39511.49
924	39554.49
925	39597.49
926	39640.49
927	39683.49
928	39726.49
929	39769.49
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931	39855.49
932	39898.49
933	39941.49
934	39984.49
935	40027.49
936	40070.49
937	40113.49
938	40156.49

939	40199.49
940	40242.49
941	40285.49
942	40328.49
943	40371.49
944	40414.49
945	40457.49
946	40500.49
947	40543.49
948	40586.49
949	40629.49
950	40672.49
951	40715.49
952	40758.49
953	40801.49
954	40844.49
955	40887.49
956	40930.49
957	40973.49
958	41016.49
959	41059.49
960	41102.49
961	41145.49
962	41188.49
963	41231.49
964	41274.49
965	41317.49
966	41360.49
967	41403.49
968	41446.49
969	41489.49
970	41532.49
971	41575.49
972	41618.49
973	41661.49
974	41704.49
975	41747.49
976	41790.49
977	41833.49
978	41876.49
979	41919.49

980	41962.49
981	42005.49
982	42048.49
983	42091.49
984	42134.49
985	42177.49
986	42220.49
987	42263.49
988	42306.49
989	42349.49
990	42392.49
991	42435.49
992	42478.49
993	42521.49
994	42564.49
995	42607.49
996	42650.49
997	42693.49
998	42736.49
999	42779.49
1000	42822.49
1001	42865.49
1002	42908.49
1003	42951.49
1004	42994.49
1005	43037.49
1006	43080.49
1007	43123.49
1008	43166.49
1009	43209.49
1010	43252.49
1011	43295.49
1012	43338.49
1013	43381.49
1014	43424.49
1015	43467.49
1016	43510.49
1017	43553.49
1018	43596.49
1019	43639.49
1020	43682.49

1021	43725.49
1022	43768.49
1023	43811.49
1024	43854.49

Table 3. Ka1, Kb1, La1, Kb1 and Respective Elements

Ka1	Element
3690	Ca(Ka1)
4090	Sc(Ka1)
4510	Ti(Ka1)
4950	V(Ka1)
5410	Cr(Ka1)
5900	Mn(Ka1)
6400	Fe(Ka1)
6930	Co(Ka1)
7480	Ni(Ka1)
8050	Cu(Ka1)
8640	Zn(Ka1)
9250	Ga(Ka1)
9890	Ge(Ka1)
10540	As(Ka1)
11220	Se(Ka1)
11920	Br(Ka1)
12650	Kr(Ka1)
13390	Rb(Ka1)
14160	Sr(Ka1)
14960	Y(Ka1)
15770	Zr(Ka1)
16610	Nb(Ka1)
17480	Mo(Ka1)
18410	Tc(Ka1)
19280	Ru(Ka1)
20210	Rh(Ka1)
21180	Pd(Ka1)
22160	Ag(Ka1)
23170	Cd(Ka1)
24210	In(Ka1)
25270	Sn(Ka1)

Kb1	Element
4010	Ca(Kb1)
4460	Sc(Kb1)
4930	Ti(Kb1)
5430	V(Kb1)
5950	Cr(Kb1)
6490	Mn(Kb1)
7060	Fe(Kb1)
7650	Co(Kb1)
8260	Ni(Kb1)
8900	Cu(Kb1)
9570	Zn(Kb1)
10260	Ga(Kb1)
10980	Ge(Kb1)
11730	As(Kb1)
12500	Se(Kb1)
13290	Br(Kb1)
14110	Kr(Kb1)
14960	Rb(Kb1)
15830	Sr(Kb1)
16740	Y(Kb1)
17670	Zr(Kb1)
18620	Nb(Kb1)
19610	Mo(Kb1)
19610	Tc(Kb1)
21660	Ru(Kb1)
22720	Rh(Kb1)
23820	Pd(Kb1)
24940	Ag(Kb1)
26090	Cd(Kb1)
-	In
-	Sn

La1	Element
340	Ca(La1)
400	Sc(La1)
450	Ti(La1)
510	V(La1)
570	Cr(La1)
640	Mn(La1)
700	Fe(La1)



780	Co(La1)
850	Ni(La1)
930	Cu(La1)
1010	Zn(La1)
1100	Ga(La1)
1190	Ge(La1)
1280	As(La1)
1380	Se(La1)
1480	Br(La1)
1590	Kr(La1)
1690	Rb(La1)
1810	Sr(La1)
1920	Y(La1)
2040	Zr(La1)
2170	Nb(La1)
2290	Mo(La1)
2420	Tc(La1)
2560	Ru(La1)
2700	Rh(La1)
2840	Pd(La1)
2980	Ag(La1)
3130	Cd(La1)
3290	In(La1)
3440	Sn(La1)
3610	Sb(La1)
3770	Te(La1)
3940	I(La1)
4110	Xe(La1)
4290	Cs(La1)
4470	Ba(La1)
4650	La(La1)
4840	Ce(La1)
5030	Pr(La1)
5230	Nd(La1)
5430	Pm(La1)
5640	Sm(La1)
5850	Eu(La1)
6060	Gd(La1)
6280	Tb(La1)
6500	Dy(La1)
6720	Ho(La1)

6950	Er(La1)
7180	Tm(La1)
7410	Yb(La1)
7650	Lu(La1)
7900	Hf(La1)
8150	Ta(La1)
8400	W(La1)
8650	Re(La1)
8910	Os(La1)
9190	Ir(La1)
9440	Pt(La1)
9710	Au(La1)
9990	Hg(La1)
10270	Tl(La1)
10550	Pb(La1)
10840	Bi(La1)
11130	Po(La1)
11420	At(La1)
11720	Rn(La1)
12030	Fr(La1)
12340	Ra(La1)
12650	Ac(La1)
12970	Th(La1)

Lb1	Element
460	Ti(Lb1)
520	V(Lb1)
580	Cr(Lb1)
650	Mn(Lb1)
720	Fe(Lb1)
790	Co(Lb1)
870	Ni(Lb1)
950	Cu(Lb1)
1030	Zn(Lb1)
1120	Ga(Lb1)
1210	Ge(Lb1)
1320	As(Lb1)
1420	Se(Lb1)
1530	Br(Lb1)
1640	Kr(Lb1)
1750	Rb(Lb1)

1870	Sr(Lb1)
2000	Y(Lb1)
2120	Zr(Lb1)
2260	Nb(Lb1)
2400	Mo(Lb1)
2540	Tc(Lb1)
2680	Ru(Lb1)
2830	Rh(Lb1)
2990	Pd(Lb1)
3150	Ag(Lb1)
3320	Cd(Lb1)
3490	In(Lb1)
3660	Sn(Lb1)
3840	Sb(Lb1)
4030	Te(Lb1)
4220	I(Lb1)
4420	Xe(Lb1)
4620	Cs(Lb1)
4830	Ba(Lb1)
5040	La(Lb1)
5260	Ce(Lb1)
5490	Pr(Lb1)
5720	Nd(Lb1)
5960	Pm(Lb1)
6210	Sm(Lb1)
6460	Eu(Lb1)
6710	Gd(Lb1)
6980	Tb(Lb1)
7250	Dy(Lb1)
7530	Ho(Lb1)
7810	Er(Lb1)
8100	Tm(Lb1)
8400	Yb(Lb1)
8710	(Lb1)
9020	Hf(Lb1)
9340	Ta(Lb1)
9670	W(Lb1)
10010	Re(Lb1)
10350	Os(Lb1)
10710	Ir(Lb1)
11070	Pt(Lb1)

11440	Au(Lb1)
11820	(Lb1)
12210	Tl(Lb1)
12610	Pb(Lb1)
13020	Bi(Lb1)
13440	Po(Lb1)
13870	At(Lb1)
14320	Rn(Lb1)
14770	Fr(Lb1)
15230	Ra(Lb1)
15710	Ac(Lb1)
16200	Th(Lb1)

Table 4. Example of Applied VLOOKUP Table

<b>Peak Energies</b>	<b>Ka1 Elements</b>	<b>Ka1 Energies</b>	<b>Kb1 Elements</b>	<b>Kb1 Energies</b>
8938.49	Zn(Ka1)	8640	Cu(Kb1)	8900
-	-	-	-	-
9454.49	Ga(Ka1)	9250	Cu(Kb1)	8900
-	-	-	-	-
9669.49	Ga(Ka1)	9250	Zn(Kb1)	9570
-	-	-	-	-
9798.49	Ga(Ka1)	9250	Zn(Kb1)	9570

<b>La1 Elements</b>	<b>La1 Energies</b>	<b>Lb1 Elements</b>	<b>Lb1 Energies</b>	<b>Element</b>
Os(La1)	8910	(Lb1)	8710	<b>Cu</b>
-	-	-	-	
Pt(La1)	9440	Ta(Lb1)	9340	<b>Pt</b>
-	-	-	-	
Pt(La1)	9440	Ta(Lb1)	9340	<b>Au</b>
-	-	-	-	
Au(La1)	9710	W(Lb1)	9670	<b>Au</b>

## Appendix B. XRF Results

For clarification on the figures in this section, the x-axis of each graph represents the energy in eV, while the y-axis represents the number counts, normalized, at each given energy level. Additionally, in the tables, each peak or plateau in the data was assigned an element based on the energy level where the given peak or plateau occurred.

### A001

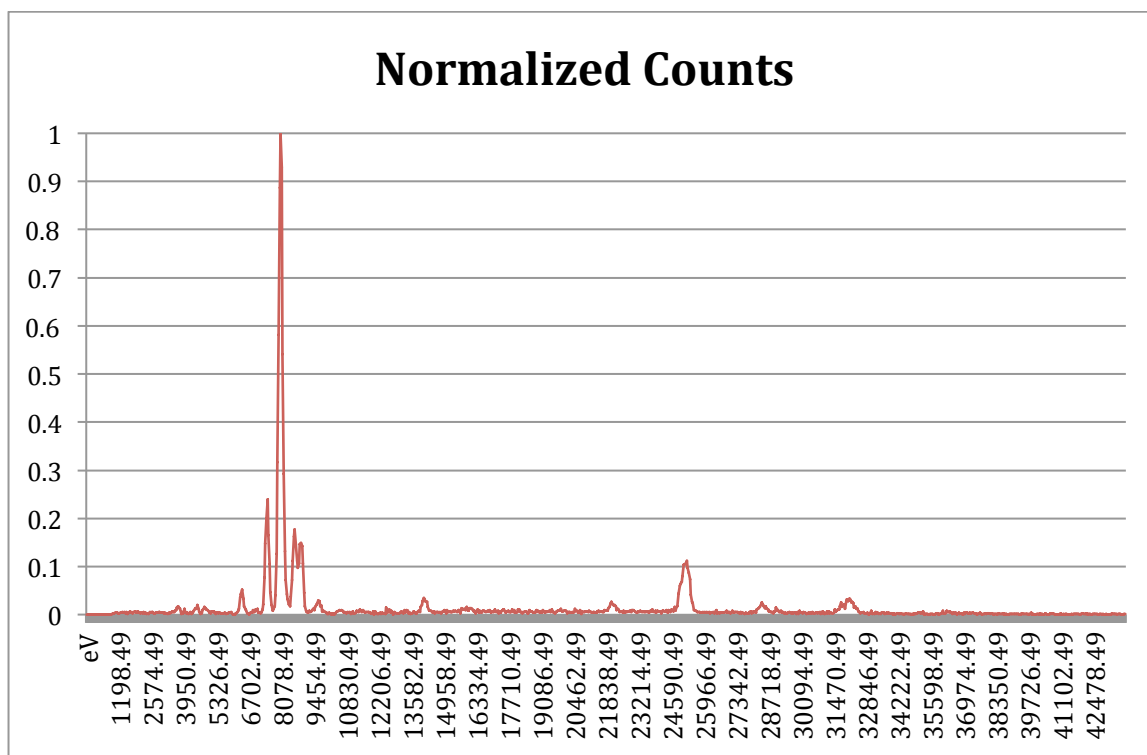


Figure 20. A001 Normalized XRF Counts

Table 5. A001 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	

166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	2	0.001299545	
983.49	4	0.00259909	
1026.49	5	0.003248863	
1069.49	7	0.004548408	
1112.49	6	0.003898635	
1155.49	7	0.004548408	
1198.49	5	0.003248863	
1241.49	5	0.003248863	
1284.49	6	0.003898635	
1327.49	6	0.003898635	
1370.49	9	0.005847953	
1413.49	7	0.004548408	
1456.49	8	0.005198181	
1499.49	4	0.00259909	
1542.49	9	0.005847953	
1585.49	3	0.001949318	
1628.49	4	0.00259909	
1671.49	8	0.005198181	
1714.49	10	0.006497726	
1757.49	7	0.004548408	
1800.49	4	0.00259909	
1843.49	8	0.005198181	
1886.49	8	0.005198181	

1929.49	10	0.006497726	
1972.49	6	0.003898635	
2015.49	11	0.007147498	
2058.49	8	0.005198181	
2101.49	7	0.004548408	
2144.49	4	0.00259909	
2187.49	7	0.004548408	
2230.49	4	0.00259909	
2273.49	8	0.005198181	
2316.49	5	0.003248863	
2359.49	6	0.003898635	
2402.49	2	0.001299545	
2445.49	5	0.003248863	
2488.49	2	0.001299545	
2531.49	8	0.005198181	
2574.49	6	0.003898635	
2617.49	8	0.005198181	
2660.49	9	0.005847953	
2703.49	5	0.003248863	
2746.49	4	0.00259909	
2789.49	6	0.003898635	
2832.49	7	0.004548408	
2875.49	6	0.003898635	
2918.49	9	0.005847953	
2961.49	9	0.005847953	
3004.49	7	0.004548408	
3047.49	7	0.004548408	
3090.49	6	0.003898635	
3133.49	4	0.00259909	
3176.49	6	0.003898635	
3219.49	5	0.003248863	
3262.49	5	0.003248863	
3305.49	3	0.001949318	
3348.49	6	0.003898635	
3391.49	5	0.003248863	
3434.49	6	0.003898635	
3477.49	10	0.006497726	
3520.49	8	0.005198181	
3563.49	8	0.005198181	
3606.49	12	0.007797271	
3649.49	15	0.009746589	



3692.49	23	0.014944769	
3735.49	28	0.018193632	Ca
3778.49	21	0.013645224	
3821.49	19	0.012345679	
3864.49	3	0.001949318	
3907.49	9	0.005847953	
3950.49	5	0.003248863	
3993.49	19	0.012345679	Sb
4036.49	8	0.005198181	
4079.49	5	0.003248863	
4122.49	6	0.003898635	
4165.49	2	0.001299545	
4208.49	5	0.003248863	
4251.49	9	0.005847953	
4294.49	3	0.001949318	
4337.49	5	0.003248863	
4380.49	11	0.007147498	
4423.49	14	0.009096816	
4466.49	22	0.014294997	Ti
4509.49	18	0.011695906	
4552.49	31	0.02014295	Ti
4595.49	19	0.012345679	
4638.49	9	0.005847953	
4681.49	3	0.001949318	
4724.49	5	0.003248863	
4767.49	14	0.009096816	
4810.49	19	0.012345679	
4853.49	26	0.016894087	V
4896.49	21	0.013645224	
4939.49	16	0.010396361	
4982.49	14	0.009096816	
5025.49	11	0.007147498	
5068.49	7	0.004548408	
5111.49	5	0.003248863	
5154.49	10	0.006497726	
5197.49	8	0.005198181	
5240.49	11	0.007147498	
5283.49	7	0.004548408	
5326.49	3	0.001949318	
5369.49	6	0.003898635	
5412.49	7	0.004548408	

5455.49	4	0.00259909	
5498.49	7	0.004548408	
5541.49	4	0.00259909	
5584.49	5	0.003248863	
5627.49	5	0.003248863	
5670.49	5	0.003248863	
5713.49	7	0.004548408	
5756.49	3	0.001949318	
5799.49	4	0.00259909	
5842.49	5	0.003248863	
5885.49	7	0.004548408	
5928.49	6	0.003898635	
5971.49	8	0.005198181	
6014.49	5	0.003248863	
6057.49	1	0.000649773	
6100.49	1	0.000649773	
6143.49	1	0.000649773	
6186.49	5	0.003248863	
6229.49	6	0.003898635	
6272.49	13	0.008447044	
6315.49	20	0.012995452	
6358.49	56	0.036387264	
6401.49	67	0.043534763	
6444.49	80	0.051981806	Fe
6487.49	51	0.033138402	
6530.49	28	0.018193632	
6573.49	20	0.012995452	
6616.49	15	0.009746589	
6659.49	4	0.00259909	
6702.49	4	0.00259909	
6745.49	0	0	
6788.49	7	0.004548408	
6831.49	6	0.003898635	
6874.49	7	0.004548408	
6917.49	14	0.009096816	
6960.49	8	0.005198181	
7003.49	17	0.011046134	Fe
7046.49	12	0.007797271	
7089.49	19	0.012345679	Fe
7132.49	7	0.004548408	
7175.49	6	0.003898635	

7218.49	5	0.003248863	
7261.49	7	0.004548408	
7304.49	17	0.011046134	
7347.49	33	0.021442495	
7390.49	120	0.07797271	
7433.49	228	0.148148148	
7476.49	307	0.199480182	
7519.49	369	0.239766082	Ni
7562.49	254	0.165042235	
7605.49	162	0.105263158	
7648.49	72	0.046783626	
7691.49	31	0.02014295	
7734.49	12	0.007797271	
7777.49	18	0.011695906	
7820.49	27	0.01754386	
7863.49	61	0.039636127	
7906.49	194	0.12605588	
7949.49	488	0.317089019	
7992.49	894	0.580896686	
8035.49	1366	0.887589344	
8078.49	1539	1	Cu
8121.49	1431	0.929824561	
8164.49	833	0.541260559	
8207.49	451	0.293047433	
8250.49	204	0.132553606	
8293.49	112	0.072774529	
8336.49	67	0.043534763	
8379.49	49	0.031838856	
8422.49	34	0.022092268	
8465.49	28	0.018193632	
8508.49	57	0.037037037	
8551.49	112	0.072774529	
8594.49	173	0.112410656	
8637.49	251	0.163092917	
8680.49	273	0.177387914	Zn
8723.49	224	0.145549058	
8766.49	172	0.111760884	
8809.49	150	0.097465887	
8852.49	164	0.106562703	
8895.49	226	0.146848603	
8938.49	229	0.148797921	Cu

8981.49	220	0.142949968	
9024.49	164	0.106562703	
9067.49	71	0.046133853	
9110.49	28	0.018193632	
9153.49	13	0.008447044	
9196.49	9	0.005847953	
9239.49	6	0.003898635	
9282.49	12	0.007797271	
9325.49	8	0.005198181	
9368.49	11	0.007147498	
9411.49	13	0.008447044	
9454.49	20	0.012995452	Pt
9497.49	15	0.009746589	
9540.49	26	0.016894087	
9583.49	31	0.02014295	
9626.49	36	0.023391813	
9669.49	45	0.029239766	Au
9712.49	43	0.027940221	
9755.49	28	0.018193632	
9798.49	29	0.018843405	Au
9841.49	11	0.007147498	
9884.49	12	0.007797271	
9927.49	11	0.007147498	
9970.49	8	0.005198181	
10013.49	7	0.004548408	
10056.49	2	0.001299545	
10099.49	3	0.001949318	
10142.49	6	0.003898635	
10185.49	3	0.001949318	
10228.49	1	0.000649773	
10271.49	4	0.00259909	
10314.49	3	0.001949318	
10357.49	0	0	
10400.49	5	0.003248863	
10443.49	8	0.005198181	
10486.49	10	0.006497726	
10529.49	12	0.007797271	
10572.49	14	0.009096816	
10615.49	13	0.008447044	
10658.49	15	0.009746589	
10701.49	13	0.008447044	

10744.49	6	0.003898635	
10787.49	9	0.005847953	
10830.49	7	0.004548408	
10873.49	5	0.003248863	
10916.49	8	0.005198181	
10959.49	6	0.003898635	
11002.49	8	0.005198181	
11045.49	2	0.001299545	
11088.49	5	0.003248863	
11131.49	10	0.006497726	
11174.49	4	0.00259909	
11217.49	4	0.00259909	
11260.49	6	0.003898635	
11303.49	12	0.007797271	
11346.49	10	0.006497726	
11389.49	8	0.005198181	
11432.49	16	0.010396361	Se
11475.49	12	0.007797271	
11518.49	9	0.005847953	
11561.49	15	0.009746589	
11604.49	11	0.007147498	
11647.49	6	0.003898635	
11690.49	9	0.005847953	
11733.49	9	0.005847953	
11776.49	8	0.005198181	
11819.49	8	0.005198181	
11862.49	6	0.003898635	
11905.49	4	0.00259909	
11948.49	5	0.003248863	
11991.49	10	0.006497726	
12034.49	1	0.000649773	
12077.49	10	0.006497726	
12120.49	5	0.003248863	
12163.49	3	0.001949318	
12206.49	3	0.001949318	
12249.49	5	0.003248863	
12292.49	6	0.003898635	
12335.49	3	0.001949318	
12378.49	7	0.004548408	
12421.49	5	0.003248863	
12464.49	4	0.00259909	

12507.49	3	0.001949318	
12550.49	23	0.014944769	Pb
12593.49	6	0.003898635	
12636.49	11	0.007147498	
12679.49	16	0.010396361	Pb
12722.49	7	0.004548408	
12765.49	13	0.008447044	
12808.49	9	0.005847953	
12851.49	1	0.000649773	
12894.49	9	0.005847953	
12937.49	6	0.003898635	
12980.49	5	0.003248863	
13023.49	4	0.00259909	
13066.49	5	0.003248863	
13109.49	4	0.00259909	
13152.49	6	0.003898635	
13195.49	10	0.006497726	
13238.49	6	0.003898635	
13281.49	5	0.003248863	
13324.49	15	0.009746589	
13367.49	7	0.004548408	
13410.49	14	0.009096816	
13453.49	12	0.007797271	
13496.49	4	0.00259909	
13539.49	7	0.004548408	
13582.49	3	0.001949318	
13625.49	5	0.003248863	
13668.49	5	0.003248863	
13711.49	10	0.006497726	
13754.49	7	0.004548408	
13797.49	4	0.00259909	
13840.49	5	0.003248863	
13883.49	9	0.005847953	
13926.49	13	0.008447044	
13969.49	8	0.005198181	
14012.49	26	0.016894087	
14055.49	32	0.020792723	
14098.49	43	0.027940221	
14141.49	54	0.035087719	Sr
14184.49	49	0.031838856	
14227.49	41	0.026640676	

14270.49	41	0.026640676	Sr
14313.49	26	0.016894087	
14356.49	14	0.009096816	
14399.49	12	0.007797271	
14442.49	13	0.008447044	
14485.49	9	0.005847953	
14528.49	7	0.004548408	
14571.49	10	0.006497726	
14614.49	5	0.003248863	
14657.49	8	0.005198181	
14700.49	8	0.005198181	
14743.49	9	0.005847953	
14786.49	7	0.004548408	
14829.49	8	0.005198181	
14872.49	5	0.003248863	
14915.49	9	0.005847953	
14958.49	10	0.006497726	
15001.49	14	0.009096816	
15044.49	10	0.006497726	
15087.49	5	0.003248863	
15130.49	15	0.009746589	
15173.49	8	0.005198181	
15216.49	10	0.006497726	
15259.49	9	0.005847953	
15302.49	9	0.005847953	
15345.49	8	0.005198181	
15388.49	13	0.008447044	
15431.49	11	0.007147498	
15474.49	12	0.007797271	
15517.49	11	0.007147498	
15560.49	8	0.005198181	
15603.49	15	0.009746589	
15646.49	14	0.009096816	
15689.49	4	0.00259909	
15732.49	22	0.014294997	Sr
15775.49	17	0.011046134	
15818.49	16	0.010396361	
15861.49	20	0.012995452	Sr
15904.49	14	0.009096816	
15947.49	25	0.016244314	Sr
15990.49	15	0.009746589	

16033.49	13	0.008447044	
16076.49	21	0.013645224	Sr
16119.49	21	0.013645224	Sr
16162.49	22	0.014294997	Sr
16205.49	17	0.011046134	
16248.49	11	0.007147498	
16291.49	12	0.007797271	
16334.49	5	0.003248863	
16377.49	8	0.005198181	
16420.49	16	0.010396361	Sr
16463.49	6	0.003898635	
16506.49	13	0.008447044	
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16592.49	7	0.004548408	
16635.49	13	0.008447044	
16678.49	13	0.008447044	
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16764.49	9	0.005847953	
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16979.49	7	0.004548408	
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17065.49	10	0.006497726	
17108.49	9	0.005847953	
17151.49	16	0.010396361	Y
17194.49	8	0.005198181	
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17409.49	7	0.004548408	
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17796.49	8	0.005198181	
17839.49	8	0.005198181	
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18054.49	6	0.003898635	
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18183.49	16	0.010396361	Zr
18226.49	9	0.005847953	
18269.49	8	0.005198181	
18312.49	4	0.00259909	
18355.49	8	0.005198181	
18398.49	9	0.005847953	
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18570.49	4	0.00259909	
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27385.49	9	0.005847953	
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30524.49	6	0.003898635	
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31212.49	11	0.007147498	
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31341.49	4	0.00259909	
31384.49	6	0.003898635	
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31513.49	7	0.004548408	
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33491.49	3	0.001949318	
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36802.49	6	0.003898635	
36845.49	2	0.001299545	
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38350.49	3	0.001949318	
38393.49	3	0.001949318	
38436.49	1	0.000649773	
38479.49	4	0.00259909	
38522.49	2	0.001299545	
38565.49	3	0.001949318	
38608.49	3	0.001949318	
38651.49	2	0.001299545	
38694.49	4	0.00259909	
38737.49	1	0.000649773	
38780.49	3	0.001949318	
38823.49	2	0.001299545	
38866.49	1	0.000649773	
38909.49	1	0.000649773	

38952.49	2	0.001299545	
38995.49	2	0.001299545	
39038.49	3	0.001949318	
39081.49	2	0.001299545	
39124.49	2	0.001299545	
39167.49	3	0.001949318	
39210.49	3	0.001949318	
39253.49	2	0.001299545	
39296.49	3	0.001949318	
39339.49	2	0.001299545	
39382.49	0	0	
39425.49	1	0.000649773	
39468.49	5	0.003248863	
39511.49	2	0.001299545	
39554.49	2	0.001299545	
39597.49	2	0.001299545	
39640.49	2	0.001299545	
39683.49	3	0.001949318	
39726.49	2	0.001299545	
39769.49	1	0.000649773	
39812.49	3	0.001949318	
39855.49	7	0.004548408	
39898.49	1	0.000649773	
39941.49	3	0.001949318	
39984.49	1	0.000649773	
40027.49	1	0.000649773	
40070.49	1	0.000649773	
40113.49	3	0.001949318	
40156.49	3	0.001949318	
40199.49	0	0	
40242.49	4	0.00259909	
40285.49	0	0	
40328.49	2	0.001299545	
40371.49	0	0	
40414.49	1	0.000649773	
40457.49	4	0.00259909	
40500.49	2	0.001299545	
40543.49	1	0.000649773	
40586.49	1	0.000649773	
40629.49	0	0	
40672.49	4	0.00259909	

40715.49	2	0.001299545	
40758.49	5	0.003248863	
40801.49	3	0.001949318	
40844.49	3	0.001949318	
40887.49	0	0	
40930.49	1	0.000649773	
40973.49	1	0.000649773	
41016.49	1	0.000649773	
41059.49	1	0.000649773	
41102.49	4	0.00259909	
41145.49	0	0	
41188.49	1	0.000649773	
41231.49	3	0.001949318	
41274.49	1	0.000649773	
41317.49	2	0.001299545	
41360.49	3	0.001949318	
41403.49	1	0.000649773	
41446.49	1	0.000649773	
41489.49	0	0	
41532.49	0	0	
41575.49	3	0.001949318	
41618.49	1	0.000649773	
41661.49	2	0.001299545	
41704.49	2	0.001299545	
41747.49	2	0.001299545	
41790.49	2	0.001299545	
41833.49	2	0.001299545	
41876.49	2	0.001299545	
41919.49	1	0.000649773	
41962.49	0	0	
42005.49	4	0.00259909	
42048.49	4	0.00259909	
42091.49	3	0.001949318	
42134.49	3	0.001949318	
42177.49	2	0.001299545	
42220.49	5	0.003248863	
42263.49	0	0	
42306.49	2	0.001299545	
42349.49	3	0.001949318	
42392.49	1	0.000649773	
42435.49	1	0.000649773	

42478.49	2	0.001299545	
42521.49	3	0.001949318	
42564.49	3	0.001949318	
42607.49	2	0.001299545	
42650.49	3	0.001949318	
42693.49	1	0.000649773	
42736.49	1	0.000649773	
42779.49	2	0.001299545	
42822.49	2	0.001299545	
42865.49	1	0.000649773	
42908.49	3	0.001949318	
42951.49	1	0.000649773	
42994.49	1	0.000649773	
43037.49	2	0.001299545	
43080.49	1	0.000649773	
43123.49	0	0	
43166.49	1	0.000649773	
43209.49	0	0	
43252.49	1	0.000649773	
43295.49	4	0.00259909	
43338.49	2	0.001299545	
43381.49	2	0.001299545	
43424.49	3	0.001949318	
43467.49	2	0.001299545	
43510.49	1	0.000649773	
43553.49	2	0.001299545	
43596.49	2	0.001299545	
43639.49	3	0.001949318	
43682.49	1	0.000649773	
43725.49	0	0	
43768.49	1	0.000649773	
43811.49	2	0.001299545	
43854.49	3	0.001949318	

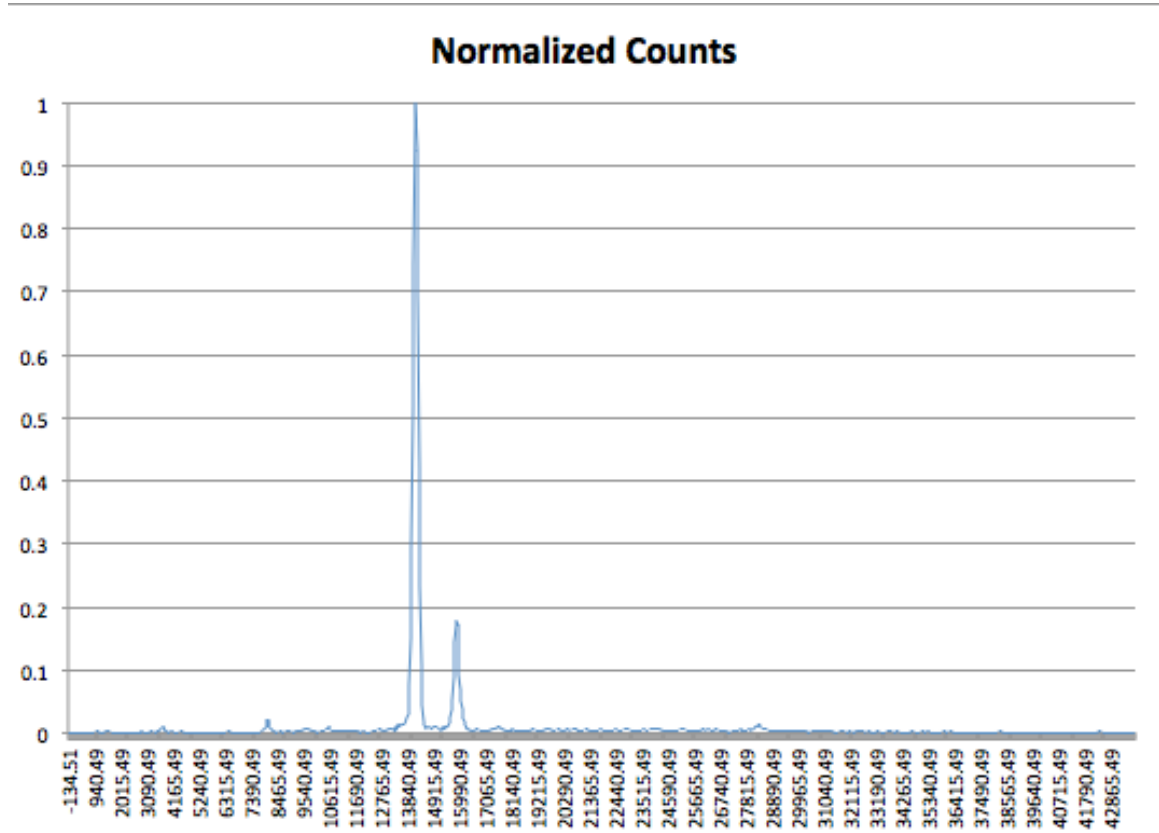


Figure 21. A002 Normalized XRF Counts

Table 6. A002 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	



381.49	0	0	
424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	1	0.000296472	
983.49	0	0	
1026.49	8	0.002371776	
1069.49	11	0.003261192	
1112.49	9	0.002668248	
1155.49	6	0.001778832	
1198.49	10	0.00296472	
1241.49	12	0.003557664	
1284.49	4	0.001185888	
1327.49	7	0.002075304	
1370.49	6	0.001778832	
1413.49	9	0.002668248	
1456.49	8	0.002371776	
1499.49	6	0.001778832	
1542.49	8	0.002371776	
1585.49	6	0.001778832	
1628.49	7	0.002075304	
1671.49	6	0.001778832	
1714.49	8	0.002371776	
1757.49	10	0.00296472	
1800.49	4	0.001185888	
1843.49	15	0.00444708	
1886.49	14	0.004150608	
1929.49	4	0.001185888	
1972.49	5	0.00148236	
2015.49	8	0.002371776	
2058.49	3	0.000889416	
2101.49	6	0.001778832	

2144.49	6	0.001778832	
2187.49	5	0.00148236	
2230.49	6	0.001778832	
2273.49	4	0.001185888	
2316.49	6	0.001778832	
2359.49	3	0.000889416	
2402.49	9	0.002668248	
2445.49	2	0.000592944	
2488.49	6	0.001778832	
2531.49	4	0.001185888	
2574.49	3	0.000889416	
2617.49	5	0.00148236	
2660.49	4	0.001185888	
2703.49	5	0.00148236	
2746.49	5	0.00148236	
2789.49	5	0.00148236	
2832.49	6	0.001778832	
2875.49	19	0.005632968	
2918.49	5	0.00148236	
2961.49	12	0.003557664	
3004.49	9	0.002668248	
3047.49	7	0.002075304	
3090.49	6	0.001778832	
3133.49	8	0.002371776	
3176.49	3	0.000889416	
3219.49	10	0.00296472	
3262.49	8	0.002371776	
3305.49	9	0.002668248	
3348.49	6	0.001778832	
3391.49	4	0.001185888	
3434.49	4	0.001185888	
3477.49	5	0.00148236	
3520.49	12	0.003557664	
3563.49	9	0.002668248	
3606.49	16	0.004743552	
3649.49	21	0.006225912	
3692.49	24	0.007115328	
3735.49	34	0.010080047	Ca
3778.49	29	0.008597688	
3821.49	24	0.007115328	
3864.49	13	0.003854136	

3907.49	7	0.002075304	
3950.49	10	0.00296472	
3993.49	6	0.001778832	
4036.49	10	0.00296472	
4079.49	9	0.002668248	
4122.49	8	0.002371776	
4165.49	6	0.001778832	
4208.49	6	0.001778832	
4251.49	4	0.001185888	
4294.49	5	0.00148236	
4337.49	7	0.002075304	
4380.49	7	0.002075304	
4423.49	6	0.001778832	
4466.49	7	0.002075304	
4509.49	9	0.002668248	
4552.49	5	0.00148236	
4595.49	13	0.003854136	
4638.49	4	0.001185888	
4681.49	5	0.00148236	
4724.49	5	0.00148236	
4767.49	6	0.001778832	
4810.49	1	0.000296472	
4853.49	4	0.001185888	
4896.49	4	0.001185888	
4939.49	7	0.002075304	
4982.49	8	0.002371776	
5025.49	4	0.001185888	
5068.49	5	0.00148236	
5111.49	3	0.000889416	
5154.49	2	0.000592944	
5197.49	3	0.000889416	
5240.49	7	0.002075304	
5283.49	1	0.000296472	
5326.49	4	0.001185888	
5369.49	4	0.001185888	
5412.49	7	0.002075304	
5455.49	0	0	
5498.49	5	0.00148236	
5541.49	3	0.000889416	
5584.49	3	0.000889416	
5627.49	7	0.002075304	

5670.49	4	0.001185888	
5713.49	6	0.001778832	
5756.49	3	0.000889416	
5799.49	3	0.000889416	
5842.49	4	0.001185888	
5885.49	1	0.000296472	
5928.49	3	0.000889416	
5971.49	4	0.001185888	
6014.49	3	0.000889416	
6057.49	4	0.001185888	
6100.49	3	0.000889416	
6143.49	3	0.000889416	
6186.49	2	0.000592944	
6229.49	0	0	
6272.49	2	0.000592944	
6315.49	3	0.000889416	
6358.49	10	0.00296472	
6401.49	14	0.004150608	
6444.49	9	0.002668248	
6487.49	13	0.003854136	
6530.49	7	0.002075304	
6573.49	6	0.001778832	
6616.49	5	0.00148236	
6659.49	2	0.000592944	
6702.49	3	0.000889416	
6745.49	5	0.00148236	
6788.49	3	0.000889416	
6831.49	1	0.000296472	
6874.49	2	0.000592944	
6917.49	2	0.000592944	
6960.49	3	0.000889416	
7003.49	6	0.001778832	
7046.49	0	0	
7089.49	6	0.001778832	
7132.49	4	0.001185888	
7175.49	3	0.000889416	
7218.49	2	0.000592944	
7261.49	3	0.000889416	
7304.49	3	0.000889416	
7347.49	2	0.000592944	
7390.49	2	0.000592944	

7433.49	3	0.000889416	
7476.49	5	0.00148236	
7519.49	4	0.001185888	
7562.49	1	0.000296472	
7605.49	2	0.000592944	
7648.49	1	0.000296472	
7691.49	5	0.00148236	
7734.49	2	0.000592944	
7777.49	4	0.001185888	
7820.49	2	0.000592944	
7863.49	10	0.00296472	
7906.49	9	0.002668248	
7949.49	16	0.004743552	
7992.49	40	0.011858879	
8035.49	74	0.021938927	Cu
8078.49	53	0.015713015	
8121.49	75	0.022235399	Cu
8164.49	41	0.012155351	
8207.49	23	0.006818856	
8250.49	12	0.003557664	
8293.49	14	0.004150608	
8336.49	9	0.002668248	
8379.49	14	0.004150608	
8422.49	14	0.004150608	
8465.49	7	0.002075304	
8508.49	8	0.002371776	
8551.49	5	0.00148236	
8594.49	11	0.003261192	
8637.49	6	0.001778832	
8680.49	10	0.00296472	
8723.49	4	0.001185888	
8766.49	6	0.001778832	
8809.49	11	0.003261192	
8852.49	11	0.003261192	
8895.49	17	0.005040024	
8938.49	15	0.00444708	
8981.49	9	0.002668248	
9024.49	14	0.004150608	
9067.49	11	0.003261192	
9110.49	7	0.002075304	
9153.49	11	0.003261192	

9196.49	8	0.002371776	
9239.49	14	0.004150608	
9282.49	11	0.003261192	
9325.49	11	0.003261192	
9368.49	17	0.005040024	
9411.49	15	0.00444708	
9454.49	15	0.00444708	
9497.49	16	0.004743552	
9540.49	20	0.00592944	
9583.49	22	0.006522384	
9626.49	24	0.007115328	
9669.49	28	0.008301216	
9712.49	30	0.00889416	Zn
9755.49	28	0.008301216	
9798.49	23	0.006818856	
9841.49	22	0.006522384	
9884.49	14	0.004150608	
9927.49	14	0.004150608	
9970.49	20	0.00592944	Ge
10013.49	16	0.004743552	
10056.49	14	0.004150608	
10099.49	9	0.002668248	
10142.49	4	0.001185888	
10185.49	5	0.00148236	
10228.49	4	0.001185888	
10271.49	8	0.002371776	
10314.49	5	0.00148236	
10357.49	6	0.001778832	
10400.49	10	0.00296472	
10443.49	10	0.00296472	
10486.49	19	0.005632968	
10529.49	22	0.006522384	
10572.49	35	0.010376519	As
10615.49	20	0.00592944	
10658.49	17	0.005040024	
10701.49	19	0.005632968	
10744.49	13	0.003854136	
10787.49	9	0.002668248	
10830.49	10	0.00296472	
10873.49	19	0.005632968	
10916.49	12	0.003557664	

10959.49	12	0.003557664	
11002.49	10	0.00296472	
11045.49	10	0.00296472	
11088.49	12	0.003557664	
11131.49	12	0.003557664	
11174.49	12	0.003557664	
11217.49	16	0.004743552	
11260.49	15	0.00444708	
11303.49	13	0.003854136	
11346.49	7	0.002075304	
11389.49	14	0.004150608	
11432.49	11	0.003261192	
11475.49	8	0.002371776	
11518.49	10	0.00296472	
11561.49	7	0.002075304	
11604.49	7	0.002075304	
11647.49	13	0.003854136	
11690.49	14	0.004150608	
11733.49	12	0.003557664	
11776.49	10	0.00296472	
11819.49	7	0.002075304	
11862.49	12	0.003557664	
11905.49	7	0.002075304	
11948.49	15	0.00444708	
11991.49	11	0.003261192	
12034.49	15	0.00444708	
12077.49	6	0.001778832	
12120.49	13	0.003854136	
12163.49	5	0.00148236	
12206.49	16	0.004743552	
12249.49	16	0.004743552	
12292.49	7	0.002075304	
12335.49	8	0.002371776	
12378.49	10	0.00296472	
12421.49	12	0.003557664	
12464.49	17	0.005040024	
12507.49	18	0.005336496	
12550.49	16	0.004743552	
12593.49	21	0.006225912	
12636.49	23	0.006818856	
12679.49	25	0.0074118	Se

12722.49	23	0.006818856	
12765.49	16	0.004743552	
12808.49	17	0.005040024	
12851.49	14	0.004150608	
12894.49	16	0.004743552	
12937.49	12	0.003557664	
12980.49	9	0.002668248	
13023.49	13	0.003854136	
13066.49	23	0.006818856	
13109.49	13	0.003854136	
13152.49	13	0.003854136	
13195.49	24	0.007115328	
13238.49	19	0.005632968	
13281.49	25	0.0074118	Br
13324.49	18	0.005336496	
13367.49	34	0.010080047	Rb
13410.49	22	0.006522384	
13453.49	45	0.013341239	Rb
13496.49	33	0.009783575	
13539.49	30	0.00889416	
13582.49	27	0.008004744	
13625.49	44	0.013044767	Rb
13668.49	40	0.011858879	
13711.49	55	0.016305959	Rb
13754.49	51	0.015120071	
13797.49	45	0.013341239	
13840.49	83	0.024607175	
13883.49	110	0.032611918	
13926.49	256	0.075896828	
13969.49	511	0.151497184	
14012.49	979	0.290246072	
14055.49	1737	0.514971835	
14098.49	2504	0.742365846	
14141.49	3259	0.966202194	
14184.49	3373	1	Sr
14227.49	3113	0.922917284	
14270.49	2335	0.692262081	
14313.49	1404	0.416246665	
14356.49	783	0.232137563	
14399.49	356	0.105544026	
14442.49	157	0.046546101	



14485.49	63	0.018677735	
14528.49	46	0.013637711	
14571.49	24	0.007115328	
14614.49	22	0.006522384	
14657.49	24	0.007115328	
14700.49	32	0.009487103	
14743.49	24	0.007115328	
14786.49	31	0.009190631	Rb or Y
14829.49	30	0.00889416	
14872.49	20	0.00592944	
14915.49	23	0.006818856	
14958.49	31	0.009190631	
15001.49	20	0.00592944	
15044.49	27	0.008004744	
15087.49	36	0.010672991	Sr
15130.49	26	0.007708272	
15173.49	25	0.0074118	
15216.49	18	0.005336496	
15259.49	26	0.007708272	
15302.49	38	0.011265935	Sr or Zr
15345.49	23	0.006818856	
15388.49	26	0.007708272	
15431.49	32	0.009487103	
15474.49	31	0.009190631	
15517.49	27	0.008004744	
15560.49	55	0.016305959	
15603.49	84	0.024903647	
15646.49	131	0.03883783	
15689.49	177	0.052475541	
15732.49	304	0.090127483	
15775.49	484	0.14349244	
15818.49	581	0.172250222	
15861.49	600	0.17788319	Sr
15904.49	574	0.170174918	
15947.49	455	0.134894752	
15990.49	315	0.093388675	
16033.49	232	0.0687815	
16076.49	171	0.050696709	
16119.49	134	0.039727246	
16162.49	77	0.022828343	
16205.49	64	0.018974207	

16248.49	47	0.013934183	Zr
16291.49	47	0.013934183	Zr
16334.49	23	0.006818856	
16377.49	20	0.00592944	
16420.49	18	0.005336496	
16463.49	17	0.005040024	
16506.49	15	0.00444708	
16549.49	14	0.004150608	
16592.49	15	0.00444708	
16635.49	16	0.004743552	
16678.49	13	0.003854136	
16721.49	22	0.006522384	
16764.49	23	0.006818856	Nb
16807.49	17	0.005040024	
16850.49	12	0.003557664	
16893.49	16	0.004743552	
16936.49	22	0.006522384	Y
16979.49	17	0.005040024	
17022.49	23	0.006818856	Nb
17065.49	18	0.005336496	
17108.49	18	0.005336496	
17151.49	17	0.005040024	
17194.49	16	0.004743552	
17237.49	18	0.005336496	
17280.49	17	0.005040024	
17323.49	14	0.004150608	
17366.49	22	0.006522384	
17409.49	19	0.005632968	
17452.49	18	0.005336496	
17495.49	23	0.006818856	
17538.49	27	0.008004744	
17581.49	32	0.009487103	
17624.49	33	0.009783575	Mo
17667.49	31	0.009190631	
17710.49	27	0.008004744	
17753.49	26	0.007708272	
17796.49	26	0.007708272	
17839.49	22	0.006522384	
17882.49	17	0.005040024	
17925.49	27	0.008004744	Zr
17968.49	16	0.004743552	

18011.49	16	0.004743552	
18054.49	14	0.004150608	
18097.49	19	0.005632968	
18140.49	10	0.00296472	
18183.49	26	0.007708272	Tc
18226.49	23	0.006818856	
18269.49	10	0.00296472	
18312.49	14	0.004150608	
18355.49	10	0.00296472	
18398.49	12	0.003557664	
18441.49	20	0.00592944	
18484.49	18	0.005336496	
18527.49	14	0.004150608	
18570.49	25	0.0074118	
18613.49	16	0.004743552	
18656.49	19	0.005632968	
18699.49	22	0.006522384	Nb
18742.49	22	0.006522384	Nb
18785.49	14	0.004150608	
18828.49	18	0.005336496	
18871.49	18	0.005336496	
18914.49	17	0.005040024	
18957.49	12	0.003557664	
19000.49	14	0.004150608	
19043.49	21	0.006225912	
19086.49	14	0.004150608	
19129.49	17	0.005040024	
19172.49	18	0.005336496	
19215.49	20	0.00592944	
19258.49	27	0.008004744	Ru
19301.49	14	0.004150608	
19344.49	24	0.007115328	
19387.49	14	0.004150608	
19430.49	12	0.003557664	
19473.49	22	0.006522384	
19516.49	13	0.003854136	
19559.49	20	0.00592944	
19602.49	14	0.004150608	
19645.49	10	0.00296472	
19688.49	20	0.00592944	
19731.49	28	0.008301216	Mo or Tc

19774.49	21	0.006225912	
19817.49	15	0.00444708	
19860.49	11	0.003261192	
19903.49	16	0.004743552	
19946.49	11	0.003261192	
19989.49	18	0.005336496	
20032.49	21	0.006225912	Rh
20075.49	20	0.00592944	
20118.49	16	0.004743552	
20161.49	19	0.005632968	
20204.49	15	0.00444708	
20247.49	12	0.003557664	
20290.49	24	0.007115328	
20333.49	18	0.005336496	
20376.49	23	0.006818856	Rh
20419.49	20	0.00592944	
20462.49	20	0.00592944	
20505.49	26	0.007708272	
20548.49	30	0.00889416	Rh
20591.49	10	0.00296472	
20634.49	12	0.003557664	
20677.49	24	0.007115328	
20720.49	20	0.00592944	
20763.49	23	0.006818856	
20806.49	26	0.007708272	Pd
20849.49	14	0.004150608	
20892.49	16	0.004743552	
20935.49	18	0.005336496	
20978.49	18	0.005336496	
21021.49	20	0.00592944	
21064.49	22	0.006522384	Pd
21107.49	12	0.003557664	
21150.49	20	0.00592944	
21193.49	16	0.004743552	
21236.49	21	0.006225912	
21279.49	27	0.008004744	Pd
21322.49	17	0.005040024	
21365.49	17	0.005040024	
21408.49	18	0.005336496	
21451.49	15	0.00444708	
21494.49	19	0.005632968	

21537.49	14	0.004150608	
21580.49	15	0.00444708	
21623.49	11	0.003261192	
21666.49	13	0.003854136	
21709.49	18	0.005336496	
21752.49	16	0.004743552	
21795.49	14	0.004150608	
21838.49	29	0.008597688	Ag
21881.49	22	0.006522384	
21924.49	13	0.003854136	
21967.49	15	0.00444708	
22010.49	15	0.00444708	
22053.49	16	0.004743552	
22096.49	25	0.0074118	Ag
22139.49	20	0.00592944	
22182.49	15	0.00444708	
22225.49	19	0.005632968	
22268.49	12	0.003557664	
22311.49	18	0.005336496	
22354.49	22	0.006522384	Ag
22397.49	15	0.00444708	
22440.49	24	0.007115328	Rh
22483.49	16	0.004743552	
22526.49	21	0.006225912	
22569.49	13	0.003854136	
22612.49	22	0.006522384	Rh
22655.49	21	0.006225912	
22698.49	16	0.004743552	
22741.49	17	0.005040024	
22784.49	17	0.005040024	
22827.49	20	0.00592944	
22870.49	15	0.00444708	
22913.49	17	0.005040024	
22956.49	22	0.006522384	Rh
22999.49	16	0.004743552	
23042.49	21	0.006225912	Cd
23085.49	16	0.004743552	
23128.49	13	0.003854136	
23171.49	19	0.005632968	
23214.49	16	0.004743552	
23257.49	24	0.007115328	Cd

23300.49	17	0.005040024	
23343.49	12	0.003557664	
23386.49	16	0.004743552	
23429.49	12	0.003557664	
23472.49	18	0.005336496	
23515.49	16	0.004743552	
23558.49	16	0.004743552	
23601.49	27	0.008004744	Pd
23644.49	11	0.003261192	
23687.49	19	0.005632968	
23730.49	14	0.004150608	
23773.49	10	0.00296472	
23816.49	10	0.00296472	
23859.49	23	0.006818856	
23902.49	28	0.008301216	Pd
23945.49	25	0.0074118	
23988.49	28	0.008301216	Pd
24031.49	26	0.007708272	
24074.49	27	0.008004744	
24117.49	21	0.006225912	
24160.49	31	0.009190631	
24203.49	24	0.007115328	
24246.49	25	0.0074118	
24289.49	29	0.008597688	In
24332.49	23	0.006818856	
24375.49	17	0.005040024	
24418.49	13	0.003854136	
24461.49	21	0.006225912	In
24504.49	18	0.005336496	
24547.49	18	0.005336496	
24590.49	13	0.003854136	
24633.49	10	0.00296472	
24676.49	9	0.002668248	
24719.49	17	0.005040024	
24762.49	12	0.003557664	
24805.49	10	0.00296472	
24848.49	17	0.005040024	
24891.49	17	0.005040024	
24934.49	10	0.00296472	
24977.49	14	0.004150608	
25020.49	16	0.004743552	

25063.49	17	0.005040024	
25106.49	16	0.004743552	
25149.49	20	0.00592944	
25192.49	21	0.006225912	Sn
25235.49	21	0.006225912	
25278.49	24	0.007115328	Sn
25321.49	19	0.005632968	
25364.49	19	0.005632968	
25407.49	14	0.004150608	
25450.49	13	0.003854136	
25493.49	19	0.005632968	
25536.49	9	0.002668248	
25579.49	17	0.005040024	
25622.49	15	0.00444708	
25665.49	11	0.003261192	
25708.49	9	0.002668248	
25751.49	15	0.00444708	
25794.49	9	0.002668248	
25837.49	17	0.005040024	
25880.49	11	0.003261192	
25923.49	10	0.00296472	
25966.49	21	0.006225912	
26009.49	17	0.005040024	
26052.49	21	0.006225912	Cd
26095.49	16	0.004743552	
26138.49	8	0.002371776	
26181.49	11	0.003261192	
26224.49	21	0.006225912	Sb
26267.49	20	0.00592944	
26310.49	10	0.00296472	
26353.49	12	0.003557664	
26396.49	11	0.003261192	
26439.49	14	0.004150608	
26482.49	9	0.002668248	
26525.49	13	0.003854136	
26568.49	10	0.00296472	
26611.49	22	0.006522384	Sb
26654.49	17	0.005040024	
26697.49	12	0.003557664	
26740.49	11	0.003261192	
26783.49	14	0.004150608	

26826.49	14	0.004150608	
26869.49	15	0.00444708	
26912.49	16	0.004743552	
26955.49	14	0.004150608	
26998.49	12	0.003557664	
27041.49	14	0.004150608	
27084.49	19	0.005632968	
27127.49	7	0.002075304	
27170.49	17	0.005040024	
27213.49	14	0.004150608	
27256.49	18	0.005336496	
27299.49	21	0.006225912	
27342.49	13	0.003854136	
27385.49	14	0.004150608	
27428.49	20	0.00592944	
27471.49	12	0.003557664	
27514.49	10	0.00296472	
27557.49	22	0.006522384	
27600.49	9	0.002668248	
27643.49	17	0.005040024	
27686.49	14	0.004150608	
27729.49	15	0.00444708	
27772.49	14	0.004150608	
27815.49	11	0.003261192	
27858.49	17	0.005040024	
27901.49	12	0.003557664	
27944.49	18	0.005336496	
27987.49	21	0.006225912	
28030.49	9	0.002668248	
28073.49	15	0.00444708	
28116.49	28	0.008301216	
28159.49	20	0.00592944	
28202.49	28	0.008301216	
28245.49	38	0.011265935	Sn
28288.49	36	0.010672991	
28331.49	42	0.012451823	
28374.49	53	0.015713015	Sn
28417.49	35	0.010376519	Sn
28460.49	35	0.010376519	Sn
28503.49	21	0.006225912	
28546.49	19	0.005632968	



28589.49	28	0.008301216	
28632.49	20	0.00592944	
28675.49	15	0.00444708	
28718.49	17	0.005040024	
28761.49	14	0.004150608	
28804.49	13	0.003854136	
28847.49	16	0.004743552	
28890.49	11	0.003261192	
28933.49	10	0.00296472	
28976.49	18	0.005336496	
29019.49	16	0.004743552	
29062.49	9	0.002668248	
29105.49	15	0.00444708	
29148.49	9	0.002668248	
29191.49	8	0.002371776	
29234.49	13	0.003854136	
29277.49	14	0.004150608	
29320.49	11	0.003261192	
29363.49	11	0.003261192	
29406.49	14	0.004150608	
29449.49	8	0.002371776	
29492.49	8	0.002371776	
29535.49	9	0.002668248	
29578.49	8	0.002371776	
29621.49	11	0.003261192	
29664.49	10	0.00296472	
29707.49	11	0.003261192	
29750.49	15	0.00444708	
29793.49	11	0.003261192	
29836.49	21	0.006225912	Sb
29879.49	13	0.003854136	
29922.49	16	0.004743552	
29965.49	16	0.004743552	
30008.49	20	0.00592944	Sb
30051.49	18	0.005336496	
30094.49	16	0.004743552	
30137.49	17	0.005040024	
30180.49	11	0.003261192	
30223.49	16	0.004743552	
30266.49	10	0.00296472	
30309.49	14	0.004150608	

30352.49	14	0.004150608	
30395.49	7	0.002075304	
30438.49	7	0.002075304	
30481.49	4	0.001185888	
30524.49	9	0.002668248	
30567.49	8	0.002371776	
30610.49	11	0.003261192	
30653.49	6	0.001778832	
30696.49	15	0.00444708	
30739.49	8	0.002371776	
30782.49	4	0.001185888	
30825.49	11	0.003261192	
30868.49	10	0.00296472	
30911.49	13	0.003854136	
30954.49	16	0.004743552	
30997.49	7	0.002075304	
31040.49	7	0.002075304	
31083.49	12	0.003557664	
31126.49	8	0.002371776	
31169.49	9	0.002668248	
31212.49	9	0.002668248	
31255.49	6	0.001778832	
31298.49	9	0.002668248	
31341.49	10	0.00296472	
31384.49	8	0.002371776	
31427.49	15	0.00444708	
31470.49	5	0.00148236	
31513.49	11	0.003261192	
31556.49	5	0.00148236	
31599.49	6	0.001778832	
31642.49	6	0.001778832	
31685.49	8	0.002371776	
31728.49	11	0.003261192	
31771.49	10	0.00296472	
31814.49	5	0.00148236	
31857.49	9	0.002668248	
31900.49	10	0.00296472	
31943.49	13	0.003854136	
31986.49	5	0.00148236	
32029.49	5	0.00148236	
32072.49	9	0.002668248	

32115.49	14	0.004150608	
32158.49	12	0.003557664	
32201.49	14	0.004150608	
32244.49	6	0.001778832	
32287.49	13	0.003854136	
32330.49	8	0.002371776	
32373.49	10	0.00296472	
32416.49	7	0.002075304	
32459.49	7	0.002075304	
32502.49	8	0.002371776	
32545.49	8	0.002371776	
32588.49	4	0.001185888	
32631.49	9	0.002668248	
32674.49	6	0.001778832	
32717.49	6	0.001778832	
32760.49	6	0.001778832	
32803.49	5	0.00148236	
32846.49	15	0.00444708	
32889.49	9	0.002668248	
32932.49	2	0.000592944	
32975.49	7	0.002075304	
33018.49	7	0.002075304	
33061.49	6	0.001778832	
33104.49	7	0.002075304	
33147.49	4	0.001185888	
33190.49	9	0.002668248	
33233.49	10	0.00296472	
33276.49	11	0.003261192	
33319.49	6	0.001778832	
33362.49	9	0.002668248	
33405.49	3	0.000889416	
33448.49	8	0.002371776	
33491.49	5	0.00148236	
33534.49	5	0.00148236	
33577.49	8	0.002371776	
33620.49	3	0.000889416	
33663.49	11	0.003261192	
33706.49	6	0.001778832	
33749.49	7	0.002075304	
33792.49	11	0.003261192	
33835.49	4	0.001185888	

33878.49	5	0.00148236	
33921.49	6	0.001778832	
33964.49	3	0.000889416	
34007.49	9	0.002668248	
34050.49	9	0.002668248	
34093.49	7	0.002075304	
34136.49	6	0.001778832	
34179.49	6	0.001778832	
34222.49	3	0.000889416	
34265.49	9	0.002668248	
34308.49	3	0.000889416	
34351.49	1	0.000296472	
34394.49	10	0.00296472	
34437.49	5	0.00148236	
34480.49	10	0.00296472	
34523.49	4	0.001185888	
34566.49	7	0.002075304	
34609.49	6	0.001778832	
34652.49	4	0.001185888	
34695.49	9	0.002668248	
34738.49	5	0.00148236	
34781.49	8	0.002371776	
34824.49	7	0.002075304	
34867.49	8	0.002371776	
34910.49	3	0.000889416	
34953.49	5	0.00148236	
34996.49	3	0.000889416	
35039.49	13	0.003854136	
35082.49	8	0.002371776	
35125.49	7	0.002075304	
35168.49	4	0.001185888	
35211.49	5	0.00148236	
35254.49	3	0.000889416	
35297.49	7	0.002075304	
35340.49	9	0.002668248	
35383.49	8	0.002371776	
35426.49	4	0.001185888	
35469.49	4	0.001185888	
35512.49	4	0.001185888	
35555.49	5	0.00148236	
35598.49	2	0.000592944	

35641.49	3	0.000889416	
35684.49	2	0.000592944	
35727.49	7	0.002075304	
35770.49	4	0.001185888	
35813.49	7	0.002075304	
35856.49	4	0.001185888	
35899.49	7	0.002075304	
35942.49	7	0.002075304	
35985.49	10	0.00296472	
36028.49	4	0.001185888	
36071.49	6	0.001778832	
36114.49	6	0.001778832	
36157.49	4	0.001185888	
36200.49	7	0.002075304	
36243.49	8	0.002371776	
36286.49	9	0.002668248	
36329.49	11	0.003261192	
36372.49	5	0.00148236	
36415.49	4	0.001185888	
36458.49	4	0.001185888	
36501.49	5	0.00148236	
36544.49	6	0.001778832	
36587.49	11	0.003261192	
36630.49	6	0.001778832	
36673.49	6	0.001778832	
36716.49	4	0.001185888	
36759.49	3	0.000889416	
36802.49	11	0.003261192	
36845.49	7	0.002075304	
36888.49	5	0.00148236	
36931.49	5	0.00148236	
36974.49	5	0.00148236	
37017.49	6	0.001778832	
37060.49	5	0.00148236	
37103.49	6	0.001778832	
37146.49	3	0.000889416	
37189.49	1	0.000296472	
37232.49	4	0.001185888	
37275.49	4	0.001185888	
37318.49	5	0.00148236	
37361.49	4	0.001185888	

37404.49	6	0.001778832	
37447.49	5	0.00148236	
37490.49	4	0.001185888	
37533.49	7	0.002075304	
37576.49	9	0.002668248	
37619.49	7	0.002075304	
37662.49	2	0.000592944	
37705.49	6	0.001778832	
37748.49	3	0.000889416	
37791.49	6	0.001778832	
37834.49	4	0.001185888	
37877.49	5	0.00148236	
37920.49	5	0.00148236	
37963.49	5	0.00148236	
38006.49	4	0.001185888	
38049.49	4	0.001185888	
38092.49	5	0.00148236	
38135.49	2	0.000592944	
38178.49	4	0.001185888	
38221.49	3	0.000889416	
38264.49	6	0.001778832	
38307.49	10	0.00296472	
38350.49	2	0.000592944	
38393.49	6	0.001778832	
38436.49	4	0.001185888	
38479.49	3	0.000889416	
38522.49	7	0.002075304	
38565.49	6	0.001778832	
38608.49	4	0.001185888	
38651.49	4	0.001185888	
38694.49	7	0.002075304	
38737.49	6	0.001778832	
38780.49	0	0	
38823.49	6	0.001778832	
38866.49	5	0.00148236	
38909.49	6	0.001778832	
38952.49	6	0.001778832	
38995.49	3	0.000889416	
39038.49	2	0.000592944	
39081.49	1	0.000296472	
39124.49	6	0.001778832	

39167.49	3	0.000889416	
39210.49	6	0.001778832	
39253.49	8	0.002371776	
39296.49	5	0.00148236	
39339.49	5	0.00148236	
39382.49	5	0.00148236	
39425.49	3	0.000889416	
39468.49	5	0.00148236	
39511.49	2	0.000592944	
39554.49	3	0.000889416	
39597.49	6	0.001778832	
39640.49	5	0.00148236	
39683.49	4	0.001185888	
39726.49	4	0.001185888	
39769.49	4	0.001185888	
39812.49	5	0.00148236	
39855.49	3	0.000889416	
39898.49	3	0.000889416	
39941.49	6	0.001778832	
39984.49	1	0.000296472	
40027.49	1	0.000296472	
40070.49	3	0.000889416	
40113.49	7	0.002075304	
40156.49	1	0.000296472	
40199.49	4	0.001185888	
40242.49	6	0.001778832	
40285.49	7	0.002075304	
40328.49	2	0.000592944	
40371.49	3	0.000889416	
40414.49	2	0.000592944	
40457.49	4	0.001185888	
40500.49	1	0.000296472	
40543.49	5	0.00148236	
40586.49	4	0.001185888	
40629.49	0	0	
40672.49	1	0.000296472	
40715.49	4	0.001185888	
40758.49	4	0.001185888	
40801.49	4	0.001185888	
40844.49	2	0.000592944	
40887.49	3	0.000889416	

40930.49	2	0.000592944	
40973.49	2	0.000592944	
41016.49	3	0.000889416	
41059.49	3	0.000889416	
41102.49	3	0.000889416	
41145.49	6	0.001778832	
41188.49	4	0.001185888	
41231.49	4	0.001185888	
41274.49	2	0.000592944	
41317.49	5	0.00148236	
41360.49	0	0	
41403.49	4	0.001185888	
41446.49	8	0.002371776	
41489.49	5	0.00148236	
41532.49	2	0.000592944	
41575.49	1	0.000296472	
41618.49	4	0.001185888	
41661.49	3	0.000889416	
41704.49	1	0.000296472	
41747.49	2	0.000592944	
41790.49	3	0.000889416	
41833.49	5	0.00148236	
41876.49	1	0.000296472	
41919.49	2	0.000592944	
41962.49	0	0	
42005.49	2	0.000592944	
42048.49	2	0.000592944	
42091.49	6	0.001778832	
42134.49	3	0.000889416	
42177.49	2	0.000592944	
42220.49	2	0.000592944	
42263.49	2	0.000592944	
42306.49	2	0.000592944	
42349.49	3	0.000889416	
42392.49	3	0.000889416	
42435.49	9	0.002668248	
42478.49	2	0.000592944	
42521.49	3	0.000889416	
42564.49	4	0.001185888	
42607.49	9	0.002668248	
42650.49	2	0.000592944	



42693.49	4	0.001185888	
42736.49	6	0.001778832	
42779.49	5	0.00148236	
42822.49	6	0.001778832	
42865.49	5	0.00148236	
42908.49	3	0.000889416	
42951.49	4	0.001185888	
42994.49	3	0.000889416	
43037.49	2	0.000592944	
43080.49	4	0.001185888	
43123.49	5	0.00148236	
43166.49	6	0.001778832	
43209.49	3	0.000889416	
43252.49	1	0.000296472	
43295.49	3	0.000889416	
43338.49	1	0.000296472	
43381.49	1	0.000296472	
43424.49	2	0.000592944	
43467.49	3	0.000889416	
43510.49	2	0.000592944	
43553.49	3	0.000889416	
43596.49	1	0.000296472	
43639.49	0	0	
43682.49	1	0.000296472	
43725.49	0	0	
43768.49	1	0.000296472	
43811.49	3	0.000889416	
43854.49	3	0.000889416	

A003

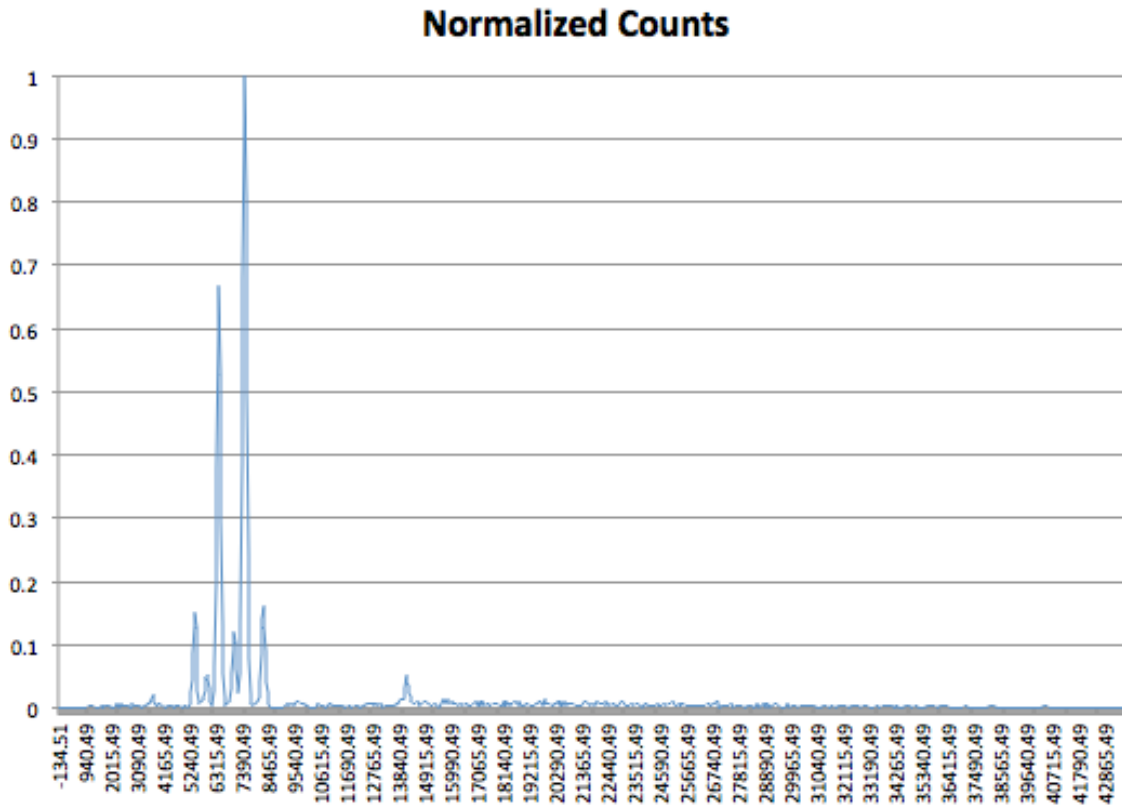


Figure 22. A003 Normalized XRF Counts

Table 7. A003 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	

467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	5	0.003309067	
1026.49	2	0.001323627	
1069.49	2	0.001323627	
1112.49	8	0.005294507	
1155.49	4	0.002647253	
1198.49	6	0.00397088	
1241.49	6	0.00397088	
1284.49	8	0.005294507	
1327.49	2	0.001323627	
1370.49	3	0.00198544	
1413.49	5	0.003309067	
1456.49	4	0.002647253	
1499.49	3	0.00198544	
1542.49	7	0.004632694	
1585.49	3	0.00198544	
1628.49	8	0.005294507	
1671.49	1	0.000661813	
1714.49	2	0.001323627	
1757.49	2	0.001323627	
1800.49	8	0.005294507	
1843.49	8	0.005294507	
1886.49	3	0.00198544	
1929.49	4	0.002647253	
1972.49	1	0.000661813	
2015.49	1	0.000661813	
2058.49	1	0.000661813	
2101.49	5	0.003309067	
2144.49	0	0	
2187.49	2	0.001323627	

2230.49	6	0.00397088	
2273.49	9	0.00595632	
2316.49	3	0.00198544	
2359.49	5	0.003309067	
2402.49	10	0.006618134	
2445.49	4	0.002647253	
2488.49	5	0.003309067	
2531.49	1	0.000661813	
2574.49	6	0.00397088	
2617.49	4	0.002647253	
2660.49	2	0.001323627	
2703.49	6	0.00397088	
2746.49	4	0.002647253	
2789.49	6	0.00397088	
2832.49	2	0.001323627	
2875.49	11	0.007279947	
2918.49	4	0.002647253	
2961.49	5	0.003309067	
3004.49	6	0.00397088	
3047.49	8	0.005294507	
3090.49	4	0.002647253	
3133.49	5	0.003309067	
3176.49	5	0.003309067	
3219.49	3	0.00198544	
3262.49	1	0.000661813	
3305.49	3	0.00198544	
3348.49	2	0.001323627	
3391.49	1	0.000661813	
3434.49	5	0.003309067	
3477.49	6	0.00397088	
3520.49	9	0.00595632	
3563.49	9	0.00595632	
3606.49	14	0.009265387	
3649.49	20	0.013236267	
3692.49	25	0.016545334	
3735.49	33	0.021839841	Ca
3778.49	16	0.010589014	
3821.49	15	0.009927201	
3864.49	4	0.002647253	
3907.49	9	0.00595632	
3950.49	7	0.004632694	

3993.49	12	0.00794176	
4036.49	7	0.004632694	
4079.49	7	0.004632694	
4122.49	4	0.002647253	
4165.49	4	0.002647253	
4208.49	4	0.002647253	
4251.49	2	0.001323627	
4294.49	1	0.000661813	
4337.49	2	0.001323627	
4380.49	5	0.003309067	
4423.49	4	0.002647253	
4466.49	5	0.003309067	
4509.49	4	0.002647253	
4552.49	5	0.003309067	
4595.49	4	0.002647253	
4638.49	2	0.001323627	
4681.49	8	0.005294507	
4724.49	8	0.005294507	
4767.49	6	0.00397088	
4810.49	4	0.002647253	
4853.49	2	0.001323627	
4896.49	8	0.005294507	
4939.49	3	0.00198544	
4982.49	3	0.00198544	
5025.49	3	0.00198544	
5068.49	6	0.00397088	
5111.49	6	0.00397088	
5154.49	3	0.00198544	
5197.49	3	0.00198544	
5240.49	11	0.007279947	
5283.49	37	0.024487095	
5326.49	66	0.043679682	
5369.49	131	0.086697551	
5412.49	199	0.13170086	
5455.49	228	0.150893448	Cr
5498.49	190	0.12574454	
5541.49	106	0.070152217	
5584.49	41	0.027134348	
5627.49	17	0.011250827	
5670.49	10	0.006618134	
5713.49	11	0.007279947	

5756.49	10	0.006618134	
5799.49	21	0.013898081	
5842.49	28	0.018530774	
5885.49	43	0.028457975	
5928.49	74	0.048974189	
5971.49	80	0.052945069	Mn
6014.49	70	0.046326936	
6057.49	49	0.032428855	
6100.49	18	0.011912641	
6143.49	14	0.009265387	
6186.49	7	0.004632694	
6229.49	42	0.027796161	
6272.49	101	0.06684315	
6315.49	302	0.199867637	
6358.49	574	0.379880874	
6401.49	893	0.590999338	
6444.49	1007	0.666446062	Fe
6487.49	796	0.526803441	
6530.49	444	0.293845136	
6573.49	199	0.13170086	
6616.49	81	0.053606883	
6659.49	27	0.017868961	
6702.49	7	0.004632694	
6745.49	3	0.00198544	
6788.49	7	0.004632694	
6831.49	11	0.007279947	
6874.49	17	0.011250827	
6917.49	19	0.012574454	
6960.49	45	0.029781602	
7003.49	84	0.055592323	
7046.49	141	0.093315685	
7089.49	181	0.11978822	Fe
7132.49	157	0.103904699	
7175.49	95	0.06287227	
7218.49	50	0.033090668	
7261.49	35	0.023163468	
7304.49	84	0.055592323	
7347.49	203	0.134348114	
7390.49	585	0.387160821	
7433.49	1025	0.678358703	
7476.49	1401	0.927200529	

7519.49	1511	1	Ni
7562.49	1209	0.800132363	
7605.49	747	0.494374586	
7648.49	361	0.238914626	
7691.49	117	0.077432164	
7734.49	30	0.019854401	
7777.49	13	0.008603574	
7820.49	9	0.00595632	
7863.49	5	0.003309067	
7906.49	6	0.00397088	
7949.49	6	0.00397088	
7992.49	16	0.010589014	-
8035.49	16	0.010589014	-
8078.49	17	0.011250827	
8121.49	29	0.019192588	
8164.49	63	0.041694242	
8207.49	129	0.085373925	
8250.49	215	0.142289874	
8293.49	246	0.162806089	Ni
8336.49	190	0.12574454	
8379.49	136	0.090006618	
8422.49	64	0.042356056	
8465.49	38	0.025148908	
8508.49	12	0.00794176	
8551.49	9	0.00595632	
8594.49	2	0.001323627	
8637.49	4	0.002647253	
8680.49	5	0.003309067	
8723.49	2	0.001323627	
8766.49	4	0.002647253	
8809.49	1	0.000661813	
8852.49	3	0.00198544	
8895.49	5	0.003309067	
8938.49	3	0.00198544	
8981.49	2	0.001323627	
9024.49	3	0.00198544	
9067.49	6	0.00397088	
9110.49	2	0.001323627	
9153.49	0	0	
9196.49	5	0.003309067	
9239.49	11	0.007279947	

9282.49	6	0.00397088	
9325.49	5	0.003309067	
9368.49	8	0.005294507	
9411.49	3	0.00198544	
9454.49	10	0.006618134	
9497.49	13	0.008603574	
9540.49	9	0.00595632	
9583.49	8	0.005294507	
9626.49	16	0.010589014	
9669.49	18	0.011912641	W
9712.49	18	0.011912641	W
9755.49	18	0.011912641	W
9798.49	10	0.006618134	
9841.49	14	0.009265387	
9884.49	9	0.00595632	
9927.49	10	0.006618134	
9970.49	9	0.00595632	
10013.49	10	0.006618134	
10056.49	7	0.004632694	
10099.49	5	0.003309067	
10142.49	1	0.000661813	
10185.49	5	0.003309067	
10228.49	6	0.00397088	
10271.49	1	0.000661813	
10314.49	3	0.00198544	
10357.49	5	0.003309067	
10400.49	3	0.00198544	
10443.49	5	0.003309067	
10486.49	3	0.00198544	
10529.49	13	0.008603574	
10572.49	15	0.009927201	
10615.49	5	0.003309067	
10658.49	5	0.003309067	
10701.49	3	0.00198544	
10744.49	7	0.004632694	
10787.49	5	0.003309067	
10830.49	8	0.005294507	
10873.49	2	0.001323627	
10916.49	4	0.002647253	
10959.49	6	0.00397088	
11002.49	10	0.006618134	



11045.49	6	0.00397088	
11088.49	6	0.00397088	
11131.49	4	0.002647253	
11174.49	3	0.00198544	
11217.49	7	0.004632694	
11260.49	7	0.004632694	
11303.49	9	0.00595632	
11346.49	7	0.004632694	
11389.49	4	0.002647253	
11432.49	6	0.00397088	
11475.49	2	0.001323627	
11518.49	5	0.003309067	
11561.49	5	0.003309067	
11604.49	5	0.003309067	
11647.49	2	0.001323627	
11690.49	7	0.004632694	
11733.49	6	0.00397088	
11776.49	4	0.002647253	
11819.49	4	0.002647253	
11862.49	2	0.001323627	
11905.49	1	0.000661813	
11948.49	2	0.001323627	
11991.49	5	0.003309067	
12034.49	5	0.003309067	
12077.49	7	0.004632694	
12120.49	3	0.00198544	
12163.49	5	0.003309067	
12206.49	4	0.002647253	
12249.49	5	0.003309067	
12292.49	1	0.000661813	
12335.49	6	0.00397088	
12378.49	6	0.00397088	
12421.49	7	0.004632694	
12464.49	6	0.00397088	
12507.49	6	0.00397088	
12550.49	9	0.00595632	
12593.49	13	0.008603574	
12636.49	6	0.00397088	
12679.49	12	0.00794176	
12722.49	9	0.00595632	
12765.49	8	0.005294507	

12808.49	11	0.007279947	
12851.49	4	0.002647253	
12894.49	11	0.007279947	
12937.49	6	0.00397088	
12980.49	5	0.003309067	
13023.49	4	0.002647253	
13066.49	3	0.00198544	
13109.49	9	0.00595632	
13152.49	3	0.00198544	
13195.49	3	0.00198544	
13238.49	6	0.00397088	
13281.49	7	0.004632694	
13324.49	8	0.005294507	
13367.49	5	0.003309067	
13410.49	7	0.004632694	
13453.49	6	0.00397088	
13496.49	7	0.004632694	
13539.49	8	0.005294507	
13582.49	6	0.00397088	
13625.49	12	0.00794176	
13668.49	6	0.00397088	
13711.49	10	0.006618134	
13754.49	3	0.00198544	
13797.49	9	0.00595632	
13840.49	7	0.004632694	
13883.49	14	0.009265387	
13926.49	19	0.012574454	-
13969.49	14	0.009265387	
14012.49	21	0.013898081	
14055.49	24	0.015883521	
14098.49	49	0.032428855	
14141.49	76	0.050297816	Sr
14184.49	65	0.043017869	
14227.49	52	0.034414295	
14270.49	38	0.025148908	
14313.49	29	0.019192588	
14356.49	17	0.011250827	
14399.49	9	0.00595632	
14442.49	8	0.005294507	
14485.49	11	0.007279947	
14528.49	12	0.00794176	

14571.49	9	0.00595632	
14614.49	8	0.005294507	
14657.49	15	0.009927201	
14700.49	5	0.003309067	
14743.49	6	0.00397088	
14786.49	10	0.006618134	
14829.49	9	0.00595632	
14872.49	15	0.009927201	
14915.49	12	0.00794176	
14958.49	17	0.011250827	-
15001.49	15	0.009927201	
15044.49	14	0.009265387	
15087.49	12	0.00794176	
15130.49	8	0.005294507	
15173.49	7	0.004632694	
15216.49	11	0.007279947	
15259.49	6	0.00397088	
15302.49	13	0.008603574	
15345.49	11	0.007279947	
15388.49	13	0.008603574	
15431.49	8	0.005294507	
15474.49	6	0.00397088	
15517.49	2	0.001323627	
15560.49	11	0.007279947	
15603.49	8	0.005294507	
15646.49	22	0.014559894	Sr
15689.49	17	0.011250827	
15732.49	12	0.00794176	
15775.49	17	0.011250827	
15818.49	21	0.013898081	Sr
15861.49	14	0.009265387	
15904.49	18	0.011912641	Sr
15947.49	15	0.009927201	
15990.49	9	0.00595632	
16033.49	16	0.010589014	Sr
16076.49	10	0.006618134	
16119.49	11	0.007279947	
16162.49	11	0.007279947	
16205.49	13	0.008603574	
16248.49	12	0.00794176	
16291.49	10	0.006618134	

16334.49	6	0.00397088	
16377.49	8	0.005294507	
16420.49	13	0.008603574	
16463.49	7	0.004632694	
16506.49	11	0.007279947	
16549.49	12	0.00794176	
16592.49	11	0.007279947	
16635.49	7	0.004632694	
16678.49	11	0.007279947	
16721.49	7	0.004632694	
16764.49	8	0.005294507	
16807.49	6	0.00397088	
16850.49	6	0.00397088	
16893.49	12	0.00794176	
16936.49	14	0.009265387	
16979.49	11	0.007279947	
17022.49	14	0.009265387	
17065.49	13	0.008603574	
17108.49	8	0.005294507	
17151.49	7	0.004632694	
17194.49	16	0.010589014	Y
17237.49	6	0.00397088	
17280.49	7	0.004632694	
17323.49	14	0.009265387	
17366.49	6	0.00397088	
17409.49	8	0.005294507	
17452.49	10	0.006618134	
17495.49	11	0.007279947	
17538.49	12	0.00794176	
17581.49	7	0.004632694	
17624.49	8	0.005294507	
17667.49	8	0.005294507	
17710.49	11	0.007279947	
17753.49	12	0.00794176	
17796.49	11	0.007279947	
17839.49	12	0.00794176	
17882.49	10	0.006618134	
17925.49	8	0.005294507	
17968.49	4	0.002647253	
18011.49	8	0.005294507	
18054.49	7	0.004632694	

18097.49	6	0.00397088	
18140.49	15	0.009927201	
18183.49	7	0.004632694	
18226.49	16	0.010589014	Mo
18269.49	4	0.002647253	
18312.49	11	0.007279947	
18355.49	10	0.006618134	
18398.49	5	0.003309067	
18441.49	13	0.008603574	
18484.49	9	0.00595632	
18527.49	10	0.006618134	
18570.49	11	0.007279947	
18613.49	10	0.006618134	
18656.49	17	0.011250827	Nb
18699.49	17	0.011250827	Nb
18742.49	12	0.00794176	
18785.49	7	0.004632694	
18828.49	14	0.009265387	
18871.49	6	0.00397088	
18914.49	6	0.00397088	
18957.49	8	0.005294507	
19000.49	8	0.005294507	
19043.49	13	0.008603574	
19086.49	10	0.006618134	
19129.49	10	0.006618134	
19172.49	11	0.007279947	
19215.49	7	0.004632694	
19258.49	7	0.004632694	
19301.49	10	0.006618134	
19344.49	9	0.00595632	
19387.49	8	0.005294507	
19430.49	8	0.005294507	
19473.49	7	0.004632694	
19516.49	12	0.00794176	
19559.49	12	0.00794176	
19602.49	9	0.00595632	
19645.49	15	0.009927201	
19688.49	17	0.011250827	Tc
19731.49	6	0.00397088	
19774.49	11	0.007279947	
19817.49	6	0.00397088	

19860.49	19	0.012574454	Tc
19903.49	9	0.00595632	
19946.49	11	0.007279947	
19989.49	7	0.004632694	
20032.49	10	0.006618134	
20075.49	11	0.007279947	
20118.49	10	0.006618134	
20161.49	5	0.003309067	
20204.49	8	0.005294507	
20247.49	9	0.00595632	
20290.49	13	0.008603574	
20333.49	12	0.00794176	
20376.49	11	0.007279947	
20419.49	16	0.010589014	Rh
20462.49	7	0.004632694	
20505.49	14	0.009265387	
20548.49	13	0.008603574	
20591.49	7	0.004632694	
20634.49	17	0.011250827	Rh
20677.49	11	0.007279947	
20720.49	5	0.003309067	
20763.49	13	0.008603574	
20806.49	15	0.009927201	
20849.49	8	0.005294507	
20892.49	10	0.006618134	
20935.49	8	0.005294507	
20978.49	13	0.008603574	
21021.49	9	0.00595632	
21064.49	14	0.009265387	
21107.49	12	0.00794176	
21150.49	7	0.004632694	
21193.49	6	0.00397088	
21236.49	7	0.004632694	
21279.49	7	0.004632694	
21322.49	8	0.005294507	
21365.49	7	0.004632694	
21408.49	7	0.004632694	
21451.49	14	0.009265387	
21494.49	9	0.00595632	
21537.49	11	0.007279947	
21580.49	14	0.009265387	

21623.49	9	0.00595632	
21666.49	10	0.006618134	
21709.49	8	0.005294507	
21752.49	12	0.00794176	
21795.49	13	0.008603574	
21838.49	13	0.008603574	
21881.49	13	0.008603574	
21924.49	6	0.00397088	
21967.49	11	0.007279947	
22010.49	15	0.009927201	
22053.49	12	0.00794176	
22096.49	9	0.00595632	
22139.49	13	0.008603574	
22182.49	13	0.008603574	
22225.49	9	0.00595632	
22268.49	12	0.00794176	
22311.49	16	0.010589014	Ag
22354.49	4	0.002647253	
22397.49	10	0.006618134	
22440.49	11	0.007279947	
22483.49	10	0.006618134	
22526.49	7	0.004632694	
22569.49	10	0.006618134	
22612.49	10	0.006618134	
22655.49	9	0.00595632	
22698.49	5	0.003309067	
22741.49	7	0.004632694	
22784.49	6	0.00397088	
22827.49	10	0.006618134	
22870.49	9	0.00595632	
22913.49	6	0.00397088	
22956.49	14	0.009265387	
22999.49	12	0.00794176	
23042.49	10	0.006618134	
23085.49	16	0.010589014	-
23128.49	12	0.00794176	
23171.49	8	0.005294507	
23214.49	10	0.006618134	
23257.49	11	0.007279947	
23300.49	7	0.004632694	
23343.49	9	0.00595632	

23386.49	8	0.005294507	
23429.49	12	0.00794176	
23472.49	6	0.00397088	
23515.49	10	0.006618134	
23558.49	9	0.00595632	
23601.49	9	0.00595632	
23644.49	7	0.004632694	
23687.49	9	0.00595632	
23730.49	9	0.00595632	
23773.49	10	0.006618134	
23816.49	13	0.008603574	
23859.49	3	0.00198544	
23902.49	7	0.004632694	
23945.49	8	0.005294507	
23988.49	9	0.00595632	
24031.49	10	0.006618134	
24074.49	7	0.004632694	
24117.49	8	0.005294507	
24160.49	10	0.006618134	
24203.49	10	0.006618134	
24246.49	5	0.003309067	
24289.49	3	0.00198544	
24332.49	6	0.00397088	
24375.49	6	0.00397088	
24418.49	11	0.007279947	
24461.49	13	0.008603574	
24504.49	7	0.004632694	
24547.49	4	0.002647253	
24590.49	11	0.007279947	
24633.49	5	0.003309067	
24676.49	5	0.003309067	
24719.49	12	0.00794176	
24762.49	10	0.006618134	
24805.49	8	0.005294507	
24848.49	4	0.002647253	
24891.49	7	0.004632694	
24934.49	10	0.006618134	
24977.49	13	0.008603574	
25020.49	7	0.004632694	
25063.49	9	0.00595632	
25106.49	7	0.004632694	



25149.49	15	0.009927201	
25192.49	6	0.00397088	
25235.49	5	0.003309067	
25278.49	5	0.003309067	
25321.49	7	0.004632694	
25364.49	13	0.008603574	
25407.49	6	0.00397088	
25450.49	7	0.004632694	
25493.49	9	0.00595632	
25536.49	9	0.00595632	
25579.49	6	0.00397088	
25622.49	7	0.004632694	
25665.49	7	0.004632694	
25708.49	10	0.006618134	
25751.49	8	0.005294507	
25794.49	7	0.004632694	
25837.49	6	0.00397088	
25880.49	11	0.007279947	
25923.49	7	0.004632694	
25966.49	3	0.00198544	
26009.49	10	0.006618134	
26052.49	7	0.004632694	
26095.49	4	0.002647253	
26138.49	8	0.005294507	
26181.49	5	0.003309067	
26224.49	9	0.00595632	
26267.49	10	0.006618134	
26310.49	6	0.00397088	
26353.49	6	0.00397088	
26396.49	5	0.003309067	
26439.49	5	0.003309067	
26482.49	5	0.003309067	
26525.49	8	0.005294507	
26568.49	11	0.007279947	
26611.49	6	0.00397088	
26654.49	10	0.006618134	
26697.49	7	0.004632694	
26740.49	6	0.00397088	
26783.49	9	0.00595632	
26826.49	9	0.00595632	
26869.49	10	0.006618134	

26912.49	7	0.004632694	
26955.49	14	0.009265387	
26998.49	2	0.001323627	
27041.49	4	0.002647253	
27084.49	7	0.004632694	
27127.49	6	0.00397088	
27170.49	4	0.002647253	
27213.49	4	0.002647253	
27256.49	4	0.002647253	
27299.49	7	0.004632694	
27342.49	7	0.004632694	
27385.49	8	0.005294507	
27428.49	6	0.00397088	
27471.49	5	0.003309067	
27514.49	10	0.006618134	
27557.49	3	0.00198544	
27600.49	7	0.004632694	
27643.49	5	0.003309067	
27686.49	5	0.003309067	
27729.49	9	0.00595632	
27772.49	3	0.00198544	
27815.49	7	0.004632694	
27858.49	5	0.003309067	
27901.49	7	0.004632694	
27944.49	6	0.00397088	
27987.49	5	0.003309067	
28030.49	4	0.002647253	
28073.49	3	0.00198544	
28116.49	6	0.00397088	
28159.49	3	0.00198544	
28202.49	5	0.003309067	
28245.49	8	0.005294507	
28288.49	8	0.005294507	
28331.49	6	0.00397088	
28374.49	7	0.004632694	
28417.49	8	0.005294507	
28460.49	3	0.00198544	
28503.49	6	0.00397088	
28546.49	10	0.006618134	
28589.49	6	0.00397088	
28632.49	5	0.003309067	

28675.49	2	0.001323627	
28718.49	6	0.00397088	
28761.49	5	0.003309067	
28804.49	11	0.007279947	
28847.49	7	0.004632694	
28890.49	2	0.001323627	
28933.49	7	0.004632694	
28976.49	10	0.006618134	
29019.49	6	0.00397088	
29062.49	5	0.003309067	
29105.49	8	0.005294507	
29148.49	2	0.001323627	
29191.49	5	0.003309067	
29234.49	3	0.00198544	
29277.49	9	0.00595632	
29320.49	5	0.003309067	
29363.49	8	0.005294507	
29406.49	10	0.006618134	
29449.49	4	0.002647253	
29492.49	3	0.00198544	
29535.49	6	0.00397088	
29578.49	3	0.00198544	
29621.49	5	0.003309067	
29664.49	5	0.003309067	
29707.49	3	0.00198544	
29750.49	6	0.00397088	
29793.49	3	0.00198544	
29836.49	9	0.00595632	
29879.49	2	0.001323627	
29922.49	4	0.002647253	
29965.49	3	0.00198544	
30008.49	4	0.002647253	
30051.49	5	0.003309067	
30094.49	3	0.00198544	
30137.49	6	0.00397088	
30180.49	4	0.002647253	
30223.49	7	0.004632694	
30266.49	0	0	
30309.49	5	0.003309067	
30352.49	3	0.00198544	
30395.49	5	0.003309067	

30438.49	6	0.00397088	
30481.49	3	0.00198544	
30524.49	5	0.003309067	
30567.49	4	0.002647253	
30610.49	6	0.00397088	
30653.49	4	0.002647253	
30696.49	3	0.00198544	
30739.49	3	0.00198544	
30782.49	6	0.00397088	
30825.49	3	0.00198544	
30868.49	4	0.002647253	
30911.49	4	0.002647253	
30954.49	6	0.00397088	
30997.49	3	0.00198544	
31040.49	1	0.000661813	
31083.49	6	0.00397088	
31126.49	5	0.003309067	
31169.49	3	0.00198544	
31212.49	4	0.002647253	
31255.49	6	0.00397088	
31298.49	4	0.002647253	
31341.49	3	0.00198544	
31384.49	4	0.002647253	
31427.49	8	0.005294507	
31470.49	3	0.00198544	
31513.49	3	0.00198544	
31556.49	2	0.001323627	
31599.49	7	0.004632694	
31642.49	6	0.00397088	
31685.49	5	0.003309067	
31728.49	4	0.002647253	
31771.49	2	0.001323627	
31814.49	2	0.001323627	
31857.49	4	0.002647253	
31900.49	2	0.001323627	
31943.49	4	0.002647253	
31986.49	2	0.001323627	
32029.49	2	0.001323627	
32072.49	5	0.003309067	
32115.49	7	0.004632694	
32158.49	2	0.001323627	

32201.49	7	0.004632694	
32244.49	6	0.00397088	
32287.49	4	0.002647253	
32330.49	3	0.00198544	
32373.49	3	0.00198544	
32416.49	3	0.00198544	
32459.49	6	0.00397088	
32502.49	4	0.002647253	
32545.49	4	0.002647253	
32588.49	4	0.002647253	
32631.49	1	0.000661813	
32674.49	8	0.005294507	
32717.49	6	0.00397088	
32760.49	4	0.002647253	
32803.49	3	0.00198544	
32846.49	3	0.00198544	
32889.49	6	0.00397088	
32932.49	4	0.002647253	
32975.49	4	0.002647253	
33018.49	3	0.00198544	
33061.49	2	0.001323627	
33104.49	4	0.002647253	
33147.49	2	0.001323627	
33190.49	1	0.000661813	
33233.49	3	0.00198544	
33276.49	7	0.004632694	
33319.49	4	0.002647253	
33362.49	3	0.00198544	
33405.49	3	0.00198544	
33448.49	2	0.001323627	
33491.49	5	0.003309067	
33534.49	4	0.002647253	
33577.49	1	0.000661813	
33620.49	2	0.001323627	
33663.49	6	0.00397088	
33706.49	4	0.002647253	
33749.49	4	0.002647253	
33792.49	3	0.00198544	
33835.49	4	0.002647253	
33878.49	4	0.002647253	
33921.49	3	0.00198544	

33964.49	3	0.00198544	
34007.49	5	0.003309067	
34050.49	5	0.003309067	
34093.49	4	0.002647253	
34136.49	4	0.002647253	
34179.49	2	0.001323627	
34222.49	5	0.003309067	
34265.49	0	0	
34308.49	7	0.004632694	
34351.49	5	0.003309067	
34394.49	6	0.00397088	
34437.49	2	0.001323627	
34480.49	4	0.002647253	
34523.49	2	0.001323627	
34566.49	3	0.00198544	
34609.49	1	0.000661813	
34652.49	7	0.004632694	
34695.49	4	0.002647253	
34738.49	5	0.003309067	
34781.49	5	0.003309067	
34824.49	5	0.003309067	
34867.49	2	0.001323627	
34910.49	4	0.002647253	
34953.49	2	0.001323627	
34996.49	6	0.00397088	
35039.49	2	0.001323627	
35082.49	5	0.003309067	
35125.49	2	0.001323627	
35168.49	2	0.001323627	
35211.49	1	0.000661813	
35254.49	1	0.000661813	
35297.49	1	0.000661813	
35340.49	2	0.001323627	
35383.49	3	0.00198544	
35426.49	2	0.001323627	
35469.49	2	0.001323627	
35512.49	1	0.000661813	
35555.49	5	0.003309067	
35598.49	5	0.003309067	
35641.49	1	0.000661813	
35684.49	0	0	

35727.49	4	0.002647253	
35770.49	4	0.002647253	
35813.49	5	0.003309067	
35856.49	5	0.003309067	
35899.49	5	0.003309067	
35942.49	4	0.002647253	
35985.49	2	0.001323627	
36028.49	3	0.00198544	
36071.49	2	0.001323627	
36114.49	4	0.002647253	
36157.49	3	0.00198544	
36200.49	4	0.002647253	
36243.49	5	0.003309067	
36286.49	0	0	
36329.49	2	0.001323627	
36372.49	5	0.003309067	
36415.49	3	0.00198544	
36458.49	2	0.001323627	
36501.49	2	0.001323627	
36544.49	2	0.001323627	
36587.49	4	0.002647253	
36630.49	2	0.001323627	
36673.49	5	0.003309067	
36716.49	3	0.00198544	
36759.49	1	0.000661813	
36802.49	3	0.00198544	
36845.49	3	0.00198544	
36888.49	2	0.001323627	
36931.49	1	0.000661813	
36974.49	3	0.00198544	
37017.49	1	0.000661813	
37060.49	3	0.00198544	
37103.49	3	0.00198544	
37146.49	6	0.00397088	
37189.49	2	0.001323627	
37232.49	7	0.004632694	
37275.49	1	0.000661813	
37318.49	4	0.002647253	
37361.49	2	0.001323627	
37404.49	1	0.000661813	
37447.49	1	0.000661813	

37490.49	0	0	
37533.49	3	0.00198544	
37576.49	1	0.000661813	
37619.49	3	0.00198544	
37662.49	1	0.000661813	
37705.49	4	0.002647253	
37748.49	2	0.001323627	
37791.49	3	0.00198544	
37834.49	5	0.003309067	
37877.49	1	0.000661813	
37920.49	3	0.00198544	
37963.49	4	0.002647253	
38006.49	2	0.001323627	
38049.49	2	0.001323627	
38092.49	1	0.000661813	
38135.49	3	0.00198544	
38178.49	4	0.002647253	
38221.49	8	0.005294507	
38264.49	2	0.001323627	
38307.49	4	0.002647253	
38350.49	0	0	
38393.49	1	0.000661813	
38436.49	1	0.000661813	
38479.49	2	0.001323627	
38522.49	4	0.002647253	
38565.49	1	0.000661813	
38608.49	2	0.001323627	
38651.49	1	0.000661813	
38694.49	3	0.00198544	
38737.49	3	0.00198544	
38780.49	4	0.002647253	
38823.49	2	0.001323627	
38866.49	1	0.000661813	
38909.49	4	0.002647253	
38952.49	2	0.001323627	
38995.49	7	0.004632694	
39038.49	3	0.00198544	
39081.49	1	0.000661813	
39124.49	5	0.003309067	
39167.49	1	0.000661813	
39210.49	1	0.000661813	



39253.49	2	0.001323627	
39296.49	3	0.00198544	
39339.49	1	0.000661813	
39382.49	2	0.001323627	
39425.49	2	0.001323627	
39468.49	1	0.000661813	
39511.49	4	0.002647253	
39554.49	2	0.001323627	
39597.49	1	0.000661813	
39640.49	3	0.00198544	
39683.49	0	0	
39726.49	2	0.001323627	
39769.49	4	0.002647253	
39812.49	1	0.000661813	
39855.49	3	0.00198544	
39898.49	1	0.000661813	
39941.49	1	0.000661813	
39984.49	1	0.000661813	
40027.49	1	0.000661813	
40070.49	2	0.001323627	
40113.49	2	0.001323627	
40156.49	1	0.000661813	
40199.49	1	0.000661813	
40242.49	0	0	
40285.49	4	0.002647253	
40328.49	0	0	
40371.49	5	0.003309067	
40414.49	2	0.001323627	
40457.49	3	0.00198544	
40500.49	5	0.003309067	
40543.49	1	0.000661813	
40586.49	3	0.00198544	
40629.49	1	0.000661813	
40672.49	1	0.000661813	
40715.49	2	0.001323627	
40758.49	2	0.001323627	
40801.49	1	0.000661813	
40844.49	1	0.000661813	
40887.49	3	0.00198544	
40930.49	4	0.002647253	
40973.49	1	0.000661813	

41016.49	2	0.001323627	
41059.49	2	0.001323627	
41102.49	2	0.001323627	
41145.49	3	0.00198544	
41188.49	2	0.001323627	
41231.49	3	0.00198544	
41274.49	3	0.00198544	
41317.49	3	0.00198544	
41360.49	2	0.001323627	
41403.49	3	0.00198544	
41446.49	3	0.00198544	
41489.49	5	0.003309067	
41532.49	2	0.001323627	
41575.49	0	0	
41618.49	3	0.00198544	
41661.49	1	0.000661813	
41704.49	2	0.001323627	
41747.49	1	0.000661813	
41790.49	3	0.00198544	
41833.49	1	0.000661813	
41876.49	1	0.000661813	
41919.49	1	0.000661813	
41962.49	2	0.001323627	
42005.49	0	0	
42048.49	2	0.001323627	
42091.49	0	0	
42134.49	4	0.002647253	
42177.49	3	0.00198544	
42220.49	2	0.001323627	
42263.49	1	0.000661813	
42306.49	0	0	
42349.49	1	0.000661813	
42392.49	1	0.000661813	
42435.49	1	0.000661813	
42478.49	0	0	
42521.49	2	0.001323627	
42564.49	2	0.001323627	
42607.49	1	0.000661813	
42650.49	0	0	
42693.49	0	0	
42736.49	2	0.001323627	

42779.49	2	0.001323627	
42822.49	1	0.000661813	
42865.49	2	0.001323627	
42908.49	0	0	
42951.49	3	0.00198544	
42994.49	3	0.00198544	
43037.49	0	0	
43080.49	2	0.001323627	
43123.49	2	0.001323627	
43166.49	2	0.001323627	
43209.49	3	0.00198544	
43252.49	0	0	
43295.49	4	0.002647253	
43338.49	0	0	
43381.49	4	0.002647253	
43424.49	3	0.00198544	
43467.49	3	0.00198544	
43510.49	0	0	
43553.49	0	0	
43596.49	2	0.001323627	
43639.49	1	0.000661813	
43682.49	2	0.001323627	
43725.49	0	0	
43768.49	2	0.001323627	
43811.49	0	0	
43854.49	0	0	

A004

### Normalized Counts

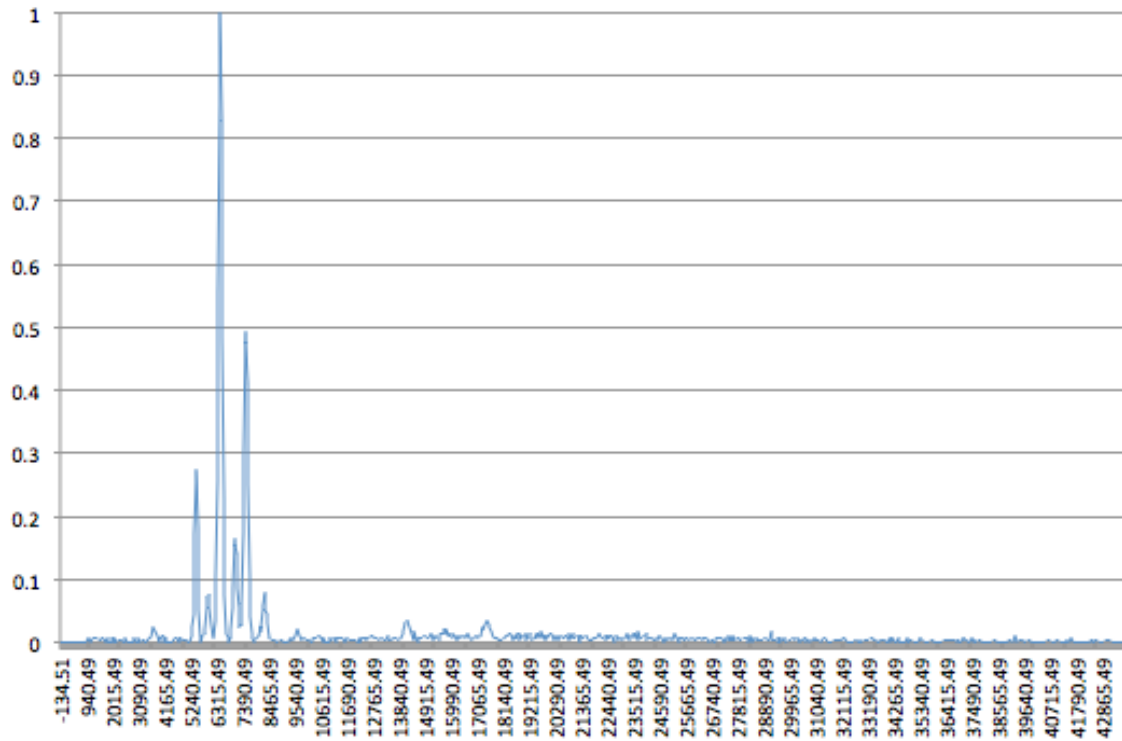


Figure 23. A004 Normalized XRF Counts

Table 8. A004 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	

424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	1	0.001430615	
1026.49	4	0.005722461	
1069.49	2	0.00286123	
1112.49	1	0.001430615	
1155.49	1	0.001430615	
1198.49	4	0.005722461	
1241.49	3	0.004291845	
1284.49	3	0.004291845	
1327.49	4	0.005722461	
1370.49	2	0.00286123	
1413.49	2	0.00286123	
1456.49	2	0.00286123	
1499.49	1	0.001430615	
1542.49	1	0.001430615	
1585.49	4	0.005722461	
1628.49	3	0.004291845	
1671.49	2	0.00286123	
1714.49	1	0.001430615	
1757.49	1	0.001430615	
1800.49	5	0.007153076	
1843.49	1	0.001430615	
1886.49	2	0.00286123	
1929.49	3	0.004291845	
1972.49	1	0.001430615	
2015.49	5	0.007153076	
2058.49	0	0	
2101.49	4	0.005722461	
2144.49	0	0	

2187.49	1	0.001430615	
2230.49	3	0.004291845	
2273.49	3	0.004291845	
2316.49	2	0.00286123	
2359.49	2	0.00286123	
2402.49	1	0.001430615	
2445.49	1	0.001430615	
2488.49	1	0.001430615	
2531.49	5	0.007153076	
2574.49	1	0.001430615	
2617.49	2	0.00286123	
2660.49	0	0	
2703.49	0	0	
2746.49	2	0.00286123	
2789.49	2	0.00286123	
2832.49	1	0.001430615	
2875.49	5	0.007153076	
2918.49	1	0.001430615	
2961.49	2	0.00286123	
3004.49	2	0.00286123	
3047.49	0	0	
3090.49	6	0.008583691	
3133.49	1	0.001430615	
3176.49	3	0.004291845	
3219.49	0	0	
3262.49	2	0.00286123	
3305.49	2	0.00286123	
3348.49	2	0.00286123	
3391.49	1	0.001430615	
3434.49	3	0.004291845	
3477.49	4	0.005722461	
3520.49	3	0.004291845	
3563.49	4	0.005722461	
3606.49	6	0.008583691	
3649.49	6	0.008583691	
3692.49	16	0.022889843	Ca
3735.49	12	0.017167382	
3778.49	11	0.015736767	
3821.49	8	0.011444921	Sb
3864.49	8	0.011444921	Sb
3907.49	1	0.001430615	

3950.49	5	0.007153076	
3993.49	5	0.007153076	
4036.49	4	0.005722461	
4079.49	7	0.010014306	Te
4122.49	1	0.001430615	
4165.49	2	0.00286123	
4208.49	5	0.007153076	
4251.49	1	0.001430615	
4294.49	2	0.00286123	
4337.49	2	0.00286123	
4380.49	0	0	
4423.49	1	0.001430615	
4466.49	1	0.001430615	
4509.49	1	0.001430615	
4552.49	4	0.005722461	
4595.49	4	0.005722461	
4638.49	6	0.008583691	
4681.49	4	0.005722461	
4724.49	1	0.001430615	
4767.49	4	0.005722461	
4810.49	4	0.005722461	
4853.49	4	0.005722461	
4896.49	2	0.00286123	
4939.49	0	0	
4982.49	2	0.00286123	
5025.49	3	0.004291845	
5068.49	2	0.00286123	
5111.49	2	0.00286123	
5154.49	1	0.001430615	
5197.49	2	0.00286123	
5240.49	7	0.010014306	
5283.49	17	0.024320458	
5326.49	32	0.045779685	
5369.49	121	0.173104435	
5412.49	177	0.253218884	
5455.49	192	0.274678112	V
5498.49	127	0.181688126	
5541.49	74	0.105865522	
5584.49	36	0.051502146	
5627.49	5	0.007153076	
5670.49	1	0.001430615	

5713.49	7	0.010014306	
5756.49	8	0.011444921	
5799.49	11	0.015736767	
5842.49	14	0.020028612	
5885.49	38	0.054363376	
5928.49	51	0.072961373	
5971.49	54	0.077253219	Cr
6014.49	39	0.055793991	
6057.49	20	0.028612303	
6100.49	18	0.025751073	
6143.49	6	0.008583691	
6186.49	5	0.007153076	
6229.49	24	0.034334764	
6272.49	73	0.104434907	
6315.49	179	0.256080114	
6358.49	388	0.555078684	
6401.49	598	0.855507868	
6444.49	699	1	Fe
6487.49	579	0.82832618	
6530.49	338	0.483547926	
6573.49	157	0.224606581	
6616.49	54	0.077253219	
6659.49	10	0.014306152	Fe
6702.49	10	0.014306152	Fe
6745.49	4	0.005722461	
6788.49	0	0	
6831.49	2	0.00286123	
6874.49	4	0.005722461	
6917.49	15	0.021459227	
6960.49	38	0.054363376	
7003.49	59	0.084406295	
7046.49	115	0.164520744	Fe
7089.49	107	0.153075823	
7132.49	98	0.140200286	
7175.49	60	0.08583691	
7218.49	39	0.055793991	
7261.49	17	0.024320458	
7304.49	20	0.028612303	
7347.49	43	0.061516452	
7390.49	123	0.175965665	
7433.49	209	0.298998569	



7476.49	344	0.492131617	Ni
7519.49	333	0.47639485	
7562.49	288	0.412017167	
7605.49	174	0.248927039	
7648.49	70	0.100143062	
7691.49	28	0.040057225	
7734.49	10	0.014306152	
7777.49	4	0.005722461	
7820.49	0	0	
7863.49	3	0.004291845	
7906.49	1	0.001430615	
7949.49	3	0.004291845	
7992.49	8	0.011444921	Cu
8035.49	6	0.008583691	
8078.49	18	0.025751073	Cu
8121.49	13	0.018597997	
8164.49	17	0.024320458	
8207.49	37	0.052932761	
8250.49	42	0.060085837	
8293.49	56	0.080114449	Ni
8336.49	37	0.052932761	
8379.49	32	0.045779685	
8422.49	22	0.031473534	
8465.49	20	0.028612303	
8508.49	5	0.007153076	
8551.49	2	0.00286123	
8594.49	4	0.005722461	
8637.49	0	0	
8680.49	2	0.00286123	
8723.49	1	0.001430615	
8766.49	1	0.001430615	
8809.49	0	0	
8852.49	1	0.001430615	
8895.49	2	0.00286123	
8938.49	3	0.004291845	
8981.49	1	0.001430615	
9024.49	4	0.005722461	
9067.49	1	0.001430615	
9110.49	2	0.00286123	
9153.49	2	0.00286123	
9196.49	1	0.001430615	

9239.49	3	0.004291845	
9282.49	2	0.00286123	
9325.49	2	0.00286123	
9368.49	6	0.008583691	
9411.49	4	0.005722461	
9454.49	7	0.010014306	Ta
9497.49	2	0.00286123	
9540.49	8	0.011444921	Ta
9583.49	6	0.008583691	
9626.49	7	0.010014306	
9669.49	14	0.020028612	Au
9712.49	7	0.010014306	Au
9755.49	7	0.010014306	Au
9798.49	6	0.008583691	
9841.49	3	0.004291845	
9884.49	6	0.008583691	
9927.49	7	0.010014306	Au
9970.49	2	0.00286123	
10013.49	3	0.004291845	
10056.49	2	0.00286123	
10099.49	3	0.004291845	
10142.49	4	0.005722461	
10185.49	3	0.004291845	
10228.49	1	0.001430615	
10271.49	4	0.005722461	
10314.49	2	0.00286123	
10357.49	3	0.004291845	
10400.49	4	0.005722461	
10443.49	3	0.004291845	
10486.49	5	0.007153076	
10529.49	8	0.011444921	Ga
10572.49	5	0.007153076	
10615.49	6	0.008583691	
10658.49	3	0.004291845	
10701.49	1	0.001430615	
10744.49	4	0.005722461	
10787.49	5	0.007153076	
10830.49	1	0.001430615	
10873.49	2	0.00286123	
10916.49	1	0.001430615	
10959.49	1	0.001430615	

11002.49	5	0.007153076	
11045.49	6	0.008583691	
11088.49	2	0.00286123	
11131.49	5	0.007153076	
11174.49	4	0.005722461	
11217.49	1	0.001430615	
11260.49	4	0.005722461	
11303.49	2	0.00286123	
11346.49	3	0.004291845	
11389.49	4	0.005722461	
11432.49	2	0.00286123	
11475.49	2	0.00286123	
11518.49	4	0.005722461	
11561.49	2	0.00286123	
11604.49	1	0.001430615	
11647.49	4	0.005722461	
11690.49	6	0.008583691	
11733.49	3	0.004291845	
11776.49	3	0.004291845	
11819.49	1	0.001430615	
11862.49	1	0.001430615	
11905.49	2	0.00286123	
11948.49	4	0.005722461	
11991.49	0	0	
12034.49	3	0.004291845	
12077.49	5	0.007153076	
12120.49	4	0.005722461	
12163.49	0	0	
12206.49	5	0.007153076	
12249.49	1	0.001430615	
12292.49	3	0.004291845	
12335.49	5	0.007153076	
12378.49	5	0.007153076	
12421.49	4	0.005722461	
12464.49	5	0.007153076	
12507.49	2	0.00286123	
12550.49	5	0.007153076	
12593.49	4	0.005722461	
12636.49	4	0.005722461	
12679.49	8	0.011444921	Se
12722.49	6	0.008583691	

12765.49	8	0.011444921	Se
12808.49	4	0.005722461	
12851.49	4	0.005722461	
12894.49	4	0.005722461	
12937.49	6	0.008583691	
12980.49	2	0.00286123	
13023.49	0	0	
13066.49	3	0.004291845	
13109.49	5	0.007153076	
13152.49	2	0.00286123	
13195.49	2	0.00286123	
13238.49	2	0.00286123	
13281.49	2	0.00286123	
13324.49	7	0.010014306	Br
13367.49	3	0.004291845	
13410.49	4	0.005722461	
13453.49	2	0.00286123	
13496.49	3	0.004291845	
13539.49	4	0.005722461	
13582.49	4	0.005722461	
13625.49	5	0.007153076	
13668.49	4	0.005722461	
13711.49	5	0.007153076	
13754.49	5	0.007153076	
13797.49	6	0.008583691	
13840.49	2	0.00286123	
13883.49	4	0.005722461	
13926.49	6	0.008583691	
13969.49	9	0.012875536	
14012.49	12	0.017167382	
14055.49	14	0.020028612	
14098.49	21	0.030042918	
14141.49	24	0.034334764	
14184.49	26	0.037195994	Sr
14227.49	26	0.037195994	Sr
14270.49	17	0.024320458	
14313.49	16	0.022889843	
14356.49	9	0.012875536	
14399.49	2	0.00286123	
14442.49	13	0.018597997	Sr
14485.49	4	0.005722461	

14528.49	3	0.004291845	
14571.49	1	0.001430615	
14614.49	2	0.00286123	
14657.49	4	0.005722461	
14700.49	4	0.005722461	
14743.49	6	0.008583691	
14786.49	4	0.005722461	
14829.49	5	0.007153076	
14872.49	4	0.005722461	
14915.49	8	0.011444921	-
14958.49	5	0.007153076	
15001.49	5	0.007153076	
15044.49	3	0.004291845	
15087.49	4	0.005722461	
15130.49	5	0.007153076	
15173.49	9	0.012875536	Y
15216.49	3	0.004291845	
15259.49	3	0.004291845	
15302.49	3	0.004291845	
15345.49	8	0.011444921	Y
15388.49	6	0.008583691	
15431.49	5	0.007153076	
15474.49	2	0.00286123	
15517.49	9	0.012875536	-
15560.49	7	0.010014306	-
15603.49	7	0.010014306	-
15646.49	10	0.014306152	
15689.49	14	0.020028612	Zr
15732.49	11	0.015736767	
15775.49	15	0.021459227	Zr
15818.49	8	0.011444921	
15861.49	11	0.015736767	Sr
15904.49	8	0.011444921	Sr
15947.49	8	0.011444921	Sr
15990.49	7	0.010014306	
16033.49	10	0.014306152	Sr
16076.49	5	0.007153076	
16119.49	6	0.008583691	
16162.49	8	0.011444921	Sr
16205.49	8	0.011444921	Sr
16248.49	3	0.004291845	

16291.49	7	0.010014306	Sr
16334.49	6	0.008583691	
16377.49	4	0.005722461	
16420.49	5	0.007153076	
16463.49	7	0.010014306	
16506.49	8	0.011444921	Y
16549.49	5	0.007153076	
16592.49	6	0.008583691	
16635.49	9	0.012875536	
16678.49	10	0.014306152	Y
16721.49	5	0.007153076	
16764.49	7	0.010014306	Y
16807.49	4	0.005722461	
16850.49	3	0.004291845	
16893.49	6	0.008583691	
16936.49	6	0.008583691	
16979.49	4	0.005722461	
17022.49	8	0.011444921	Y
17065.49	4	0.005722461	
17108.49	3	0.004291845	
17151.49	7	0.010014306	
17194.49	8	0.011444921	Y
17237.49	6	0.008583691	
17280.49	18	0.025751073	Y
17323.49	15	0.021459227	
17366.49	16	0.022889843	Y
17409.49	15	0.021459227	
17452.49	24	0.034334764	Mo
17495.49	24	0.034334764	Mo
17538.49	20	0.028612303	
17581.49	16	0.022889843	Zr
17624.49	16	0.022889843	Zr
17667.49	12	0.017167382	Zr
17710.49	12	0.017167382	Zr
17753.49	6	0.008583691	
17796.49	7	0.010014306	Zr
17839.49	7	0.010014306	Zr
17882.49	6	0.008583691	
17925.49	3	0.004291845	
17968.49	2	0.00286123	
18011.49	4	0.005722461	

18054.49	3	0.004291845	
18097.49	3	0.004291845	
18140.49	6	0.008583691	
18183.49	7	0.010014306	Zr
18226.49	7	0.010014306	Zr
18269.49	8	0.011444921	Zr
18312.49	8	0.011444921	Zr
18355.49	6	0.008583691	
18398.49	9	0.012875536	Tc
18441.49	9	0.012875536	Tc
18484.49	7	0.010014306	
18527.49	2	0.00286123	
18570.49	4	0.005722461	
18613.49	8	0.011444921	Tc
18656.49	5	0.007153076	
18699.49	10	0.014306152	Nb
18742.49	6	0.008583691	
18785.49	2	0.00286123	
18828.49	9	0.012875536	
18871.49	10	0.014306152	Nb
18914.49	5	0.007153076	
18957.49	3	0.004291845	
19000.49	7	0.010014306	
19043.49	10	0.014306152	Nb
19086.49	2	0.00286123	
19129.49	4	0.005722461	
19172.49	7	0.010014306	
19215.49	10	0.014306152	Ru
19258.49	6	0.008583691	
19301.49	5	0.007153076	
19344.49	2	0.00286123	
19387.49	5	0.007153076	
19430.49	4	0.005722461	
19473.49	9	0.012875536	Tc
19516.49	5	0.007153076	
19559.49	9	0.012875536	Tc
19602.49	8	0.011444921	
19645.49	5	0.007153076	
19688.49	13	0.018597997	Tc
19731.49	7	0.010014306	
19774.49	6	0.008583691	

19817.49	7	0.010014306	Tc
19860.49	2	0.00286123	
19903.49	8	0.011444921	Tc
19946.49	5	0.007153076	
19989.49	8	0.011444921	Tc
20032.49	7	0.010014306	
20075.49	10	0.014306152	Tc
20118.49	9	0.012875536	
20161.49	7	0.010014306	
20204.49	3	0.004291845	
20247.49	5	0.007153076	
20290.49	8	0.011444921	Rh
20333.49	7	0.010014306	
20376.49	3	0.004291845	
20419.49	3	0.004291845	
20462.49	8	0.011444921	Rh
20505.49	6	0.008583691	
20548.49	9	0.012875536	Rh
20591.49	5	0.007153076	
20634.49	5	0.007153076	
20677.49	7	0.010014306	
20720.49	8	0.011444921	Rh
20763.49	6	0.008583691	
20806.49	3	0.004291845	
20849.49	9	0.012875536	-
20892.49	6	0.008583691	
20935.49	6	0.008583691	
20978.49	10	0.014306152	-
21021.49	6	0.008583691	
21064.49	4	0.005722461	
21107.49	7	0.010014306	Pd
21150.49	4	0.005722461	
21193.49	7	0.010014306	Pd
21236.49	5	0.007153076	
21279.49	1	0.001430615	
21322.49	7	0.010014306	
21365.49	8	0.011444921	Pd
21408.49	6	0.008583691	
21451.49	5	0.007153076	
21494.49	4	0.005722461	
21537.49	3	0.004291845	



21580.49	8	0.011444921	Pd
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21666.49	3	0.004291845	
21709.49	2	0.00286123	
21752.49	2	0.00286123	
21795.49	3	0.004291845	
21838.49	6	0.008583691	
21881.49	8	0.011444921	Ru
21924.49	5	0.007153076	
21967.49	6	0.008583691	
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22053.49	9	0.012875536	Ag
22096.49	7	0.010014306	
22139.49	6	0.008583691	
22182.49	6	0.008583691	
22225.49	5	0.007153076	
22268.49	4	0.005722461	
22311.49	8	0.011444921	Ag
22354.49	3	0.004291845	
22397.49	4	0.005722461	
22440.49	8	0.011444921	Ag
22483.49	5	0.007153076	
22526.49	6	0.008583691	
22569.49	6	0.008583691	
22612.49	7	0.010014306	Ag
22655.49	6	0.008583691	
22698.49	1	0.001430615	
22741.49	4	0.005722461	
22784.49	8	0.011444921	Rh
22827.49	7	0.010014306	Rh
22870.49	7	0.010014306	Rh
22913.49	3	0.004291845	
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23085.49	2	0.00286123	
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23171.49	6	0.008583691	
23214.49	4	0.005722461	
23257.49	9	0.012875536	Cd
23300.49	2	0.00286123	

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23386.49	6	0.008583691	
23429.49	6	0.008583691	
23472.49	9	0.012875536	Cd
23515.49	4	0.005722461	
23558.49	3	0.004291845	
23601.49	9	0.012875536	Cd
23644.49	2	0.00286123	
23687.49	8	0.011444921	
23730.49	12	0.017167382	Pd
23773.49	6	0.008583691	
23816.49	5	0.007153076	
23859.49	5	0.007153076	
23902.49	5	0.007153076	
23945.49	6	0.008583691	
23988.49	6	0.008583691	
24031.49	10	0.014306152	Pd
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24203.49	3	0.004291845	
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25106.49	6	0.008583691	
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26353.49	3	0.004291845	
26396.49	6	0.008583691	
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26525.49	4	0.005722461	
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27213.49	1	0.001430615	
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27342.49	4	0.005722461	
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27471.49	2	0.00286123	
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27600.49	5	0.007153076	
27643.49	8	0.011444921	-
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27901.49	4	0.005722461	
27944.49	2	0.00286123	
27987.49	3	0.004291845	
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28159.49	2	0.00286123	
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28245.49	1	0.001430615	
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29406.49	2	0.00286123	
29449.49	6	0.008583691	
29492.49	1	0.001430615	
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29578.49	1	0.001430615	
29621.49	3	0.004291845	
29664.49	3	0.004291845	
29707.49	6	0.008583691	
29750.49	3	0.004291845	
29793.49	0	0	
29836.49	1	0.001430615	
29879.49	3	0.004291845	
29922.49	5	0.007153076	
29965.49	1	0.001430615	
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30051.49	3	0.004291845	
30094.49	6	0.008583691	
30137.49	3	0.004291845	
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30223.49	1	0.001430615	
30266.49	4	0.005722461	
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30352.49	5	0.007153076	

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30481.49	3	0.004291845	
30524.49	5	0.007153076	
30567.49	1	0.001430615	
30610.49	6	0.008583691	
30653.49	0	0	
30696.49	3	0.004291845	
30739.49	5	0.007153076	
30782.49	3	0.004291845	
30825.49	1	0.001430615	
30868.49	0	0	
30911.49	3	0.004291845	
30954.49	5	0.007153076	
30997.49	2	0.00286123	
31040.49	2	0.00286123	
31083.49	4	0.005722461	
31126.49	2	0.00286123	
31169.49	3	0.004291845	
31212.49	4	0.005722461	
31255.49	1	0.001430615	
31298.49	4	0.005722461	
31341.49	2	0.00286123	
31384.49	3	0.004291845	
31427.49	4	0.005722461	
31470.49	2	0.00286123	
31513.49	2	0.00286123	
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31728.49	2	0.00286123	
31771.49	1	0.001430615	
31814.49	3	0.004291845	
31857.49	2	0.00286123	
31900.49	3	0.004291845	
31943.49	3	0.004291845	
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32029.49	3	0.004291845	
32072.49	3	0.004291845	
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32287.49	1	0.001430615	
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32416.49	1	0.001430615	
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32545.49	0	0	
32588.49	1	0.001430615	
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32803.49	1	0.001430615	
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33147.49	2	0.00286123	
33190.49	2	0.00286123	
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33276.49	2	0.00286123	
33319.49	4	0.005722461	
33362.49	2	0.00286123	
33405.49	6	0.008583691	
33448.49	2	0.00286123	
33491.49	3	0.004291845	
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33706.49	3	0.004291845	
33749.49	1	0.001430615	
33792.49	1	0.001430615	
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33878.49	1	0.001430615	

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34136.49	3	0.004291845	
34179.49	6	0.008583691	
34222.49	2	0.00286123	
34265.49	2	0.00286123	
34308.49	2	0.00286123	
34351.49	1	0.001430615	
34394.49	1	0.001430615	
34437.49	4	0.005722461	
34480.49	1	0.001430615	
34523.49	0	0	
34566.49	2	0.00286123	
34609.49	1	0.001430615	
34652.49	3	0.004291845	
34695.49	3	0.004291845	
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34781.49	4	0.005722461	
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34996.49	1	0.001430615	
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35168.49	1	0.001430615	
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35254.49	2	0.00286123	
35297.49	4	0.005722461	
35340.49	5	0.007153076	
35383.49	2	0.00286123	
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35555.49	1	0.001430615	
35598.49	3	0.004291845	
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35684.49	1	0.001430615	
35727.49	0	0	
35770.49	1	0.001430615	
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35899.49	3	0.004291845	
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35985.49	2	0.00286123	
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36071.49	0	0	
36114.49	1	0.001430615	
36157.49	1	0.001430615	
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36243.49	0	0	
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36329.49	2	0.00286123	
36372.49	0	0	
36415.49	1	0.001430615	
36458.49	2	0.00286123	
36501.49	2	0.00286123	
36544.49	0	0	
36587.49	2	0.00286123	
36630.49	1	0.001430615	
36673.49	0	0	
36716.49	2	0.00286123	
36759.49	3	0.004291845	
36802.49	3	0.004291845	
36845.49	0	0	
36888.49	3	0.004291845	
36931.49	1	0.001430615	
36974.49	3	0.004291845	
37017.49	0	0	
37060.49	0	0	
37103.49	4	0.005722461	
37146.49	2	0.00286123	
37189.49	2	0.00286123	
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37576.49	3	0.004291845	
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38651.49	1	0.001430615	
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39597.49	1	0.001430615	
39640.49	3	0.004291845	
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39812.49	2	0.00286123	
39855.49	3	0.004291845	
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40543.49	2	0.00286123	
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41059.49	1	0.001430615	
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41317.49	1	0.001430615	
41360.49	0	0	
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41446.49	1	0.001430615	
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41532.49	0	0	
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41790.49	1	0.001430615	
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42564.49	1	0.001430615	
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42865.49	0	0	
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43037.49	1	0.001430615	
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43295.49	1	0.001430615	
43338.49	1	0.001430615	
43381.49	1	0.001430615	
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43467.49	2	0.00286123	
43510.49	1	0.001430615	
43553.49	0	0	
43596.49	1	0.001430615	
43639.49	1	0.001430615	
43682.49	1	0.001430615	
43725.49	1	0.001430615	
43768.49	0	0	
43811.49	4	0.005722461	
43854.49	0	0	

A005

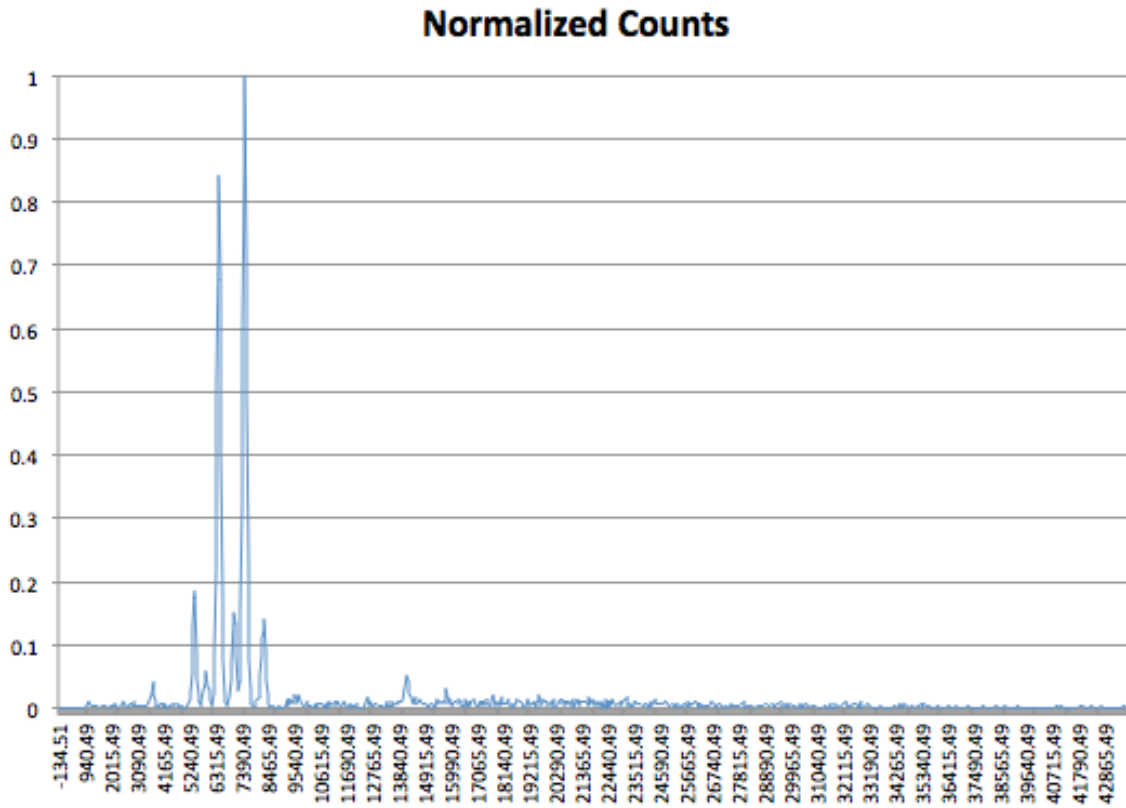


Figure 24. A005 Normalized XRF Counts

Table 9. A005 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	

424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	1	0.001647446	
1026.49	3	0.004942339	
1069.49	5	0.008237232	
1112.49	6	0.009884679	
1155.49	2	0.003294893	
1198.49	3	0.004942339	
1241.49	2	0.003294893	
1284.49	3	0.004942339	
1327.49	1	0.001647446	
1370.49	1	0.001647446	
1413.49	3	0.004942339	
1456.49	2	0.003294893	
1499.49	3	0.004942339	
1542.49	1	0.001647446	
1585.49	2	0.003294893	
1628.49	1	0.001647446	
1671.49	3	0.004942339	
1714.49	3	0.004942339	
1757.49	3	0.004942339	
1800.49	2	0.003294893	
1843.49	2	0.003294893	
1886.49	4	0.006589786	
1929.49	0	0	
1972.49	1	0.001647446	
2015.49	2	0.003294893	
2058.49	2	0.003294893	
2101.49	0	0	
2144.49	5	0.008237232	

2187.49	2	0.003294893	
2230.49	2	0.003294893	
2273.49	1	0.001647446	
2316.49	1	0.001647446	
2359.49	1	0.001647446	
2402.49	2	0.003294893	
2445.49	2	0.003294893	
2488.49	2	0.003294893	
2531.49	6	0.009884679	
2574.49	2	0.003294893	
2617.49	1	0.001647446	
2660.49	1	0.001647446	
2703.49	0	0	
2746.49	2	0.003294893	
2789.49	5	0.008237232	
2832.49	3	0.004942339	
2875.49	4	0.006589786	
2918.49	2	0.003294893	
2961.49	6	0.009884679	
3004.49	3	0.004942339	
3047.49	3	0.004942339	
3090.49	1	0.001647446	
3133.49	3	0.004942339	
3176.49	2	0.003294893	
3219.49	2	0.003294893	
3262.49	2	0.003294893	
3305.49	2	0.003294893	
3348.49	2	0.003294893	
3391.49	2	0.003294893	
3434.49	2	0.003294893	
3477.49	1	0.001647446	
3520.49	2	0.003294893	
3563.49	3	0.004942339	
3606.49	4	0.006589786	
3649.49	12	0.019769357	Sb
3692.49	10	0.016474465	
3735.49	26	0.042833608	Ca
3778.49	12	0.019769357	
3821.49	7	0.011532125	
3864.49	3	0.004942339	
3907.49	0	0	



3950.49	3	0.004942339	
3993.49	4	0.006589786	
4036.49	1	0.001647446	
4079.49	4	0.006589786	
4122.49	4	0.006589786	
4165.49	0	0	
4208.49	0	0	
4251.49	4	0.006589786	
4294.49	2	0.003294893	
4337.49	0	0	
4380.49	1	0.001647446	
4423.49	0	0	
4466.49	2	0.003294893	
4509.49	2	0.003294893	
4552.49	5	0.008237232	
4595.49	5	0.008237232	
4638.49	3	0.004942339	
4681.49	2	0.003294893	
4724.49	2	0.003294893	
4767.49	5	0.008237232	
4810.49	0	0	
4853.49	0	0	
4896.49	2	0.003294893	
4939.49	3	0.004942339	
4982.49	0	0	
5025.49	2	0.003294893	
5068.49	0	0	
5111.49	0	0	
5154.49	0	0	
5197.49	2	0.003294893	
5240.49	8	0.013179572	
5283.49	15	0.024711697	
5326.49	34	0.05601318	
5369.49	78	0.128500824	
5412.49	113	0.18616145	Cr
5455.49	106	0.174629325	
5498.49	104	0.171334432	
5541.49	51	0.084019769	
5584.49	27	0.044481054	
5627.49	12	0.019769357	
5670.49	7	0.011532125	

5713.49	2	0.003294893	
5756.49	7	0.011532125	
5799.49	9	0.014827018	
5842.49	16	0.026359143	
5885.49	26	0.042833608	
5928.49	35	0.057660626	Cr
5971.49	33	0.054365733	
6014.49	22	0.036243822	
6057.49	16	0.026359143	
6100.49	9	0.014827018	
6143.49	11	0.018121911	Gd
6186.49	3	0.004942339	
6229.49	14	0.02306425	
6272.49	52	0.085667216	
6315.49	136	0.224052718	
6358.49	308	0.507413509	
6401.49	436	0.718286656	
6444.49	511	0.84184514	Fe
6487.49	411	0.677100494	
6530.49	244	0.401976936	
6573.49	105	0.172981878	
6616.49	47	0.077429984	
6659.49	11	0.018121911	
6702.49	6	0.009884679	
6745.49	5	0.008237232	
6788.49	4	0.006589786	
6831.49	3	0.004942339	
6874.49	3	0.004942339	
6917.49	11	0.018121911	
6960.49	27	0.044481054	
7003.49	43	0.070840198	
7046.49	84	0.138385502	
7089.49	92	0.151565074	Fe
7132.49	82	0.13509061	
7175.49	50	0.082372323	
7218.49	23	0.037891269	
7261.49	17	0.02800659	
7304.49	25	0.041186161	
7347.49	94	0.154859967	
7390.49	198	0.326194399	
7433.49	356	0.586490939	

7476.49	524	0.863261944	
7519.49	607	1	Ni
7562.49	425	0.700164745	
7605.49	298	0.490939044	
7648.49	135	0.222405272	
7691.49	49	0.080724876	
7734.49	16	0.026359143	
7777.49	4	0.006589786	
7820.49	3	0.004942339	
7863.49	2	0.003294893	
7906.49	1	0.001647446	
7949.49	6	0.009884679	
7992.49	5	0.008237232	
8035.49	6	0.009884679	
8078.49	10	0.016474465	
8121.49	11	0.018121911	
8164.49	31	0.05107084	
8207.49	51	0.084019769	
8250.49	67	0.110378913	
8293.49	75	0.123558484	
8336.49	85	0.140032949	Ni
8379.49	54	0.088962109	
8422.49	28	0.046128501	
8465.49	12	0.019769357	
8508.49	5	0.008237232	
8551.49	4	0.006589786	
8594.49	0	0	
8637.49	3	0.004942339	
8680.49	3	0.004942339	
8723.49	2	0.003294893	
8766.49	0	0	
8809.49	1	0.001647446	
8852.49	2	0.003294893	
8895.49	0	0	
8938.49	3	0.004942339	
8981.49	0	0	
9024.49	1	0.001647446	
9067.49	2	0.003294893	
9110.49	0	0	
9153.49	3	0.004942339	
9196.49	2	0.003294893	

9239.49	9	0.014827018	Ta
9282.49	3	0.004942339	
9325.49	4	0.006589786	
9368.49	9	0.014827018	Ta
9411.49	5	0.008237232	
9454.49	6	0.009884679	
9497.49	5	0.008237232	
9540.49	8	0.013179572	
9583.49	13	0.021416804	Zn
9626.49	10	0.016474465	
9669.49	5	0.008237232	
9712.49	6	0.009884679	
9755.49	12	0.019769357	Au
9798.49	6	0.009884679	
9841.49	7	0.011532125	Au
9884.49	3	0.004942339	
9927.49	4	0.006589786	
9970.49	2	0.003294893	
10013.49	3	0.004942339	
10056.49	7	0.011532125	Re
10099.49	2	0.003294893	
10142.49	3	0.004942339	
10185.49	1	0.001647446	
10228.49	2	0.003294893	
10271.49	2	0.003294893	
10314.49	3	0.004942339	
10357.49	1	0.001647446	
10400.49	4	0.006589786	
10443.49	1	0.001647446	
10486.49	2	0.003294893	
10529.49	5	0.008237232	
10572.49	4	0.006589786	
10615.49	4	0.006589786	
10658.49	4	0.006589786	
10701.49	5	0.008237232	
10744.49	3	0.004942339	
10787.49	1	0.001647446	
10830.49	2	0.003294893	
10873.49	4	0.006589786	
10916.49	0	0	
10959.49	0	0	

11002.49	6	0.009884679	
11045.49	3	0.004942339	
11088.49	3	0.004942339	
11131.49	5	0.008237232	
11174.49	4	0.006589786	
11217.49	7	0.011532125	Se
11260.49	2	0.003294893	
11303.49	6	0.009884679	
11346.49	8	0.013179572	Se
11389.49	2	0.003294893	
11432.49	1	0.001647446	
11475.49	1	0.001647446	
11518.49	2	0.003294893	
11561.49	3	0.004942339	
11604.49	6	0.009884679	
11647.49	3	0.004942339	
11690.49	2	0.003294893	
11733.49	0	0	
11776.49	2	0.003294893	
11819.49	4	0.006589786	
11862.49	1	0.001647446	
11905.49	1	0.001647446	
11948.49	2	0.003294893	
11991.49	2	0.003294893	
12034.49	2	0.003294893	
12077.49	3	0.004942339	
12120.49	5	0.008237232	
12163.49	1	0.001647446	
12206.49	3	0.004942339	
12249.49	2	0.003294893	
12292.49	1	0.001647446	
12335.49	3	0.004942339	
12378.49	2	0.003294893	
12421.49	1	0.001647446	
12464.49	3	0.004942339	
12507.49	3	0.004942339	
12550.49	11	0.018121911	Se
12593.49	8	0.013179572	
12636.49	3	0.004942339	
12679.49	6	0.009884679	
12722.49	7	0.011532125	Se

12765.49	2	0.003294893	
12808.49	3	0.004942339	
12851.49	4	0.006589786	
12894.49	4	0.006589786	
12937.49	5	0.008237232	
12980.49	6	0.009884679	
13023.49	3	0.004942339	
13066.49	3	0.004942339	
13109.49	1	0.001647446	
13152.49	2	0.003294893	
13195.49	4	0.006589786	
13238.49	2	0.003294893	
13281.49	1	0.001647446	
13324.49	3	0.004942339	
13367.49	6	0.009884679	
13410.49	3	0.004942339	
13453.49	1	0.001647446	
13496.49	3	0.004942339	
13539.49	2	0.003294893	
13582.49	6	0.009884679	
13625.49	5	0.008237232	
13668.49	2	0.003294893	
13711.49	4	0.006589786	
13754.49	3	0.004942339	
13797.49	7	0.011532125	At
13840.49	4	0.006589786	
13883.49	7	0.011532125	At
13926.49	5	0.008237232	
13969.49	9	0.014827018	At
14012.49	7	0.011532125	
14055.49	19	0.031301483	
14098.49	21	0.034596376	
14141.49	31	0.05107084	Sr
14184.49	31	0.05107084	Sr
14227.49	26	0.042833608	
14270.49	14	0.02306425	
14313.49	11	0.018121911	
14356.49	12	0.019769357	Rn
14399.49	5	0.008237232	
14442.49	3	0.004942339	
14485.49	10	0.016474465	Rn

14528.49	4	0.006589786	
14571.49	2	0.003294893	
14614.49	4	0.006589786	
14657.49	4	0.006589786	
14700.49	2	0.003294893	
14743.49	8	0.013179572	Rn
14786.49	7	0.011532125	
14829.49	4	0.006589786	
14872.49	4	0.006589786	
14915.49	5	0.008237232	
14958.49	5	0.008237232	
15001.49	3	0.004942339	
15044.49	5	0.008237232	
15087.49	0	0	
15130.49	4	0.006589786	
15173.49	4	0.006589786	
15216.49	4	0.006589786	
15259.49	4	0.006589786	
15302.49	1	0.001647446	
15345.49	3	0.004942339	
15388.49	3	0.004942339	
15431.49	8	0.013179572	Zr
15474.49	4	0.006589786	
15517.49	3	0.004942339	
15560.49	5	0.008237232	
15603.49	7	0.011532125	Zr
15646.49	4	0.006589786	
15689.49	2	0.003294893	
15732.49	8	0.013179572	
15775.49	18	0.029654036	Zr
15818.49	10	0.016474465	
15861.49	5	0.008237232	
15904.49	9	0.014827018	Sr
15947.49	6	0.009884679	
15990.49	5	0.008237232	
16033.49	3	0.004942339	
16076.49	5	0.008237232	
16119.49	6	0.009884679	
16162.49	8	0.013179572	Sr
16205.49	8	0.013179572	Sr
16248.49	6	0.009884679	

16291.49	9	0.014827018	Th
16334.49	4	0.006589786	
16377.49	7	0.011532125	Th
16420.49	3	0.004942339	
16463.49	2	0.003294893	
16506.49	5	0.008237232	
16549.49	3	0.004942339	
16592.49	9	0.014827018	Th
16635.49	7	0.011532125	
16678.49	3	0.004942339	
16721.49	6	0.009884679	
16764.49	3	0.004942339	
16807.49	6	0.009884679	
16850.49	5	0.008237232	
16893.49	6	0.009884679	
16936.49	9	0.014827018	Y
16979.49	2	0.003294893	
17022.49	3	0.004942339	
17065.49	4	0.006589786	
17108.49	2	0.003294893	
17151.49	7	0.011532125	Y
17194.49	2	0.003294893	
17237.49	4	0.006589786	
17280.49	6	0.009884679	
17323.49	8	0.013179572	Mo
17366.49	3	0.004942339	
17409.49	6	0.009884679	
17452.49	9	0.014827018	Mo
17495.49	4	0.006589786	
17538.49	4	0.006589786	
17581.49	3	0.004942339	
17624.49	3	0.004942339	
17667.49	6	0.009884679	
17710.49	13	0.021416804	Zr
17753.49	10	0.016474465	
17796.49	8	0.013179572	
17839.49	2	0.003294893	
17882.49	7	0.011532125	
17925.49	8	0.013179572	Zr
17968.49	6	0.009884679	
18011.49	3	0.004942339	



18054.49	10	0.016474465	Zr
18097.49	5	0.008237232	
18140.49	3	0.004942339	
18183.49	3	0.004942339	
18226.49	5	0.008237232	
18269.49	5	0.008237232	
18312.49	9	0.014827018	Tc
18355.49	5	0.008237232	
18398.49	6	0.009884679	
18441.49	7	0.011532125	Tc
18484.49	1	0.001647446	
18527.49	4	0.006589786	
18570.49	3	0.004942339	
18613.49	6	0.009884679	
18656.49	3	0.004942339	
18699.49	3	0.004942339	
18742.49	9	0.014827018	Nb
18785.49	6	0.009884679	
18828.49	7	0.011532125	Nb
18871.49	5	0.008237232	
18914.49	6	0.009884679	
18957.49	1	0.001647446	
19000.49	2	0.003294893	
19043.49	3	0.004942339	
19086.49	3	0.004942339	
19129.49	5	0.008237232	
19172.49	9	0.014827018	Ru
19215.49	8	0.013179572	
19258.49	3	0.004942339	
19301.49	2	0.003294893	
19344.49	3	0.004942339	
19387.49	7	0.011532125	Ru
19430.49	4	0.006589786	
19473.49	1	0.001647446	
19516.49	5	0.008237232	
19559.49	9	0.014827018	
19602.49	12	0.019769357	Th
19645.49	5	0.008237232	
19688.49	2	0.003294893	
19731.49	6	0.009884679	
19774.49	9	0.014827018	Tc

19817.49	6	0.009884679	
19860.49	5	0.008237232	
19903.49	7	0.011532125	Tc
19946.49	6	0.009884679	
19989.49	3	0.004942339	
20032.49	5	0.008237232	
20075.49	4	0.006589786	
20118.49	7	0.011532125	Rh
20161.49	2	0.003294893	
20204.49	9	0.014827018	Rh
20247.49	1	0.001647446	
20290.49	2	0.003294893	
20333.49	2	0.003294893	
20376.49	4	0.006589786	
20419.49	7	0.011532125	Rh
20462.49	6	0.009884679	
20505.49	7	0.011532125	
20548.49	9	0.014827018	Rh
20591.49	4	0.006589786	
20634.49	7	0.011532125	Rh
20677.49	2	0.003294893	
20720.49	3	0.004942339	
20763.49	7	0.011532125	Rh
20806.49	4	0.006589786	
20849.49	7	0.011532125	Rh
20892.49	2	0.003294893	
20935.49	5	0.008237232	
20978.49	8	0.013179572	Pd
21021.49	1	0.001647446	
21064.49	4	0.006589786	
21107.49	2	0.003294893	
21150.49	3	0.004942339	
21193.49	8	0.013179572	Pd
21236.49	7	0.011532125	
21279.49	3	0.004942339	
21322.49	6	0.009884679	
21365.49	5	0.008237232	
21408.49	8	0.013179572	Pd
21451.49	6	0.009884679	
21494.49	7	0.011532125	Pd
21537.49	4	0.006589786	

21580.49	6	0.009884679	
21623.49	3	0.004942339	
21666.49	10	0.016474465	Ru
21709.49	5	0.008237232	
21752.49	4	0.006589786	
21795.49	5	0.008237232	
21838.49	9	0.014827018	Ru
21881.49	3	0.004942339	
21924.49	5	0.008237232	
21967.49	6	0.009884679	
22010.49	4	0.006589786	
22053.49	3	0.004942339	
22096.49	5	0.008237232	
22139.49	7	0.011532125	Ru
22182.49	1	0.001647446	
22225.49	5	0.008237232	
22268.49	7	0.011532125	Ag
22311.49	0	0	
22354.49	9	0.014827018	Ag
22397.49	3	0.004942339	
22440.49	7	0.011532125	Ag
22483.49	1	0.001647446	
22526.49	7	0.011532125	Ag
22569.49	2	0.003294893	
22612.49	8	0.013179572	Ag
22655.49	7	0.011532125	
22698.49	6	0.009884679	
22741.49	5	0.008237232	
22784.49	4	0.006589786	
22827.49	2	0.003294893	
22870.49	2	0.003294893	
22913.49	4	0.006589786	
22956.49	7	0.011532125	Cd
22999.49	2	0.003294893	
23042.49	2	0.003294893	
23085.49	6	0.009884679	
23128.49	4	0.006589786	
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23214.49	10	0.016474465	Cd
23257.49	2	0.003294893	
23300.49	5	0.008237232	

23343.49	2	0.003294893	
23386.49	2	0.003294893	
23429.49	2	0.003294893	
23472.49	3	0.004942339	
23515.49	7	0.011532125	
23558.49	9	0.014827018	Cd
23601.49	6	0.009884679	
23644.49	4	0.006589786	
23687.49	4	0.006589786	
23730.49	5	0.008237232	
23773.49	4	0.006589786	
23816.49	4	0.006589786	
23859.49	4	0.006589786	
23902.49	2	0.003294893	
23945.49	4	0.006589786	
23988.49	3	0.004942339	
24031.49	5	0.008237232	
24074.49	4	0.006589786	
24117.49	1	0.001647446	
24160.49	3	0.004942339	
24203.49	6	0.009884679	
24246.49	3	0.004942339	
24289.49	3	0.004942339	
24332.49	4	0.006589786	
24375.49	8	0.013179572	ln
24418.49	4	0.006589786	
24461.49	6	0.009884679	
24504.49	3	0.004942339	
24547.49	5	0.008237232	
24590.49	6	0.009884679	
24633.49	3	0.004942339	
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24719.49	6	0.009884679	
24762.49	5	0.008237232	
24805.49	6	0.009884679	
24848.49	4	0.006589786	
24891.49	3	0.004942339	
24934.49	3	0.004942339	
24977.49	5	0.008237232	
25020.49	2	0.003294893	
25063.49	2	0.003294893	

25106.49	5	0.008237232	
25149.49	3	0.004942339	
25192.49	5	0.008237232	
25235.49	1	0.001647446	
25278.49	2	0.003294893	
25321.49	4	0.006589786	
25364.49	3	0.004942339	
25407.49	4	0.006589786	
25450.49	1	0.001647446	
25493.49	0	0	
25536.49	1	0.001647446	
25579.49	5	0.008237232	
25622.49	4	0.006589786	
25665.49	3	0.004942339	
25708.49	2	0.003294893	
25751.49	6	0.009884679	
25794.49	3	0.004942339	
25837.49	4	0.006589786	
25880.49	5	0.008237232	
25923.49	4	0.006589786	
25966.49	4	0.006589786	
26009.49	5	0.008237232	
26052.49	6	0.009884679	
26095.49	4	0.006589786	
26138.49	1	0.001647446	
26181.49	4	0.006589786	
26224.49	3	0.004942339	
26267.49	2	0.003294893	
26310.49	3	0.004942339	
26353.49	2	0.003294893	
26396.49	4	0.006589786	
26439.49	0	0	
26482.49	3	0.004942339	
26525.49	2	0.003294893	
26568.49	4	0.006589786	
26611.49	3	0.004942339	
26654.49	3	0.004942339	
26697.49	5	0.008237232	
26740.49	7	0.011532125	Cd
26783.49	5	0.008237232	
26826.49	4	0.006589786	

26869.49	2	0.003294893	
26912.49	0	0	
26955.49	4	0.006589786	
26998.49	4	0.006589786	
27041.49	3	0.004942339	
27084.49	5	0.008237232	
27127.49	1	0.001647446	
27170.49	2	0.003294893	
27213.49	3	0.004942339	
27256.49	3	0.004942339	
27299.49	1	0.001647446	
27342.49	2	0.003294893	
27385.49	0	0	
27428.49	1	0.001647446	
27471.49	5	0.008237232	
27514.49	2	0.003294893	
27557.49	2	0.003294893	
27600.49	3	0.004942339	
27643.49	2	0.003294893	
27686.49	4	0.006589786	
27729.49	3	0.004942339	
27772.49	2	0.003294893	
27815.49	4	0.006589786	
27858.49	1	0.001647446	
27901.49	3	0.004942339	
27944.49	5	0.008237232	
27987.49	5	0.008237232	
28030.49	7	0.011532125	-
28073.49	1	0.001647446	
28116.49	3	0.004942339	
28159.49	3	0.004942339	
28202.49	3	0.004942339	
28245.49	2	0.003294893	
28288.49	1	0.001647446	
28331.49	3	0.004942339	
28374.49	5	0.008237232	
28417.49	3	0.004942339	
28460.49	1	0.001647446	
28503.49	1	0.001647446	
28546.49	0	0	
28589.49	2	0.003294893	

28632.49	2	0.003294893	
28675.49	3	0.004942339	
28718.49	3	0.004942339	
28761.49	4	0.006589786	
28804.49	4	0.006589786	
28847.49	2	0.003294893	
28890.49	2	0.003294893	
28933.49	1	0.001647446	
28976.49	5	0.008237232	
29019.49	2	0.003294893	
29062.49	3	0.004942339	
29105.49	2	0.003294893	
29148.49	2	0.003294893	
29191.49	5	0.008237232	
29234.49	5	0.008237232	
29277.49	5	0.008237232	
29320.49	1	0.001647446	
29363.49	4	0.006589786	
29406.49	2	0.003294893	
29449.49	3	0.004942339	
29492.49	4	0.006589786	
29535.49	7	0.011532125	-
29578.49	0	0	
29621.49	2	0.003294893	
29664.49	0	0	
29707.49	4	0.006589786	
29750.49	4	0.006589786	
29793.49	1	0.001647446	
29836.49	2	0.003294893	
29879.49	2	0.003294893	
29922.49	5	0.008237232	
29965.49	2	0.003294893	
30008.49	4	0.006589786	
30051.49	1	0.001647446	
30094.49	2	0.003294893	
30137.49	3	0.004942339	
30180.49	2	0.003294893	
30223.49	1	0.001647446	
30266.49	2	0.003294893	
30309.49	2	0.003294893	
30352.49	5	0.008237232	

30395.49	3	0.004942339	
30438.49	0	0	
30481.49	3	0.004942339	
30524.49	4	0.006589786	
30567.49	3	0.004942339	
30610.49	4	0.006589786	
30653.49	2	0.003294893	
30696.49	0	0	
30739.49	2	0.003294893	
30782.49	2	0.003294893	
30825.49	3	0.004942339	
30868.49	2	0.003294893	
30911.49	1	0.001647446	
30954.49	2	0.003294893	
30997.49	2	0.003294893	
31040.49	3	0.004942339	
31083.49	0	0	
31126.49	2	0.003294893	
31169.49	2	0.003294893	
31212.49	1	0.001647446	
31255.49	1	0.001647446	
31298.49	2	0.003294893	
31341.49	2	0.003294893	
31384.49	3	0.004942339	
31427.49	4	0.006589786	
31470.49	1	0.001647446	
31513.49	3	0.004942339	
31556.49	0	0	
31599.49	4	0.006589786	
31642.49	1	0.001647446	
31685.49	3	0.004942339	
31728.49	2	0.003294893	
31771.49	1	0.001647446	
31814.49	4	0.006589786	
31857.49	3	0.004942339	
31900.49	2	0.003294893	
31943.49	1	0.001647446	
31986.49	1	0.001647446	
32029.49	3	0.004942339	
32072.49	2	0.003294893	
32115.49	2	0.003294893	



32158.49	4	0.006589786	
32201.49	6	0.009884679	
32244.49	4	0.006589786	
32287.49	0	0	
32330.49	2	0.003294893	
32373.49	0	0	
32416.49	2	0.003294893	
32459.49	1	0.001647446	
32502.49	2	0.003294893	
32545.49	4	0.006589786	
32588.49	3	0.004942339	
32631.49	2	0.003294893	
32674.49	4	0.006589786	
32717.49	1	0.001647446	
32760.49	1	0.001647446	
32803.49	6	0.009884679	
32846.49	1	0.001647446	
32889.49	0	0	
32932.49	1	0.001647446	
32975.49	0	0	
33018.49	3	0.004942339	
33061.49	1	0.001647446	
33104.49	2	0.003294893	
33147.49	4	0.006589786	
33190.49	2	0.003294893	
33233.49	2	0.003294893	
33276.49	1	0.001647446	
33319.49	2	0.003294893	
33362.49	0	0	
33405.49	1	0.001647446	
33448.49	2	0.003294893	
33491.49	0	0	
33534.49	0	0	
33577.49	1	0.001647446	
33620.49	3	0.004942339	
33663.49	1	0.001647446	
33706.49	0	0	
33749.49	2	0.003294893	
33792.49	2	0.003294893	
33835.49	0	0	
33878.49	2	0.003294893	

33921.49	0	0	
33964.49	1	0.001647446	
34007.49	1	0.001647446	
34050.49	1	0.001647446	
34093.49	1	0.001647446	
34136.49	1	0.001647446	
34179.49	1	0.001647446	
34222.49	2	0.003294893	
34265.49	2	0.003294893	
34308.49	2	0.003294893	
34351.49	0	0	
34394.49	1	0.001647446	
34437.49	4	0.006589786	
34480.49	3	0.004942339	
34523.49	1	0.001647446	
34566.49	1	0.001647446	
34609.49	1	0.001647446	
34652.49	5	0.008237232	
34695.49	4	0.006589786	
34738.49	3	0.004942339	
34781.49	1	0.001647446	
34824.49	2	0.003294893	
34867.49	0	0	
34910.49	2	0.003294893	
34953.49	1	0.001647446	
34996.49	3	0.004942339	
35039.49	0	0	
35082.49	0	0	
35125.49	3	0.004942339	
35168.49	1	0.001647446	
35211.49	2	0.003294893	
35254.49	2	0.003294893	
35297.49	5	0.008237232	
35340.49	1	0.001647446	
35383.49	3	0.004942339	
35426.49	5	0.008237232	
35469.49	3	0.004942339	
35512.49	2	0.003294893	
35555.49	2	0.003294893	
35598.49	2	0.003294893	
35641.49	2	0.003294893	

35684.49	1	0.001647446	
35727.49	4	0.006589786	
35770.49	0	0	
35813.49	0	0	
35856.49	0	0	
35899.49	0	0	
35942.49	0	0	
35985.49	1	0.001647446	
36028.49	2	0.003294893	
36071.49	0	0	
36114.49	0	0	
36157.49	1	0.001647446	
36200.49	0	0	
36243.49	1	0.001647446	
36286.49	1	0.001647446	
36329.49	1	0.001647446	
36372.49	2	0.003294893	
36415.49	2	0.003294893	
36458.49	1	0.001647446	
36501.49	0	0	
36544.49	1	0.001647446	
36587.49	0	0	
36630.49	0	0	
36673.49	0	0	
36716.49	1	0.001647446	
36759.49	0	0	
36802.49	3	0.004942339	
36845.49	0	0	
36888.49	1	0.001647446	
36931.49	2	0.003294893	
36974.49	0	0	
37017.49	0	0	
37060.49	1	0.001647446	
37103.49	1	0.001647446	
37146.49	0	0	
37189.49	0	0	
37232.49	2	0.003294893	
37275.49	0	0	
37318.49	1	0.001647446	
37361.49	0	0	
37404.49	2	0.003294893	

37447.49	2	0.003294893	
37490.49	1	0.001647446	
37533.49	1	0.001647446	
37576.49	1	0.001647446	
37619.49	1	0.001647446	
37662.49	2	0.003294893	
37705.49	3	0.004942339	
37748.49	1	0.001647446	
37791.49	1	0.001647446	
37834.49	0	0	
37877.49	3	0.004942339	
37920.49	2	0.003294893	
37963.49	1	0.001647446	
38006.49	1	0.001647446	
38049.49	2	0.003294893	
38092.49	2	0.003294893	
38135.49	1	0.001647446	
38178.49	3	0.004942339	
38221.49	1	0.001647446	
38264.49	1	0.001647446	
38307.49	1	0.001647446	
38350.49	0	0	
38393.49	2	0.003294893	
38436.49	0	0	
38479.49	0	0	
38522.49	0	0	
38565.49	0	0	
38608.49	0	0	
38651.49	0	0	
38694.49	1	0.001647446	
38737.49	1	0.001647446	
38780.49	2	0.003294893	
38823.49	1	0.001647446	
38866.49	1	0.001647446	
38909.49	0	0	
38952.49	2	0.003294893	
38995.49	2	0.003294893	
39038.49	1	0.001647446	
39081.49	1	0.001647446	
39124.49	3	0.004942339	
39167.49	0	0	

39210.49	0	0	
39253.49	1	0.001647446	
39296.49	3	0.004942339	
39339.49	0	0	
39382.49	1	0.001647446	
39425.49	1	0.001647446	
39468.49	1	0.001647446	
39511.49	0	0	
39554.49	2	0.003294893	
39597.49	0	0	
39640.49	1	0.001647446	
39683.49	0	0	
39726.49	1	0.001647446	
39769.49	1	0.001647446	
39812.49	0	0	
39855.49	1	0.001647446	
39898.49	2	0.003294893	
39941.49	1	0.001647446	
39984.49	1	0.001647446	
40027.49	0	0	
40070.49	1	0.001647446	
40113.49	0	0	
40156.49	1	0.001647446	
40199.49	1	0.001647446	
40242.49	0	0	
40285.49	0	0	
40328.49	0	0	
40371.49	1	0.001647446	
40414.49	1	0.001647446	
40457.49	1	0.001647446	
40500.49	1	0.001647446	
40543.49	1	0.001647446	
40586.49	1	0.001647446	
40629.49	1	0.001647446	
40672.49	2	0.003294893	
40715.49	0	0	
40758.49	0	0	
40801.49	1	0.001647446	
40844.49	2	0.003294893	
40887.49	2	0.003294893	
40930.49	3	0.004942339	

40973.49	1	0.001647446	
41016.49	0	0	
41059.49	3	0.004942339	
41102.49	5	0.008237232	
41145.49	1	0.001647446	
41188.49	0	0	
41231.49	1	0.001647446	
41274.49	1	0.001647446	
41317.49	0	0	
41360.49	1	0.001647446	
41403.49	2	0.003294893	
41446.49	1	0.001647446	
41489.49	0	0	
41532.49	0	0	
41575.49	1	0.001647446	
41618.49	1	0.001647446	
41661.49	0	0	
41704.49	1	0.001647446	
41747.49	0	0	
41790.49	1	0.001647446	
41833.49	2	0.003294893	
41876.49	1	0.001647446	
41919.49	0	0	
41962.49	2	0.003294893	
42005.49	2	0.003294893	
42048.49	0	0	
42091.49	0	0	
42134.49	0	0	
42177.49	1	0.001647446	
42220.49	0	0	
42263.49	0	0	
42306.49	1	0.001647446	
42349.49	2	0.003294893	
42392.49	0	0	
42435.49	0	0	
42478.49	0	0	
42521.49	1	0.001647446	
42564.49	1	0.001647446	
42607.49	1	0.001647446	
42650.49	1	0.001647446	
42693.49	2	0.003294893	

42736.49	3	0.004942339	
42779.49	0	0	
42822.49	1	0.001647446	
42865.49	1	0.001647446	
42908.49	1	0.001647446	
42951.49	0	0	
42994.49	2	0.003294893	
43037.49	1	0.001647446	
43080.49	0	0	
43123.49	2	0.003294893	
43166.49	0	0	
43209.49	1	0.001647446	
43252.49	1	0.001647446	
43295.49	1	0.001647446	
43338.49	0	0	
43381.49	1	0.001647446	
43424.49	0	0	
43467.49	1	0.001647446	
43510.49	0	0	
43553.49	0	0	
43596.49	1	0.001647446	
43639.49	0	0	
43682.49	2	0.003294893	
43725.49	1	0.001647446	
43768.49	0	0	
43811.49	0	0	
43854.49	1	0.001647446	

A006

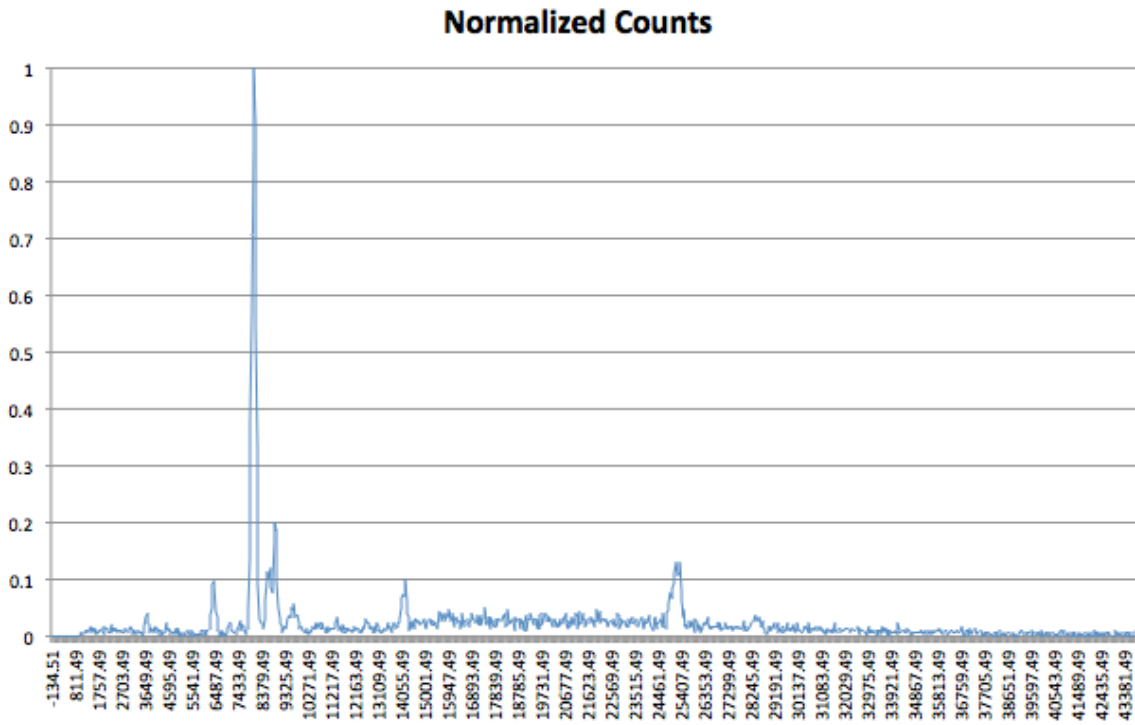


Figure 25. A006 Normalized XRF Counts

Table 10. A006 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	



510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	1	0.001855288	
983.49	0	0	
1026.49	1	0.001855288	
1069.49	4	0.00742115	
1112.49	4	0.00742115	
1155.49	2	0.003710575	
1198.49	4	0.00742115	
1241.49	5	0.009276438	
1284.49	6	0.011131725	Ge
1327.49	3	0.005565863	
1370.49	5	0.009276438	
1413.49	5	0.009276438	
1456.49	9	0.016697588	Se
1499.49	3	0.005565863	
1542.49	7	0.012987013	Br
1585.49	4	0.00742115	
1628.49	7	0.012987013	Br
1671.49	4	0.00742115	
1714.49	2	0.003710575	
1757.49	3	0.005565863	
1800.49	6	0.011131725	Rb
1843.49	5	0.009276438	
1886.49	7	0.012987013	Sr
1929.49	6	0.011131725	
1972.49	2	0.003710575	
2015.49	9	0.016697588	Y
2058.49	8	0.014842301	
2101.49	7	0.012987013	Y
2144.49	7	0.012987013	Zr
2187.49	4	0.00742115	
2230.49	4	0.00742115	

2273.49	11	0.020408163	Nb
2316.49	3	0.005565863	
2359.49	6	0.011131725	
2402.49	8	0.014842301	Mo
2445.49	6	0.011131725	
2488.49	7	0.012987013	Tc
2531.49	5	0.009276438	
2574.49	3	0.005565863	
2617.49	5	0.009276438	
2660.49	3	0.005565863	
2703.49	5	0.009276438	
2746.49	3	0.005565863	
2789.49	3	0.005565863	
2832.49	3	0.005565863	
2875.49	8	0.014842301	Pd
2918.49	6	0.011131725	
2961.49	4	0.00742115	
3004.49	8	0.014842301	Pd
3047.49	7	0.012987013	
3090.49	10	0.018552876	Pd
3133.49	5	0.009276438	
3176.49	2	0.003710575	
3219.49	5	0.009276438	
3262.49	6	0.011131725	Ag
3305.49	2	0.003710575	
3348.49	3	0.005565863	
3391.49	5	0.009276438	
3434.49	3	0.005565863	
3477.49	4	0.00742115	
3520.49	3	0.005565863	
3563.49	0	0	
3606.49	4	0.00742115	
3649.49	10	0.018552876	
3692.49	19	0.035250464	
3735.49	21	0.038961039	Ca
3778.49	12	0.022263451	
3821.49	11	0.020408163	
3864.49	3	0.005565863	
3907.49	5	0.009276438	
3950.49	8	0.014842301	I
3993.49	4	0.00742115	

4036.49	10	0.018552876	Te
4079.49	5	0.009276438	
4122.49	8	0.014842301	Sc
4165.49	4	0.00742115	
4208.49	5	0.009276438	
4251.49	0	0	
4294.49	0	0	
4337.49	5	0.009276438	
4380.49	2	0.003710575	
4423.49	4	0.00742115	
4466.49	4	0.00742115	
4509.49	12	0.022263451	Ti
4552.49	8	0.014842301	
4595.49	5	0.009276438	
4638.49	8	0.014842301	Ti
4681.49	5	0.009276438	
4724.49	2	0.003710575	
4767.49	4	0.00742115	
4810.49	4	0.00742115	
4853.49	2	0.003710575	
4896.49	8	0.014842301	Ti
4939.49	7	0.012987013	
4982.49	2	0.003710575	
5025.49	7	0.012987013	Ce
5068.49	1	0.001855288	
5111.49	3	0.005565863	
5154.49	1	0.001855288	
5197.49	2	0.003710575	
5240.49	4	0.00742115	
5283.49	0	0	
5326.49	1	0.001855288	
5369.49	1	0.001855288	
5412.49	5	0.009276438	
5455.49	3	0.005565863	
5498.49	1	0.001855288	
5541.49	5	0.009276438	
5584.49	4	0.00742115	
5627.49	1	0.001855288	
5670.49	2	0.003710575	
5713.49	2	0.003710575	
5756.49	1	0.001855288	

5799.49	2	0.003710575	
5842.49	2	0.003710575	
5885.49	2	0.003710575	
5928.49	5	0.009276438	
5971.49	5	0.009276438	
6014.49	2	0.003710575	
6057.49	1	0.001855288	
6100.49	6	0.011131725	Cr
6143.49	2	0.003710575	
6186.49	5	0.009276438	
6229.49	5	0.009276438	
6272.49	8	0.014842301	
6315.49	20	0.037105751	
6358.49	27	0.050092764	
6401.49	48	0.089053803	
6444.49	52	0.096474954	Fe
6487.49	51	0.094619666	
6530.49	24	0.044526902	
6573.49	18	0.033395176	
6616.49	6	0.011131725	
6659.49	4	0.00742115	
6702.49	1	0.001855288	
6745.49	5	0.009276438	
6788.49	0	0	
6831.49	2	0.003710575	
6874.49	4	0.00742115	
6917.49	1	0.001855288	
6960.49	3	0.005565863	
7003.49	8	0.014842301	
7046.49	11	0.020408163	
7089.49	13	0.024118738	Fe
7132.49	12	0.022263451	
7175.49	5	0.009276438	
7218.49	6	0.011131725	Fe
7261.49	3	0.005565863	
7304.49	4	0.00742115	
7347.49	2	0.003710575	
7390.49	5	0.009276438	
7433.49	9	0.016697588	
7476.49	10	0.018552876	
7519.49	15	0.027829314	Ni

7562.49	5	0.009276438	
7605.49	11	0.020408163	Co
7648.49	10	0.018552876	
7691.49	5	0.009276438	
7734.49	2	0.003710575	
7777.49	6	0.011131725	
7820.49	7	0.012987013	
7863.49	24	0.044526902	
7906.49	73	0.135435993	
7949.49	201	0.372912801	
7992.49	302	0.560296846	
8035.49	463	0.858998145	
8078.49	539	1	Cu
8121.49	484	0.897959184	
8164.49	290	0.538033395	
8207.49	179	0.332096475	
8250.49	51	0.094619666	
8293.49	19	0.035250464	
8336.49	16	0.029684601	
8379.49	12	0.022263451	
8422.49	11	0.020408163	
8465.49	7	0.012987013	
8508.49	16	0.029684601	
8551.49	34	0.063079777	
8594.49	52	0.096474954	
8637.49	61	0.113172542	Zn
8680.49	54	0.100185529	
8723.49	64	0.118738404	Zn
8766.49	47	0.087198516	
8809.49	42	0.077922078	
8852.49	54	0.100185529	
8895.49	89	0.165120594	
8938.49	108	0.200371058	Cu
8981.49	101	0.187384045	
9024.49	52	0.096474954	
9067.49	28	0.051948052	
9110.49	16	0.029684601	
9153.49	12	0.022263451	
9196.49	10	0.018552876	
9239.49	3	0.005565863	
9282.49	10	0.018552876	Ga

9325.49	10	0.018552876	Ga
9368.49	10	0.018552876	Ta
9411.49	8	0.014842301	
9454.49	18	0.033395176	
9497.49	19	0.035250464	
9540.49	20	0.037105751	Zn
9583.49	19	0.035250464	
9626.49	28	0.051948052	Au
9669.49	26	0.048237477	
9712.49	30	0.055658627	Au
9755.49	19	0.035250464	Au
9798.49	19	0.035250464	Au
9841.49	20	0.037105751	Au
9884.49	13	0.024118738	
9927.49	8	0.014842301	
9970.49	9	0.016697588	Ge
10013.49	9	0.016697588	Re
10056.49	6	0.011131725	
10099.49	5	0.009276438	
10142.49	4	0.00742115	
10185.49	7	0.012987013	Re
10228.49	3	0.005565863	
10271.49	2	0.003710575	
10314.49	4	0.00742115	
10357.49	5	0.009276438	
10400.49	3	0.005565863	
10443.49	7	0.012987013	
10486.49	9	0.016697588	As
10529.49	7	0.012987013	
10572.49	13	0.024118738	Pb
10615.49	8	0.014842301	
10658.49	11	0.020408163	Pb
10701.49	10	0.018552876	
10744.49	13	0.024118738	Ir
10787.49	7	0.012987013	
10830.49	8	0.014842301	
10873.49	12	0.022263451	As
10916.49	8	0.014842301	
10959.49	6	0.011131725	
11002.49	3	0.005565863	
11045.49	10	0.018552876	As

11088.49	4	0.00742115	
11131.49	5	0.009276438	
11174.49	7	0.012987013	
11217.49	8	0.014842301	Se
11260.49	8	0.014842301	Se
11303.49	8	0.014842301	Se
11346.49	8	0.014842301	Se
11389.49	13	0.024118738	
11432.49	16	0.029684601	
11475.49	18	0.033395176	Se
11518.49	8	0.014842301	
11561.49	6	0.011131725	
11604.49	9	0.016697588	At
11647.49	3	0.005565863	
11690.49	11	0.020408163	At
11733.49	8	0.014842301	
11776.49	4	0.00742115	
11819.49	4	0.00742115	
11862.49	7	0.012987013	Rn
11905.49	5	0.009276438	
11948.49	8	0.014842301	Rn
11991.49	5	0.009276438	
12034.49	5	0.009276438	
12077.49	3	0.005565863	
12120.49	8	0.014842301	
12163.49	10	0.018552876	Fr
12206.49	7	0.012987013	
12249.49	6	0.011131725	
12292.49	7	0.012987013	Fr
12335.49	6	0.011131725	
12378.49	3	0.005565863	
12421.49	6	0.011131725	Se
12464.49	3	0.005565863	
12507.49	10	0.018552876	Se
12550.49	8	0.014842301	
12593.49	13	0.024118738	
12636.49	17	0.031539889	Pb
12679.49	13	0.024118738	
12722.49	12	0.022263451	
12765.49	8	0.014842301	Pb
12808.49	8	0.014842301	Ac

12851.49	10	0.018552876	Ac
12894.49	7	0.012987013	
12937.49	4	0.00742115	
12980.49	9	0.016697588	Th
13023.49	3	0.005565863	
13066.49	12	0.022263451	Th
13109.49	9	0.016697588	
13152.49	5	0.009276438	
13195.49	3	0.005565863	
13238.49	5	0.009276438	
13281.49	4	0.00742115	
13324.49	4	0.00742115	
13367.49	7	0.012987013	Rb
13410.49	6	0.011131725	
13453.49	5	0.009276438	
13496.49	13	0.024118738	Rb
13539.49	9	0.016697588	
13582.49	8	0.014842301	
13625.49	10	0.018552876	Rb
13668.49	3	0.005565863	
13711.49	8	0.014842301	
13754.49	12	0.022263451	Rb
13797.49	11	0.020408163	
13840.49	7	0.012987013	
13883.49	10	0.018552876	
13926.49	13	0.024118738	At
13969.49	13	0.024118738	At
14012.49	16	0.029684601	
14055.49	28	0.051948052	
14098.49	37	0.06864564	
14141.49	39	0.072356215	Sr
14184.49	38	0.070500928	
14227.49	54	0.100185529	Sr
14270.49	33	0.06122449	
14313.49	21	0.038961039	
14356.49	18	0.033395176	
14399.49	6	0.011131725	
14442.49	13	0.024118738	Rn
14485.49	8	0.014842301	
14528.49	14	0.025974026	Rn
14571.49	8	0.014842301	



14614.49	17	0.031539889	Rn
14657.49	17	0.031539889	Rn
14700.49	15	0.027829314	
14743.49	12	0.022263451	
14786.49	14	0.025974026	Fr
14829.49	11	0.020408163	
14872.49	12	0.022263451	
14915.49	13	0.024118738	
14958.49	17	0.031539889	Y
15001.49	14	0.025974026	
15044.49	8	0.014842301	
15087.49	9	0.016697588	
15130.49	15	0.027829314	Y
15173.49	15	0.027829314	Y
15216.49	16	0.029684601	Y
15259.49	11	0.020408163	
15302.49	15	0.027829314	Zr
15345.49	15	0.027829314	Y
15388.49	11	0.020408163	
15431.49	13	0.024118738	Zr
15474.49	11	0.020408163	
15517.49	7	0.012987013	- Zr
15560.49	7	0.012987013	Zr
15603.49	24	0.044526902	Zr
15646.49	19	0.035250464	
15689.49	14	0.025974026	
15732.49	22	0.040816327	Sr
15775.49	21	0.038961039	
15818.49	17	0.031539889	
15861.49	14	0.025974026	
15904.49	22	0.040816327	Sr
15947.49	18	0.033395176	
15990.49	25	0.046382189	Sr
16033.49	16	0.029684601	
16076.49	14	0.025974026	
16119.49	18	0.033395176	
16162.49	22	0.040816327	Sr
16205.49	9	0.016697588	
16248.49	15	0.027829314	
16291.49	18	0.033395176	Th
16334.49	13	0.024118738	

16377.49	12	0.022263451	
16420.49	14	0.025974026	Sr
16463.49	8	0.014842301	
16506.49	17	0.031539889	
16549.49	22	0.040816327	Nb
16592.49	10	0.018552876	
16635.49	15	0.027829314	Nb
16678.49	14	0.025974026	
16721.49	16	0.029684601	Y
16764.49	11	0.020408163	
16807.49	9	0.016697588	
16850.49	12	0.022263451	
16893.49	16	0.029684601	
16936.49	22	0.040816327	Y
16979.49	17	0.031539889	
17022.49	14	0.025974026	
17065.49	12	0.022263451	
17108.49	17	0.031539889	
17151.49	20	0.037105751	Y
17194.49	11	0.020408163	
17237.49	13	0.024118738	
17280.49	20	0.037105751	Y
17323.49	11	0.020408163	
17366.49	17	0.031539889	
17409.49	18	0.033395176	
17452.49	28	0.051948052	Mo
17495.49	11	0.020408163	
17538.49	13	0.024118738	
17581.49	15	0.027829314	
17624.49	18	0.033395176	Mo
17667.49	7	0.012987013	
17710.49	19	0.035250464	Zr
17753.49	13	0.024118738	
17796.49	10	0.018552876	
17839.49	14	0.025974026	
17882.49	16	0.029684601	Zr
17925.49	10	0.018552876	
17968.49	15	0.027829314	
18011.49	16	0.029684601	Zr
18054.49	16	0.029684601	Zr
18097.49	15	0.027829314	Zr

18140.49	15	0.027829314	Zr
18183.49	20	0.037105751	Tc
18226.49	18	0.033395176	
18269.49	21	0.038961039	Tc
18312.49	10	0.018552876	
18355.49	11	0.020408163	
18398.49	26	0.048237477	Tc
18441.49	13	0.024118738	Tc
18484.49	13	0.024118738	Tc
18527.49	15	0.027829314	
18570.49	17	0.031539889	Tc
18613.49	14	0.025974026	
18656.49	6	0.011131725	
18699.49	18	0.033395176	Nb
18742.49	14	0.025974026	
18785.49	15	0.027829314	
18828.49	16	0.029684601	Nb
18871.49	8	0.014842301	
18914.49	16	0.029684601	Nb
18957.49	12	0.022263451	
19000.49	14	0.025974026	Nb
19043.49	6	0.011131725	
19086.49	13	0.024118738	
19129.49	20	0.037105751	Ru
19172.49	6	0.011131725	
19215.49	16	0.029684601	
19258.49	17	0.031539889	
19301.49	21	0.038961039	Ru
19344.49	17	0.031539889	Ru
19387.49	17	0.031539889	Ru
19430.49	11	0.020408163	
19473.49	16	0.029684601	Tc
19516.49	16	0.029684601	Tc
19559.49	8	0.014842301	
19602.49	16	0.029684601	Tc
19645.49	8	0.014842301	
19688.49	20	0.037105751	
19731.49	21	0.038961039	Tc
19774.49	11	0.020408163	
19817.49	15	0.027829314	
19860.49	16	0.029684601	

19903.49	22	0.040816327	Tc
19946.49	20	0.037105751	
19989.49	14	0.025974026	
20032.49	18	0.033395176	Rh
20075.49	15	0.027829314	
20118.49	17	0.031539889	Rh
20161.49	14	0.025974026	
20204.49	9	0.016697588	
20247.49	13	0.024118738	
20290.49	16	0.029684601	Rh
20333.49	10	0.018552876	
20376.49	13	0.024118738	Rh
20419.49	11	0.020408163	
20462.49	10	0.018552876	
20505.49	16	0.029684601	Rh
20548.49	11	0.020408163	
20591.49	12	0.022263451	
20634.49	19	0.035250464	Rh
20677.49	16	0.029684601	
20720.49	22	0.040816327	Rh
20763.49	12	0.022263451	
20806.49	7	0.012987013	
20849.49	15	0.027829314	Pd
20892.49	13	0.024118738	
20935.49	9	0.016697588	
20978.49	19	0.035250464	Pd
21021.49	11	0.020408163	
21064.49	13	0.024118738	
21107.49	18	0.033395176	
21150.49	21	0.038961039	Pd
21193.49	20	0.037105751	
21236.49	7	0.012987013	
21279.49	23	0.042671614	Pd
21322.49	11	0.020408163	
21365.49	13	0.024118738	
21408.49	21	0.038961039	Pd
21451.49	16	0.029684601	Ru
21494.49	16	0.029684601	Pd
21537.49	10	0.018552876	
21580.49	13	0.024118738	
21623.49	14	0.025974026	

21666.49	17	0.031539889	
21709.49	19	0.035250464	Ru
21752.49	12	0.022263451	
21795.49	14	0.025974026	
21838.49	16	0.029684601	Ru
21881.49	9	0.016697588	
21924.49	14	0.025974026	
21967.49	15	0.027829314	
22010.49	25	0.046382189	Ag
22053.49	14	0.025974026	
22096.49	24	0.044526902	Ag
22139.49	13	0.024118738	
22182.49	16	0.029684601	
22225.49	17	0.031539889	Ag
22268.49	16	0.029684601	
22311.49	14	0.025974026	
22354.49	15	0.027829314	
22397.49	17	0.031539889	Ag
22440.49	10	0.018552876	
22483.49	14	0.025974026	Ag
22526.49	14	0.025974026	Ag
22569.49	15	0.027829314	Rh
22612.49	15	0.027829314	Rh
22655.49	11	0.020408163	
22698.49	17	0.031539889	Rh
22741.49	9	0.016697588	
22784.49	13	0.024118738	
22827.49	21	0.038961039	Rh
22870.49	20	0.037105751	
22913.49	7	0.012987013	
22956.49	11	0.020408163	
22999.49	17	0.031539889	Rh
23042.49	12	0.022263451	Cd
23085.49	12	0.022263451	Cd
23128.49	14	0.025974026	Cd
23171.49	10	0.018552876	
23214.49	11	0.020408163	Cd
23257.49	10	0.018552876	
23300.49	17	0.031539889	Cd
23343.49	13	0.024118738	
23386.49	14	0.025974026	

23429.49	19	0.035250464	Cd
23472.49	12	0.022263451	
23515.49	13	0.024118738	
23558.49	16	0.029684601	Cd
23601.49	11	0.020408163	
23644.49	10	0.018552876	
23687.49	9	0.016697588	
23730.49	14	0.025974026	Pd
23773.49	14	0.025974026	Pd
23816.49	19	0.035250464	Cd
23859.49	17	0.031539889	
23902.49	7	0.012987013	
23945.49	16	0.029684601	Pd
23988.49	12	0.022263451	
24031.49	13	0.024118738	Pd
24074.49	12	0.022263451	
24117.49	20	0.037105751	In
24160.49	15	0.027829314	
24203.49	10	0.018552876	
24246.49	6	0.011131725	
24289.49	7	0.012987013	
24332.49	19	0.035250464	In
24375.49	17	0.031539889	
24418.49	8	0.014842301	
24461.49	12	0.022263451	
24504.49	13	0.024118738	In
24547.49	12	0.022263451	
24590.49	16	0.029684601	In
24633.49	10	0.018552876	
24676.49	21	0.038961039	In
24719.49	9	0.016697588	
24762.49	10	0.018552876	In
24805.49	7	0.012987013	
24848.49	22	0.040816327	
24891.49	26	0.048237477	
24934.49	31	0.057513915	
24977.49	42	0.077922078	Ag
25020.49	37	0.06864564	
25063.49	46	0.085343228	
25106.49	50	0.092764378	
25149.49	59	0.109461967	

25192.49	69	0.128014842	
25235.49	71	0.131725417	Sn
25278.49	58	0.107606679	
25321.49	60	0.111317254	
25364.49	70	0.12987013	Sn
25407.49	43	0.079777365	
25450.49	35	0.064935065	
25493.49	19	0.035250464	
25536.49	25	0.046382189	Sn
25579.49	9	0.016697588	
25622.49	11	0.020408163	Sn
25665.49	8	0.014842301	
25708.49	9	0.016697588	
25751.49	14	0.025974026	Sn
25794.49	9	0.016697588	
25837.49	10	0.018552876	
25880.49	14	0.025974026	Cd
25923.49	13	0.024118738	
25966.49	4	0.00742115	
26009.49	17	0.031539889	Cd
26052.49	14	0.025974026	
26095.49	5	0.009276438	
26138.49	11	0.020408163	Cd
26181.49	8	0.014842301	
26224.49	4	0.00742115	
26267.49	8	0.014842301	
26310.49	10	0.018552876	
26353.49	12	0.022263451	Sb
26396.49	11	0.020408163	
26439.49	13	0.024118738	
26482.49	19	0.035250464	Sb
26525.49	13	0.024118738	
26568.49	8	0.014842301	
26611.49	10	0.018552876	Sb
26654.49	7	0.012987013	
26697.49	10	0.018552876	SB
26740.49	10	0.018552876	Cd
26783.49	10	0.018552876	Sb
26826.49	10	0.018552876	Sb
26869.49	9	0.016697588	
26912.49	12	0.022263451	-

26955.49	8	0.014842301	
26998.49	12	0.022263451	-
27041.49	7	0.012987013	
27084.49	6	0.011131725	
27127.49	8	0.014842301	
27170.49	10	0.018552876	
27213.49	13	0.024118738	Cd
27256.49	8	0.014842301	Cd
27299.49	8	0.014842301	Cd
27342.49	9	0.016697588	-
27385.49	8	0.014842301	
27428.49	9	0.016697588	-
27471.49	8	0.014842301	
27514.49	5	0.009276438	
27557.49	9	0.016697588	-
27600.49	8	0.014842301	
27643.49	10	0.018552876	-
27686.49	9	0.016697588	
27729.49	8	0.014842301	
27772.49	10	0.018552876	-
27815.49	7	0.012987013	
27858.49	8	0.014842301	-
27901.49	7	0.012987013	-
27944.49	14	0.025974026	-
27987.49	6	0.011131725	
28030.49	9	0.016697588	-
28073.49	5	0.009276438	
28116.49	6	0.011131725	-
28159.49	6	0.011131725	-
28202.49	10	0.018552876	
28245.49	13	0.024118738	Sn
28288.49	13	0.024118738	Sn
28331.49	15	0.027829314	-
28374.49	15	0.027829314	Sn
28417.49	20	0.037105751	Sn
28460.49	19	0.035250464	
28503.49	14	0.025974026	
28546.49	15	0.027829314	
28589.49	19	0.035250464	Sn
28632.49	11	0.020408163	
28675.49	10	0.018552876	



28718.49	15	0.027829314	Sn
28761.49	9	0.016697588	
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28847.49	4	0.00742115	
28890.49	2	0.003710575	
28933.49	5	0.009276438	
28976.49	10	0.018552876	Sn
29019.49	6	0.011131725	
29062.49	10	0.018552876	Sb
29105.49	8	0.014842301	-
29148.49	8	0.014842301	-
29191.49	12	0.022263451	-
29234.49	10	0.018552876	
29277.49	8	0.014842301	
29320.49	13	0.024118738	-
29363.49	4	0.00742115	
29406.49	6	0.011131725	
29449.49	8	0.014842301	-
29492.49	3	0.005565863	
29535.49	10	0.018552876	-
29578.49	9	0.016697588	
29621.49	3	0.005565863	
29664.49	5	0.009276438	
29707.49	12	0.022263451	Sb
29750.49	8	0.014842301	
29793.49	6	0.011131725	
29836.49	7	0.012987013	Sb
29879.49	7	0.012987013	Sb
29922.49	6	0.011131725	
29965.49	11	0.020408163	Sb
30008.49	4	0.00742115	
30051.49	7	0.012987013	Sb
30094.49	6	0.011131725	
30137.49	13	0.024118738	Sb
30180.49	5	0.009276438	
30223.49	5	0.009276438	
30266.49	6	0.011131725	-
30309.49	3	0.005565863	
30352.49	4	0.00742115	
30395.49	10	0.018552876	-
30438.49	10	0.018552876	-

30481.49	7	0.012987013	
30524.49	10	0.018552876	
30567.49	4	0.00742115	
30610.49	12	0.022263451	
30653.49	3	0.005565863	
30696.49	6	0.011131725	
30739.49	8	0.014842301	
30782.49	5	0.009276438	
30825.49	8	0.014842301	
30868.49	9	0.016697588	
30911.49	7	0.012987013	
30954.49	5	0.009276438	
30997.49	5	0.009276438	
31040.49	10	0.018552876	
31083.49	6	0.011131725	
31126.49	7	0.012987013	
31169.49	3	0.005565863	
31212.49	6	0.011131725	
31255.49	4	0.00742115	
31298.49	2	0.003710575	
31341.49	8	0.014842301	
31384.49	4	0.00742115	
31427.49	6	0.011131725	
31470.49	5	0.009276438	
31513.49	4	0.00742115	
31556.49	7	0.012987013	-
31599.49	3	0.005565863	
31642.49	13	0.024118738	
31685.49	7	0.012987013	
31728.49	3	0.005565863	
31771.49	6	0.011131725	
31814.49	8	0.014842301	
31857.49	7	0.012987013	
31900.49	4	0.00742115	
31943.49	6	0.011131725	-
31986.49	5	0.009276438	-
32029.49	6	0.011131725	
32072.49	8	0.014842301	
32115.49	7	0.012987013	
32158.49	8	0.014842301	
32201.49	8	0.014842301	-

32244.49	5	0.009276438	
32287.49	4	0.00742115	
32330.49	7	0.012987013	
32373.49	7	0.012987013	
32416.49	6	0.011131725	
32459.49	5	0.009276438	
32502.49	5	0.009276438	
32545.49	8	0.014842301	
32588.49	10	0.018552876	
32631.49	2	0.003710575	
32674.49	7	0.012987013	
32717.49	5	0.009276438	
32760.49	5	0.009276438	
32803.49	6	0.011131725	
32846.49	6	0.011131725	
32889.49	4	0.00742115	
32932.49	1	0.001855288	
32975.49	4	0.00742115	
33018.49	9	0.016697588	
33061.49	3	0.005565863	
33104.49	4	0.00742115	
33147.49	5	0.009276438	
33190.49	3	0.005565863	
33233.49	5	0.009276438	
33276.49	4	0.00742115	
33319.49	6	0.011131725	
33362.49	1	0.001855288	
33405.49	5	0.009276438	
33448.49	4	0.00742115	
33491.49	5	0.009276438	
33534.49	2	0.003710575	
33577.49	9	0.016697588	
33620.49	3	0.005565863	
33663.49	8	0.014842301	
33706.49	6	0.011131725	
33749.49	7	0.012987013	
33792.49	1	0.001855288	
33835.49	6	0.011131725	
33878.49	2	0.003710575	
33921.49	6	0.011131725	
33964.49	4	0.00742115	

34007.49	3	0.005565863	
34050.49	3	0.005565863	
34093.49	3	0.005565863	
34136.49	5	0.009276438	
34179.49	2	0.003710575	
34222.49	13	0.024118738	
34265.49	7	0.012987013	
34308.49	3	0.005565863	
34351.49	4	0.00742115	
34394.49	5	0.009276438	
34437.49	5	0.009276438	
34480.49	4	0.00742115	
34523.49	5	0.009276438	
34566.49	8	0.014842301	
34609.49	3	0.005565863	
34652.49	6	0.011131725	
34695.49	4	0.00742115	
34738.49	1	0.001855288	
34781.49	3	0.005565863	
34824.49	2	0.003710575	
34867.49	4	0.00742115	
34910.49	4	0.00742115	
34953.49	4	0.00742115	
34996.49	4	0.00742115	
35039.49	3	0.005565863	
35082.49	3	0.005565863	
35125.49	6	0.011131725	
35168.49	6	0.011131725	
35211.49	3	0.005565863	
35254.49	2	0.003710575	
35297.49	4	0.00742115	
35340.49	6	0.011131725	
35383.49	4	0.00742115	
35426.49	2	0.003710575	
35469.49	5	0.009276438	
35512.49	3	0.005565863	
35555.49	2	0.003710575	
35598.49	3	0.005565863	
35641.49	3	0.005565863	
35684.49	6	0.011131725	
35727.49	4	0.00742115	

35770.49	6	0.011131725	
35813.49	6	0.011131725	
35856.49	7	0.012987013	
35899.49	6	0.011131725	
35942.49	4	0.00742115	
35985.49	5	0.009276438	
36028.49	2	0.003710575	
36071.49	3	0.005565863	
36114.49	6	0.011131725	
36157.49	5	0.009276438	
36200.49	2	0.003710575	
36243.49	2	0.003710575	
36286.49	2	0.003710575	
36329.49	6	0.011131725	
36372.49	6	0.011131725	
36415.49	5	0.009276438	
36458.49	4	0.00742115	
36501.49	4	0.00742115	
36544.49	4	0.00742115	
36587.49	5	0.009276438	
36630.49	6	0.011131725	
36673.49	3	0.005565863	
36716.49	4	0.00742115	
36759.49	4	0.00742115	
36802.49	9	0.016697588	
36845.49	1	0.001855288	
36888.49	1	0.001855288	
36931.49	4	0.00742115	
36974.49	6	0.011131725	
37017.49	5	0.009276438	
37060.49	1	0.001855288	
37103.49	8	0.014842301	
37146.49	5	0.009276438	
37189.49	2	0.003710575	
37232.49	5	0.009276438	
37275.49	5	0.009276438	
37318.49	7	0.012987013	
37361.49	7	0.012987013	
37404.49	2	0.003710575	
37447.49	4	0.00742115	
37490.49	4	0.00742115	

37533.49	3	0.005565863	
37576.49	5	0.009276438	
37619.49	1	0.001855288	
37662.49	1	0.001855288	
37705.49	4	0.00742115	
37748.49	0	0	
37791.49	4	0.00742115	
37834.49	4	0.00742115	
37877.49	2	0.003710575	
37920.49	3	0.005565863	
37963.49	2	0.003710575	
38006.49	2	0.003710575	
38049.49	1	0.001855288	
38092.49	1	0.001855288	
38135.49	4	0.00742115	
38178.49	4	0.00742115	
38221.49	1	0.001855288	
38264.49	3	0.005565863	
38307.49	6	0.011131725	
38350.49	1	0.001855288	
38393.49	2	0.003710575	
38436.49	2	0.003710575	
38479.49	2	0.003710575	
38522.49	4	0.00742115	
38565.49	1	0.001855288	
38608.49	1	0.001855288	
38651.49	3	0.005565863	
38694.49	3	0.005565863	
38737.49	3	0.005565863	
38780.49	2	0.003710575	
38823.49	2	0.003710575	
38866.49	0	0	
38909.49	3	0.005565863	
38952.49	0	0	
38995.49	2	0.003710575	
39038.49	1	0.001855288	
39081.49	0	0	
39124.49	2	0.003710575	
39167.49	6	0.011131725	
39210.49	5	0.009276438	
39253.49	5	0.009276438	

39296.49	4	0.00742115	
39339.49	2	0.003710575	
39382.49	3	0.005565863	
39425.49	2	0.003710575	
39468.49	2	0.003710575	
39511.49	3	0.005565863	
39554.49	4	0.00742115	
39597.49	4	0.00742115	
39640.49	5	0.009276438	
39683.49	0	0	
39726.49	4	0.00742115	
39769.49	2	0.003710575	
39812.49	2	0.003710575	
39855.49	2	0.003710575	
39898.49	4	0.00742115	
39941.49	2	0.003710575	
39984.49	4	0.00742115	
40027.49	1	0.001855288	
40070.49	5	0.009276438	
40113.49	1	0.001855288	
40156.49	2	0.003710575	
40199.49	4	0.00742115	
40242.49	3	0.005565863	
40285.49	2	0.003710575	
40328.49	1	0.001855288	
40371.49	3	0.005565863	
40414.49	2	0.003710575	
40457.49	3	0.005565863	
40500.49	4	0.00742115	
40543.49	2	0.003710575	
40586.49	1	0.001855288	
40629.49	1	0.001855288	
40672.49	2	0.003710575	
40715.49	1	0.001855288	
40758.49	2	0.003710575	
40801.49	6	0.011131725	
40844.49	5	0.009276438	
40887.49	2	0.003710575	
40930.49	5	0.009276438	
40973.49	0	0	
41016.49	0	0	

41059.49	1	0.001855288	
41102.49	4	0.00742115	
41145.49	2	0.003710575	
41188.49	2	0.003710575	
41231.49	1	0.001855288	
41274.49	3	0.005565863	
41317.49	0	0	
41360.49	3	0.005565863	
41403.49	3	0.005565863	
41446.49	2	0.003710575	
41489.49	0	0	
41532.49	3	0.005565863	
41575.49	1	0.001855288	
41618.49	2	0.003710575	
41661.49	2	0.003710575	
41704.49	1	0.001855288	
41747.49	2	0.003710575	
41790.49	4	0.00742115	
41833.49	1	0.001855288	
41876.49	0	0	
41919.49	4	0.00742115	
41962.49	1	0.001855288	
42005.49	0	0	
42048.49	2	0.003710575	
42091.49	1	0.001855288	
42134.49	3	0.005565863	
42177.49	5	0.009276438	
42220.49	1	0.001855288	
42263.49	3	0.005565863	
42306.49	1	0.001855288	
42349.49	4	0.00742115	
42392.49	1	0.001855288	
42435.49	2	0.003710575	
42478.49	2	0.003710575	
42521.49	3	0.005565863	
42564.49	0	0	
42607.49	1	0.001855288	
42650.49	3	0.005565863	
42693.49	2	0.003710575	
42736.49	3	0.005565863	
42779.49	4	0.00742115	



42822.49	2	0.003710575	
42865.49	0	0	
42908.49	1	0.001855288	
42951.49	0	0	
42994.49	0	0	
43037.49	5	0.009276438	
43080.49	2	0.003710575	
43123.49	3	0.005565863	
43166.49	2	0.003710575	
43209.49	1	0.001855288	
43252.49	4	0.00742115	
43295.49	2	0.003710575	
43338.49	0	0	
43381.49	0	0	
43424.49	3	0.005565863	
43467.49	0	0	
43510.49	3	0.005565863	
43553.49	4	0.00742115	
43596.49	0	0	
43639.49	4	0.00742115	
43682.49	0	0	
43725.49	0	0	
43768.49	0	0	
43811.49	3	0.005565863	
43854.49	5	0.009276438	

A007

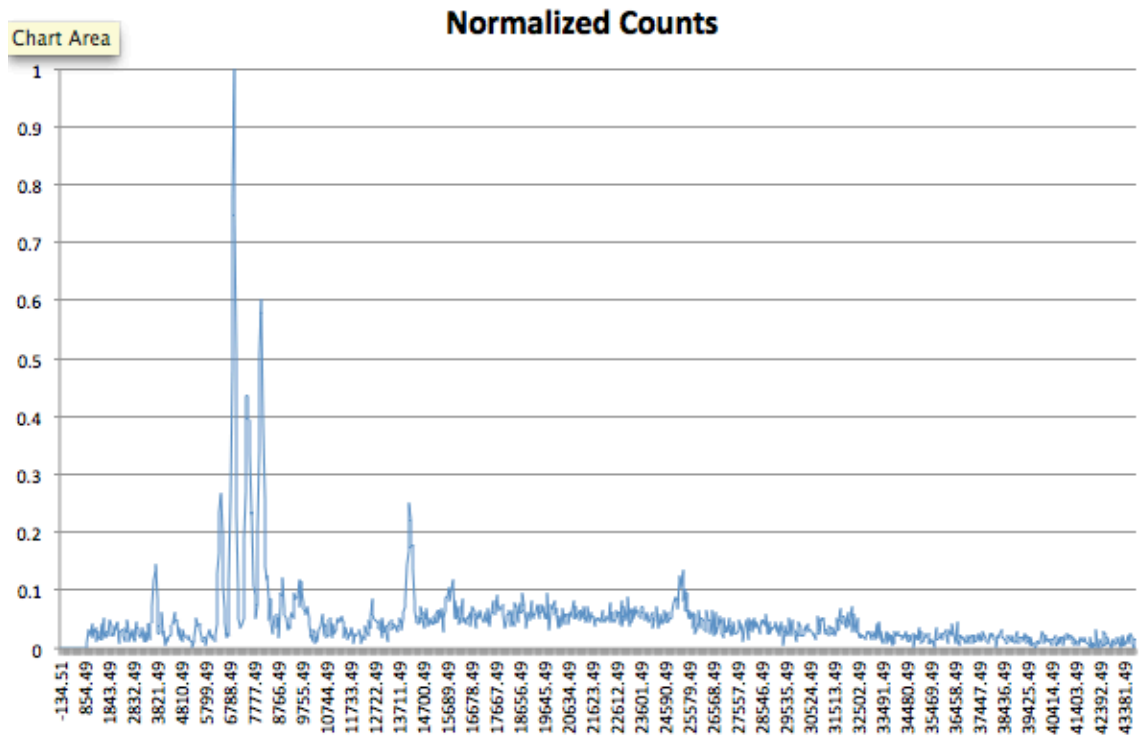


Figure 26. A007 Normalized XRF Counts

Table 11. A007 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	
510.49	0	0	

553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	3	0.008902077	
1026.49	11	0.03264095	Zn
1069.49	9	0.026706231	
1112.49	7	0.020771513	
1155.49	14	0.041543027	Ga
1198.49	6	0.017804154	
1241.49	11	0.03264095	Ge
1284.49	10	0.029673591	
1327.49	12	0.035608309	As
1370.49	4	0.011869436	
1413.49	10	0.029673591	As
1456.49	8	0.023738872	
1499.49	5	0.014836795	
1542.49	14	0.041543027	Br
1585.49	5	0.014836795	
1628.49	17	0.050445104	Br
1671.49	10	0.029673591	
1714.49	6	0.017804154	
1757.49	10	0.029673591	Rb
1800.49	10	0.029673591	Rb
1843.49	8	0.023738872	
1886.49	16	0.047477745	Sr
1929.49	13	0.038575668	
1972.49	7	0.020771513	
2015.49	9	0.026706231	Y
2058.49	7	0.020771513	
2101.49	13	0.038575668	Y
2144.49	11	0.03264095	
2187.49	15	0.044510386	Nb
2230.49	14	0.041543027	
2273.49	3	0.008902077	

2316.49	9	0.026706231	
2359.49	11	0.03264095	Mo
2402.49	11	0.03264095	Mo
2445.49	7	0.020771513	
2488.49	4	0.011869436	
2531.49	12	0.035608309	Mo
2574.49	10	0.029673591	
2617.49	16	0.047477745	Ru
2660.49	10	0.029673591	
2703.49	4	0.011869436	
2746.49	9	0.026706231	Rh
2789.49	6	0.017804154	
2832.49	11	0.03264095	Rh
2875.49	4	0.011869436	
2918.49	5	0.014836795	
2961.49	15	0.044510386	Ag
3004.49	12	0.035608309	Pd
3047.49	12	0.035608309	Ag
3090.49	7	0.020771513	
3133.49	8	0.023738872	Cd
3176.49	6	0.017804154	
3219.49	11	0.03264095	
3262.49	12	0.035608309	Ag
3305.49	4	0.011869436	
3348.49	10	0.029673591	Cd
3391.49	4	0.011869436	
3434.49	9	0.026706231	
3477.49	14	0.041543027	Sn
3520.49	5	0.014836795	
3563.49	14	0.041543027	
3606.49	15	0.044510386	
3649.49	24	0.071216617	
3692.49	40	0.118694362	
3735.49	45	0.133531157	
3778.49	49	0.145400593	Te
3821.49	29	0.086053412	
3864.49	9	0.026706231	Sb
3907.49	9	0.026706231	Sb
3950.49	13	0.038575668	
3993.49	14	0.041543027	
4036.49	21	0.06231454	Te

4079.49	7	0.020771513	
4122.49	10	0.029673591	Sc
4165.49	2	0.005934718	
4208.49	6	0.017804154	Sc
4251.49	4	0.011869436	
4294.49	7	0.020771513	
4337.49	8	0.023738872	Sc
4380.49	7	0.020771513	
4423.49	13	0.038575668	
4466.49	14	0.041543027	
4509.49	15	0.044510386	
4552.49	21	0.06231454	Ti
4595.49	15	0.044510386	
4638.49	16	0.047477745	Ti
4681.49	8	0.023738872	
4724.49	12	0.035608309	La
4767.49	5	0.014836795	
4810.49	9	0.026706231	Ce
4853.49	4	0.011869436	
4896.49	11	0.03264095	Ti
4939.49	8	0.023738872	Ti
4982.49	8	0.023738872	Ti
5025.49	6	0.017804154	
5068.49	5	0.014836795	
5111.49	8	0.023738872	Ti
5154.49	4	0.011869436	Ti
5197.49	4	0.011869436	Nd
5240.49	4	0.011869436	Nd
5283.49	1	0.002967359	
5326.49	4	0.011869436	
5369.49	6	0.017804154	
5412.49	14	0.041543027	
5455.49	17	0.050445104	V
5498.49	13	0.038575668	
5541.49	14	0.041543027	Cr
5584.49	11	0.03264095	
5627.49	6	0.017804154	
5670.49	4	0.011869436	Cr
5713.49	4	0.011869436	Cr
5756.49	6	0.017804154	Cr
5799.49	6	0.017804154	Cr

5842.49	2	0.005934718	
5885.49	8	0.023738872	Cr
5928.49	7	0.020771513	
5971.49	11	0.03264095	Cr
6014.49	6	0.017804154	
6057.49	7	0.020771513	Cr
6100.49	6	0.017804154	
6143.49	5	0.014836795	
6186.49	4	0.011869436	
6229.49	8	0.023738872	
6272.49	14	0.041543027	
6315.49	43	0.127596439	
6358.49	55	0.163204748	
6401.49	79	0.234421365	
6444.49	90	0.267062315	Fe
6487.49	66	0.195845697	
6530.49	37	0.109792285	
6573.49	23	0.068249258	
6616.49	15	0.044510386	
6659.49	6	0.017804154	
6702.49	9	0.026706231	Fe
6745.49	7	0.020771513	
6788.49	39	0.115727003	
6831.49	87	0.258160237	
6874.49	161	0.477744807	
6917.49	261	0.774480712	
6960.49	337	1	Co
7003.49	252	0.747774481	
7046.49	170	0.504451039	
7089.49	79	0.234421365	
7132.49	33	0.097922849	
7175.49	17	0.050445104	
7218.49	13	0.038575668	
7261.49	12	0.035608309	
7304.49	14	0.041543027	
7347.49	18	0.053412463	
7390.49	63	0.18694362	
7433.49	91	0.270029674	
7476.49	147	0.43620178	Ni
7519.49	147	0.43620178	Ni
7562.49	134	0.397626113	

7605.49	132	0.391691395	
7648.49	113	0.335311573	
7691.49	78	0.231454006	
7734.49	79	0.234421365	Co
7777.49	37	0.109792285	
7820.49	31	0.091988131	
7863.49	17	0.050445104	
7906.49	25	0.074183976	
7949.49	68	0.201780415	
7992.49	114	0.338278932	
8035.49	170	0.504451039	
8078.49	203	0.602373887	Cu
8121.49	195	0.578635015	
8164.49	128	0.379821958	
8207.49	87	0.258160237	
8250.49	48	0.142433234	
8293.49	40	0.118694362	
8336.49	42	0.12462908	Ni
8379.49	29	0.086053412	
8422.49	16	0.047477745	
8465.49	29	0.086053412	W
8508.49	15	0.044510386	
8551.49	9	0.026706231	
8594.49	12	0.035608309	
8637.49	19	0.056379822	
8680.49	20	0.059347181	Zn
8723.49	12	0.035608309	
8766.49	18	0.053412463	Cu
8809.49	6	0.017804154	
8852.49	24	0.071216617	
8895.49	32	0.09495549	Cu
8938.49	31	0.091988131	
8981.49	41	0.121661721	Cu
9024.49	23	0.068249258	
9067.49	20	0.059347181	
9110.49	17	0.050445104	
9153.49	11	0.03264095	
9196.49	14	0.041543027	Ga
9239.49	12	0.035608309	
9282.49	17	0.050445104	
9325.49	21	0.06231454	Ga

9368.49	20	0.059347181	
9411.49	18	0.053412463	
9454.49	32	0.09495549	Pt
9497.49	29	0.086053412	Zn
9540.49	29	0.086053412	Zn
9583.49	30	0.089020772	
9626.49	40	0.118694362	Au
9669.49	24	0.071216617	
9712.49	39	0.115727003	Au
9755.49	34	0.100890208	
9798.49	26	0.077151335	
9841.49	23	0.068249258	
9884.49	21	0.06231454	
9927.49	20	0.059347181	
9970.49	24	0.071216617	Ge
10013.49	18	0.053412463	
10056.49	14	0.041543027	
10099.49	6	0.017804154	Ge
10142.49	8	0.023738872	Ga
10185.49	4	0.011869436	
10228.49	11	0.03264095	Ga
10271.49	10	0.029673591	
10314.49	3	0.008902077	
10357.49	6	0.017804154	Ga
10400.49	4	0.011869436	
10443.49	11	0.03264095	
10486.49	13	0.038575668	As
10529.49	13	0.038575668	Ga
10572.49	20	0.059347181	Pb
10615.49	17	0.050445104	
10658.49	8	0.023738872	
10701.49	14	0.041543027	Pb
10744.49	13	0.038575668	
10787.49	6	0.017804154	
10830.49	8	0.023738872	
10873.49	16	0.047477745	
10916.49	18	0.053412463	Se
10959.49	6	0.017804154	
11002.49	14	0.041543027	Se
11045.49	10	0.029673591	
11088.49	9	0.026706231	



11131.49	11	0.03264095	
11174.49	13	0.038575668	
11217.49	18	0.053412463	Se
11260.49	16	0.047477745	
11303.49	15	0.044510386	
11346.49	19	0.056379822	Se
11389.49	17	0.050445104	
11432.49	15	0.044510386	
11475.49	6	0.017804154	
11518.49	12	0.035608309	Au
11561.49	12	0.035608309	Au
11604.49	8	0.023738872	
11647.49	5	0.014836795	
11690.49	9	0.026706231	Au
11733.49	7	0.020771513	
11776.49	12	0.035608309	Au
11819.49	6	0.017804154	
11862.49	3	0.008902077	
11905.49	9	0.026706231	Br
11948.49	7	0.020771513	Rn
11991.49	7	0.020771513	Br
12034.49	8	0.023738872	
12077.49	9	0.026706231	
12120.49	11	0.03264095	Se
12163.49	5	0.014836795	
12206.49	3	0.008902077	
12249.49	7	0.020771513	Se
12292.49	5	0.014836795	
12335.49	13	0.038575668	Br
12378.49	10	0.029673591	Se
12421.49	10	0.029673591	Se
12464.49	8	0.023738872	
12507.49	16	0.047477745	Se
12550.49	12	0.035608309	
12593.49	19	0.056379822	
12636.49	29	0.086053412	Pb
12679.49	20	0.059347181	
12722.49	16	0.047477745	Se
12765.49	16	0.047477745	Pb
12808.49	15	0.044510386	Ac
12851.49	15	0.044510386	Ac

12894.49	12	0.035608309	
12937.49	11	0.03264095	
12980.49	16	0.047477745	Th
13023.49	6	0.017804154	
13066.49	17	0.050445104	Th
13109.49	10	0.029673591	
13152.49	13	0.038575668	Rb
13195.49	10	0.029673591	
13238.49	4	0.011869436	
13281.49	13	0.038575668	
13324.49	15	0.044510386	Br
13367.49	15	0.044510386	Rb
13410.49	16	0.047477745	Rb
13453.49	11	0.03264095	
13496.49	12	0.035608309	
13539.49	14	0.041543027	Rb
13582.49	13	0.038575668	
13625.49	10	0.029673591	
13668.49	13	0.038575668	Rb
13711.49	13	0.038575668	Rb
13754.49	18	0.053412463	Rb
13797.49	15	0.044510386	
13840.49	11	0.03264095	
13883.49	17	0.050445104	
13926.49	21	0.06231454	
13969.49	24	0.071216617	
14012.49	27	0.080118694	
14055.49	49	0.145400593	
14098.49	56	0.166172107	
14141.49	84	0.24925816	Sr
14184.49	74	0.21958457	
14227.49	59	0.175074184	
14270.49	60	0.178041543	Sr
14313.49	46	0.136498516	
14356.49	27	0.080118694	
14399.49	22	0.065281899	
14442.49	15	0.044510386	
14485.49	14	0.041543027	
14528.49	19	0.056379822	Rn
14571.49	15	0.044510386	
14614.49	24	0.071216617	Rn

14657.49	20	0.059347181	
14700.49	18	0.053412463	
14743.49	12	0.035608309	
14786.49	21	0.06231454	Fr
14829.49	17	0.050445104	
14872.49	23	0.068249258	Y
14915.49	13	0.038575668	
14958.49	17	0.050445104	
15001.49	18	0.053412463	
15044.49	14	0.041543027	
15087.49	15	0.044510386	Y
15130.49	14	0.041543027	
15173.49	19	0.056379822	Y
15216.49	15	0.044510386	
15259.49	20	0.059347181	
15302.49	22	0.065281899	Zr
15345.49	15	0.044510386	
15388.49	22	0.065281899	Zr
15431.49	17	0.050445104	
15474.49	23	0.068249258	Zr
15517.49	10	0.029673591	
15560.49	18	0.053412463	
15603.49	22	0.065281899	
15646.49	30	0.089020772	Zr
15689.49	30	0.089020772	Zr
15732.49	30	0.089020772	Sr
15775.49	35	0.103857567	Zr
15818.49	28	0.083086053	
15861.49	33	0.097922849	
15904.49	40	0.118694362	Sr
15947.49	36	0.106824926	
15990.49	18	0.053412463	
16033.49	27	0.080118694	Sr
16076.49	17	0.050445104	
16119.49	19	0.056379822	
16162.49	24	0.071216617	Sr
16205.49	14	0.041543027	
16248.49	18	0.053412463	
16291.49	29	0.086053412	Th
16334.49	15	0.044510386	
16377.49	18	0.053412463	Th

16420.49	16	0.047477745	
16463.49	14	0.041543027	
16506.49	16	0.047477745	
16549.49	19	0.056379822	Nb
16592.49	17	0.050445104	
16635.49	21	0.06231454	Nb
16678.49	13	0.038575668	
16721.49	24	0.071216617	Y
16764.49	22	0.065281899	
16807.49	19	0.056379822	
16850.49	12	0.035608309	
16893.49	20	0.059347181	Nb
16936.49	18	0.053412463	
16979.49	21	0.06231454	Y
17022.49	19	0.056379822	
17065.49	22	0.065281899	Y
17108.49	18	0.053412463	
17151.49	17	0.050445104	
17194.49	15	0.044510386	
17237.49	21	0.06231454	Mo
17280.49	19	0.056379822	
17323.49	15	0.044510386	
17366.49	23	0.068249258	Mo
17409.49	13	0.038575668	
17452.49	15	0.044510386	
17495.49	21	0.06231454	Mo
17538.49	21	0.06231454	Mo
17581.49	28	0.083086053	Zr
17624.49	21	0.06231454	
17667.49	20	0.059347181	
17710.49	31	0.091988131	Zr
17753.49	28	0.083086053	
17796.49	22	0.065281899	Zr
17839.49	22	0.065281899	Zr
17882.49	23	0.068249258	
17925.49	24	0.071216617	
17968.49	25	0.074183976	Zr
18011.49	20	0.059347181	
18054.49	12	0.035608309	
18097.49	16	0.047477745	
18140.49	20	0.059347181	Zr

18183.49	20	0.059347181	Tc
18226.49	22	0.065281899	Tc
18269.49	20	0.059347181	
18312.49	13	0.038575668	
18355.49	22	0.065281899	Tc
18398.49	16	0.047477745	
18441.49	13	0.038575668	
18484.49	26	0.077151335	Tc
18527.49	24	0.071216617	
18570.49	15	0.044510386	
18613.49	20	0.059347181	
18656.49	26	0.077151335	Nb
18699.49	21	0.06231454	Nb
18742.49	21	0.06231454	Nb
18785.49	32	0.09495549	Nb
18828.49	25	0.074183976	
18871.49	22	0.065281899	
18914.49	16	0.047477745	
18957.49	12	0.035608309	
19000.49	21	0.06231454	Nb
19043.49	19	0.056379822	
19086.49	16	0.047477745	
19129.49	28	0.083086053	Ru
19172.49	22	0.065281899	
19215.49	18	0.053412463	
19258.49	20	0.059347181	Ru
19301.49	20	0.059347181	Ru
19344.49	21	0.06231454	
19387.49	25	0.074183976	Ru
19430.49	17	0.050445104	
19473.49	24	0.071216617	
19516.49	25	0.074183976	Tc
19559.49	21	0.06231454	
19602.49	23	0.068249258	
19645.49	24	0.071216617	Tc
19688.49	18	0.053412463	
19731.49	21	0.06231454	Tc
19774.49	17	0.050445104	
19817.49	32	0.09495549	Tc
19860.49	11	0.03264095	
19903.49	22	0.065281899	

19946.49	25	0.074183976	Tc
19989.49	23	0.068249258	
20032.49	24	0.071216617	
20075.49	28	0.083086053	Rh
20118.49	20	0.059347181	
20161.49	23	0.068249258	
20204.49	19	0.056379822	
20247.49	12	0.035608309	
20290.49	19	0.056379822	Rh
20333.49	13	0.038575668	
20376.49	21	0.06231454	
20419.49	23	0.068249258	Rh
20462.49	14	0.041543027	
20505.49	20	0.059347181	Rh
20548.49	20	0.059347181	Rh
20591.49	19	0.056379822	
20634.49	20	0.059347181	Rh
20677.49	14	0.041543027	
20720.49	21	0.06231454	Rh
20763.49	19	0.056379822	
20806.49	22	0.065281899	
20849.49	27	0.080118694	Pd
20892.49	17	0.050445104	
20935.49	24	0.071216617	Pd
20978.49	17	0.050445104	
21021.49	20	0.059347181	Pd
21064.49	20	0.059347181	Pd
21107.49	22	0.065281899	Pd
21150.49	16	0.047477745	
21193.49	22	0.065281899	Pd
21236.49	17	0.050445104	
21279.49	24	0.071216617	Pd
21322.49	17	0.050445104	
21365.49	15	0.044510386	
21408.49	19	0.056379822	
21451.49	24	0.071216617	Ru
21494.49	16	0.047477745	
21537.49	15	0.044510386	
21580.49	21	0.06231454	Pd
21623.49	18	0.053412463	
21666.49	19	0.056379822	Ru

21709.49	13	0.038575668	
21752.49	15	0.044510386	
21795.49	18	0.053412463	Ru
21838.49	17	0.050445104	
21881.49	16	0.047477745	
21924.49	17	0.050445104	Ag
21967.49	15	0.044510386	Ag
22010.49	15	0.044510386	Ag
22053.49	22	0.065281899	Ag
22096.49	17	0.050445104	
22139.49	15	0.044510386	
22182.49	19	0.056379822	Ag
22225.49	19	0.056379822	Ag
22268.49	17	0.050445104	
22311.49	16	0.047477745	
22354.49	26	0.077151335	Ag
22397.49	15	0.044510386	
22440.49	21	0.06231454	Ag
22483.49	17	0.050445104	
22526.49	15	0.044510386	
22569.49	17	0.050445104	
22612.49	22	0.065281899	Rh
22655.49	19	0.056379822	
22698.49	21	0.06231454	Rh
22741.49	21	0.06231454	Rh
22784.49	14	0.041543027	
22827.49	27	0.080118694	Rh
22870.49	13	0.038575668	
22913.49	19	0.056379822	
22956.49	24	0.071216617	Rh
22999.49	16	0.047477745	
23042.49	23	0.068249258	
23085.49	30	0.089020772	Cd
23128.49	13	0.038575668	
23171.49	20	0.059347181	
23214.49	23	0.068249258	Cd
23257.49	15	0.044510386	
23300.49	22	0.065281899	Cd
23343.49	17	0.050445104	
23386.49	24	0.071216617	Cd
23429.49	20	0.059347181	

23472.49	22	0.065281899	Cd
23515.49	21	0.06231454	
23558.49	19	0.056379822	
23601.49	18	0.053412463	
23644.49	24	0.071216617	Pd
23687.49	24	0.071216617	Pd
23730.49	21	0.06231454	
23773.49	20	0.059347181	
23816.49	16	0.047477745	
23859.49	21	0.06231454	Pd
23902.49	21	0.06231454	Pd
23945.49	15	0.044510386	
23988.49	18	0.053412463	
24031.49	19	0.056379822	
24074.49	21	0.06231454	In
24117.49	12	0.035608309	
24160.49	16	0.047477745	
24203.49	17	0.050445104	
24246.49	19	0.056379822	
24289.49	24	0.071216617	In
24332.49	12	0.035608309	
24375.49	19	0.056379822	
24418.49	20	0.059347181	In
24461.49	14	0.041543027	
24504.49	15	0.044510386	
24547.49	17	0.050445104	
24590.49	22	0.065281899	In
24633.49	15	0.044510386	
24676.49	17	0.050445104	
24719.49	21	0.06231454	Ag
24762.49	15	0.044510386	
24805.49	17	0.050445104	
24848.49	18	0.053412463	
24891.49	21	0.06231454	
24934.49	26	0.077151335	Ag
24977.49	26	0.077151335	Ag
25020.49	30	0.089020772	Ag
25063.49	27	0.080118694	
25106.49	29	0.086053412	Ag
25149.49	23	0.068249258	
25192.49	40	0.118694362	



25235.49	42	0.12462908	Sn
25278.49	35	0.103857567	
25321.49	45	0.133531157	Sn
25364.49	28	0.083086053	
25407.49	34	0.100890208	Sn
25450.49	22	0.065281899	
25493.49	32	0.09495549	Sn
25536.49	22	0.065281899	
25579.49	17	0.050445104	
25622.49	22	0.065281899	Sn
25665.49	17	0.050445104	
25708.49	21	0.06231454	Sn
25751.49	12	0.035608309	
25794.49	20	0.059347181	Sn
25837.49	9	0.026706231	
25880.49	11	0.03264095	
25923.49	12	0.035608309	
25966.49	15	0.044510386	
26009.49	22	0.065281899	Cd
26052.49	12	0.035608309	
26095.49	18	0.053412463	Cd
26138.49	18	0.053412463	Cd
26181.49	15	0.044510386	
26224.49	11	0.03264095	
26267.49	10	0.029673591	
26310.49	22	0.065281899	Sb
26353.49	16	0.047477745	Sb
26396.49	16	0.047477745	Sb
26439.49	16	0.047477745	Sb
26482.49	9	0.026706231	
26525.49	16	0.047477745	
26568.49	22	0.065281899	Sb
26611.49	8	0.023738872	
26654.49	21	0.06231454	Sb
26697.49	9	0.026706231	
26740.49	12	0.035608309	Cd
26783.49	12	0.035608309	Sb
26826.49	19	0.056379822	Sb
26869.49	14	0.041543027	
26912.49	16	0.047477745	-
26955.49	9	0.026706231	

26998.49	6	0.017804154	
27041.49	18	0.053412463	Sb
27084.49	10	0.029673591	
27127.49	13	0.038575668	Sb
27170.49	10	0.029673591	
27213.49	17	0.050445104	Sb
27256.49	12	0.035608309	
27299.49	7	0.020771513	
27342.49	13	0.038575668	-
27385.49	9	0.026706231	
27428.49	15	0.044510386	-
27471.49	9	0.026706231	-
27514.49	9	0.026706231	Sn
27557.49	9	0.026706231	Sn
27600.49	11	0.03264095	
27643.49	16	0.047477745	-
27686.49	12	0.035608309	
27729.49	14	0.041543027	Sb
27772.49	8	0.023738872	
27815.49	4	0.011869436	
27858.49	12	0.035608309	Sb
27901.49	12	0.035608309	-
27944.49	16	0.047477745	-
27987.49	5	0.014836795	
28030.49	18	0.053412463	-
28073.49	11	0.03264095	
28116.49	13	0.038575668	
28159.49	16	0.047477745	Sn
28202.49	10	0.029673591	
28245.49	17	0.050445104	Sn
28288.49	15	0.044510386	
28331.49	12	0.035608309	
28374.49	15	0.044510386	Sn
28417.49	13	0.038575668	
28460.49	9	0.026706231	
28503.49	12	0.035608309	
28546.49	16	0.047477745	Sn
28589.49	14	0.041543027	
28632.49	15	0.044510386	
28675.49	16	0.047477745	-
28718.49	13	0.038575668	

28761.49	20	0.059347181	Sn
28804.49	9	0.026706231	
28847.49	15	0.044510386	Sn
28890.49	9	0.026706231	
28933.49	12	0.035608309	-
28976.49	11	0.03264095	
29019.49	12	0.035608309	Sb
29062.49	12	0.035608309	Sb
29105.49	14	0.041543027	
29148.49	15	0.044510386	-
29191.49	10	0.029673591	-
29234.49	13	0.038575668	-
29277.49	8	0.023738872	
29320.49	15	0.044510386	-
29363.49	13	0.038575668	
29406.49	10	0.029673591	
29449.49	2	0.005934718	
29492.49	10	0.029673591	
29535.49	13	0.038575668	-
29578.49	8	0.023738872	-
29621.49	8	0.023738872	Sb
29664.49	11	0.03264095	
29707.49	18	0.053412463	Sb
29750.49	7	0.020771513	
29793.49	16	0.047477745	Sb
29836.49	12	0.035608309	
29879.49	11	0.03264095	
29922.49	9	0.026706231	
29965.49	4	0.011869436	
30008.49	10	0.029673591	Sb
30051.49	7	0.020771513	
30094.49	15	0.044510386	Sb
30137.49	13	0.038575668	
30180.49	8	0.023738872	
30223.49	7	0.020771513	Sb
30266.49	7	0.020771513	
30309.49	11	0.03264095	
30352.49	13	0.038575668	
30395.49	11	0.03264095	
30438.49	14	0.041543027	
30481.49	10	0.029673591	

30524.49	11	0.03264095	
30567.49	11	0.03264095	
30610.49	10	0.029673591	
30653.49	7	0.020771513	
30696.49	9	0.026706231	
30739.49	5	0.014836795	
30782.49	8	0.023738872	
30825.49	9	0.026706231	
30868.49	19	0.056379822	
30911.49	11	0.03264095	
30954.49	9	0.026706231	
30997.49	18	0.053412463	
31040.49	16	0.047477745	
31083.49	18	0.053412463	
31126.49	9	0.026706231	
31169.49	11	0.03264095	
31212.49	11	0.03264095	
31255.49	9	0.026706231	
31298.49	7	0.020771513	
31341.49	13	0.038575668	
31384.49	12	0.035608309	
31427.49	9	0.026706231	
31470.49	9	0.026706231	
31513.49	12	0.035608309	
31556.49	8	0.023738872	
31599.49	11	0.03264095	
31642.49	18	0.053412463	
31685.49	11	0.03264095	
31728.49	16	0.047477745	
31771.49	23	0.068249258	
31814.49	16	0.047477745	
31857.49	14	0.041543027	
31900.49	19	0.056379822	-
31943.49	19	0.056379822	-
31986.49	12	0.035608309	
32029.49	13	0.038575668	
32072.49	21	0.06231454	
32115.49	18	0.053412463	
32158.49	13	0.038575668	
32201.49	16	0.047477745	
32244.49	24	0.071216617	

32287.49	10	0.029673591	
32330.49	20	0.059347181	
32373.49	16	0.047477745	
32416.49	10	0.029673591	
32459.49	17	0.050445104	
32502.49	10	0.029673591	
32545.49	6	0.017804154	
32588.49	9	0.026706231	
32631.49	6	0.017804154	
32674.49	7	0.020771513	
32717.49	8	0.023738872	
32760.49	7	0.020771513	
32803.49	5	0.014836795	
32846.49	6	0.017804154	
32889.49	10	0.029673591	-
32932.49	9	0.026706231	
32975.49	10	0.029673591	
33018.49	5	0.014836795	
33061.49	7	0.020771513	
33104.49	7	0.020771513	
33147.49	10	0.029673591	
33190.49	6	0.017804154	
33233.49	5	0.014836795	
33276.49	14	0.041543027	
33319.49	6	0.017804154	
33362.49	15	0.044510386	-
33405.49	5	0.014836795	
33448.49	10	0.029673591	
33491.49	3	0.008902077	
33534.49	4	0.011869436	
33577.49	5	0.014836795	
33620.49	5	0.014836795	
33663.49	10	0.029673591	
33706.49	3	0.008902077	
33749.49	9	0.026706231	
33792.49	4	0.011869436	
33835.49	8	0.023738872	
33878.49	2	0.005934718	
33921.49	7	0.020771513	
33964.49	3	0.008902077	
34007.49	10	0.029673591	

34050.49	9	0.026706231	
34093.49	8	0.023738872	
34136.49	10	0.029673591	
34179.49	8	0.023738872	
34222.49	7	0.020771513	
34265.49	7	0.020771513	
34308.49	5	0.014836795	
34351.49	8	0.023738872	
34394.49	6	0.017804154	
34437.49	10	0.029673591	
34480.49	10	0.029673591	
34523.49	4	0.011869436	
34566.49	7	0.020771513	
34609.49	8	0.023738872	
34652.49	4	0.011869436	
34695.49	7	0.020771513	
34738.49	9	0.026706231	
34781.49	1	0.002967359	
34824.49	7	0.020771513	
34867.49	6	0.017804154	
34910.49	7	0.020771513	
34953.49	5	0.014836795	
34996.49	12	0.035608309	
35039.49	5	0.014836795	
35082.49	10	0.029673591	
35125.49	3	0.008902077	
35168.49	4	0.011869436	
35211.49	8	0.023738872	
35254.49	9	0.026706231	
35297.49	6	0.017804154	
35340.49	8	0.023738872	
35383.49	9	0.026706231	
35426.49	3	0.008902077	
35469.49	5	0.014836795	
35512.49	3	0.008902077	
35555.49	4	0.011869436	
35598.49	1	0.002967359	
35641.49	4	0.011869436	
35684.49	12	0.035608309	
35727.49	5	0.014836795	
35770.49	5	0.014836795	

35813.49	5	0.014836795	
35856.49	8	0.023738872	
35899.49	9	0.026706231	
35942.49	5	0.014836795	
35985.49	9	0.026706231	
36028.49	9	0.026706231	
36071.49	11	0.03264095	
36114.49	7	0.020771513	
36157.49	3	0.008902077	
36200.49	8	0.023738872	
36243.49	11	0.03264095	
36286.49	11	0.03264095	
36329.49	7	0.020771513	
36372.49	14	0.041543027	
36415.49	9	0.026706231	
36458.49	9	0.026706231	
36501.49	3	0.008902077	
36544.49	15	0.044510386	
36587.49	5	0.014836795	
36630.49	2	0.005934718	
36673.49	7	0.020771513	
36716.49	8	0.023738872	
36759.49	6	0.017804154	
36802.49	5	0.014836795	
36845.49	6	0.017804154	
36888.49	3	0.008902077	
36931.49	5	0.014836795	
36974.49	7	0.020771513	
37017.49	3	0.008902077	
37060.49	5	0.014836795	
37103.49	7	0.020771513	
37146.49	6	0.017804154	
37189.49	7	0.020771513	
37232.49	3	0.008902077	
37275.49	7	0.020771513	
37318.49	4	0.011869436	
37361.49	4	0.011869436	
37404.49	9	0.026706231	
37447.49	9	0.026706231	
37490.49	4	0.011869436	
37533.49	7	0.020771513	

37576.49	5	0.014836795	
37619.49	10	0.029673591	
37662.49	7	0.020771513	
37705.49	7	0.020771513	
37748.49	5	0.014836795	
37791.49	4	0.011869436	
37834.49	3	0.008902077	
37877.49	9	0.026706231	
37920.49	6	0.017804154	
37963.49	7	0.020771513	
38006.49	9	0.026706231	
38049.49	6	0.017804154	-
38092.49	5	0.014836795	
38135.49	4	0.011869436	
38178.49	1	0.002967359	
38221.49	7	0.020771513	
38264.49	6	0.017804154	
38307.49	9	0.026706231	
38350.49	11	0.03264095	
38393.49	6	0.017804154	
38436.49	6	0.017804154	
38479.49	5	0.014836795	
38522.49	5	0.014836795	
38565.49	3	0.008902077	
38608.49	3	0.008902077	
38651.49	7	0.020771513	
38694.49	6	0.017804154	
38737.49	4	0.011869436	
38780.49	8	0.023738872	
38823.49	4	0.011869436	
38866.49	4	0.011869436	
38909.49	3	0.008902077	
38952.49	6	0.017804154	
38995.49	10	0.029673591	
39038.49	4	0.011869436	
39081.49	3	0.008902077	
39124.49	6	0.017804154	
39167.49	6	0.017804154	
39210.49	6	0.017804154	
39253.49	4	0.011869436	-
39296.49	9	0.026706231	



39339.49	5	0.014836795	
39382.49	8	0.023738872	
39425.49	3	0.008902077	
39468.49	4	0.011869436	
39511.49	6	0.017804154	
39554.49	2	0.005934718	
39597.49	6	0.017804154	
39640.49	2	0.005934718	
39683.49	3	0.008902077	
39726.49	1	0.002967359	
39769.49	1	0.002967359	
39812.49	4	0.011869436	
39855.49	4	0.011869436	
39898.49	3	0.008902077	
39941.49	3	0.008902077	
39984.49	4	0.011869436	
40027.49	10	0.029673591	
40070.49	7	0.020771513	
40113.49	3	0.008902077	
40156.49	7	0.020771513	
40199.49	5	0.014836795	
40242.49	5	0.014836795	
40285.49	4	0.011869436	
40328.49	5	0.014836795	
40371.49	4	0.011869436	
40414.49	2	0.005934718	
40457.49	5	0.014836795	
40500.49	5	0.014836795	
40543.49	7	0.020771513	
40586.49	2	0.005934718	
40629.49	2	0.005934718	
40672.49	3	0.008902077	
40715.49	6	0.017804154	
40758.49	3	0.008902077	
40801.49	6	0.017804154	
40844.49	5	0.014836795	
40887.49	6	0.017804154	
40930.49	2	0.005934718	
40973.49	7	0.020771513	
41016.49	9	0.026706231	
41059.49	5	0.014836795	

41102.49	7	0.020771513	
41145.49	6	0.017804154	
41188.49	7	0.020771513	
41231.49	5	0.014836795	
41274.49	6	0.017804154	
41317.49	3	0.008902077	
41360.49	2	0.005934718	
41403.49	5	0.014836795	
41446.49	3	0.008902077	
41489.49	4	0.011869436	
41532.49	2	0.005934718	
41575.49	6	0.017804154	
41618.49	4	0.011869436	
41661.49	5	0.014836795	
41704.49	4	0.011869436	
41747.49	4	0.011869436	
41790.49	6	0.017804154	
41833.49	3	0.008902077	
41876.49	3	0.008902077	
41919.49	3	0.008902077	
41962.49	1	0.002967359	
42005.49	6	0.017804154	
42048.49	0	0	
42091.49	3	0.008902077	
42134.49	1	0.002967359	
42177.49	3	0.008902077	-
42220.49	2	0.005934718	
42263.49	11	0.03264095	
42306.49	0	0	
42349.49	4	0.011869436	
42392.49	5	0.014836795	
42435.49	3	0.008902077	-
42478.49	1	0.002967359	
42521.49	2	0.005934718	
42564.49	10	0.029673591	
42607.49	9	0.026706231	
42650.49	2	0.005934718	
42693.49	3	0.008902077	
42736.49	6	0.017804154	
42779.49	3	0.008902077	
42822.49	1	0.002967359	

42865.49	0	0	
42908.49	5	0.014836795	
42951.49	4	0.011869436	
42994.49	3	0.008902077	
43037.49	2	0.005934718	
43080.49	3	0.008902077	
43123.49	6	0.017804154	
43166.49	4	0.011869436	
43209.49	1	0.002967359	
43252.49	6	0.017804154	
43295.49	2	0.005934718	
43338.49	7	0.020771513	
43381.49	3	0.008902077	
43424.49	2	0.005934718	
43467.49	4	0.011869436	
43510.49	4	0.011869436	
43553.49	8	0.023738872	
43596.49	3	0.008902077	
43639.49	9	0.026706231	
43682.49	6	0.017804154	
43725.49	3	0.008902077	
43768.49	0	0	
43811.49	5	0.014836795	
43854.49	5	0.014836795	

B001

### Normalized Counts

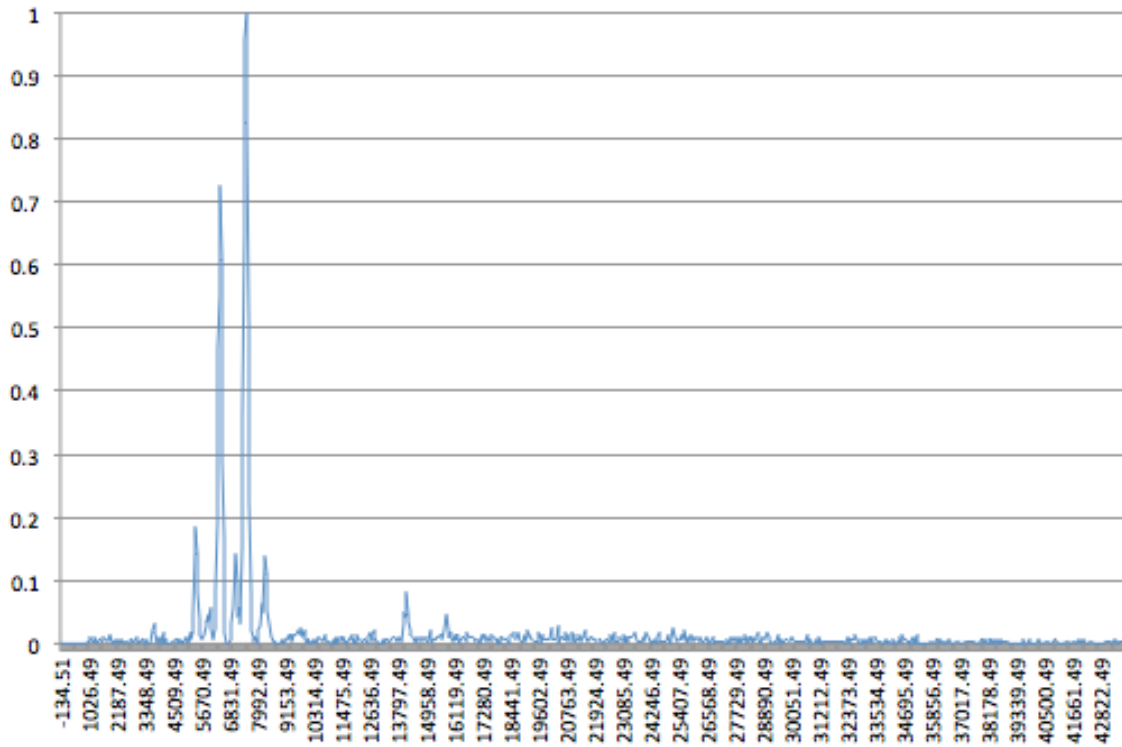


Figure 27. B001 Normalized XRF Counts

Table 12. B001 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	

424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	1	0.003367003	
1026.49	1	0.003367003	
1069.49	3	0.01010101	Zn
1112.49	1	0.003367003	
1155.49	1	0.003367003	
1198.49	0	0	
1241.49	1	0.003367003	
1284.49	3	0.01010101	As
1327.49	3	0.01010101	As
1370.49	0	0	
1413.49	0	0	
1456.49	2	0.006734007	
1499.49	1	0.003367003	
1542.49	1	0.003367003	
1585.49	1	0.003367003	
1628.49	3	0.01010101	Br
1671.49	3	0.01010101	Rb
1714.49	3	0.01010101	Rb
1757.49	1	0.003367003	
1800.49	0	0	
1843.49	1	0.003367003	
1886.49	4	0.013468013	Sr
1929.49	3	0.01010101	
1972.49	1	0.003367003	
2015.49	1	0.003367003	
2058.49	0	0	
2101.49	0	0	
2144.49	1	0.003367003	

2187.49	2	0.006734007	
2230.49	1	0.003367003	
2273.49	0	0	
2316.49	2	0.006734007	
2359.49	1	0.003367003	
2402.49	1	0.003367003	
2445.49	0	0	
2488.49	1	0.003367003	
2531.49	0	0	
2574.49	1	0.003367003	
2617.49	0	0	
2660.49	0	0	
2703.49	0	0	
2746.49	2	0.006734007	
2789.49	1	0.003367003	
2832.49	2	0.006734007	
2875.49	1	0.003367003	
2918.49	0	0	
2961.49	3	0.01010101	Ag
3004.49	1	0.003367003	
3047.49	2	0.006734007	
3090.49	0	0	
3133.49	0	0	
3176.49	1	0.003367003	
3219.49	2	0.006734007	
3262.49	1	0.003367003	
3305.49	1	0.003367003	
3348.49	0	0	
3391.49	2	0.006734007	
3434.49	0	0	
3477.49	1	0.003367003	
3520.49	1	0.003367003	
3563.49	0	0	
3606.49	1	0.003367003	
3649.49	6	0.02020202	Sn
3692.49	6	0.02020202	Sn
3735.49	9	0.03030303	Sn
3778.49	5	0.016835017	
3821.49	6	0.02020202	Te
3864.49	0	0	
3907.49	1	0.003367003	

3950.49	3	0.01010101	Te
3993.49	0	0	
4036.49	0	0	
4079.49	5	0.016835017	Te
4122.49	0	0	
4165.49	2	0.006734007	
4208.49	1	0.003367003	
4251.49	0	0	
4294.49	0	0	
4337.49	1	0.003367003	
4380.49	0	0	
4423.49	0	0	
4466.49	1	0.003367003	
4509.49	1	0.003367003	
4552.49	0	0	
4595.49	1	0.003367003	
4638.49	2	0.006734007	
4681.49	0	0	
4724.49	2	0.006734007	
4767.49	1	0.003367003	
4810.49	1	0.003367003	
4853.49	0	0	
4896.49	0	0	
4939.49	0	0	
4982.49	1	0.003367003	
5025.49	0	0	
5068.49	3	0.01010101	Ti
5111.49	2	0.006734007	
5154.49	0	0	
5197.49	5	0.016835017	Nd
5240.49	2	0.006734007	
5283.49	5	0.016835017	
5326.49	14	0.047138047	
5369.49	43	0.144781145	
5412.49	49	0.164983165	
5455.49	55	0.185185185	V
5498.49	42	0.141414141	
5541.49	24	0.080808081	
5584.49	12	0.04040404	
5627.49	4	0.013468013	
5670.49	3	0.01010101	

5713.49	2	0.006734007	
5756.49	1	0.003367003	
5799.49	4	0.013468013	
5842.49	8	0.026936027	
5885.49	11	0.037037037	
5928.49	14	0.047138047	Cr
5971.49	11	0.037037037	
6014.49	17	0.057239057	Cr
6057.49	7	0.023569024	Cr
6100.49	7	0.023569024	Cr
6143.49	2	0.006734007	
6186.49	2	0.006734007	
6229.49	7	0.023569024	
6272.49	25	0.084175084	
6315.49	57	0.191919192	
6358.49	138	0.464646465	
6401.49	164	0.552188552	
6444.49	215	0.723905724	Fe
6487.49	180	0.606060606	
6530.49	85	0.286195286	
6573.49	50	0.168350168	
6616.49	13	0.043771044	
6659.49	5	0.016835017	
6702.49	0	0	
6745.49	0	0	
6788.49	0	0	
6831.49	0	0	
6874.49	2	0.006734007	
6917.49	9	0.03030303	
6960.49	17	0.057239057	
7003.49	18	0.060606061	
7046.49	42	0.141414141	Fe
7089.49	41	0.138047138	
7132.49	27	0.090909091	
7175.49	13	0.043771044	
7218.49	17	0.057239057	Fe
7261.49	9	0.03030303	
7304.49	10	0.033670034	
7347.49	45	0.151515152	
7390.49	107	0.36026936	
7433.49	193	0.64983165	



7476.49	284	0.956228956	
7519.49	297	1	Ni
7562.49	245	0.824915825	
7605.49	150	0.505050505	
7648.49	67	0.225589226	
7691.49	23	0.077441077	
7734.49	6	0.02020202	Co
7777.49	6	0.02020202	Co
7820.49	3	0.01010101	
7863.49	1	0.003367003	
7906.49	1	0.003367003	
7949.49	3	0.01010101	Cu
7992.49	0	0	
8035.49	6	0.02020202	Cu
8078.49	5	0.016835017	
8121.49	8	0.026936027	
8164.49	19	0.063973064	Cu
8207.49	15	0.050505051	
8250.49	37	0.124579125	
8293.49	41	0.138047138	Ni
8336.49	33	0.111111111	
8379.49	27	0.090909091	
8422.49	16	0.053872054	
8465.49	9	0.03030303	W
8508.49	9	0.03030303	W
8551.49	3	0.01010101	W
8594.49	3	0.01010101	W
8637.49	1	0.003367003	
8680.49	0	0	
8723.49	2	0.006734007	
8766.49	0	0	
8809.49	0	0	
8852.49	0	0	
8895.49	0	0	
8938.49	0	0	
8981.49	2	0.006734007	
9024.49	0	0	
9067.49	0	0	
9110.49	1	0.003367003	
9153.49	1	0.003367003	
9196.49	1	0.003367003	

9239.49	0	0	
9282.49	4	0.013468013	Ga
9325.49	2	0.006734007	
9368.49	4	0.013468013	Ga
9411.49	1	0.003367003	
9454.49	2	0.006734007	
9497.49	4	0.013468013	
9540.49	5	0.016835017	Zn
9583.49	3	0.01010101	
9626.49	4	0.013468013	
9669.49	6	0.02020202	Au
9712.49	6	0.02020202	Au
9755.49	4	0.013468013	
9798.49	7	0.023569024	Au
9841.49	3	0.01010101	
9884.49	4	0.013468013	
9927.49	6	0.02020202	Ge
9970.49	2	0.006734007	
10013.49	0	0	
10056.49	2	0.006734007	
10099.49	3	0.01010101	Ge
10142.49	3	0.01010101	Ga
10185.49	0	0	
10228.49	1	0.003367003	
10271.49	0	0	
10314.49	2	0.006734007	
10357.49	2	0.006734007	
10400.49	0	0	
10443.49	0	0	
10486.49	1	0.003367003	
10529.49	3	0.01010101	Ga
10572.49	2	0.006734007	
10615.49	2	0.006734007	
10658.49	1	0.003367003	
10701.49	2	0.006734007	
10744.49	4	0.013468013	Ge
10787.49	2	0.006734007	
10830.49	3	0.01010101	Ge
10873.49	3	0.01010101	Ge
10916.49	1	0.003367003	
10959.49	2	0.006734007	

11002.49	0	0	
11045.49	0	0	
11088.49	0	0	
11131.49	2	0.006734007	
11174.49	0	0	
11217.49	3	0.01010101	Se
11260.49	0	0	
11303.49	2	0.006734007	
11346.49	2	0.006734007	
11389.49	2	0.006734007	
11432.49	3	0.01010101	Au
11475.49	1	0.003367003	
11518.49	1	0.003367003	
11561.49	3	0.01010101	Au
11604.49	0	0	
11647.49	0	0	
11690.49	0	0	
11733.49	1	0.003367003	
11776.49	1	0.003367003	
11819.49	2	0.006734007	
11862.49	4	0.013468013	Hg
11905.49	2	0.006734007	
11948.49	1	0.003367003	
11991.49	0	0	
12034.49	2	0.006734007	
12077.49	0	0	
12120.49	4	0.013468013	Se
12163.49	2	0.006734007	
12206.49	1	0.003367003	
12249.49	2	0.006734007	
12292.49	1	0.003367003	
12335.49	0	0	
12378.49	1	0.003367003	
12421.49	2	0.006734007	
12464.49	1	0.003367003	
12507.49	3	0.01010101	Se
12550.49	0	0	
12593.49	3	0.01010101	
12636.49	5	0.016835017	
12679.49	6	0.02020202	Se
12722.49	1	0.003367003	

12765.49	4	0.013468013	
12808.49	6	0.02020202	Ac
12851.49	2	0.006734007	
12894.49	1	0.003367003	
12937.49	2	0.006734007	
12980.49	0	0	
13023.49	1	0.003367003	
13066.49	1	0.003367003	
13109.49	0	0	
13152.49	1	0.003367003	
13195.49	2	0.006734007	
13238.49	0	0	
13281.49	1	0.003367003	
13324.49	2	0.006734007	
13367.49	2	0.006734007	
13410.49	2	0.006734007	
13453.49	1	0.003367003	
13496.49	1	0.003367003	
13539.49	3	0.01010101	
13582.49	4	0.013468013	Rb
13625.49	2	0.006734007	
13668.49	3	0.01010101	Rb
13711.49	1	0.003367003	
13754.49	2	0.006734007	
13797.49	2	0.006734007	
13840.49	3	0.01010101	Sr
13883.49	3	0.01010101	Sr
13926.49	2	0.006734007	
13969.49	1	0.003367003	
14012.49	9	0.03030303	
14055.49	15	0.050505051	Sr
14098.49	13	0.043771044	
14141.49	24	0.080808081	Sr
14184.49	14	0.047138047	
14227.49	10	0.033670034	
14270.49	6	0.02020202	
14313.49	4	0.013468013	
14356.49	3	0.01010101	Sr
14399.49	3	0.01010101	Sr
14442.49	3	0.01010101	Sr
14485.49	1	0.003367003	

14528.49	0	0	
14571.49	3	0.01010101	Sr
14614.49	1	0.003367003	
14657.49	0	0	
14700.49	1	0.003367003	
14743.49	3	0.01010101	Rb
14786.49	1	0.003367003	
14829.49	1	0.003367003	
14872.49	1	0.003367003	
14915.49	3	0.01010101	Rb
14958.49	1	0.003367003	
15001.49	2	0.006734007	
15044.49	1	0.003367003	
15087.49	1	0.003367003	
15130.49	6	0.02020202	Rb
15173.49	1	0.003367003	
15216.49	2	0.006734007	
15259.49	0	0	
15302.49	2	0.006734007	
15345.49	3	0.01010101	Zr
15388.49	2	0.006734007	
15431.49	3	0.01010101	Zr
15474.49	2	0.006734007	
15517.49	3	0.01010101	
15560.49	4	0.013468013	Zr
15603.49	2	0.006734007	
15646.49	2	0.006734007	
15689.49	3	0.01010101	
15732.49	6	0.02020202	
15775.49	7	0.023569024	
15818.49	14	0.047138047	Zr
15861.49	6	0.02020202	
15904.49	3	0.01010101	
15947.49	5	0.016835017	Sr
15990.49	3	0.01010101	
16033.49	4	0.013468013	Sr
16076.49	1	0.003367003	
16119.49	4	0.013468013	Sr
16162.49	2	0.006734007	
16205.49	1	0.003367003	
16248.49	4	0.013468013	Sr

16291.49	2	0.006734007	
16334.49	0	0	
16377.49	2	0.006734007	
16420.49	1	0.003367003	
16463.49	2	0.006734007	
16506.49	3	0.01010101	Nb
16549.49	3	0.01010101	Nb
16592.49	1	0.003367003	
16635.49	5	0.016835017	Nb
16678.49	4	0.013468013	Nb
16721.49	4	0.013468013	Y
16764.49	3	0.01010101	Y
16807.49	3	0.01010101	Y
16850.49	3	0.01010101	Y
16893.49	3	0.01010101	Y
16936.49	2	0.006734007	
16979.49	1	0.003367003	
17022.49	2	0.006734007	
17065.49	0	0	
17108.49	2	0.006734007	
17151.49	0	0	
17194.49	1	0.003367003	
17237.49	4	0.013468013	Mo
17280.49	2	0.006734007	
17323.49	2	0.006734007	
17366.49	3	0.01010101	
17409.49	4	0.013468013	Mo
17452.49	1	0.003367003	
17495.49	2	0.006734007	
17538.49	3	0.01010101	Mo
17581.49	2	0.006734007	
17624.49	1	0.003367003	
17667.49	4	0.013468013	Zr
17710.49	4	0.013468013	Zr
17753.49	3	0.01010101	
17796.49	2	0.006734007	
17839.49	3	0.01010101	Zr
17882.49	0	0	
17925.49	2	0.006734007	
17968.49	3	0.01010101	Zr
18011.49	0	0	

18054.49	3	0.01010101	Zr
18097.49	3	0.01010101	Zr
18140.49	4	0.013468013	Zr
18183.49	2	0.006734007	
18226.49	2	0.006734007	
18269.49	3	0.01010101	Tc
18312.49	2	0.006734007	
18355.49	0	0	
18398.49	3	0.01010101	Tc
18441.49	3	0.01010101	Tc
18484.49	3	0.01010101	Tc
18527.49	5	0.016835017	Tc
18570.49	3	0.01010101	
18613.49	2	0.006734007	
18656.49	4	0.013468013	Nb
18699.49	2	0.006734007	
18742.49	3	0.01010101	
18785.49	5	0.016835017	Nb
18828.49	1	0.003367003	
18871.49	2	0.006734007	
18914.49	1	0.003367003	
18957.49	1	0.003367003	
19000.49	4	0.013468013	Nb
19043.49	1	0.003367003	
19086.49	3	0.01010101	
19129.49	6	0.02020202	Ru
19172.49	5	0.016835017	Ru
19215.49	5	0.016835017	Ru
19258.49	4	0.013468013	
19301.49	2	0.006734007	
19344.49	1	0.003367003	
19387.49	2	0.006734007	
19430.49	1	0.003367003	
19473.49	2	0.006734007	
19516.49	2	0.006734007	
19559.49	1	0.003367003	
19602.49	5	0.016835017	Tc
19645.49	3	0.01010101	
19688.49	0	0	
19731.49	4	0.013468013	
19774.49	5	0.016835017	Tc

19817.49	2	0.006734007	
19860.49	1	0.003367003	
19903.49	2	0.006734007	
19946.49	2	0.006734007	
19989.49	3	0.01010101	Rh
20032.49	1	0.003367003	
20075.49	2	0.006734007	
20118.49	7	0.023569024	Rh
20161.49	2	0.006734007	
20204.49	1	0.003367003	
20247.49	3	0.01010101	Rh
20290.49	2	0.006734007	
20333.49	2	0.006734007	
20376.49	3	0.01010101	
20419.49	8	0.026936027	Rh
20462.49	0	0	
20505.49	1	0.003367003	
20548.49	3	0.01010101	
20591.49	4	0.013468013	Rh
20634.49	3	0.01010101	
20677.49	2	0.006734007	
20720.49	5	0.016835017	Rh
20763.49	1	0.003367003	
20806.49	2	0.006734007	
20849.49	4	0.013468013	Pd
20892.49	3	0.01010101	Pd
20935.49	3	0.01010101	Pd
20978.49	5	0.016835017	Pd
21021.49	1	0.003367003	
21064.49	4	0.013468013	Pd
21107.49	1	0.003367003	
21150.49	2	0.006734007	
21193.49	2	0.006734007	
21236.49	2	0.006734007	
21279.49	4	0.013468013	Pd
21322.49	3	0.01010101	
21365.49	1	0.003367003	
21408.49	0	0	
21451.49	0	0	
21494.49	6	0.02020202	Ru
21537.49	3	0.01010101	



21580.49	4	0.013468013	Pd
21623.49	1	0.003367003	
21666.49	2	0.006734007	
21709.49	0	0	
21752.49	3	0.01010101	
21795.49	4	0.013468013	Ru
21838.49	2	0.006734007	
21881.49	2	0.006734007	
21924.49	1	0.003367003	
21967.49	2	0.006734007	
22010.49	1	0.003367003	
22053.49	2	0.006734007	
22096.49	1	0.003367003	
22139.49	2	0.006734007	
22182.49	2	0.006734007	
22225.49	3	0.01010101	Ag
22268.49	0	0	
22311.49	0	0	
22354.49	1	0.003367003	
22397.49	2	0.006734007	
22440.49	2	0.006734007	
22483.49	3	0.01010101	Ru
22526.49	1	0.003367003	
22569.49	4	0.013468013	
22612.49	5	0.016835017	Rh
22655.49	1	0.003367003	
22698.49	5	0.016835017	Rh
22741.49	4	0.013468013	
22784.49	1	0.003367003	
22827.49	2	0.006734007	
22870.49	1	0.003367003	
22913.49	1	0.003367003	
22956.49	3	0.01010101	Rh
22999.49	2	0.006734007	
23042.49	4	0.013468013	Cd
23085.49	1	0.003367003	
23128.49	4	0.013468013	Cd
23171.49	1	0.003367003	
23214.49	3	0.01010101	Cd
23257.49	3	0.01010101	Cd
23300.49	1	0.003367003	

23343.49	3	0.01010101	Cd
23386.49	2	0.006734007	
23429.49	3	0.01010101	Cd
23472.49	3	0.01010101	Cd
23515.49	4	0.013468013	Cd
23558.49	2	0.006734007	
23601.49	5	0.016835017	Pd
23644.49	5	0.016835017	Pd
23687.49	1	0.003367003	
23730.49	2	0.006734007	
23773.49	1	0.003367003	
23816.49	1	0.003367003	
23859.49	2	0.006734007	
23902.49	3	0.01010101	Pd
23945.49	3	0.01010101	Pd
23988.49	1	0.003367003	
24031.49	2	0.006734007	
24074.49	5	0.016835017	In
24117.49	4	0.013468013	In
24160.49	4	0.013468013	In
24203.49	1	0.003367003	
24246.49	2	0.006734007	
24289.49	0	0	
24332.49	0	0	
24375.49	2	0.006734007	
24418.49	2	0.006734007	
24461.49	0	0	
24504.49	3	0.01010101	In
24547.49	2	0.006734007	
24590.49	5	0.016835017	In
24633.49	1	0.003367003	
24676.49	2	0.006734007	
24719.49	1	0.003367003	
24762.49	1	0.003367003	
24805.49	1	0.003367003	
24848.49	1	0.003367003	
24891.49	1	0.003367003	
24934.49	4	0.013468013	Ag
24977.49	2	0.006734007	
25020.49	0	0	
25063.49	2	0.006734007	

25106.49	2	0.006734007	
25149.49	2	0.006734007	
25192.49	7	0.023569024	Sn
25235.49	3	0.01010101	Sn
25278.49	3	0.01010101	Sn
25321.49	1	0.003367003	
25364.49	2	0.006734007	
25407.49	1	0.003367003	
25450.49	2	0.006734007	
25493.49	4	0.013468013	Sn
25536.49	2	0.006734007	
25579.49	4	0.013468013	
25622.49	6	0.02020202	
25665.49	1	0.003367003	
25708.49	3	0.01010101	
25751.49	2	0.006734007	
25794.49	1	0.003367003	
25837.49	1	0.003367003	
25880.49	4	0.013468013	
25923.49	4	0.013468013	
25966.49	4	0.013468013	
26009.49	1	0.003367003	
26052.49	2	0.006734007	
26095.49	3	0.01010101	
26138.49	3	0.01010101	
26181.49	3	0.01010101	
26224.49	1	0.003367003	
26267.49	1	0.003367003	
26310.49	3	0.01010101	
26353.49	1	0.003367003	
26396.49	0	0	
26439.49	0	0	
26482.49	1	0.003367003	
26525.49	3	0.01010101	
26568.49	3	0.01010101	
26611.49	3	0.01010101	
26654.49	0	0	
26697.49	1	0.003367003	
26740.49	1	0.003367003	
26783.49	3	0.01010101	
26826.49	0	0	

26869.49	1	0.003367003	
26912.49	1	0.003367003	
26955.49	1	0.003367003	
26998.49	2	0.006734007	
27041.49	2	0.006734007	
27084.49	1	0.003367003	
27127.49	2	0.006734007	
27170.49	0	0	
27213.49	1	0.003367003	
27256.49	0	0	
27299.49	1	0.003367003	
27342.49	0	0	
27385.49	2	0.006734007	
27428.49	2	0.006734007	
27471.49	3	0.01010101	
27514.49	0	0	
27557.49	3	0.01010101	
27600.49	3	0.01010101	
27643.49	3	0.01010101	
27686.49	1	0.003367003	
27729.49	2	0.006734007	
27772.49	3	0.01010101	
27815.49	0	0	
27858.49	0	0	
27901.49	3	0.01010101	
27944.49	1	0.003367003	
27987.49	1	0.003367003	
28030.49	2	0.006734007	
28073.49	2	0.006734007	
28116.49	1	0.003367003	
28159.49	4	0.013468013	
28202.49	0	0	
28245.49	1	0.003367003	
28288.49	0	0	
28331.49	3	0.01010101	
28374.49	1	0.003367003	
28417.49	3	0.01010101	
28460.49	1	0.003367003	
28503.49	0	0	
28546.49	3	0.01010101	
28589.49	2	0.006734007	

28632.49	2	0.006734007	
28675.49	5	0.016835017	
28718.49	2	0.006734007	
28761.49	2	0.006734007	
28804.49	0	0	
28847.49	3	0.01010101	
28890.49	2	0.006734007	
28933.49	2	0.006734007	
28976.49	2	0.006734007	
29019.49	2	0.006734007	
29062.49	5	0.016835017	
29105.49	3	0.01010101	
29148.49	1	0.003367003	
29191.49	2	0.006734007	
29234.49	2	0.006734007	
29277.49	0	0	
29320.49	1	0.003367003	
29363.49	0	0	
29406.49	1	0.003367003	
29449.49	0	0	
29492.49	4	0.013468013	
29535.49	0	0	
29578.49	1	0.003367003	
29621.49	2	0.006734007	
29664.49	0	0	
29707.49	1	0.003367003	
29750.49	2	0.006734007	
29793.49	1	0.003367003	
29836.49	1	0.003367003	
29879.49	2	0.006734007	
29922.49	3	0.01010101	
29965.49	2	0.006734007	
30008.49	1	0.003367003	
30051.49	2	0.006734007	
30094.49	3	0.01010101	
30137.49	1	0.003367003	
30180.49	2	0.006734007	
30223.49	1	0.003367003	
30266.49	1	0.003367003	
30309.49	1	0.003367003	
30352.49	1	0.003367003	

30395.49	1	0.003367003	
30438.49	0	0	
30481.49	0	0	
30524.49	1	0.003367003	
30567.49	1	0.003367003	
30610.49	2	0.006734007	
30653.49	1	0.003367003	
30696.49	4	0.013468013	
30739.49	0	0	
30782.49	0	0	
30825.49	2	0.006734007	
30868.49	0	0	
30911.49	0	0	
30954.49	1	0.003367003	
30997.49	0	0	
31040.49	2	0.006734007	
31083.49	2	0.006734007	
31126.49	1	0.003367003	
31169.49	0	0	
31212.49	3	0.01010101	
31255.49	0	0	
31298.49	1	0.003367003	
31341.49	1	0.003367003	
31384.49	1	0.003367003	
31427.49	1	0.003367003	
31470.49	1	0.003367003	
31513.49	1	0.003367003	
31556.49	1	0.003367003	
31599.49	0	0	
31642.49	1	0.003367003	
31685.49	1	0.003367003	
31728.49	2	0.006734007	
31771.49	1	0.003367003	
31814.49	1	0.003367003	
31857.49	0	0	
31900.49	1	0.003367003	
31943.49	1	0.003367003	
31986.49	1	0.003367003	
32029.49	1	0.003367003	
32072.49	2	0.006734007	
32115.49	1	0.003367003	

32158.49	1	0.003367003	
32201.49	0	0	
32244.49	1	0.003367003	
32287.49	0	0	
32330.49	1	0.003367003	
32373.49	0	0	
32416.49	3	0.01010101	
32459.49	0	0	
32502.49	2	0.006734007	
32545.49	1	0.003367003	
32588.49	1	0.003367003	
32631.49	2	0.006734007	
32674.49	4	0.013468013	
32717.49	2	0.006734007	
32760.49	1	0.003367003	
32803.49	0	0	
32846.49	0	0	
32889.49	0	0	
32932.49	0	0	
32975.49	2	0.006734007	
33018.49	1	0.003367003	
33061.49	0	0	
33104.49	1	0.003367003	
33147.49	2	0.006734007	
33190.49	1	0.003367003	
33233.49	0	0	
33276.49	0	0	
33319.49	3	0.01010101	
33362.49	0	0	
33405.49	2	0.006734007	
33448.49	1	0.003367003	
33491.49	1	0.003367003	
33534.49	3	0.01010101	
33577.49	1	0.003367003	
33620.49	0	0	
33663.49	0	0	
33706.49	1	0.003367003	
33749.49	1	0.003367003	
33792.49	0	0	
33835.49	0	0	
33878.49	0	0	

33921.49	2	0.006734007	
33964.49	0	0	
34007.49	0	0	
34050.49	0	0	
34093.49	1	0.003367003	
34136.49	1	0.003367003	
34179.49	0	0	
34222.49	0	0	
34265.49	2	0.006734007	
34308.49	1	0.003367003	
34351.49	0	0	
34394.49	0	0	
34437.49	1	0.003367003	
34480.49	1	0.003367003	
34523.49	3	0.01010101	
34566.49	0	0	
34609.49	2	0.006734007	
34652.49	4	0.013468013	
34695.49	2	0.006734007	
34738.49	1	0.003367003	
34781.49	1	0.003367003	
34824.49	2	0.006734007	
34867.49	0	0	
34910.49	1	0.003367003	
34953.49	1	0.003367003	
34996.49	1	0.003367003	
35039.49	3	0.01010101	
35082.49	0	0	
35125.49	2	0.006734007	
35168.49	0	0	
35211.49	0	0	
35254.49	4	0.013468013	
35297.49	0	0	
35340.49	1	0.003367003	
35383.49	1	0.003367003	
35426.49	0	0	
35469.49	1	0.003367003	
35512.49	0	0	
35555.49	0	0	
35598.49	1	0.003367003	
35641.49	0	0	



35684.49	0	0	
35727.49	0	0	
35770.49	0	0	
35813.49	1	0.003367003	
35856.49	0	0	
35899.49	0	0	
35942.49	0	0	
35985.49	0	0	
36028.49	1	0.003367003	
36071.49	2	0.006734007	
36114.49	0	0	
36157.49	2	0.006734007	
36200.49	1	0.003367003	
36243.49	0	0	
36286.49	0	0	
36329.49	0	0	
36372.49	1	0.003367003	
36415.49	1	0.003367003	
36458.49	1	0.003367003	
36501.49	0	0	
36544.49	0	0	
36587.49	2	0.006734007	
36630.49	0	0	
36673.49	1	0.003367003	
36716.49	0	0	
36759.49	0	0	
36802.49	0	0	
36845.49	0	0	
36888.49	1	0.003367003	
36931.49	0	0	
36974.49	0	0	
37017.49	0	0	
37060.49	0	0	
37103.49	0	0	
37146.49	0	0	
37189.49	0	0	
37232.49	1	0.003367003	
37275.49	1	0.003367003	
37318.49	0	0	
37361.49	1	0.003367003	
37404.49	1	0.003367003	

37447.49	1	0.003367003	
37490.49	0	0	
37533.49	1	0.003367003	
37576.49	1	0.003367003	
37619.49	0	0	
37662.49	0	0	
37705.49	1	0.003367003	
37748.49	1	0.003367003	
37791.49	0	0	
37834.49	1	0.003367003	
37877.49	1	0.003367003	
37920.49	2	0.006734007	
37963.49	0	0	
38006.49	0	0	
38049.49	2	0.006734007	
38092.49	0	0	
38135.49	0	0	
38178.49	0	0	
38221.49	0	0	
38264.49	2	0.006734007	
38307.49	0	0	
38350.49	2	0.006734007	
38393.49	0	0	
38436.49	0	0	
38479.49	2	0.006734007	
38522.49	1	0.003367003	
38565.49	0	0	
38608.49	0	0	
38651.49	2	0.006734007	
38694.49	0	0	
38737.49	0	0	
38780.49	1	0.003367003	
38823.49	1	0.003367003	
38866.49	0	0	
38909.49	0	0	
38952.49	1	0.003367003	
38995.49	1	0.003367003	
39038.49	2	0.006734007	
39081.49	0	0	
39124.49	0	0	
39167.49	0	0	

39210.49	0	0	
39253.49	0	0	
39296.49	1	0.003367003	
39339.49	0	0	
39382.49	1	0.003367003	
39425.49	0	0	
39468.49	0	0	
39511.49	1	0.003367003	
39554.49	0	0	
39597.49	0	0	
39640.49	2	0.006734007	
39683.49	0	0	
39726.49	0	0	
39769.49	1	0.003367003	
39812.49	0	0	
39855.49	2	0.006734007	
39898.49	0	0	
39941.49	0	0	
39984.49	0	0	
40027.49	0	0	
40070.49	1	0.003367003	
40113.49	0	0	
40156.49	0	0	
40199.49	0	0	
40242.49	1	0.003367003	
40285.49	2	0.006734007	
40328.49	0	0	
40371.49	0	0	
40414.49	0	0	
40457.49	0	0	
40500.49	0	0	
40543.49	1	0.003367003	
40586.49	1	0.003367003	
40629.49	0	0	
40672.49	0	0	
40715.49	0	0	
40758.49	1	0.003367003	
40801.49	0	0	
40844.49	0	0	
40887.49	0	0	
40930.49	2	0.006734007	

40973.49	1	0.003367003	
41016.49	1	0.003367003	
41059.49	0	0	
41102.49	0	0	
41145.49	0	0	
41188.49	0	0	
41231.49	0	0	
41274.49	0	0	
41317.49	0	0	
41360.49	0	0	
41403.49	1	0.003367003	
41446.49	1	0.003367003	
41489.49	1	0.003367003	
41532.49	1	0.003367003	
41575.49	0	0	
41618.49	1	0.003367003	
41661.49	1	0.003367003	
41704.49	1	0.003367003	
41747.49	1	0.003367003	
41790.49	0	0	
41833.49	0	0	
41876.49	1	0.003367003	
41919.49	2	0.006734007	
41962.49	1	0.003367003	
42005.49	0	0	
42048.49	0	0	
42091.49	2	0.006734007	
42134.49	1	0.003367003	
42177.49	0	0	
42220.49	0	0	
42263.49	0	0	
42306.49	0	0	
42349.49	0	0	
42392.49	0	0	
42435.49	1	0.003367003	
42478.49	0	0	
42521.49	1	0.003367003	
42564.49	0	0	
42607.49	1	0.003367003	
42650.49	0	0	
42693.49	0	0	

42736.49	0	0	
42779.49	0	0	
42822.49	0	0	
42865.49	0	0	
42908.49	0	0	
42951.49	0	0	
42994.49	0	0	
43037.49	0	0	
43080.49	1	0.003367003	
43123.49	0	0	
43166.49	0	0	
43209.49	1	0.003367003	
43252.49	0	0	
43295.49	0	0	
43338.49	0	0	
43381.49	0	0	
43424.49	2	0.006734007	
43467.49	1	0.003367003	
43510.49	0	0	
43553.49	1	0.003367003	
43596.49	0	0	
43639.49	1	0.003367003	
43682.49	0	0	
43725.49	0	0	
43768.49	1	0.003367003	
43811.49	0	0	
43854.49	0	0	

B002

Normalized Counts

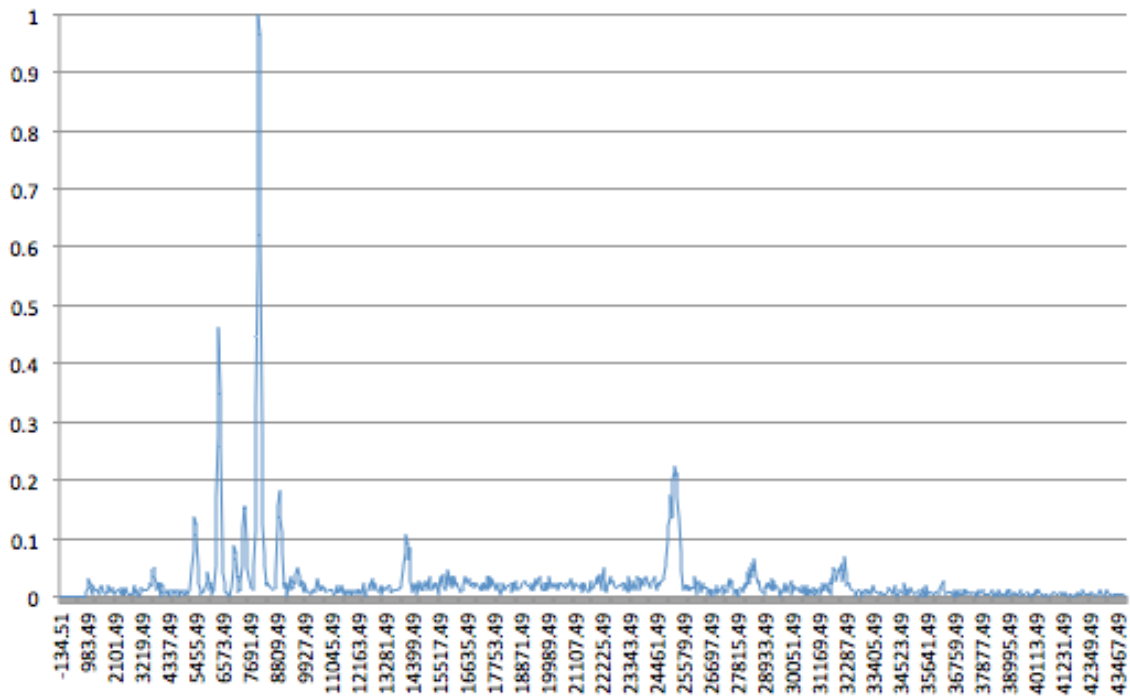


Figure 28. B002 Normalized XRF Counts

Table 13. B002 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	

467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	3	0.008264463	
1026.49	6	0.016528926	
1069.49	11	0.03030303	Zn
1112.49	9	0.024793388	
1155.49	6	0.016528926	
1198.49	2	0.005509642	
1241.49	7	0.019283747	Ge
1284.49	4	0.011019284	
1327.49	5	0.013774105	As
1370.49	4	0.011019284	As
1413.49	4	0.011019284	As
1456.49	2	0.005509642	
1499.49	4	0.011019284	Br
1542.49	4	0.011019284	Br
1585.49	7	0.019283747	Br
1628.49	6	0.016528926	
1671.49	3	0.008264463	
1714.49	4	0.011019284	Rb
1757.49	2	0.005509642	
1800.49	2	0.005509642	
1843.49	4	0.011019284	
1886.49	7	0.019283747	Sr
1929.49	3	0.008264463	
1972.49	4	0.011019284	
2015.49	6	0.016528926	Y
2058.49	4	0.011019284	
2101.49	2	0.005509642	
2144.49	2	0.005509642	
2187.49	5	0.013774105	Nb

2230.49	4	0.011019284	Nb
2273.49	4	0.011019284	Nb
2316.49	5	0.013774105	Nb
2359.49	2	0.005509642	
2402.49	6	0.016528926	Mo
2445.49	2	0.005509642	
2488.49	5	0.013774105	Tc
2531.49	2	0.005509642	
2574.49	6	0.016528926	Ru
2617.49	6	0.016528926	Ru
2660.49	5	0.013774105	
2703.49	2	0.005509642	
2746.49	3	0.008264463	
2789.49	2	0.005509642	
2832.49	1	0.002754821	
2875.49	2	0.005509642	
2918.49	7	0.019283747	Ag
2961.49	2	0.005509642	
3004.49	5	0.013774105	
3047.49	6	0.016528926	Ag
3090.49	5	0.013774105	
3133.49	0	0	
3176.49	3	0.008264463	
3219.49	6	0.016528926	Ag
3262.49	5	0.013774105	
3305.49	6	0.016528926	In
3348.49	4	0.011019284	
3391.49	5	0.013774105	In
3434.49	3	0.008264463	
3477.49	5	0.013774105	
3520.49	6	0.016528926	
3563.49	7	0.019283747	
3606.49	9	0.024793388	Sn
3649.49	7	0.019283747	
3692.49	16	0.044077135	
3735.49	18	0.049586777	Sn
3778.49	12	0.033057851	
3821.49	9	0.024793388	
3864.49	4	0.011019284	
3907.49	5	0.013774105	
3950.49	8	0.022038567	Te



3993.49	0	0	
4036.49	7	0.019283747	
4079.49	9	0.024793388	Te
4122.49	7	0.019283747	
4165.49	3	0.008264463	
4208.49	4	0.011019284	Sc
4251.49	1	0.002754821	
4294.49	1	0.002754821	
4337.49	4	0.011019284	Sc
4380.49	0	0	
4423.49	3	0.008264463	
4466.49	3	0.008264463	
4509.49	5	0.013774105	Ti
4552.49	5	0.013774105	Ti
4595.49	1	0.002754821	
4638.49	1	0.002754821	
4681.49	5	0.013774105	Cs
4724.49	3	0.008264463	
4767.49	0	0	
4810.49	5	0.013774105	Ce
4853.49	5	0.013774105	Ti
4896.49	3	0.008264463	
4939.49	4	0.011019284	Ti
4982.49	2	0.005509642	
5025.49	1	0.002754821	
5068.49	4	0.011019284	Ti
5111.49	3	0.008264463	
5154.49	2	0.005509642	
5197.49	4	0.011019284	Nd
5240.49	4	0.011019284	Nd
5283.49	4	0.011019284	Nd
5326.49	18	0.049586777	
5369.49	29	0.079889807	
5412.49	50	0.137741047	Cr
5455.49	46	0.126721763	
5498.49	39	0.107438017	
5541.49	18	0.049586777	
5584.49	9	0.024793388	
5627.49	5	0.013774105	
5670.49	4	0.011019284	
5713.49	1	0.002754821	

5756.49	3	0.008264463	
5799.49	3	0.008264463	
5842.49	6	0.016528926	Nd
5885.49	5	0.013774105	
5928.49	10	0.027548209	
5971.49	15	0.041322314	Cr
6014.49	9	0.024793388	
6057.49	4	0.011019284	
6100.49	9	0.024793388	Cr
6143.49	1	0.002754821	
6186.49	4	0.011019284	
6229.49	6	0.016528926	
6272.49	19	0.052341598	
6315.49	62	0.170798898	
6358.49	100	0.275482094	
6401.49	167	0.460055096	Fe
6444.49	167	0.460055096	Fe
6487.49	126	0.347107438	
6530.49	94	0.258953168	
6573.49	26	0.071625344	
6616.49	15	0.041322314	
6659.49	8	0.022038567	
6702.49	3	0.008264463	
6745.49	3	0.008264463	
6788.49	3	0.008264463	
6831.49	2	0.005509642	
6874.49	0	0	
6917.49	6	0.016528926	Co
6960.49	6	0.016528926	Co
7003.49	18	0.049586777	
7046.49	32	0.08815427	Fe
7089.49	27	0.074380165	
7132.49	24	0.066115702	
7175.49	11	0.03030303	
7218.49	13	0.035812672	Fe
7261.49	3	0.008264463	
7304.49	5	0.013774105	
7347.49	10	0.027548209	
7390.49	20	0.055096419	
7433.49	43	0.1184573	
7476.49	57	0.157024793	Ni

7519.49	55	0.151515152	
7562.49	33	0.090909091	
7605.49	18	0.049586777	
7648.49	11	0.03030303	
7691.49	10	0.027548209	
7734.49	6	0.016528926	
7777.49	5	0.013774105	
7820.49	4	0.011019284	
7863.49	20	0.055096419	
7906.49	41	0.112947658	
7949.49	118	0.325068871	
7992.49	207	0.570247934	
8035.49	287	0.790633609	
8078.49	363	1	Cu
8121.49	350	0.964187328	
8164.49	225	0.619834711	
8207.49	103	0.283746556	
8250.49	45	0.123966942	
8293.49	26	0.071625344	
8336.49	20	0.055096419	
8379.49	7	0.019283747	
8422.49	9	0.024793388	W
8465.49	8	0.022038567	
8508.49	9	0.024793388	W
8551.49	6	0.016528926	
8594.49	5	0.013774105	
8637.49	4	0.011019284	Zn
8680.49	4	0.011019284	Zn
8723.49	6	0.016528926	
8766.49	12	0.033057851	
8809.49	14	0.038567493	
8852.49	45	0.123966942	
8895.49	56	0.154269972	
8938.49	66	0.181818182	Cu
8981.49	50	0.137741047	
9024.49	40	0.110192837	
9067.49	27	0.074380165	
9110.49	6	0.016528926	
9153.49	8	0.022038567	Cu
9196.49	5	0.013774105	
9239.49	0	0	

9282.49	8	0.022038567	Ga
9325.49	6	0.016528926	
9368.49	13	0.035812672	Ta
9411.49	4	0.011019284	
9454.49	6	0.016528926	
9497.49	10	0.027548209	Zn
9540.49	8	0.022038567	
9583.49	11	0.03030303	
9626.49	14	0.038567493	Au
9669.49	13	0.035812672	
9712.49	18	0.049586777	Au
9755.49	13	0.035812672	
9798.49	7	0.019283747	
9841.49	10	0.027548209	Au
9884.49	7	0.019283747	
9927.49	3	0.008264463	
9970.49	8	0.022038567	Ge
10013.49	7	0.019283747	
10056.49	5	0.013774105	
10099.49	6	0.016528926	Ge
10142.49	5	0.013774105	
10185.49	1	0.002754821	
10228.49	1	0.002754821	
10271.49	1	0.002754821	
10314.49	5	0.013774105	Ga
10357.49	3	0.008264463	
10400.49	3	0.008264463	
10443.49	5	0.013774105	
10486.49	11	0.03030303	
10529.49	12	0.033057851	Ga
10572.49	10	0.027548209	
10615.49	4	0.011019284	
10658.49	7	0.019283747	Pb
10701.49	4	0.011019284	
10744.49	6	0.016528926	Ge
10787.49	5	0.013774105	
10830.49	3	0.008264463	
10873.49	2	0.005509642	
10916.49	3	0.008264463	
10959.49	4	0.011019284	
11002.49	3	0.008264463	

11045.49	4	0.011019284	
11088.49	5	0.013774105	
11131.49	2	0.005509642	
11174.49	2	0.005509642	
11217.49	3	0.008264463	
11260.49	2	0.005509642	
11303.49	7	0.019283747	
11346.49	3	0.008264463	
11389.49	5	0.013774105	
11432.49	3	0.008264463	
11475.49	2	0.005509642	
11518.49	7	0.019283747	
11561.49	2	0.005509642	
11604.49	5	0.013774105	
11647.49	5	0.013774105	
11690.49	2	0.005509642	
11733.49	4	0.011019284	
11776.49	3	0.008264463	
11819.49	3	0.008264463	
11862.49	2	0.005509642	
11905.49	3	0.008264463	
11948.49	5	0.013774105	
11991.49	1	0.002754821	
12034.49	1	0.002754821	
12077.49	1	0.002754821	
12120.49	4	0.011019284	
12163.49	2	0.005509642	
12206.49	3	0.008264463	
12249.49	4	0.011019284	Se
12292.49	4	0.011019284	Fr
12335.49	2	0.005509642	
12378.49	8	0.022038567	Se
12421.49	6	0.016528926	
12464.49	0	0	
12507.49	3	0.008264463	
12550.49	3	0.008264463	
12593.49	5	0.013774105	
12636.49	9	0.024793388	Pb
12679.49	7	0.019283747	
12722.49	11	0.03030303	Se
12765.49	5	0.013774105	

12808.49	6	0.016528926	
12851.49	9	0.024793388	Ac
12894.49	8	0.022038567	
12937.49	5	0.013774105	
12980.49	6	0.016528926	Th
13023.49	4	0.011019284	
13066.49	3	0.008264463	
13109.49	7	0.019283747	Rb
13152.49	2	0.005509642	
13195.49	3	0.008264463	
13238.49	6	0.016528926	Rb
13281.49	5	0.013774105	
13324.49	4	0.011019284	
13367.49	7	0.019283747	Rb
13410.49	7	0.019283747	Rb
13453.49	7	0.019283747	Rb
13496.49	7	0.019283747	Rb
13539.49	3	0.008264463	
13582.49	3	0.008264463	
13625.49	4	0.011019284	
13668.49	5	0.013774105	Rb
13711.49	5	0.013774105	Rb
13754.49	6	0.016528926	Rb
13797.49	4	0.011019284	At
13840.49	4	0.011019284	Sr
13883.49	4	0.011019284	Sr
13926.49	6	0.016528926	
13969.49	9	0.024793388	
14012.49	18	0.049586777	
14055.49	20	0.055096419	
14098.49	28	0.077134986	
14141.49	39	0.107438017	Sr
14184.49	33	0.090909091	
14227.49	24	0.066115702	
14270.49	31	0.085399449	Sr
14313.49	24	0.066115702	
14356.49	10	0.027548209	
14399.49	5	0.013774105	
14442.49	3	0.008264463	
14485.49	8	0.022038567	Rn
14528.49	5	0.013774105	

14571.49	7	0.019283747	Sr
14614.49	2	0.005509642	
14657.49	1	0.002754821	
14700.49	10	0.027548209	Y
14743.49	5	0.013774105	
14786.49	7	0.019283747	Fr
14829.49	5	0.013774105	
14872.49	9	0.024793388	Y
14915.49	7	0.019283747	
14958.49	10	0.027548209	Y
15001.49	7	0.019283747	
15044.49	4	0.011019284	Y
15087.49	4	0.011019284	Y
15130.49	13	0.035812672	Y
15173.49	6	0.016528926	
15216.49	5	0.013774105	
15259.49	4	0.011019284	
15302.49	8	0.022038567	Zr
15345.49	6	0.016528926	
15388.49	5	0.013774105	
15431.49	9	0.024793388	Zr
15474.49	1	0.002754821	
15517.49	5	0.013774105	
15560.49	13	0.035812672	Zr
15603.49	8	0.022038567	
15646.49	14	0.038567493	Zr
15689.49	7	0.019283747	Zr
15732.49	7	0.019283747	Sr
15775.49	5	0.013774105	
15818.49	14	0.038567493	Zr
15861.49	9	0.024793388	
15904.49	16	0.044077135	Sr
15947.49	11	0.03030303	
15990.49	7	0.019283747	
16033.49	12	0.033057851	Sr
16076.49	6	0.016528926	
16119.49	12	0.033057851	Sr
16162.49	11	0.03030303	
16205.49	7	0.019283747	
16248.49	9	0.024793388	Sr
16291.49	6	0.016528926	Th

16334.49	6	0.016528926	Th
16377.49	3	0.008264463	
16420.49	2	0.005509642	
16463.49	5	0.013774105	
16506.49	7	0.019283747	
16549.49	6	0.016528926	
16592.49	13	0.035812672	
16635.49	8	0.022038567	
16678.49	8	0.022038567	
16721.49	9	0.024793388	
16764.49	11	0.03030303	
16807.49	7	0.019283747	
16850.49	7	0.019283747	
16893.49	6	0.016528926	
16936.49	8	0.022038567	
16979.49	6	0.016528926	
17022.49	7	0.019283747	
17065.49	9	0.024793388	
17108.49	7	0.019283747	
17151.49	7	0.019283747	
17194.49	6	0.016528926	
17237.49	4	0.011019284	
17280.49	8	0.022038567	
17323.49	5	0.013774105	
17366.49	6	0.016528926	
17409.49	8	0.022038567	
17452.49	5	0.013774105	
17495.49	6	0.016528926	
17538.49	13	0.035812672	
17581.49	6	0.016528926	
17624.49	13	0.035812672	
17667.49	7	0.019283747	
17710.49	11	0.03030303	
17753.49	8	0.022038567	
17796.49	7	0.019283747	
17839.49	7	0.019283747	
17882.49	5	0.013774105	
17925.49	8	0.022038567	
17968.49	6	0.016528926	
18011.49	6	0.016528926	
18054.49	2	0.005509642	



18097.49	6	0.016528926	
18140.49	8	0.022038567	
18183.49	8	0.022038567	
18226.49	8	0.022038567	
18269.49	5	0.013774105	
18312.49	7	0.019283747	
18355.49	7	0.019283747	
18398.49	7	0.019283747	
18441.49	7	0.019283747	
18484.49	9	0.024793388	
18527.49	3	0.008264463	
18570.49	8	0.022038567	
18613.49	4	0.011019284	
18656.49	10	0.027548209	
18699.49	7	0.019283747	
18742.49	8	0.022038567	
18785.49	4	0.011019284	
18828.49	4	0.011019284	
18871.49	6	0.016528926	
18914.49	8	0.022038567	
18957.49	7	0.019283747	
19000.49	9	0.024793388	
19043.49	10	0.027548209	
19086.49	11	0.03030303	
19129.49	7	0.019283747	
19172.49	7	0.019283747	
19215.49	7	0.019283747	
19258.49	7	0.019283747	
19301.49	5	0.013774105	
19344.49	9	0.024793388	
19387.49	5	0.013774105	
19430.49	4	0.011019284	
19473.49	11	0.03030303	
19516.49	7	0.019283747	
19559.49	7	0.019283747	
19602.49	10	0.027548209	
19645.49	12	0.033057851	
19688.49	9	0.024793388	
19731.49	5	0.013774105	
19774.49	7	0.019283747	
19817.49	8	0.022038567	

19860.49	9	0.024793388	
19903.49	5	0.013774105	
19946.49	9	0.024793388	
19989.49	4	0.011019284	
20032.49	8	0.022038567	
20075.49	12	0.033057851	
20118.49	11	0.03030303	
20161.49	6	0.016528926	
20204.49	8	0.022038567	
20247.49	7	0.019283747	
20290.49	8	0.022038567	
20333.49	6	0.016528926	
20376.49	9	0.024793388	
20419.49	5	0.013774105	
20462.49	8	0.022038567	
20505.49	9	0.024793388	
20548.49	9	0.024793388	
20591.49	9	0.024793388	
20634.49	7	0.019283747	
20677.49	7	0.019283747	
20720.49	6	0.016528926	
20763.49	6	0.016528926	
20806.49	9	0.024793388	
20849.49	7	0.019283747	
20892.49	6	0.016528926	
20935.49	8	0.022038567	
20978.49	11	0.03030303	
21021.49	10	0.027548209	
21064.49	4	0.011019284	
21107.49	5	0.013774105	
21150.49	9	0.024793388	
21193.49	7	0.019283747	
21236.49	8	0.022038567	
21279.49	6	0.016528926	
21322.49	6	0.016528926	
21365.49	8	0.022038567	
21408.49	6	0.016528926	
21451.49	3	0.008264463	
21494.49	7	0.019283747	
21537.49	9	0.024793388	
21580.49	10	0.027548209	

21623.49	5	0.013774105	
21666.49	4	0.011019284	
21709.49	3	0.008264463	
21752.49	10	0.027548209	
21795.49	4	0.011019284	
21838.49	6	0.016528926	
21881.49	7	0.019283747	
21924.49	9	0.024793388	
21967.49	9	0.024793388	
22010.49	13	0.035812672	
22053.49	9	0.024793388	
22096.49	14	0.038567493	Ag
22139.49	12	0.033057851	
22182.49	11	0.03030303	
22225.49	5	0.013774105	
22268.49	8	0.022038567	
22311.49	18	0.049586777	Ag
22354.49	11	0.03030303	
22397.49	3	0.008264463	
22440.49	5	0.013774105	Ag
22483.49	5	0.013774105	Ru
22526.49	5	0.013774105	Ag
22569.49	13	0.035812672	Rh
22612.49	8	0.022038567	Rh
22655.49	8	0.022038567	Rh
22698.49	10	0.027548209	Rh
22741.49	6	0.016528926	
22784.49	7	0.019283747	Rh
22827.49	7	0.019283747	Rh
22870.49	6	0.016528926	
22913.49	5	0.013774105	
22956.49	7	0.019283747	Rh
22999.49	7	0.019283747	Rh
23042.49	8	0.022038567	Cd
23085.49	8	0.022038567	Cd
23128.49	9	0.024793388	Cd
23171.49	5	0.013774105	
23214.49	9	0.024793388	Cd
23257.49	7	0.019283747	
23300.49	3	0.008264463	
23343.49	13	0.035812672	Cd

23386.49	4	0.011019284	
23429.49	5	0.013774105	
23472.49	8	0.022038567	
23515.49	10	0.027548209	Cd
23558.49	9	0.024793388	
23601.49	5	0.013774105	
23644.49	9	0.024793388	
23687.49	13	0.035812672	Pd
23730.49	13	0.035812672	Pd
23773.49	11	0.03030303	
23816.49	5	0.013774105	
23859.49	6	0.016528926	
23902.49	11	0.03030303	Pd
23945.49	7	0.019283747	
23988.49	10	0.027548209	
24031.49	11	0.03030303	
24074.49	13	0.035812672	In
24117.49	8	0.022038567	In
24160.49	8	0.022038567	In
24203.49	6	0.016528926	
24246.49	8	0.022038567	
24289.49	9	0.024793388	
24332.49	10	0.027548209	
24375.49	13	0.035812672	In
24418.49	8	0.022038567	
24461.49	4	0.011019284	
24504.49	7	0.019283747	
24547.49	9	0.024793388	In
24590.49	7	0.019283747	
24633.49	9	0.024793388	
24676.49	10	0.027548209	In
24719.49	9	0.024793388	
24762.49	11	0.03030303	
24805.49	13	0.035812672	
24848.49	19	0.052341598	
24891.49	22	0.060606061	
24934.49	36	0.099173554	
24977.49	44	0.121212121	
25020.49	49	0.134986226	
25063.49	63	0.173553719	Ag
25106.49	50	0.137741047	

25149.49	73	0.201101928	
25192.49	78	0.214876033	
25235.49	81	0.223140496	Sn
25278.49	74	0.203856749	
25321.49	77	0.212121212	Sn
25364.49	62	0.170798898	
25407.49	50	0.137741047	
25450.49	51	0.140495868	Sn
25493.49	28	0.077134986	
25536.49	17	0.046831956	
25579.49	16	0.044077135	
25622.49	5	0.013774105	
25665.49	7	0.019283747	Sn
25708.49	7	0.019283747	Sn
25751.49	4	0.011019284	
25794.49	7	0.019283747	Sn
25837.49	4	0.011019284	
25880.49	6	0.016528926	Cd
25923.49	5	0.013774105	Cd
25966.49	5	0.013774105	Sn
26009.49	6	0.016528926	
26052.49	13	0.035812672	Cd
26095.49	3	0.008264463	
26138.49	1	0.002754821	
26181.49	7	0.019283747	Cd
26224.49	7	0.019283747	Sb
26267.49	10	0.027548209	Cd
26310.49	3	0.008264463	
26353.49	4	0.011019284	
26396.49	8	0.022038567	Sb
26439.49	6	0.016528926	
26482.49	5	0.013774105	Sb
26525.49	5	0.013774105	Sb
26568.49	6	0.016528926	Sb
26611.49	2	0.005509642	
26654.49	3	0.008264463	
26697.49	5	0.013774105	Sb
26740.49	0	0	
26783.49	4	0.011019284	
26826.49	5	0.013774105	Sb
26869.49	5	0.013774105	Sb

26912.49	2	0.005509642	
26955.49	7	0.019283747	-
26998.49	5	0.013774105	-
27041.49	5	0.013774105	Sb
27084.49	3	0.008264463	
27127.49	3	0.008264463	
27170.49	4	0.011019284	
27213.49	7	0.019283747	Sb
27256.49	1	0.002754821	
27299.49	1	0.002754821	
27342.49	5	0.013774105	-
27385.49	3	0.008264463	
27428.49	7	0.019283747	
27471.49	11	0.03030303	-
27514.49	7	0.019283747	
27557.49	10	0.027548209	Sn
27600.49	6	0.016528926	
27643.49	4	0.011019284	
27686.49	3	0.008264463	
27729.49	2	0.005509642	
27772.49	3	0.008264463	
27815.49	5	0.013774105	-
27858.49	0	0	
27901.49	4	0.011019284	-
27944.49	3	0.008264463	
27987.49	6	0.016528926	-
28030.49	3	0.008264463	
28073.49	4	0.011019284	
28116.49	9	0.024793388	Sn
28159.49	6	0.016528926	
28202.49	8	0.022038567	
28245.49	15	0.041322314	Sn
28288.49	8	0.022038567	
28331.49	18	0.049586777	-
28374.49	13	0.035812672	
28417.49	21	0.05785124	Sn
28460.49	17	0.046831956	
28503.49	22	0.060606061	
28546.49	24	0.066115702	Sn
28589.49	13	0.035812672	
28632.49	14	0.038567493	Sn

28675.49	8	0.022038567	
28718.49	10	0.027548209	
28761.49	11	0.03030303	Sn
28804.49	5	0.013774105	
28847.49	4	0.011019284	
28890.49	6	0.016528926	Sn
28933.49	1	0.002754821	
28976.49	6	0.016528926	
29019.49	8	0.022038567	Sb
29062.49	6	0.016528926	
29105.49	5	0.013774105	
29148.49	8	0.022038567	-
29191.49	5	0.013774105	
29234.49	11	0.03030303	-
29277.49	6	0.016528926	
29320.49	10	0.027548209	-
29363.49	5	0.013774105	
29406.49	7	0.019283747	-
29449.49	6	0.016528926	-
29492.49	6	0.016528926	-
29535.49	6	0.016528926	-
29578.49	0	0	
29621.49	3	0.008264463	
29664.49	5	0.013774105	Sb
29707.49	3	0.008264463	
29750.49	3	0.008264463	
29793.49	8	0.022038567	Sb
29836.49	3	0.008264463	
29879.49	5	0.013774105	Sb
29922.49	4	0.011019284	
29965.49	6	0.016528926	
30008.49	10	0.027548209	Sb
30051.49	4	0.011019284	
30094.49	2	0.005509642	
30137.49	7	0.019283747	
30180.49	8	0.022038567	Sb
30223.49	4	0.011019284	
30266.49	5	0.013774105	
30309.49	6	0.016528926	
30352.49	6	0.016528926	
30395.49	3	0.008264463	

30438.49	5	0.013774105	
30481.49	3	0.008264463	
30524.49	7	0.019283747	
30567.49	1	0.002754821	
30610.49	1	0.002754821	
30653.49	7	0.019283747	
30696.49	2	0.005509642	
30739.49	4	0.011019284	
30782.49	2	0.005509642	
30825.49	1	0.002754821	
30868.49	3	0.008264463	
30911.49	4	0.011019284	
30954.49	1	0.002754821	
30997.49	6	0.016528926	
31040.49	4	0.011019284	
31083.49	1	0.002754821	
31126.49	4	0.011019284	
31169.49	4	0.011019284	
31212.49	6	0.016528926	
31255.49	2	0.005509642	
31298.49	5	0.013774105	
31341.49	8	0.022038567	
31384.49	4	0.011019284	
31427.49	6	0.016528926	
31470.49	5	0.013774105	
31513.49	8	0.022038567	
31556.49	3	0.008264463	-
31599.49	5	0.013774105	
31642.49	1	0.002754821	
31685.49	11	0.03030303	
31728.49	9	0.024793388	
31771.49	15	0.041322314	
31814.49	18	0.049586777	
31857.49	16	0.044077135	
31900.49	10	0.027548209	
31943.49	9	0.024793388	
31986.49	9	0.024793388	
32029.49	18	0.049586777	
32072.49	16	0.044077135	
32115.49	21	0.05785124	
32158.49	10	0.027548209	



32201.49	17	0.046831956	
32244.49	25	0.068870523	
32287.49	14	0.038567493	
32330.49	7	0.019283747	
32373.49	7	0.019283747	
32416.49	8	0.022038567	
32459.49	9	0.024793388	
32502.49	4	0.011019284	
32545.49	3	0.008264463	
32588.49	4	0.011019284	
32631.49	5	0.013774105	
32674.49	3	0.008264463	
32717.49	0	0	
32760.49	4	0.011019284	
32803.49	3	0.008264463	
32846.49	4	0.011019284	
32889.49	4	0.011019284	
32932.49	0	0	
32975.49	3	0.008264463	
33018.49	4	0.011019284	
33061.49	3	0.008264463	
33104.49	4	0.011019284	
33147.49	1	0.002754821	
33190.49	3	0.008264463	
33233.49	5	0.013774105	
33276.49	3	0.008264463	
33319.49	3	0.008264463	
33362.49	1	0.002754821	
33405.49	1	0.002754821	
33448.49	7	0.019283747	
33491.49	3	0.008264463	
33534.49	4	0.011019284	
33577.49	4	0.011019284	
33620.49	3	0.008264463	
33663.49	1	0.002754821	
33706.49	3	0.008264463	
33749.49	3	0.008264463	
33792.49	2	0.005509642	
33835.49	2	0.005509642	
33878.49	2	0.005509642	
33921.49	1	0.002754821	

33964.49	2	0.005509642	
34007.49	4	0.011019284	
34050.49	4	0.011019284	
34093.49	6	0.016528926	
34136.49	4	0.011019284	
34179.49	3	0.008264463	
34222.49	2	0.005509642	
34265.49	2	0.005509642	
34308.49	7	0.019283747	
34351.49	3	0.008264463	
34394.49	0	0	
34437.49	1	0.002754821	
34480.49	3	0.008264463	
34523.49	5	0.013774105	
34566.49	5	0.013774105	
34609.49	4	0.011019284	
34652.49	2	0.005509642	
34695.49	8	0.022038567	
34738.49	5	0.013774105	
34781.49	2	0.005509642	
34824.49	4	0.011019284	
34867.49	2	0.005509642	
34910.49	2	0.005509642	
34953.49	2	0.005509642	
34996.49	6	0.016528926	
35039.49	3	0.008264463	
35082.49	2	0.005509642	
35125.49	1	0.002754821	
35168.49	2	0.005509642	
35211.49	3	0.008264463	
35254.49	2	0.005509642	
35297.49	5	0.013774105	
35340.49	0	0	
35383.49	1	0.002754821	
35426.49	2	0.005509642	
35469.49	6	0.016528926	
35512.49	0	0	
35555.49	3	0.008264463	
35598.49	0	0	
35641.49	7	0.019283747	
35684.49	1	0.002754821	

35727.49	2	0.005509642	
35770.49	3	0.008264463	
35813.49	2	0.005509642	
35856.49	2	0.005509642	
35899.49	2	0.005509642	
35942.49	2	0.005509642	
35985.49	1	0.002754821	
36028.49	3	0.008264463	
36071.49	2	0.005509642	
36114.49	1	0.002754821	
36157.49	5	0.013774105	
36200.49	4	0.011019284	
36243.49	4	0.011019284	
36286.49	10	0.027548209	
36329.49	5	0.013774105	
36372.49	3	0.008264463	
36415.49	3	0.008264463	
36458.49	1	0.002754821	
36501.49	3	0.008264463	
36544.49	2	0.005509642	
36587.49	3	0.008264463	
36630.49	3	0.008264463	
36673.49	1	0.002754821	
36716.49	3	0.008264463	
36759.49	0	0	
36802.49	5	0.013774105	
36845.49	0	0	
36888.49	2	0.005509642	
36931.49	4	0.011019284	
36974.49	2	0.005509642	
37017.49	3	0.008264463	
37060.49	1	0.002754821	
37103.49	1	0.002754821	
37146.49	4	0.011019284	
37189.49	2	0.005509642	
37232.49	3	0.008264463	
37275.49	4	0.011019284	
37318.49	3	0.008264463	
37361.49	1	0.002754821	
37404.49	3	0.008264463	
37447.49	3	0.008264463	

37490.49	1	0.002754821	
37533.49	2	0.005509642	
37576.49	1	0.002754821	
37619.49	3	0.008264463	
37662.49	2	0.005509642	
37705.49	0	0	
37748.49	5	0.013774105	
37791.49	1	0.002754821	
37834.49	1	0.002754821	
37877.49	0	0	
37920.49	4	0.011019284	
37963.49	2	0.005509642	
38006.49	1	0.002754821	
38049.49	1	0.002754821	
38092.49	1	0.002754821	
38135.49	1	0.002754821	
38178.49	1	0.002754821	
38221.49	2	0.005509642	
38264.49	1	0.002754821	
38307.49	5	0.013774105	
38350.49	3	0.008264463	
38393.49	2	0.005509642	
38436.49	0	0	
38479.49	3	0.008264463	
38522.49	2	0.005509642	
38565.49	0	0	
38608.49	4	0.011019284	
38651.49	1	0.002754821	
38694.49	0	0	
38737.49	2	0.005509642	
38780.49	2	0.005509642	
38823.49	1	0.002754821	
38866.49	0	0	
38909.49	2	0.005509642	
38952.49	4	0.011019284	
38995.49	1	0.002754821	
39038.49	4	0.011019284	
39081.49	0	0	
39124.49	1	0.002754821	
39167.49	1	0.002754821	
39210.49	3	0.008264463	

39253.49	1	0.002754821	
39296.49	1	0.002754821	
39339.49	1	0.002754821	
39382.49	1	0.002754821	
39425.49	1	0.002754821	
39468.49	2	0.005509642	
39511.49	4	0.011019284	
39554.49	0	0	
39597.49	2	0.005509642	
39640.49	2	0.005509642	
39683.49	1	0.002754821	
39726.49	1	0.002754821	
39769.49	3	0.008264463	
39812.49	2	0.005509642	
39855.49	4	0.011019284	
39898.49	0	0	
39941.49	2	0.005509642	
39984.49	0	0	
40027.49	2	0.005509642	
40070.49	2	0.005509642	
40113.49	5	0.013774105	
40156.49	1	0.002754821	
40199.49	2	0.005509642	
40242.49	5	0.013774105	
40285.49	1	0.002754821	
40328.49	1	0.002754821	
40371.49	1	0.002754821	
40414.49	2	0.005509642	
40457.49	0	0	
40500.49	0	0	
40543.49	0	0	
40586.49	2	0.005509642	
40629.49	1	0.002754821	
40672.49	1	0.002754821	
40715.49	0	0	
40758.49	0	0	
40801.49	1	0.002754821	
40844.49	3	0.008264463	
40887.49	3	0.008264463	
40930.49	1	0.002754821	
40973.49	0	0	

41016.49	0	0	
41059.49	1	0.002754821	
41102.49	3	0.008264463	
41145.49	2	0.005509642	
41188.49	1	0.002754821	
41231.49	0	0	
41274.49	2	0.005509642	
41317.49	1	0.002754821	
41360.49	3	0.008264463	
41403.49	0	0	
41446.49	1	0.002754821	
41489.49	1	0.002754821	
41532.49	2	0.005509642	
41575.49	1	0.002754821	
41618.49	2	0.005509642	
41661.49	0	0	
41704.49	1	0.002754821	
41747.49	2	0.005509642	
41790.49	0	0	
41833.49	1	0.002754821	
41876.49	3	0.008264463	
41919.49	1	0.002754821	
41962.49	2	0.005509642	
42005.49	2	0.005509642	
42048.49	2	0.005509642	
42091.49	4	0.011019284	
42134.49	1	0.002754821	
42177.49	1	0.002754821	
42220.49	1	0.002754821	
42263.49	2	0.005509642	
42306.49	2	0.005509642	
42349.49	1	0.002754821	
42392.49	1	0.002754821	
42435.49	3	0.008264463	
42478.49	4	0.011019284	
42521.49	2	0.005509642	
42564.49	0	0	
42607.49	0	0	
42650.49	1	0.002754821	
42693.49	1	0.002754821	
42736.49	1	0.002754821	

42779.49	1	0.002754821	
42822.49	4	0.011019284	
42865.49	1	0.002754821	
42908.49	2	0.005509642	
42951.49	0	0	
42994.49	0	0	
43037.49	1	0.002754821	
43080.49	4	0.011019284	
43123.49	1	0.002754821	
43166.49	0	0	
43209.49	1	0.002754821	
43252.49	2	0.005509642	
43295.49	0	0	
43338.49	2	0.005509642	
43381.49	2	0.005509642	
43424.49	1	0.002754821	
43467.49	1	0.002754821	
43510.49	0	0	
43553.49	1	0.002754821	
43596.49	1	0.002754821	
43639.49	1	0.002754821	
43682.49	1	0.002754821	
43725.49	1	0.002754821	
43768.49	1	0.002754821	
43811.49	1	0.002754821	
43854.49	0	0	

B003

Normalized Counts

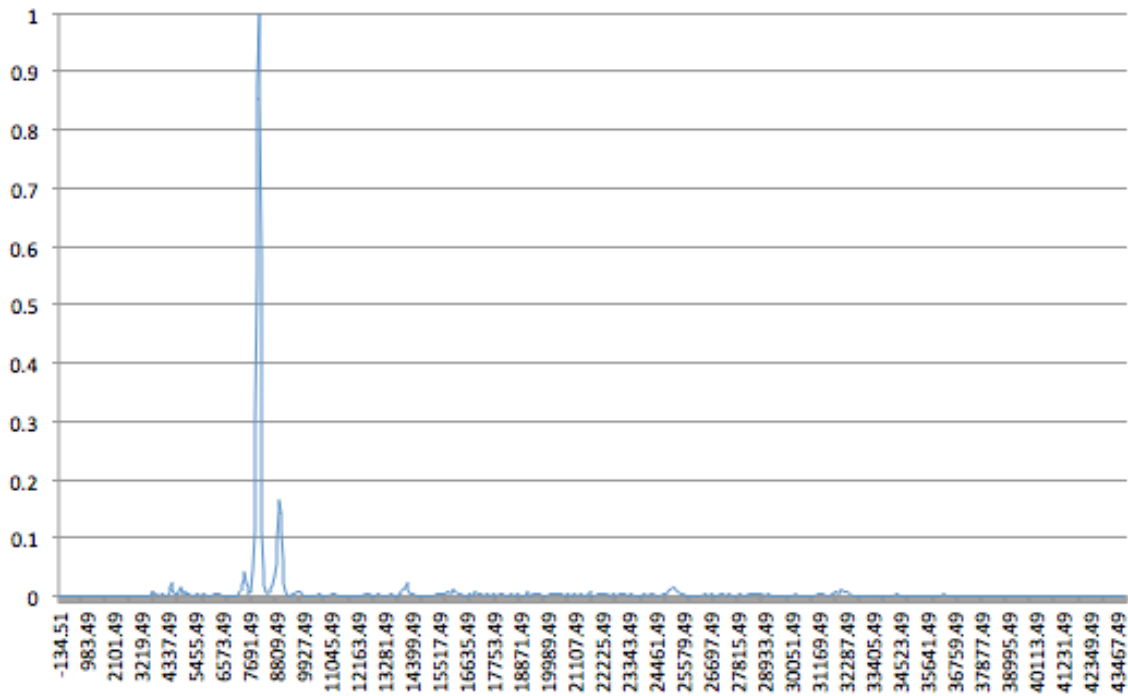


Figure 29. B003 Normalized XRF Counts

Table 14. B003 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	



467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	1	0.000391389	
983.49	3	0.001174168	
1026.49	0	0	
1069.49	4	0.001565558	
1112.49	5	0.001956947	
1155.49	5	0.001956947	
1198.49	4	0.001565558	
1241.49	8	0.003131115	
1284.49	3	0.001174168	
1327.49	5	0.001956947	
1370.49	3	0.001174168	
1413.49	2	0.000782779	
1456.49	4	0.001565558	
1499.49	7	0.002739726	
1542.49	2	0.000782779	
1585.49	4	0.001565558	
1628.49	7	0.002739726	
1671.49	4	0.001565558	
1714.49	5	0.001956947	
1757.49	4	0.001565558	
1800.49	4	0.001565558	
1843.49	5	0.001956947	
1886.49	2	0.000782779	
1929.49	6	0.002348337	
1972.49	6	0.002348337	
2015.49	6	0.002348337	
2058.49	2	0.000782779	
2101.49	2	0.000782779	
2144.49	4	0.001565558	
2187.49	3	0.001174168	

2230.49	4	0.001565558	
2273.49	3	0.001174168	
2316.49	3	0.001174168	
2359.49	3	0.001174168	
2402.49	2	0.000782779	
2445.49	5	0.001956947	
2488.49	5	0.001956947	
2531.49	1	0.000391389	
2574.49	6	0.002348337	
2617.49	3	0.001174168	
2660.49	3	0.001174168	
2703.49	3	0.001174168	
2746.49	4	0.001565558	
2789.49	2	0.000782779	
2832.49	4	0.001565558	
2875.49	4	0.001565558	
2918.49	2	0.000782779	
2961.49	5	0.001956947	
3004.49	4	0.001565558	
3047.49	4	0.001565558	
3090.49	2	0.000782779	
3133.49	2	0.000782779	
3176.49	3	0.001174168	
3219.49	5	0.001956947	
3262.49	4	0.001565558	
3305.49	3	0.001174168	
3348.49	6	0.002348337	
3391.49	6	0.002348337	
3434.49	3	0.001174168	
3477.49	3	0.001174168	
3520.49	4	0.001565558	
3563.49	7	0.002739726	
3606.49	6	0.002348337	
3649.49	11	0.004305284	
3692.49	17	0.00665362	
3735.49	16	0.006262231	
3778.49	16	0.006262231	
3821.49	9	0.003522505	
3864.49	7	0.002739726	
3907.49	2	0.000782779	
3950.49	3	0.001174168	

3993.49	8	0.003131115	
4036.49	5	0.001956947	
4079.49	9	0.003522505	
4122.49	1	0.000391389	
4165.49	5	0.001956947	
4208.49	6	0.002348337	
4251.49	3	0.001174168	
4294.49	0	0	
4337.49	5	0.001956947	
4380.49	9	0.003522505	
4423.49	19	0.007436399	
4466.49	39	0.015264188	
4509.49	54	0.021135029	Ti
4552.49	32	0.012524462	
4595.49	23	0.009001957	
4638.49	9	0.003522505	
4681.49	11	0.004305284	
4724.49	8	0.003131115	
4767.49	12	0.004696673	
4810.49	25	0.009784736	
4853.49	28	0.010958904	
4896.49	35	0.01369863	Ti
4939.49	26	0.010176125	
4982.49	10	0.003913894	
5025.49	23	0.009001957	
5068.49	10	0.003913894	
5111.49	2	0.000782779	
5154.49	13	0.005088063	
5197.49	8	0.003131115	
5240.49	8	0.003131115	
5283.49	5	0.001956947	
5326.49	4	0.001565558	
5369.49	5	0.001956947	
5412.49	4	0.001565558	
5455.49	2	0.000782779	
5498.49	4	0.001565558	
5541.49	8	0.003131115	
5584.49	8	0.003131115	
5627.49	4	0.001565558	
5670.49	2	0.000782779	
5713.49	6	0.002348337	

5756.49	1	0.000391389	
5799.49	2	0.000782779	
5842.49	7	0.002739726	
5885.49	5	0.001956947	
5928.49	7	0.002739726	
5971.49	4	0.001565558	
6014.49	3	0.001174168	
6057.49	0	0	
6100.49	1	0.000391389	
6143.49	4	0.001565558	
6186.49	3	0.001174168	
6229.49	9	0.003522505	
6272.49	5	0.001956947	
6315.49	16	0.006262231	
6358.49	13	0.005088063	
6401.49	15	0.005870841	
6444.49	12	0.004696673	
6487.49	11	0.004305284	
6530.49	4	0.001565558	
6573.49	4	0.001565558	
6616.49	4	0.001565558	
6659.49	5	0.001956947	
6702.49	2	0.000782779	
6745.49	2	0.000782779	
6788.49	2	0.000782779	
6831.49	3	0.001174168	
6874.49	3	0.001174168	
6917.49	0	0	
6960.49	2	0.000782779	
7003.49	3	0.001174168	
7046.49	7	0.002739726	
7089.49	5	0.001956947	
7132.49	5	0.001956947	
7175.49	4	0.001565558	
7218.49	1	0.000391389	
7261.49	3	0.001174168	
7304.49	7	0.002739726	
7347.49	16	0.006262231	
7390.49	33	0.012915851	
7433.49	48	0.018786693	
7476.49	76	0.029745597	

7519.49	103	0.040313112	Ni
7562.49	60	0.023483366	
7605.49	61	0.023874755	Co
7648.49	36	0.01409002	
7691.49	11	0.004305284	
7734.49	9	0.003522505	
7777.49	22	0.008610568	
7820.49	29	0.011350294	
7863.49	120	0.046966732	
7906.49	286	0.111937378	
7949.49	760	0.297455969	
7992.49	1427	0.55851272	
8035.49	2233	0.873972603	
8078.49	2555	1	Cu
8121.49	2176	0.851663405	
8164.49	1477	0.578082192	
8207.49	740	0.28962818	
8250.49	292	0.114285714	
8293.49	104	0.040704501	
8336.49	51	0.019960861	
8379.49	23	0.009001957	
8422.49	18	0.00704501	
8465.49	16	0.006262231	
8508.49	8	0.003131115	
8551.49	19	0.007436399	
8594.49	31	0.012133072	
8637.49	31	0.012133072	
8680.49	48	0.018786693	
8723.49	45	0.017612524	
8766.49	87	0.034050881	
8809.49	149	0.058317025	
8852.49	240	0.093933464	
8895.49	377	0.147553816	
8938.49	419	0.163992172	Cu
8981.49	363	0.142074364	
9024.49	284	0.111154599	
9067.49	151	0.059099804	
9110.49	56	0.021917808	
9153.49	17	0.00665362	
9196.49	10	0.003913894	
9239.49	8	0.003131115	

9282.49	6	0.002348337	
9325.49	3	0.001174168	
9368.49	6	0.002348337	
9411.49	5	0.001956947	
9454.49	9	0.003522505	
9497.49	6	0.002348337	
9540.49	9	0.003522505	
9583.49	13	0.005088063	
9626.49	13	0.005088063	
9669.49	17	0.00665362	
9712.49	16	0.006262231	
9755.49	21	0.008219178	Zn
9798.49	16	0.006262231	
9841.49	10	0.003913894	
9884.49	13	0.005088063	
9927.49	6	0.002348337	
9970.49	5	0.001956947	
10013.49	9	0.003522505	
10056.49	4	0.001565558	
10099.49	3	0.001174168	
10142.49	6	0.002348337	
10185.49	4	0.001565558	
10228.49	4	0.001565558	
10271.49	2	0.000782779	
10314.49	2	0.000782779	
10357.49	1	0.000391389	
10400.49	3	0.001174168	
10443.49	3	0.001174168	
10486.49	5	0.001956947	
10529.49	9	0.003522505	
10572.49	10	0.003913894	
10615.49	5	0.001956947	
10658.49	8	0.003131115	
10701.49	5	0.001956947	
10744.49	5	0.001956947	
10787.49	5	0.001956947	
10830.49	6	0.002348337	
10873.49	6	0.002348337	
10916.49	4	0.001565558	
10959.49	3	0.001174168	
11002.49	3	0.001174168	

11045.49	1	0.000391389	
11088.49	7	0.002739726	
11131.49	3	0.001174168	
11174.49	3	0.001174168	
11217.49	8	0.003131115	
11260.49	3	0.001174168	
11303.49	5	0.001956947	
11346.49	6	0.002348337	
11389.49	5	0.001956947	
11432.49	6	0.002348337	
11475.49	6	0.002348337	
11518.49	4	0.001565558	
11561.49	2	0.000782779	
11604.49	5	0.001956947	
11647.49	7	0.002739726	
11690.49	3	0.001174168	
11733.49	5	0.001956947	
11776.49	4	0.001565558	
11819.49	6	0.002348337	
11862.49	4	0.001565558	
11905.49	3	0.001174168	
11948.49	0	0	
11991.49	1	0.000391389	
12034.49	4	0.001565558	
12077.49	2	0.000782779	
12120.49	3	0.001174168	
12163.49	3	0.001174168	
12206.49	7	0.002739726	
12249.49	6	0.002348337	
12292.49	3	0.001174168	
12335.49	7	0.002739726	
12378.49	4	0.001565558	
12421.49	6	0.002348337	
12464.49	2	0.000782779	
12507.49	8	0.003131115	
12550.49	7	0.002739726	
12593.49	7	0.002739726	
12636.49	7	0.002739726	
12679.49	4	0.001565558	
12722.49	6	0.002348337	
12765.49	5	0.001956947	

12808.49	3	0.001174168	
12851.49	11	0.004305284	
12894.49	2	0.000782779	
12937.49	7	0.002739726	
12980.49	5	0.001956947	
13023.49	8	0.003131115	
13066.49	1	0.000391389	
13109.49	3	0.001174168	
13152.49	2	0.000782779	
13195.49	6	0.002348337	
13238.49	2	0.000782779	
13281.49	6	0.002348337	
13324.49	5	0.001956947	
13367.49	6	0.002348337	
13410.49	3	0.001174168	
13453.49	6	0.002348337	
13496.49	2	0.000782779	
13539.49	8	0.003131115	
13582.49	5	0.001956947	
13625.49	8	0.003131115	
13668.49	4	0.001565558	
13711.49	6	0.002348337	
13754.49	3	0.001174168	
13797.49	3	0.001174168	
13840.49	6	0.002348337	
13883.49	9	0.003522505	
13926.49	7	0.002739726	
13969.49	17	0.00665362	
14012.49	13	0.005088063	
14055.49	25	0.009784736	
14098.49	42	0.016438356	Sr
14141.49	40	0.015655577	
14184.49	55	0.021526419	Sr
14227.49	47	0.018395303	
14270.49	29	0.011350294	Sr
14313.49	29	0.011350294	Sr
14356.49	12	0.004696673	
14399.49	13	0.005088063	
14442.49	8	0.003131115	
14485.49	8	0.003131115	
14528.49	7	0.002739726	



14571.49	3	0.001174168	
14614.49	3	0.001174168	
14657.49	5	0.001956947	
14700.49	3	0.001174168	
14743.49	3	0.001174168	
14786.49	3	0.001174168	
14829.49	5	0.001956947	
14872.49	2	0.000782779	
14915.49	7	0.002739726	
14958.49	3	0.001174168	
15001.49	6	0.002348337	
15044.49	6	0.002348337	
15087.49	9	0.003522505	
15130.49	2	0.000782779	
15173.49	6	0.002348337	
15216.49	8	0.003131115	
15259.49	4	0.001565558	
15302.49	5	0.001956947	
15345.49	5	0.001956947	
15388.49	8	0.003131115	
15431.49	3	0.001174168	
15474.49	9	0.003522505	
15517.49	12	0.004696673	
15560.49	12	0.004696673	
15603.49	10	0.003913894	
15646.49	13	0.005088063	
15689.49	11	0.004305284	
15732.49	9	0.003522505	
15775.49	15	0.005870841	
15818.49	19	0.007436399	
15861.49	8	0.003131115	
15904.49	20	0.007827789	
15947.49	26	0.010176125	Sr
15990.49	24	0.009393346	
16033.49	13	0.005088063	
16076.49	29	0.011350294	Sr
16119.49	28	0.010958904	
16162.49	19	0.007436399	
16205.49	22	0.008610568	
16248.49	11	0.004305284	
16291.49	7	0.002739726	

16334.49	11	0.004305284	
16377.49	6	0.002348337	
16420.49	8	0.003131115	
16463.49	9	0.003522505	
16506.49	4	0.001565558	
16549.49	6	0.002348337	
16592.49	4	0.001565558	
16635.49	8	0.003131115	
16678.49	4	0.001565558	
16721.49	7	0.002739726	
16764.49	7	0.002739726	
16807.49	7	0.002739726	
16850.49	9	0.003522505	
16893.49	12	0.004696673	
16936.49	6	0.002348337	
16979.49	18	0.00704501	
17022.49	15	0.005870841	
17065.49	9	0.003522505	
17108.49	9	0.003522505	
17151.49	3	0.001174168	
17194.49	6	0.002348337	
17237.49	12	0.004696673	
17280.49	10	0.003913894	
17323.49	9	0.003522505	
17366.49	2	0.000782779	
17409.49	8	0.003131115	
17452.49	6	0.002348337	
17495.49	13	0.005088063	
17538.49	7	0.002739726	
17581.49	5	0.001956947	
17624.49	4	0.001565558	
17667.49	9	0.003522505	
17710.49	4	0.001565558	
17753.49	7	0.002739726	
17796.49	12	0.004696673	
17839.49	10	0.003913894	
17882.49	6	0.002348337	
17925.49	5	0.001956947	
17968.49	6	0.002348337	
18011.49	7	0.002739726	
18054.49	8	0.003131115	

18097.49	7	0.002739726	
18140.49	8	0.003131115	
18183.49	7	0.002739726	
18226.49	12	0.004696673	
18269.49	2	0.000782779	
18312.49	3	0.001174168	
18355.49	6	0.002348337	
18398.49	1	0.000391389	
18441.49	9	0.003522505	
18484.49	4	0.001565558	
18527.49	8	0.003131115	
18570.49	6	0.002348337	
18613.49	13	0.005088063	
18656.49	6	0.002348337	
18699.49	3	0.001174168	
18742.49	10	0.003913894	
18785.49	9	0.003522505	
18828.49	3	0.001174168	
18871.49	1	0.000391389	
18914.49	4	0.001565558	
18957.49	6	0.002348337	
19000.49	6	0.002348337	
19043.49	6	0.002348337	
19086.49	12	0.004696673	
19129.49	19	0.007436399	
19172.49	7	0.002739726	
19215.49	8	0.003131115	
19258.49	9	0.003522505	
19301.49	5	0.001956947	
19344.49	5	0.001956947	
19387.49	12	0.004696673	
19430.49	10	0.003913894	
19473.49	10	0.003913894	
19516.49	6	0.002348337	
19559.49	7	0.002739726	
19602.49	5	0.001956947	
19645.49	3	0.001174168	
19688.49	10	0.003913894	
19731.49	5	0.001956947	
19774.49	2	0.000782779	
19817.49	5	0.001956947	

19860.49	3	0.001174168	
19903.49	7	0.002739726	
19946.49	6	0.002348337	
19989.49	10	0.003913894	
20032.49	9	0.003522505	
20075.49	10	0.003913894	
20118.49	8	0.003131115	
20161.49	10	0.003913894	
20204.49	8	0.003131115	
20247.49	10	0.003913894	
20290.49	11	0.004305284	
20333.49	7	0.002739726	
20376.49	10	0.003913894	
20419.49	7	0.002739726	
20462.49	11	0.004305284	
20505.49	5	0.001956947	
20548.49	5	0.001956947	
20591.49	10	0.003913894	
20634.49	5	0.001956947	
20677.49	12	0.004696673	
20720.49	5	0.001956947	
20763.49	6	0.002348337	
20806.49	7	0.002739726	
20849.49	8	0.003131115	
20892.49	5	0.001956947	
20935.49	7	0.002739726	
20978.49	3	0.001174168	
21021.49	7	0.002739726	
21064.49	3	0.001174168	
21107.49	7	0.002739726	
21150.49	7	0.002739726	
21193.49	7	0.002739726	
21236.49	5	0.001956947	
21279.49	6	0.002348337	
21322.49	4	0.001565558	
21365.49	10	0.003913894	
21408.49	12	0.004696673	
21451.49	4	0.001565558	
21494.49	1	0.000391389	
21537.49	6	0.002348337	
21580.49	10	0.003913894	

21623.49	5	0.001956947	
21666.49	11	0.004305284	
21709.49	5	0.001956947	
21752.49	18	0.00704501	
21795.49	3	0.001174168	
21838.49	5	0.001956947	
21881.49	10	0.003913894	
21924.49	4	0.001565558	
21967.49	6	0.002348337	
22010.49	7	0.002739726	
22053.49	7	0.002739726	
22096.49	7	0.002739726	
22139.49	9	0.003522505	
22182.49	11	0.004305284	
22225.49	9	0.003522505	
22268.49	9	0.003522505	
22311.49	9	0.003522505	
22354.49	12	0.004696673	
22397.49	3	0.001174168	
22440.49	7	0.002739726	
22483.49	10	0.003913894	
22526.49	9	0.003522505	
22569.49	6	0.002348337	
22612.49	6	0.002348337	
22655.49	10	0.003913894	
22698.49	8	0.003131115	
22741.49	9	0.003522505	
22784.49	9	0.003522505	
22827.49	6	0.002348337	
22870.49	4	0.001565558	
22913.49	13	0.005088063	
22956.49	8	0.003131115	
22999.49	8	0.003131115	
23042.49	9	0.003522505	
23085.49	12	0.004696673	
23128.49	4	0.001565558	
23171.49	6	0.002348337	
23214.49	14	0.005479452	
23257.49	8	0.003131115	
23300.49	5	0.001956947	
23343.49	5	0.001956947	

23386.49	6	0.002348337	
23429.49	4	0.001565558	
23472.49	12	0.004696673	
23515.49	7	0.002739726	
23558.49	7	0.002739726	
23601.49	3	0.001174168	
23644.49	2	0.000782779	
23687.49	5	0.001956947	
23730.49	3	0.001174168	
23773.49	6	0.002348337	
23816.49	7	0.002739726	
23859.49	5	0.001956947	
23902.49	3	0.001174168	
23945.49	7	0.002739726	
23988.49	7	0.002739726	
24031.49	3	0.001174168	
24074.49	4	0.001565558	
24117.49	4	0.001565558	
24160.49	12	0.004696673	
24203.49	4	0.001565558	
24246.49	7	0.002739726	
24289.49	5	0.001956947	
24332.49	6	0.002348337	
24375.49	7	0.002739726	
24418.49	14	0.005479452	
24461.49	8	0.003131115	
24504.49	5	0.001956947	
24547.49	7	0.002739726	
24590.49	2	0.000782779	
24633.49	5	0.001956947	
24676.49	7	0.002739726	
24719.49	4	0.001565558	
24762.49	7	0.002739726	
24805.49	11	0.004305284	
24848.49	8	0.003131115	
24891.49	9	0.003522505	
24934.49	14	0.005479452	
24977.49	27	0.010567515	Ag
25020.49	24	0.009393346	
25063.49	29	0.011350294	
25106.49	33	0.012915851	Ag

25149.49	30	0.011741683	
25192.49	44	0.017221135	
25235.49	46	0.018003914	Sn
25278.49	35	0.01369863	
25321.49	31	0.012133072	
25364.49	29	0.011350294	
25407.49	24	0.009393346	
25450.49	11	0.004305284	
25493.49	16	0.006262231	
25536.49	10	0.003913894	
25579.49	10	0.003913894	
25622.49	6	0.002348337	
25665.49	4	0.001565558	
25708.49	3	0.001174168	
25751.49	4	0.001565558	
25794.49	5	0.001956947	
25837.49	4	0.001565558	
25880.49	5	0.001956947	
25923.49	6	0.002348337	
25966.49	4	0.001565558	
26009.49	8	0.003131115	
26052.49	9	0.003522505	
26095.49	5	0.001956947	
26138.49	6	0.002348337	
26181.49	3	0.001174168	
26224.49	2	0.000782779	
26267.49	3	0.001174168	
26310.49	3	0.001174168	
26353.49	3	0.001174168	
26396.49	5	0.001956947	
26439.49	3	0.001174168	
26482.49	9	0.003522505	
26525.49	7	0.002739726	
26568.49	3	0.001174168	
26611.49	4	0.001565558	
26654.49	4	0.001565558	
26697.49	6	0.002348337	
26740.49	7	0.002739726	
26783.49	6	0.002348337	
26826.49	4	0.001565558	
26869.49	5	0.001956947	

26912.49	7	0.002739726	
26955.49	2	0.000782779	
26998.49	5	0.001956947	
27041.49	5	0.001956947	
27084.49	4	0.001565558	
27127.49	9	0.003522505	
27170.49	3	0.001174168	
27213.49	4	0.001565558	
27256.49	7	0.002739726	
27299.49	10	0.003913894	
27342.49	4	0.001565558	
27385.49	5	0.001956947	
27428.49	3	0.001174168	
27471.49	4	0.001565558	
27514.49	10	0.003913894	
27557.49	6	0.002348337	
27600.49	3	0.001174168	
27643.49	5	0.001956947	
27686.49	3	0.001174168	
27729.49	1	0.000391389	
27772.49	5	0.001956947	
27815.49	4	0.001565558	
27858.49	6	0.002348337	
27901.49	7	0.002739726	
27944.49	3	0.001174168	
27987.49	2	0.000782779	
28030.49	6	0.002348337	
28073.49	9	0.003522505	
28116.49	4	0.001565558	
28159.49	1	0.000391389	
28202.49	4	0.001565558	
28245.49	8	0.003131115	
28288.49	8	0.003131115	
28331.49	5	0.001956947	
28374.49	10	0.003913894	
28417.49	11	0.004305284	
28460.49	15	0.005870841	
28503.49	11	0.004305284	
28546.49	13	0.005088063	
28589.49	15	0.005870841	
28632.49	11	0.004305284	



28675.49	8	0.003131115	
28718.49	9	0.003522505	
28761.49	7	0.002739726	
28804.49	8	0.003131115	
28847.49	4	0.001565558	
28890.49	8	0.003131115	
28933.49	4	0.001565558	
28976.49	5	0.001956947	
29019.49	6	0.002348337	
29062.49	8	0.003131115	
29105.49	3	0.001174168	
29148.49	6	0.002348337	
29191.49	6	0.002348337	
29234.49	7	0.002739726	
29277.49	5	0.001956947	
29320.49	4	0.001565558	
29363.49	4	0.001565558	
29406.49	4	0.001565558	
29449.49	3	0.001174168	
29492.49	5	0.001956947	
29535.49	2	0.000782779	
29578.49	4	0.001565558	
29621.49	3	0.001174168	
29664.49	4	0.001565558	
29707.49	5	0.001956947	
29750.49	4	0.001565558	
29793.49	4	0.001565558	
29836.49	5	0.001956947	
29879.49	6	0.002348337	
29922.49	6	0.002348337	
29965.49	4	0.001565558	
30008.49	5	0.001956947	
30051.49	3	0.001174168	
30094.49	1	0.000391389	
30137.49	4	0.001565558	
30180.49	2	0.000782779	
30223.49	8	0.003131115	
30266.49	4	0.001565558	
30309.49	4	0.001565558	
30352.49	2	0.000782779	
30395.49	0	0	

30438.49	7	0.002739726	
30481.49	3	0.001174168	
30524.49	3	0.001174168	
30567.49	7	0.002739726	
30610.49	3	0.001174168	
30653.49	4	0.001565558	
30696.49	2	0.000782779	
30739.49	4	0.001565558	
30782.49	4	0.001565558	
30825.49	5	0.001956947	
30868.49	5	0.001956947	
30911.49	3	0.001174168	
30954.49	2	0.000782779	
30997.49	4	0.001565558	
31040.49	4	0.001565558	
31083.49	6	0.002348337	
31126.49	7	0.002739726	
31169.49	5	0.001956947	
31212.49	2	0.000782779	
31255.49	7	0.002739726	
31298.49	2	0.000782779	
31341.49	4	0.001565558	
31384.49	9	0.003522505	
31427.49	6	0.002348337	
31470.49	5	0.001956947	
31513.49	2	0.000782779	
31556.49	4	0.001565558	
31599.49	6	0.002348337	
31642.49	5	0.001956947	
31685.49	11	0.004305284	
31728.49	8	0.003131115	
31771.49	10	0.003913894	
31814.49	18	0.00704501	
31857.49	11	0.004305284	
31900.49	20	0.007827789	
31943.49	12	0.004696673	
31986.49	19	0.007436399	
32029.49	12	0.004696673	
32072.49	28	0.010958904	
32115.49	29	0.011350294	-
32158.49	29	0.011350294	-

32201.49	22	0.008610568	
32244.49	25	0.009784736	
32287.49	18	0.00704501	
32330.49	21	0.008219178	
32373.49	16	0.006262231	
32416.49	16	0.006262231	
32459.49	12	0.004696673	
32502.49	7	0.002739726	
32545.49	4	0.001565558	
32588.49	6	0.002348337	
32631.49	2	0.000782779	
32674.49	1	0.000391389	
32717.49	6	0.002348337	
32760.49	3	0.001174168	
32803.49	4	0.001565558	
32846.49	4	0.001565558	
32889.49	1	0.000391389	
32932.49	1	0.000391389	
32975.49	3	0.001174168	
33018.49	6	0.002348337	
33061.49	2	0.000782779	
33104.49	1	0.000391389	
33147.49	8	0.003131115	
33190.49	3	0.001174168	
33233.49	2	0.000782779	
33276.49	2	0.000782779	
33319.49	3	0.001174168	
33362.49	5	0.001956947	
33405.49	2	0.000782779	
33448.49	5	0.001956947	
33491.49	3	0.001174168	
33534.49	2	0.000782779	
33577.49	3	0.001174168	
33620.49	3	0.001174168	
33663.49	3	0.001174168	
33706.49	1	0.000391389	
33749.49	1	0.000391389	
33792.49	2	0.000782779	
33835.49	2	0.000782779	
33878.49	3	0.001174168	
33921.49	4	0.001565558	

33964.49	3	0.001174168	
34007.49	3	0.001174168	
34050.49	4	0.001565558	
34093.49	3	0.001174168	
34136.49	4	0.001565558	
34179.49	5	0.001956947	
34222.49	3	0.001174168	
34265.49	6	0.002348337	
34308.49	1	0.000391389	
34351.49	3	0.001174168	
34394.49	7	0.002739726	
34437.49	2	0.000782779	
34480.49	2	0.000782779	
34523.49	2	0.000782779	
34566.49	5	0.001956947	
34609.49	4	0.001565558	
34652.49	5	0.001956947	
34695.49	7	0.002739726	
34738.49	3	0.001174168	
34781.49	1	0.000391389	
34824.49	3	0.001174168	
34867.49	2	0.000782779	
34910.49	1	0.000391389	
34953.49	4	0.001565558	
34996.49	4	0.001565558	
35039.49	1	0.000391389	
35082.49	3	0.001174168	
35125.49	4	0.001565558	
35168.49	3	0.001174168	
35211.49	2	0.000782779	
35254.49	6	0.002348337	
35297.49	1	0.000391389	
35340.49	4	0.001565558	
35383.49	2	0.000782779	
35426.49	3	0.001174168	
35469.49	4	0.001565558	
35512.49	3	0.001174168	
35555.49	3	0.001174168	
35598.49	3	0.001174168	
35641.49	2	0.000782779	
35684.49	3	0.001174168	

35727.49	6	0.002348337	
35770.49	0	0	
35813.49	0	0	
35856.49	3	0.001174168	
35899.49	1	0.000391389	
35942.49	5	0.001956947	
35985.49	3	0.001174168	
36028.49	4	0.001565558	
36071.49	4	0.001565558	
36114.49	5	0.001956947	
36157.49	4	0.001565558	
36200.49	3	0.001174168	
36243.49	1	0.000391389	
36286.49	4	0.001565558	
36329.49	8	0.003131115	
36372.49	6	0.002348337	
36415.49	5	0.001956947	
36458.49	6	0.002348337	
36501.49	2	0.000782779	
36544.49	2	0.000782779	
36587.49	4	0.001565558	
36630.49	2	0.000782779	
36673.49	2	0.000782779	
36716.49	4	0.001565558	
36759.49	1	0.000391389	
36802.49	3	0.001174168	
36845.49	1	0.000391389	
36888.49	3	0.001174168	
36931.49	2	0.000782779	
36974.49	3	0.001174168	
37017.49	4	0.001565558	
37060.49	7	0.002739726	
37103.49	3	0.001174168	
37146.49	5	0.001956947	
37189.49	4	0.001565558	
37232.49	2	0.000782779	
37275.49	1	0.000391389	
37318.49	6	0.002348337	
37361.49	2	0.000782779	
37404.49	2	0.000782779	
37447.49	5	0.001956947	

37490.49	6	0.002348337	
37533.49	4	0.001565558	
37576.49	2	0.000782779	
37619.49	3	0.001174168	
37662.49	0	0	
37705.49	1	0.000391389	
37748.49	3	0.001174168	
37791.49	2	0.000782779	
37834.49	4	0.001565558	
37877.49	1	0.000391389	
37920.49	1	0.000391389	
37963.49	2	0.000782779	
38006.49	1	0.000391389	
38049.49	1	0.000391389	
38092.49	4	0.001565558	
38135.49	2	0.000782779	
38178.49	3	0.001174168	
38221.49	2	0.000782779	
38264.49	0	0	
38307.49	2	0.000782779	
38350.49	2	0.000782779	
38393.49	1	0.000391389	
38436.49	0	0	
38479.49	2	0.000782779	
38522.49	1	0.000391389	
38565.49	2	0.000782779	
38608.49	2	0.000782779	
38651.49	2	0.000782779	
38694.49	4	0.001565558	
38737.49	1	0.000391389	
38780.49	2	0.000782779	
38823.49	2	0.000782779	
38866.49	2	0.000782779	
38909.49	2	0.000782779	
38952.49	2	0.000782779	
38995.49	3	0.001174168	
39038.49	2	0.000782779	
39081.49	1	0.000391389	
39124.49	0	0	
39167.49	4	0.001565558	
39210.49	0	0	

39253.49	2	0.000782779	
39296.49	1	0.000391389	
39339.49	1	0.000391389	
39382.49	1	0.000391389	
39425.49	0	0	
39468.49	1	0.000391389	
39511.49	0	0	
39554.49	4	0.001565558	
39597.49	1	0.000391389	
39640.49	3	0.001174168	
39683.49	1	0.000391389	
39726.49	2	0.000782779	
39769.49	4	0.001565558	
39812.49	0	0	
39855.49	1	0.000391389	
39898.49	1	0.000391389	
39941.49	1	0.000391389	
39984.49	4	0.001565558	
40027.49	3	0.001174168	
40070.49	2	0.000782779	
40113.49	6	0.002348337	
40156.49	1	0.000391389	
40199.49	2	0.000782779	
40242.49	4	0.001565558	
40285.49	2	0.000782779	
40328.49	1	0.000391389	
40371.49	4	0.001565558	
40414.49	0	0	
40457.49	4	0.001565558	
40500.49	2	0.000782779	
40543.49	1	0.000391389	
40586.49	2	0.000782779	
40629.49	1	0.000391389	
40672.49	1	0.000391389	
40715.49	3	0.001174168	
40758.49	3	0.001174168	
40801.49	1	0.000391389	
40844.49	2	0.000782779	
40887.49	0	0	
40930.49	1	0.000391389	
40973.49	1	0.000391389	

41016.49	1	0.000391389	
41059.49	2	0.000782779	
41102.49	5	0.001956947	
41145.49	1	0.000391389	
41188.49	2	0.000782779	
41231.49	3	0.001174168	
41274.49	3	0.001174168	
41317.49	2	0.000782779	
41360.49	3	0.001174168	
41403.49	1	0.000391389	
41446.49	0	0	
41489.49	1	0.000391389	
41532.49	3	0.001174168	
41575.49	0	0	
41618.49	0	0	
41661.49	0	0	
41704.49	3	0.001174168	
41747.49	2	0.000782779	
41790.49	1	0.000391389	
41833.49	3	0.001174168	
41876.49	0	0	
41919.49	0	0	
41962.49	2	0.000782779	
42005.49	1	0.000391389	
42048.49	1	0.000391389	
42091.49	2	0.000782779	
42134.49	1	0.000391389	
42177.49	2	0.000782779	
42220.49	0	0	
42263.49	1	0.000391389	
42306.49	3	0.001174168	
42349.49	1	0.000391389	
42392.49	1	0.000391389	
42435.49	2	0.000782779	
42478.49	1	0.000391389	
42521.49	1	0.000391389	
42564.49	3	0.001174168	
42607.49	2	0.000782779	
42650.49	1	0.000391389	
42693.49	2	0.000782779	
42736.49	0	0	



42779.49	0	0	
42822.49	2	0.000782779	
42865.49	1	0.000391389	
42908.49	1	0.000391389	
42951.49	0	0	
42994.49	1	0.000391389	
43037.49	2	0.000782779	
43080.49	1	0.000391389	
43123.49	2	0.000782779	
43166.49	3	0.001174168	
43209.49	2	0.000782779	
43252.49	1	0.000391389	
43295.49	3	0.001174168	
43338.49	1	0.000391389	
43381.49	0	0	
43424.49	1	0.000391389	
43467.49	2	0.000782779	
43510.49	2	0.000782779	
43553.49	2	0.000782779	
43596.49	0	0	
43639.49	0	0	
43682.49	4	0.001565558	
43725.49	4	0.001565558	
43768.49	4	0.001565558	
43811.49	0	0	
43854.49	2	0.000782779	

**B004**

**Normalized Counts**

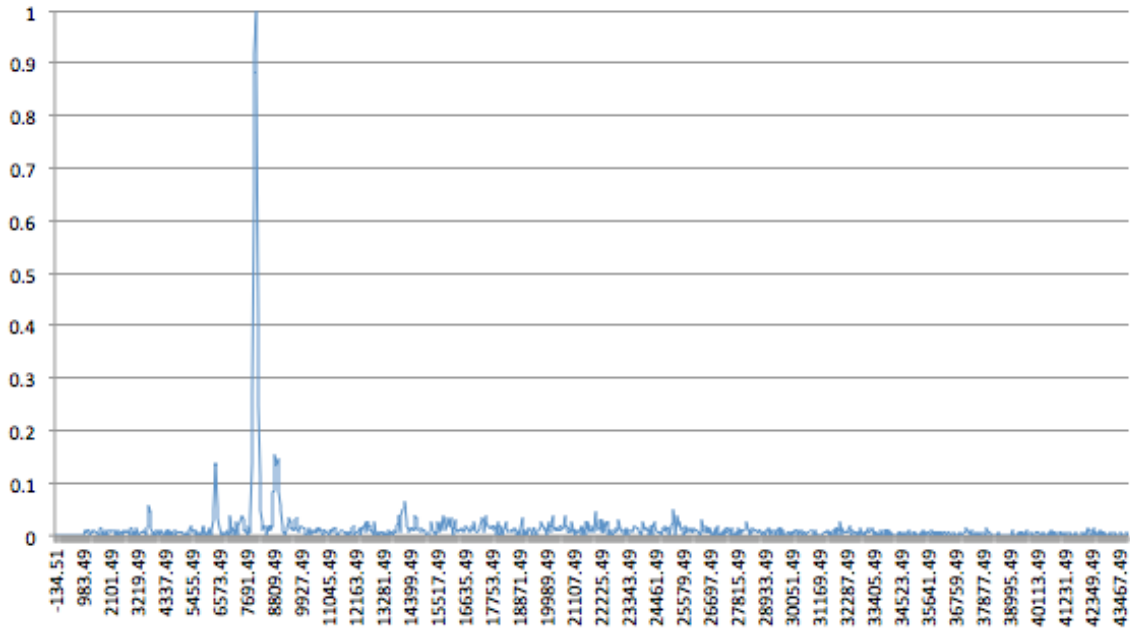


Figure 30. B004 Normalized XRF Counts

Table 15. B004 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	
510.49	0	0	

553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	0	0	
1026.49	0	0	
1069.49	2	0.009661836	
1112.49	1	0.004830918	
1155.49	1	0.004830918	
1198.49	2	0.009661836	
1241.49	2	0.009661836	
1284.49	0	0	
1327.49	1	0.004830918	
1370.49	1	0.004830918	
1413.49	1	0.004830918	
1456.49	2	0.009661836	
1499.49	1	0.004830918	
1542.49	1	0.004830918	
1585.49	1	0.004830918	
1628.49	0	0	
1671.49	0	0	
1714.49	3	0.014492754	Rb
1757.49	3	0.014492754	Rb
1800.49	0	0	
1843.49	1	0.004830918	
1886.49	1	0.004830918	
1929.49	0	0	
1972.49	2	0.009661836	
2015.49	0	0	
2058.49	1	0.004830918	
2101.49	2	0.009661836	
2144.49	1	0.004830918	
2187.49	1	0.004830918	
2230.49	2	0.009661836	
2273.49	2	0.009661836	

2316.49	0	0	
2359.49	0	0	
2402.49	2	0.009661836	
2445.49	0	0	
2488.49	0	0	
2531.49	1	0.004830918	
2574.49	1	0.004830918	
2617.49	0	0	
2660.49	2	0.009661836	
2703.49	1	0.004830918	
2746.49	1	0.004830918	
2789.49	1	0.004830918	
2832.49	1	0.004830918	
2875.49	2	0.009661836	
2918.49	0	0	
2961.49	3	0.014492754	Ag
3004.49	3	0.014492754	Ag
3047.49	0	0	
3090.49	1	0.004830918	
3133.49	0	0	
3176.49	1	0.004830918	
3219.49	3	0.014492754	Ag
3262.49	0	0	
3305.49	0	0	
3348.49	1	0.004830918	
3391.49	1	0.004830918	
3434.49	1	0.004830918	
3477.49	1	0.004830918	
3520.49	2	0.009661836	
3563.49	0	0	
3606.49	3	0.014492754	
3649.49	4	0.019323671	
3692.49	12	0.057971014	Sn
3735.49	9	0.043478261	
3778.49	3	0.014492754	
3821.49	1	0.004830918	
3864.49	0	0	
3907.49	1	0.004830918	
3950.49	1	0.004830918	
3993.49	0	0	
4036.49	2	0.009661836	

4079.49	1	0.004830918	
4122.49	0	0	
4165.49	1	0.004830918	
4208.49	2	0.009661836	
4251.49	1	0.004830918	
4294.49	0	0	
4337.49	0	0	
4380.49	0	0	
4423.49	2	0.009661836	
4466.49	0	0	
4509.49	2	0.009661836	
4552.49	0	0	
4595.49	1	0.004830918	
4638.49	0	0	
4681.49	0	0	
4724.49	1	0.004830918	
4767.49	2	0.009661836	
4810.49	0	0	
4853.49	1	0.004830918	
4896.49	1	0.004830918	
4939.49	1	0.004830918	
4982.49	1	0.004830918	
5025.49	1	0.004830918	
5068.49	1	0.004830918	
5111.49	0	0	
5154.49	0	0	
5197.49	0	0	
5240.49	1	0.004830918	
5283.49	0	0	
5326.49	0	0	
5369.49	2	0.009661836	
5412.49	4	0.019323671	Cr
5455.49	2	0.009661836	
5498.49	2	0.009661836	
5541.49	1	0.004830918	
5584.49	2	0.009661836	
5627.49	0	0	
5670.49	1	0.004830918	
5713.49	0	0	
5756.49	0	0	
5799.49	0	0	

5842.49	1	0.004830918	
5885.49	0	0	
5928.49	4	0.019323671	Mn
5971.49	3	0.014492754	
6014.49	0	0	
6057.49	0	0	
6100.49	1	0.004830918	
6143.49	0	0	
6186.49	3	0.014492754	Gd
6229.49	0	0	
6272.49	2	0.009661836	
6315.49	6	0.028985507	
6358.49	10	0.048309179	
6401.49	29	0.140096618	Fe
6444.49	28	0.1352657	
6487.49	11	0.053140097	
6530.49	7	0.033816425	
6573.49	3	0.014492754	Fe
6616.49	3	0.014492754	Fe
6659.49	0	0	
6702.49	0	0	
6745.49	1	0.004830918	
6788.49	0	0	
6831.49	0	0	
6874.49	0	0	
6917.49	2	0.009661836	
6960.49	1	0.004830918	
7003.49	0	0	
7046.49	8	0.038647343	Co
7089.49	1	0.004830918	
7132.49	3	0.014492754	Co
7175.49	2	0.009661836	
7218.49	0	0	
7261.49	2	0.009661836	
7304.49	5	0.024154589	Dy
7347.49	0	0	
7390.49	4	0.019323671	
7433.49	5	0.024154589	Yb
7476.49	5	0.024154589	Yb
7519.49	8	0.038647343	Yb
7562.49	6	0.028985507	

7605.49	2	0.009661836	
7648.49	1	0.004830918	
7691.49	2	0.009661836	
7734.49	0	0	
7777.49	4	0.019323671	Co
7820.49	1	0.004830918	
7863.49	7	0.033816425	
7906.49	29	0.140096618	
7949.49	56	0.270531401	
7992.49	135	0.652173913	
8035.49	190	0.917874396	
8078.49	207	1	Cu
8121.49	183	0.884057971	
8164.49	85	0.410628019	
8207.49	51	0.246376812	
8250.49	23	0.111111111	
8293.49	10	0.048309179	
8336.49	5	0.024154589	
8379.49	2	0.009661836	
8422.49	4	0.019323671	W
8465.49	4	0.019323671	W
8508.49	3	0.014492754	
8551.49	0	0	
8594.49	4	0.019323671	W
8637.49	2	0.009661836	
8680.49	4	0.019323671	W
8723.49	2	0.009661836	
8766.49	4	0.019323671	
8809.49	17	0.082125604	Cu
8852.49	17	0.082125604	Cu
8895.49	32	0.154589372	Cu
8938.49	28	0.1352657	
8981.49	30	0.144927536	Cu
9024.49	17	0.082125604	
9067.49	12	0.057971014	
9110.49	10	0.048309179	
9153.49	4	0.019323671	
9196.49	1	0.004830918	
9239.49	1	0.004830918	
9282.49	0	0	
9325.49	2	0.009661836	

9368.49	3	0.014492754	
9411.49	5	0.024154589	
9454.49	7	0.033816425	Pt
9497.49	5	0.024154589	
9540.49	3	0.014492754	
9583.49	2	0.009661836	
9626.49	3	0.014492754	Au
9669.49	2	0.009661836	
9712.49	6	0.028985507	
9755.49	7	0.033816425	Au
9798.49	3	0.014492754	
9841.49	1	0.004830918	
9884.49	2	0.009661836	
9927.49	4	0.019323671	Ge
9970.49	4	0.019323671	Ge
10013.49	3	0.014492754	Re
10056.49	3	0.014492754	Re
10099.49	3	0.014492754	Re
10142.49	0	0	
10185.49	0	0	
10228.49	0	0	
10271.49	3	0.014492754	Ti
10314.49	0	0	
10357.49	1	0.004830918	
10400.49	1	0.004830918	
10443.49	2	0.009661836	
10486.49	1	0.004830918	
10529.49	1	0.004830918	
10572.49	3	0.014492754	Pb
10615.49	1	0.004830918	
10658.49	2	0.009661836	
10701.49	3	0.014492754	Pb
10744.49	2	0.009661836	
10787.49	1	0.004830918	
10830.49	0	0	
10873.49	2	0.009661836	
10916.49	2	0.009661836	
10959.49	1	0.004830918	
11002.49	1	0.004830918	
11045.49	1	0.004830918	
11088.49	0	0	



11131.49	2	0.009661836	
11174.49	2	0.009661836	
11217.49	1	0.004830918	
11260.49	3	0.014492754	Se
11303.49	2	0.009661836	
11346.49	3	0.014492754	Se
11389.49	1	0.004830918	
11432.49	0	0	
11475.49	0	0	
11518.49	1	0.004830918	
11561.49	1	0.004830918	
11604.49	2	0.009661836	
11647.49	2	0.009661836	
11690.49	1	0.004830918	
11733.49	1	0.004830918	
11776.49	0	0	
11819.49	1	0.004830918	
11862.49	1	0.004830918	
11905.49	0	0	
11948.49	1	0.004830918	
11991.49	1	0.004830918	
12034.49	3	0.014492754	
12077.49	4	0.019323671	Br
12120.49	0	0	
12163.49	1	0.004830918	
12206.49	1	0.004830918	
12249.49	1	0.004830918	
12292.49	1	0.004830918	
12335.49	3	0.014492754	Br
12378.49	0	0	
12421.49	2	0.009661836	
12464.49	3	0.014492754	
12507.49	4	0.019323671	Se
12550.49	3	0.014492754	
12593.49	5	0.024154589	Se
12636.49	1	0.004830918	
12679.49	5	0.024154589	Ac
12722.49	3	0.014492754	
12765.49	4	0.019323671	Ac
12808.49	2	0.009661836	
12851.49	1	0.004830918	

12894.49	2	0.009661836	
12937.49	0	0	
12980.49	5	0.024154589	Th
13023.49	0	0	
13066.49	1	0.004830918	
13109.49	0	0	
13152.49	0	0	
13195.49	1	0.004830918	
13238.49	1	0.004830918	
13281.49	1	0.004830918	
13324.49	0	0	
13367.49	1	0.004830918	
13410.49	0	0	
13453.49	0	0	
13496.49	1	0.004830918	
13539.49	2	0.009661836	
13582.49	0	0	
13625.49	1	0.004830918	
13668.49	1	0.004830918	
13711.49	0	0	
13754.49	1	0.004830918	
13797.49	2	0.009661836	
13840.49	1	0.004830918	
13883.49	4	0.019323671	
13926.49	5	0.024154589	
13969.49	8	0.038647343	At
14012.49	1	0.004830918	
14055.49	8	0.038647343	
14098.49	10	0.048309179	Sr
14141.49	10	0.048309179	Sr
14184.49	11	0.053140097	
14227.49	13	0.062801932	Sr
14270.49	5	0.024154589	
14313.49	4	0.019323671	
14356.49	2	0.009661836	
14399.49	1	0.004830918	
14442.49	3	0.014492754	Rn
14485.49	2	0.009661836	
14528.49	3	0.014492754	Rn
14571.49	2	0.009661836	
14614.49	8	0.038647343	Rn

14657.49	7	0.033816425	
14700.49	3	0.014492754	
14743.49	2	0.009661836	
14786.49	2	0.009661836	
14829.49	3	0.014492754	Fr
14872.49	1	0.004830918	
14915.49	2	0.009661836	
14958.49	2	0.009661836	
15001.49	2	0.009661836	
15044.49	1	0.004830918	
15087.49	0	0	
15130.49	0	0	
15173.49	0	0	
15216.49	1	0.004830918	
15259.49	2	0.009661836	
15302.49	5	0.024154589	Ra
15345.49	1	0.004830918	
15388.49	1	0.004830918	
15431.49	1	0.004830918	
15474.49	0	0	
15517.49	2	0.009661836	
15560.49	5	0.024154589	Ra
15603.49	3	0.014492754	
15646.49	1	0.004830918	
15689.49	5	0.024154589	Ac
15732.49	2	0.009661836	
15775.49	8	0.038647343	Ac
15818.49	4	0.019323671	
15861.49	2	0.009661836	
15904.49	5	0.024154589	
15947.49	7	0.033816425	Zr
15990.49	4	0.019323671	Zr
16033.49	4	0.019323671	Zr
16076.49	7	0.033816425	Zr
16119.49	4	0.019323671	
16162.49	0	0	
16205.49	3	0.014492754	
16248.49	6	0.028985507	Th
16291.49	3	0.014492754	
16334.49	1	0.004830918	
16377.49	2	0.009661836	

16420.49	2	0.009661836	
16463.49	2	0.009661836	
16506.49	2	0.009661836	
16549.49	3	0.014492754	Th
16592.49	1	0.004830918	
16635.49	2	0.009661836	
16678.49	2	0.009661836	
16721.49	4	0.019323671	Nb
16764.49	3	0.014492754	Nb
16807.49	3	0.014492754	Nb
16850.49	1	0.004830918	
16893.49	1	0.004830918	
16936.49	3	0.014492754	
16979.49	4	0.019323671	Y
17022.49	2	0.009661836	
17065.49	5	0.024154589	Y
17108.49	1	0.004830918	
17151.49	1	0.004830918	
17194.49	1	0.004830918	
17237.49	3	0.014492754	
17280.49	4	0.019323671	
17323.49	6	0.028985507	
17366.49	7	0.033816425	Mo
17409.49	5	0.024154589	
17452.49	1	0.004830918	
17495.49	8	0.038647343	Mo
17538.49	5	0.024154589	
17581.49	4	0.019323671	Mo
17624.49	4	0.019323671	Mo
17667.49	3	0.014492754	Mo
17710.49	3	0.014492754	Mo
17753.49	4	0.019323671	Mo
17796.49	3	0.014492754	
17839.49	2	0.009661836	
17882.49	4	0.019323671	Zr
17925.49	3	0.014492754	
17968.49	0	0	
18011.49	5	0.024154589	Zr
18054.49	1	0.004830918	
18097.49	0	0	
18140.49	4	0.019323671	Zr

18183.49	1	0.004830918	
18226.49	0	0	
18269.49	3	0.014492754	Tc
18312.49	3	0.014492754	Tc
18355.49	5	0.024154589	Tc
18398.49	3	0.014492754	
18441.49	1	0.004830918	
18484.49	1	0.004830918	
18527.49	2	0.009661836	
18570.49	2	0.009661836	
18613.49	1	0.004830918	
18656.49	2	0.009661836	
18699.49	3	0.014492754	Nb
18742.49	2	0.009661836	
18785.49	0	0	
18828.49	1	0.004830918	
18871.49	0	0	
18914.49	3	0.014492754	Nb
18957.49	3	0.014492754	Nb
19000.49	7	0.033816425	Nb
19043.49	0	0	
19086.49	2	0.009661836	
19129.49	0	0	
19172.49	1	0.004830918	
19215.49	0	0	
19258.49	3	0.014492754	Ru
19301.49	3	0.014492754	Ru
19344.49	2	0.009661836	
19387.49	2	0.009661836	
19430.49	0	0	
19473.49	3	0.014492754	Ru
19516.49	3	0.014492754	Ru
19559.49	2	0.009661836	
19602.49	0	0	
19645.49	1	0.004830918	
19688.49	2	0.009661836	
19731.49	2	0.009661836	
19774.49	4	0.019323671	
19817.49	5	0.024154589	Tc
19860.49	4	0.019323671	
19903.49	2	0.009661836	

19946.49	3	0.014492754	Rh
19989.49	0	0	
20032.49	1	0.004830918	
20075.49	5	0.024154589	Rh
20118.49	2	0.009661836	
20161.49	1	0.004830918	
20204.49	4	0.019323671	
20247.49	8	0.038647343	Rh
20290.49	4	0.019323671	
20333.49	2	0.009661836	
20376.49	3	0.014492754	Rh
20419.49	2	0.009661836	
20462.49	3	0.014492754	Rh
20505.49	2	0.009661836	
20548.49	4	0.019323671	Rh
20591.49	4	0.019323671	Rh
20634.49	2	0.009661836	
20677.49	3	0.014492754	Rh
20720.49	3	0.014492754	Rh
20763.49	8	0.038647343	Rh
20806.49	4	0.019323671	Rh
20849.49	4	0.019323671	Rh
20892.49	1	0.004830918	
20935.49	1	0.004830918	
20978.49	3	0.014492754	Pd
21021.49	1	0.004830918	
21064.49	5	0.024154589	Pd
21107.49	2	0.009661836	
21150.49	2	0.009661836	
21193.49	0	0	
21236.49	2	0.009661836	
21279.49	1	0.004830918	
21322.49	2	0.009661836	
21365.49	1	0.004830918	
21408.49	4	0.019323671	Pd
21451.49	0	0	
21494.49	3	0.014492754	Pd
21537.49	3	0.014492754	Pd
21580.49	0	0	
21623.49	5	0.024154589	Ru
21666.49	3	0.014492754	

21709.49	5	0.024154589	Ru
21752.49	1	0.004830918	
21795.49	2	0.009661836	
21838.49	2	0.009661836	
21881.49	4	0.019323671	Ru
21924.49	1	0.004830918	
21967.49	1	0.004830918	
22010.49	9	0.043478261	Ru
22053.49	6	0.028985507	
22096.49	2	0.009661836	
22139.49	2	0.009661836	
22182.49	3	0.014492754	
22225.49	6	0.028985507	Ag
22268.49	1	0.004830918	
22311.49	6	0.028985507	Ag
22354.49	1	0.004830918	
22397.49	2	0.009661836	
22440.49	5	0.024154589	Ag
22483.49	4	0.019323671	
22526.49	5	0.024154589	Ag
22569.49	0	0	
22612.49	2	0.009661836	
22655.49	0	0	
22698.49	0	0	
22741.49	1	0.004830918	
22784.49	2	0.009661836	
22827.49	1	0.004830918	
22870.49	3	0.014492754	Rh
22913.49	2	0.009661836	
22956.49	6	0.028985507	Rh
22999.49	3	0.014492754	Rh
23042.49	3	0.014492754	Rh
23085.49	1	0.004830918	
23128.49	1	0.004830918	
23171.49	2	0.009661836	
23214.49	0	0	
23257.49	2	0.009661836	
23300.49	3	0.014492754	Cd
23343.49	0	0	
23386.49	1	0.004830918	
23429.49	2	0.009661836	

23472.49	2	0.009661836	
23515.49	1	0.004830918	
23558.49	1	0.004830918	
23601.49	4	0.019323671	Pd
23644.49	4	0.019323671	Pd
23687.49	3	0.014492754	Pd
23730.49	3	0.014492754	Pd
23773.49	3	0.014492754	Pd
23816.49	1	0.004830918	
23859.49	1	0.004830918	
23902.49	0	0	
23945.49	2	0.009661836	
23988.49	5	0.024154589	Pd
24031.49	3	0.014492754	
24074.49	2	0.009661836	
24117.49	3	0.014492754	In
24160.49	2	0.009661836	
24203.49	0	0	
24246.49	2	0.009661836	
24289.49	4	0.019323671	In
24332.49	0	0	
24375.49	4	0.019323671	
24418.49	5	0.024154589	In
24461.49	4	0.019323671	
24504.49	1	0.004830918	
24547.49	1	0.004830918	
24590.49	1	0.004830918	
24633.49	1	0.004830918	
24676.49	1	0.004830918	
24719.49	0	0	
24762.49	2	0.009661836	
24805.49	3	0.014492754	Ag
24848.49	2	0.009661836	
24891.49	4	0.019323671	Ag
24934.49	1	0.004830918	
24977.49	3	0.014492754	Ag
25020.49	3	0.014492754	Ag
25063.49	0	0	
25106.49	3	0.014492754	
25149.49	4	0.019323671	
25192.49	5	0.024154589	



25235.49	10	0.048309179	Sn
25278.49	3	0.014492754	
25321.49	0	0	
25364.49	8	0.038647343	Sn
25407.49	4	0.019323671	
25450.49	5	0.024154589	Sn
25493.49	2	0.009661836	
25536.49	2	0.009661836	
25579.49	3	0.014492754	Sn
25622.49	0	0	
25665.49	1	0.004830918	
25708.49	4	0.019323671	Cd
25751.49	1	0.004830918	
25794.49	2	0.009661836	
25837.49	3	0.014492754	Cd
25880.49	2	0.009661836	
25923.49	2	0.009661836	
25966.49	1	0.004830918	
26009.49	3	0.014492754	Cd
26052.49	1	0.004830918	
26095.49	2	0.009661836	
26138.49	2	0.009661836	
26181.49	2	0.009661836	
26224.49	1	0.004830918	
26267.49	1	0.004830918	
26310.49	0	0	
26353.49	1	0.004830918	
26396.49	6	0.028985507	Cd
26439.49	2	0.009661836	
26482.49	2	0.009661836	
26525.49	1	0.004830918	
26568.49	4	0.019323671	Cd
26611.49	1	0.004830918	
26654.49	3	0.014492754	Cd
26697.49	1	0.004830918	
26740.49	3	0.014492754	Cd
26783.49	0	0	
26826.49	1	0.004830918	
26869.49	0	0	
26912.49	3	0.014492754	-
26955.49	0	0	

26998.49	4	0.019323671	-
27041.49	1	0.004830918	
27084.49	0	0	
27127.49	0	0	
27170.49	1	0.004830918	
27213.49	0	0	
27256.49	2	0.009661836	
27299.49	0	0	
27342.49	3	0.014492754	-
27385.49	1	0.004830918	
27428.49	1	0.004830918	
27471.49	3	0.014492754	-
27514.49	2	0.009661836	
27557.49	0	0	
27600.49	3	0.014492754	-
27643.49	0	0	
27686.49	0	0	
27729.49	0	0	
27772.49	1	0.004830918	
27815.49	0	0	
27858.49	1	0.004830918	
27901.49	3	0.014492754	-
27944.49	0	0	
27987.49	2	0.009661836	
28030.49	2	0.009661836	
28073.49	1	0.004830918	
28116.49	2	0.009661836	
28159.49	3	0.014492754	
28202.49	5	0.024154589	-
28245.49	2	0.009661836	
28288.49	2	0.009661836	
28331.49	0	0	
28374.49	2	0.009661836	
28417.49	1	0.004830918	
28460.49	3	0.014492754	-
28503.49	2	0.009661836	
28546.49	2	0.009661836	
28589.49	2	0.009661836	
28632.49	1	0.004830918	
28675.49	1	0.004830918	
28718.49	2	0.009661836	

28761.49	2	0.009661836	
28804.49	1	0.004830918	
28847.49	0	0	
28890.49	1	0.004830918	
28933.49	1	0.004830918	
28976.49	0	0	
29019.49	1	0.004830918	
29062.49	2	0.009661836	
29105.49	3	0.014492754	-
29148.49	2	0.009661836	
29191.49	0	0	
29234.49	2	0.009661836	
29277.49	1	0.004830918	
29320.49	1	0.004830918	
29363.49	2	0.009661836	
29406.49	0	0	
29449.49	1	0.004830918	
29492.49	3	0.014492754	-
29535.49	0	0	
29578.49	3	0.014492754	-
29621.49	0	0	
29664.49	2	0.009661836	
29707.49	1	0.004830918	
29750.49	0	0	
29793.49	0	0	
29836.49	0	0	
29879.49	1	0.004830918	
29922.49	1	0.004830918	
29965.49	0	0	
30008.49	1	0.004830918	
30051.49	0	0	
30094.49	0	0	
30137.49	1	0.004830918	
30180.49	2	0.009661836	
30223.49	1	0.004830918	
30266.49	2	0.009661836	
30309.49	0	0	
30352.49	0	0	
30395.49	1	0.004830918	
30438.49	2	0.009661836	
30481.49	1	0.004830918	

30524.49	0	0	
30567.49	1	0.004830918	
30610.49	1	0.004830918	
30653.49	0	0	
30696.49	1	0.004830918	
30739.49	1	0.004830918	
30782.49	1	0.004830918	
30825.49	1	0.004830918	
30868.49	2	0.009661836	
30911.49	1	0.004830918	
30954.49	0	0	
30997.49	2	0.009661836	
31040.49	1	0.004830918	
31083.49	0	0	
31126.49	0	0	
31169.49	0	0	
31212.49	0	0	
31255.49	0	0	
31298.49	0	0	
31341.49	1	0.004830918	
31384.49	1	0.004830918	
31427.49	1	0.004830918	
31470.49	1	0.004830918	
31513.49	1	0.004830918	
31556.49	2	0.009661836	
31599.49	0	0	
31642.49	1	0.004830918	
31685.49	0	0	
31728.49	1	0.004830918	
31771.49	2	0.009661836	
31814.49	0	0	
31857.49	3	0.014492754	-
31900.49	3	0.014492754	-
31943.49	0	0	
31986.49	3	0.014492754	-
32029.49	2	0.009661836	
32072.49	5	0.024154589	-
32115.49	0	0	
32158.49	3	0.014492754	-
32201.49	1	0.004830918	
32244.49	1	0.004830918	

32287.49	1	0.004830918	
32330.49	1	0.004830918	
32373.49	2	0.009661836	
32416.49	4	0.019323671	-
32459.49	1	0.004830918	
32502.49	0	0	
32545.49	2	0.009661836	
32588.49	1	0.004830918	
32631.49	1	0.004830918	
32674.49	1	0.004830918	
32717.49	0	0	
32760.49	1	0.004830918	
32803.49	0	0	
32846.49	2	0.009661836	
32889.49	3	0.014492754	-
32932.49	0	0	
32975.49	0	0	
33018.49	1	0.004830918	
33061.49	0	0	
33104.49	1	0.004830918	
33147.49	1	0.004830918	
33190.49	3	0.014492754	-
33233.49	1	0.004830918	
33276.49	1	0.004830918	
33319.49	1	0.004830918	
33362.49	3	0.014492754	-
33405.49	3	0.014492754	-
33448.49	0	0	
33491.49	1	0.004830918	
33534.49	0	0	
33577.49	1	0.004830918	
33620.49	0	0	
33663.49	1	0.004830918	
33706.49	2	0.009661836	
33749.49	0	0	
33792.49	1	0.004830918	
33835.49	2	0.009661836	
33878.49	0	0	
33921.49	2	0.009661836	
33964.49	0	0	
34007.49	2	0.009661836	

34050.49	0	0	
34093.49	0	0	
34136.49	1	0.004830918	
34179.49	0	0	
34222.49	0	0	
34265.49	0	0	
34308.49	0	0	
34351.49	0	0	
34394.49	0	0	
34437.49	1	0.004830918	
34480.49	1	0.004830918	
34523.49	0	0	
34566.49	1	0.004830918	
34609.49	0	0	
34652.49	0	0	
34695.49	1	0.004830918	
34738.49	0	0	
34781.49	0	0	
34824.49	0	0	
34867.49	2	0.009661836	
34910.49	1	0.004830918	
34953.49	0	0	
34996.49	0	0	
35039.49	1	0.004830918	
35082.49	0	0	
35125.49	1	0.004830918	
35168.49	0	0	
35211.49	0	0	
35254.49	0	0	
35297.49	0	0	
35340.49	1	0.004830918	
35383.49	0	0	
35426.49	2	0.009661836	
35469.49	0	0	
35512.49	1	0.004830918	
35555.49	0	0	
35598.49	0	0	
35641.49	1	0.004830918	
35684.49	1	0.004830918	
35727.49	0	0	
35770.49	0	0	

35813.49	2	0.009661836	
35856.49	1	0.004830918	
35899.49	0	0	
35942.49	1	0.004830918	
35985.49	1	0.004830918	
36028.49	0	0	
36071.49	1	0.004830918	
36114.49	0	0	
36157.49	1	0.004830918	
36200.49	0	0	
36243.49	1	0.004830918	
36286.49	0	0	
36329.49	1	0.004830918	
36372.49	1	0.004830918	
36415.49	0	0	
36458.49	1	0.004830918	
36501.49	1	0.004830918	
36544.49	1	0.004830918	
36587.49	0	0	
36630.49	0	0	
36673.49	0	0	
36716.49	1	0.004830918	
36759.49	0	0	
36802.49	0	0	
36845.49	0	0	
36888.49	0	0	
36931.49	1	0.004830918	
36974.49	0	0	
37017.49	0	0	
37060.49	0	0	
37103.49	1	0.004830918	
37146.49	1	0.004830918	
37189.49	1	0.004830918	
37232.49	3	0.014492754	
37275.49	2	0.009661836	
37318.49	1	0.004830918	
37361.49	1	0.004830918	
37404.49	0	0	
37447.49	2	0.009661836	
37490.49	0	0	
37533.49	0	0	

37576.49	0	0	
37619.49	1	0.004830918	
37662.49	1	0.004830918	
37705.49	0	0	
37748.49	1	0.004830918	
37791.49	0	0	
37834.49	0	0	
37877.49	0	0	
37920.49	0	0	
37963.49	1	0.004830918	
38006.49	0	0	
38049.49	3	0.014492754	-
38092.49	1	0.004830918	
38135.49	1	0.004830918	
38178.49	1	0.004830918	
38221.49	0	0	
38264.49	0	0	
38307.49	0	0	
38350.49	0	0	
38393.49	0	0	
38436.49	0	0	
38479.49	0	0	
38522.49	1	0.004830918	
38565.49	0	0	
38608.49	0	0	
38651.49	0	0	
38694.49	0	0	
38737.49	0	0	
38780.49	0	0	
38823.49	0	0	
38866.49	0	0	
38909.49	0	0	
38952.49	0	0	
38995.49	0	0	
39038.49	0	0	
39081.49	2	0.009661836	
39124.49	0	0	
39167.49	0	0	
39210.49	0	0	
39253.49	0	0	
39296.49	0	0	



39339.49	1	0.004830918	
39382.49	0	0	
39425.49	1	0.004830918	
39468.49	1	0.004830918	
39511.49	0	0	
39554.49	1	0.004830918	
39597.49	0	0	
39640.49	0	0	
39683.49	2	0.009661836	
39726.49	0	0	
39769.49	0	0	
39812.49	0	0	
39855.49	0	0	
39898.49	1	0.004830918	
39941.49	0	0	
39984.49	0	0	
40027.49	0	0	
40070.49	1	0.004830918	
40113.49	1	0.004830918	
40156.49	1	0.004830918	
40199.49	1	0.004830918	
40242.49	0	0	
40285.49	0	0	
40328.49	0	0	
40371.49	1	0.004830918	
40414.49	1	0.004830918	
40457.49	0	0	
40500.49	0	0	
40543.49	0	0	
40586.49	1	0.004830918	
40629.49	0	0	
40672.49	2	0.009661836	
40715.49	0	0	
40758.49	1	0.004830918	
40801.49	0	0	
40844.49	1	0.004830918	
40887.49	0	0	
40930.49	0	0	
40973.49	0	0	
41016.49	0	0	
41059.49	1	0.004830918	

41102.49	0	0	
41145.49	1	0.004830918	
41188.49	0	0	
41231.49	0	0	
41274.49	1	0.004830918	
41317.49	0	0	
41360.49	0	0	
41403.49	0	0	
41446.49	0	0	
41489.49	1	0.004830918	
41532.49	0	0	
41575.49	0	0	
41618.49	0	0	
41661.49	0	0	
41704.49	1	0.004830918	
41747.49	0	0	
41790.49	0	0	
41833.49	0	0	
41876.49	0	0	
41919.49	0	0	
41962.49	1	0.004830918	
42005.49	0	0	
42048.49	0	0	
42091.49	1	0.004830918	
42134.49	0	0	
42177.49	3	0.014492754	-
42220.49	1	0.004830918	
42263.49	2	0.009661836	
42306.49	0	0	
42349.49	0	0	
42392.49	0	0	
42435.49	3	0.014492754	-
42478.49	0	0	
42521.49	0	0	
42564.49	1	0.004830918	
42607.49	0	0	
42650.49	0	0	
42693.49	2	0.009661836	
42736.49	0	0	
42779.49	0	0	
42822.49	1	0.004830918	

42865.49	0	0	
42908.49	1	0.004830918	
42951.49	0	0	
42994.49	0	0	
43037.49	0	0	
43080.49	0	0	
43123.49	1	0.004830918	
43166.49	0	0	
43209.49	0	0	
43252.49	0	0	
43295.49	1	0.004830918	
43338.49	0	0	
43381.49	0	0	
43424.49	0	0	
43467.49	0	0	
43510.49	0	0	
43553.49	1	0.004830918	
43596.49	0	0	
43639.49	0	0	
43682.49	0	0	
43725.49	0	0	
43768.49	0	0	
43811.49	1	0.004830918	
43854.49	0	0	

B005

**Normalized Counts**

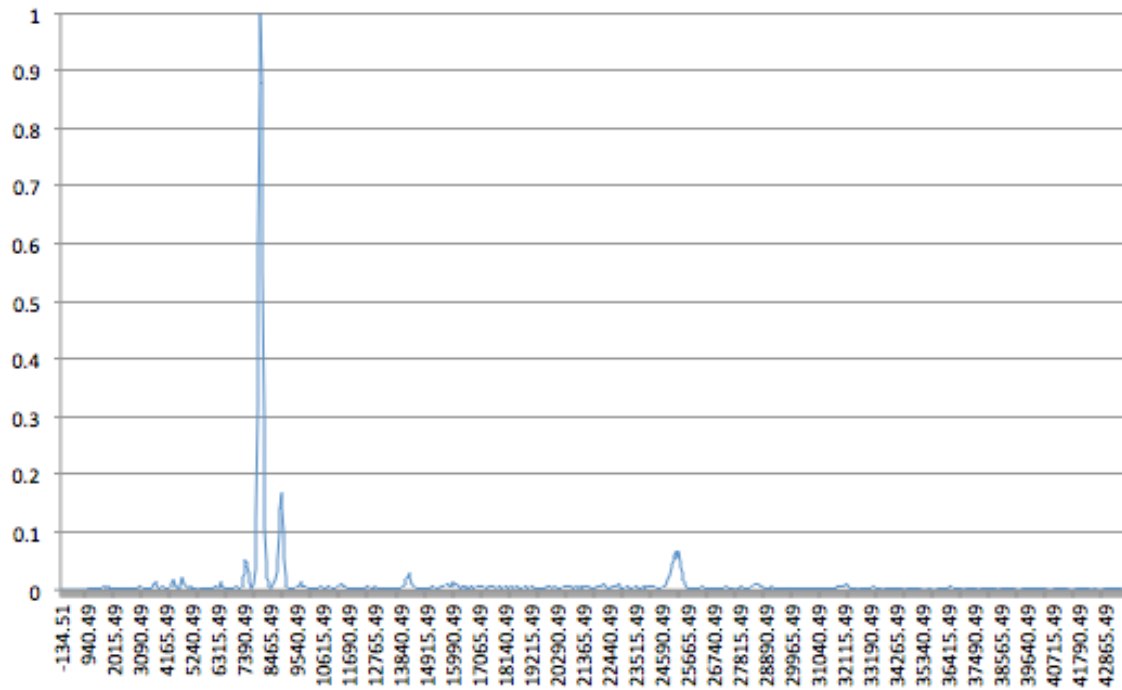


Figure 31. B005 Normalized XRF Counts

Table 16. B005 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	

467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	4	0.002711864	
1026.49	3	0.002033898	
1069.49	0	0	
1112.49	4	0.002711864	
1155.49	4	0.002711864	
1198.49	3	0.002033898	
1241.49	2	0.001355932	
1284.49	2	0.001355932	
1327.49	3	0.002033898	
1370.49	3	0.002033898	
1413.49	5	0.003389831	
1456.49	4	0.002711864	
1499.49	3	0.002033898	
1542.49	3	0.002033898	
1585.49	3	0.002033898	
1628.49	2	0.001355932	
1671.49	9	0.006101695	
1714.49	2	0.001355932	
1757.49	3	0.002033898	
1800.49	8	0.005423729	
1843.49	1	0.000677966	
1886.49	2	0.001355932	
1929.49	4	0.002711864	
1972.49	3	0.002033898	
2015.49	4	0.002711864	
2058.49	4	0.002711864	
2101.49	1	0.000677966	
2144.49	3	0.002033898	
2187.49	3	0.002033898	

2230.49	2	0.001355932	
2273.49	4	0.002711864	
2316.49	4	0.002711864	
2359.49	6	0.004067797	
2402.49	2	0.001355932	
2445.49	2	0.001355932	
2488.49	5	0.003389831	
2531.49	2	0.001355932	
2574.49	2	0.001355932	
2617.49	1	0.000677966	
2660.49	4	0.002711864	
2703.49	1	0.000677966	
2746.49	4	0.002711864	
2789.49	6	0.004067797	
2832.49	2	0.001355932	
2875.49	2	0.001355932	
2918.49	4	0.002711864	
2961.49	3	0.002033898	
3004.49	5	0.003389831	
3047.49	10	0.006779661	
3090.49	0	0	
3133.49	7	0.004745763	
3176.49	4	0.002711864	
3219.49	1	0.000677966	
3262.49	4	0.002711864	
3305.49	1	0.000677966	
3348.49	3	0.002033898	
3391.49	2	0.001355932	
3434.49	4	0.002711864	
3477.49	3	0.002033898	
3520.49	4	0.002711864	
3563.49	7	0.004745763	
3606.49	5	0.003389831	
3649.49	15	0.010169492	Sb
3692.49	15	0.010169492	Sb
3735.49	14	0.009491525	
3778.49	20	0.013559322	Te
3821.49	13	0.008813559	
3864.49	5	0.003389831	
3907.49	6	0.004067797	
3950.49	5	0.003389831	

3993.49	2	0.001355932	
4036.49	9	0.006101695	
4079.49	6	0.004067797	
4122.49	9	0.006101695	
4165.49	3	0.002033898	
4208.49	3	0.002033898	
4251.49	2	0.001355932	
4294.49	2	0.001355932	
4337.49	4	0.002711864	
4380.49	10	0.006779661	
4423.49	17	0.011525424	
4466.49	28	0.018983051	
4509.49	33	0.022372881	Ti
4552.49	27	0.018305085	
4595.49	7	0.004745763	
4638.49	7	0.004745763	
4681.49	6	0.004067797	
4724.49	0	0	
4767.49	9	0.006101695	
4810.49	13	0.008813559	
4853.49	29	0.019661017	Ti
4896.49	24	0.016271186	
4939.49	15	0.010169492	
4982.49	13	0.008813559	
5025.49	8	0.005423729	
5068.49	4	0.002711864	
5111.49	4	0.002711864	
5154.49	3	0.002033898	
5197.49	11	0.007457627	
5240.49	3	0.002033898	
5283.49	4	0.002711864	
5326.49	2	0.001355932	
5369.49	5	0.003389831	
5412.49	2	0.001355932	
5455.49	4	0.002711864	
5498.49	0	0	
5541.49	1	0.000677966	
5584.49	4	0.002711864	
5627.49	1	0.000677966	
5670.49	3	0.002033898	
5713.49	4	0.002711864	

5756.49	2	0.001355932	
5799.49	0	0	
5842.49	4	0.002711864	
5885.49	4	0.002711864	
5928.49	2	0.001355932	
5971.49	3	0.002033898	
6014.49	2	0.001355932	
6057.49	2	0.001355932	
6100.49	2	0.001355932	
6143.49	1	0.000677966	
6186.49	2	0.001355932	
6229.49	3	0.002033898	
6272.49	9	0.006101695	
6315.49	4	0.002711864	
6358.49	9	0.006101695	
6401.49	5	0.003389831	
6444.49	18	0.01220339	Fe
6487.49	7	0.004745763	
6530.49	10	0.006779661	
6573.49	2	0.001355932	
6616.49	2	0.001355932	
6659.49	4	0.002711864	
6702.49	2	0.001355932	
6745.49	1	0.000677966	
6788.49	2	0.001355932	
6831.49	1	0.000677966	
6874.49	2	0.001355932	
6917.49	1	0.000677966	
6960.49	0	0	
7003.49	1	0.000677966	
7046.49	5	0.003389831	
7089.49	9	0.006101695	
7132.49	4	0.002711864	
7175.49	1	0.000677966	
7218.49	1	0.000677966	
7261.49	1	0.000677966	
7304.49	3	0.002033898	
7347.49	12	0.008135593	
7390.49	31	0.021016949	
7433.49	41	0.02779661	
7476.49	76	0.051525424	Ni



7519.49	68	0.046101695	
7562.49	59	0.04	
7605.49	41	0.02779661	
7648.49	18	0.01220339	
7691.49	4	0.002711864	
7734.49	9	0.006101695	
7777.49	7	0.004745763	
7820.49	17	0.011525424	
7863.49	56	0.037966102	
7906.49	179	0.121355932	
7949.49	469	0.317966102	
7992.49	870	0.589830508	
8035.49	1296	0.878644068	
8078.49	1475	1	Cu
8121.49	1298	0.88	
8164.49	806	0.546440678	
8207.49	432	0.292881356	
8250.49	157	0.106440678	
8293.49	69	0.046779661	
8336.49	30	0.020338983	
8379.49	20	0.013559322	
8422.49	8	0.005423729	
8465.49	11	0.007457627	
8508.49	7	0.004745763	
8551.49	4	0.002711864	
8594.49	8	0.005423729	
8637.49	17	0.011525424	Sb
8680.49	12	0.008135593	
8723.49	26	0.017627119	
8766.49	50	0.033898305	
8809.49	77	0.05220339	
8852.49	149	0.101016949	
8895.49	201	0.136271186	
8938.49	250	0.169491525	Cu
8981.49	208	0.141016949	
9024.49	141	0.09559322	
9067.49	83	0.056271186	
9110.49	31	0.021016949	
9153.49	9	0.006101695	
9196.49	8	0.005423729	
9239.49	3	0.002033898	

9282.49	6	0.004067797	
9325.49	6	0.004067797	
9368.49	5	0.003389831	
9411.49	3	0.002033898	
9454.49	4	0.002711864	
9497.49	2	0.001355932	
9540.49	10	0.006779661	
9583.49	14	0.009491525	
9626.49	15	0.010169492	Au
9669.49	11	0.007457627	
9712.49	16	0.010847458	
9755.49	18	0.01220339	Au
9798.49	12	0.008135593	
9841.49	10	0.006779661	
9884.49	11	0.007457627	
9927.49	7	0.004745763	
9970.49	8	0.005423729	
10013.49	3	0.002033898	
10056.49	6	0.004067797	
10099.49	1	0.000677966	
10142.49	4	0.002711864	
10185.49	2	0.001355932	
10228.49	2	0.001355932	
10271.49	2	0.001355932	
10314.49	5	0.003389831	
10357.49	5	0.003389831	
10400.49	0	0	
10443.49	3	0.002033898	
10486.49	6	0.004067797	
10529.49	6	0.004067797	
10572.49	10	0.006779661	
10615.49	5	0.003389831	
10658.49	3	0.002033898	
10701.49	6	0.004067797	
10744.49	3	0.002033898	
10787.49	5	0.003389831	
10830.49	6	0.004067797	
10873.49	3	0.002033898	
10916.49	8	0.005423729	
10959.49	3	0.002033898	
11002.49	6	0.004067797	

11045.49	4	0.002711864	
11088.49	2	0.001355932	
11131.49	4	0.002711864	
11174.49	3	0.002033898	
11217.49	4	0.002711864	
11260.49	9	0.006101695	
11303.49	12	0.008135593	
11346.49	6	0.004067797	
11389.49	13	0.008813559	
11432.49	11	0.007457627	
11475.49	8	0.005423729	
11518.49	9	0.006101695	
11561.49	8	0.005423729	
11604.49	3	0.002033898	
11647.49	6	0.004067797	
11690.49	7	0.004745763	
11733.49	4	0.002711864	
11776.49	4	0.002711864	
11819.49	4	0.002711864	
11862.49	5	0.003389831	
11905.49	5	0.003389831	
11948.49	6	0.004067797	
11991.49	2	0.001355932	
12034.49	3	0.002033898	
12077.49	6	0.004067797	
12120.49	1	0.000677966	
12163.49	1	0.000677966	
12206.49	2	0.001355932	
12249.49	4	0.002711864	
12292.49	4	0.002711864	
12335.49	2	0.001355932	
12378.49	3	0.002033898	
12421.49	2	0.001355932	
12464.49	1	0.000677966	
12507.49	9	0.006101695	
12550.49	5	0.003389831	
12593.49	5	0.003389831	
12636.49	5	0.003389831	
12679.49	9	0.006101695	
12722.49	8	0.005423729	
12765.49	2	0.001355932	

12808.49	12	0.008135593	
12851.49	4	0.002711864	
12894.49	7	0.004745763	
12937.49	5	0.003389831	
12980.49	2	0.001355932	
13023.49	7	0.004745763	
13066.49	3	0.002033898	
13109.49	4	0.002711864	
13152.49	9	0.006101695	
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14184.49	41	0.02779661	Sr
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14313.49	13	0.008813559	
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14399.49	8	0.005423729	
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14786.49	2	0.001355932	
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14958.49	3	0.002033898	
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15087.49	3	0.002033898	
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15603.49	7	0.004745763	
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15732.49	14	0.009491525	
15775.49	17	0.011525424	Zr
15818.49	13	0.008813559	
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16119.49	15	0.010169492	
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16205.49	15	0.010169492	
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17065.49	12	0.008135593	
17108.49	7	0.004745763	
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17323.49	6	0.004067797	
17366.49	3	0.002033898	
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17452.49	5	0.003389831	
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17538.49	5	0.003389831	
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17624.49	8	0.005423729	
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17882.49	6	0.004067797	
17925.49	7	0.004745763	
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18828.49	7	0.004745763	
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19043.49	8	0.005423729	
19086.49	5	0.003389831	
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19258.49	7	0.004745763	
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19430.49	8	0.005423729	
19473.49	6	0.004067797	
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19559.49	5	0.003389831	
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19645.49	4	0.002711864	
19688.49	5	0.003389831	
19731.49	6	0.004067797	
19774.49	5	0.003389831	
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19989.49	5	0.003389831	
20032.49	8	0.005423729	
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20161.49	5	0.003389831	
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20290.49	5	0.003389831	
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20419.49	8	0.005423729	
20462.49	6	0.004067797	
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20548.49	3	0.002033898	
20591.49	8	0.005423729	
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20806.49	5	0.003389831	
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21279.49	11	0.007457627	
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21752.49	2	0.001355932	
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21838.49	6	0.004067797	
21881.49	7	0.004745763	
21924.49	10	0.006779661	
21967.49	7	0.004745763	
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22397.49	6	0.004067797	
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22569.49	4	0.002711864	
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23644.49	8	0.005423729	
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23773.49	4	0.002711864	
23816.49	6	0.004067797	
23859.49	12	0.008135593	
23902.49	4	0.002711864	
23945.49	6	0.004067797	
23988.49	5	0.003389831	
24031.49	7	0.004745763	
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24160.49	8	0.005423729	
24203.49	8	0.005423729	
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27385.49	2	0.001355932	
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36028.49	2	0.001355932	
36071.49	3	0.002033898	
36114.49	1	0.000677966	
36157.49	6	0.004067797	
36200.49	5	0.003389831	
36243.49	6	0.004067797	
36286.49	2	0.001355932	
36329.49	7	0.004745763	
36372.49	5	0.003389831	
36415.49	4	0.002711864	
36458.49	4	0.002711864	
36501.49	6	0.004067797	
36544.49	9	0.006101695	
36587.49	5	0.003389831	
36630.49	4	0.002711864	
36673.49	2	0.001355932	
36716.49	3	0.002033898	
36759.49	5	0.003389831	
36802.49	1	0.000677966	
36845.49	2	0.001355932	
36888.49	2	0.001355932	
36931.49	3	0.002033898	
36974.49	2	0.001355932	
37017.49	2	0.001355932	
37060.49	0	0	
37103.49	1	0.000677966	
37146.49	1	0.000677966	
37189.49	1	0.000677966	
37232.49	1	0.000677966	
37275.49	1	0.000677966	
37318.49	3	0.002033898	
37361.49	5	0.003389831	
37404.49	1	0.000677966	
37447.49	2	0.001355932	

37490.49	1	0.000677966	
37533.49	1	0.000677966	
37576.49	1	0.000677966	
37619.49	1	0.000677966	
37662.49	0	0	
37705.49	0	0	
37748.49	1	0.000677966	
37791.49	2	0.001355932	
37834.49	4	0.002711864	
37877.49	1	0.000677966	
37920.49	0	0	
37963.49	2	0.001355932	
38006.49	0	0	
38049.49	2	0.001355932	
38092.49	1	0.000677966	
38135.49	5	0.003389831	
38178.49	0	0	
38221.49	1	0.000677966	
38264.49	0	0	
38307.49	0	0	
38350.49	2	0.001355932	
38393.49	1	0.000677966	
38436.49	3	0.002033898	
38479.49	0	0	
38522.49	1	0.000677966	
38565.49	1	0.000677966	
38608.49	1	0.000677966	
38651.49	0	0	
38694.49	1	0.000677966	
38737.49	2	0.001355932	
38780.49	4	0.002711864	
38823.49	0	0	
38866.49	1	0.000677966	
38909.49	0	0	
38952.49	1	0.000677966	
38995.49	1	0.000677966	
39038.49	0	0	
39081.49	1	0.000677966	
39124.49	1	0.000677966	
39167.49	1	0.000677966	
39210.49	0	0	

39253.49	0	0	
39296.49	1	0.000677966	
39339.49	0	0	
39382.49	0	0	
39425.49	0	0	
39468.49	1	0.000677966	
39511.49	2	0.001355932	
39554.49	0	0	
39597.49	1	0.000677966	
39640.49	3	0.002033898	
39683.49	3	0.002033898	
39726.49	1	0.000677966	
39769.49	1	0.000677966	
39812.49	1	0.000677966	
39855.49	4	0.002711864	
39898.49	3	0.002033898	
39941.49	1	0.000677966	
39984.49	2	0.001355932	
40027.49	2	0.001355932	
40070.49	1	0.000677966	
40113.49	1	0.000677966	
40156.49	4	0.002711864	
40199.49	4	0.002711864	
40242.49	3	0.002033898	
40285.49	3	0.002033898	
40328.49	1	0.000677966	
40371.49	2	0.001355932	
40414.49	1	0.000677966	
40457.49	1	0.000677966	
40500.49	0	0	
40543.49	0	0	
40586.49	1	0.000677966	
40629.49	3	0.002033898	
40672.49	0	0	
40715.49	0	0	
40758.49	3	0.002033898	
40801.49	1	0.000677966	
40844.49	3	0.002033898	
40887.49	1	0.000677966	
40930.49	1	0.000677966	
40973.49	1	0.000677966	

41016.49	3	0.002033898	
41059.49	3	0.002033898	
41102.49	1	0.000677966	
41145.49	0	0	
41188.49	1	0.000677966	
41231.49	1	0.000677966	
41274.49	2	0.001355932	
41317.49	2	0.001355932	
41360.49	0	0	
41403.49	1	0.000677966	
41446.49	0	0	
41489.49	1	0.000677966	
41532.49	0	0	
41575.49	0	0	
41618.49	1	0.000677966	
41661.49	2	0.001355932	
41704.49	2	0.001355932	
41747.49	0	0	
41790.49	0	0	
41833.49	1	0.000677966	
41876.49	0	0	
41919.49	2	0.001355932	
41962.49	2	0.001355932	
42005.49	1	0.000677966	
42048.49	0	0	
42091.49	1	0.000677966	
42134.49	1	0.000677966	
42177.49	1	0.000677966	
42220.49	2	0.001355932	
42263.49	0	0	
42306.49	2	0.001355932	
42349.49	0	0	
42392.49	2	0.001355932	
42435.49	0	0	
42478.49	1	0.000677966	
42521.49	0	0	
42564.49	3	0.002033898	
42607.49	0	0	
42650.49	0	0	
42693.49	2	0.001355932	
42736.49	0	0	

42779.49	0	0	
42822.49	0	0	
42865.49	1	0.000677966	
42908.49	2	0.001355932	
42951.49	3	0.002033898	
42994.49	1	0.000677966	
43037.49	0	0	
43080.49	0	0	
43123.49	1	0.000677966	
43166.49	3	0.002033898	
43209.49	1	0.000677966	
43252.49	1	0.000677966	
43295.49	0	0	
43338.49	0	0	
43381.49	1	0.000677966	
43424.49	2	0.001355932	
43467.49	0	0	
43510.49	3	0.002033898	
43553.49	0	0	
43596.49	1	0.000677966	
43639.49	0	0	
43682.49	0	0	
43725.49	0	0	
43768.49	0	0	
43811.49	0	0	
43854.49	1	0.000677966	

C001

### Normalized Counts

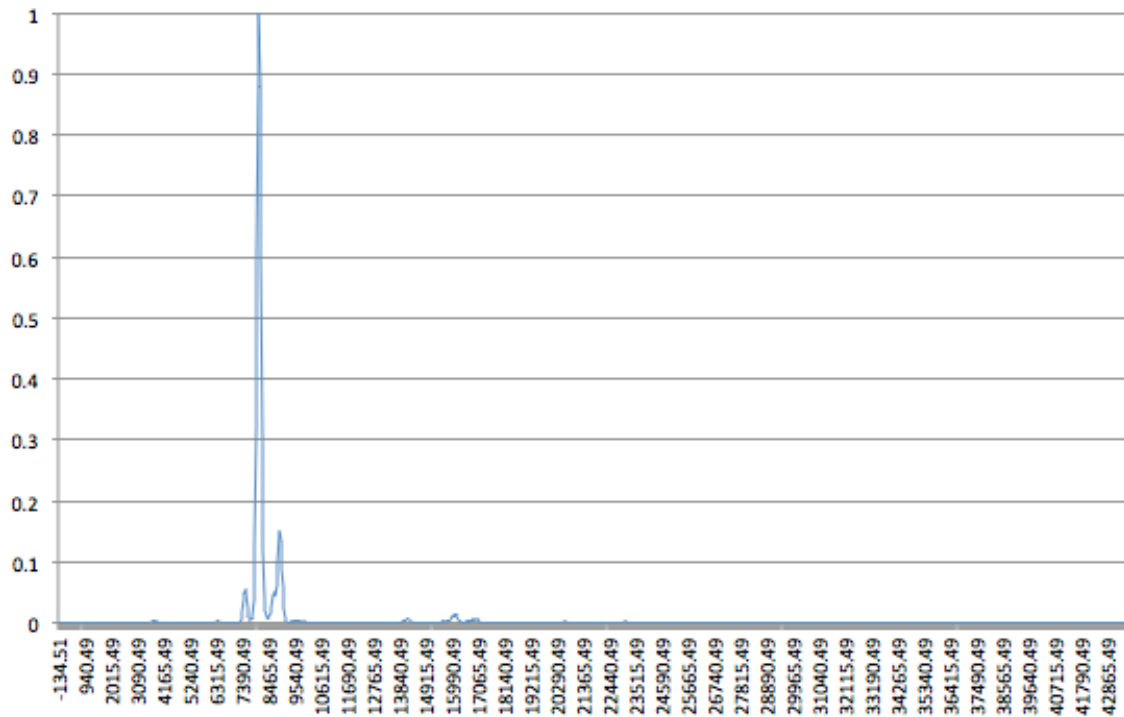


Figure 32. C001 Normalized XRF Counts

Table 17. C001 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	

467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	0	0	
1026.49	3	0.000542299	
1069.49	2	0.000361533	
1112.49	3	0.000542299	
1155.49	5	0.000903832	
1198.49	6	0.001084599	
1241.49	6	0.001084599	
1284.49	3	0.000542299	
1327.49	1	0.000180766	
1370.49	2	0.000361533	
1413.49	2	0.000361533	
1456.49	2	0.000361533	
1499.49	0	0	
1542.49	3	0.000542299	
1585.49	2	0.000361533	
1628.49	5	0.000903832	
1671.49	3	0.000542299	
1714.49	3	0.000542299	
1757.49	3	0.000542299	
1800.49	3	0.000542299	
1843.49	3	0.000542299	
1886.49	8	0.001446132	
1929.49	4	0.000723066	
1972.49	2	0.000361533	
2015.49	2	0.000361533	
2058.49	1	0.000180766	
2101.49	6	0.001084599	
2144.49	1	0.000180766	
2187.49	3	0.000542299	

2230.49	1	0.000180766	
2273.49	5	0.000903832	
2316.49	6	0.001084599	
2359.49	5	0.000903832	
2402.49	5	0.000903832	
2445.49	1	0.000180766	
2488.49	4	0.000723066	
2531.49	1	0.000180766	
2574.49	3	0.000542299	
2617.49	2	0.000361533	
2660.49	3	0.000542299	
2703.49	3	0.000542299	
2746.49	5	0.000903832	
2789.49	1	0.000180766	
2832.49	2	0.000361533	
2875.49	7	0.001265365	
2918.49	9	0.001626898	
2961.49	3	0.000542299	
3004.49	3	0.000542299	
3047.49	6	0.001084599	
3090.49	9	0.001626898	
3133.49	6	0.001084599	
3176.49	5	0.000903832	
3219.49	4	0.000723066	
3262.49	2	0.000361533	
3305.49	1	0.000180766	
3348.49	5	0.000903832	
3391.49	1	0.000180766	
3434.49	1	0.000180766	
3477.49	3	0.000542299	
3520.49	4	0.000723066	
3563.49	4	0.000723066	
3606.49	4	0.000723066	
3649.49	10	0.001807664	
3692.49	21	0.003796095	
3735.49	28	0.005061461	
3778.49	14	0.00253073	
3821.49	7	0.001265365	
3864.49	14	0.00253073	
3907.49	4	0.000723066	
3950.49	7	0.001265365	



3993.49	5	0.000903832	
4036.49	5	0.000903832	
4079.49	4	0.000723066	
4122.49	4	0.000723066	
4165.49	2	0.000361533	
4208.49	3	0.000542299	
4251.49	3	0.000542299	
4294.49	3	0.000542299	
4337.49	3	0.000542299	
4380.49	3	0.000542299	
4423.49	4	0.000723066	
4466.49	1	0.000180766	
4509.49	2	0.000361533	
4552.49	5	0.000903832	
4595.49	1	0.000180766	
4638.49	1	0.000180766	
4681.49	1	0.000180766	
4724.49	1	0.000180766	
4767.49	2	0.000361533	
4810.49	2	0.000361533	
4853.49	5	0.000903832	
4896.49	3	0.000542299	
4939.49	3	0.000542299	
4982.49	4	0.000723066	
5025.49	1	0.000180766	
5068.49	3	0.000542299	
5111.49	2	0.000361533	
5154.49	4	0.000723066	
5197.49	1	0.000180766	
5240.49	3	0.000542299	
5283.49	1	0.000180766	
5326.49	4	0.000723066	
5369.49	8	0.001446132	
5412.49	1	0.000180766	
5455.49	3	0.000542299	
5498.49	2	0.000361533	
5541.49	5	0.000903832	
5584.49	1	0.000180766	
5627.49	5	0.000903832	
5670.49	3	0.000542299	
5713.49	2	0.000361533	

5756.49	1	0.000180766	
5799.49	1	0.000180766	
5842.49	2	0.000361533	
5885.49	4	0.000723066	
5928.49	4	0.000723066	
5971.49	5	0.000903832	
6014.49	2	0.000361533	
6057.49	3	0.000542299	
6100.49	5	0.000903832	
6143.49	1	0.000180766	
6186.49	6	0.001084599	
6229.49	8	0.001446132	
6272.49	11	0.001988431	
6315.49	20	0.003615329	
6358.49	14	0.00253073	
6401.49	20	0.003615329	
6444.49	16	0.002892263	
6487.49	6	0.001084599	
6530.49	10	0.001807664	
6573.49	8	0.001446132	
6616.49	11	0.001988431	
6659.49	4	0.000723066	
6702.49	2	0.000361533	
6745.49	2	0.000361533	
6788.49	6	0.001084599	
6831.49	1	0.000180766	
6874.49	5	0.000903832	
6917.49	9	0.001626898	
6960.49	7	0.001265365	
7003.49	9	0.001626898	
7046.49	10	0.001807664	
7089.49	9	0.001626898	
7132.49	12	0.002169197	
7175.49	9	0.001626898	
7218.49	5	0.000903832	
7261.49	9	0.001626898	
7304.49	11	0.001988431	
7347.49	42	0.007592191	
7390.49	101	0.018257411	
7433.49	205	0.037057122	
7476.49	273	0.049349241	

7519.49	313	0.056579899	Ni
7562.49	260	0.046999277	
7605.49	142	0.025668836	
7648.49	66	0.011930586	
7691.49	42	0.007592191	
7734.49	17	0.00307303	
7777.49	36	0.006507592	
7820.49	65	0.011749819	
7863.49	211	0.038141721	
7906.49	676	0.12219812	
7949.49	1780	0.321764281	
7992.49	3263	0.589840926	
8035.49	4900	0.885755604	
8078.49	5532	1	Cu
8121.49	4858	0.878163413	
8164.49	3310	0.598336949	
8207.49	1637	0.295914678	
8250.49	685	0.123825018	
8293.49	218	0.039407086	
8336.49	109	0.019703543	
8379.49	64	0.011569053	
8422.49	41	0.007411424	
8465.49	32	0.005784526	
8508.49	60	0.010845987	
8551.49	95	0.017172813	
8594.49	141	0.025488069	
8637.49	244	0.044107014	
8680.49	251	0.045372379	
8723.49	278	0.050253073	Zn
8766.49	246	0.044468547	
8809.49	350	0.063268257	
8852.49	527	0.095263919	
8895.49	824	0.148951555	
8938.49	841	0.152024584	Cu
8981.49	735	0.132863341	
9024.49	498	0.090021692	
9067.49	316	0.057122198	
9110.49	138	0.02494577	
9153.49	35	0.006326826	
9196.49	18	0.003253796	
9239.49	6	0.001084599	

9282.49	7	0.001265365	
9325.49	9	0.001626898	
9368.49	9	0.001626898	
9411.49	7	0.001265365	
9454.49	19	0.003434563	
9497.49	10	0.001807664	
9540.49	15	0.002711497	
9583.49	30	0.005422993	
9626.49	29	0.005242227	
9669.49	27	0.004880694	
9712.49	16	0.002892263	
9755.49	11	0.001988431	
9798.49	18	0.003253796	
9841.49	11	0.001988431	
9884.49	9	0.001626898	
9927.49	15	0.002711497	
9970.49	10	0.001807664	
10013.49	8	0.001446132	
10056.49	9	0.001626898	
10099.49	6	0.001084599	
10142.49	4	0.000723066	
10185.49	5	0.000903832	
10228.49	2	0.000361533	
10271.49	3	0.000542299	
10314.49	0	0	
10357.49	2	0.000361533	
10400.49	1	0.000180766	
10443.49	5	0.000903832	
10486.49	8	0.001446132	
10529.49	7	0.001265365	
10572.49	5	0.000903832	
10615.49	11	0.001988431	
10658.49	2	0.000361533	
10701.49	5	0.000903832	
10744.49	7	0.001265365	
10787.49	6	0.001084599	
10830.49	5	0.000903832	
10873.49	3	0.000542299	
10916.49	2	0.000361533	
10959.49	6	0.001084599	
11002.49	3	0.000542299	

11045.49	4	0.000723066	
11088.49	6	0.001084599	
11131.49	3	0.000542299	
11174.49	4	0.000723066	
11217.49	4	0.000723066	
11260.49	9	0.001626898	
11303.49	5	0.000903832	
11346.49	5	0.000903832	
11389.49	4	0.000723066	
11432.49	5	0.000903832	
11475.49	3	0.000542299	
11518.49	1	0.000180766	
11561.49	2	0.000361533	
11604.49	3	0.000542299	
11647.49	3	0.000542299	
11690.49	4	0.000723066	
11733.49	3	0.000542299	
11776.49	3	0.000542299	
11819.49	3	0.000542299	
11862.49	1	0.000180766	
11905.49	7	0.001265365	
11948.49	1	0.000180766	
11991.49	2	0.000361533	
12034.49	2	0.000361533	
12077.49	4	0.000723066	
12120.49	3	0.000542299	
12163.49	3	0.000542299	
12206.49	3	0.000542299	
12249.49	1	0.000180766	
12292.49	2	0.000361533	
12335.49	6	0.001084599	
12378.49	4	0.000723066	
12421.49	3	0.000542299	
12464.49	7	0.001265365	
12507.49	3	0.000542299	
12550.49	6	0.001084599	
12593.49	10	0.001807664	
12636.49	5	0.000903832	
12679.49	6	0.001084599	
12722.49	8	0.001446132	
12765.49	5	0.000903832	

12808.49	1	0.000180766	
12851.49	4	0.000723066	
12894.49	5	0.000903832	
12937.49	7	0.001265365	
12980.49	6	0.001084599	
13023.49	2	0.000361533	
13066.49	4	0.000723066	
13109.49	5	0.000903832	
13152.49	7	0.001265365	
13195.49	12	0.002169197	
13238.49	5	0.000903832	
13281.49	2	0.000361533	
13324.49	1	0.000180766	
13367.49	5	0.000903832	
13410.49	3	0.000542299	
13453.49	4	0.000723066	
13496.49	5	0.000903832	
13539.49	7	0.001265365	
13582.49	5	0.000903832	
13625.49	3	0.000542299	
13668.49	3	0.000542299	
13711.49	3	0.000542299	
13754.49	2	0.000361533	
13797.49	10	0.001807664	
13840.49	4	0.000723066	
13883.49	10	0.001807664	
13926.49	10	0.001807664	
13969.49	13	0.002349964	
14012.49	15	0.002711497	
14055.49	20	0.003615329	
14098.49	19	0.003434563	
14141.49	43	0.007772957	
14184.49	40	0.007230658	
14227.49	37	0.006688359	
14270.49	25	0.004519161	
14313.49	17	0.00307303	
14356.49	10	0.001807664	
14399.49	12	0.002169197	
14442.49	11	0.001988431	
14485.49	8	0.001446132	
14528.49	5	0.000903832	

14571.49	7	0.001265365	
14614.49	6	0.001084599	
14657.49	7	0.001265365	
14700.49	9	0.001626898	
14743.49	4	0.000723066	
14786.49	6	0.001084599	
14829.49	5	0.000903832	
14872.49	7	0.001265365	
14915.49	7	0.001265365	
14958.49	8	0.001446132	
15001.49	7	0.001265365	
15044.49	8	0.001446132	
15087.49	7	0.001265365	
15130.49	9	0.001626898	
15173.49	9	0.001626898	
15216.49	8	0.001446132	
15259.49	8	0.001446132	
15302.49	6	0.001084599	
15345.49	7	0.001265365	
15388.49	6	0.001084599	
15431.49	7	0.001265365	
15474.49	11	0.001988431	
15517.49	12	0.002169197	
15560.49	10	0.001807664	
15603.49	13	0.002349964	
15646.49	15	0.002711497	
15689.49	13	0.002349964	
15732.49	6	0.001084599	
15775.49	22	0.003976862	
15818.49	16	0.002892263	
15861.49	13	0.002349964	
15904.49	24	0.004338395	
15947.49	26	0.004699928	
15990.49	57	0.010303688	Sr
16033.49	52	0.009399855	
16076.49	81	0.014642082	Sr
16119.49	67	0.012111352	
16162.49	85	0.015365148	Sr
16205.49	69	0.012472885	
16248.49	29	0.005242227	
16291.49	23	0.004157628	

16334.49	19	0.003434563	
16377.49	12	0.002169197	
16420.49	7	0.001265365	
16463.49	7	0.001265365	
16506.49	9	0.001626898	
16549.49	11	0.001988431	
16592.49	13	0.002349964	
16635.49	9	0.001626898	
16678.49	13	0.002349964	
16721.49	7	0.001265365	
16764.49	17	0.00307303	
16807.49	18	0.003253796	
16850.49	26	0.004699928	
16893.49	33	0.005965293	
16936.49	30	0.005422993	
16979.49	27	0.004880694	
17022.49	33	0.005965293	
17065.49	26	0.004699928	
17108.49	22	0.003976862	
17151.49	12	0.002169197	
17194.49	12	0.002169197	
17237.49	11	0.001988431	
17280.49	7	0.001265365	
17323.49	9	0.001626898	
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17452.49	6	0.001084599	
17495.49	6	0.001084599	
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17581.49	10	0.001807664	
17624.49	10	0.001807664	
17667.49	7	0.001265365	
17710.49	7	0.001265365	
17753.49	12	0.002169197	
17796.49	12	0.002169197	
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17968.49	10	0.001807664	
18011.49	10	0.001807664	
18054.49	7	0.001265365	



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18140.49	8	0.001446132	
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18226.49	11	0.001988431	
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18312.49	3	0.000542299	
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18527.49	8	0.001446132	
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18699.49	7	0.001265365	
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18914.49	8	0.001446132	
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19000.49	10	0.001807664	
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19172.49	9	0.001626898	
19215.49	7	0.001265365	
19258.49	8	0.001446132	
19301.49	7	0.001265365	
19344.49	9	0.001626898	
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19430.49	8	0.001446132	
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19516.49	7	0.001265365	
19559.49	3	0.000542299	
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19645.49	8	0.001446132	
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19731.49	7	0.001265365	
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20075.49	6	0.001084599	
20118.49	12	0.002169197	
20161.49	9	0.001626898	
20204.49	9	0.001626898	
20247.49	9	0.001626898	
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20548.49	9	0.001626898	
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21279.49	4	0.000723066	
21322.49	4	0.000723066	
21365.49	4	0.000723066	
21408.49	8	0.001446132	
21451.49	9	0.001626898	
21494.49	10	0.001807664	
21537.49	8	0.001446132	
21580.49	12	0.002169197	

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21752.49	7	0.001265365	
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22139.49	9	0.001626898	
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22225.49	6	0.001084599	
22268.49	8	0.001446132	
22311.49	9	0.001626898	
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22483.49	8	0.001446132	
22526.49	8	0.001446132	
22569.49	11	0.001988431	
22612.49	6	0.001084599	
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22870.49	3	0.000542299	
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22999.49	10	0.001807664	
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23085.49	15	0.002711497	
23128.49	8	0.001446132	
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23257.49	5	0.000903832	
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23343.49	7	0.001265365	

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23472.49	7	0.001265365	
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23558.49	9	0.001626898	
23601.49	8	0.001446132	
23644.49	5	0.000903832	
23687.49	6	0.001084599	
23730.49	3	0.000542299	
23773.49	10	0.001807664	
23816.49	8	0.001446132	
23859.49	7	0.001265365	
23902.49	5	0.000903832	
23945.49	9	0.001626898	
23988.49	5	0.000903832	
24031.49	5	0.000903832	
24074.49	8	0.001446132	
24117.49	7	0.001265365	
24160.49	4	0.000723066	
24203.49	8	0.001446132	
24246.49	5	0.000903832	
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24332.49	9	0.001626898	
24375.49	8	0.001446132	
24418.49	10	0.001807664	
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24590.49	4	0.000723066	
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24805.49	8	0.001446132	
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25235.49	9	0.001626898	
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25364.49	7	0.001265365	
25407.49	3	0.000542299	
25450.49	5	0.000903832	
25493.49	9	0.001626898	
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25579.49	4	0.000723066	
25622.49	9	0.001626898	
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25966.49	1	0.000180766	
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26052.49	4	0.000723066	
26095.49	9	0.001626898	
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26181.49	6	0.001084599	
26224.49	7	0.001265365	
26267.49	9	0.001626898	
26310.49	4	0.000723066	
26353.49	3	0.000542299	
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26482.49	3	0.000542299	
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26568.49	6	0.001084599	
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26654.49	3	0.000542299	
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26740.49	5	0.000903832	
26783.49	5	0.000903832	
26826.49	2	0.000361533	
26869.49	7	0.001265365	

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27127.49	4	0.000723066	
27170.49	4	0.000723066	
27213.49	4	0.000723066	
27256.49	2	0.000361533	
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27342.49	4	0.000723066	
27385.49	6	0.001084599	
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27471.49	4	0.000723066	
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27643.49	4	0.000723066	
27686.49	8	0.001446132	
27729.49	4	0.000723066	
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27858.49	2	0.000361533	
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27944.49	8	0.001446132	
27987.49	3	0.000542299	
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28073.49	3	0.000542299	
28116.49	3	0.000542299	
28159.49	1	0.000180766	
28202.49	4	0.000723066	
28245.49	8	0.001446132	
28288.49	8	0.001446132	
28331.49	4	0.000723066	
28374.49	4	0.000723066	
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28460.49	7	0.001265365	
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29191.49	3	0.000542299	
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32072.49	4	0.000723066	
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37920.49	1	0.000180766	
37963.49	0	0	
38006.49	1	0.000180766	
38049.49	1	0.000180766	
38092.49	2	0.000361533	
38135.49	1	0.000180766	
38178.49	1	0.000180766	
38221.49	1	0.000180766	
38264.49	1	0.000180766	
38307.49	0	0	
38350.49	0	0	
38393.49	2	0.000361533	
38436.49	1	0.000180766	
38479.49	1	0.000180766	
38522.49	1	0.000180766	
38565.49	1	0.000180766	
38608.49	6	0.001084599	
38651.49	1	0.000180766	
38694.49	2	0.000361533	
38737.49	2	0.000361533	
38780.49	0	0	
38823.49	0	0	
38866.49	0	0	
38909.49	2	0.000361533	
38952.49	1	0.000180766	
38995.49	2	0.000361533	
39038.49	0	0	
39081.49	0	0	
39124.49	3	0.000542299	
39167.49	0	0	
39210.49	1	0.000180766	

39253.49	2	0.000361533	
39296.49	0	0	
39339.49	3	0.000542299	
39382.49	2	0.000361533	
39425.49	5	0.000903832	
39468.49	2	0.000361533	
39511.49	1	0.000180766	
39554.49	2	0.000361533	
39597.49	1	0.000180766	
39640.49	2	0.000361533	
39683.49	0	0	
39726.49	2	0.000361533	
39769.49	0	0	
39812.49	1	0.000180766	
39855.49	2	0.000361533	
39898.49	2	0.000361533	
39941.49	3	0.000542299	
39984.49	0	0	
40027.49	3	0.000542299	
40070.49	2	0.000361533	
40113.49	1	0.000180766	
40156.49	0	0	
40199.49	0	0	
40242.49	0	0	
40285.49	2	0.000361533	
40328.49	0	0	
40371.49	2	0.000361533	
40414.49	1	0.000180766	
40457.49	3	0.000542299	
40500.49	2	0.000361533	
40543.49	1	0.000180766	
40586.49	2	0.000361533	
40629.49	0	0	
40672.49	1	0.000180766	
40715.49	1	0.000180766	
40758.49	1	0.000180766	
40801.49	0	0	
40844.49	0	0	
40887.49	4	0.000723066	
40930.49	1	0.000180766	
40973.49	2	0.000361533	

41016.49	2	0.000361533	
41059.49	0	0	
41102.49	1	0.000180766	
41145.49	1	0.000180766	
41188.49	0	0	
41231.49	1	0.000180766	
41274.49	0	0	
41317.49	2	0.000361533	
41360.49	2	0.000361533	
41403.49	0	0	
41446.49	3	0.000542299	
41489.49	2	0.000361533	
41532.49	2	0.000361533	
41575.49	1	0.000180766	
41618.49	0	0	
41661.49	3	0.000542299	
41704.49	1	0.000180766	
41747.49	1	0.000180766	
41790.49	0	0	
41833.49	0	0	
41876.49	0	0	
41919.49	1	0.000180766	
41962.49	0	0	
42005.49	2	0.000361533	
42048.49	0	0	
42091.49	0	0	
42134.49	0	0	
42177.49	1	0.000180766	
42220.49	0	0	
42263.49	2	0.000361533	
42306.49	0	0	
42349.49	1	0.000180766	
42392.49	0	0	
42435.49	0	0	
42478.49	1	0.000180766	
42521.49	1	0.000180766	
42564.49	1	0.000180766	
42607.49	0	0	
42650.49	0	0	
42693.49	2	0.000361533	
42736.49	2	0.000361533	

42779.49	1	0.000180766	
42822.49	1	0.000180766	
42865.49	1	0.000180766	
42908.49	0	0	
42951.49	0	0	
42994.49	0	0	
43037.49	1	0.000180766	
43080.49	2	0.000361533	
43123.49	1	0.000180766	
43166.49	1	0.000180766	
43209.49	1	0.000180766	
43252.49	0	0	
43295.49	1	0.000180766	
43338.49	2	0.000361533	
43381.49	4	0.000723066	
43424.49	0	0	
43467.49	1	0.000180766	
43510.49	0	0	
43553.49	1	0.000180766	
43596.49	1	0.000180766	
43639.49	0	0	
43682.49	0	0	
43725.49	0	0	
43768.49	2	0.000361533	
43811.49	0	0	
43854.49	0	0	

C002

### Normalized Counts

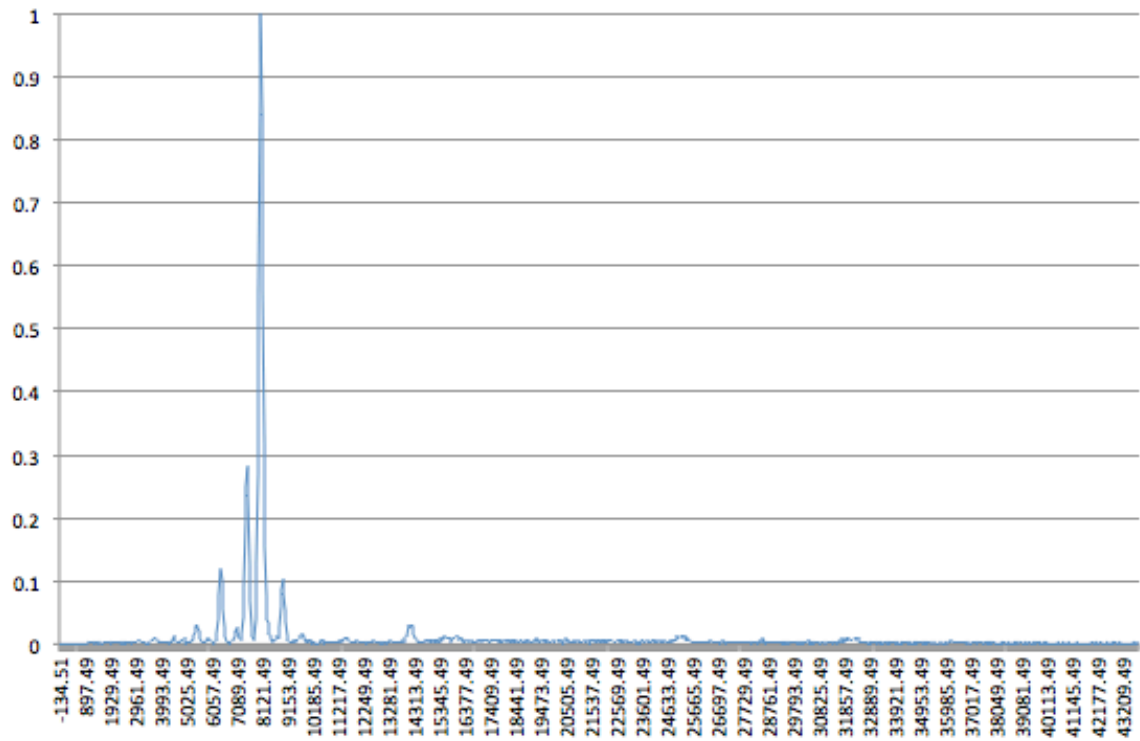


Figure 33. C002 Normalized XRF Counts

Table 18. C002 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	



424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	1	0.000503778	
1026.49	5	0.002518892	
1069.49	6	0.00302267	
1112.49	4	0.002015113	
1155.49	3	0.001511335	
1198.49	4	0.002015113	
1241.49	5	0.002518892	
1284.49	0	0	
1327.49	7	0.003526448	
1370.49	5	0.002518892	
1413.49	2	0.001007557	
1456.49	5	0.002518892	
1499.49	3	0.001511335	
1542.49	1	0.000503778	
1585.49	1	0.000503778	
1628.49	1	0.000503778	
1671.49	3	0.001511335	
1714.49	5	0.002518892	
1757.49	5	0.002518892	
1800.49	6	0.00302267	
1843.49	5	0.002518892	
1886.49	5	0.002518892	
1929.49	4	0.002015113	
1972.49	2	0.001007557	
2015.49	7	0.003526448	
2058.49	3	0.001511335	
2101.49	5	0.002518892	
2144.49	4	0.002015113	

2187.49	6	0.00302267	
2230.49	3	0.001511335	
2273.49	5	0.002518892	
2316.49	5	0.002518892	
2359.49	1	0.000503778	
2402.49	5	0.002518892	
2445.49	9	0.004534005	
2488.49	1	0.000503778	
2531.49	5	0.002518892	
2574.49	1	0.000503778	
2617.49	7	0.003526448	
2660.49	5	0.002518892	
2703.49	5	0.002518892	
2746.49	3	0.001511335	
2789.49	2	0.001007557	
2832.49	4	0.002015113	
2875.49	6	0.00302267	
2918.49	6	0.00302267	
2961.49	7	0.003526448	
3004.49	9	0.004534005	
3047.49	4	0.002015113	
3090.49	12	0.00604534	
3133.49	10	0.005037783	
3176.49	4	0.002015113	
3219.49	4	0.002015113	
3262.49	3	0.001511335	
3305.49	3	0.001511335	
3348.49	2	0.001007557	
3391.49	2	0.001007557	
3434.49	2	0.001007557	
3477.49	2	0.001007557	
3520.49	4	0.002015113	
3563.49	12	0.00604534	
3606.49	10	0.005037783	
3649.49	13	0.006549118	
3692.49	19	0.009571788	
3735.49	22	0.011083123	Sn
3778.49	22	0.011083123	Te
3821.49	14	0.007052897	
3864.49	8	0.004030227	
3907.49	7	0.003526448	

3950.49	9	0.004534005	
3993.49	8	0.004030227	
4036.49	6	0.00302267	
4079.49	4	0.002015113	
4122.49	7	0.003526448	
4165.49	7	0.003526448	
4208.49	5	0.002518892	
4251.49	3	0.001511335	
4294.49	1	0.000503778	
4337.49	3	0.001511335	
4380.49	6	0.00302267	
4423.49	7	0.003526448	
4466.49	15	0.007556675	
4509.49	24	0.01209068	Ti
4552.49	12	0.00604534	
4595.49	7	0.003526448	
4638.49	9	0.004534005	
4681.49	8	0.004030227	
4724.49	4	0.002015113	
4767.49	9	0.004534005	
4810.49	13	0.006549118	
4853.49	14	0.007052897	
4896.49	13	0.006549118	
4939.49	17	0.008564232	
4982.49	2	0.001007557	
5025.49	7	0.003526448	
5068.49	7	0.003526448	
5111.49	8	0.004030227	
5154.49	7	0.003526448	
5197.49	5	0.002518892	
5240.49	14	0.007052897	
5283.49	13	0.006549118	
5326.49	24	0.01209068	
5369.49	41	0.020654912	
5412.49	59	0.029722922	
5455.49	60	0.0302267	V
5498.49	53	0.026700252	
5541.49	38	0.019143577	
5584.49	16	0.008060453	
5627.49	7	0.003526448	
5670.49	7	0.003526448	

5713.49	4	0.002015113	
5756.49	7	0.003526448	
5799.49	5	0.002518892	
5842.49	12	0.00604534	
5885.49	12	0.00604534	
5928.49	21	0.010579345	Cr
5971.49	13	0.006549118	
6014.49	10	0.005037783	
6057.49	8	0.004030227	
6100.49	7	0.003526448	
6143.49	0	0	
6186.49	7	0.003526448	
6229.49	11	0.005541562	
6272.49	30	0.01511335	
6315.49	81	0.040806045	
6358.49	154	0.077581864	
6401.49	236	0.118891688	Fe
6444.49	236	0.118891688	Fe
6487.49	198	0.099748111	
6530.49	111	0.055919395	
6573.49	51	0.025692695	
6616.49	26	0.013098237	
6659.49	6	0.00302267	
6702.49	4	0.002015113	
6745.49	5	0.002518892	
6788.49	2	0.001007557	
6831.49	6	0.00302267	
6874.49	7	0.003526448	
6917.49	11	0.005541562	
6960.49	14	0.007052897	
7003.49	26	0.013098237	
7046.49	38	0.019143577	
7089.49	50	0.025188917	Fe
7132.49	42	0.02115869	
7175.49	20	0.010075567	
7218.49	21	0.010579345	Fe
7261.49	15	0.007556675	
7304.49	34	0.017128463	
7347.49	83	0.041813602	
7390.49	179	0.090176322	
7433.49	381	0.191939547	

7476.49	493	0.24836272	
7519.49	559	0.281612091	Ni
7562.49	464	0.233753149	
7605.49	249	0.125440806	
7648.49	141	0.071032746	
7691.49	55	0.027707809	
7734.49	24	0.01209068	
7777.49	12	0.00604534	
7820.49	20	0.010075567	
7863.49	77	0.038790932	
7906.49	249	0.125440806	
7949.49	530	0.267002519	
7992.49	1094	0.551133501	
8035.49	1710	0.861460957	
8078.49	1985	1	Cu
8121.49	1663	0.837783375	
8164.49	1113	0.56070529	
8207.49	632	0.318387909	
8250.49	306	0.154156171	
8293.49	150	0.075566751	
8336.49	76	0.038287154	
8379.49	65	0.032745592	
8422.49	35	0.017632242	
8465.49	24	0.01209068	
8508.49	10	0.005037783	
8551.49	12	0.00604534	
8594.49	5	0.002518892	
8637.49	10	0.005037783	
8680.49	17	0.008564232	
8723.49	26	0.013098237	Zn
8766.49	21	0.010579345	
8809.49	55	0.027707809	
8852.49	119	0.059949622	
8895.49	172	0.086649874	
8938.49	204	0.102770781	Cu
8981.49	156	0.078589421	
9024.49	104	0.052392947	
9067.49	75	0.037783375	
9110.49	23	0.011586902	
9153.49	15	0.007556675	
9196.49	5	0.002518892	

9239.49	6	0.00302267	
9282.49	5	0.002518892	
9325.49	5	0.002518892	
9368.49	7	0.003526448	
9411.49	10	0.005037783	
9454.49	7	0.003526448	
9497.49	10	0.005037783	
9540.49	11	0.005541562	
9583.49	14	0.007052897	
9626.49	18	0.00906801	
9669.49	24	0.01209068	
9712.49	34	0.017128463	Au
9755.49	25	0.012594458	
9798.49	27	0.013602015	Au
9841.49	14	0.007052897	
9884.49	15	0.007556675	
9927.49	7	0.003526448	
9970.49	10	0.005037783	
10013.49	8	0.004030227	
10056.49	12	0.00604534	
10099.49	6	0.00302267	
10142.49	2	0.001007557	
10185.49	3	0.001511335	
10228.49	3	0.001511335	
10271.49	2	0.001007557	
10314.49	2	0.001007557	
10357.49	1	0.000503778	
10400.49	2	0.001007557	
10443.49	1	0.000503778	
10486.49	14	0.007052897	
10529.49	7	0.003526448	
10572.49	11	0.005541562	
10615.49	2	0.001007557	
10658.49	8	0.004030227	
10701.49	5	0.002518892	
10744.49	3	0.001511335	
10787.49	6	0.00302267	
10830.49	4	0.002015113	
10873.49	4	0.002015113	
10916.49	5	0.002518892	
10959.49	3	0.001511335	

11002.49	6	0.00302267	
11045.49	9	0.004534005	
11088.49	5	0.002518892	
11131.49	4	0.002015113	
11174.49	7	0.003526448	
11217.49	7	0.003526448	
11260.49	7	0.003526448	
11303.49	13	0.006549118	
11346.49	4	0.002015113	
11389.49	12	0.00604534	
11432.49	15	0.007556675	
11475.49	20	0.010075567	Se
11518.49	16	0.008060453	
11561.49	16	0.008060453	
11604.49	18	0.00906801	
11647.49	12	0.00604534	
11690.49	5	0.002518892	
11733.49	3	0.001511335	
11776.49	4	0.002015113	
11819.49	6	0.00302267	
11862.49	4	0.002015113	
11905.49	4	0.002015113	
11948.49	5	0.002518892	
11991.49	10	0.005037783	
12034.49	4	0.002015113	
12077.49	5	0.002518892	
12120.49	5	0.002518892	
12163.49	3	0.001511335	
12206.49	3	0.001511335	
12249.49	4	0.002015113	
12292.49	5	0.002518892	
12335.49	3	0.001511335	
12378.49	2	0.001007557	
12421.49	5	0.002518892	
12464.49	7	0.003526448	
12507.49	6	0.00302267	
12550.49	5	0.002518892	
12593.49	8	0.004030227	
12636.49	3	0.001511335	
12679.49	13	0.006549118	
12722.49	6	0.00302267	

12765.49	6	0.00302267	
12808.49	6	0.00302267	
12851.49	9	0.004534005	
12894.49	3	0.001511335	
12937.49	1	0.000503778	
12980.49	8	0.004030227	
13023.49	7	0.003526448	
13066.49	0	0	
13109.49	5	0.002518892	
13152.49	8	0.004030227	
13195.49	2	0.001007557	
13238.49	7	0.003526448	
13281.49	9	0.004534005	
13324.49	8	0.004030227	
13367.49	10	0.005037783	
13410.49	5	0.002518892	
13453.49	8	0.004030227	
13496.49	4	0.002015113	
13539.49	4	0.002015113	
13582.49	4	0.002015113	
13625.49	6	0.00302267	
13668.49	6	0.00302267	
13711.49	6	0.00302267	
13754.49	8	0.004030227	
13797.49	5	0.002518892	
13840.49	4	0.002015113	
13883.49	11	0.005541562	
13926.49	8	0.004030227	
13969.49	18	0.00906801	
14012.49	24	0.01209068	
14055.49	26	0.013098237	
14098.49	61	0.030730479	Sr
14141.49	54	0.02720403	
14184.49	58	0.029219144	Sr
14227.49	56	0.028211587	
14270.49	31	0.015617128	
14313.49	16	0.008060453	
14356.49	20	0.010075567	Sr
14399.49	14	0.007052897	
14442.49	5	0.002518892	
14485.49	4	0.002015113	



14528.49	4	0.002015113	
14571.49	8	0.004030227	
14614.49	8	0.004030227	
14657.49	7	0.003526448	
14700.49	7	0.003526448	
14743.49	11	0.005541562	
14786.49	4	0.002015113	
14829.49	10	0.005037783	
14872.49	10	0.005037783	
14915.49	7	0.003526448	
14958.49	14	0.007052897	
15001.49	13	0.006549118	
15044.49	7	0.003526448	
15087.49	11	0.005541562	
15130.49	5	0.002518892	
15173.49	5	0.002518892	
15216.49	13	0.006549118	
15259.49	6	0.00302267	
15302.49	10	0.005037783	
15345.49	5	0.002518892	
15388.49	16	0.008060453	
15431.49	12	0.00604534	
15474.49	19	0.009571788	
15517.49	19	0.009571788	
15560.49	26	0.013098237	Zr
15603.49	17	0.008564232	
15646.49	18	0.00906801	
15689.49	16	0.008060453	
15732.49	17	0.008564232	
15775.49	19	0.009571788	
15818.49	8	0.004030227	
15861.49	19	0.009571788	
15904.49	20	0.010075567	
15947.49	21	0.010579345	Sr
15990.49	16	0.008060453	
16033.49	24	0.01209068	
16076.49	25	0.012594458	Sr
16119.49	16	0.008060453	
16162.49	15	0.007556675	
16205.49	17	0.008564232	
16248.49	22	0.011083123	Sr

16291.49	6	0.00302267	
16334.49	15	0.007556675	
16377.49	9	0.004534005	
16420.49	6	0.00302267	
16463.49	14	0.007052897	
16506.49	13	0.006549118	
16549.49	6	0.00302267	
16592.49	7	0.003526448	
16635.49	13	0.006549118	
16678.49	8	0.004030227	
16721.49	6	0.00302267	
16764.49	4	0.002015113	
16807.49	5	0.002518892	
16850.49	9	0.004534005	
16893.49	12	0.00604534	
16936.49	8	0.004030227	
16979.49	10	0.005037783	
17022.49	13	0.006549118	
17065.49	9	0.004534005	
17108.49	10	0.005037783	
17151.49	13	0.006549118	
17194.49	11	0.005541562	
17237.49	10	0.005037783	
17280.49	10	0.005037783	
17323.49	10	0.005037783	
17366.49	5	0.002518892	
17409.49	9	0.004534005	
17452.49	12	0.00604534	
17495.49	12	0.00604534	
17538.49	13	0.006549118	
17581.49	10	0.005037783	
17624.49	13	0.006549118	
17667.49	13	0.006549118	
17710.49	10	0.005037783	
17753.49	6	0.00302267	
17796.49	11	0.005541562	
17839.49	9	0.004534005	
17882.49	11	0.005541562	
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17968.49	8	0.004030227	
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18097.49	8	0.004030227	
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19172.49	9	0.004534005	
19215.49	11	0.005541562	
19258.49	9	0.004534005	
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19344.49	12	0.00604534	
19387.49	8	0.004030227	
19430.49	14	0.007052897	
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19516.49	11	0.005541562	
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20118.49	11	0.005541562	
20161.49	12	0.00604534	
20204.49	10	0.005037783	
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20333.49	9	0.004534005	
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20849.49	11	0.005541562	
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21150.49	7	0.003526448	
21193.49	7	0.003526448	
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21279.49	9	0.004534005	
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21365.49	9	0.004534005	
21408.49	11	0.005541562	
21451.49	2	0.001007557	
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21537.49	11	0.005541562	

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21795.49	11	0.005541562	
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22397.49	12	0.00604534	
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22741.49	12	0.00604534	
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23171.49	7	0.003526448	
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23257.49	7	0.003526448	
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23515.49	2	0.001007557	
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23687.49	6	0.00302267	
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23773.49	8	0.004030227	
23816.49	10	0.005037783	
23859.49	9	0.004534005	
23902.49	8	0.004030227	
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23988.49	7	0.003526448	
24031.49	10	0.005037783	
24074.49	15	0.007556675	
24117.49	7	0.003526448	
24160.49	7	0.003526448	
24203.49	12	0.00604534	
24246.49	6	0.00302267	
24289.49	9	0.004534005	
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24375.49	6	0.00302267	
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24461.49	4	0.002015113	
24504.49	5	0.002518892	
24547.49	15	0.007556675	
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26224.49	7	0.003526448	
26267.49	5	0.002518892	
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26482.49	3	0.001511335	
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26697.49	6	0.00302267	
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27342.49	3	0.001511335	
27385.49	8	0.004030227	
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27471.49	5	0.002518892	
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27557.49	4	0.002015113	
27600.49	5	0.002518892	
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27686.49	5	0.002518892	
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28159.49	3	0.001511335	
28202.49	7	0.003526448	
28245.49	6	0.00302267	
28288.49	6	0.00302267	
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28374.49	6	0.00302267	
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28460.49	10	0.005037783	
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28589.49	5	0.002518892	



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28847.49	3	0.001511335	
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28933.49	7	0.003526448	
28976.49	7	0.003526448	
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29191.49	4	0.002015113	
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29664.49	6	0.00302267	
29707.49	8	0.004030227	
29750.49	5	0.002518892	
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29879.49	7	0.003526448	
29922.49	3	0.001511335	
29965.49	1	0.000503778	
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30094.49	2	0.001007557	
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31427.49	6	0.00302267	
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34996.49	5	0.002518892	
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35125.49	4	0.002015113	
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35297.49	4	0.002015113	
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35383.49	4	0.002015113	
35426.49	2	0.001007557	
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35555.49	4	0.002015113	
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36587.49	6	0.00302267	
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36673.49	3	0.001511335	
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36759.49	4	0.002015113	
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36888.49	4	0.002015113	
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37060.49	4	0.002015113	
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37275.49	3	0.001511335	
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38694.49	1	0.000503778	
38737.49	1	0.000503778	
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39769.49	4	0.002015113	
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40371.49	2	0.001007557	
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40586.49	4	0.002015113	
40629.49	0	0	
40672.49	2	0.001007557	
40715.49	1	0.000503778	
40758.49	2	0.001007557	
40801.49	3	0.001511335	
40844.49	2	0.001007557	
40887.49	2	0.001007557	
40930.49	2	0.001007557	

40973.49	2	0.001007557	
41016.49	3	0.001511335	
41059.49	1	0.000503778	
41102.49	0	0	
41145.49	1	0.000503778	
41188.49	1	0.000503778	
41231.49	1	0.000503778	
41274.49	1	0.000503778	
41317.49	3	0.001511335	
41360.49	0	0	
41403.49	2	0.001007557	
41446.49	1	0.000503778	
41489.49	1	0.000503778	
41532.49	2	0.001007557	
41575.49	1	0.000503778	
41618.49	2	0.001007557	
41661.49	1	0.000503778	
41704.49	2	0.001007557	
41747.49	2	0.001007557	
41790.49	1	0.000503778	
41833.49	1	0.000503778	
41876.49	1	0.000503778	
41919.49	3	0.001511335	
41962.49	4	0.002015113	
42005.49	0	0	
42048.49	1	0.000503778	
42091.49	3	0.001511335	
42134.49	1	0.000503778	
42177.49	2	0.001007557	
42220.49	1	0.000503778	
42263.49	4	0.002015113	
42306.49	3	0.001511335	
42349.49	1	0.000503778	
42392.49	1	0.000503778	
42435.49	1	0.000503778	
42478.49	0	0	
42521.49	0	0	
42564.49	3	0.001511335	
42607.49	2	0.001007557	
42650.49	1	0.000503778	
42693.49	1	0.000503778	



42736.49	1	0.000503778	
42779.49	4	0.002015113	
42822.49	1	0.000503778	
42865.49	6	0.00302267	
42908.49	4	0.002015113	
42951.49	1	0.000503778	
42994.49	0	0	
43037.49	1	0.000503778	
43080.49	3	0.001511335	
43123.49	2	0.001007557	
43166.49	1	0.000503778	
43209.49	1	0.000503778	
43252.49	0	0	
43295.49	1	0.000503778	
43338.49	1	0.000503778	
43381.49	0	0	
43424.49	0	0	
43467.49	0	0	
43510.49	2	0.001007557	
43553.49	1	0.000503778	
43596.49	1	0.000503778	
43639.49	3	0.001511335	
43682.49	1	0.000503778	
43725.49	2	0.001007557	
43768.49	1	0.000503778	
43811.49	3	0.001511335	
43854.49	2	0.001007557	

C003

### Normalized Counts

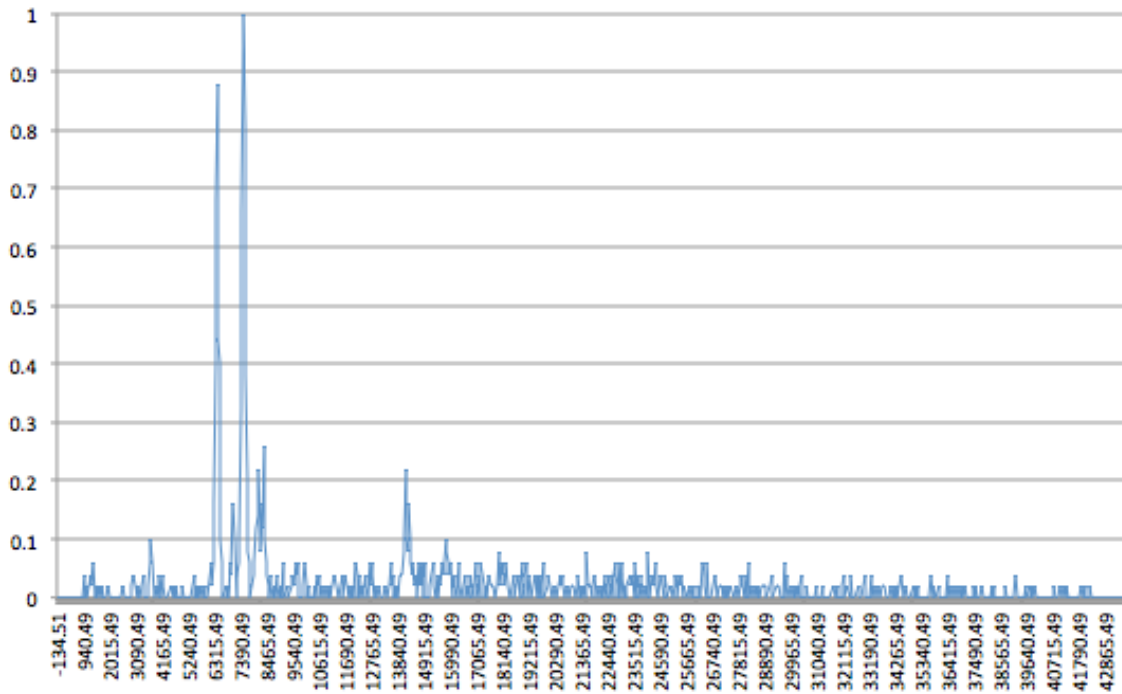


Figure 34. C003 Normalized XRF Counts

Table 19. C003 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	

467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	2	0.04	Cu
983.49	0	0	
1026.49	1	0.02	Zn
1069.49	0	0	
1112.49	0	0	
1155.49	0	0	
1198.49	2	0.04	Ge
1241.49	1	0.02	Ge
1284.49	1	0.02	As
1327.49	3	0.06	As
1370.49	0	0	
1413.49	0	0	
1456.49	1	0.02	Se
1499.49	1	0.02	Br
1542.49	0	0	
1585.49	1	0.02	Br
1628.49	1	0.02	Br
1671.49	0	0	
1714.49	1	0.02	Rb
1757.49	0	0	
1800.49	0	0	
1843.49	0	0	
1886.49	0	0	
1929.49	0	0	
1972.49	1	0.02	Y
2015.49	1	0.02	Y
2058.49	0	0	
2101.49	0	0	
2144.49	0	0	
2187.49	0	0	

2230.49	0	0	
2273.49	0	0	
2316.49	0	0	
2359.49	0	0	
2402.49	0	0	
2445.49	0	0	
2488.49	0	0	
2531.49	0	0	
2574.49	1	0.02	Ru
2617.49	0	0	
2660.49	0	0	
2703.49	0	0	
2746.49	0	0	
2789.49	0	0	
2832.49	0	0	
2875.49	0	0	
2918.49	1	0.02	
2961.49	2	0.04	Ag
3004.49	2	0.04	Pd
3047.49	1	0.02	Ag
3090.49	1	0.02	Pd
3133.49	0	0	
3176.49	1	0.02	Ag
3219.49	0	0	
3262.49	0	0	
3305.49	1	0.02	In
3348.49	1	0.02	Cd
3391.49	2	0.04	In
3434.49	0	0	
3477.49	0	0	
3520.49	0	0	
3563.49	0	0	
3606.49	1	0.02	
3649.49	3	0.06	
3692.49	5	0.1	Sn
3735.49	3	0.06	Sn
3778.49	3	0.06	Te
3821.49	3	0.06	Te
3864.49	0	0	
3907.49	0	0	
3950.49	1	0.02	Te

3993.49	0	0	
4036.49	2	0.04	Te
4079.49	2	0.04	Te
4122.49	0	0	
4165.49	2	0.04	Sc
4208.49	1	0.02	
4251.49	0	0	
4294.49	0	0	
4337.49	0	0	
4380.49	0	0	
4423.49	0	0	
4466.49	0	0	
4509.49	1	0.02	Ti
4552.49	1	0.02	Ti
4595.49	0	0	
4638.49	1	0.02	Ti
4681.49	0	0	
4724.49	1	0.02	Ti
4767.49	1	0.02	Ti
4810.49	0	0	
4853.49	0	0	
4896.49	0	0	
4939.49	0	0	
4982.49	1	0.02	Ti
5025.49	1	0.02	Ce
5068.49	0	0	
5111.49	0	0	
5154.49	0	0	
5197.49	0	0	
5240.49	0	0	
5283.49	0	0	
5326.49	0	0	
5369.49	0	0	
5412.49	0	0	
5455.49	2	0.04	V
5498.49	0	0	
5541.49	1	0.02	Cr
5584.49	0	0	
5627.49	1	0.02	Cr
5670.49	0	0	
5713.49	0	0	

5756.49	1	0.02	Cr
5799.49	0	0	
5842.49	0	0	
5885.49	1	0.02	Cr
5928.49	0	0	
5971.49	0	0	
6014.49	0	0	
6057.49	0	0	
6100.49	0	0	
6143.49	0	0	
6186.49	3	0.06	Gd
6229.49	1	0.02	
6272.49	3	0.06	
6315.49	8	0.16	
6358.49	20	0.4	
6401.49	34	0.68	
6444.49	44	0.88	Fe
6487.49	22	0.44	
6530.49	20	0.4	
6573.49	5	0.1	
6616.49	3	0.06	
6659.49	0	0	
6702.49	0	0	
6745.49	0	0	
6788.49	1	0.02	Co
6831.49	0	0	
6874.49	1	0.02	Co
6917.49	0	0	
6960.49	3	0.06	Co
7003.49	2	0.04	
7046.49	8	0.16	Fe
7089.49	8	0.16	Fe
7132.49	8	0.16	Co
7175.49	5	0.1	
7218.49	0	0	
7261.49	2	0.04	
7304.49	3	0.06	
7347.49	5	0.1	
7390.49	16	0.32	
7433.49	33	0.66	
7476.49	47	0.94	

7519.49	50	1	Ni
7562.49	40	0.8	
7605.49	19	0.38	
7648.49	10	0.2	
7691.49	4	0.08	
7734.49	3	0.06	
7777.49	0	0	
7820.49	1	0.02	Co
7863.49	1	0.02	Co
7906.49	2	0.04	
7949.49	3	0.06	
7992.49	6	0.12	Cu
8035.49	6	0.12	Cu
8078.49	7	0.14	
8121.49	11	0.22	Cu
8164.49	5	0.1	
8207.49	4	0.08	
8250.49	8	0.16	Ni
8293.49	6	0.12	
8336.49	13	0.26	Ni
8379.49	5	0.1	
8422.49	3	0.06	
8465.49	2	0.04	
8508.49	1	0.02	
8551.49	0	0	
8594.49	2	0.04	W
8637.49	1	0.02	
8680.49	0	0	
8723.49	0	0	
8766.49	1	0.02	Cu
8809.49	0	0	
8852.49	2	0.04	Cu
8895.49	1	0.02	
8938.49	0	0	
8981.49	0	0	
9024.49	1	0.02	Cu
9067.49	0	0	
9110.49	3	0.06	Cu
9153.49	0	0	
9196.49	0	0	
9239.49	0	0	

9282.49	1	0.02	Ga
9325.49	0	0	
9368.49	0	0	
9411.49	0	0	
9454.49	1	0.02	
9497.49	2	0.04	Zn
9540.49	2	0.04	Zn
9583.49	1	0.02	
9626.49	3	0.06	Au
9669.49	2	0.04	
9712.49	3	0.06	Au
9755.49	0	0	
9798.49	0	0	
9841.49	0	0	
9884.49	0	0	
9927.49	1	0.02	
9970.49	3	0.06	Ge
10013.49	3	0.06	Re
10056.49	1	0.02	
10099.49	0	0	
10142.49	1	0.02	Ga
10185.49	0	0	
10228.49	0	0	
10271.49	0	0	
10314.49	0	0	
10357.49	0	0	
10400.49	1	0.02	Ga
10443.49	0	0	
10486.49	0	0	
10529.49	2	0.04	Ga
10572.49	1	0.02	
10615.49	2	0.04	As
10658.49	0	0	
10701.49	1	0.02	Pb
10744.49	1	0.02	Ge
10787.49	0	0	
10830.49	0	0	
10873.49	0	0	
10916.49	1	0.02	Se
10959.49	0	0	
11002.49	0	0	



11045.49	1	0.02	As
11088.49	0	0	
11131.49	0	0	
11174.49	1	0.02	
11217.49	2	0.04	Se
11260.49	2	0.04	Se
11303.49	2	0.04	Se
11346.49	1	0.02	Se
11389.49	1	0.02	
11432.49	0	0	
11475.49	1	0.02	Se
11518.49	1	0.02	Au
11561.49	2	0.04	Au
11604.49	0	0	
11647.49	0	0	
11690.49	2	0.04	Au
11733.49	1	0.02	Au
11776.49	1	0.02	Au
11819.49	0	0	
11862.49	1	0.02	Rn
11905.49	1	0.02	Br
11948.49	0	0	
11991.49	1	0.02	Br
12034.49	0	0	
12077.49	0	0	
12120.49	3	0.06	Se
12163.49	2	0.04	
12206.49	0	0	
12249.49	2	0.04	Se
12292.49	0	0	
12335.49	0	0	
12378.49	1	0.02	Se
12421.49	0	0	
12464.49	1	0.02	
12507.49	2	0.04	Se
12550.49	1	0.02	
12593.49	0	0	
12636.49	0	0	
12679.49	3	0.06	Se
12722.49	1	0.02	
12765.49	3	0.06	Pb

12808.49	2	0.04	
12851.49	0	0	
12894.49	1	0.02	Th
12937.49	1	0.02	Th
12980.49	0	0	
13023.49	1	0.02	Th
13066.49	1	0.02	Th
13109.49	0	0	
13152.49	0	0	
13195.49	0	0	
13238.49	0	0	
13281.49	0	0	
13324.49	1	0.02	Br
13367.49	1	0.02	Rb
13410.49	0	0	
13453.49	1	0.02	Rb
13496.49	1	0.02	Rb
13539.49	3	0.06	Rb
13582.49	1	0.02	
13625.49	2	0.04	Rb
13668.49	0	0	
13711.49	1	0.02	Rb
13754.49	0	0	
13797.49	1	0.02	At
13840.49	0	0	
13883.49	2	0.04	Sr
13926.49	2	0.04	At
13969.49	2	0.04	At
14012.49	2	0.04	Sr
14055.49	4	0.08	
14098.49	5	0.1	
14141.49	11	0.22	Sr
14184.49	5	0.1	
14227.49	4	0.08	
14270.49	8	0.16	Sr
14313.49	5	0.1	
14356.49	3	0.06	
14399.49	2	0.04	
14442.49	3	0.06	Sr
14485.49	1	0.02	
14528.49	2	0.04	Rn

14571.49	1	0.02	
14614.49	0	0	
14657.49	3	0.06	Rn
14700.49	1	0.02	
14743.49	3	0.06	Rn
14786.49	1	0.02	
14829.49	3	0.06	Fr
14872.49	0	0	
14915.49	2	0.04	
14958.49	3	0.06	Y
15001.49	0	0	
15044.49	0	0	
15087.49	0	0	
15130.49	0	0	
15173.49	1	0.02	Y
15216.49	1	0.02	Y
15259.49	1	0.02	Zr
15302.49	3	0.06	Zr
15345.49	1	0.02	Zr
15388.49	1	0.02	Zr
15431.49	0	0	
15474.49	2	0.04	Zr
15517.49	0	0	
15560.49	2	0.04	Zr
15603.49	1	0.02	Zr
15646.49	1	0.02	Zr
15689.49	3	0.06	Zr
15732.49	2	0.04	
15775.49	3	0.06	
15818.49	5	0.1	Zr
15861.49	4	0.08	
15904.49	3	0.06	
15947.49	2	0.04	
15990.49	3	0.06	Sr
16033.49	3	0.06	Sr
16076.49	0	0	
16119.49	1	0.02	
16162.49	2	0.04	Sr
16205.49	1	0.02	
16248.49	0	0	
16291.49	0	0	

16334.49	3	0.06	Th
16377.49	1	0.02	Th
16420.49	1	0.02	Sr
16463.49	0	0	
16506.49	0	0	
16549.49	1	0.02	
16592.49	2	0.04	Th
16635.49	0	0	
16678.49	0	0	
16721.49	1	0.02	Y
16764.49	0	0	
16807.49	2	0.04	Y
16850.49	1	0.02	
16893.49	0	0	
16936.49	1	0.02	Y
16979.49	1	0.02	Y
17022.49	3	0.06	Y
17065.49	0	0	
17108.49	1	0.02	
17151.49	2	0.04	Y
17194.49	0	0	
17237.49	3	0.06	Mo
17280.49	3	0.06	Y
17323.49	3	0.06	Mo
17366.49	1	0.02	
17409.49	0	0	
17452.49	1	0.02	Mo
17495.49	0	0	
17538.49	0	0	
17581.49	2	0.04	Zr
17624.49	1	0.02	Mo
17667.49	1	0.02	Zr
17710.49	1	0.02	Zr
17753.49	1	0.02	Mo
17796.49	0	0	
17839.49	0	0	
17882.49	0	0	
17925.49	1	0.02	
17968.49	4	0.08	Zr
18011.49	1	0.02	
18054.49	3	0.06	Zr

18097.49	2	0.04	
18140.49	3	0.06	Zr
18183.49	1	0.02	
18226.49	2	0.04	
18269.49	3	0.06	Tc
18312.49	1	0.02	Tc
18355.49	1	0.02	Tc
18398.49	1	0.02	Tc
18441.49	0	0	
18484.49	0	0	
18527.49	0	0	
18570.49	2	0.04	Tc
18613.49	0	0	
18656.49	1	0.02	Nb
18699.49	1	0.02	Nb
18742.49	1	0.02	Nb
18785.49	2	0.04	Nb
18828.49	0	0	
18871.49	1	0.02	
18914.49	3	0.06	Nb
18957.49	0	0	
19000.49	1	0.02	
19043.49	2	0.04	
19086.49	3	0.06	Ru
19129.49	0	0	
19172.49	2	0.04	Ru
19215.49	2	0.04	Ru
19258.49	2	0.04	Ru
19301.49	0	0	
19344.49	0	0	
19387.49	0	0	
19430.49	1	0.02	Ru
19473.49	1	0.02	Tc
19516.49	2	0.04	Tc
19559.49	0	0	
19602.49	2	0.04	Tc
19645.49	0	0	
19688.49	2	0.04	Tc
19731.49	0	0	
19774.49	1	0.02	
19817.49	3	0.06	Tc

19860.49	0	0	
19903.49	0	0	
19946.49	0	0	
19989.49	1	0.02	
20032.49	2	0.04	Rh
20075.49	2	0.04	Rh
20118.49	2	0.04	Rh
20161.49	0	0	
20204.49	0	0	
20247.49	1	0.02	Rh
20290.49	1	0.02	Rh
20333.49	1	0.02	Rh
20376.49	0	0	
20419.49	0	0	
20462.49	1	0.02	
20505.49	2	0.04	Rh
20548.49	1	0.02	
20591.49	2	0.04	Rh
20634.49	1	0.02	Rh
20677.49	1	0.02	Rh
20720.49	0	0	
20763.49	1	0.02	Rh
20806.49	1	0.02	Pd
20849.49	0	0	
20892.49	0	0	
20935.49	1	0.02	Pd
20978.49	1	0.02	Pd
21021.49	1	0.02	Pd
21064.49	1	0.02	Pd
21107.49	1	0.02	Pd
21150.49	0	0	
21193.49	1	0.02	
21236.49	2	0.04	Pd
21279.49	2	0.04	Pd
21322.49	0	0	
21365.49	1	0.02	Pd
21408.49	0	0	
21451.49	1	0.02	Ru
21494.49	1	0.02	Pd
21537.49	0	0	
21580.49	4	0.08	Pd

21623.49	1	0.02	Ru
21666.49	1	0.02	Ru
21709.49	1	0.02	Ru
21752.49	1	0.02	Ru
21795.49	0	0	
21838.49	1	0.02	
21881.49	2	0.04	Ru
21924.49	2	0.04	Ag
21967.49	0	0	
22010.49	0	0	
22053.49	0	0	
22096.49	1	0.02	Ag
22139.49	0	0	
22182.49	0	0	
22225.49	1	0.02	Ag
22268.49	0	0	
22311.49	2	0.04	Ag
22354.49	1	0.02	
22397.49	0	0	
22440.49	1	0.02	
22483.49	2	0.04	Ru
22526.49	0	0	
22569.49	1	0.02	
22612.49	2	0.04	Rh
22655.49	0	0	
22698.49	2	0.04	
22741.49	3	0.06	Rh
22784.49	2	0.04	
22827.49	1	0.02	
22870.49	0	0	
22913.49	3	0.06	Rh
22956.49	0	0	
22999.49	3	0.06	Rh
23042.49	2	0.04	
23085.49	0	0	
23128.49	1	0.02	Cd
23171.49	0	0	
23214.49	1	0.02	Cd
23257.49	1	0.02	Cd
23300.49	1	0.02	Cd
23343.49	2	0.04	Cd

23386.49	1	0.02	
23429.49	2	0.04	Cd
23472.49	2	0.04	Cd
23515.49	0	0	
23558.49	3	0.06	Cd
23601.49	0	0	
23644.49	2	0.04	Pd
23687.49	1	0.02	
23730.49	0	0	
23773.49	1	0.02	
23816.49	2	0.04	Cd
23859.49	1	0.02	Pd
23902.49	1	0.02	Pd
23945.49	0	0	
23988.49	0	0	
24031.49	1	0.02	Pd
24074.49	0	0	
24117.49	4	0.08	In
24160.49	0	0	
24203.49	0	0	
24246.49	0	0	
24289.49	2	0.04	In
24332.49	1	0.02	In
24375.49	1	0.02	In
24418.49	3	0.06	In
24461.49	1	0.02	In
24504.49	1	0.02	In
24547.49	0	0	
24590.49	0	0	
24633.49	2	0.04	In
24676.49	2	0.04	In
24719.49	1	0.02	
24762.49	0	0	
24805.49	2	0.04	Ag
24848.49	1	0.02	
24891.49	0	0	
24934.49	0	0	
24977.49	0	0	
25020.49	1	0.02	Ag
25063.49	1	0.02	Ag
25106.49	0	0	



25149.49	0	0	
25192.49	1	0.02	
25235.49	2	0.04	Sn
25278.49	1	0.02	
25321.49	0	0	
25364.49	2	0.04	Sn
25407.49	1	0.02	Sn
25450.49	1	0.02	Sn
25493.49	2	0.04	Sn
25536.49	0	0	
25579.49	1	0.02	Sn
25622.49	1	0.02	Sn
25665.49	1	0.02	Sn
25708.49	0	0	
25751.49	0	0	
25794.49	0	0	
25837.49	1	0.02	Cd
25880.49	0	0	
25923.49	0	0	
25966.49	1	0.02	Sn
26009.49	0	0	
26052.49	0	0	
26095.49	0	0	
26138.49	0	0	
26181.49	1	0.02	Cd
26224.49	0	0	
26267.49	0	0	
26310.49	0	0	
26353.49	3	0.06	Sb
26396.49	2	0.04	
26439.49	1	0.02	
26482.49	0	0	
26525.49	3	0.06	Sb
26568.49	0	0	
26611.49	0	0	
26654.49	0	0	
26697.49	0	0	
26740.49	0	0	
26783.49	0	0	
26826.49	2	0.04	Sb
26869.49	2	0.04	Sb

26912.49	0	0	
26955.49	0	0	
26998.49	1	0.02	-
27041.49	1	0.02	Sb
27084.49	1	0.02	Sb
27127.49	1	0.02	Sb
27170.49	0	0	
27213.49	1	0.02	Sb
27256.49	1	0.02	Sb
27299.49	0	0	
27342.49	1	0.02	-
27385.49	0	0	
27428.49	0	0	
27471.49	1	0.02	-
27514.49	1	0.02	Sn
27557.49	1	0.02	Sn
27600.49	0	0	
27643.49	0	0	
27686.49	0	0	
27729.49	1	0.02	Sb
27772.49	0	0	
27815.49	0	0	
27858.49	1	0.02	
27901.49	2	0.04	-
27944.49	1	0.02	-
27987.49	1	0.02	-
28030.49	0	0	
28073.49	2	0.04	Sn
28116.49	2	0.04	Sn
28159.49	0	0	
28202.49	0	0	
28245.49	3	0.06	Sn
28288.49	0	0	
28331.49	0	0	
28374.49	1	0.02	Sn
28417.49	0	0	
28460.49	0	0	
28503.49	1	0.02	Sn
28546.49	1	0.02	Sn
28589.49	0	0	
28632.49	1	0.02	Sn

28675.49	1	0.02	-
28718.49	0	0	
28761.49	0	0	
28804.49	1	0.02	Sn
28847.49	1	0.02	Sn
28890.49	1	0.02	Sn
28933.49	1	0.02	-
28976.49	0	0	
29019.49	0	0	
29062.49	0	0	
29105.49	1	0.02	-
29148.49	1	0.02	-
29191.49	2	0.04	-
29234.49	0	0	
29277.49	0	0	
29320.49	0	0	
29363.49	1	0.02	Sb
29406.49	1	0.02	Sb
29449.49	1	0.02	Sb
29492.49	1	0.02	-
29535.49	0	0	
29578.49	0	0	
29621.49	0	0	
29664.49	0	0	
29707.49	3	0.06	Sb
29750.49	0	0	
29793.49	2	0.04	Sb
29836.49	1	0.02	
29879.49	0	0	
29922.49	0	0	
29965.49	0	0	
30008.49	1	0.02	Sb
30051.49	0	0	
30094.49	0	0	
30137.49	1	0.02	Sb
30180.49	0	0	
30223.49	0	0	
30266.49	1	0.02	Sb
30309.49	0	0	
30352.49	1	0.02	
30395.49	2	0.04	-

30438.49	0	0	
30481.49	0	0	
30524.49	0	0	
30567.49	0	0	
30610.49	1	0.02	
30653.49	1	0.02	
30696.49	0	0	
30739.49	0	0	
30782.49	0	0	
30825.49	0	0	
30868.49	0	0	
30911.49	0	0	
30954.49	0	0	
30997.49	1	0.02	
31040.49	0	0	
31083.49	0	0	
31126.49	0	0	
31169.49	0	0	
31212.49	0	0	
31255.49	1	0.02	
31298.49	0	0	
31341.49	0	0	
31384.49	0	0	
31427.49	0	0	
31470.49	0	0	
31513.49	0	0	
31556.49	0	0	
31599.49	0	0	
31642.49	0	0	
31685.49	1	0.02	
31728.49	1	0.02	
31771.49	0	0	
31814.49	0	0	
31857.49	1	0.02	
31900.49	0	0	
31943.49	0	0	
31986.49	0	0	
32029.49	0	0	
32072.49	1	0.02	
32115.49	2	0.04	
32158.49	0	0	

32201.49	0	0	
32244.49	1	0.02	
32287.49	1	0.02	
32330.49	1	0.02	
32373.49	0	0	
32416.49	2	0.04	
32459.49	0	0	
32502.49	0	0	
32545.49	0	0	
32588.49	0	0	
32631.49	0	0	
32674.49	0	0	
32717.49	1	0.02	
32760.49	0	0	
32803.49	0	0	
32846.49	0	0	
32889.49	0	0	
32932.49	0	0	
32975.49	0	0	
33018.49	2	0.04	
33061.49	0	0	
33104.49	0	0	
33147.49	0	0	
33190.49	0	0	
33233.49	0	0	
33276.49	2	0.04	
33319.49	0	0	
33362.49	0	0	
33405.49	1	0.02	
33448.49	0	0	
33491.49	0	0	
33534.49	0	0	
33577.49	1	0.02	
33620.49	0	0	
33663.49	0	0	
33706.49	1	0.02	
33749.49	1	0.02	
33792.49	1	0.02	
33835.49	1	0.02	
33878.49	0	0	
33921.49	0	0	

33964.49	0	0	
34007.49	0	0	
34050.49	0	0	
34093.49	1	0.02	
34136.49	0	0	
34179.49	0	0	
34222.49	1	0.02	
34265.49	0	0	
34308.49	1	0.02	
34351.49	0	0	
34394.49	0	0	
34437.49	0	0	
34480.49	2	0.04	
34523.49	2	0.04	
34566.49	0	0	
34609.49	0	0	
34652.49	0	0	
34695.49	1	0.02	
34738.49	0	0	
34781.49	0	0	
34824.49	0	0	
34867.49	0	0	
34910.49	0	0	
34953.49	0	0	
34996.49	1	0.02	
35039.49	0	0	
35082.49	1	0.02	
35125.49	0	0	
35168.49	1	0.02	
35211.49	0	0	
35254.49	0	0	
35297.49	0	0	
35340.49	0	0	
35383.49	0	0	
35426.49	0	0	
35469.49	0	0	
35512.49	0	0	
35555.49	0	0	
35598.49	0	0	
35641.49	0	0	
35684.49	0	0	

35727.49	2	0.04	
35770.49	0	0	
35813.49	1	0.02	
35856.49	1	0.02	
35899.49	0	0	
35942.49	0	0	
35985.49	0	0	
36028.49	1	0.02	
36071.49	0	0	
36114.49	0	0	
36157.49	0	0	
36200.49	0	0	
36243.49	0	0	
36286.49	0	0	
36329.49	0	0	
36372.49	2	0.04	
36415.49	0	0	
36458.49	0	0	
36501.49	1	0.02	
36544.49	0	0	
36587.49	0	0	
36630.49	0	0	
36673.49	1	0.02	
36716.49	0	0	
36759.49	0	0	
36802.49	0	0	
36845.49	1	0.02	
36888.49	0	0	
36931.49	0	0	
36974.49	1	0.02	
37017.49	0	0	
37060.49	0	0	
37103.49	1	0.02	
37146.49	1	0.02	
37189.49	0	0	
37232.49	0	0	
37275.49	0	0	
37318.49	0	0	
37361.49	0	0	
37404.49	0	0	
37447.49	0	0	

37490.49	1	0.02	
37533.49	0	0	
37576.49	1	0.02	
37619.49	0	0	
37662.49	0	0	
37705.49	0	0	
37748.49	0	0	
37791.49	0	0	
37834.49	1	0.02	
37877.49	0	0	
37920.49	0	0	
37963.49	0	0	
38006.49	0	0	
38049.49	0	0	
38092.49	0	0	
38135.49	0	0	
38178.49	0	0	
38221.49	1	0.02	
38264.49	0	0	
38307.49	1	0.02	
38350.49	0	0	
38393.49	0	0	
38436.49	0	0	
38479.49	0	0	
38522.49	0	0	
38565.49	0	0	
38608.49	0	0	
38651.49	0	0	
38694.49	0	0	
38737.49	0	0	
38780.49	1	0.02	
38823.49	0	0	
38866.49	0	0	
38909.49	0	0	
38952.49	0	0	
38995.49	0	0	
39038.49	0	0	
39081.49	0	0	
39124.49	0	0	
39167.49	0	0	
39210.49	2	0.04	



39253.49	0	0	
39296.49	0	0	
39339.49	0	0	
39382.49	0	0	
39425.49	0	0	
39468.49	0	0	
39511.49	0	0	
39554.49	0	0	
39597.49	1	0.02	
39640.49	0	0	
39683.49	0	0	
39726.49	0	0	
39769.49	1	0.02	
39812.49	0	0	
39855.49	1	0.02	
39898.49	0	0	
39941.49	0	0	
39984.49	1	0.02	
40027.49	1	0.02	
40070.49	0	0	
40113.49	0	0	
40156.49	0	0	
40199.49	0	0	
40242.49	0	0	
40285.49	0	0	
40328.49	0	0	
40371.49	0	0	
40414.49	0	0	
40457.49	0	0	
40500.49	0	0	
40543.49	0	0	
40586.49	0	0	
40629.49	0	0	
40672.49	0	0	
40715.49	0	0	
40758.49	1	0.02	
40801.49	0	0	
40844.49	0	0	
40887.49	0	0	
40930.49	0	0	
40973.49	0	0	

41016.49	1	0.02	
41059.49	0	0	
41102.49	0	0	
41145.49	0	0	
41188.49	1	0.02	
41231.49	0	0	
41274.49	1	0.02	
41317.49	0	0	
41360.49	0	0	
41403.49	0	0	
41446.49	0	0	
41489.49	0	0	
41532.49	0	0	
41575.49	0	0	
41618.49	0	0	
41661.49	0	0	
41704.49	0	0	
41747.49	0	0	
41790.49	0	0	
41833.49	0	0	
41876.49	0	0	
41919.49	1	0.02	
41962.49	0	0	
42005.49	0	0	
42048.49	1	0.02	
42091.49	0	0	
42134.49	0	0	
42177.49	0	0	
42220.49	0	0	
42263.49	1	0.02	
42306.49	0	0	
42349.49	0	0	
42392.49	0	0	
42435.49	0	0	
42478.49	0	0	
42521.49	0	0	
42564.49	0	0	
42607.49	0	0	
42650.49	0	0	
42693.49	0	0	
42736.49	0	0	

42779.49	0	0	
42822.49	0	0	
42865.49	0	0	
42908.49	0	0	
42951.49	0	0	
42994.49	0	0	
43037.49	0	0	
43080.49	0	0	
43123.49	0	0	
43166.49	0	0	
43209.49	0	0	
43252.49	0	0	
43295.49	0	0	
43338.49	0	0	
43381.49	0	0	
43424.49	0	0	
43467.49	0	0	
43510.49	0	0	
43553.49	0	0	
43596.49	0	0	
43639.49	0	0	
43682.49	0	0	
43725.49	0	0	
43768.49	0	0	
43811.49	0	0	
43854.49	0	0	

C004

### Normalized Counts

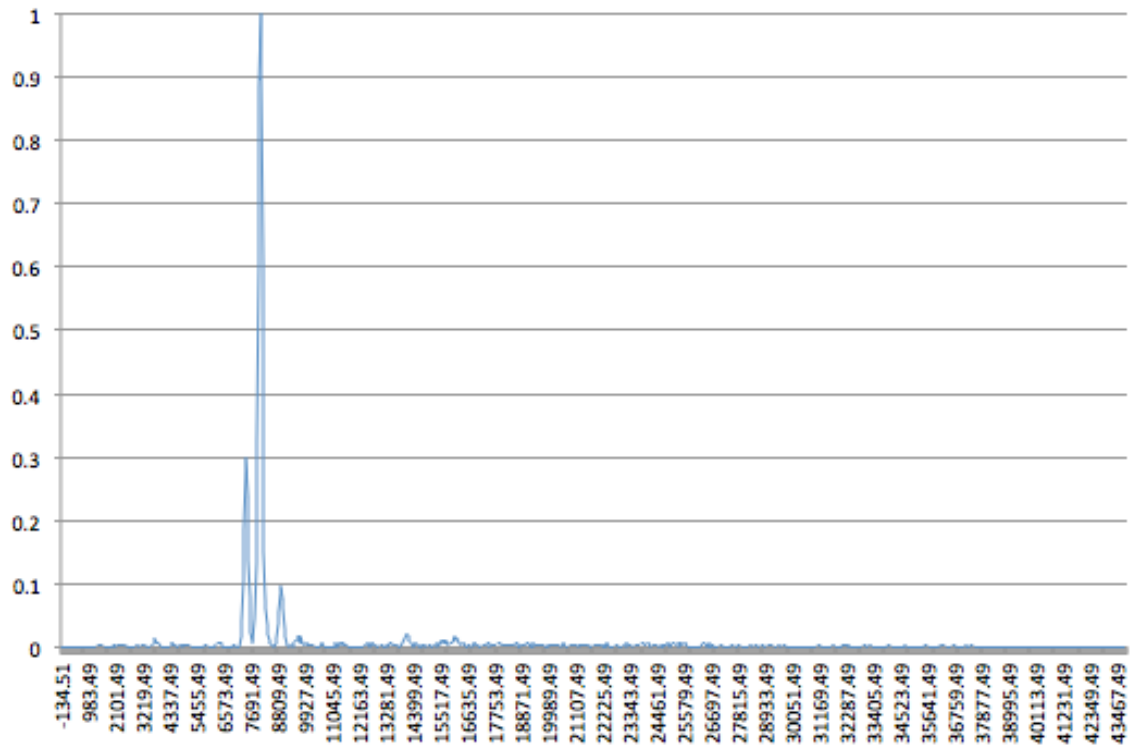


Figure 35. C004 Normalized XRF Counts

Table 20. C004 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	

424.49	0	0	
467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	0	0	
1026.49	2	0.001892148	
1069.49	0	0	
1112.49	4	0.003784295	
1155.49	0	0	
1198.49	1	0.000946074	
1241.49	2	0.001892148	
1284.49	2	0.001892148	
1327.49	0	0	
1370.49	2	0.001892148	
1413.49	3	0.002838221	
1456.49	1	0.000946074	
1499.49	3	0.002838221	
1542.49	3	0.002838221	
1585.49	6	0.005676443	
1628.49	3	0.002838221	
1671.49	2	0.001892148	
1714.49	3	0.002838221	
1757.49	3	0.002838221	
1800.49	2	0.001892148	
1843.49	0	0	
1886.49	3	0.002838221	
1929.49	2	0.001892148	
1972.49	1	0.000946074	
2015.49	2	0.001892148	
2058.49	4	0.003784295	
2101.49	0	0	
2144.49	0	0	

2187.49	2	0.001892148	
2230.49	3	0.002838221	
2273.49	5	0.004730369	
2316.49	3	0.002838221	
2359.49	3	0.002838221	
2402.49	1	0.000946074	
2445.49	0	0	
2488.49	3	0.002838221	
2531.49	1	0.000946074	
2574.49	3	0.002838221	
2617.49	0	0	
2660.49	1	0.000946074	
2703.49	2	0.001892148	
2746.49	0	0	
2789.49	0	0	
2832.49	2	0.001892148	
2875.49	0	0	
2918.49	1	0.000946074	
2961.49	5	0.004730369	
3004.49	2	0.001892148	
3047.49	0	0	
3090.49	2	0.001892148	
3133.49	1	0.000946074	
3176.49	3	0.002838221	
3219.49	1	0.000946074	
3262.49	0	0	
3305.49	3	0.002838221	
3348.49	1	0.000946074	
3391.49	1	0.000946074	
3434.49	0	0	
3477.49	0	0	
3520.49	0	0	
3563.49	0	0	
3606.49	4	0.003784295	
3649.49	5	0.004730369	
3692.49	9	0.008514664	
3735.49	16	0.015137181	Sn
3778.49	6	0.005676443	
3821.49	9	0.008514664	
3864.49	3	0.002838221	
3907.49	6	0.005676443	

3950.49	0	0	
3993.49	3	0.002838221	
4036.49	0	0	
4079.49	1	0.000946074	
4122.49	1	0.000946074	
4165.49	3	0.002838221	
4208.49	1	0.000946074	
4251.49	0	0	
4294.49	0	0	
4337.49	0	0	
4380.49	0	0	
4423.49	4	0.003784295	
4466.49	9	0.008514664	
4509.49	6	0.005676443	
4552.49	5	0.004730369	
4595.49	3	0.002838221	
4638.49	3	0.002838221	
4681.49	1	0.000946074	
4724.49	2	0.001892148	
4767.49	2	0.001892148	
4810.49	4	0.003784295	
4853.49	0	0	
4896.49	4	0.003784295	
4939.49	2	0.001892148	
4982.49	6	0.005676443	
5025.49	4	0.003784295	
5068.49	3	0.002838221	
5111.49	1	0.000946074	
5154.49	5	0.004730369	
5197.49	1	0.000946074	
5240.49	2	0.001892148	
5283.49	0	0	
5326.49	0	0	
5369.49	0	0	
5412.49	0	0	
5455.49	0	0	
5498.49	2	0.001892148	
5541.49	0	0	
5584.49	1	0.000946074	
5627.49	3	0.002838221	
5670.49	1	0.000946074	

5713.49	1	0.000946074	
5756.49	1	0.000946074	
5799.49	0	0	
5842.49	3	0.002838221	
5885.49	2	0.001892148	
5928.49	1	0.000946074	
5971.49	0	0	
6014.49	1	0.000946074	
6057.49	1	0.000946074	
6100.49	1	0.000946074	
6143.49	2	0.001892148	
6186.49	2	0.001892148	
6229.49	1	0.000946074	
6272.49	5	0.004730369	
6315.49	3	0.002838221	
6358.49	9	0.008514664	
6401.49	8	0.00756859	
6444.49	8	0.00756859	
6487.49	9	0.008514664	
6530.49	2	0.001892148	
6573.49	1	0.000946074	
6616.49	0	0	
6659.49	0	0	
6702.49	0	0	
6745.49	0	0	
6788.49	1	0.000946074	
6831.49	2	0.001892148	
6874.49	0	0	
6917.49	0	0	
6960.49	4	0.003784295	
7003.49	3	0.002838221	
7046.49	2	0.001892148	
7089.49	2	0.001892148	
7132.49	3	0.002838221	
7175.49	4	0.003784295	
7218.49	1	0.000946074	
7261.49	4	0.003784295	
7304.49	17	0.016083254	
7347.49	43	0.040681173	
7390.49	113	0.106906339	
7433.49	197	0.186376537	



7476.49	296	0.280037843	
7519.49	315	0.298013245	Ni
7562.49	252	0.238410596	
7605.49	145	0.1371807	
7648.49	85	0.080416272	
7691.49	25	0.023651845	
7734.49	13	0.012298959	
7777.49	9	0.008514664	
7820.49	12	0.011352886	
7863.49	47	0.044465468	
7906.49	143	0.135288553	
7949.49	341	0.322611164	
7992.49	639	0.604541154	
8035.49	934	0.883632923	
8078.49	1057	1	Cu
8121.49	946	0.894985809	
8164.49	637	0.602649007	
8207.49	346	0.327341533	
8250.49	160	0.151371807	
8293.49	76	0.071901608	
8336.49	64	0.060548723	
8379.49	36	0.034058657	
8422.49	22	0.020813623	
8465.49	13	0.012298959	
8508.49	6	0.005676443	
8551.49	3	0.002838221	
8594.49	4	0.003784295	
8637.49	2	0.001892148	
8680.49	2	0.001892148	
8723.49	9	0.008514664	
8766.49	14	0.013245033	
8809.49	41	0.038789026	
8852.49	57	0.053926206	
8895.49	92	0.087038789	
8938.49	102	0.096499527	Cu
8981.49	80	0.075685904	
9024.49	64	0.060548723	
9067.49	30	0.028382214	
9110.49	18	0.017029328	
9153.49	4	0.003784295	
9196.49	3	0.002838221	

9239.49	2	0.001892148	
9282.49	2	0.001892148	
9325.49	3	0.002838221	
9368.49	3	0.002838221	
9411.49	5	0.004730369	
9454.49	1	0.000946074	
9497.49	6	0.005676443	
9540.49	3	0.002838221	
9583.49	6	0.005676443	
9626.49	14	0.013245033	
9669.49	18	0.017029328	Au
9712.49	8	0.00756859	
9755.49	18	0.017029328	Au
9798.49	8	0.00756859	
9841.49	6	0.005676443	
9884.49	4	0.003784295	
9927.49	3	0.002838221	
9970.49	8	0.00756859	
10013.49	3	0.002838221	
10056.49	3	0.002838221	
10099.49	2	0.001892148	
10142.49	4	0.003784295	
10185.49	3	0.002838221	
10228.49	3	0.002838221	
10271.49	3	0.002838221	
10314.49	1	0.000946074	
10357.49	0	0	
10400.49	0	0	
10443.49	0	0	
10486.49	3	0.002838221	
10529.49	1	0.000946074	
10572.49	3	0.002838221	
10615.49	2	0.001892148	
10658.49	8	0.00756859	
10701.49	5	0.004730369	
10744.49	1	0.000946074	
10787.49	1	0.000946074	
10830.49	3	0.002838221	
10873.49	0	0	
10916.49	3	0.002838221	
10959.49	1	0.000946074	

11002.49	2	0.001892148	
11045.49	3	0.002838221	
11088.49	2	0.001892148	
11131.49	1	0.000946074	
11174.49	6	0.005676443	
11217.49	2	0.001892148	
11260.49	3	0.002838221	
11303.49	2	0.001892148	
11346.49	8	0.00756859	
11389.49	6	0.005676443	
11432.49	3	0.002838221	
11475.49	9	0.008514664	
11518.49	6	0.005676443	
11561.49	9	0.008514664	
11604.49	4	0.003784295	
11647.49	3	0.002838221	
11690.49	2	0.001892148	
11733.49	2	0.001892148	
11776.49	1	0.000946074	
11819.49	3	0.002838221	
11862.49	2	0.001892148	
11905.49	0	0	
11948.49	0	0	
11991.49	1	0.000946074	
12034.49	0	0	
12077.49	3	0.002838221	
12120.49	0	0	
12163.49	0	0	
12206.49	0	0	
12249.49	1	0.000946074	
12292.49	2	0.001892148	
12335.49	0	0	
12378.49	2	0.001892148	
12421.49	3	0.002838221	
12464.49	4	0.003784295	
12507.49	6	0.005676443	
12550.49	3	0.002838221	
12593.49	4	0.003784295	
12636.49	2	0.001892148	
12679.49	6	0.005676443	
12722.49	6	0.005676443	

12765.49	3	0.002838221	
12808.49	3	0.002838221	
12851.49	1	0.000946074	
12894.49	2	0.001892148	
12937.49	0	0	
12980.49	2	0.001892148	
13023.49	3	0.002838221	
13066.49	3	0.002838221	
13109.49	1	0.000946074	
13152.49	3	0.002838221	
13195.49	2	0.001892148	
13238.49	4	0.003784295	
13281.49	0	0	
13324.49	5	0.004730369	
13367.49	1	0.000946074	
13410.49	4	0.003784295	
13453.49	6	0.005676443	
13496.49	6	0.005676443	
13539.49	4	0.003784295	
13582.49	4	0.003784295	
13625.49	3	0.002838221	
13668.49	4	0.003784295	
13711.49	4	0.003784295	
13754.49	2	0.001892148	
13797.49	3	0.002838221	
13840.49	0	0	
13883.49	2	0.001892148	
13926.49	0	0	
13969.49	8	0.00756859	
14012.49	7	0.006622517	
14055.49	14	0.013245033	
14098.49	24	0.022705771	
14141.49	27	0.025543992	Sr
14184.49	19	0.017975402	
14227.49	21	0.01986755	Sr
14270.49	11	0.010406812	
14313.49	8	0.00756859	
14356.49	7	0.006622517	
14399.49	5	0.004730369	
14442.49	2	0.001892148	
14485.49	4	0.003784295	

14528.49	6	0.005676443	
14571.49	3	0.002838221	
14614.49	3	0.002838221	
14657.49	1	0.000946074	
14700.49	2	0.001892148	
14743.49	5	0.004730369	
14786.49	1	0.000946074	
14829.49	2	0.001892148	
14872.49	5	0.004730369	
14915.49	3	0.002838221	
14958.49	1	0.000946074	
15001.49	2	0.001892148	
15044.49	5	0.004730369	
15087.49	6	0.005676443	
15130.49	2	0.001892148	
15173.49	2	0.001892148	
15216.49	2	0.001892148	
15259.49	2	0.001892148	
15302.49	4	0.003784295	
15345.49	2	0.001892148	
15388.49	0	0	
15431.49	8	0.00756859	
15474.49	5	0.004730369	
15517.49	3	0.002838221	
15560.49	10	0.009460738	
15603.49	8	0.00756859	
15646.49	6	0.005676443	
15689.49	11	0.010406812	Zr
15732.49	6	0.005676443	Sr
15775.49	12	0.011352886	Zr
15818.49	4	0.003784295	
15861.49	6	0.005676443	
15904.49	8	0.00756859	
15947.49	10	0.009460738	
15990.49	6	0.005676443	
16033.49	8	0.00756859	
16076.49	20	0.018921476	Sr
16119.49	12	0.011352886	
16162.49	14	0.013245033	
16205.49	16	0.015137181	Sr
16248.49	6	0.005676443	

16291.49	7	0.006622517	
16334.49	9	0.008514664	
16377.49	3	0.002838221	
16420.49	3	0.002838221	
16463.49	2	0.001892148	
16506.49	8	0.00756859	
16549.49	5	0.004730369	
16592.49	2	0.001892148	
16635.49	2	0.001892148	
16678.49	5	0.004730369	
16721.49	4	0.003784295	
16764.49	6	0.005676443	
16807.49	5	0.004730369	
16850.49	1	0.000946074	
16893.49	6	0.005676443	
16936.49	3	0.002838221	
16979.49	3	0.002838221	
17022.49	5	0.004730369	
17065.49	4	0.003784295	
17108.49	4	0.003784295	
17151.49	0	0	
17194.49	1	0.000946074	
17237.49	2	0.001892148	
17280.49	4	0.003784295	
17323.49	3	0.002838221	
17366.49	2	0.001892148	
17409.49	5	0.004730369	
17452.49	2	0.001892148	
17495.49	5	0.004730369	
17538.49	7	0.006622517	
17581.49	1	0.000946074	
17624.49	2	0.001892148	
17667.49	5	0.004730369	
17710.49	6	0.005676443	
17753.49	5	0.004730369	
17796.49	4	0.003784295	
17839.49	1	0.000946074	
17882.49	3	0.002838221	
17925.49	6	0.005676443	
17968.49	3	0.002838221	
18011.49	4	0.003784295	

18054.49	3	0.002838221	
18097.49	2	0.001892148	
18140.49	3	0.002838221	
18183.49	4	0.003784295	
18226.49	2	0.001892148	
18269.49	3	0.002838221	
18312.49	3	0.002838221	
18355.49	2	0.001892148	
18398.49	5	0.004730369	
18441.49	5	0.004730369	
18484.49	6	0.005676443	
18527.49	3	0.002838221	
18570.49	5	0.004730369	
18613.49	2	0.001892148	
18656.49	3	0.002838221	
18699.49	6	0.005676443	
18742.49	2	0.001892148	
18785.49	3	0.002838221	
18828.49	2	0.001892148	
18871.49	5	0.004730369	
18914.49	3	0.002838221	
18957.49	5	0.004730369	
19000.49	4	0.003784295	
19043.49	5	0.004730369	
19086.49	1	0.000946074	
19129.49	6	0.005676443	
19172.49	3	0.002838221	
19215.49	1	0.000946074	
19258.49	5	0.004730369	
19301.49	2	0.001892148	
19344.49	1	0.000946074	
19387.49	9	0.008514664	
19430.49	3	0.002838221	
19473.49	1	0.000946074	
19516.49	1	0.000946074	
19559.49	3	0.002838221	
19602.49	6	0.005676443	
19645.49	3	0.002838221	
19688.49	4	0.003784295	
19731.49	3	0.002838221	
19774.49	4	0.003784295	

19817.49	5	0.004730369	
19860.49	5	0.004730369	
19903.49	1	0.000946074	
19946.49	5	0.004730369	
19989.49	0	0	
20032.49	5	0.004730369	
20075.49	4	0.003784295	
20118.49	3	0.002838221	
20161.49	5	0.004730369	
20204.49	3	0.002838221	
20247.49	5	0.004730369	
20290.49	4	0.003784295	
20333.49	5	0.004730369	
20376.49	4	0.003784295	
20419.49	5	0.004730369	
20462.49	4	0.003784295	
20505.49	1	0.000946074	
20548.49	3	0.002838221	
20591.49	3	0.002838221	
20634.49	6	0.005676443	
20677.49	2	0.001892148	
20720.49	2	0.001892148	
20763.49	3	0.002838221	
20806.49	1	0.000946074	
20849.49	4	0.003784295	
20892.49	5	0.004730369	
20935.49	4	0.003784295	
20978.49	3	0.002838221	
21021.49	5	0.004730369	
21064.49	2	0.001892148	
21107.49	5	0.004730369	
21150.49	4	0.003784295	
21193.49	0	0	
21236.49	4	0.003784295	
21279.49	2	0.001892148	
21322.49	4	0.003784295	
21365.49	4	0.003784295	
21408.49	5	0.004730369	
21451.49	5	0.004730369	
21494.49	5	0.004730369	
21537.49	4	0.003784295	



21580.49	2	0.001892148	
21623.49	5	0.004730369	
21666.49	6	0.005676443	
21709.49	4	0.003784295	
21752.49	2	0.001892148	
21795.49	0	0	
21838.49	2	0.001892148	
21881.49	4	0.003784295	
21924.49	3	0.002838221	
21967.49	2	0.001892148	
22010.49	4	0.003784295	
22053.49	4	0.003784295	
22096.49	2	0.001892148	
22139.49	5	0.004730369	
22182.49	7	0.006622517	
22225.49	2	0.001892148	
22268.49	1	0.000946074	
22311.49	5	0.004730369	
22354.49	1	0.000946074	
22397.49	6	0.005676443	
22440.49	4	0.003784295	
22483.49	4	0.003784295	
22526.49	1	0.000946074	
22569.49	2	0.001892148	
22612.49	3	0.002838221	
22655.49	1	0.000946074	
22698.49	4	0.003784295	
22741.49	4	0.003784295	
22784.49	5	0.004730369	
22827.49	4	0.003784295	
22870.49	7	0.006622517	
22913.49	2	0.001892148	
22956.49	5	0.004730369	
22999.49	5	0.004730369	
23042.49	0	0	
23085.49	2	0.001892148	
23128.49	1	0.000946074	
23171.49	6	0.005676443	
23214.49	0	0	
23257.49	5	0.004730369	
23300.49	6	0.005676443	

23343.49	2	0.001892148	
23386.49	5	0.004730369	
23429.49	8	0.00756859	
23472.49	1	0.000946074	
23515.49	3	0.002838221	
23558.49	4	0.003784295	
23601.49	3	0.002838221	
23644.49	3	0.002838221	
23687.49	6	0.005676443	
23730.49	3	0.002838221	
23773.49	3	0.002838221	
23816.49	2	0.001892148	
23859.49	7	0.006622517	
23902.49	4	0.003784295	
23945.49	6	0.005676443	
23988.49	4	0.003784295	
24031.49	3	0.002838221	
24074.49	1	0.000946074	
24117.49	7	0.006622517	
24160.49	4	0.003784295	
24203.49	2	0.001892148	
24246.49	5	0.004730369	
24289.49	2	0.001892148	
24332.49	5	0.004730369	
24375.49	5	0.004730369	
24418.49	6	0.005676443	
24461.49	3	0.002838221	
24504.49	3	0.002838221	
24547.49	2	0.001892148	
24590.49	1	0.000946074	
24633.49	5	0.004730369	
24676.49	1	0.000946074	
24719.49	1	0.000946074	
24762.49	3	0.002838221	
24805.49	3	0.002838221	
24848.49	3	0.002838221	
24891.49	2	0.001892148	
24934.49	8	0.00756859	
24977.49	2	0.001892148	
25020.49	5	0.004730369	
25063.49	6	0.005676443	

25106.49	5	0.004730369	
25149.49	4	0.003784295	
25192.49	9	0.008514664	
25235.49	5	0.004730369	
25278.49	4	0.003784295	
25321.49	2	0.001892148	
25364.49	6	0.005676443	
25407.49	2	0.001892148	
25450.49	0	0	
25493.49	7	0.006622517	
25536.49	6	0.005676443	
25579.49	3	0.002838221	
25622.49	4	0.003784295	
25665.49	8	0.00756859	
25708.49	2	0.001892148	
25751.49	2	0.001892148	
25794.49	1	0.000946074	
25837.49	2	0.001892148	
25880.49	2	0.001892148	
25923.49	5	0.004730369	
25966.49	1	0.000946074	
26009.49	0	0	
26052.49	2	0.001892148	
26095.49	1	0.000946074	
26138.49	3	0.002838221	
26181.49	2	0.001892148	
26224.49	0	0	
26267.49	0	0	
26310.49	3	0.002838221	
26353.49	6	0.005676443	
26396.49	5	0.004730369	
26439.49	6	0.005676443	
26482.49	6	0.005676443	
26525.49	4	0.003784295	
26568.49	1	0.000946074	
26611.49	6	0.005676443	
26654.49	1	0.000946074	
26697.49	4	0.003784295	
26740.49	2	0.001892148	
26783.49	4	0.003784295	
26826.49	0	0	

26869.49	0	0	
26912.49	2	0.001892148	
26955.49	2	0.001892148	
26998.49	1	0.000946074	
27041.49	3	0.002838221	
27084.49	3	0.002838221	
27127.49	0	0	
27170.49	1	0.000946074	
27213.49	2	0.001892148	
27256.49	5	0.004730369	
27299.49	3	0.002838221	
27342.49	2	0.001892148	
27385.49	3	0.002838221	
27428.49	4	0.003784295	
27471.49	2	0.001892148	
27514.49	2	0.001892148	
27557.49	3	0.002838221	
27600.49	4	0.003784295	
27643.49	3	0.002838221	
27686.49	5	0.004730369	
27729.49	2	0.001892148	
27772.49	2	0.001892148	
27815.49	2	0.001892148	
27858.49	3	0.002838221	
27901.49	6	0.005676443	
27944.49	2	0.001892148	
27987.49	1	0.000946074	
28030.49	2	0.001892148	
28073.49	1	0.000946074	
28116.49	2	0.001892148	
28159.49	3	0.002838221	
28202.49	4	0.003784295	
28245.49	0	0	
28288.49	0	0	
28331.49	2	0.001892148	
28374.49	5	0.004730369	
28417.49	1	0.000946074	
28460.49	2	0.001892148	
28503.49	2	0.001892148	
28546.49	4	0.003784295	
28589.49	1	0.000946074	

28632.49	4	0.003784295	
28675.49	2	0.001892148	
28718.49	3	0.002838221	
28761.49	0	0	
28804.49	3	0.002838221	
28847.49	0	0	
28890.49	3	0.002838221	
28933.49	1	0.000946074	
28976.49	2	0.001892148	
29019.49	4	0.003784295	
29062.49	3	0.002838221	
29105.49	5	0.004730369	
29148.49	6	0.005676443	
29191.49	5	0.004730369	
29234.49	2	0.001892148	
29277.49	5	0.004730369	
29320.49	1	0.000946074	
29363.49	3	0.002838221	
29406.49	1	0.000946074	
29449.49	1	0.000946074	
29492.49	2	0.001892148	
29535.49	5	0.004730369	
29578.49	1	0.000946074	
29621.49	2	0.001892148	
29664.49	2	0.001892148	
29707.49	3	0.002838221	
29750.49	1	0.000946074	
29793.49	2	0.001892148	
29836.49	1	0.000946074	
29879.49	2	0.001892148	
29922.49	2	0.001892148	
29965.49	1	0.000946074	
30008.49	1	0.000946074	
30051.49	2	0.001892148	
30094.49	2	0.001892148	
30137.49	4	0.003784295	
30180.49	1	0.000946074	
30223.49	2	0.001892148	
30266.49	1	0.000946074	
30309.49	0	0	
30352.49	1	0.000946074	

30395.49	1	0.000946074	
30438.49	1	0.000946074	
30481.49	2	0.001892148	
30524.49	3	0.002838221	
30567.49	1	0.000946074	
30610.49	1	0.000946074	
30653.49	1	0.000946074	
30696.49	2	0.001892148	
30739.49	0	0	
30782.49	3	0.002838221	
30825.49	1	0.000946074	
30868.49	1	0.000946074	
30911.49	0	0	
30954.49	3	0.002838221	
30997.49	2	0.001892148	
31040.49	1	0.000946074	
31083.49	5	0.004730369	
31126.49	4	0.003784295	
31169.49	1	0.000946074	
31212.49	1	0.000946074	
31255.49	1	0.000946074	
31298.49	2	0.001892148	
31341.49	2	0.001892148	
31384.49	2	0.001892148	
31427.49	4	0.003784295	
31470.49	5	0.004730369	
31513.49	2	0.001892148	
31556.49	2	0.001892148	
31599.49	5	0.004730369	
31642.49	1	0.000946074	
31685.49	1	0.000946074	
31728.49	2	0.001892148	
31771.49	4	0.003784295	
31814.49	0	0	
31857.49	3	0.002838221	
31900.49	3	0.002838221	
31943.49	2	0.001892148	
31986.49	4	0.003784295	
32029.49	5	0.004730369	
32072.49	1	0.000946074	
32115.49	5	0.004730369	

32158.49	3	0.002838221	
32201.49	8	0.00756859	
32244.49	5	0.004730369	
32287.49	3	0.002838221	
32330.49	0	0	
32373.49	4	0.003784295	
32416.49	2	0.001892148	
32459.49	4	0.003784295	
32502.49	0	0	
32545.49	2	0.001892148	
32588.49	1	0.000946074	
32631.49	2	0.001892148	
32674.49	3	0.002838221	
32717.49	2	0.001892148	
32760.49	0	0	
32803.49	3	0.002838221	
32846.49	2	0.001892148	
32889.49	1	0.000946074	
32932.49	1	0.000946074	
32975.49	2	0.001892148	
33018.49	4	0.003784295	
33061.49	3	0.002838221	
33104.49	2	0.001892148	
33147.49	1	0.000946074	
33190.49	0	0	
33233.49	3	0.002838221	
33276.49	3	0.002838221	
33319.49	1	0.000946074	
33362.49	1	0.000946074	
33405.49	1	0.000946074	
33448.49	1	0.000946074	
33491.49	1	0.000946074	
33534.49	2	0.001892148	
33577.49	2	0.001892148	
33620.49	1	0.000946074	
33663.49	1	0.000946074	
33706.49	0	0	
33749.49	0	0	
33792.49	1	0.000946074	
33835.49	1	0.000946074	
33878.49	0	0	

33921.49	2	0.001892148	
33964.49	0	0	
34007.49	1	0.000946074	
34050.49	3	0.002838221	
34093.49	3	0.002838221	
34136.49	1	0.000946074	
34179.49	1	0.000946074	
34222.49	0	0	
34265.49	4	0.003784295	
34308.49	1	0.000946074	
34351.49	1	0.000946074	
34394.49	0	0	
34437.49	2	0.001892148	
34480.49	0	0	
34523.49	2	0.001892148	
34566.49	2	0.001892148	
34609.49	0	0	
34652.49	0	0	
34695.49	0	0	
34738.49	5	0.004730369	
34781.49	3	0.002838221	
34824.49	1	0.000946074	
34867.49	0	0	
34910.49	1	0.000946074	
34953.49	0	0	
34996.49	1	0.000946074	
35039.49	2	0.001892148	
35082.49	2	0.001892148	
35125.49	0	0	
35168.49	0	0	
35211.49	0	0	
35254.49	0	0	
35297.49	2	0.001892148	
35340.49	2	0.001892148	
35383.49	3	0.002838221	
35426.49	1	0.000946074	
35469.49	1	0.000946074	
35512.49	0	0	
35555.49	2	0.001892148	
35598.49	5	0.004730369	
35641.49	2	0.001892148	



35684.49	1	0.000946074	
35727.49	2	0.001892148	
35770.49	1	0.000946074	
35813.49	2	0.001892148	
35856.49	1	0.000946074	
35899.49	1	0.000946074	
35942.49	1	0.000946074	
35985.49	2	0.001892148	
36028.49	0	0	
36071.49	1	0.000946074	
36114.49	2	0.001892148	
36157.49	4	0.003784295	
36200.49	4	0.003784295	
36243.49	4	0.003784295	
36286.49	1	0.000946074	
36329.49	3	0.002838221	
36372.49	3	0.002838221	
36415.49	2	0.001892148	
36458.49	1	0.000946074	
36501.49	2	0.001892148	
36544.49	1	0.000946074	
36587.49	1	0.000946074	
36630.49	2	0.001892148	
36673.49	1	0.000946074	
36716.49	4	0.003784295	
36759.49	2	0.001892148	
36802.49	2	0.001892148	
36845.49	2	0.001892148	
36888.49	1	0.000946074	
36931.49	1	0.000946074	
36974.49	1	0.000946074	
37017.49	0	0	
37060.49	0	0	
37103.49	1	0.000946074	
37146.49	1	0.000946074	
37189.49	5	0.004730369	
37232.49	1	0.000946074	
37275.49	1	0.000946074	
37318.49	1	0.000946074	
37361.49	2	0.001892148	
37404.49	0	0	

37447.49	0	0	
37490.49	3	0.002838221	
37533.49	0	0	
37576.49	3	0.002838221	
37619.49	0	0	
37662.49	1	0.000946074	
37705.49	1	0.000946074	
37748.49	0	0	
37791.49	1	0.000946074	
37834.49	0	0	
37877.49	1	0.000946074	
37920.49	1	0.000946074	
37963.49	1	0.000946074	
38006.49	0	0	
38049.49	2	0.001892148	
38092.49	1	0.000946074	
38135.49	1	0.000946074	
38178.49	0	0	
38221.49	1	0.000946074	
38264.49	2	0.001892148	
38307.49	0	0	
38350.49	0	0	
38393.49	2	0.001892148	
38436.49	0	0	
38479.49	0	0	
38522.49	2	0.001892148	
38565.49	1	0.000946074	
38608.49	0	0	
38651.49	0	0	
38694.49	1	0.000946074	
38737.49	0	0	
38780.49	0	0	
38823.49	3	0.002838221	
38866.49	0	0	
38909.49	0	0	
38952.49	1	0.000946074	
38995.49	0	0	
39038.49	2	0.001892148	
39081.49	2	0.001892148	
39124.49	0	0	
39167.49	0	0	

39210.49	0	0	
39253.49	2	0.001892148	
39296.49	0	0	
39339.49	0	0	
39382.49	0	0	
39425.49	0	0	
39468.49	2	0.001892148	
39511.49	0	0	
39554.49	0	0	
39597.49	2	0.001892148	
39640.49	0	0	
39683.49	0	0	
39726.49	2	0.001892148	
39769.49	1	0.000946074	
39812.49	0	0	
39855.49	1	0.000946074	
39898.49	3	0.002838221	
39941.49	2	0.001892148	
39984.49	0	0	
40027.49	2	0.001892148	
40070.49	0	0	
40113.49	0	0	
40156.49	0	0	
40199.49	1	0.000946074	
40242.49	1	0.000946074	
40285.49	2	0.001892148	
40328.49	2	0.001892148	
40371.49	0	0	
40414.49	0	0	
40457.49	1	0.000946074	
40500.49	2	0.001892148	
40543.49	0	0	
40586.49	0	0	
40629.49	1	0.000946074	
40672.49	0	0	
40715.49	1	0.000946074	
40758.49	0	0	
40801.49	2	0.001892148	
40844.49	0	0	
40887.49	1	0.000946074	
40930.49	0	0	

40973.49	0	0	
41016.49	0	0	
41059.49	1	0.000946074	
41102.49	2	0.001892148	
41145.49	1	0.000946074	
41188.49	1	0.000946074	
41231.49	1	0.000946074	
41274.49	2	0.001892148	
41317.49	1	0.000946074	
41360.49	0	0	
41403.49	0	0	
41446.49	0	0	
41489.49	1	0.000946074	
41532.49	0	0	
41575.49	0	0	
41618.49	0	0	
41661.49	1	0.000946074	
41704.49	1	0.000946074	
41747.49	0	0	
41790.49	0	0	
41833.49	0	0	
41876.49	1	0.000946074	
41919.49	1	0.000946074	
41962.49	1	0.000946074	
42005.49	1	0.000946074	
42048.49	1	0.000946074	
42091.49	1	0.000946074	
42134.49	0	0	
42177.49	0	0	
42220.49	2	0.001892148	
42263.49	2	0.001892148	
42306.49	0	0	
42349.49	0	0	
42392.49	2	0.001892148	
42435.49	0	0	
42478.49	0	0	
42521.49	2	0.001892148	
42564.49	0	0	
42607.49	1	0.000946074	
42650.49	1	0.000946074	
42693.49	0	0	

42736.49	2	0.001892148	
42779.49	2	0.001892148	
42822.49	2	0.001892148	
42865.49	1	0.000946074	
42908.49	0	0	
42951.49	0	0	
42994.49	0	0	
43037.49	0	0	
43080.49	0	0	
43123.49	0	0	
43166.49	1	0.000946074	
43209.49	1	0.000946074	
43252.49	0	0	
43295.49	0	0	
43338.49	0	0	
43381.49	1	0.000946074	
43424.49	0	0	
43467.49	0	0	
43510.49	0	0	
43553.49	1	0.000946074	
43596.49	1	0.000946074	
43639.49	1	0.000946074	
43682.49	0	0	
43725.49	1	0.000946074	
43768.49	2	0.001892148	
43811.49	0	0	
43854.49	1	0.000946074	

C005

### Normalized Counts

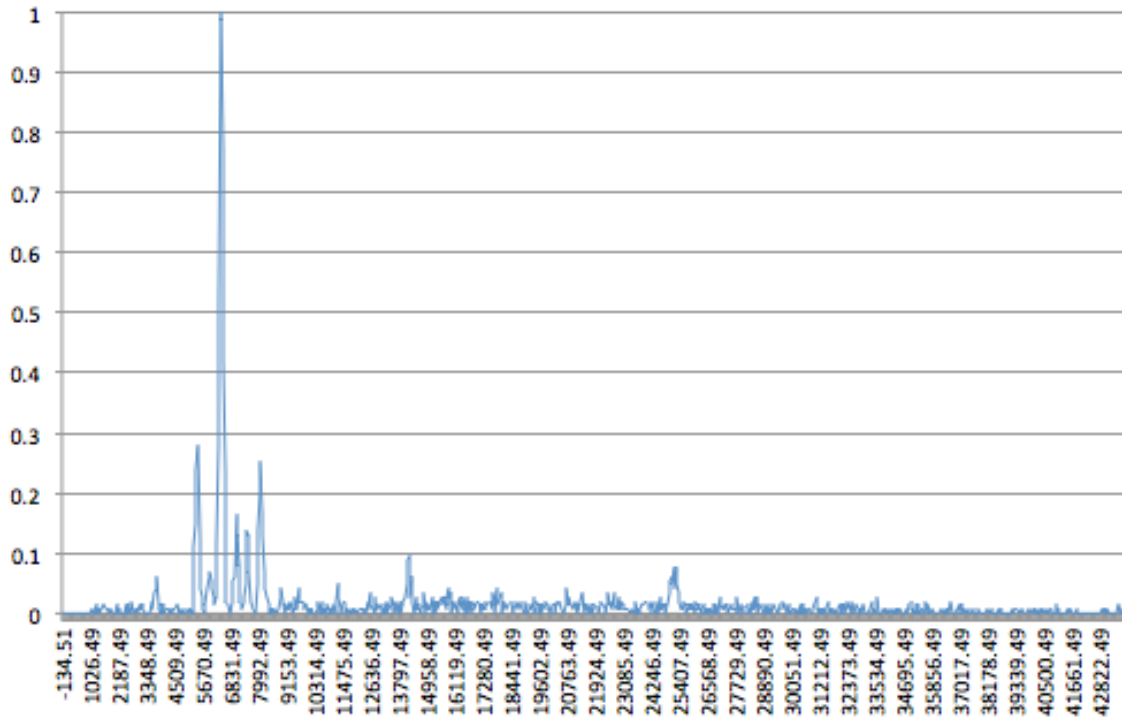


Figure 36. C005 Normalized XRF Counts

Table 21. C005 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	

467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	0	0	
1026.49	0	0	
1069.49	1	0.006802721	
1112.49	1	0.006802721	
1155.49	0	0	
1198.49	0	0	
1241.49	2	0.013605442	Ge
1284.49	0	0	
1327.49	1	0.006802721	
1370.49	0	0	
1413.49	0	0	
1456.49	0	0	
1499.49	1	0.006802721	
1542.49	1	0.006802721	
1585.49	2	0.013605442	Br
1628.49	1	0.006802721	
1671.49	1	0.006802721	
1714.49	1	0.006802721	
1757.49	1	0.006802721	
1800.49	0	0	
1843.49	1	0.006802721	
1886.49	1	0.006802721	
1929.49	0	0	
1972.49	0	0	
2015.49	0	0	
2058.49	0	0	
2101.49	2	0.013605442	Y
2144.49	0	0	
2187.49	1	0.006802721	

2230.49	1	0.006802721	
2273.49	0	0	
2316.49	0	0	
2359.49	0	0	
2402.49	0	0	
2445.49	0	0	
2488.49	2	0.013605442	Tc
2531.49	0	0	
2574.49	0	0	
2617.49	2	0.013605442	Ru
2660.49	0	0	
2703.49	1	0.006802721	
2746.49	3	0.020408163	Rh
2789.49	0	0	
2832.49	0	0	
2875.49	0	0	
2918.49	1	0.006802721	
2961.49	0	0	
3004.49	1	0.006802721	
3047.49	2	0.013605442	Ag
3090.49	1	0.006802721	
3133.49	1	0.006802721	
3176.49	2	0.013605442	Ag
3219.49	1	0.006802721	
3262.49	1	0.006802721	
3305.49	0	0	
3348.49	0	0	
3391.49	0	0	
3434.49	0	0	
3477.49	0	0	
3520.49	2	0.013605442	
3563.49	3	0.020408163	Sn
3606.49	1	0.006802721	
3649.49	1	0.006802721	
3692.49	5	0.034013605	
3735.49	6	0.040816327	
3778.49	9	0.06122449	Te
3821.49	2	0.013605442	
3864.49	1	0.006802721	
3907.49	0	0	
3950.49	2	0.013605442	Te



3993.49	0	0	
4036.49	2	0.013605442	Te
4079.49	0	0	
4122.49	1	0.006802721	
4165.49	1	0.006802721	
4208.49	1	0.006802721	
4251.49	1	0.006802721	
4294.49	0	0	
4337.49	1	0.006802721	
4380.49	0	0	
4423.49	1	0.006802721	
4466.49	1	0.006802721	
4509.49	1	0.006802721	
4552.49	1	0.006802721	
4595.49	1	0.006802721	
4638.49	2	0.013605442	Ti
4681.49	0	0	
4724.49	1	0.006802721	
4767.49	1	0.006802721	
4810.49	0	0	
4853.49	1	0.006802721	
4896.49	0	0	
4939.49	0	0	
4982.49	0	0	
5025.49	0	0	
5068.49	0	0	
5111.49	1	0.006802721	
5154.49	0	0	
5197.49	1	0.006802721	
5240.49	0	0	
5283.49	3	0.020408163	
5326.49	16	0.108843537	
5369.49	22	0.149659864	
5412.49	35	0.238095238	Cr
5455.49	35	0.238095238	V
5498.49	41	0.278911565	Cr
5541.49	18	0.12244898	
5584.49	6	0.040816327	
5627.49	4	0.027210884	
5670.49	1	0.006802721	
5713.49	0	0	

5756.49	0	0	
5799.49	2	0.013605442	
5842.49	6	0.040816327	Nd
5885.49	6	0.040816327	Cr
5928.49	9	0.06122449	
5971.49	10	0.068027211	Cr
6014.49	8	0.054421769	
6057.49	6	0.040816327	
6100.49	4	0.027210884	
6143.49	2	0.013605442	Gd
6186.49	2	0.013605442	Gd
6229.49	4	0.027210884	
6272.49	17	0.115646259	
6315.49	41	0.278911565	
6358.49	76	0.517006803	
6401.49	147	1	Fe
6444.49	145	0.986394558	
6487.49	113	0.768707483	
6530.49	61	0.414965986	
6573.49	34	0.231292517	
6616.49	13	0.088435374	
6659.49	3	0.020408163	Fe
6702.49	3	0.020408163	Fe
6745.49	2	0.013605442	
6788.49	0	0	
6831.49	0	0	
6874.49	3	0.020408163	
6917.49	8	0.054421769	
6960.49	9	0.06122449	Co
7003.49	9	0.06122449	Fe
7046.49	24	0.163265306	Fe
7089.49	12	0.081632653	
7132.49	19	0.129251701	Co
7175.49	12	0.081632653	
7218.49	3	0.020408163	
7261.49	2	0.013605442	
7304.49	1	0.006802721	
7347.49	3	0.020408163	
7390.49	4	0.027210884	
7433.49	7	0.047619048	
7476.49	18	0.12244898	

7519.49	20	0.136054422	Ni
7562.49	19	0.129251701	
7605.49	10	0.068027211	
7648.49	3	0.020408163	Co
7691.49	3	0.020408163	Co
7734.49	1	0.006802721	
7777.49	1	0.006802721	
7820.49	0	0	
7863.49	0	0	
7906.49	7	0.047619048	
7949.49	11	0.074829932	
7992.49	20	0.136054422	
8035.49	30	0.204081633	
8078.49	37	0.25170068	Cu
8121.49	24	0.163265306	
8164.49	19	0.129251701	
8207.49	10	0.068027211	
8250.49	6	0.040816327	
8293.49	4	0.027210884	Ni
8336.49	4	0.027210884	Ni
8379.49	2	0.013605442	
8422.49	1	0.006802721	
8465.49	0	0	
8508.49	1	0.006802721	
8551.49	0	0	
8594.49	1	0.006802721	
8637.49	1	0.006802721	
8680.49	1	0.006802721	
8723.49	0	0	
8766.49	0	0	
8809.49	1	0.006802721	
8852.49	1	0.006802721	
8895.49	4	0.027210884	
8938.49	6	0.040816327	Cu
8981.49	3	0.020408163	
9024.49	2	0.013605442	
9067.49	0	0	
9110.49	2	0.013605442	Cu
9153.49	1	0.006802721	
9196.49	1	0.006802721	
9239.49	1	0.006802721	

9282.49	3	0.020408163	Ga
9325.49	1	0.006802721	
9368.49	2	0.013605442	Ta
9411.49	0	0	
9454.49	1	0.006802721	
9497.49	4	0.027210884	Zn
9540.49	1	0.006802721	
9583.49	1	0.006802721	
9626.49	6	0.040816327	Au
9669.49	4	0.027210884	
9712.49	3	0.020408163	Au
9755.49	3	0.020408163	Au
9798.49	3	0.020408163	Au
9841.49	3	0.020408163	Au
9884.49	1	0.006802721	
9927.49	2	0.013605442	Ge
9970.49	2	0.013605442	Ge
10013.49	2	0.013605442	Re
10056.49	0	0	
10099.49	1	0.006802721	
10142.49	0	0	
10185.49	1	0.006802721	
10228.49	0	0	
10271.49	0	0	
10314.49	0	0	
10357.49	0	0	
10400.49	1	0.006802721	
10443.49	3	0.020408163	Ga
10486.49	0	0	
10529.49	0	0	
10572.49	0	0	
10615.49	3	0.020408163	As
10658.49	0	0	
10701.49	1	0.006802721	
10744.49	0	0	
10787.49	1	0.006802721	
10830.49	2	0.013605442	Ge
10873.49	1	0.006802721	
10916.49	0	0	
10959.49	1	0.006802721	
11002.49	1	0.006802721	

11045.49	0	0	
11088.49	0	0	
11131.49	2	0.013605442	Se
11174.49	0	0	
11217.49	3	0.020408163	
11260.49	7	0.047619048	Au
11303.49	4	0.027210884	
11346.49	1	0.006802721	
11389.49	0	0	
11432.49	3	0.020408163	Au
11475.49	3	0.020408163	Se
11518.49	3	0.020408163	Au
11561.49	3	0.020408163	Au
11604.49	0	0	
11647.49	0	0	
11690.49	1	0.006802721	
11733.49	1	0.006802721	
11776.49	0	0	
11819.49	1	0.006802721	
11862.49	0	0	
11905.49	1	0.006802721	
11948.49	1	0.006802721	
11991.49	1	0.006802721	
12034.49	0	0	
12077.49	0	0	
12120.49	0	0	
12163.49	1	0.006802721	
12206.49	1	0.006802721	
12249.49	1	0.006802721	
12292.49	1	0.006802721	
12335.49	0	0	
12378.49	1	0.006802721	
12421.49	0	0	
12464.49	0	0	
12507.49	3	0.020408163	Se
12550.49	1	0.006802721	
12593.49	5	0.034013605	Se
12636.49	2	0.013605442	Pb
12679.49	2	0.013605442	Se
12722.49	1	0.006802721	
12765.49	0	0	

12808.49	4	0.027210884	Ac
12851.49	1	0.006802721	
12894.49	1	0.006802721	
12937.49	2	0.013605442	Th
12980.49	1	0.006802721	
13023.49	1	0.006802721	
13066.49	2	0.013605442	Th
13109.49	0	0	
13152.49	1	0.006802721	
13195.49	0	0	
13238.49	0	0	
13281.49	3	0.020408163	Br
13324.49	0	0	
13367.49	2	0.013605442	Rb
13410.49	2	0.013605442	Rb
13453.49	1	0.006802721	
13496.49	4	0.027210884	Rb
13539.49	2	0.013605442	
13582.49	0	0	
13625.49	2	0.013605442	
13668.49	3	0.020408163	Rb
13711.49	3	0.020408163	Rb
13754.49	0	0	
13797.49	0	0	
13840.49	3	0.020408163	Sr
13883.49	0	0	
13926.49	2	0.013605442	
13969.49	3	0.020408163	
14012.49	4	0.027210884	Sr
14055.49	4	0.027210884	Sr
14098.49	7	0.047619048	
14141.49	9	0.06122449	
14184.49	13	0.088435374	
14227.49	14	0.095238095	Sr
14270.49	4	0.027210884	
14313.49	9	0.06122449	Sr
14356.49	3	0.020408163	
14399.49	0	0	
14442.49	0	0	
14485.49	0	0	
14528.49	4	0.027210884	Rn

14571.49	1	0.006802721	
14614.49	2	0.013605442	Rn
14657.49	1	0.006802721	
14700.49	0	0	
14743.49	1	0.006802721	
14786.49	2	0.013605442	
14829.49	5	0.034013605	Fr
14872.49	0	0	
14915.49	3	0.020408163	Rb
14958.49	1	0.006802721	
15001.49	2	0.013605442	Y
15044.49	2	0.013605442	Y
15087.49	2	0.013605442	Y
15130.49	1	0.006802721	
15173.49	4	0.027210884	Y
15216.49	0	0	
15259.49	3	0.020408163	Y
15302.49	0	0	
15345.49	3	0.020408163	Zr
15388.49	1	0.006802721	
15431.49	1	0.006802721	
15474.49	1	0.006802721	
15517.49	3	0.020408163	
15560.49	4	0.027210884	Zr
15603.49	2	0.013605442	
15646.49	4	0.027210884	Zr
15689.49	4	0.027210884	Zr
15732.49	1	0.006802721	
15775.49	4	0.027210884	
15818.49	6	0.040816327	Zr
15861.49	2	0.013605442	
15904.49	4	0.027210884	
15947.49	5	0.034013605	Sr
15990.49	0	0	
16033.49	2	0.013605442	
16076.49	3	0.020408163	Sr
16119.49	1	0.006802721	
16162.49	2	0.013605442	Sr
16205.49	0	0	
16248.49	3	0.020408163	
16291.49	4	0.027210884	Th

16334.49	2	0.013605442	
16377.49	3	0.020408163	Th
16420.49	1	0.006802721	
16463.49	4	0.027210884	Nb
16506.49	1	0.006802721	
16549.49	0	0	
16592.49	4	0.027210884	Th
16635.49	0	0	
16678.49	3	0.020408163	Y
16721.49	2	0.013605442	
16764.49	3	0.020408163	Y
16807.49	0	0	
16850.49	3	0.020408163	Y
16893.49	2	0.013605442	
16936.49	1	0.006802721	
16979.49	3	0.020408163	Y
17022.49	3	0.020408163	Y
17065.49	3	0.020408163	Y
17108.49	3	0.020408163	Mo
17151.49	0	0	
17194.49	1	0.006802721	
17237.49	2	0.013605442	Mo
17280.49	1	0.006802721	
17323.49	2	0.013605442	Mo
17366.49	1	0.006802721	
17409.49	3	0.020408163	Mo
17452.49	3	0.020408163	Mo
17495.49	2	0.013605442	Mo
17538.49	2	0.013605442	Mo
17581.49	3	0.020408163	Zr
17624.49	1	0.006802721	
17667.49	3	0.020408163	
17710.49	5	0.034013605	Zr
17753.49	2	0.013605442	
17796.49	0	0	
17839.49	6	0.040816327	Zr
17882.49	2	0.013605442	Zr
17925.49	2	0.013605442	Zr
17968.49	2	0.013605442	Zr
18011.49	5	0.034013605	Zr
18054.49	0	0	



18097.49	0	0	
18140.49	3	0.020408163	Zr
18183.49	2	0.013605442	
18226.49	1	0.006802721	
18269.49	1	0.006802721	
18312.49	1	0.006802721	
18355.49	2	0.013605442	Tc
18398.49	2	0.013605442	Tc
18441.49	3	0.020408163	Tc
18484.49	3	0.020408163	Tc
18527.49	0	0	
18570.49	1	0.006802721	
18613.49	2	0.013605442	
18656.49	3	0.020408163	Nb
18699.49	1	0.006802721	
18742.49	1	0.006802721	
18785.49	3	0.020408163	Nb
18828.49	2	0.013605442	
18871.49	1	0.006802721	
18914.49	1	0.006802721	
18957.49	1	0.006802721	
19000.49	0	0	
19043.49	3	0.020408163	Nb
19086.49	3	0.020408163	Ru
19129.49	0	0	
19172.49	1	0.006802721	
19215.49	2	0.013605442	Ru
19258.49	1	0.006802721	
19301.49	1	0.006802721	
19344.49	3	0.020408163	
19387.49	4	0.027210884	Ru
19430.49	0	0	
19473.49	1	0.006802721	
19516.49	3	0.020408163	Tc
19559.49	2	0.013605442	
19602.49	0	0	
19645.49	2	0.013605442	Tc
19688.49	0	0	
19731.49	2	0.013605442	Tc
19774.49	2	0.013605442	Tc
19817.49	2	0.013605442	Tc

19860.49	1	0.006802721	
19903.49	3	0.020408163	Tc
19946.49	3	0.020408163	Tc
19989.49	2	0.013605442	
20032.49	0	0	
20075.49	0	0	
20118.49	2	0.013605442	Rh
20161.49	2	0.013605442	Rh
20204.49	2	0.013605442	Rh
20247.49	2	0.013605442	Rh
20290.49	0	0	
20333.49	3	0.020408163	Rh
20376.49	2	0.013605442	
20419.49	3	0.020408163	Rh
20462.49	3	0.020408163	Rh
20505.49	1	0.006802721	
20548.49	1	0.006802721	
20591.49	1	0.006802721	
20634.49	0	0	
20677.49	0	0	
20720.49	2	0.013605442	
20763.49	6	0.040816327	Rh
20806.49	2	0.013605442	
20849.49	4	0.027210884	Pd
20892.49	2	0.013605442	Pd
20935.49	2	0.013605442	Pd
20978.49	2	0.013605442	Pd
21021.49	1	0.006802721	
21064.49	3	0.020408163	Pd
21107.49	2	0.013605442	
21150.49	0	0	
21193.49	2	0.013605442	Pd
21236.49	1	0.006802721	
21279.49	2	0.013605442	
21322.49	3	0.020408163	Pd
21365.49	3	0.020408163	Pd
21408.49	5	0.034013605	Pd
21451.49	0	0	
21494.49	2	0.013605442	Pd
21537.49	1	0.006802721	
21580.49	2	0.013605442	Pd

21623.49	2	0.013605442	Ru
21666.49	2	0.013605442	Ru
21709.49	0	0	
21752.49	2	0.013605442	Ru
21795.49	0	0	
21838.49	1	0.006802721	
21881.49	2	0.013605442	Ru
21924.49	2	0.013605442	Ag
21967.49	2	0.013605442	Ag
22010.49	1	0.006802721	
22053.49	0	0	
22096.49	0	0	
22139.49	2	0.013605442	
22182.49	3	0.020408163	Ag
22225.49	2	0.013605442	Ag
22268.49	2	0.013605442	Ag
22311.49	1	0.006802721	
22354.49	0	0	
22397.49	3	0.020408163	
22440.49	5	0.034013605	Ag
22483.49	2	0.013605442	
22526.49	3	0.020408163	Ag
22569.49	2	0.013605442	
22612.49	1	0.006802721	
22655.49	1	0.006802721	
22698.49	5	0.034013605	Rh
22741.49	2	0.013605442	Rh
22784.49	2	0.013605442	Rh
22827.49	1	0.006802721	
22870.49	4	0.027210884	Rh
22913.49	1	0.006802721	
22956.49	2	0.013605442	Rh
22999.49	1	0.006802721	
23042.49	3	0.020408163	Cd
23085.49	2	0.013605442	
23128.49	1	0.006802721	
23171.49	1	0.006802721	
23214.49	1	0.006802721	
23257.49	1	0.006802721	
23300.49	1	0.006802721	
23343.49	0	0	

23386.49	0	0	
23429.49	0	0	
23472.49	1	0.006802721	
23515.49	1	0.006802721	
23558.49	0	0	
23601.49	3	0.020408163	Pd
23644.49	0	0	
23687.49	1	0.006802721	
23730.49	0	0	
23773.49	0	0	
23816.49	1	0.006802721	
23859.49	1	0.006802721	
23902.49	2	0.013605442	Pd
23945.49	2	0.013605442	Pd
23988.49	2	0.013605442	Pd
24031.49	3	0.020408163	Pd
24074.49	3	0.020408163	In
24117.49	2	0.013605442	
24160.49	1	0.006802721	
24203.49	3	0.020408163	In
24246.49	0	0	
24289.49	2	0.013605442	In
24332.49	2	0.013605442	In
24375.49	2	0.013605442	In
24418.49	0	0	
24461.49	3	0.020408163	In
24504.49	0	0	
24547.49	0	0	
24590.49	4	0.027210884	In
24633.49	1	0.006802721	
24676.49	1	0.006802721	
24719.49	2	0.013605442	Ag
24762.49	1	0.006802721	
24805.49	2	0.013605442	Ag
24848.49	0	0	
24891.49	2	0.013605442	Ag
24934.49	2	0.013605442	Ag
24977.49	5	0.034013605	
25020.49	8	0.054421769	
25063.49	9	0.06122449	Ag
25106.49	7	0.047619048	Ag

25149.49	7	0.047619048	Ag
25192.49	11	0.074829932	Sn
25235.49	6	0.040816327	
25278.49	11	0.074829932	Sn
25321.49	7	0.047619048	
25364.49	5	0.034013605	
25407.49	3	0.020408163	
25450.49	1	0.006802721	
25493.49	1	0.006802721	
25536.49	2	0.013605442	Sn
25579.49	1	0.006802721	
25622.49	3	0.020408163	Sn
25665.49	2	0.013605442	
25708.49	0	0	
25751.49	1	0.006802721	
25794.49	2	0.013605442	Sn
25837.49	1	0.006802721	
25880.49	2	0.013605442	Sb
25923.49	1	0.006802721	
25966.49	2	0.013605442	Sn
26009.49	2	0.013605442	Cd
26052.49	0	0	
26095.49	3	0.020408163	Cd
26138.49	2	0.013605442	
26181.49	1	0.006802721	
26224.49	2	0.013605442	Sb
26267.49	1	0.006802721	
26310.49	0	0	
26353.49	1	0.006802721	
26396.49	1	0.006802721	
26439.49	2	0.013605442	Sb
26482.49	0	0	
26525.49	1	0.006802721	
26568.49	0	0	
26611.49	1	0.006802721	
26654.49	0	0	
26697.49	1	0.006802721	
26740.49	1	0.006802721	
26783.49	0	0	
26826.49	2	0.013605442	Sb
26869.49	0	0	

26912.49	2	0.013605442	-
26955.49	2	0.013605442	-
26998.49	0	0	-
27041.49	0	0	
27084.49	4	0.027210884	Sb
27127.49	2	0.013605442	Sb
27170.49	2	0.013605442	Sb
27213.49	1	0.006802721	
27256.49	2	0.013605442	-
27299.49	1	0.006802721	
27342.49	2	0.013605442	-
27385.49	0	0	
27428.49	0	0	
27471.49	0	0	
27514.49	1	0.006802721	
27557.49	2	0.013605442	Sn
27600.49	1	0.006802721	
27643.49	1	0.006802721	
27686.49	1	0.006802721	
27729.49	1	0.006802721	
27772.49	0	0	
27815.49	4	0.027210884	-
27858.49	0	0	
27901.49	0	0	
27944.49	2	0.013605442	-
27987.49	2	0.013605442	-
28030.49	0	0	
28073.49	1	0.006802721	
28116.49	1	0.006802721	
28159.49	1	0.006802721	
28202.49	2	0.013605442	-
28245.49	2	0.013605442	Sn
28288.49	0	0	
28331.49	1	0.006802721	
28374.49	0	0	
28417.49	3	0.020408163	Sn
28460.49	1	0.006802721	
28503.49	4	0.027210884	Sn
28546.49	1	0.006802721	
28589.49	4	0.027210884	Sn
28632.49	3	0.020408163	

28675.49	0	0	
28718.49	2	0.013605442	Sn
28761.49	2	0.013605442	Sn
28804.49	1	0.006802721	
28847.49	1	0.006802721	
28890.49	0	0	
28933.49	2	0.013605442	-
28976.49	2	0.013605442	Sn
29019.49	0	0	
29062.49	2	0.013605442	Sb
29105.49	0	0	
29148.49	0	0	
29191.49	1	0.006802721	
29234.49	0	0	
29277.49	2	0.013605442	-
29320.49	2	0.013605442	-
29363.49	1	0.006802721	
29406.49	1	0.006802721	
29449.49	1	0.006802721	
29492.49	0	0	
29535.49	0	0	
29578.49	0	0	
29621.49	2	0.013605442	
29664.49	3	0.020408163	Sb
29707.49	1	0.006802721	
29750.49	2	0.013605442	Sb
29793.49	2	0.013605442	Sb
29836.49	2	0.013605442	Sb
29879.49	0	0	
29922.49	0	0	
29965.49	2	0.013605442	Sb
30008.49	0	0	
30051.49	0	0	
30094.49	0	0	
30137.49	1	0.006802721	
30180.49	1	0.006802721	
30223.49	0	0	
30266.49	1	0.006802721	
30309.49	0	0	
30352.49	0	0	
30395.49	2	0.013605442	Sb

30438.49	1	0.006802721	
30481.49	0	0	
30524.49	2	0.013605442	Sb
30567.49	0	0	
30610.49	1	0.006802721	
30653.49	0	0	
30696.49	0	0	
30739.49	1	0.006802721	
30782.49	1	0.006802721	
30825.49	1	0.006802721	
30868.49	0	0	
30911.49	0	0	
30954.49	1	0.006802721	
30997.49	1	0.006802721	
31040.49	1	0.006802721	
31083.49	4	0.027210884	
31126.49	1	0.006802721	
31169.49	0	0	
31212.49	1	0.006802721	
31255.49	0	0	
31298.49	1	0.006802721	
31341.49	0	0	
31384.49	1	0.006802721	
31427.49	0	0	
31470.49	0	0	
31513.49	0	0	
31556.49	3	0.020408163	
31599.49	0	0	
31642.49	0	0	
31685.49	1	0.006802721	
31728.49	1	0.006802721	
31771.49	0	0	
31814.49	1	0.006802721	
31857.49	1	0.006802721	
31900.49	0	0	
31943.49	1	0.006802721	
31986.49	1	0.006802721	
32029.49	2	0.013605442	
32072.49	0	0	
32115.49	2	0.013605442	
32158.49	0	0	



32201.49	2	0.013605442	
32244.49	1	0.006802721	
32287.49	0	0	
32330.49	0	0	
32373.49	3	0.020408163	
32416.49	1	0.006802721	
32459.49	2	0.013605442	
32502.49	0	0	
32545.49	3	0.020408163	
32588.49	3	0.020408163	
32631.49	0	0	
32674.49	0	0	
32717.49	0	0	
32760.49	2	0.013605442	
32803.49	1	0.006802721	
32846.49	0	0	
32889.49	1	0.006802721	
32932.49	0	0	
32975.49	0	0	
33018.49	2	0.013605442	
33061.49	2	0.013605442	
33104.49	0	0	
33147.49	0	0	
33190.49	0	0	
33233.49	0	0	
33276.49	1	0.006802721	
33319.49	1	0.006802721	
33362.49	3	0.020408163	
33405.49	0	0	
33448.49	0	0	
33491.49	1	0.006802721	
33534.49	1	0.006802721	
33577.49	0	0	
33620.49	4	0.027210884	
33663.49	0	0	
33706.49	0	0	
33749.49	0	0	
33792.49	0	0	
33835.49	1	0.006802721	
33878.49	1	0.006802721	
33921.49	1	0.006802721	

33964.49	0	0	
34007.49	1	0.006802721	
34050.49	0	0	
34093.49	0	0	
34136.49	1	0.006802721	
34179.49	1	0.006802721	
34222.49	1	0.006802721	
34265.49	0	0	
34308.49	1	0.006802721	
34351.49	0	0	
34394.49	1	0.006802721	
34437.49	1	0.006802721	
34480.49	0	0	
34523.49	0	0	
34566.49	1	0.006802721	
34609.49	0	0	
34652.49	0	0	
34695.49	0	0	
34738.49	0	0	
34781.49	1	0.006802721	
34824.49	1	0.006802721	
34867.49	0	0	
34910.49	0	0	
34953.49	2	0.013605442	
34996.49	3	0.020408163	
35039.49	1	0.006802721	
35082.49	0	0	
35125.49	1	0.006802721	
35168.49	0	0	
35211.49	2	0.013605442	
35254.49	0	0	
35297.49	2	0.013605442	
35340.49	0	0	
35383.49	0	0	
35426.49	0	0	
35469.49	1	0.006802721	
35512.49	0	0	
35555.49	1	0.006802721	
35598.49	3	0.020408163	
35641.49	0	0	
35684.49	0	0	

35727.49	2	0.013605442	
35770.49	0	0	
35813.49	0	0	
35856.49	0	0	
35899.49	1	0.006802721	
35942.49	1	0.006802721	
35985.49	0	0	
36028.49	0	0	
36071.49	0	0	
36114.49	0	0	
36157.49	0	0	
36200.49	0	0	
36243.49	1	0.006802721	
36286.49	1	0.006802721	
36329.49	1	0.006802721	
36372.49	0	0	
36415.49	1	0.006802721	
36458.49	0	0	
36501.49	1	0.006802721	
36544.49	0	0	
36587.49	0	0	
36630.49	0	0	
36673.49	3	0.020408163	
36716.49	0	0	
36759.49	0	0	
36802.49	0	0	
36845.49	0	0	
36888.49	0	0	
36931.49	0	0	
36974.49	2	0.013605442	
37017.49	0	0	
37060.49	1	0.006802721	
37103.49	2	0.013605442	
37146.49	0	0	
37189.49	1	0.006802721	
37232.49	1	0.006802721	
37275.49	1	0.006802721	
37318.49	0	0	
37361.49	1	0.006802721	
37404.49	0	0	
37447.49	0	0	

37490.49	0	0	
37533.49	0	0	
37576.49	1	0.006802721	
37619.49	0	0	
37662.49	0	0	
37705.49	0	0	
37748.49	0	0	
37791.49	1	0.006802721	
37834.49	0	0	
37877.49	0	0	
37920.49	0	0	
37963.49	0	0	
38006.49	0	0	
38049.49	0	0	
38092.49	0	0	
38135.49	0	0	
38178.49	1	0.006802721	
38221.49	0	0	
38264.49	0	0	
38307.49	1	0.006802721	
38350.49	1	0.006802721	
38393.49	0	0	
38436.49	0	0	
38479.49	0	0	
38522.49	0	0	
38565.49	0	0	
38608.49	1	0.006802721	
38651.49	0	0	
38694.49	1	0.006802721	
38737.49	0	0	
38780.49	0	0	
38823.49	0	0	
38866.49	0	0	
38909.49	0	0	
38952.49	0	0	
38995.49	0	0	
39038.49	0	0	
39081.49	0	0	
39124.49	0	0	
39167.49	0	0	
39210.49	1	0.006802721	

39253.49	0	0	
39296.49	1	0.006802721	
39339.49	1	0.006802721	
39382.49	1	0.006802721	
39425.49	1	0.006802721	
39468.49	0	0	
39511.49	0	0	
39554.49	0	0	
39597.49	1	0.006802721	
39640.49	1	0.006802721	
39683.49	0	0	
39726.49	0	0	
39769.49	0	0	
39812.49	0	0	
39855.49	0	0	
39898.49	1	0.006802721	
39941.49	0	0	
39984.49	0	0	
40027.49	0	0	
40070.49	1	0.006802721	
40113.49	0	0	
40156.49	0	0	
40199.49	1	0.006802721	
40242.49	1	0.006802721	
40285.49	0	0	
40328.49	1	0.006802721	
40371.49	0	0	
40414.49	0	0	
40457.49	1	0.006802721	
40500.49	0	0	
40543.49	0	0	
40586.49	0	0	
40629.49	1	0.006802721	
40672.49	0	0	
40715.49	0	0	
40758.49	0	0	
40801.49	1	0.006802721	
40844.49	0	0	
40887.49	0	0	
40930.49	0	0	
40973.49	0	0	

41016.49	2	0.013605442	
41059.49	0	0	
41102.49	1	0.006802721	
41145.49	0	0	
41188.49	0	0	
41231.49	0	0	
41274.49	0	0	
41317.49	0	0	
41360.49	0	0	
41403.49	0	0	
41446.49	1	0.006802721	
41489.49	0	0	
41532.49	0	0	
41575.49	1	0.006802721	
41618.49	1	0.006802721	
41661.49	0	0	
41704.49	0	0	
41747.49	0	0	
41790.49	0	0	
41833.49	1	0.006802721	
41876.49	1	0.006802721	
41919.49	0	0	
41962.49	0	0	
42005.49	0	0	
42048.49	0	0	
42091.49	0	0	
42134.49	0	0	
42177.49	0	0	
42220.49	0	0	
42263.49	0	0	
42306.49	0	0	
42349.49	0	0	
42392.49	0	0	
42435.49	0	0	
42478.49	0	0	
42521.49	0	0	
42564.49	0	0	
42607.49	0	0	
42650.49	0	0	
42693.49	0	0	
42736.49	0	0	

42779.49	0	0	
42822.49	0	0	
42865.49	0	0	
42908.49	0	0	
42951.49	1	0.006802721	
42994.49	0	0	
43037.49	1	0.006802721	
43080.49	0	0	
43123.49	1	0.006802721	
43166.49	1	0.006802721	
43209.49	0	0	
43252.49	0	0	
43295.49	0	0	
43338.49	0	0	
43381.49	0	0	
43424.49	0	0	
43467.49	0	0	
43510.49	0	0	
43553.49	0	0	
43596.49	2	0.013605442	
43639.49	0	0	
43682.49	1	0.006802721	
43725.49	1	0.006802721	
43768.49	0	0	
43811.49	0	0	
43854.49	0	0	

C006

### Normalized Counts

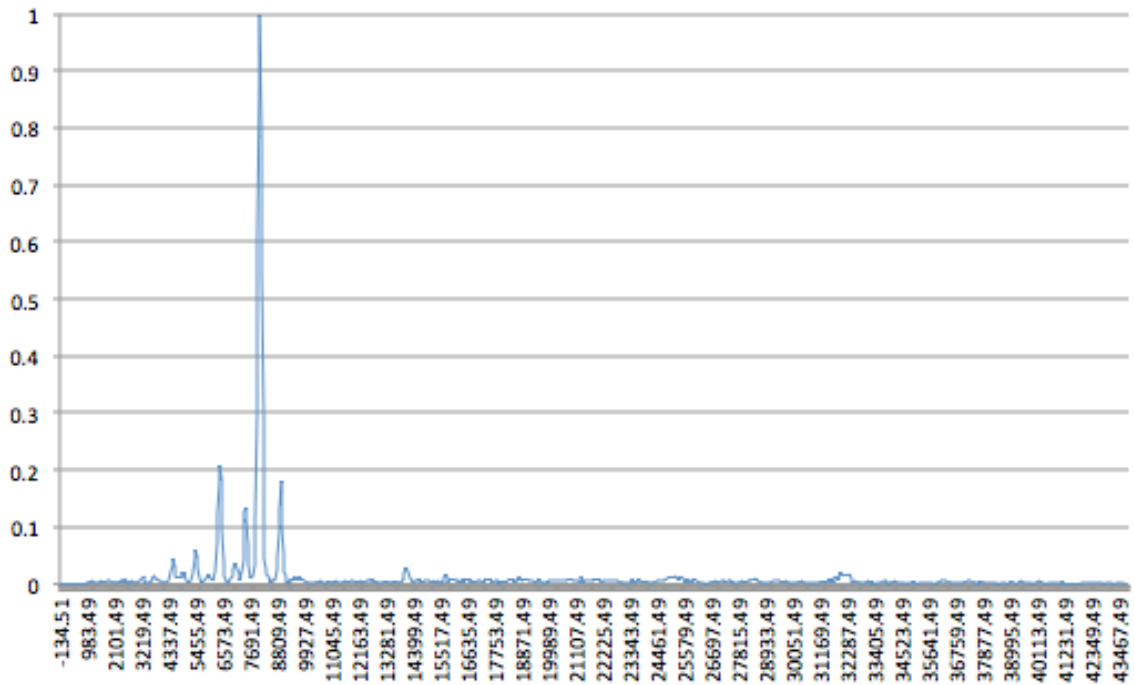


Figure 37. C006 Normalized XRF Counts

Table 22. C006 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	



467.49	0	0	
510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	1	0.001090513	
1026.49	2	0.002181025	
1069.49	1	0.001090513	
1112.49	4	0.00436205	
1155.49	5	0.005452563	
1198.49	4	0.00436205	
1241.49	3	0.003271538	
1284.49	3	0.003271538	
1327.49	0	0	
1370.49	2	0.002181025	
1413.49	3	0.003271538	
1456.49	1	0.001090513	
1499.49	5	0.005452563	
1542.49	5	0.005452563	
1585.49	2	0.002181025	
1628.49	3	0.003271538	
1671.49	3	0.003271538	
1714.49	0	0	
1757.49	4	0.00436205	
1800.49	4	0.00436205	
1843.49	3	0.003271538	
1886.49	2	0.002181025	
1929.49	4	0.00436205	
1972.49	1	0.001090513	
2015.49	3	0.003271538	
2058.49	1	0.001090513	
2101.49	3	0.003271538	
2144.49	2	0.002181025	
2187.49	3	0.003271538	

2230.49	2	0.002181025	
2273.49	3	0.003271538	
2316.49	5	0.005452563	
2359.49	4	0.00436205	
2402.49	3	0.003271538	
2445.49	6	0.006543075	
2488.49	1	0.001090513	
2531.49	8	0.0087241	
2574.49	4	0.00436205	
2617.49	2	0.002181025	
2660.49	0	0	
2703.49	3	0.003271538	
2746.49	1	0.001090513	
2789.49	6	0.006543075	
2832.49	7	0.007633588	
2875.49	4	0.00436205	
2918.49	1	0.001090513	
2961.49	4	0.00436205	
3004.49	3	0.003271538	
3047.49	2	0.002181025	
3090.49	2	0.002181025	
3133.49	2	0.002181025	
3176.49	4	0.00436205	
3219.49	2	0.002181025	
3262.49	1	0.001090513	
3305.49	11	0.011995638	In
3348.49	2	0.002181025	
3391.49	3	0.003271538	
3434.49	3	0.003271538	
3477.49	1	0.001090513	
3520.49	2	0.002181025	
3563.49	1	0.001090513	
3606.49	3	0.003271538	
3649.49	12	0.01308615	Sb
3692.49	10	0.010905125	
3735.49	13	0.014176663	
3778.49	14	0.015267176	Te
3821.49	9	0.009814613	
3864.49	4	0.00436205	
3907.49	1	0.001090513	
3950.49	5	0.005452563	

3993.49	4	0.00436205	
4036.49	7	0.007633588	
4079.49	1	0.001090513	
4122.49	2	0.002181025	
4165.49	3	0.003271538	
4208.49	1	0.001090513	
4251.49	1	0.001090513	
4294.49	2	0.002181025	
4337.49	5	0.005452563	
4380.49	3	0.003271538	
4423.49	19	0.020719738	
4466.49	29	0.031624864	Ti
4509.49	27	0.029443839	
4552.49	41	0.044711014	Ti
4595.49	27	0.029443839	
4638.49	13	0.014176663	
4681.49	8	0.0087241	
4724.49	10	0.010905125	La
4767.49	9	0.009814613	
4810.49	12	0.01308615	Ce
4853.49	8	0.0087241	
4896.49	21	0.022900763	Ti
4939.49	13	0.014176663	
4982.49	20	0.021810251	Ti
5025.49	6	0.006543075	
5068.49	5	0.005452563	
5111.49	5	0.005452563	
5154.49	1	0.001090513	
5197.49	3	0.003271538	
5240.49	4	0.00436205	
5283.49	5	0.005452563	
5326.49	16	0.017448201	
5369.49	21	0.022900763	
5412.49	41	0.044711014	
5455.49	57	0.062159215	V
5498.49	45	0.049073064	
5541.49	26	0.028353326	
5584.49	8	0.0087241	
5627.49	7	0.007633588	
5670.49	2	0.002181025	
5713.49	1	0.001090513	

5756.49	3	0.003271538	
5799.49	5	0.005452563	
5842.49	8	0.0087241	
5885.49	9	0.009814613	
5928.49	18	0.019629226	Cr
5971.49	9	0.009814613	
6014.49	15	0.016357688	Cr
6057.49	8	0.0087241	
6100.49	5	0.005452563	
6143.49	7	0.007633588	
6186.49	4	0.00436205	
6229.49	7	0.007633588	
6272.49	21	0.022900763	
6315.49	65	0.070883315	
6358.49	114	0.12431843	
6401.49	161	0.175572519	
6444.49	191	0.208287895	Fe
6487.49	168	0.183206107	
6530.49	88	0.095965104	
6573.49	35	0.038167939	
6616.49	13	0.014176663	
6659.49	6	0.006543075	
6702.49	1	0.001090513	
6745.49	4	0.00436205	
6788.49	2	0.002181025	
6831.49	2	0.002181025	
6874.49	9	0.009814613	
6917.49	6	0.006543075	
6960.49	14	0.015267176	
7003.49	22	0.023991276	
7046.49	34	0.037077426	Fe
7089.49	33	0.035986914	
7132.49	31	0.033805889	
7175.49	23	0.025081788	
7218.49	17	0.018538713	
7261.49	5	0.005452563	
7304.49	7	0.007633588	
7347.49	20	0.021810251	
7390.49	37	0.040348964	
7433.49	86	0.093784079	
7476.49	115	0.125408942	

7519.49	122	0.13304253	Ni
7562.49	103	0.112322792	
7605.49	62	0.067611778	
7648.49	29	0.031624864	
7691.49	8	0.0087241	
7734.49	7	0.007633588	
7777.49	8	0.0087241	
7820.49	12	0.01308615	
7863.49	32	0.034896401	
7906.49	103	0.112322792	
7949.49	274	0.298800436	
7992.49	558	0.608505998	
8035.49	799	0.87131952	
8078.49	917	1	Cu
8121.49	718	0.782988004	
8164.49	493	0.537622683	
8207.49	264	0.287895311	
8250.49	117	0.127589967	
8293.49	43	0.046892039	
8336.49	23	0.025081788	
8379.49	18	0.019629226	
8422.49	17	0.018538713	
8465.49	11	0.011995638	
8508.49	2	0.002181025	
8551.49	7	0.007633588	
8594.49	5	0.005452563	
8637.49	6	0.006543075	
8680.49	7	0.007633588	
8723.49	8	0.0087241	
8766.49	25	0.027262814	
8809.49	41	0.044711014	
8852.49	85	0.092693566	
8895.49	121	0.131952017	
8938.49	167	0.182115594	Cu
8981.49	130	0.14176663	
9024.49	90	0.098146129	
9067.49	48	0.052344602	
9110.49	20	0.021810251	
9153.49	11	0.011995638	
9196.49	1	0.001090513	
9239.49	2	0.002181025	

9282.49	3	0.003271538	
9325.49	3	0.003271538	
9368.49	9	0.009814613	
9411.49	4	0.00436205	
9454.49	4	0.00436205	
9497.49	13	0.014176663	Zn
9540.49	5	0.005452563	
9583.49	6	0.006543075	
9626.49	10	0.010905125	Au
9669.49	6	0.006543075	
9712.49	11	0.011995638	Au
9755.49	4	0.00436205	
9798.49	9	0.009814613	
9841.49	7	0.007633588	
9884.49	11	0.011995638	Au
9927.49	4	0.00436205	
9970.49	6	0.006543075	
10013.49	6	0.006543075	
10056.49	1	0.001090513	
10099.49	3	0.003271538	
10142.49	3	0.003271538	
10185.49	2	0.002181025	
10228.49	0	0	
10271.49	1	0.001090513	
10314.49	3	0.003271538	
10357.49	3	0.003271538	
10400.49	3	0.003271538	
10443.49	3	0.003271538	
10486.49	4	0.00436205	
10529.49	3	0.003271538	
10572.49	4	0.00436205	
10615.49	5	0.005452563	
10658.49	5	0.005452563	
10701.49	3	0.003271538	
10744.49	2	0.002181025	
10787.49	3	0.003271538	
10830.49	0	0	
10873.49	4	0.00436205	
10916.49	2	0.002181025	
10959.49	1	0.001090513	
11002.49	2	0.002181025	

11045.49	2	0.002181025	
11088.49	2	0.002181025	
11131.49	2	0.002181025	
11174.49	4	0.00436205	
11217.49	7	0.007633588	
11260.49	7	0.007633588	
11303.49	6	0.006543075	
11346.49	3	0.003271538	
11389.49	4	0.00436205	
11432.49	5	0.005452563	
11475.49	3	0.003271538	
11518.49	1	0.001090513	
11561.49	3	0.003271538	
11604.49	4	0.00436205	
11647.49	4	0.00436205	
11690.49	4	0.00436205	
11733.49	1	0.001090513	
11776.49	3	0.003271538	
11819.49	5	0.005452563	
11862.49	4	0.00436205	
11905.49	2	0.002181025	
11948.49	4	0.00436205	
11991.49	1	0.001090513	
12034.49	1	0.001090513	
12077.49	2	0.002181025	
12120.49	2	0.002181025	
12163.49	1	0.001090513	
12206.49	4	0.00436205	
12249.49	3	0.003271538	
12292.49	4	0.00436205	
12335.49	3	0.003271538	
12378.49	1	0.001090513	
12421.49	0	0	
12464.49	4	0.00436205	
12507.49	4	0.00436205	
12550.49	5	0.005452563	
12593.49	4	0.00436205	
12636.49	2	0.002181025	
12679.49	7	0.007633588	
12722.49	8	0.0087241	
12765.49	2	0.002181025	

12808.49	5	0.005452563	
12851.49	6	0.006543075	
12894.49	1	0.001090513	
12937.49	2	0.002181025	
12980.49	3	0.003271538	
13023.49	1	0.001090513	
13066.49	2	0.002181025	
13109.49	4	0.00436205	
13152.49	1	0.001090513	
13195.49	2	0.002181025	
13238.49	3	0.003271538	
13281.49	4	0.00436205	
13324.49	4	0.00436205	
13367.49	3	0.003271538	
13410.49	1	0.001090513	
13453.49	4	0.00436205	
13496.49	2	0.002181025	
13539.49	1	0.001090513	
13582.49	2	0.002181025	
13625.49	3	0.003271538	
13668.49	5	0.005452563	
13711.49	1	0.001090513	
13754.49	2	0.002181025	
13797.49	2	0.002181025	
13840.49	2	0.002181025	
13883.49	4	0.00436205	
13926.49	2	0.002181025	
13969.49	7	0.007633588	
14012.49	17	0.018538713	Sr
14055.49	15	0.016357688	Sr
14098.49	15	0.016357688	Sr
14141.49	28	0.030534351	Sr
14184.49	19	0.020719738	
14227.49	21	0.022900763	Sr
14270.49	19	0.020719738	
14313.49	9	0.009814613	
14356.49	5	0.005452563	
14399.49	1	0.001090513	
14442.49	3	0.003271538	
14485.49	7	0.007633588	
14528.49	5	0.005452563	



14571.49	4	0.00436205	
14614.49	4	0.00436205	
14657.49	8	0.0087241	
14700.49	3	0.003271538	
14743.49	5	0.005452563	
14786.49	4	0.00436205	
14829.49	4	0.00436205	
14872.49	4	0.00436205	
14915.49	7	0.007633588	
14958.49	6	0.006543075	
15001.49	4	0.00436205	
15044.49	8	0.0087241	
15087.49	7	0.007633588	
15130.49	5	0.005452563	
15173.49	2	0.002181025	
15216.49	6	0.006543075	
15259.49	4	0.00436205	
15302.49	5	0.005452563	
15345.49	2	0.002181025	
15388.49	6	0.006543075	
15431.49	4	0.00436205	
15474.49	4	0.00436205	
15517.49	3	0.003271538	
15560.49	3	0.003271538	
15603.49	4	0.00436205	
15646.49	2	0.002181025	
15689.49	10	0.010905125	
15732.49	12	0.01308615	
15775.49	15	0.016357688	Zr
15818.49	9	0.009814613	
15861.49	3	0.003271538	
15904.49	9	0.009814613	
15947.49	8	0.0087241	
15990.49	4	0.00436205	
16033.49	9	0.009814613	
16076.49	7	0.007633588	
16119.49	4	0.00436205	
16162.49	3	0.003271538	
16205.49	5	0.005452563	
16248.49	6	0.006543075	
16291.49	7	0.007633588	

16334.49	2	0.002181025	
16377.49	3	0.003271538	
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16463.49	8	0.0087241	
16506.49	3	0.003271538	
16549.49	9	0.009814613	
16592.49	6	0.006543075	
16635.49	8	0.0087241	
16678.49	4	0.00436205	
16721.49	10	0.010905125	Y
16764.49	2	0.002181025	
16807.49	7	0.007633588	
16850.49	5	0.005452563	
16893.49	4	0.00436205	
16936.49	2	0.002181025	
16979.49	6	0.006543075	
17022.49	4	0.00436205	
17065.49	5	0.005452563	
17108.49	4	0.00436205	
17151.49	5	0.005452563	
17194.49	3	0.003271538	
17237.49	6	0.006543075	
17280.49	3	0.003271538	
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17366.49	8	0.0087241	
17409.49	9	0.009814613	
17452.49	10	0.010905125	Mo
17495.49	4	0.00436205	
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17581.49	8	0.0087241	
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17667.49	3	0.003271538	
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17753.49	4	0.00436205	
17796.49	6	0.006543075	
17839.49	3	0.003271538	
17882.49	6	0.006543075	
17925.49	5	0.005452563	
17968.49	0	0	
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18054.49	5	0.005452563	

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18183.49	7	0.007633588	
18226.49	3	0.003271538	
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18312.49	5	0.005452563	
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18570.49	3	0.003271538	
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18742.49	5	0.005452563	
18785.49	11	0.011995638	Nb
18828.49	6	0.006543075	
18871.49	5	0.005452563	
18914.49	5	0.005452563	
18957.49	5	0.005452563	
19000.49	10	0.010905125	Nb
19043.49	7	0.007633588	
19086.49	5	0.005452563	
19129.49	4	0.00436205	
19172.49	4	0.00436205	
19215.49	5	0.005452563	
19258.49	7	0.007633588	
19301.49	7	0.007633588	
19344.49	4	0.00436205	
19387.49	6	0.006543075	
19430.49	6	0.006543075	
19473.49	3	0.003271538	
19516.49	6	0.006543075	
19559.49	8	0.0087241	
19602.49	5	0.005452563	
19645.49	3	0.003271538	
19688.49	3	0.003271538	
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19774.49	3	0.003271538	
19817.49	4	0.00436205	

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20118.49	5	0.005452563	
20161.49	4	0.00436205	
20204.49	2	0.002181025	
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20290.49	5	0.005452563	
20333.49	5	0.005452563	
20376.49	5	0.005452563	
20419.49	4	0.00436205	
20462.49	5	0.005452563	
20505.49	5	0.005452563	
20548.49	5	0.005452563	
20591.49	3	0.003271538	
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20720.49	7	0.007633588	
20763.49	4	0.00436205	
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20849.49	8	0.0087241	
20892.49	11	0.011995638	Pd
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20978.49	4	0.00436205	
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21064.49	4	0.00436205	
21107.49	7	0.007633588	
21150.49	5	0.005452563	
21193.49	6	0.006543075	
21236.49	4	0.00436205	
21279.49	2	0.002181025	
21322.49	11	0.011995638	Pd
21365.49	9	0.009814613	
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21451.49	7	0.007633588	
21494.49	6	0.006543075	
21537.49	4	0.00436205	
21580.49	4	0.00436205	

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21666.49	5	0.005452563	
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21752.49	6	0.006543075	
21795.49	4	0.00436205	
21838.49	4	0.00436205	
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21924.49	4	0.00436205	
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22096.49	7	0.007633588	
22139.49	7	0.007633588	
22182.49	3	0.003271538	
22225.49	7	0.007633588	
22268.49	4	0.00436205	
22311.49	4	0.00436205	
22354.49	4	0.00436205	
22397.49	5	0.005452563	
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22483.49	4	0.00436205	
22526.49	3	0.003271538	
22569.49	5	0.005452563	
22612.49	5	0.005452563	
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22698.49	8	0.0087241	
22741.49	4	0.00436205	
22784.49	5	0.005452563	
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22870.49	4	0.00436205	
22913.49	3	0.003271538	
22956.49	4	0.00436205	
22999.49	3	0.003271538	
23042.49	3	0.003271538	
23085.49	4	0.00436205	
23128.49	1	0.001090513	
23171.49	4	0.00436205	
23214.49	4	0.00436205	
23257.49	3	0.003271538	
23300.49	2	0.002181025	
23343.49	4	0.00436205	

23386.49	2	0.002181025	
23429.49	8	0.0087241	
23472.49	2	0.002181025	
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23558.49	5	0.005452563	
23601.49	3	0.003271538	
23644.49	9	0.009814613	
23687.49	4	0.00436205	
23730.49	2	0.002181025	
23773.49	3	0.003271538	
23816.49	6	0.006543075	
23859.49	1	0.001090513	
23902.49	4	0.00436205	
23945.49	6	0.006543075	
23988.49	6	0.006543075	
24031.49	2	0.002181025	
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24117.49	4	0.00436205	
24160.49	2	0.002181025	
24203.49	4	0.00436205	
24246.49	5	0.005452563	
24289.49	3	0.003271538	
24332.49	6	0.006543075	
24375.49	3	0.003271538	
24418.49	4	0.00436205	
24461.49	3	0.003271538	
24504.49	3	0.003271538	
24547.49	5	0.005452563	
24590.49	7	0.007633588	
24633.49	2	0.002181025	
24676.49	5	0.005452563	
24719.49	2	0.002181025	
24762.49	5	0.005452563	
24805.49	6	0.006543075	
24848.49	6	0.006543075	
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24934.49	11	0.011995638	Ag
24977.49	9	0.009814613	
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25106.49	11	0.011995638	

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25192.49	11	0.011995638	
25235.49	14	0.015267176	Sn
25278.49	8	0.0087241	
25321.49	9	0.009814613	
25364.49	5	0.005452563	
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25450.49	10	0.010905125	
25493.49	8	0.0087241	
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25665.49	8	0.0087241	
25708.49	3	0.003271538	
25751.49	1	0.001090513	
25794.49	2	0.002181025	
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26181.49	2	0.002181025	
26224.49	3	0.003271538	
26267.49	3	0.003271538	
26310.49	3	0.003271538	
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26396.49	4	0.00436205	
26439.49	0	0	
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26611.49	1	0.001090513	
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26697.49	2	0.002181025	
26740.49	2	0.002181025	
26783.49	1	0.001090513	
26826.49	5	0.005452563	
26869.49	5	0.005452563	

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26998.49	2	0.002181025	
27041.49	2	0.002181025	
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27127.49	6	0.006543075	
27170.49	4	0.00436205	
27213.49	7	0.007633588	
27256.49	3	0.003271538	
27299.49	3	0.003271538	
27342.49	5	0.005452563	
27385.49	4	0.00436205	
27428.49	7	0.007633588	
27471.49	5	0.005452563	
27514.49	6	0.006543075	
27557.49	2	0.002181025	
27600.49	4	0.00436205	
27643.49	5	0.005452563	
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27772.49	4	0.00436205	
27815.49	2	0.002181025	
27858.49	2	0.002181025	
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27987.49	7	0.007633588	
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28159.49	5	0.005452563	
28202.49	4	0.00436205	
28245.49	4	0.00436205	
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28331.49	5	0.005452563	
28374.49	7	0.007633588	
28417.49	5	0.005452563	
28460.49	10	0.010905125	
28503.49	12	0.01308615	Sn
28546.49	7	0.007633588	
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28632.49	3	0.003271538	



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28804.49	3	0.003271538	
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28976.49	3	0.003271538	
29019.49	3	0.003271538	
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29105.49	3	0.003271538	
29148.49	2	0.002181025	
29191.49	2	0.002181025	
29234.49	5	0.005452563	
29277.49	5	0.005452563	
29320.49	2	0.002181025	
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29406.49	4	0.00436205	
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29492.49	5	0.005452563	
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29578.49	2	0.002181025	
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29707.49	2	0.002181025	
29750.49	4	0.00436205	
29793.49	2	0.002181025	
29836.49	4	0.00436205	
29879.49	2	0.002181025	
29922.49	2	0.002181025	
29965.49	2	0.002181025	
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30094.49	2	0.002181025	
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30180.49	2	0.002181025	
30223.49	3	0.003271538	
30266.49	2	0.002181025	
30309.49	4	0.00436205	
30352.49	1	0.001090513	
30395.49	4	0.00436205	

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30481.49	4	0.00436205	
30524.49	3	0.003271538	
30567.49	0	0	
30610.49	2	0.002181025	
30653.49	1	0.001090513	
30696.49	2	0.002181025	
30739.49	1	0.001090513	
30782.49	2	0.002181025	
30825.49	4	0.00436205	
30868.49	3	0.003271538	
30911.49	3	0.003271538	
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30997.49	2	0.002181025	
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31298.49	4	0.00436205	
31341.49	1	0.001090513	
31384.49	2	0.002181025	
31427.49	2	0.002181025	
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31599.49	1	0.001090513	
31642.49	10	0.010905125	
31685.49	10	0.010905125	
31728.49	3	0.003271538	
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31814.49	11	0.011995638	
31857.49	14	0.015267176	
31900.49	12	0.01308615	
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32072.49	14	0.015267176	
32115.49	11	0.011995638	
32158.49	18	0.019629226	

32201.49	11	0.011995638	
32244.49	17	0.018538713	
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32330.49	11	0.011995638	
32373.49	17	0.018538713	
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32760.49	2	0.002181025	
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33620.49	1	0.001090513	
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35254.49	1	0.001090513	
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35340.49	2	0.002181025	
35383.49	2	0.002181025	
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36071.49	2	0.002181025	
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36458.49	3	0.003271538	
36501.49	5	0.005452563	
36544.49	6	0.006543075	
36587.49	3	0.003271538	
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36931.49	1	0.001090513	
36974.49	2	0.002181025	
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37103.49	3	0.003271538	
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37189.49	3	0.003271538	
37232.49	4	0.00436205	
37275.49	5	0.005452563	
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37662.49	0	0	
37705.49	1	0.001090513	
37748.49	0	0	
37791.49	5	0.005452563	
37834.49	3	0.003271538	
37877.49	1	0.001090513	
37920.49	0	0	
37963.49	2	0.002181025	
38006.49	3	0.003271538	
38049.49	3	0.003271538	
38092.49	1	0.001090513	
38135.49	2	0.002181025	
38178.49	2	0.002181025	
38221.49	1	0.001090513	
38264.49	2	0.002181025	
38307.49	1	0.001090513	
38350.49	2	0.002181025	
38393.49	3	0.003271538	
38436.49	0	0	
38479.49	1	0.001090513	
38522.49	0	0	
38565.49	1	0.001090513	
38608.49	0	0	
38651.49	2	0.002181025	
38694.49	1	0.001090513	
38737.49	2	0.002181025	
38780.49	3	0.003271538	
38823.49	0	0	
38866.49	0	0	
38909.49	0	0	
38952.49	0	0	
38995.49	1	0.001090513	
39038.49	4	0.00436205	
39081.49	3	0.003271538	
39124.49	3	0.003271538	
39167.49	2	0.002181025	
39210.49	0	0	

39253.49	2	0.002181025	
39296.49	0	0	
39339.49	0	0	
39382.49	0	0	
39425.49	4	0.00436205	
39468.49	3	0.003271538	
39511.49	1	0.001090513	
39554.49	2	0.002181025	
39597.49	0	0	
39640.49	2	0.002181025	
39683.49	2	0.002181025	
39726.49	2	0.002181025	
39769.49	0	0	
39812.49	2	0.002181025	
39855.49	0	0	
39898.49	0	0	
39941.49	0	0	
39984.49	2	0.002181025	
40027.49	1	0.001090513	
40070.49	3	0.003271538	
40113.49	3	0.003271538	
40156.49	1	0.001090513	
40199.49	4	0.00436205	
40242.49	3	0.003271538	
40285.49	1	0.001090513	
40328.49	2	0.002181025	
40371.49	3	0.003271538	
40414.49	2	0.002181025	
40457.49	0	0	
40500.49	3	0.003271538	
40543.49	1	0.001090513	
40586.49	2	0.002181025	
40629.49	3	0.003271538	
40672.49	0	0	
40715.49	1	0.001090513	
40758.49	0	0	
40801.49	2	0.002181025	
40844.49	1	0.001090513	
40887.49	2	0.002181025	
40930.49	0	0	
40973.49	1	0.001090513	

41016.49	2	0.002181025	
41059.49	2	0.002181025	
41102.49	0	0	
41145.49	4	0.00436205	
41188.49	0	0	
41231.49	1	0.001090513	
41274.49	0	0	
41317.49	0	0	
41360.49	1	0.001090513	
41403.49	0	0	
41446.49	0	0	
41489.49	1	0.001090513	
41532.49	0	0	
41575.49	0	0	
41618.49	2	0.002181025	
41661.49	1	0.001090513	
41704.49	0	0	
41747.49	0	0	
41790.49	0	0	
41833.49	0	0	
41876.49	0	0	
41919.49	1	0.001090513	
41962.49	1	0.001090513	
42005.49	1	0.001090513	
42048.49	0	0	
42091.49	3	0.003271538	
42134.49	0	0	
42177.49	0	0	
42220.49	1	0.001090513	
42263.49	2	0.002181025	
42306.49	1	0.001090513	
42349.49	1	0.001090513	
42392.49	0	0	
42435.49	0	0	
42478.49	1	0.001090513	
42521.49	2	0.002181025	
42564.49	3	0.003271538	
42607.49	1	0.001090513	
42650.49	1	0.001090513	
42693.49	1	0.001090513	
42736.49	1	0.001090513	



42779.49	3	0.003271538	
42822.49	0	0	
42865.49	0	0	
42908.49	1	0.001090513	
42951.49	2	0.002181025	
42994.49	3	0.003271538	
43037.49	1	0.001090513	
43080.49	1	0.001090513	
43123.49	1	0.001090513	
43166.49	1	0.001090513	
43209.49	0	0	
43252.49	0	0	
43295.49	2	0.002181025	
43338.49	1	0.001090513	
43381.49	1	0.001090513	
43424.49	1	0.001090513	
43467.49	1	0.001090513	
43510.49	2	0.002181025	
43553.49	2	0.002181025	
43596.49	0	0	
43639.49	3	0.003271538	
43682.49	2	0.002181025	
43725.49	0	0	
43768.49	0	0	
43811.49	2	0.002181025	
43854.49	2	0.002181025	

C007

### Normalized Counts

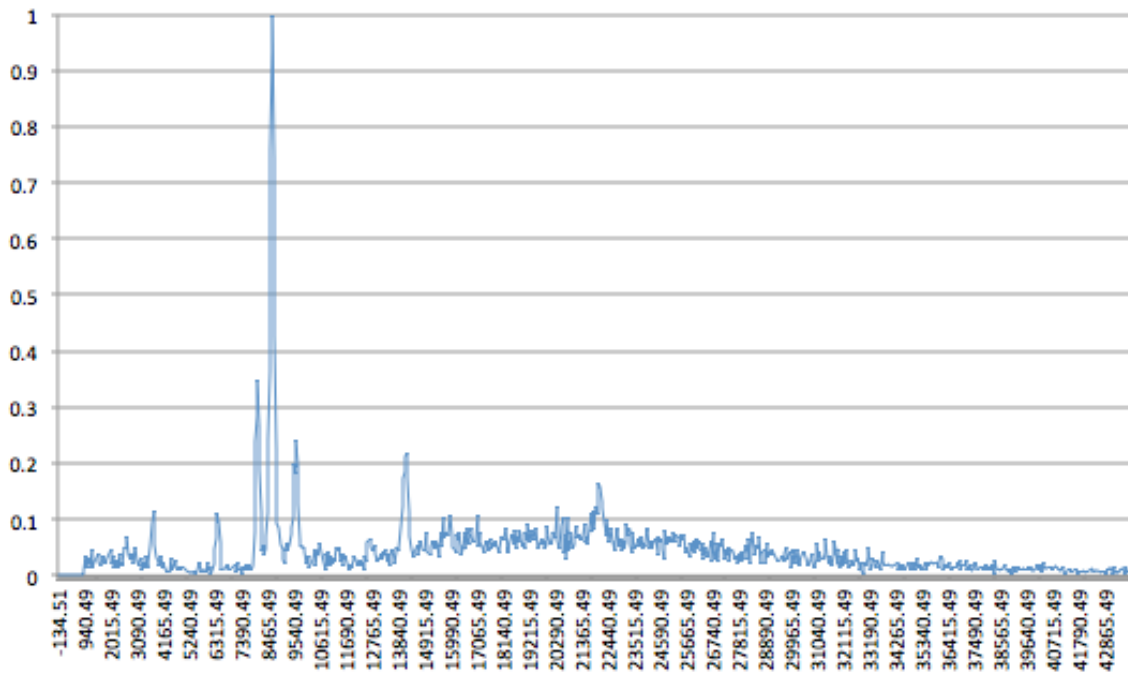


Figure 38. C007 Normalized XRF Counts

Table 23. C007 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	

510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	2	0.006968641	
983.49	10	0.034843206	Cu
1026.49	4	0.013937282	
1069.49	9	0.031358885	Zn
1112.49	6	0.020905923	
1155.49	9	0.031358885	Ga
1198.49	4	0.013937282	
1241.49	13	0.045296167	Ge
1284.49	4	0.013937282	
1327.49	3	0.010452962	
1370.49	7	0.024390244	
1413.49	8	0.027874564	
1456.49	9	0.031358885	
1499.49	11	0.038327526	Br
1542.49	7	0.024390244	
1585.49	5	0.017421603	
1628.49	6	0.020905923	
1671.49	10	0.034843206	Rb
1714.49	9	0.031358885	
1757.49	11	0.038327526	Rb
1800.49	6	0.020905923	
1843.49	7	0.024390244	
1886.49	9	0.031358885	Sr
1929.49	8	0.027874564	Y
1972.49	8	0.027874564	Y
2015.49	14	0.048780488	Y
2058.49	6	0.020905923	
2101.49	10	0.034843206	Y
2144.49	4	0.013937282	
2187.49	8	0.027874564	Nb
2230.49	8	0.027874564	Nb

2273.49	8	0.027874564	Nb
2316.49	4	0.013937282	
2359.49	11	0.038327526	Mo
2402.49	8	0.027874564	
2445.49	5	0.017421603	
2488.49	7	0.024390244	Tc
2531.49	5	0.017421603	
2574.49	6	0.020905923	
2617.49	15	0.052264808	Ru
2660.49	13	0.045296167	
2703.49	20	0.069686411	Rh
2746.49	10	0.034843206	
2789.49	9	0.031358885	
2832.49	8	0.027874564	
2875.49	11	0.038327526	Pd
2918.49	9	0.031358885	
2961.49	6	0.020905923	Ag
3004.49	6	0.020905923	Pd
3047.49	15	0.052264808	Ag
3090.49	14	0.048780488	
3133.49	7	0.024390244	
3176.49	5	0.017421603	
3219.49	7	0.024390244	
3262.49	9	0.031358885	Ag
3305.49	3	0.010452962	
3348.49	7	0.024390244	Cd
3391.49	7	0.024390244	In
3434.49	4	0.013937282	
3477.49	10	0.034843206	Sn
3520.49	4	0.013937282	
3563.49	6	0.020905923	Sn
3606.49	6	0.020905923	Sn
3649.49	15	0.052264808	
3692.49	27	0.094076655	
3735.49	28	0.097560976	
3778.49	33	0.114982578	Te
3821.49	16	0.055749129	
3864.49	9	0.031358885	
3907.49	8	0.027874564	
3950.49	7	0.024390244	
3993.49	5	0.017421603	

4036.49	10	0.034843206	Te
4079.49	9	0.031358885	
4122.49	4	0.013937282	
4165.49	7	0.024390244	Sc
4208.49	4	0.013937282	
4251.49	3	0.010452962	
4294.49	4	0.013937282	Sc
4337.49	1	0.003484321	
4380.49	3	0.010452962	Sc
4423.49	3	0.010452962	Sc
4466.49	1	0.003484321	
4509.49	9	0.031358885	Ti
4552.49	3	0.010452962	Ti
4595.49	3	0.010452962	Ti
4638.49	5	0.017421603	
4681.49	8	0.027874564	Cs
4724.49	5	0.017421603	
4767.49	2	0.006968641	
4810.49	2	0.006968641	
4853.49	5	0.017421603	Ti
4896.49	2	0.006968641	
4939.49	1	0.003484321	
4982.49	5	0.017421603	Ti
5025.49	4	0.013937282	Ce
5068.49	4	0.013937282	Ti
5111.49	3	0.010452962	
5154.49	4	0.013937282	Ti
5197.49	3	0.010452962	
5240.49	1	0.003484321	
5283.49	0	0	
5326.49	1	0.003484321	
5369.49	1	0.003484321	
5412.49	2	0.006968641	
5455.49	3	0.010452962	V
5498.49	0	0	
5541.49	3	0.010452962	Cr
5584.49	3	0.010452962	Cr
5627.49	4	0.013937282	
5670.49	7	0.024390244	Cr
5713.49	1	0.003484321	
5756.49	3	0.010452962	Cr

5799.49	3	0.010452962	Cr
5842.49	3	0.010452962	Nd
5885.49	3	0.010452962	Cr
5928.49	1	0.003484321	
5971.49	7	0.024390244	Cr
6014.49	2	0.006968641	
6057.49	1	0.003484321	
6100.49	5	0.017421603	Cr
6143.49	0	0	
6186.49	3	0.010452962	Gd
6229.49	3	0.010452962	Cr
6272.49	6	0.020905923	
6315.49	13	0.045296167	
6358.49	19	0.066202091	
6401.49	32	0.111498258	Fe
6444.49	28	0.097560976	Fe
6487.49	28	0.097560976	Fe
6530.49	17	0.059233449	
6573.49	2	0.006968641	
6616.49	2	0.006968641	
6659.49	4	0.013937282	Fe
6702.49	3	0.010452962	Fe
6745.49	3	0.010452962	Co
6788.49	4	0.013937282	
6831.49	6	0.020905923	Co
6874.49	2	0.006968641	
6917.49	3	0.010452962	Co
6960.49	3	0.010452962	Co
7003.49	4	0.013937282	Fe
7046.49	3	0.010452962	
7089.49	5	0.017421603	
7132.49	6	0.020905923	Co
7175.49	1	0.003484321	
7218.49	7	0.024390244	Fe
7261.49	4	0.013937282	
7304.49	2	0.006968641	
7347.49	4	0.013937282	Ni
7390.49	0	0	
7433.49	5	0.017421603	Yb
7476.49	4	0.013937282	
7519.49	2	0.006968641	

7562.49	6	0.020905923	Ni
7605.49	3	0.010452962	
7648.49	2	0.006968641	
7691.49	6	0.020905923	Co
7734.49	3	0.010452962	Co
7777.49	3	0.010452962	Co
7820.49	5	0.017421603	Co
7863.49	5	0.017421603	Co
7906.49	22	0.076655052	
7949.49	30	0.104529617	
7992.49	68	0.236933798	
8035.49	82	0.285714286	
8078.49	100	0.348432056	Cu
8121.49	76	0.264808362	
8164.49	54	0.18815331	
8207.49	32	0.111498258	
8250.49	12	0.041811847	
8293.49	16	0.055749129	Ni
8336.49	10	0.034843206	
8379.49	13	0.045296167	
8422.49	20	0.069686411	
8465.49	32	0.111498258	
8508.49	69	0.240418118	
8551.49	105	0.365853659	
8594.49	217	0.756097561	
8637.49	268	0.933797909	
8680.49	287	1	Zn
8723.49	213	0.742160279	
8766.49	122	0.425087108	
8809.49	64	0.222996516	
8852.49	27	0.094076655	
8895.49	24	0.083623693	Cu
8938.49	24	0.083623693	Cu
8981.49	16	0.055749129	Cu
9024.49	16	0.055749129	Cu
9067.49	13	0.045296167	
9110.49	8	0.027874564	
9153.49	6	0.020905923	
9196.49	13	0.045296167	
9239.49	17	0.059233449	Ta
9282.49	12	0.041811847	

9325.49	16	0.055749129	Ga
9368.49	16	0.055749129	Ta
9411.49	21	0.073170732	
9454.49	25	0.087108014	
9497.49	30	0.104529617	
9540.49	57	0.198606272	Zn
9583.49	52	0.181184669	
9626.49	69	0.240418118	Au
9669.49	56	0.195121951	
9712.49	43	0.149825784	
9755.49	37	0.128919861	
9798.49	18	0.06271777	
9841.49	15	0.052264808	
9884.49	16	0.055749129	Ge
9927.49	15	0.052264808	Ge
9970.49	15	0.052264808	Ge
10013.49	12	0.041811847	
10056.49	13	0.045296167	Re
10099.49	6	0.020905923	
10142.49	10	0.034843206	Ga
10185.49	4	0.013937282	
10228.49	3	0.010452962	
10271.49	5	0.017421603	
10314.49	8	0.027874564	
10357.49	9	0.031358885	
10400.49	14	0.048780488	Ga
10443.49	5	0.017421603	
10486.49	12	0.041811847	As
10529.49	10	0.034843206	
10572.49	15	0.052264808	
10615.49	17	0.059233449	As
10658.49	11	0.038327526	Pb
10701.49	11	0.038327526	Pb
10744.49	10	0.034843206	
10787.49	7	0.024390244	
10830.49	2	0.006968641	
10873.49	11	0.038327526	Ge
10916.49	5	0.017421603	
10959.49	12	0.041811847	Ge
11002.49	5	0.017421603	
11045.49	10	0.034843206	As



11088.49	9	0.031358885	
11131.49	6	0.020905923	
11174.49	9	0.031358885	Se
11217.49	7	0.024390244	
11260.49	15	0.052264808	
11303.49	16	0.055749129	Se
11346.49	12	0.041811847	
11389.49	15	0.052264808	Au
11432.49	7	0.024390244	Au
11475.49	7	0.024390244	Au
11518.49	11	0.038327526	Au
11561.49	5	0.017421603	
11604.49	10	0.034843206	At
11647.49	8	0.027874564	
11690.49	10	0.034843206	Au
11733.49	9	0.031358885	Au
11776.49	9	0.031358885	Au
11819.49	3	0.010452962	
11862.49	6	0.020905923	Rn
11905.49	4	0.013937282	Br
11948.49	4	0.013937282	Rn
11991.49	8	0.027874564	
12034.49	10	0.034843206	Br
12077.49	9	0.031358885	
12120.49	8	0.027874564	
12163.49	7	0.024390244	
12206.49	5	0.017421603	
12249.49	8	0.027874564	
12292.49	9	0.031358885	Fr
12335.49	5	0.017421603	
12378.49	7	0.024390244	Se
12421.49	3	0.010452962	
12464.49	10	0.034843206	Se
12507.49	7	0.024390244	
12550.49	17	0.059233449	Pb
12593.49	16	0.055749129	Se
12636.49	16	0.055749129	Pb
12679.49	19	0.066202091	Se
12722.49	15	0.052264808	
12765.49	14	0.048780488	
12808.49	12	0.041811847	

12851.49	16	0.055749129	Ac
12894.49	11	0.038327526	Se
12937.49	11	0.038327526	Se
12980.49	7	0.024390244	
13023.49	9	0.031358885	Th
13066.49	8	0.027874564	
13109.49	11	0.038327526	Th
13152.49	8	0.027874564	
13195.49	12	0.041811847	Th
13238.49	10	0.034843206	
13281.49	13	0.045296167	Br
13324.49	10	0.034843206	
13367.49	7	0.024390244	
13410.49	11	0.038327526	Rb
13453.49	8	0.027874564	
13496.49	5	0.017421603	
13539.49	10	0.034843206	Rb
13582.49	9	0.031358885	
13625.49	13	0.045296167	Rb
13668.49	8	0.027874564	
13711.49	6	0.020905923	
13754.49	12	0.041811847	
13797.49	15	0.052264808	At
13840.49	12	0.041811847	
13883.49	14	0.048780488	
13926.49	15	0.052264808	
13969.49	25	0.087108014	
14012.49	35	0.12195122	
14055.49	50	0.174216028	
14098.49	53	0.18466899	
14141.49	61	0.212543554	
14184.49	63	0.219512195	Sr
14227.49	50	0.174216028	
14270.49	32	0.111498258	
14313.49	20	0.069686411	Sr
14356.49	20	0.069686411	Sr
14399.49	13	0.045296167	
14442.49	9	0.031358885	
14485.49	11	0.038327526	Rn
14528.49	10	0.034843206	
14571.49	11	0.038327526	

14614.49	16	0.055749129	Rn
14657.49	10	0.034843206	
14700.49	9	0.031358885	
14743.49	18	0.06271777	Rn
14786.49	13	0.045296167	Fr
14829.49	13	0.045296167	Fr
14872.49	13	0.045296167	Y
14915.49	12	0.041811847	
14958.49	22	0.076655052	Y
15001.49	12	0.041811847	
15044.49	12	0.041811847	Y
15087.49	13	0.045296167	Y
15130.49	10	0.034843206	
15173.49	15	0.052264808	
15216.49	16	0.055749129	
15259.49	18	0.06271777	Y
15302.49	18	0.06271777	Zr
15345.49	13	0.045296167	
15388.49	18	0.06271777	Zr
15431.49	16	0.055749129	
15474.49	17	0.059233449	Zr
15517.49	9	0.031358885	
15560.49	16	0.055749129	
15603.49	22	0.076655052	Zr
15646.49	15	0.052264808	
15689.49	30	0.104529617	Zr
15732.49	19	0.066202091	
15775.49	22	0.076655052	Zr
15818.49	22	0.076655052	Zr
15861.49	23	0.080139373	Sr
15904.49	20	0.069686411	
15947.49	19	0.066202091	
15990.49	31	0.108013937	Sr
16033.49	20	0.069686411	
16076.49	15	0.052264808	
16119.49	13	0.045296167	Sr
16162.49	13	0.045296167	Sr
16205.49	11	0.038327526	
16248.49	21	0.073170732	Sr
16291.49	18	0.06271777	
16334.49	22	0.076655052	Th

16377.49	15	0.052264808	
16420.49	10	0.034843206	
16463.49	13	0.045296167	
16506.49	15	0.052264808	
16549.49	22	0.076655052	Nb
16592.49	14	0.048780488	
16635.49	24	0.083623693	Nb
16678.49	20	0.069686411	
16721.49	16	0.055749129	
16764.49	22	0.076655052	
16807.49	25	0.087108014	Y
16850.49	20	0.069686411	
16893.49	17	0.059233449	Y
16936.49	17	0.059233449	Y
16979.49	16	0.055749129	
17022.49	18	0.06271777	Y
17065.49	17	0.059233449	
17108.49	31	0.108013937	Y
17151.49	15	0.052264808	
17194.49	22	0.076655052	Y
17237.49	17	0.059233449	
17280.49	15	0.052264808	
17323.49	16	0.055749129	Mo
17366.49	11	0.038327526	
17409.49	15	0.052264808	
17452.49	18	0.06271777	Mo
17495.49	18	0.06271777	Mo
17538.49	12	0.041811847	
17581.49	16	0.055749129	
17624.49	19	0.066202091	Mo
17667.49	14	0.048780488	
17710.49	13	0.045296167	
17753.49	17	0.059233449	Mo
17796.49	15	0.052264808	
17839.49	18	0.06271777	
17882.49	19	0.066202091	Zr
17925.49	17	0.059233449	
17968.49	11	0.038327526	
18011.49	14	0.048780488	
18054.49	20	0.069686411	Zr
18097.49	20	0.069686411	Zr

18140.49	19	0.066202091	
18183.49	18	0.06271777	
18226.49	17	0.059233449	
18269.49	24	0.083623693	Tc
18312.49	11	0.038327526	
18355.49	14	0.048780488	
18398.49	18	0.06271777	Tc
18441.49	18	0.06271777	Tc
18484.49	21	0.073170732	Tc
18527.49	21	0.073170732	Tc
18570.49	16	0.055749129	
18613.49	23	0.080139373	Tc
18656.49	13	0.045296167	
18699.49	20	0.069686411	Nb
18742.49	17	0.059233449	
18785.49	23	0.080139373	Nb
18828.49	21	0.073170732	
18871.49	19	0.066202091	Nb
18914.49	19	0.066202091	Nb
18957.49	15	0.052264808	
19000.49	17	0.059233449	Nb
19043.49	13	0.045296167	
19086.49	22	0.076655052	Ru
19129.49	18	0.06271777	
19172.49	27	0.094076655	Ru
19215.49	20	0.069686411	
19258.49	17	0.059233449	
19301.49	18	0.06271777	
19344.49	23	0.080139373	Ru
19387.49	22	0.076655052	
19430.49	18	0.06271777	
19473.49	19	0.066202091	
19516.49	24	0.083623693	
19559.49	25	0.087108014	Tc
19602.49	13	0.045296167	
19645.49	17	0.059233449	Tc
19688.49	17	0.059233449	Tc
19731.49	19	0.066202091	Tc
19774.49	16	0.055749129	
19817.49	18	0.06271777	Tc
19860.49	14	0.048780488	

19903.49	16	0.055749129	
19946.49	26	0.090592334	Tc
19989.49	19	0.066202091	Rh
20032.49	19	0.066202091	Rh
20075.49	20	0.069686411	Rh
20118.49	16	0.055749129	
20161.49	19	0.066202091	
20204.49	22	0.076655052	Rh
20247.49	19	0.066202091	Rh
20290.49	19	0.066202091	Rh
20333.49	35	0.12195122	Rh
20376.49	18	0.06271777	Rh
20419.49	18	0.06271777	Rh
20462.49	13	0.045296167	
20505.49	26	0.090592334	Rh
20548.49	25	0.087108014	
20591.49	30	0.104529617	Rh
20634.49	11	0.038327526	
20677.49	21	0.073170732	Rh
20720.49	8	0.027874564	
20763.49	30	0.104529617	Rh
20806.49	22	0.076655052	
20849.49	12	0.041811847	
20892.49	17	0.059233449	
20935.49	22	0.076655052	
20978.49	23	0.080139373	Pd
21021.49	14	0.048780488	
21064.49	16	0.055749129	
21107.49	20	0.069686411	
21150.49	26	0.090592334	Pd
21193.49	19	0.066202091	
21236.49	20	0.069686411	
21279.49	21	0.073170732	
21322.49	22	0.076655052	Pd
21365.49	18	0.06271777	
21408.49	20	0.069686411	Pd
21451.49	19	0.066202091	
21494.49	27	0.094076655	Pd
21537.49	17	0.059233449	
21580.49	20	0.069686411	Pd
21623.49	16	0.055749129	

21666.49	17	0.059233449	
21709.49	25	0.087108014	
21752.49	32	0.111498258	Ru
21795.49	22	0.076655052	
21838.49	33	0.114982578	Ru
21881.49	23	0.080139373	
21924.49	35	0.12195122	Ag
21967.49	34	0.118466899	
22010.49	31	0.108013937	
22053.49	47	0.163763066	Ag
22096.49	45	0.156794425	
22139.49	44	0.153310105	
22182.49	38	0.132404181	
22225.49	34	0.118466899	
22268.49	35	0.12195122	Ag
22311.49	35	0.12195122	Ag
22354.49	20	0.069686411	
22397.49	29	0.101045296	Ag
22440.49	17	0.059233449	
22483.49	18	0.06271777	Ru
22526.49	17	0.059233449	
22569.49	24	0.083623693	Rh
22612.49	17	0.059233449	Rh
22655.49	17	0.059233449	Rh
22698.49	16	0.055749129	
22741.49	12	0.041811847	
22784.49	17	0.059233449	
22827.49	25	0.087108014	Rh
22870.49	22	0.076655052	
22913.49	15	0.052264808	
22956.49	17	0.059233449	
22999.49	19	0.066202091	Rh
23042.49	12	0.041811847	
23085.49	18	0.06271777	Cd
23128.49	13	0.045296167	
23171.49	17	0.059233449	
23214.49	27	0.094076655	Cd
23257.49	20	0.069686411	
23300.49	25	0.087108014	Cd
23343.49	23	0.080139373	
23386.49	16	0.055749129	

23429.49	11	0.038327526	
23472.49	22	0.076655052	Cd
23515.49	14	0.048780488	Cd
23558.49	14	0.048780488	Cd
23601.49	15	0.052264808	
23644.49	16	0.055749129	
23687.49	19	0.066202091	Pd
23730.49	15	0.052264808	
23773.49	17	0.059233449	
23816.49	20	0.069686411	Cd
23859.49	13	0.045296167	
23902.49	17	0.059233449	Pd
23945.49	15	0.052264808	
23988.49	17	0.059233449	
24031.49	25	0.087108014	Pd
24074.49	23	0.080139373	
24117.49	13	0.045296167	In
24160.49	13	0.045296167	In
24203.49	18	0.06271777	In
24246.49	13	0.045296167	
24289.49	12	0.041811847	
24332.49	17	0.059233449	In
24375.49	17	0.059233449	In
24418.49	19	0.066202091	In
24461.49	12	0.041811847	
24504.49	10	0.034843206	
24547.49	20	0.069686411	In
24590.49	17	0.059233449	
24633.49	19	0.066202091	In
24676.49	17	0.059233449	
24719.49	13	0.045296167	
24762.49	8	0.027874564	
24805.49	23	0.080139373	Ag
24848.49	18	0.06271777	
24891.49	16	0.055749129	Ag
24934.49	20	0.069686411	Ag
24977.49	20	0.069686411	Ag
25020.49	17	0.059233449	
25063.49	18	0.06271777	
25106.49	20	0.069686411	
25149.49	22	0.076655052	Ag



25192.49	17	0.059233449	
25235.49	21	0.073170732	Sn
25278.49	21	0.073170732	Sn
25321.49	22	0.076655052	Sn
25364.49	19	0.066202091	
25407.49	15	0.052264808	
25450.49	21	0.073170732	Sn
25493.49	18	0.06271777	
25536.49	21	0.073170732	
25579.49	22	0.076655052	Sn
25622.49	11	0.038327526	
25665.49	15	0.052264808	
25708.49	12	0.041811847	
25751.49	13	0.045296167	
25794.49	9	0.031358885	
25837.49	17	0.059233449	
25880.49	12	0.041811847	
25923.49	14	0.048780488	
25966.49	18	0.06271777	
26009.49	11	0.038327526	
26052.49	19	0.066202091	
26095.49	13	0.045296167	
26138.49	18	0.06271777	
26181.49	19	0.066202091	
26224.49	16	0.055749129	
26267.49	12	0.041811847	
26310.49	17	0.059233449	
26353.49	8	0.027874564	
26396.49	11	0.038327526	
26439.49	11	0.038327526	
26482.49	15	0.052264808	
26525.49	16	0.055749129	
26568.49	9	0.031358885	
26611.49	13	0.045296167	
26654.49	13	0.045296167	
26697.49	18	0.06271777	
26740.49	7	0.024390244	
26783.49	22	0.076655052	
26826.49	13	0.045296167	
26869.49	8	0.027874564	
26912.49	17	0.059233449	

26955.49	7	0.024390244	
26998.49	10	0.034843206	
27041.49	17	0.059233449	
27084.49	15	0.052264808	
27127.49	14	0.048780488	
27170.49	19	0.066202091	
27213.49	8	0.027874564	
27256.49	9	0.031358885	
27299.49	13	0.045296167	
27342.49	10	0.034843206	
27385.49	15	0.052264808	
27428.49	7	0.024390244	
27471.49	13	0.045296167	
27514.49	12	0.041811847	
27557.49	14	0.048780488	
27600.49	12	0.041811847	
27643.49	11	0.038327526	
27686.49	8	0.027874564	
27729.49	10	0.034843206	
27772.49	6	0.020905923	
27815.49	9	0.031358885	
27858.49	11	0.038327526	
27901.49	7	0.024390244	
27944.49	12	0.041811847	
27987.49	8	0.027874564	
28030.49	10	0.034843206	
28073.49	16	0.055749129	
28116.49	15	0.052264808	
28159.49	11	0.038327526	
28202.49	8	0.027874564	
28245.49	19	0.066202091	
28288.49	6	0.020905923	
28331.49	14	0.048780488	
28374.49	13	0.045296167	
28417.49	22	0.076655052	
28460.49	12	0.041811847	
28503.49	10	0.034843206	
28546.49	16	0.055749129	
28589.49	17	0.059233449	
28632.49	14	0.048780488	
28675.49	20	0.069686411	

28718.49	6	0.020905923	
28761.49	11	0.038327526	
28804.49	10	0.034843206	
28847.49	11	0.038327526	
28890.49	13	0.045296167	
28933.49	6	0.020905923	
28976.49	17	0.059233449	
29019.49	9	0.031358885	
29062.49	10	0.034843206	
29105.49	12	0.041811847	
29148.49	10	0.034843206	
29191.49	14	0.048780488	
29234.49	11	0.038327526	
29277.49	11	0.038327526	
29320.49	9	0.031358885	
29363.49	9	0.031358885	
29406.49	7	0.024390244	
29449.49	7	0.024390244	
29492.49	8	0.027874564	
29535.49	8	0.027874564	
29578.49	10	0.034843206	
29621.49	9	0.031358885	
29664.49	7	0.024390244	
29707.49	11	0.038327526	
29750.49	15	0.052264808	
29793.49	8	0.027874564	
29836.49	9	0.031358885	
29879.49	10	0.034843206	
29922.49	12	0.041811847	
29965.49	4	0.013937282	
30008.49	9	0.031358885	
30051.49	14	0.048780488	
30094.49	12	0.041811847	
30137.49	13	0.045296167	
30180.49	6	0.020905923	
30223.49	13	0.045296167	
30266.49	14	0.048780488	
30309.49	5	0.017421603	
30352.49	7	0.024390244	
30395.49	10	0.034843206	
30438.49	11	0.038327526	

30481.49	11	0.038327526	
30524.49	12	0.041811847	
30567.49	9	0.031358885	
30610.49	10	0.034843206	
30653.49	8	0.027874564	
30696.49	5	0.017421603	
30739.49	8	0.027874564	
30782.49	9	0.031358885	
30825.49	11	0.038327526	
30868.49	7	0.024390244	
30911.49	4	0.013937282	
30954.49	5	0.017421603	
30997.49	9	0.031358885	
31040.49	17	0.059233449	
31083.49	7	0.024390244	
31126.49	12	0.041811847	
31169.49	9	0.031358885	
31212.49	10	0.034843206	
31255.49	9	0.031358885	
31298.49	8	0.027874564	
31341.49	11	0.038327526	
31384.49	19	0.066202091	
31427.49	9	0.031358885	
31470.49	10	0.034843206	
31513.49	6	0.020905923	
31556.49	10	0.034843206	
31599.49	5	0.017421603	
31642.49	5	0.017421603	
31685.49	10	0.034843206	
31728.49	18	0.06271777	
31771.49	14	0.048780488	
31814.49	11	0.038327526	
31857.49	6	0.020905923	
31900.49	13	0.045296167	
31943.49	6	0.020905923	
31986.49	4	0.013937282	
32029.49	10	0.034843206	
32072.49	5	0.017421603	
32115.49	5	0.017421603	
32158.49	12	0.041811847	
32201.49	6	0.020905923	

32244.49	13	0.045296167	
32287.49	10	0.034843206	
32330.49	4	0.013937282	
32373.49	5	0.017421603	
32416.49	6	0.020905923	
32459.49	8	0.027874564	
32502.49	7	0.024390244	
32545.49	5	0.017421603	
32588.49	8	0.027874564	
32631.49	13	0.045296167	
32674.49	7	0.024390244	
32717.49	9	0.031358885	
32760.49	5	0.017421603	
32803.49	3	0.010452962	
32846.49	7	0.024390244	
32889.49	3	0.010452962	
32932.49	0	0	
32975.49	7	0.024390244	
33018.49	6	0.020905923	
33061.49	5	0.017421603	
33104.49	9	0.031358885	
33147.49	15	0.052264808	
33190.49	6	0.020905923	
33233.49	3	0.010452962	
33276.49	5	0.017421603	
33319.49	9	0.031358885	
33362.49	8	0.027874564	
33405.49	8	0.027874564	
33448.49	4	0.013937282	
33491.49	8	0.027874564	
33534.49	8	0.027874564	
33577.49	7	0.024390244	
33620.49	2	0.006968641	
33663.49	6	0.020905923	
33706.49	7	0.024390244	
33749.49	12	0.041811847	
33792.49	7	0.024390244	
33835.49	5	0.017421603	
33878.49	5	0.017421603	
33921.49	5	0.017421603	
33964.49	6	0.020905923	

34007.49	5	0.017421603	
34050.49	6	0.020905923	
34093.49	5	0.017421603	
34136.49	5	0.017421603	
34179.49	5	0.017421603	
34222.49	5	0.017421603	
34265.49	4	0.013937282	
34308.49	6	0.020905923	
34351.49	7	0.024390244	
34394.49	2	0.006968641	
34437.49	6	0.020905923	
34480.49	3	0.010452962	
34523.49	6	0.020905923	
34566.49	5	0.017421603	
34609.49	5	0.017421603	
34652.49	3	0.010452962	
34695.49	5	0.017421603	
34738.49	4	0.013937282	
34781.49	7	0.024390244	
34824.49	7	0.024390244	
34867.49	3	0.010452962	
34910.49	3	0.010452962	
34953.49	4	0.013937282	
34996.49	7	0.024390244	
35039.49	3	0.010452962	
35082.49	4	0.013937282	
35125.49	9	0.031358885	
35168.49	6	0.020905923	
35211.49	4	0.013937282	
35254.49	6	0.020905923	
35297.49	3	0.010452962	
35340.49	3	0.010452962	
35383.49	5	0.017421603	
35426.49	5	0.017421603	
35469.49	7	0.024390244	
35512.49	2	0.006968641	
35555.49	7	0.024390244	
35598.49	5	0.017421603	
35641.49	5	0.017421603	
35684.49	4	0.013937282	
35727.49	7	0.024390244	

35770.49	8	0.027874564	
35813.49	7	0.024390244	
35856.49	6	0.020905923	
35899.49	5	0.017421603	
35942.49	6	0.020905923	
35985.49	7	0.024390244	
36028.49	4	0.013937282	
36071.49	7	0.024390244	
36114.49	6	0.020905923	
36157.49	10	0.034843206	
36200.49	8	0.027874564	
36243.49	3	0.010452962	
36286.49	2	0.006968641	
36329.49	6	0.020905923	
36372.49	4	0.013937282	
36415.49	5	0.017421603	
36458.49	7	0.024390244	
36501.49	5	0.017421603	
36544.49	3	0.010452962	
36587.49	3	0.010452962	
36630.49	5	0.017421603	
36673.49	5	0.017421603	
36716.49	5	0.017421603	
36759.49	4	0.013937282	
36802.49	7	0.024390244	
36845.49	5	0.017421603	
36888.49	8	0.027874564	
36931.49	3	0.010452962	
36974.49	6	0.020905923	
37017.49	7	0.024390244	
37060.49	5	0.017421603	
37103.49	5	0.017421603	
37146.49	8	0.027874564	
37189.49	2	0.006968641	
37232.49	5	0.017421603	
37275.49	2	0.006968641	
37318.49	6	0.020905923	
37361.49	2	0.006968641	
37404.49	3	0.010452962	
37447.49	3	0.010452962	
37490.49	3	0.010452962	

37533.49	3	0.010452962	
37576.49	7	0.024390244	
37619.49	4	0.013937282	
37662.49	2	0.006968641	
37705.49	2	0.006968641	
37748.49	2	0.006968641	
37791.49	5	0.017421603	
37834.49	6	0.020905923	
37877.49	5	0.017421603	
37920.49	3	0.010452962	
37963.49	4	0.013937282	
38006.49	6	0.020905923	
38049.49	7	0.024390244	
38092.49	3	0.010452962	
38135.49	5	0.017421603	
38178.49	3	0.010452962	
38221.49	6	0.020905923	
38264.49	5	0.017421603	
38307.49	0	0	
38350.49	8	0.027874564	
38393.49	4	0.013937282	
38436.49	4	0.013937282	
38479.49	4	0.013937282	
38522.49	3	0.010452962	
38565.49	2	0.006968641	
38608.49	3	0.010452962	
38651.49	4	0.013937282	
38694.49	5	0.017421603	
38737.49	6	0.020905923	
38780.49	4	0.013937282	
38823.49	4	0.013937282	
38866.49	4	0.013937282	
38909.49	1	0.003484321	
38952.49	4	0.013937282	
38995.49	5	0.017421603	
39038.49	0	0	
39081.49	5	0.017421603	
39124.49	4	0.013937282	
39167.49	1	0.003484321	
39210.49	3	0.010452962	
39253.49	5	0.017421603	



39296.49	5	0.017421603	
39339.49	5	0.017421603	
39382.49	2	0.006968641	
39425.49	3	0.010452962	
39468.49	4	0.013937282	
39511.49	5	0.017421603	
39554.49	4	0.013937282	
39597.49	4	0.013937282	
39640.49	5	0.017421603	
39683.49	2	0.006968641	
39726.49	5	0.017421603	
39769.49	3	0.010452962	
39812.49	5	0.017421603	
39855.49	2	0.006968641	
39898.49	2	0.006968641	
39941.49	3	0.010452962	
39984.49	3	0.010452962	
40027.49	3	0.010452962	
40070.49	4	0.013937282	
40113.49	6	0.020905923	
40156.49	3	0.010452962	
40199.49	2	0.006968641	
40242.49	6	0.020905923	
40285.49	1	0.003484321	
40328.49	7	0.024390244	
40371.49	4	0.013937282	
40414.49	4	0.013937282	
40457.49	3	0.010452962	
40500.49	4	0.013937282	
40543.49	3	0.010452962	
40586.49	5	0.017421603	
40629.49	5	0.017421603	
40672.49	3	0.010452962	
40715.49	3	0.010452962	
40758.49	5	0.017421603	
40801.49	5	0.017421603	
40844.49	5	0.017421603	
40887.49	5	0.017421603	
40930.49	3	0.010452962	
40973.49	2	0.006968641	
41016.49	2	0.006968641	

41059.49	2	0.006968641	
41102.49	5	0.017421603	
41145.49	5	0.017421603	
41188.49	2	0.006968641	
41231.49	0	0	
41274.49	1	0.003484321	
41317.49	2	0.006968641	
41360.49	3	0.010452962	
41403.49	1	0.003484321	
41446.49	4	0.013937282	
41489.49	1	0.003484321	
41532.49	2	0.006968641	
41575.49	2	0.006968641	
41618.49	2	0.006968641	
41661.49	3	0.010452962	
41704.49	4	0.013937282	
41747.49	0	0	
41790.49	3	0.010452962	
41833.49	1	0.003484321	
41876.49	2	0.006968641	
41919.49	2	0.006968641	
41962.49	3	0.010452962	
42005.49	3	0.010452962	
42048.49	3	0.010452962	
42091.49	1	0.003484321	
42134.49	2	0.006968641	
42177.49	0	0	
42220.49	2	0.006968641	
42263.49	3	0.010452962	
42306.49	2	0.006968641	
42349.49	4	0.013937282	
42392.49	1	0.003484321	
42435.49	3	0.010452962	
42478.49	2	0.006968641	
42521.49	2	0.006968641	
42564.49	3	0.010452962	
42607.49	3	0.010452962	
42650.49	3	0.010452962	
42693.49	1	0.003484321	
42736.49	2	0.006968641	
42779.49	3	0.010452962	

42822.49	4	0.013937282	
42865.49	4	0.013937282	
42908.49	0	0	
42951.49	4	0.013937282	
42994.49	2	0.006968641	
43037.49	4	0.013937282	
43080.49	3	0.010452962	
43123.49	4	0.013937282	
43166.49	4	0.013937282	
43209.49	0	0	
43252.49	5	0.017421603	
43295.49	1	0.003484321	
43338.49	1	0.003484321	
43381.49	1	0.003484321	
43424.49	1	0.003484321	
43467.49	3	0.010452962	
43510.49	3	0.010452962	
43553.49	2	0.006968641	
43596.49	4	0.013937282	
43639.49	3	0.010452962	
43682.49	0	0	
43725.49	5	0.017421603	
43768.49	3	0.010452962	
43811.49	1	0.003484321	
43854.49	3	0.010452962	

C008

### Normalized Counts

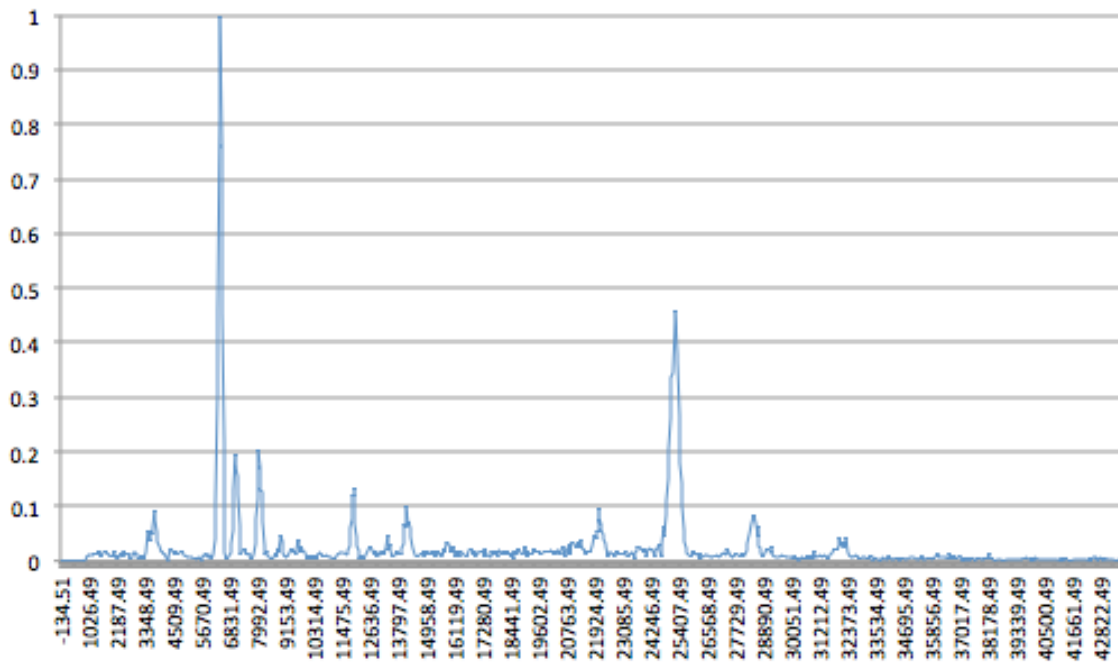


Figure 39. C008 Normalized XRF Counts

Table 24. C008 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	

510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	2	0.004081633	
983.49	6	0.012244898	Cu
1026.49	6	0.012244898	Zn
1069.49	7	0.014285714	Zn
1112.49	6	0.012244898	
1155.49	5	0.010204082	
1198.49	4	0.008163265	
1241.49	5	0.010204082	
1284.49	8	0.016326531	As
1327.49	7	0.014285714	
1370.49	5	0.010204082	
1413.49	7	0.014285714	
1456.49	10	0.020408163	Se
1499.49	3	0.006122449	
1542.49	3	0.006122449	
1585.49	7	0.014285714	Br
1628.49	7	0.014285714	Br
1671.49	7	0.014285714	Rb
1714.49	9	0.018367347	Rb
1757.49	5	0.010204082	
1800.49	3	0.006122449	
1843.49	5	0.010204082	
1886.49	6	0.012244898	Sr
1929.49	5	0.010204082	
1972.49	4	0.008163265	
2015.49	3	0.006122449	
2058.49	9	0.018367347	Y
2101.49	3	0.006122449	
2144.49	6	0.012244898	Zr
2187.49	1	0.002040816	
2230.49	4	0.008163265	

2273.49	6	0.012244898	
2316.49	7	0.014285714	Nb
2359.49	7	0.014285714	Mo
2402.49	3	0.006122449	
2445.49	2	0.004081633	
2488.49	9	0.018367347	Tc
2531.49	6	0.012244898	
2574.49	5	0.010204082	
2617.49	4	0.008163265	
2660.49	7	0.014285714	Ru
2703.49	1	0.002040816	
2746.49	3	0.006122449	
2789.49	4	0.008163265	
2832.49	7	0.014285714	Rh
2875.49	6	0.012244898	
2918.49	5	0.010204082	
2961.49	7	0.014285714	Ag
3004.49	4	0.008163265	
3047.49	5	0.010204082	Ag
3090.49	5	0.010204082	Pd
3133.49	2	0.004081633	
3176.49	3	0.006122449	
3219.49	5	0.010204082	Ag
3262.49	5	0.010204082	Ag
3305.49	2	0.004081633	
3348.49	7	0.014285714	
3391.49	9	0.018367347	
3434.49	27	0.055102041	
3477.49	29	0.059183673	Sn
3520.49	17	0.034693878	
3563.49	28	0.057142857	Sn
3606.49	23	0.046938776	
3649.49	22	0.044897959	
3692.49	30	0.06122449	
3735.49	45	0.091836735	Sn
3778.49	37	0.075510204	
3821.49	25	0.051020408	
3864.49	17	0.034693878	
3907.49	14	0.028571429	
3950.49	15	0.030612245	Te
3993.49	8	0.016326531	

4036.49	7	0.014285714	
4079.49	10	0.020408163	Te
4122.49	7	0.014285714	
4165.49	5	0.010204082	Sc
4208.49	5	0.010204082	Sc
4251.49	4	0.008163265	
4294.49	0	0	
4337.49	3	0.006122449	
4380.49	5	0.010204082	
4423.49	11	0.02244898	Sc
4466.49	11	0.02244898	Ti
4509.49	9	0.018367347	
4552.49	6	0.012244898	
4595.49	10	0.020408163	Ti
4638.49	6	0.012244898	Ti
4681.49	6	0.012244898	Cs
4724.49	7	0.014285714	
4767.49	8	0.016326531	Ti
4810.49	7	0.014285714	
4853.49	6	0.012244898	
4896.49	10	0.020408163	Ti
4939.49	5	0.010204082	
4982.49	4	0.008163265	
5025.49	7	0.014285714	Ce
5068.49	4	0.008163265	
5111.49	4	0.008163265	
5154.49	4	0.008163265	
5197.49	4	0.008163265	
5240.49	3	0.006122449	
5283.49	5	0.010204082	Nd
5326.49	4	0.008163265	
5369.49	4	0.008163265	
5412.49	2	0.004081633	
5455.49	2	0.004081633	
5498.49	2	0.004081633	
5541.49	0	0	
5584.49	4	0.008163265	
5627.49	4	0.008163265	
5670.49	0	0	
5713.49	3	0.006122449	
5756.49	2	0.004081633	

5799.49	5	0.010204082	
5842.49	7	0.014285714	Nd
5885.49	3	0.006122449	
5928.49	2	0.004081633	
5971.49	4	0.008163265	
6014.49	6	0.012244898	
6057.49	7	0.014285714	Cr
6100.49	1	0.002040816	
6143.49	6	0.012244898	Gd
6186.49	4	0.008163265	
6229.49	20	0.040816327	
6272.49	51	0.104081633	
6315.49	151	0.308163265	
6358.49	225	0.459183673	
6401.49	398	0.812244898	
6444.49	490	1	Fe
6487.49	372	0.759183673	
6530.49	221	0.451020408	
6573.49	107	0.218367347	
6616.49	40	0.081632653	
6659.49	7	0.014285714	
6702.49	6	0.012244898	
6745.49	2	0.004081633	
6788.49	4	0.008163265	
6831.49	3	0.006122449	
6874.49	8	0.016326531	
6917.49	16	0.032653061	
6960.49	27	0.055102041	
7003.49	63	0.128571429	
7046.49	96	0.195918367	Fe
7089.49	84	0.171428571	
7132.49	76	0.155102041	
7175.49	59	0.120408163	
7218.49	32	0.065306122	
7261.49	11	0.02244898	
7304.49	6	0.012244898	
7347.49	4	0.008163265	
7390.49	5	0.010204082	
7433.49	11	0.02244898	Yb
7476.49	11	0.02244898	Ni
7519.49	11	0.02244898	Ni



7562.49	5	0.010204082	
7605.49	8	0.016326531	Co
7648.49	5	0.010204082	
7691.49	3	0.006122449	
7734.49	2	0.004081633	
7777.49	1	0.002040816	
7820.49	5	0.010204082	
7863.49	6	0.012244898	
7906.49	15	0.030612245	
7949.49	37	0.075510204	
7992.49	56	0.114285714	
8035.49	100	0.204081633	Cu
8078.49	84	0.171428571	
8121.49	64	0.130612245	
8164.49	61	0.124489796	
8207.49	36	0.073469388	
8250.49	13	0.026530612	
8293.49	5	0.010204082	
8336.49	6	0.012244898	
8379.49	10	0.020408163	W
8422.49	6	0.012244898	
8465.49	7	0.014285714	W
8508.49	7	0.014285714	W
8551.49	2	0.004081633	
8594.49	3	0.006122449	
8637.49	4	0.008163265	
8680.49	3	0.006122449	
8723.49	7	0.014285714	Zn
8766.49	4	0.008163265	
8809.49	11	0.02244898	Cu
8852.49	8	0.016326531	
8895.49	20	0.040816327	
8938.49	23	0.046938776	Cu
8981.49	18	0.036734694	
9024.49	15	0.030612245	
9067.49	8	0.016326531	
9110.49	3	0.006122449	
9153.49	3	0.006122449	
9196.49	4	0.008163265	
9239.49	3	0.006122449	
9282.49	5	0.010204082	Ga

9325.49	5	0.010204082	Ga
9368.49	12	0.024489796	Ta
9411.49	10	0.020408163	
9454.49	7	0.014285714	
9497.49	10	0.020408163	Zn
9540.49	6	0.012244898	
9583.49	9	0.018367347	
9626.49	11	0.02244898	
9669.49	19	0.03877551	Au
9712.49	15	0.030612245	
9755.49	8	0.016326531	
9798.49	14	0.028571429	Au
9841.49	10	0.020408163	
9884.49	9	0.018367347	Ge
9927.49	9	0.018367347	Ge
9970.49	7	0.014285714	
10013.49	2	0.004081633	
10056.49	3	0.006122449	
10099.49	3	0.006122449	
10142.49	5	0.010204082	Ga
10185.49	2	0.004081633	
10228.49	2	0.004081633	
10271.49	6	0.012244898	Ti
10314.49	2	0.004081633	
10357.49	5	0.010204082	Ga
10400.49	3	0.006122449	
10443.49	1	0.002040816	
10486.49	8	0.016326531	
10529.49	9	0.018367347	Ga
10572.49	9	0.018367347	Pb
10615.49	8	0.016326531	
10658.49	7	0.014285714	
10701.49	3	0.006122449	
10744.49	5	0.010204082	Ge
10787.49	4	0.008163265	
10830.49	6	0.012244898	Ge
10873.49	4	0.008163265	
10916.49	6	0.012244898	Se
10959.49	3	0.006122449	
11002.49	1	0.002040816	
11045.49	5	0.010204082	As

11088.49	4	0.008163265	
11131.49	6	0.012244898	Se
11174.49	1	0.002040816	
11217.49	3	0.006122449	
11260.49	2	0.004081633	
11303.49	7	0.014285714	Se
11346.49	7	0.014285714	Se
11389.49	9	0.018367347	
11432.49	8	0.016326531	Au
11475.49	8	0.016326531	Se
11518.49	7	0.014285714	
11561.49	8	0.016326531	Au
11604.49	7	0.014285714	
11647.49	9	0.018367347	Au
11690.49	6	0.012244898	
11733.49	10	0.020408163	
11776.49	14	0.028571429	
11819.49	29	0.059183673	
11862.49	37	0.075510204	
11905.49	60	0.12244898	Br
11948.49	57	0.116326531	
11991.49	66	0.134693878	Br
12034.49	34	0.069387755	
12077.49	22	0.044897959	
12120.49	13	0.026530612	
12163.49	9	0.018367347	
12206.49	2	0.004081633	
12249.49	3	0.006122449	
12292.49	5	0.010204082	Fr
12335.49	3	0.006122449	
12378.49	1	0.002040816	
12421.49	6	0.012244898	Se
12464.49	4	0.008163265	
12507.49	9	0.018367347	Se
12550.49	7	0.014285714	
12593.49	9	0.018367347	
12636.49	13	0.026530612	Pb
12679.49	12	0.024489796	
12722.49	10	0.020408163	
12765.49	8	0.016326531	
12808.49	6	0.012244898	

12851.49	10	0.020408163	Ac
12894.49	4	0.008163265	
12937.49	8	0.016326531	Bi
12980.49	7	0.014285714	Th
13023.49	7	0.014285714	Bi
13066.49	6	0.012244898	
13109.49	9	0.018367347	Bi
13152.49	6	0.012244898	
13195.49	9	0.018367347	Br
13238.49	5	0.010204082	
13281.49	7	0.014285714	
13324.49	11	0.02244898	
13367.49	24	0.048979592	Rb
13410.49	10	0.020408163	
13453.49	15	0.030612245	Rb
13496.49	10	0.020408163	
13539.49	3	0.006122449	
13582.49	4	0.008163265	
13625.49	6	0.012244898	
13668.49	8	0.016326531	
13711.49	10	0.020408163	Rb
13754.49	5	0.010204082	Rb
13797.49	5	0.010204082	At
13840.49	8	0.016326531	Sr
13883.49	6	0.012244898	
13926.49	5	0.010204082	
13969.49	11	0.02244898	
14012.49	15	0.030612245	
14055.49	34	0.069387755	Sr
14098.49	30	0.06122449	
14141.49	50	0.102040816	Sr
14184.49	31	0.063265306	
14227.49	35	0.071428571	Sr
14270.49	30	0.06122449	
14313.49	22	0.044897959	
14356.49	11	0.02244898	
14399.49	10	0.020408163	Sr
14442.49	10	0.020408163	Sr
14485.49	6	0.012244898	Rn
14528.49	6	0.012244898	Rn
14571.49	6	0.012244898	Sr

14614.49	4	0.008163265	
14657.49	5	0.010204082	Rn
14700.49	4	0.008163265	
14743.49	8	0.016326531	Rn
14786.49	5	0.010204082	
14829.49	10	0.020408163	Fr
14872.49	4	0.008163265	
14915.49	9	0.018367347	Rb
14958.49	5	0.010204082	
15001.49	8	0.016326531	
15044.49	9	0.018367347	Y
15087.49	8	0.016326531	Y
15130.49	8	0.016326531	Y
15173.49	5	0.010204082	
15216.49	6	0.012244898	
15259.49	9	0.018367347	Zr
15302.49	7	0.014285714	
15345.49	4	0.008163265	
15388.49	9	0.018367347	Zr
15431.49	9	0.018367347	Zr
15474.49	7	0.014285714	
15517.49	6	0.012244898	
15560.49	3	0.006122449	
15603.49	8	0.016326531	Zr
15646.49	5	0.010204082	
15689.49	12	0.024489796	Zr
15732.49	8	0.016326531	
15775.49	15	0.030612245	
15818.49	18	0.036734694	Zr
15861.49	15	0.030612245	
15904.49	13	0.026530612	
15947.49	8	0.016326531	
15990.49	9	0.018367347	
16033.49	10	0.020408163	
16076.49	13	0.026530612	
16119.49	4	0.008163265	
16162.49	6	0.012244898	
16205.49	6	0.012244898	
16248.49	10	0.020408163	
16291.49	9	0.018367347	
16334.49	3	0.006122449	

16377.49	10	0.020408163	
16420.49	8	0.016326531	
16463.49	8	0.016326531	
16506.49	5	0.010204082	
16549.49	7	0.014285714	
16592.49	6	0.012244898	
16635.49	4	0.008163265	
16678.49	10	0.020408163	
16721.49	10	0.020408163	
16764.49	10	0.020408163	
16807.49	11	0.02244898	
16850.49	10	0.020408163	
16893.49	5	0.010204082	
16936.49	9	0.018367347	
16979.49	4	0.008163265	
17022.49	7	0.014285714	
17065.49	5	0.010204082	
17108.49	7	0.014285714	
17151.49	7	0.014285714	
17194.49	6	0.012244898	
17237.49	5	0.010204082	
17280.49	9	0.018367347	
17323.49	4	0.008163265	
17366.49	3	0.006122449	
17409.49	12	0.024489796	
17452.49	11	0.02244898	
17495.49	5	0.010204082	
17538.49	6	0.012244898	
17581.49	7	0.014285714	
17624.49	4	0.008163265	
17667.49	9	0.018367347	
17710.49	7	0.014285714	
17753.49	6	0.012244898	
17796.49	5	0.010204082	
17839.49	9	0.018367347	
17882.49	3	0.006122449	
17925.49	10	0.020408163	
17968.49	12	0.024489796	
18011.49	10	0.020408163	
18054.49	9	0.018367347	
18097.49	10	0.020408163	

18140.49	6	0.012244898	
18183.49	7	0.014285714	
18226.49	9	0.018367347	
18269.49	5	0.010204082	
18312.49	9	0.018367347	
18355.49	5	0.010204082	
18398.49	8	0.016326531	
18441.49	4	0.008163265	
18484.49	7	0.014285714	
18527.49	1	0.002040816	
18570.49	2	0.004081633	
18613.49	10	0.020408163	
18656.49	6	0.012244898	
18699.49	7	0.014285714	
18742.49	6	0.012244898	
18785.49	11	0.02244898	
18828.49	7	0.014285714	
18871.49	8	0.016326531	
18914.49	9	0.018367347	
18957.49	6	0.012244898	
19000.49	13	0.026530612	
19043.49	11	0.02244898	
19086.49	4	0.008163265	
19129.49	10	0.020408163	
19172.49	3	0.006122449	
19215.49	8	0.016326531	
19258.49	10	0.020408163	
19301.49	6	0.012244898	
19344.49	6	0.012244898	
19387.49	11	0.02244898	
19430.49	11	0.02244898	
19473.49	8	0.016326531	
19516.49	10	0.020408163	
19559.49	7	0.014285714	
19602.49	9	0.018367347	
19645.49	5	0.010204082	
19688.49	7	0.014285714	
19731.49	4	0.008163265	
19774.49	7	0.014285714	
19817.49	8	0.016326531	
19860.49	5	0.010204082	

19903.49	10	0.020408163	
19946.49	10	0.020408163	
19989.49	7	0.014285714	
20032.49	10	0.020408163	
20075.49	9	0.018367347	
20118.49	8	0.016326531	
20161.49	9	0.018367347	
20204.49	6	0.012244898	
20247.49	10	0.020408163	
20290.49	6	0.012244898	
20333.49	10	0.020408163	
20376.49	9	0.018367347	
20419.49	8	0.016326531	
20462.49	9	0.018367347	
20505.49	6	0.012244898	
20548.49	9	0.018367347	
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20634.49	13	0.026530612	
20677.49	4	0.008163265	
20720.49	7	0.014285714	Rh
20763.49	7	0.014285714	Rh
20806.49	8	0.016326531	
20849.49	16	0.032653061	Pd
20892.49	6	0.012244898	
20935.49	10	0.020408163	
20978.49	12	0.024489796	
21021.49	18	0.036734694	Pd
21064.49	15	0.030612245	
21107.49	16	0.032653061	Pd
21150.49	11	0.02244898	
21193.49	12	0.024489796	
21236.49	17	0.034693878	Pd
21279.49	11	0.02244898	
21322.49	19	0.03877551	Pd
21365.49	15	0.030612245	
21408.49	10	0.020408163	
21451.49	11	0.02244898	Ru
21494.49	10	0.020408163	
21537.49	9	0.018367347	
21580.49	6	0.012244898	
21623.49	10	0.020408163	Ru



21666.49	9	0.018367347	
21709.49	12	0.024489796	Ru
21752.49	8	0.016326531	
21795.49	13	0.026530612	Ru
21838.49	12	0.024489796	
21881.49	13	0.026530612	
21924.49	23	0.046938776	Ag
21967.49	19	0.03877551	
22010.49	28	0.057142857	Ag
22053.49	25	0.051020408	
22096.49	48	0.097959184	Ag
22139.49	36	0.073469388	
22182.49	33	0.067346939	
22225.49	27	0.055102041	
22268.49	23	0.046938776	
22311.49	19	0.03877551	
22354.49	16	0.032653061	
22397.49	13	0.026530612	
22440.49	4	0.008163265	
22483.49	8	0.016326531	Ru
22526.49	6	0.012244898	
22569.49	8	0.016326531	Ru
22612.49	7	0.014285714	
22655.49	8	0.016326531	Rh
22698.49	8	0.016326531	Rh
22741.49	3	0.006122449	
22784.49	6	0.012244898	
22827.49	9	0.018367347	Rh
22870.49	7	0.014285714	
22913.49	5	0.010204082	Rh
22956.49	5	0.010204082	Rh
22999.49	8	0.016326531	
23042.49	10	0.020408163	Cd
23085.49	10	0.020408163	Cd
23128.49	6	0.012244898	
23171.49	9	0.018367347	Cd
23214.49	6	0.012244898	
23257.49	4	0.008163265	
23300.49	7	0.014285714	Cd
23343.49	3	0.006122449	
23386.49	8	0.016326531	Cd

23429.49	7	0.014285714	
23472.49	6	0.012244898	
23515.49	8	0.016326531	Cd
23558.49	2	0.004081633	
23601.49	7	0.014285714	
23644.49	10	0.020408163	
23687.49	14	0.028571429	Pd
23730.49	11	0.02244898	
23773.49	10	0.020408163	Pd
23816.49	10	0.020408163	Cd
23859.49	12	0.024489796	Pd
23902.49	8	0.016326531	
23945.49	11	0.02244898	Pd
23988.49	9	0.018367347	
24031.49	8	0.016326531	
24074.49	4	0.008163265	
24117.49	6	0.012244898	
24160.49	11	0.02244898	
24203.49	13	0.026530612	In
24246.49	9	0.018367347	In
24289.49	9	0.018367347	In
24332.49	11	0.02244898	In
24375.49	4	0.008163265	
24418.49	9	0.018367347	
24461.49	11	0.02244898	In
24504.49	8	0.016326531	
24547.49	12	0.024489796	
24590.49	16	0.032653061	In
24633.49	10	0.020408163	
24676.49	4	0.008163265	
24719.49	15	0.030612245	
24762.49	31	0.063265306	In
24805.49	22	0.044897959	
24848.49	41	0.083673469	
24891.49	53	0.108163265	
24934.49	74	0.151020408	
24977.49	100	0.204081633	
25020.49	129	0.263265306	
25063.49	136	0.27755102	
25106.49	165	0.336734694	
25149.49	169	0.344897959	

25192.49	171	0.348979592	
25235.49	215	0.43877551	
25278.49	226	0.46122449	Sn
25321.49	185	0.37755102	
25364.49	178	0.363265306	
25407.49	130	0.265306122	
25450.49	88	0.179591837	
25493.49	69	0.140816327	
25536.49	50	0.102040816	
25579.49	27	0.055102041	
25622.49	18	0.036734694	
25665.49	12	0.024489796	
25708.49	7	0.014285714	
25751.49	5	0.010204082	Cd
25794.49	5	0.010204082	Sn
25837.49	6	0.012244898	Cd
25880.49	6	0.012244898	Cd
25923.49	3	0.006122449	
25966.49	1	0.002040816	
26009.49	10	0.020408163	Cd
26052.49	5	0.010204082	Cd
26095.49	5	0.010204082	Cd
26138.49	8	0.016326531	Cd
26181.49	5	0.010204082	
26224.49	1	0.002040816	
26267.49	8	0.016326531	Sb
26310.49	2	0.004081633	
26353.49	3	0.006122449	
26396.49	3	0.006122449	
26439.49	6	0.012244898	Sb
26482.49	4	0.008163265	
26525.49	5	0.010204082	Sb
26568.49	5	0.010204082	Sb
26611.49	6	0.012244898	Sb
26654.49	6	0.012244898	Sb
26697.49	4	0.008163265	
26740.49	4	0.008163265	
26783.49	6	0.012244898	Sb
26826.49	3	0.006122449	
26869.49	5	0.010204082	-
26912.49	5	0.010204082	-

26955.49	5	0.010204082	-
26998.49	4	0.008163265	
27041.49	6	0.012244898	-
27084.49	4	0.008163265	
27127.49	3	0.006122449	
27170.49	6	0.012244898	
27213.49	7	0.014285714	Sb
27256.49	5	0.010204082	
27299.49	7	0.014285714	-
27342.49	5	0.010204082	
27385.49	11	0.02244898	-
27428.49	7	0.014285714	
27471.49	9	0.018367347	-
27514.49	6	0.012244898	
27557.49	4	0.008163265	
27600.49	6	0.012244898	-
27643.49	6	0.012244898	-
27686.49	3	0.006122449	
27729.49	3	0.006122449	
27772.49	7	0.014285714	-
27815.49	5	0.010204082	
27858.49	7	0.014285714	Sb
27901.49	3	0.006122449	
27944.49	5	0.010204082	
27987.49	8	0.016326531	-
28030.49	4	0.008163265	
28073.49	3	0.006122449	
28116.49	6	0.012244898	Sn
28159.49	5	0.010204082	
28202.49	9	0.018367347	
28245.49	15	0.030612245	
28288.49	16	0.032653061	
28331.49	24	0.048979592	
28374.49	34	0.069387755	
28417.49	35	0.071428571	Sn
28460.49	35	0.071428571	Sn
28503.49	41	0.083673469	Sn
28546.49	39	0.079591837	
28589.49	33	0.067346939	
28632.49	22	0.044897959	
28675.49	31	0.063265306	-

28718.49	14	0.028571429	
28761.49	11	0.02244898	
28804.49	8	0.016326531	
28847.49	4	0.008163265	
28890.49	4	0.008163265	
28933.49	4	0.008163265	
28976.49	8	0.016326531	-
29019.49	7	0.014285714	
29062.49	11	0.02244898	
29105.49	12	0.024489796	-
29148.49	10	0.020408163	
29191.49	7	0.014285714	
29234.49	13	0.026530612	-
29277.49	5	0.010204082	-
29320.49	5	0.010204082	-
29363.49	6	0.012244898	-
29406.49	3	0.006122449	
29449.49	4	0.008163265	
29492.49	4	0.008163265	
29535.49	3	0.006122449	
29578.49	5	0.010204082	Sb
29621.49	3	0.006122449	
29664.49	5	0.010204082	
29707.49	6	0.012244898	Sb
29750.49	4	0.008163265	
29793.49	3	0.006122449	
29836.49	5	0.010204082	Sb
29879.49	4	0.008163265	
29922.49	3	0.006122449	
29965.49	4	0.008163265	
30008.49	3	0.006122449	
30051.49	4	0.008163265	
30094.49	4	0.008163265	
30137.49	1	0.002040816	
30180.49	5	0.010204082	Sb
30223.49	1	0.002040816	
30266.49	4	0.008163265	
30309.49	0	0	
30352.49	0	0	
30395.49	3	0.006122449	
30438.49	3	0.006122449	

30481.49	3	0.006122449	
30524.49	4	0.008163265	
30567.49	4	0.008163265	
30610.49	4	0.008163265	
30653.49	2	0.004081633	
30696.49	5	0.010204082	
30739.49	2	0.004081633	
30782.49	5	0.010204082	
30825.49	2	0.004081633	
30868.49	6	0.012244898	
30911.49	1	0.002040816	
30954.49	10	0.020408163	
30997.49	3	0.006122449	
31040.49	3	0.006122449	
31083.49	3	0.006122449	
31126.49	3	0.006122449	
31169.49	1	0.002040816	
31212.49	1	0.002040816	
31255.49	6	0.012244898	
31298.49	3	0.006122449	
31341.49	4	0.008163265	
31384.49	4	0.008163265	
31427.49	6	0.012244898	
31470.49	4	0.008163265	
31513.49	1	0.002040816	
31556.49	3	0.006122449	
31599.49	3	0.006122449	
31642.49	6	0.012244898	
31685.49	8	0.016326531	
31728.49	7	0.014285714	
31771.49	8	0.016326531	
31814.49	11	0.02244898	
31857.49	13	0.026530612	
31900.49	9	0.018367347	
31943.49	10	0.020408163	
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32029.49	21	0.042857143	
32072.49	14	0.028571429	
32115.49	14	0.028571429	
32158.49	18	0.036734694	
32201.49	12	0.024489796	

32244.49	11	0.02244898	
32287.49	16	0.032653061	
32330.49	21	0.042857143	
32373.49	7	0.014285714	
32416.49	6	0.012244898	
32459.49	3	0.006122449	
32502.49	2	0.004081633	
32545.49	4	0.008163265	
32588.49	3	0.006122449	
32631.49	5	0.010204082	
32674.49	3	0.006122449	
32717.49	5	0.010204082	
32760.49	3	0.006122449	
32803.49	3	0.006122449	
32846.49	1	0.002040816	
32889.49	3	0.006122449	
32932.49	1	0.002040816	
32975.49	3	0.006122449	
33018.49	3	0.006122449	
33061.49	1	0.002040816	
33104.49	3	0.006122449	
33147.49	3	0.006122449	
33190.49	1	0.002040816	
33233.49	2	0.004081633	
33276.49	6	0.012244898	
33319.49	5	0.010204082	
33362.49	7	0.014285714	
33405.49	3	0.006122449	
33448.49	0	0	
33491.49	3	0.006122449	
33534.49	3	0.006122449	
33577.49	3	0.006122449	
33620.49	1	0.002040816	
33663.49	3	0.006122449	
33706.49	3	0.006122449	
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33792.49	4	0.008163265	
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33878.49	2	0.004081633	
33921.49	1	0.002040816	
33964.49	3	0.006122449	

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34050.49	1	0.002040816	
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34136.49	3	0.006122449	
34179.49	2	0.004081633	
34222.49	3	0.006122449	
34265.49	1	0.002040816	
34308.49	1	0.002040816	
34351.49	1	0.002040816	
34394.49	2	0.004081633	
34437.49	4	0.008163265	
34480.49	2	0.004081633	
34523.49	0	0	
34566.49	3	0.006122449	
34609.49	2	0.004081633	
34652.49	3	0.006122449	
34695.49	2	0.004081633	
34738.49	1	0.002040816	
34781.49	3	0.006122449	
34824.49	2	0.004081633	
34867.49	2	0.004081633	
34910.49	2	0.004081633	
34953.49	4	0.008163265	
34996.49	2	0.004081633	
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35168.49	3	0.006122449	
35211.49	1	0.002040816	
35254.49	1	0.002040816	
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35383.49	3	0.006122449	
35426.49	6	0.012244898	
35469.49	2	0.004081633	
35512.49	1	0.002040816	
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35813.49	2	0.004081633	
35856.49	1	0.002040816	
35899.49	2	0.004081633	
35942.49	3	0.006122449	
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36114.49	3	0.006122449	
36157.49	4	0.008163265	
36200.49	5	0.010204082	
36243.49	4	0.008163265	
36286.49	6	0.012244898	
36329.49	6	0.012244898	
36372.49	4	0.008163265	
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36544.49	1	0.002040816	
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37146.49	2	0.004081633	
37189.49	3	0.006122449	
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37404.49	1	0.002040816	
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37576.49	1	0.002040816	
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37748.49	2	0.004081633	
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37834.49	3	0.006122449	
37877.49	1	0.002040816	
37920.49	3	0.006122449	
37963.49	2	0.004081633	
38006.49	1	0.002040816	
38049.49	4	0.008163265	
38092.49	2	0.004081633	
38135.49	1	0.002040816	
38178.49	0	0	
38221.49	7	0.014285714	
38264.49	1	0.002040816	
38307.49	1	0.002040816	
38350.49	4	0.008163265	
38393.49	2	0.004081633	
38436.49	0	0	
38479.49	2	0.004081633	
38522.49	1	0.002040816	
38565.49	2	0.004081633	
38608.49	3	0.006122449	
38651.49	1	0.002040816	
38694.49	2	0.004081633	
38737.49	1	0.002040816	
38780.49	2	0.004081633	
38823.49	0	0	
38866.49	0	0	
38909.49	2	0.004081633	
38952.49	2	0.004081633	
38995.49	1	0.002040816	
39038.49	1	0.002040816	
39081.49	1	0.002040816	
39124.49	3	0.006122449	
39167.49	1	0.002040816	
39210.49	2	0.004081633	
39253.49	2	0.004081633	

39296.49	1	0.002040816	
39339.49	1	0.002040816	
39382.49	0	0	
39425.49	2	0.004081633	
39468.49	1	0.002040816	
39511.49	1	0.002040816	
39554.49	3	0.006122449	
39597.49	1	0.002040816	
39640.49	2	0.004081633	
39683.49	0	0	
39726.49	3	0.006122449	
39769.49	2	0.004081633	
39812.49	4	0.008163265	
39855.49	2	0.004081633	
39898.49	0	0	
39941.49	1	0.002040816	
39984.49	0	0	
40027.49	3	0.006122449	
40070.49	0	0	
40113.49	3	0.006122449	
40156.49	3	0.006122449	
40199.49	2	0.004081633	
40242.49	1	0.002040816	
40285.49	1	0.002040816	
40328.49	1	0.002040816	
40371.49	1	0.002040816	
40414.49	2	0.004081633	
40457.49	0	0	
40500.49	2	0.004081633	
40543.49	2	0.004081633	
40586.49	2	0.004081633	
40629.49	1	0.002040816	
40672.49	0	0	
40715.49	2	0.004081633	
40758.49	1	0.002040816	
40801.49	1	0.002040816	
40844.49	0	0	
40887.49	2	0.004081633	
40930.49	0	0	
40973.49	1	0.002040816	
41016.49	1	0.002040816	

41059.49	0	0	
41102.49	0	0	
41145.49	0	0	
41188.49	1	0.002040816	
41231.49	3	0.006122449	
41274.49	3	0.006122449	
41317.49	0	0	
41360.49	2	0.004081633	
41403.49	3	0.006122449	
41446.49	0	0	
41489.49	0	0	
41532.49	2	0.004081633	
41575.49	0	0	
41618.49	1	0.002040816	
41661.49	2	0.004081633	
41704.49	2	0.004081633	
41747.49	1	0.002040816	
41790.49	2	0.004081633	
41833.49	1	0.002040816	
41876.49	1	0.002040816	
41919.49	1	0.002040816	
41962.49	1	0.002040816	
42005.49	1	0.002040816	
42048.49	2	0.004081633	
42091.49	1	0.002040816	
42134.49	1	0.002040816	
42177.49	0	0	
42220.49	1	0.002040816	
42263.49	1	0.002040816	
42306.49	1	0.002040816	
42349.49	0	0	
42392.49	4	0.008163265	
42435.49	0	0	
42478.49	0	0	
42521.49	3	0.006122449	
42564.49	1	0.002040816	
42607.49	1	0.002040816	
42650.49	3	0.006122449	
42693.49	0	0	
42736.49	0	0	
42779.49	0	0	

42822.49	3	0.006122449	
42865.49	1	0.002040816	
42908.49	0	0	
42951.49	3	0.006122449	
42994.49	2	0.004081633	
43037.49	2	0.004081633	
43080.49	1	0.002040816	
43123.49	2	0.004081633	
43166.49	1	0.002040816	
43209.49	2	0.004081633	
43252.49	0	0	
43295.49	0	0	
43338.49	2	0.004081633	
43381.49	2	0.004081633	
43424.49	1	0.002040816	
43467.49	0	0	
43510.49	2	0.004081633	
43553.49	1	0.002040816	
43596.49	2	0.004081633	
43639.49	0	0	
43682.49	2	0.004081633	
43725.49	2	0.004081633	
43768.49	0	0	
43811.49	1	0.002040816	
43854.49	1	0.002040816	

C009

### Normalized Counts

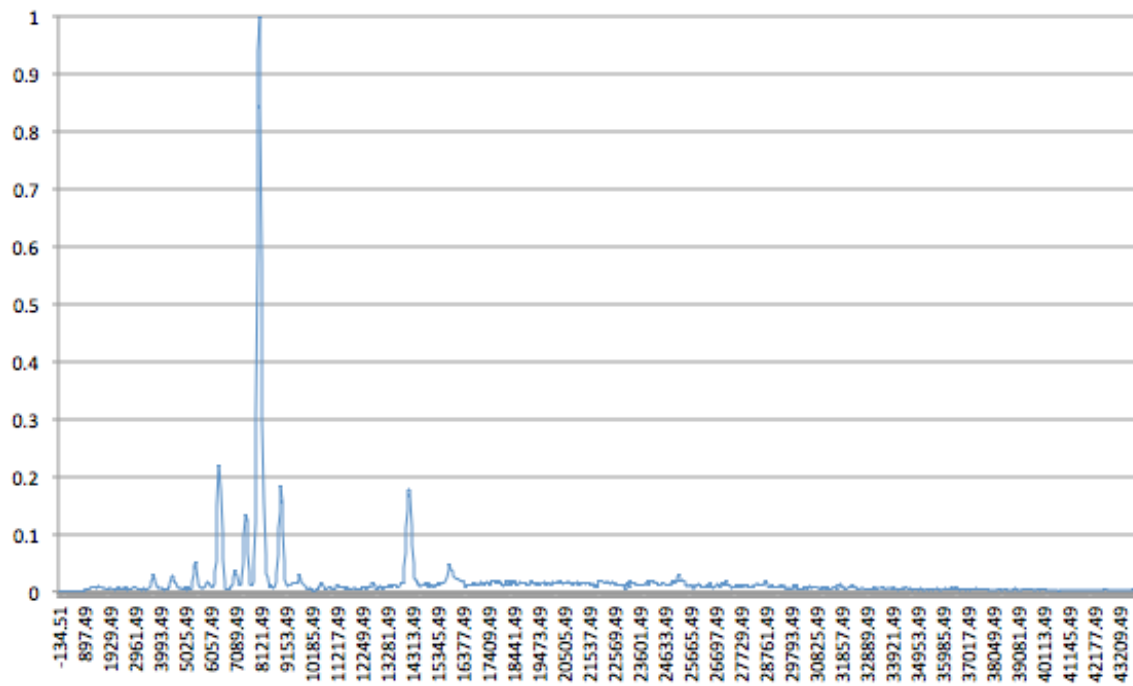


Figure 40. C009 Normalized XRF Counts

Table 25. C009 XRF Elements

eV	Counts	Normalized Counts	Element
-134.51	0	0	
-91.51	0	0	
-48.51	0	0	
-5.51	0	0	
37.49	0	0	
80.49	0	0	
123.49	0	0	
166.49	0	0	
209.49	0	0	
252.49	0	0	
295.49	0	0	
338.49	0	0	
381.49	0	0	
424.49	0	0	
467.49	0	0	

510.49	0	0	
553.49	0	0	
596.49	0	0	
639.49	0	0	
682.49	0	0	
725.49	0	0	
768.49	0	0	
811.49	0	0	
854.49	0	0	
897.49	0	0	
940.49	0	0	
983.49	8	0.005394471	
1026.49	3	0.002022927	
1069.49	7	0.004720162	
1112.49	8	0.005394471	
1155.49	7	0.004720162	
1198.49	10	0.006743088	
1241.49	13	0.008766015	
1284.49	15	0.010114633	As
1327.49	10	0.006743088	
1370.49	10	0.006743088	
1413.49	9	0.00606878	
1456.49	14	0.009440324	
1499.49	13	0.008766015	
1542.49	16	0.010788941	Br
1585.49	10	0.006743088	
1628.49	7	0.004720162	
1671.49	8	0.005394471	
1714.49	7	0.004720162	
1757.49	8	0.005394471	
1800.49	9	0.00606878	
1843.49	6	0.004045853	
1886.49	11	0.007417397	
1929.49	7	0.004720162	
1972.49	10	0.006743088	
2015.49	9	0.00606878	
2058.49	8	0.005394471	
2101.49	6	0.004045853	
2144.49	6	0.004045853	
2187.49	6	0.004045853	
2230.49	7	0.004720162	

2273.49	4	0.002697235	
2316.49	13	0.008766015	
2359.49	8	0.005394471	
2402.49	11	0.007417397	
2445.49	6	0.004045853	
2488.49	11	0.007417397	
2531.49	9	0.00606878	
2574.49	6	0.004045853	
2617.49	12	0.008091706	
2660.49	5	0.003371544	
2703.49	6	0.004045853	
2746.49	10	0.006743088	
2789.49	5	0.003371544	
2832.49	10	0.006743088	
2875.49	8	0.005394471	
2918.49	16	0.010788941	Ag
2961.49	13	0.008766015	
3004.49	9	0.00606878	
3047.49	10	0.006743088	
3090.49	6	0.004045853	
3133.49	2	0.001348618	
3176.49	8	0.005394471	
3219.49	6	0.004045853	
3262.49	6	0.004045853	
3305.49	9	0.00606878	
3348.49	9	0.00606878	
3391.49	6	0.004045853	
3434.49	3	0.002022927	
3477.49	4	0.002697235	
3520.49	10	0.006743088	
3563.49	7	0.004720162	
3606.49	12	0.008091706	
3649.49	24	0.016183412	
3692.49	35	0.023600809	
3735.49	44	0.029669589	Sn
3778.49	32	0.021577883	
3821.49	24	0.016183412	
3864.49	12	0.008091706	
3907.49	9	0.00606878	
3950.49	10	0.006743088	
3993.49	9	0.00606878	



4036.49	8	0.005394471	
4079.49	7	0.004720162	
4122.49	10	0.006743088	
4165.49	4	0.002697235	
4208.49	4	0.002697235	
4251.49	7	0.004720162	
4294.49	5	0.003371544	
4337.49	8	0.005394471	
4380.49	10	0.006743088	
4423.49	17	0.01146325	
4466.49	35	0.023600809	
4509.49	40	0.026972353	
4552.49	41	0.027646662	Ti
4595.49	23	0.015509103	
4638.49	24	0.016183412	Ti
4681.49	11	0.007417397	
4724.49	9	0.00606878	
4767.49	9	0.00606878	
4810.49	9	0.00606878	
4853.49	8	0.005394471	
4896.49	10	0.006743088	
4939.49	5	0.003371544	
4982.49	7	0.004720162	
5025.49	12	0.008091706	
5068.49	6	0.004045853	
5111.49	3	0.002022927	
5154.49	12	0.008091706	
5197.49	3	0.002022927	
5240.49	6	0.004045853	
5283.49	11	0.007417397	
5326.49	24	0.016183412	
5369.49	45	0.030343898	
5412.49	69	0.04652731	
5455.49	78	0.052596089	V
5498.49	62	0.041807148	
5541.49	25	0.016857721	
5584.49	20	0.013486177	
5627.49	10	0.006743088	
5670.49	8	0.005394471	
5713.49	10	0.006743088	
5756.49	11	0.007417397	

5799.49	10	0.006743088	
5842.49	8	0.005394471	
5885.49	20	0.013486177	
5928.49	22	0.014834794	
5971.49	23	0.015509103	
6014.49	25	0.016857721	Cr
6057.49	13	0.008766015	
6100.49	16	0.010788941	Cr
6143.49	7	0.004720162	
6186.49	14	0.009440324	
6229.49	18	0.012137559	
6272.49	51	0.034389751	
6315.49	79	0.053270398	
6358.49	223	0.15037087	
6401.49	326	0.21982468	
6444.49	329	0.221847606	Fe
6487.49	261	0.175994606	
6530.49	152	0.102494943	
6573.49	81	0.054619016	
6616.49	24	0.016183412	
6659.49	9	0.00606878	
6702.49	6	0.004045853	
6745.49	10	0.006743088	
6788.49	4	0.002697235	
6831.49	8	0.005394471	
6874.49	8	0.005394471	
6917.49	13	0.008766015	
6960.49	19	0.012811868	
7003.49	34	0.0229265	
7046.49	55	0.037086986	Fe
7089.49	44	0.029669589	
7132.49	42	0.028320971	
7175.49	37	0.024949427	
7218.49	19	0.012811868	
7261.49	12	0.008091706	
7304.49	21	0.014160486	
7347.49	29	0.019554956	
7390.49	70	0.047201618	
7433.49	141	0.095077546	
7476.49	191	0.128792987	
7519.49	197	0.13283884	Ni

7562.49	183	0.123398517	
7605.49	100	0.067430883	
7648.49	53	0.035738368	
7691.49	19	0.012811868	
7734.49	15	0.010114633	
7777.49	12	0.008091706	
7820.49	25	0.016857721	
7863.49	76	0.051247471	
7906.49	176	0.118678355	
7949.49	451	0.304113284	
7992.49	881	0.594066082	
8035.49	1389	0.93661497	
8078.49	1483	1	Cu
8121.49	1247	0.840863115	
8164.49	847	0.571139582	
8207.49	437	0.29467296	
8250.49	225	0.151719488	
8293.49	93	0.062710722	
8336.49	46	0.031018206	
8379.49	37	0.024949427	
8422.49	28	0.018880647	
8465.49	10	0.006743088	
8508.49	17	0.01146325	W
8551.49	10	0.006743088	
8594.49	9	0.00606878	
8637.49	10	0.006743088	
8680.49	10	0.006743088	
8723.49	23	0.015509103	
8766.49	48	0.032366824	
8809.49	93	0.062710722	
8852.49	161	0.108563722	
8895.49	207	0.139581929	
8938.49	271	0.182737694	Cu
8981.49	232	0.156439649	
9024.49	160	0.107889413	
9067.49	75	0.050573163	
9110.49	28	0.018880647	
9153.49	17	0.01146325	
9196.49	12	0.008091706	
9239.49	14	0.009440324	
9282.49	16	0.010788941	

9325.49	20	0.013486177	Ga
9368.49	18	0.012137559	
9411.49	19	0.012811868	Ta
9454.49	17	0.01146325	
9497.49	23	0.015509103	Zn
9540.49	23	0.015509103	Zn
9583.49	20	0.013486177	
9626.49	18	0.012137559	
9669.49	30	0.020229265	
9712.49	45	0.030343898	Au
9755.49	30	0.020229265	
9798.49	26	0.01753203	
9841.49	19	0.012811868	Au
9884.49	19	0.012811868	Au
9927.49	14	0.009440324	
9970.49	13	0.008766015	
10013.49	9	0.00606878	
10056.49	6	0.004045853	
10099.49	11	0.007417397	
10142.49	8	0.005394471	
10185.49	2	0.001348618	
10228.49	4	0.002697235	
10271.49	0	0	
10314.49	4	0.002697235	
10357.49	5	0.003371544	
10400.49	3	0.002022927	
10443.49	7	0.004720162	
10486.49	10	0.006743088	
10529.49	16	0.010788941	
10572.49	22	0.014834794	Pb
10615.49	17	0.01146325	
10658.49	14	0.009440324	
10701.49	14	0.009440324	
10744.49	5	0.003371544	
10787.49	6	0.004045853	
10830.49	7	0.004720162	
10873.49	9	0.00606878	
10916.49	12	0.008091706	
10959.49	16	0.010788941	Bi
11002.49	11	0.007417397	
11045.49	6	0.004045853	

11088.49	10	0.006743088	
11131.49	2	0.001348618	
11174.49	10	0.006743088	
11217.49	16	0.010788941	
11260.49	18	0.012137559	Se
11303.49	16	0.010788941	
11346.49	10	0.006743088	
11389.49	10	0.006743088	
11432.49	15	0.010114633	Au
11475.49	15	0.010114633	Se
11518.49	7	0.004720162	
11561.49	7	0.004720162	
11604.49	6	0.004045853	
11647.49	13	0.008766015	
11690.49	8	0.005394471	
11733.49	5	0.003371544	
11776.49	7	0.004720162	
11819.49	6	0.004045853	
11862.49	9	0.00606878	
11905.49	9	0.00606878	
11948.49	11	0.007417397	
11991.49	11	0.007417397	
12034.49	4	0.002697235	
12077.49	9	0.00606878	
12120.49	10	0.006743088	
12163.49	4	0.002697235	
12206.49	10	0.006743088	
12249.49	7	0.004720162	
12292.49	15	0.010114633	Fr
12335.49	11	0.007417397	
12378.49	9	0.00606878	
12421.49	5	0.003371544	
12464.49	12	0.008091706	
12507.49	7	0.004720162	
12550.49	12	0.008091706	
12593.49	10	0.006743088	
12636.49	20	0.013486177	
12679.49	22	0.014834794	Se
12722.49	18	0.012137559	
12765.49	17	0.01146325	
12808.49	9	0.00606878	

12851.49	3	0.002022927	
12894.49	11	0.007417397	
12937.49	8	0.005394471	
12980.49	12	0.008091706	
13023.49	14	0.009440324	
13066.49	9	0.00606878	
13109.49	6	0.004045853	
13152.49	13	0.008766015	
13195.49	10	0.006743088	
13238.49	13	0.008766015	
13281.49	11	0.007417397	
13324.49	11	0.007417397	
13367.49	14	0.009440324	
13410.49	18	0.012137559	Rb
13453.49	8	0.005394471	
13496.49	13	0.008766015	
13539.49	14	0.009440324	
13582.49	17	0.01146325	Rb
13625.49	14	0.009440324	
13668.49	15	0.010114633	
13711.49	16	0.010788941	Rb
13754.49	8	0.005394471	
13797.49	13	0.008766015	
13840.49	27	0.018206339	Sr
13883.49	22	0.014834794	
13926.49	21	0.014160486	
13969.49	61	0.041132839	
14012.49	99	0.066756575	
14055.49	161	0.108563722	
14098.49	211	0.142279164	
14141.49	261	0.175994606	
14184.49	262	0.176668914	Sr
14227.49	246	0.165879973	
14270.49	165	0.111260958	
14313.49	118	0.079568442	
14356.49	71	0.047875927	
14399.49	37	0.024949427	
14442.49	30	0.020229265	
14485.49	25	0.016857721	
14528.49	23	0.015509103	
14571.49	16	0.010788941	Sr

14614.49	16	0.010788941	Rn
14657.49	15	0.010114633	
14700.49	14	0.009440324	
14743.49	13	0.008766015	
14786.49	20	0.013486177	Fr
14829.49	20	0.013486177	Fr
14872.49	22	0.014834794	Y
14915.49	13	0.008766015	
14958.49	22	0.014834794	Y
15001.49	9	0.00606878	
15044.49	18	0.012137559	Y
15087.49	14	0.009440324	
15130.49	16	0.010788941	Y
15173.49	15	0.010114633	
15216.49	10	0.006743088	
15259.49	19	0.012811868	Y
15302.49	13	0.008766015	
15345.49	12	0.008091706	
15388.49	23	0.015509103	Zr
15431.49	12	0.008091706	
15474.49	21	0.014160486	
15517.49	25	0.016857721	Zr
15560.49	19	0.012811868	
15603.49	25	0.016857721	
15646.49	26	0.01753203	
15689.49	37	0.024949427	Zr
15732.49	37	0.024949427	Sr
15775.49	59	0.039784221	
15818.49	74	0.049898854	Zr
15861.49	59	0.039784221	
15904.49	56	0.037761295	
15947.49	49	0.033041133	
15990.49	38	0.025623736	
16033.49	37	0.024949427	
16076.49	36	0.024275118	
16119.49	30	0.020229265	
16162.49	34	0.0229265	Sr
16205.49	32	0.021577883	
16248.49	29	0.019554956	
16291.49	23	0.015509103	
16334.49	26	0.01753203	

16377.49	30	0.020229265	Th
16420.49	22	0.014834794	
16463.49	16	0.010788941	
16506.49	9	0.00606878	
16549.49	21	0.014160486	
16592.49	14	0.009440324	
16635.49	18	0.012137559	
16678.49	21	0.014160486	
16721.49	16	0.010788941	
16764.49	17	0.01146325	
16807.49	20	0.013486177	
16850.49	25	0.016857721	
16893.49	15	0.010114633	
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25364.49	29	0.019554956	
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26783.49	20	0.013486177	Sb
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39038.49	5	0.003371544	
39081.49	4	0.002697235	
39124.49	5	0.003371544	
39167.49	4	0.002697235	
39210.49	5	0.003371544	
39253.49	6	0.004045853	

39296.49	4	0.002697235	
39339.49	8	0.005394471	
39382.49	4	0.002697235	
39425.49	8	0.005394471	
39468.49	3	0.002022927	
39511.49	7	0.004720162	
39554.49	3	0.002022927	
39597.49	8	0.005394471	
39640.49	5	0.003371544	
39683.49	6	0.004045853	
39726.49	3	0.002022927	
39769.49	6	0.004045853	
39812.49	4	0.002697235	
39855.49	2	0.001348618	
39898.49	8	0.005394471	
39941.49	4	0.002697235	
39984.49	5	0.003371544	
40027.49	6	0.004045853	
40070.49	7	0.004720162	
40113.49	5	0.003371544	
40156.49	7	0.004720162	
40199.49	3	0.002022927	
40242.49	2	0.001348618	
40285.49	1	0.000674309	
40328.49	5	0.003371544	
40371.49	5	0.003371544	
40414.49	3	0.002022927	
40457.49	2	0.001348618	
40500.49	6	0.004045853	
40543.49	3	0.002022927	
40586.49	2	0.001348618	
40629.49	2	0.001348618	
40672.49	3	0.002022927	
40715.49	4	0.002697235	
40758.49	0	0	
40801.49	3	0.002022927	
40844.49	5	0.003371544	
40887.49	2	0.001348618	
40930.49	2	0.001348618	
40973.49	3	0.002022927	
41016.49	2	0.001348618	

41059.49	2	0.001348618	
41102.49	3	0.002022927	
41145.49	3	0.002022927	
41188.49	3	0.002022927	
41231.49	4	0.002697235	
41274.49	2	0.001348618	
41317.49	3	0.002022927	
41360.49	1	0.000674309	
41403.49	4	0.002697235	
41446.49	5	0.003371544	
41489.49	5	0.003371544	
41532.49	2	0.001348618	
41575.49	4	0.002697235	
41618.49	4	0.002697235	
41661.49	4	0.002697235	
41704.49	4	0.002697235	
41747.49	2	0.001348618	
41790.49	2	0.001348618	
41833.49	6	0.004045853	
41876.49	1	0.000674309	
41919.49	4	0.002697235	
41962.49	6	0.004045853	
42005.49	5	0.003371544	
42048.49	4	0.002697235	
42091.49	2	0.001348618	
42134.49	4	0.002697235	
42177.49	6	0.004045853	
42220.49	4	0.002697235	
42263.49	3	0.002022927	
42306.49	3	0.002022927	
42349.49	3	0.002022927	
42392.49	5	0.003371544	
42435.49	5	0.003371544	
42478.49	5	0.003371544	
42521.49	2	0.001348618	
42564.49	4	0.002697235	
42607.49	4	0.002697235	
42650.49	7	0.004720162	
42693.49	4	0.002697235	
42736.49	3	0.002022927	
42779.49	3	0.002022927	

42822.49	6	0.004045853	
42865.49	4	0.002697235	
42908.49	3	0.002022927	
42951.49	4	0.002697235	
42994.49	3	0.002022927	
43037.49	3	0.002022927	
43080.49	4	0.002697235	
43123.49	5	0.003371544	
43166.49	5	0.003371544	
43209.49	1	0.000674309	
43252.49	1	0.000674309	
43295.49	3	0.002022927	
43338.49	3	0.002022927	
43381.49	2	0.001348618	
43424.49	2	0.001348618	
43467.49	4	0.002697235	
43510.49	2	0.001348618	
43553.49	5	0.003371544	
43596.49	1	0.000674309	
43639.49	2	0.001348618	
43682.49	6	0.004045853	
43725.49	2	0.001348618	
43768.49	3	0.002022927	
43811.49	9	0.00606878	
43854.49	4	0.002697235	

## Appendix C. SEM Results

The data shown below represents the results from the XRF testing done on pieces A003, C001, C002, C005, and C007. Each piece had two samples taken from it, and three different shots were taken for each sample. In the top right corner of each page, there is a three number sequence, in the form x-x-x. The first number represents the respective piece that the sample came from. The second number of the sequence represents which sample it is, either one or two. The third number represents which shot it is, either the wide shot, the smaller one, or the point shot. The graph below each picture shows the elements that were identified for that particular shot. The one exception to all of this is piece C007, which has more than two samples from which shots were taken. The extra shots are labeled as 7-1.

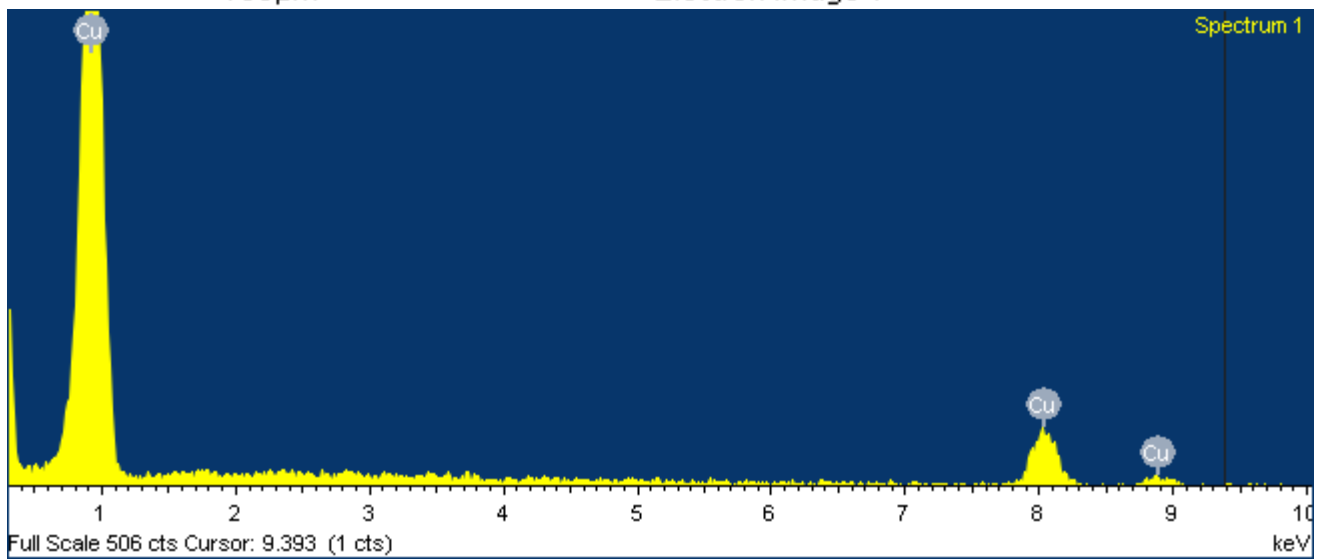


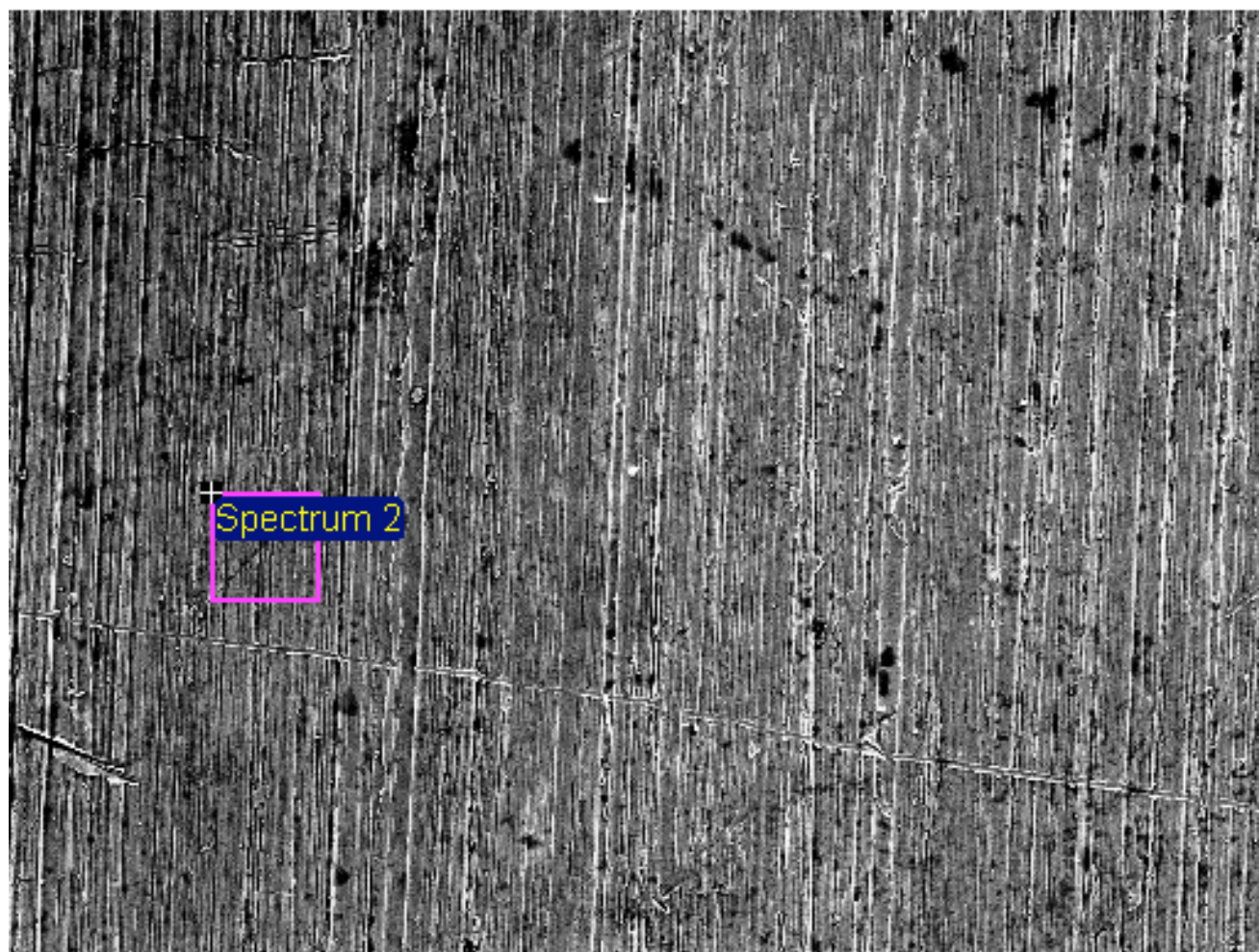


Figure 41. SEM Testing Results

100µm

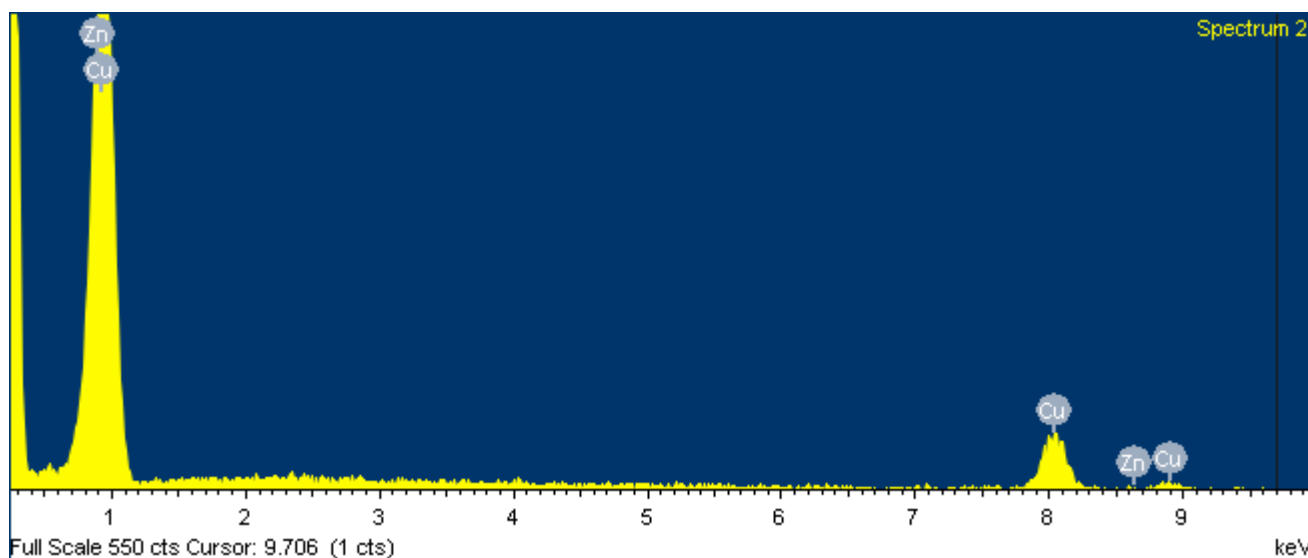
Electron Image 1



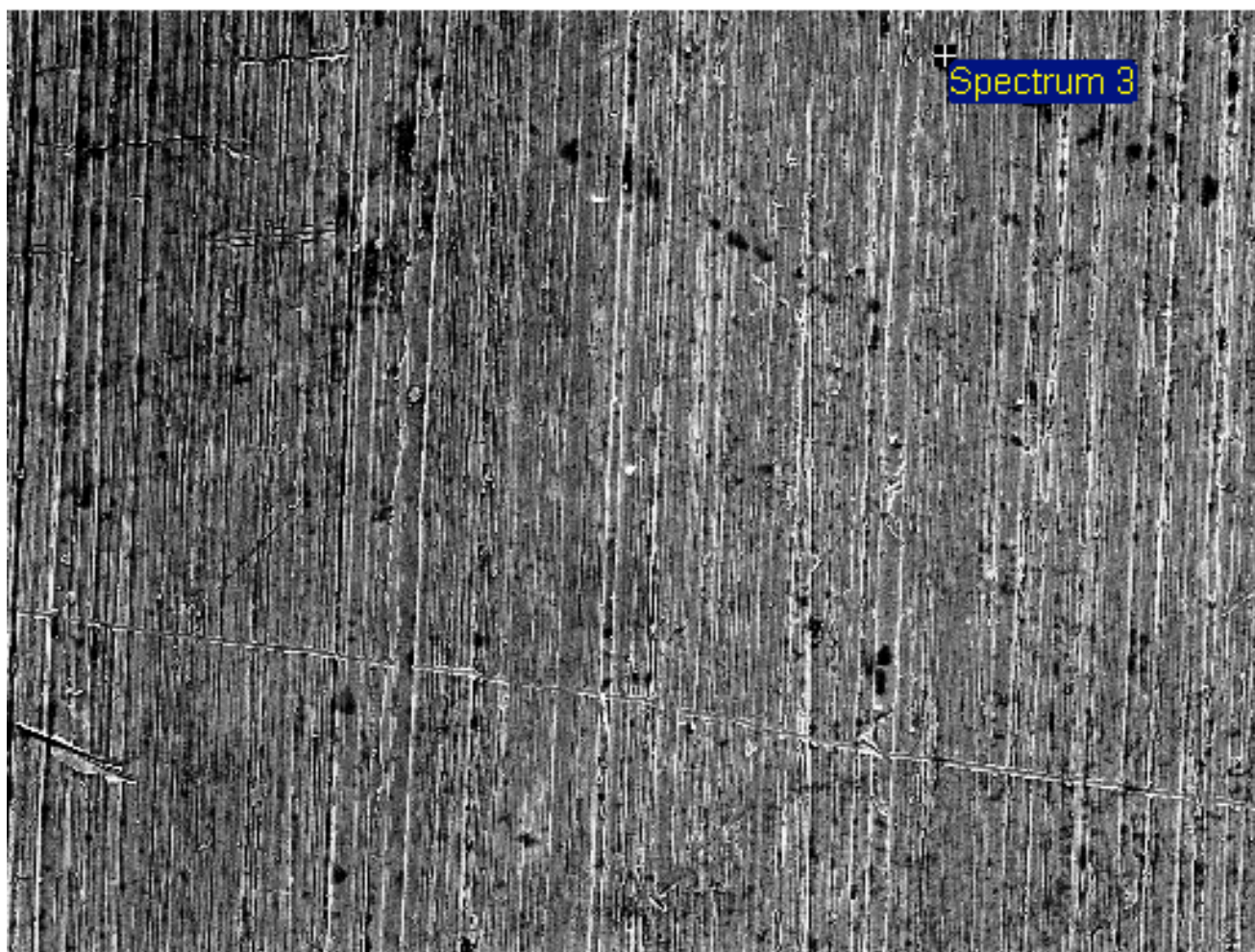


100µm

Electron Image 1

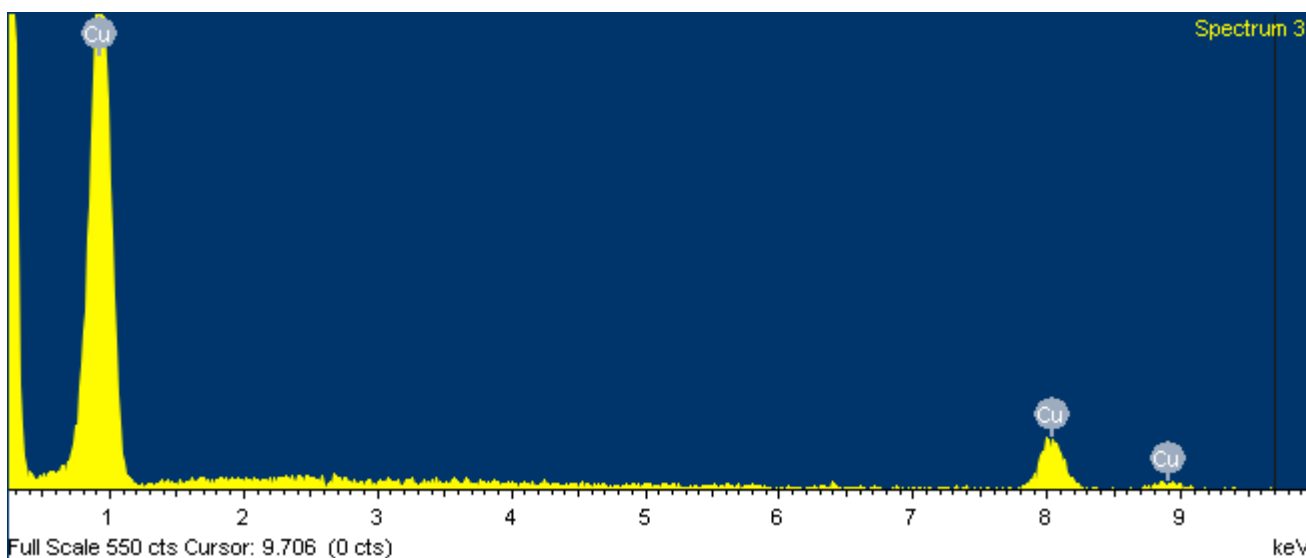






100µm

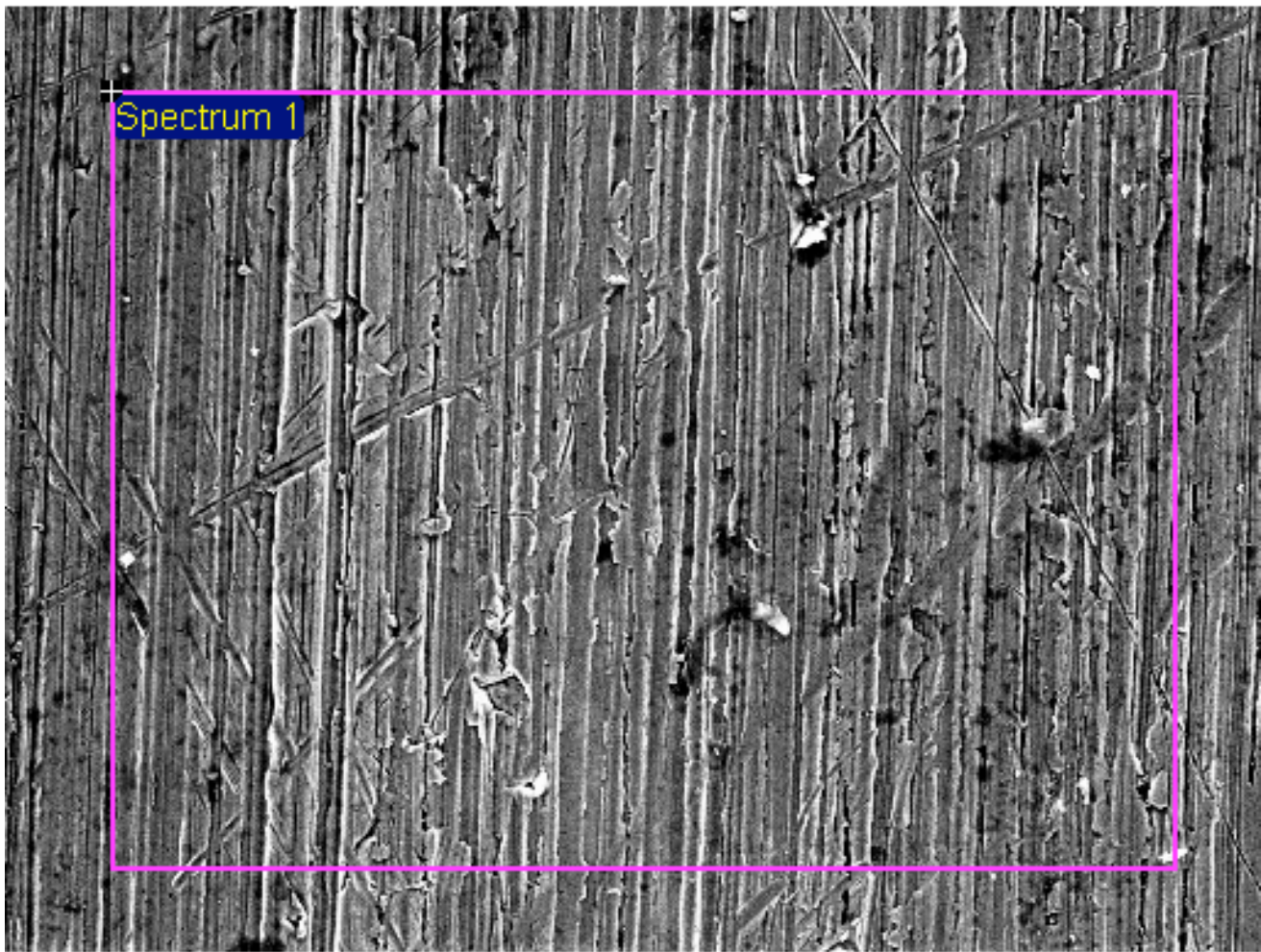
Electron Image 1



Spectrum 3

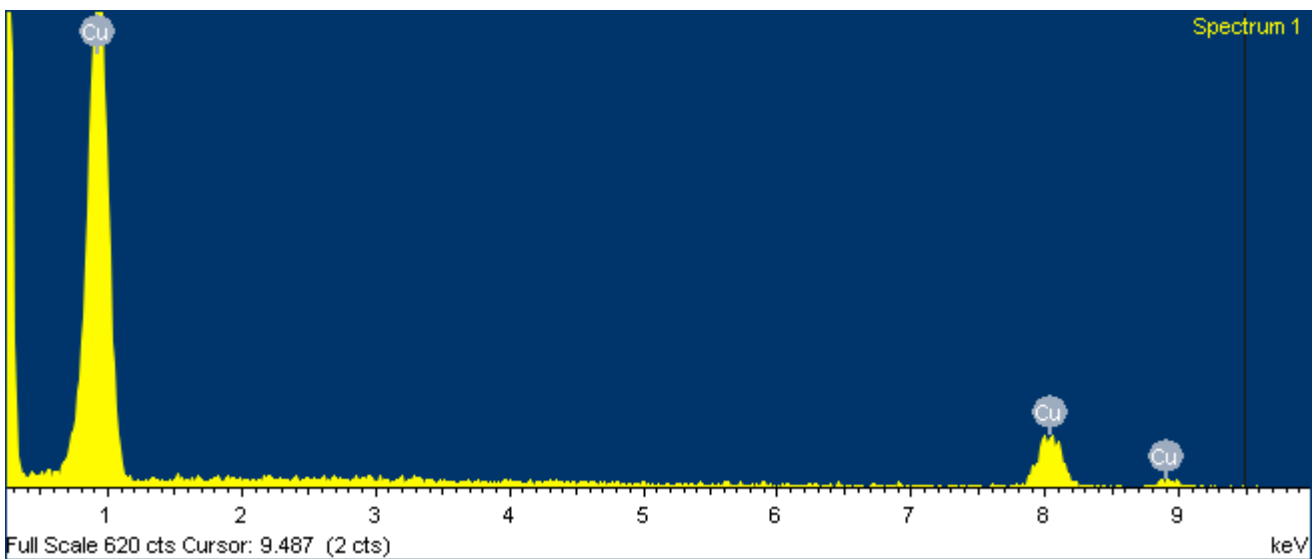
keV

Full Scale 550 cts Cursor: 9.706 (0 cts)

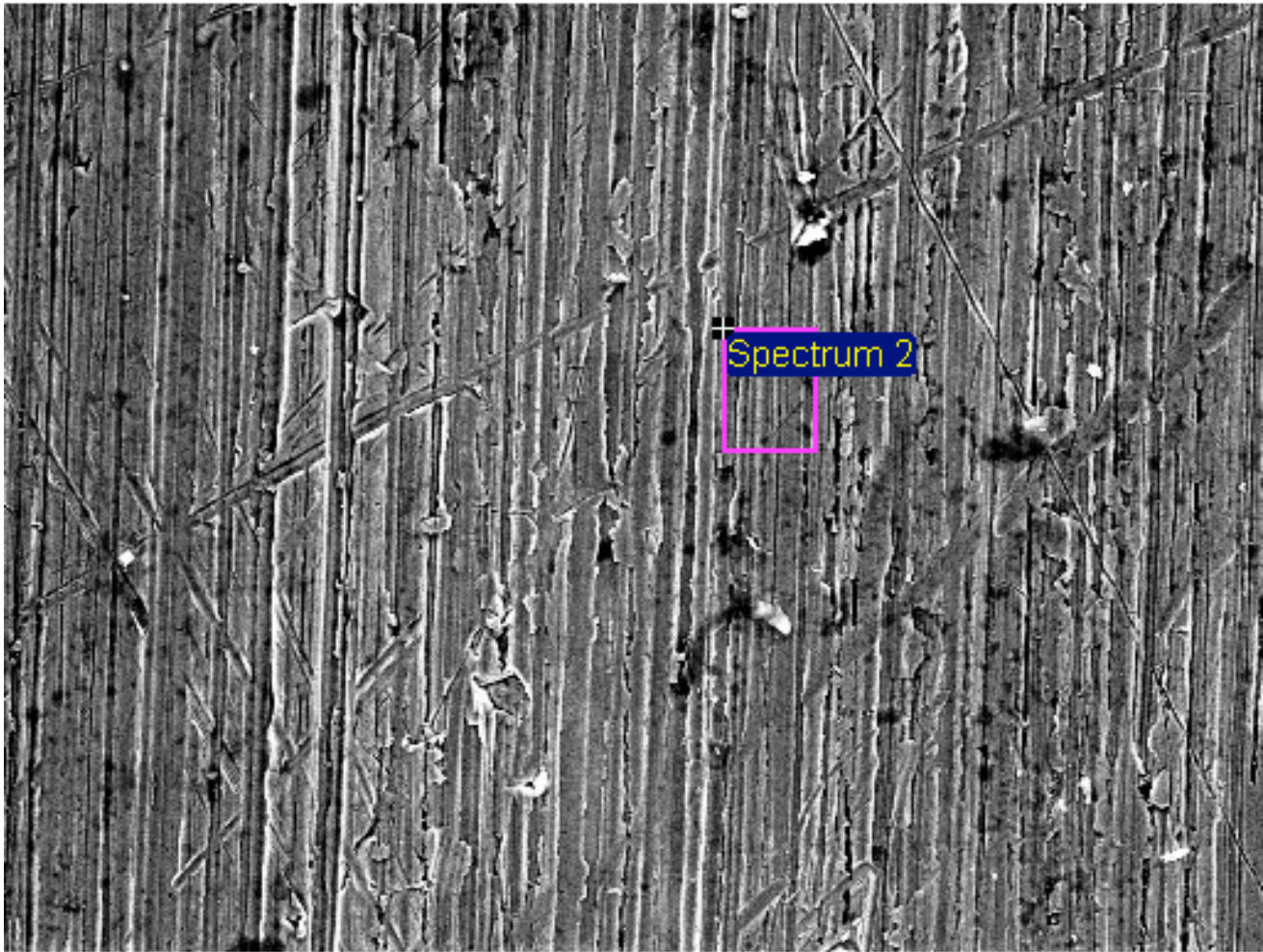


60µm

Electron Image 1

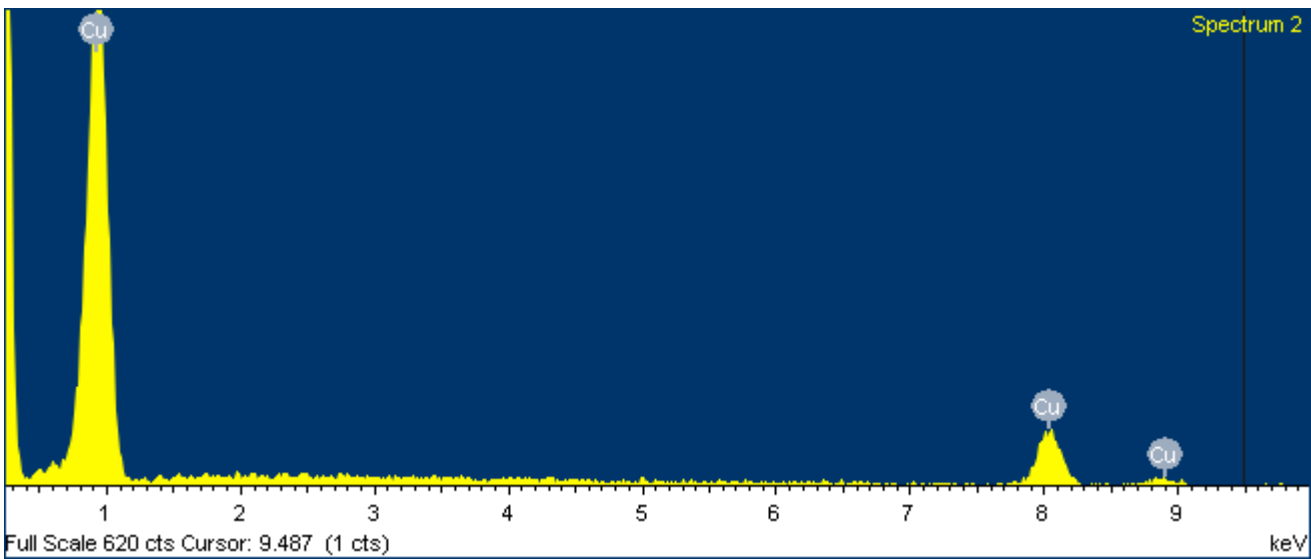






60µm

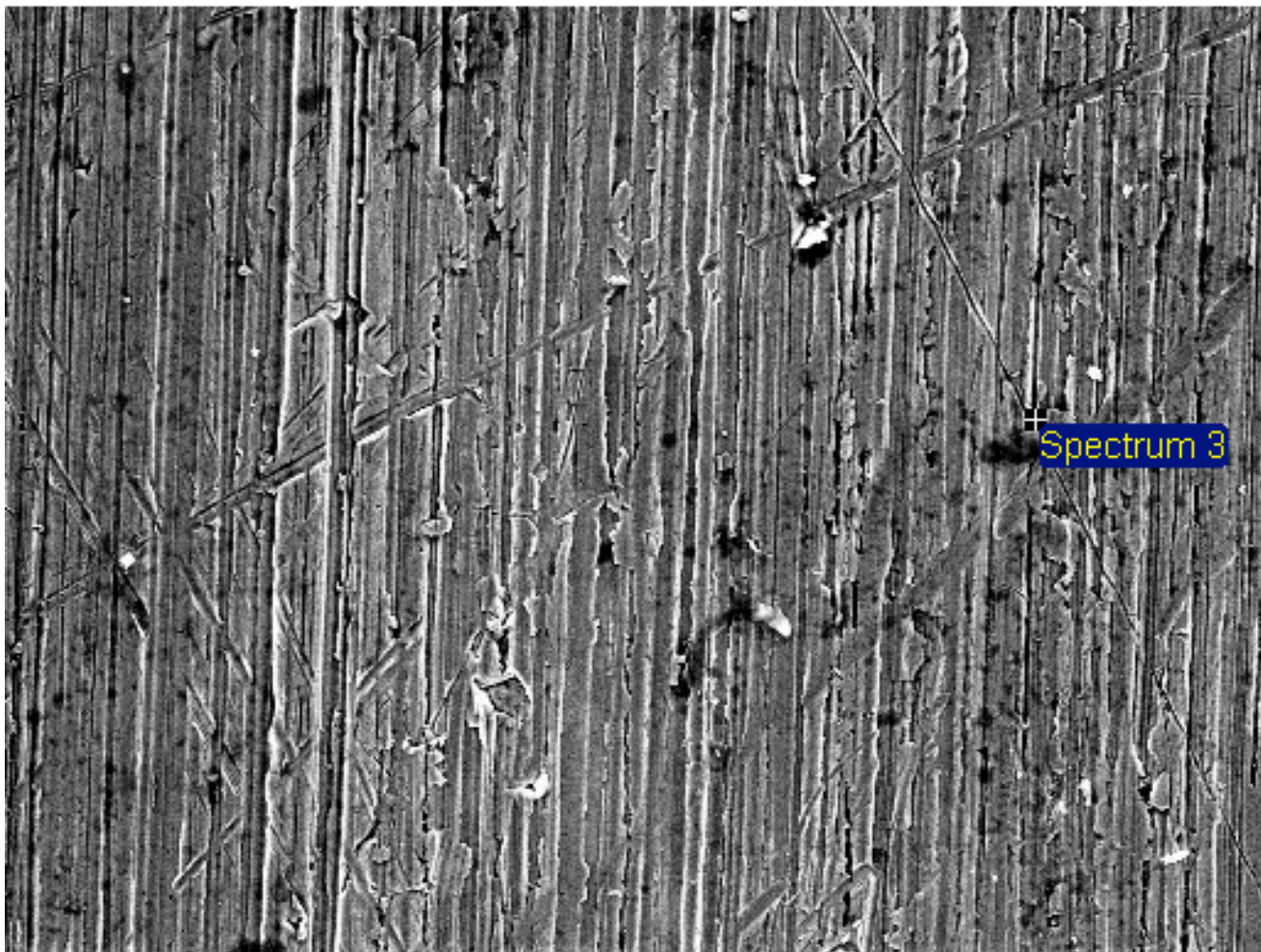
Electron Image 1



Spectrum 2

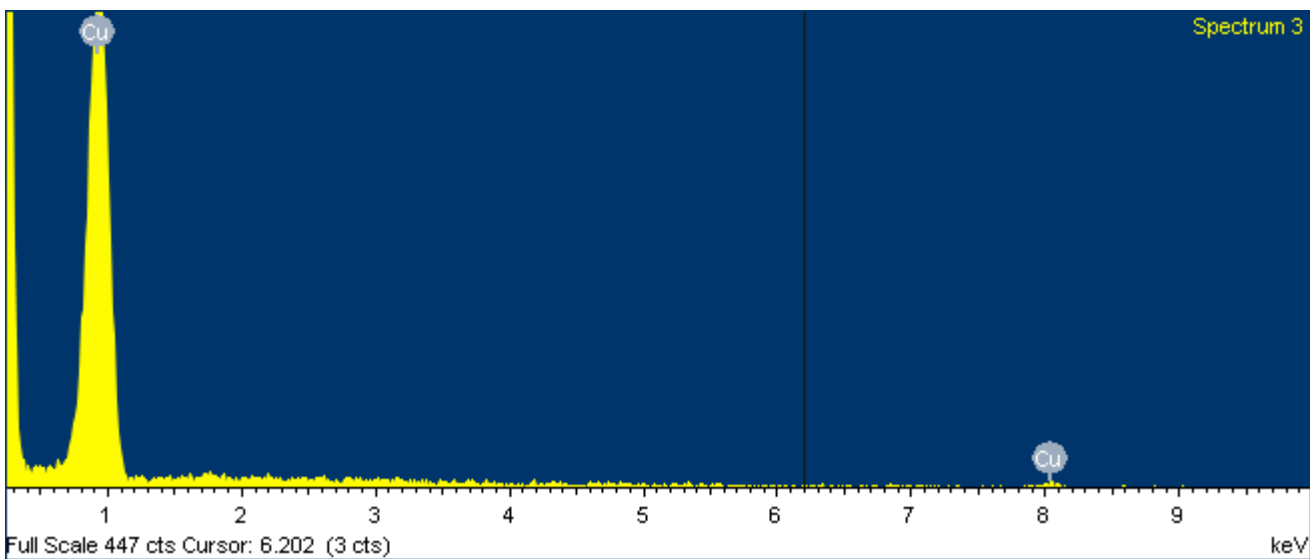
Full Scale 620 cts Cursor: 9.487 (1 cts)

keV



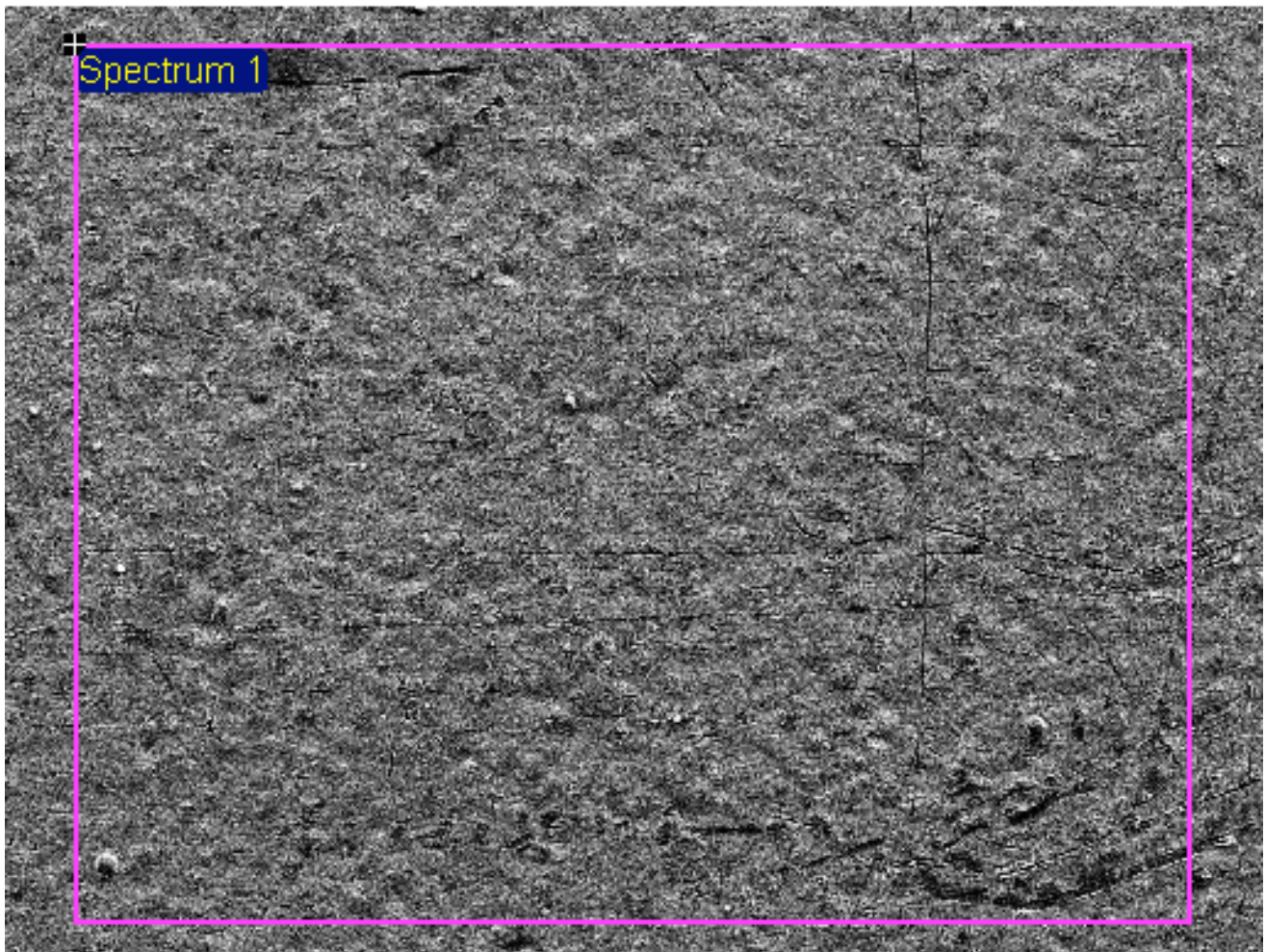
60µm

Electron Image 1



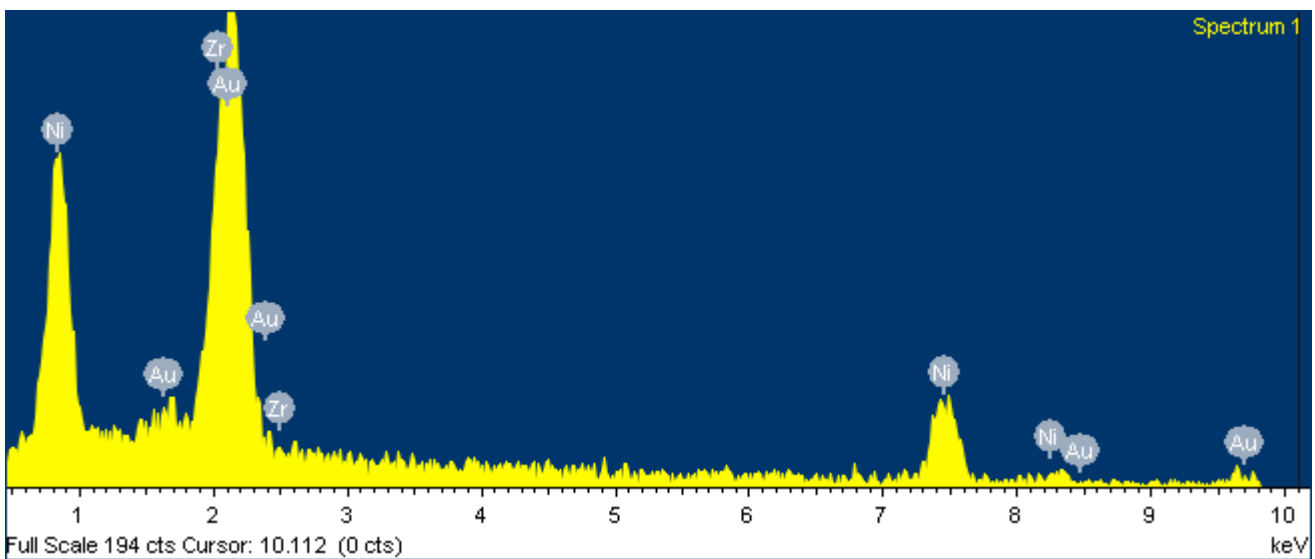
Spectrum 3

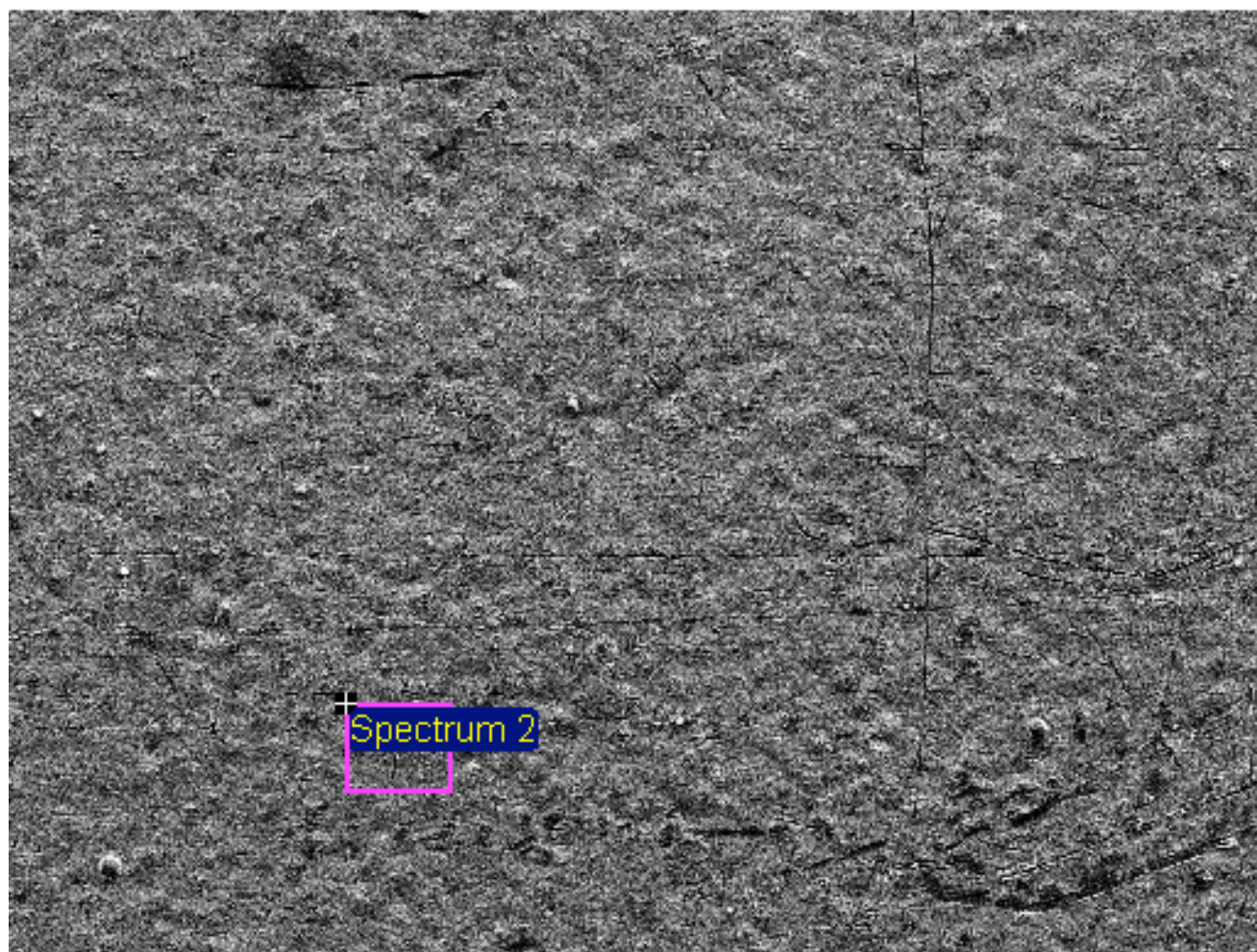




100µm

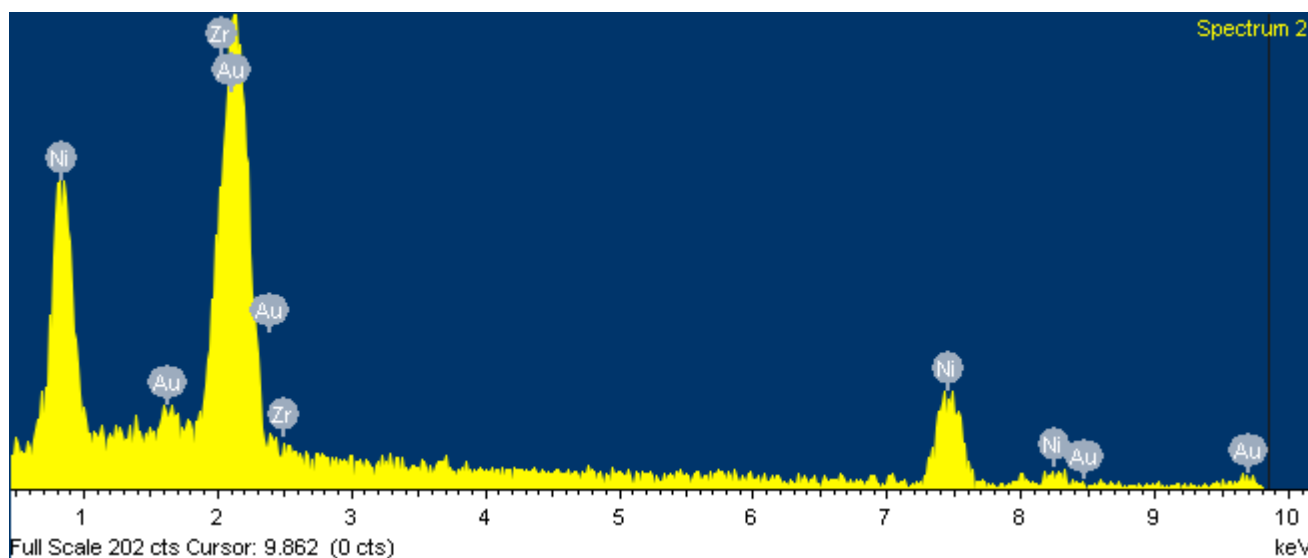
Electron Image 1



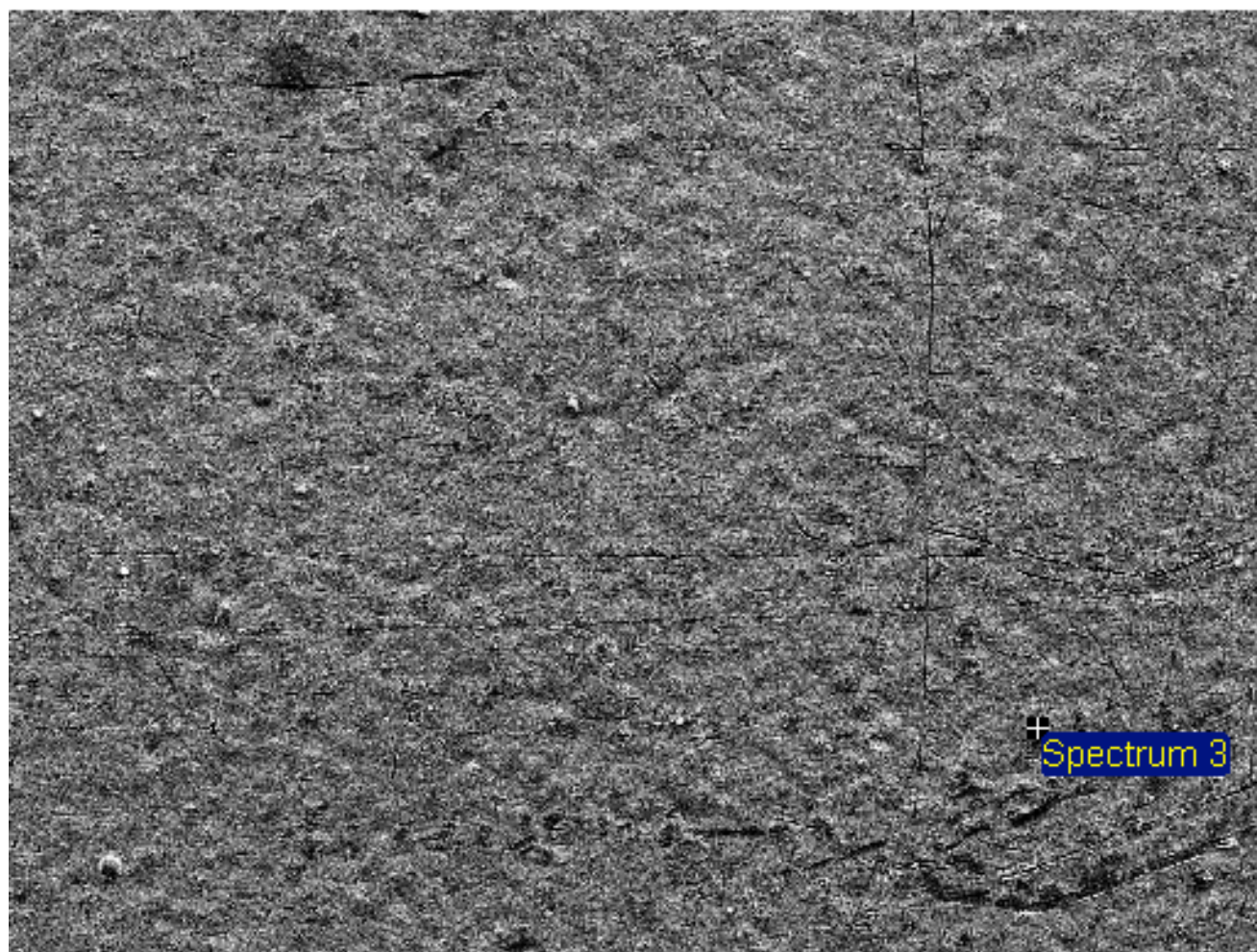


100µm

Electron Image 1

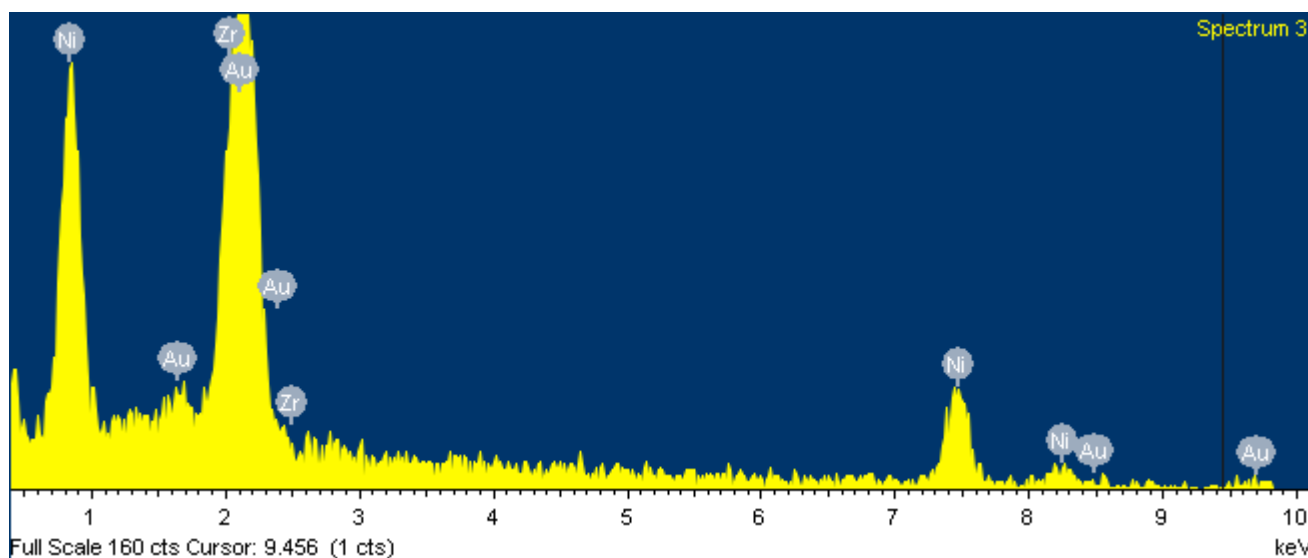






100µm

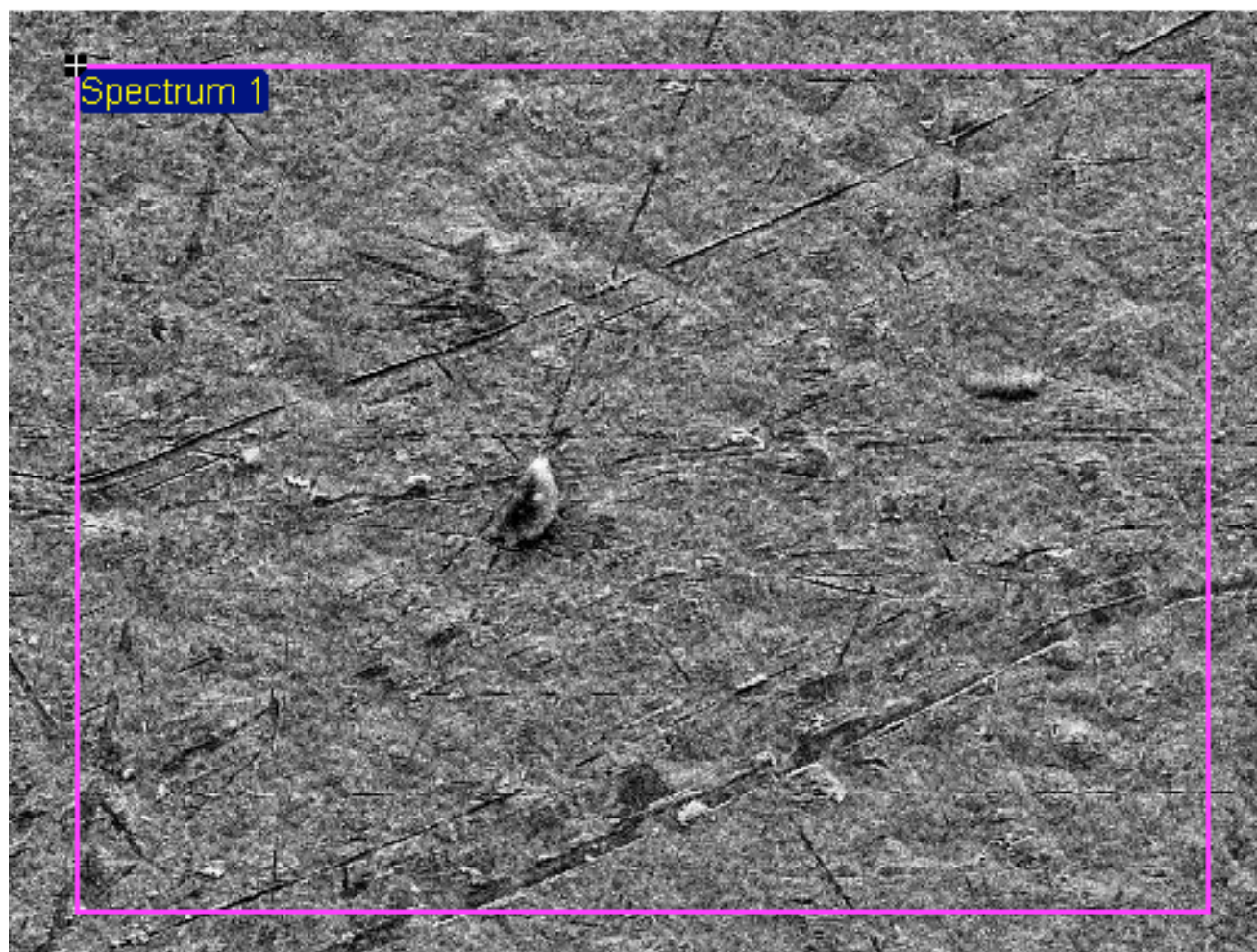
Electron Image 1



Spectrum 3

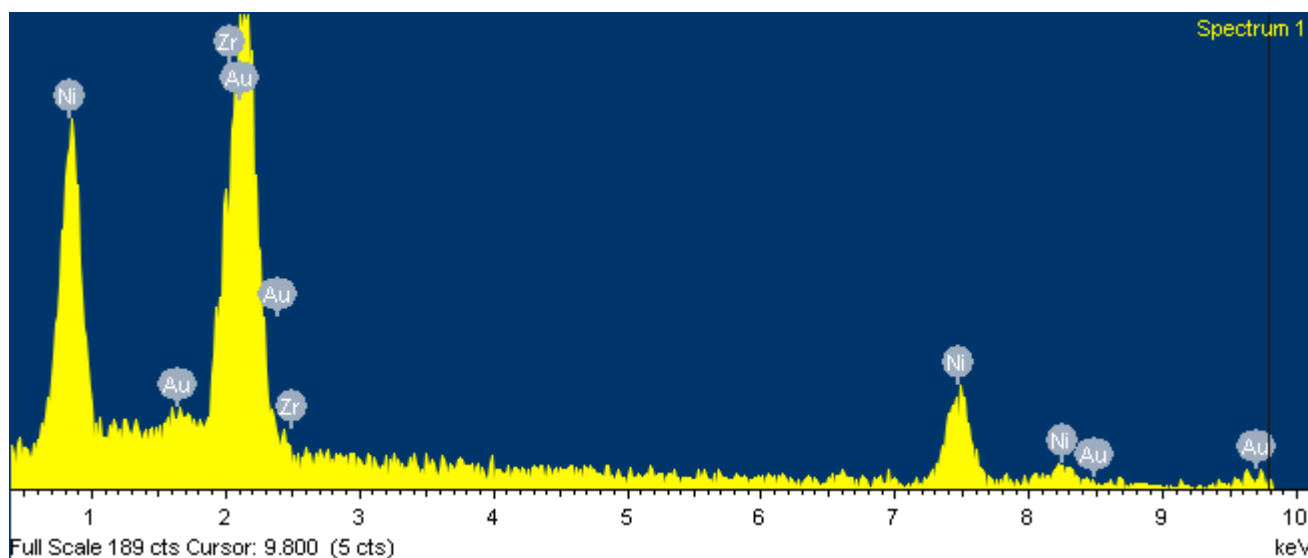
Full Scale 160 cts Cursor: 9.456 (1 cts)

keV

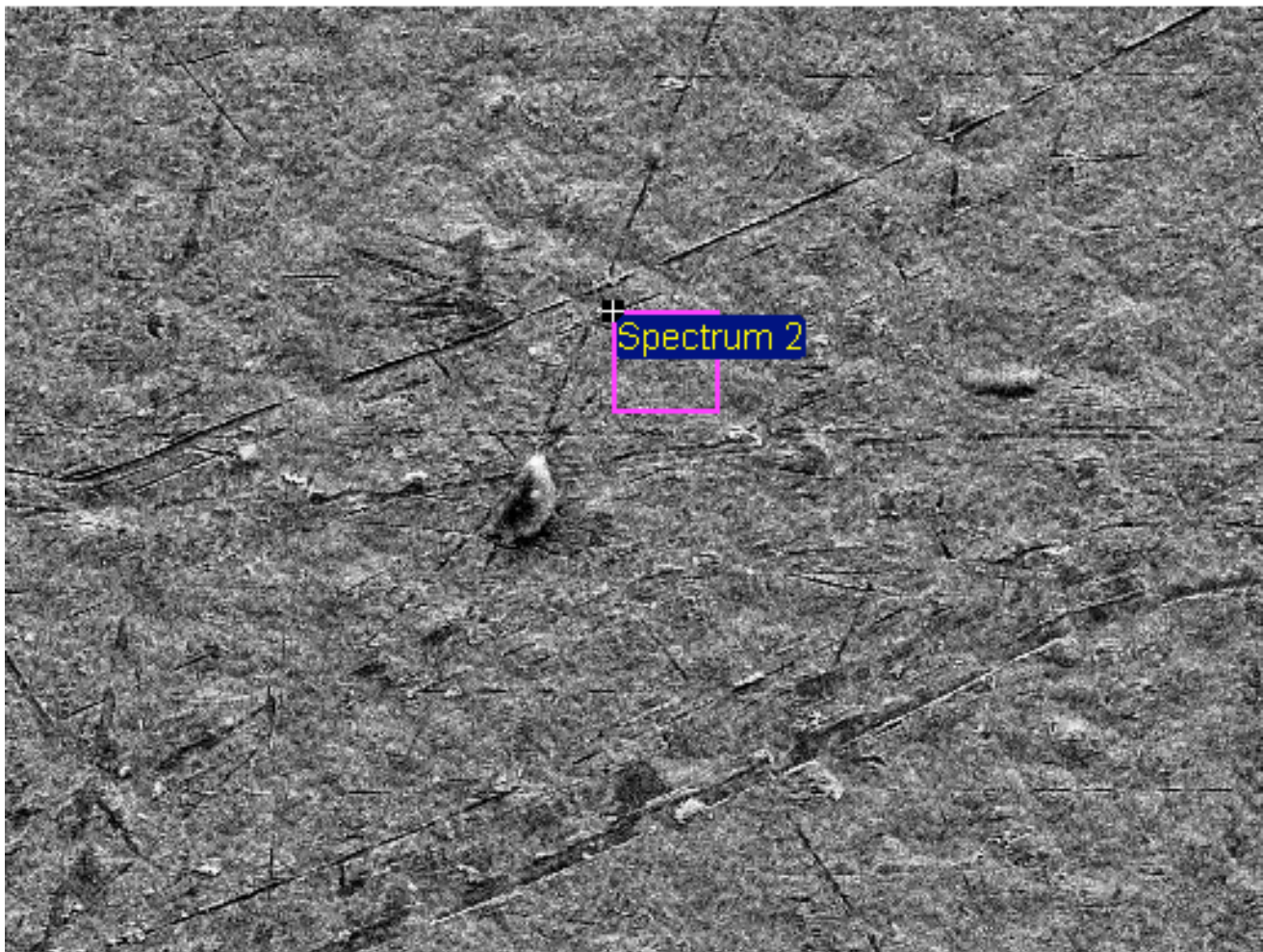


60µm

Electron Image 1

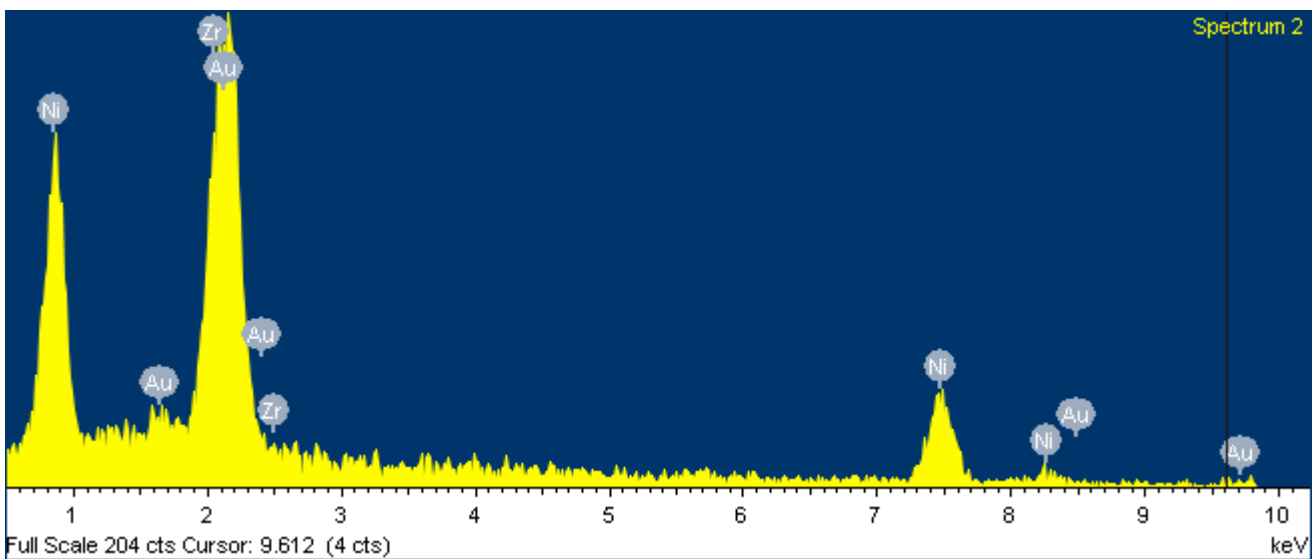


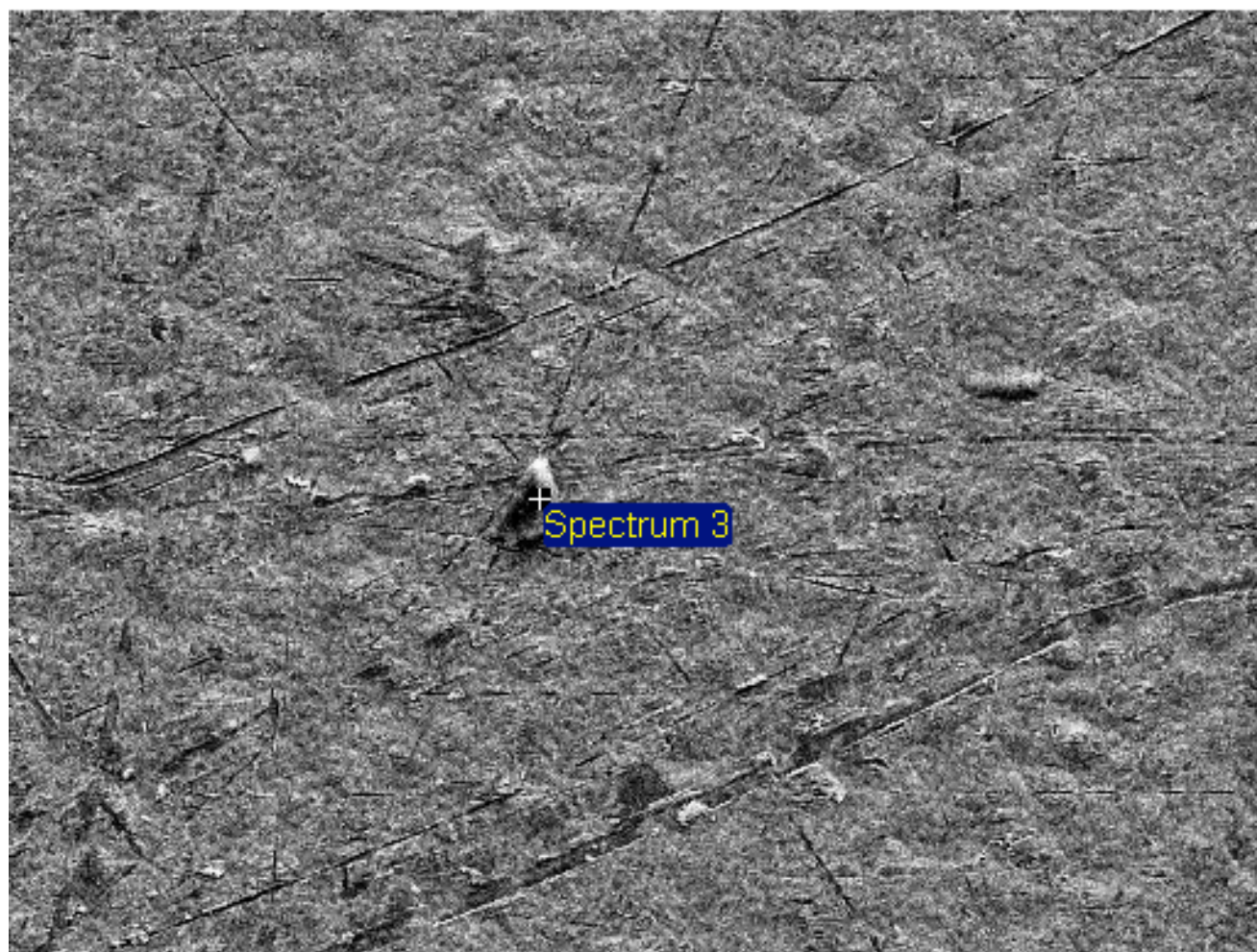




60µm

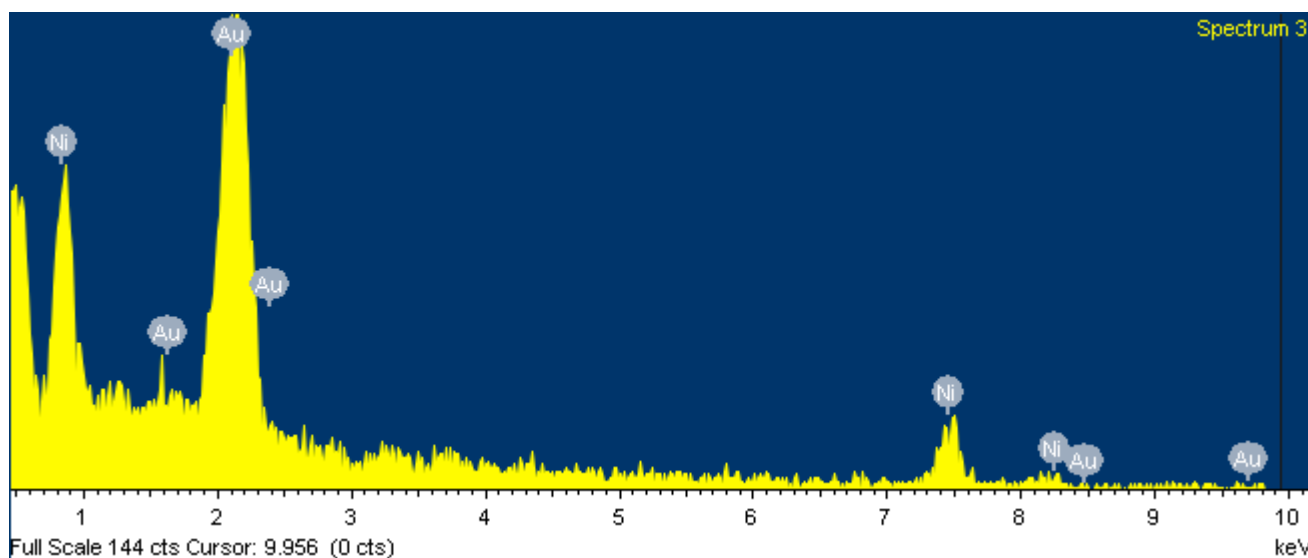
Electron Image 1



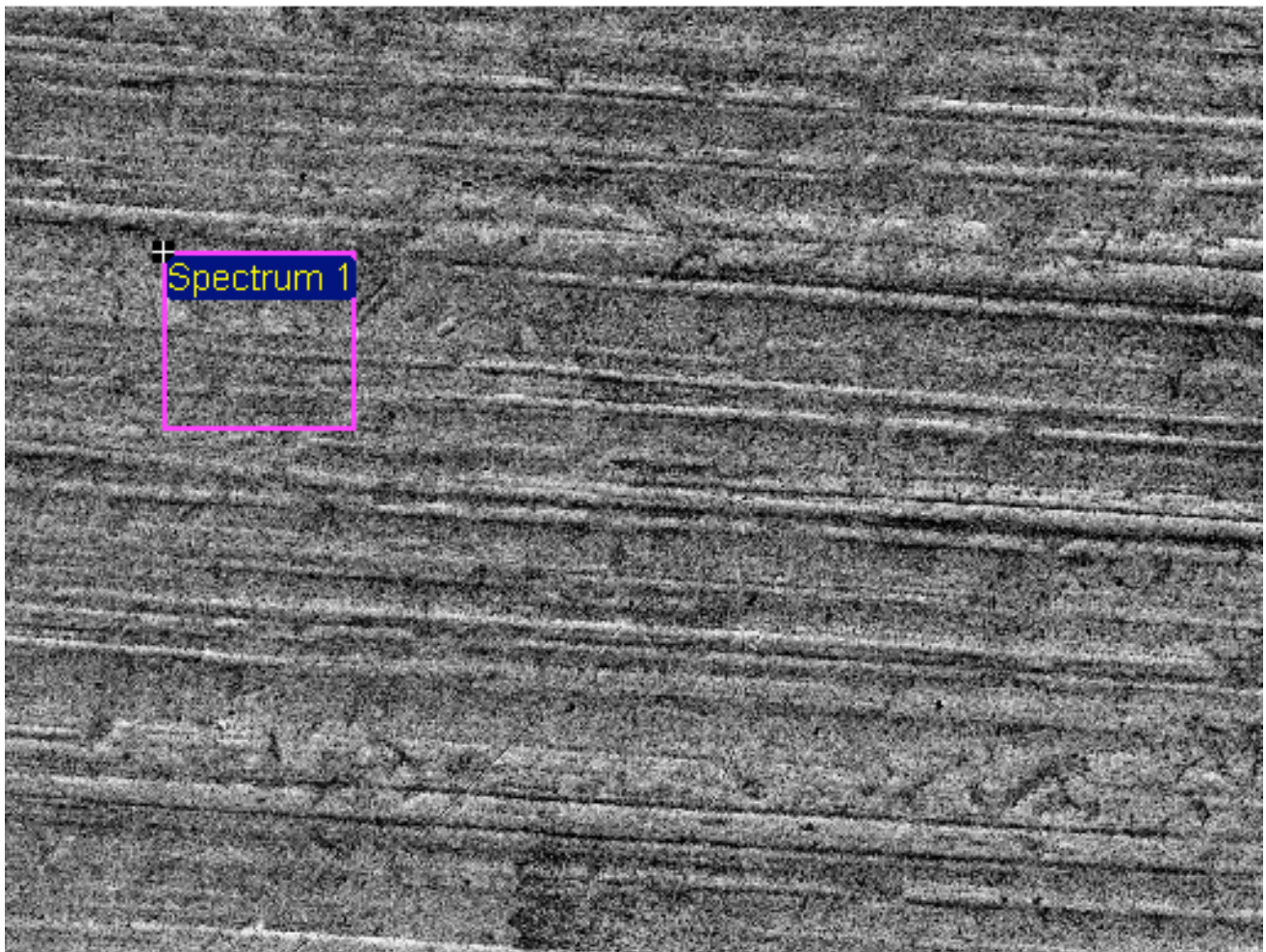


60µm

Electron Image 1

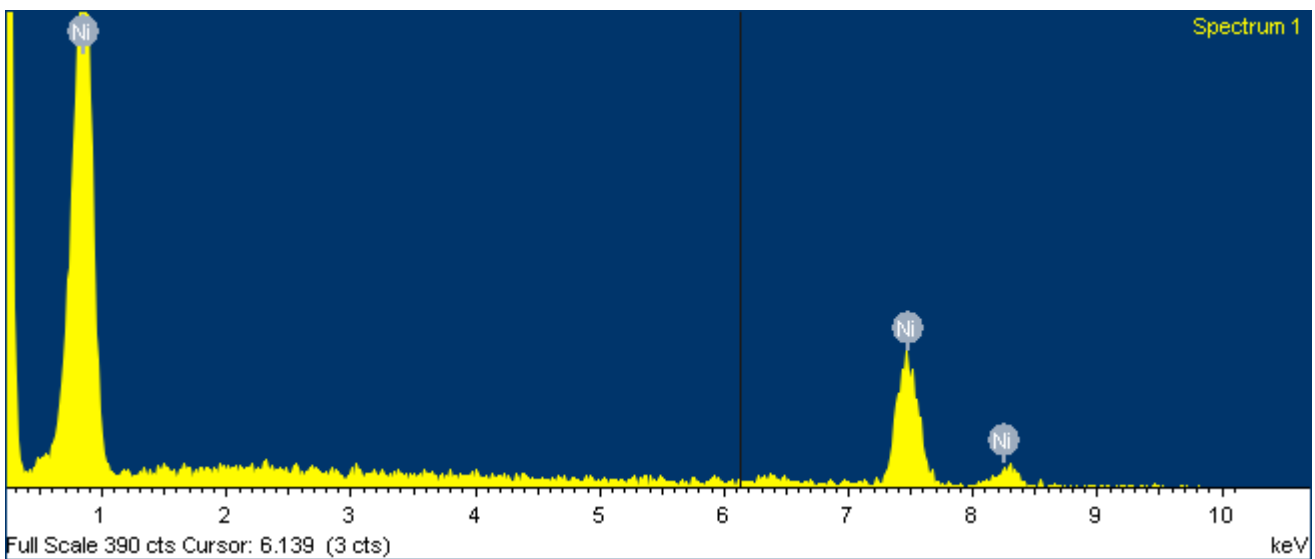


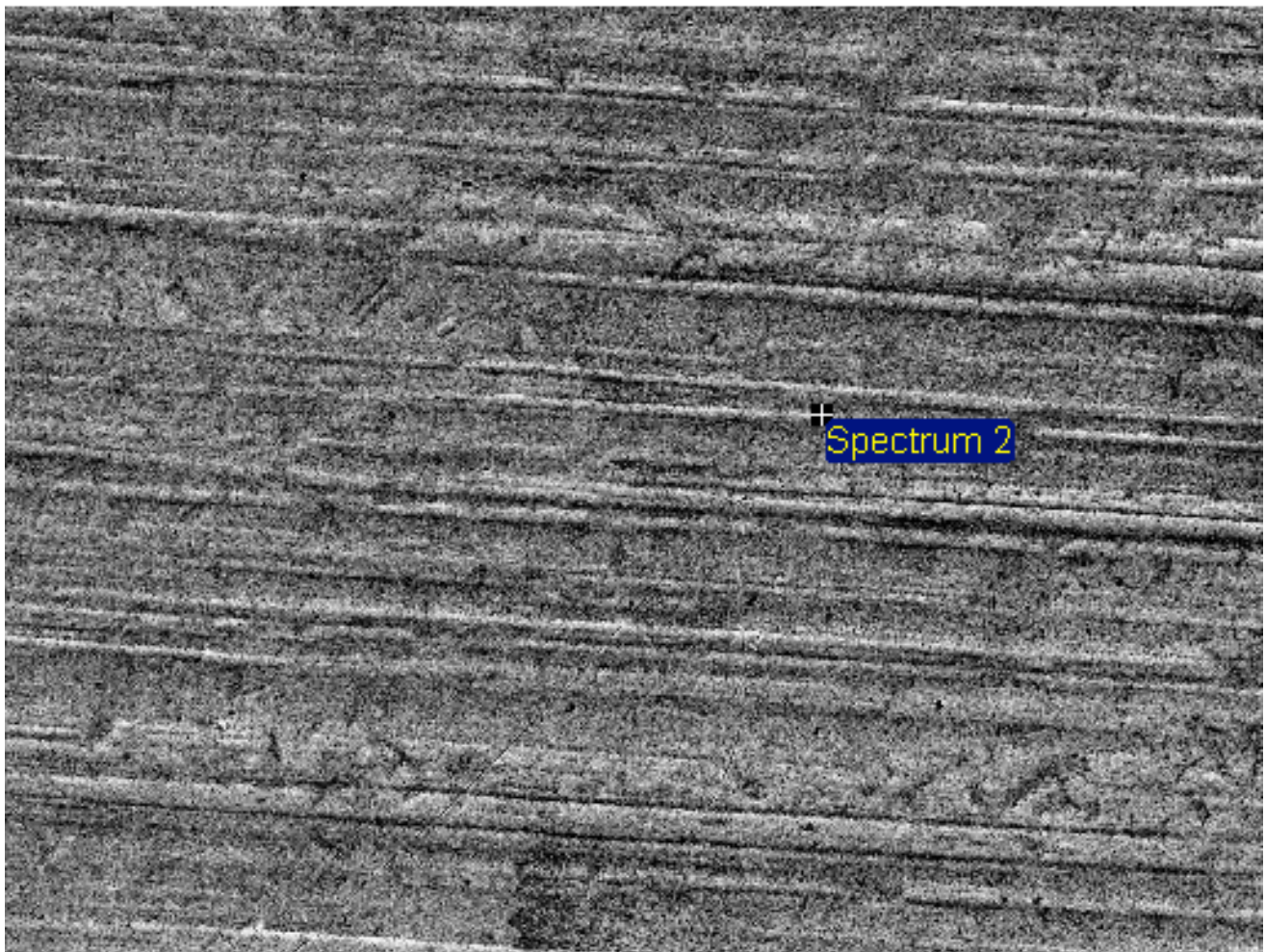




100µm

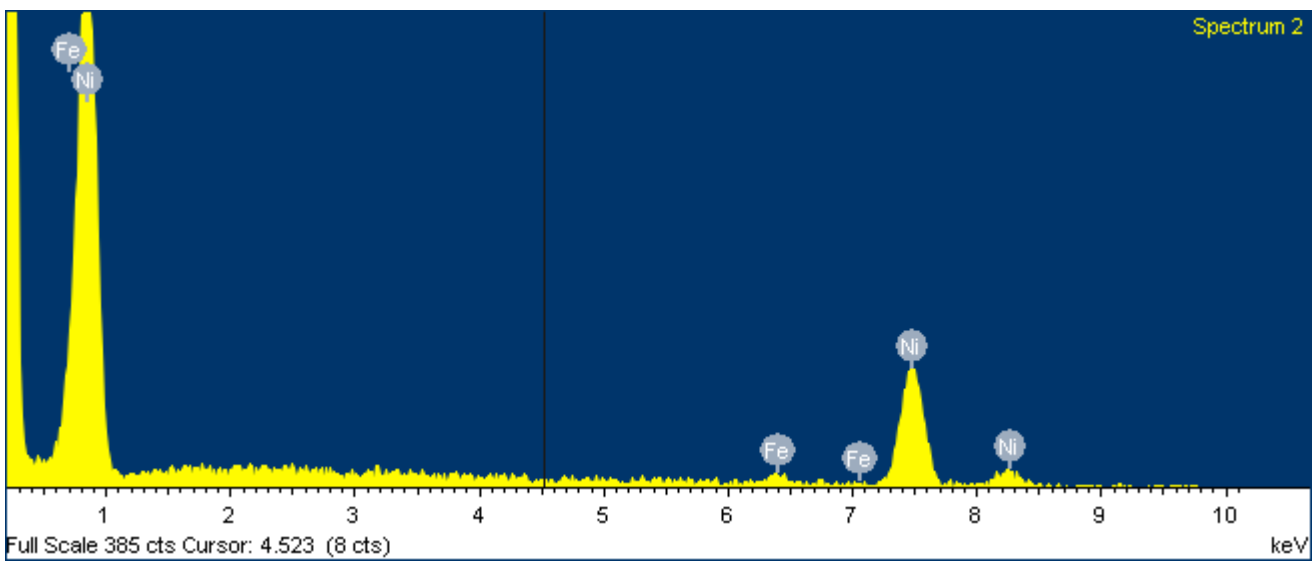
Electron Image 1



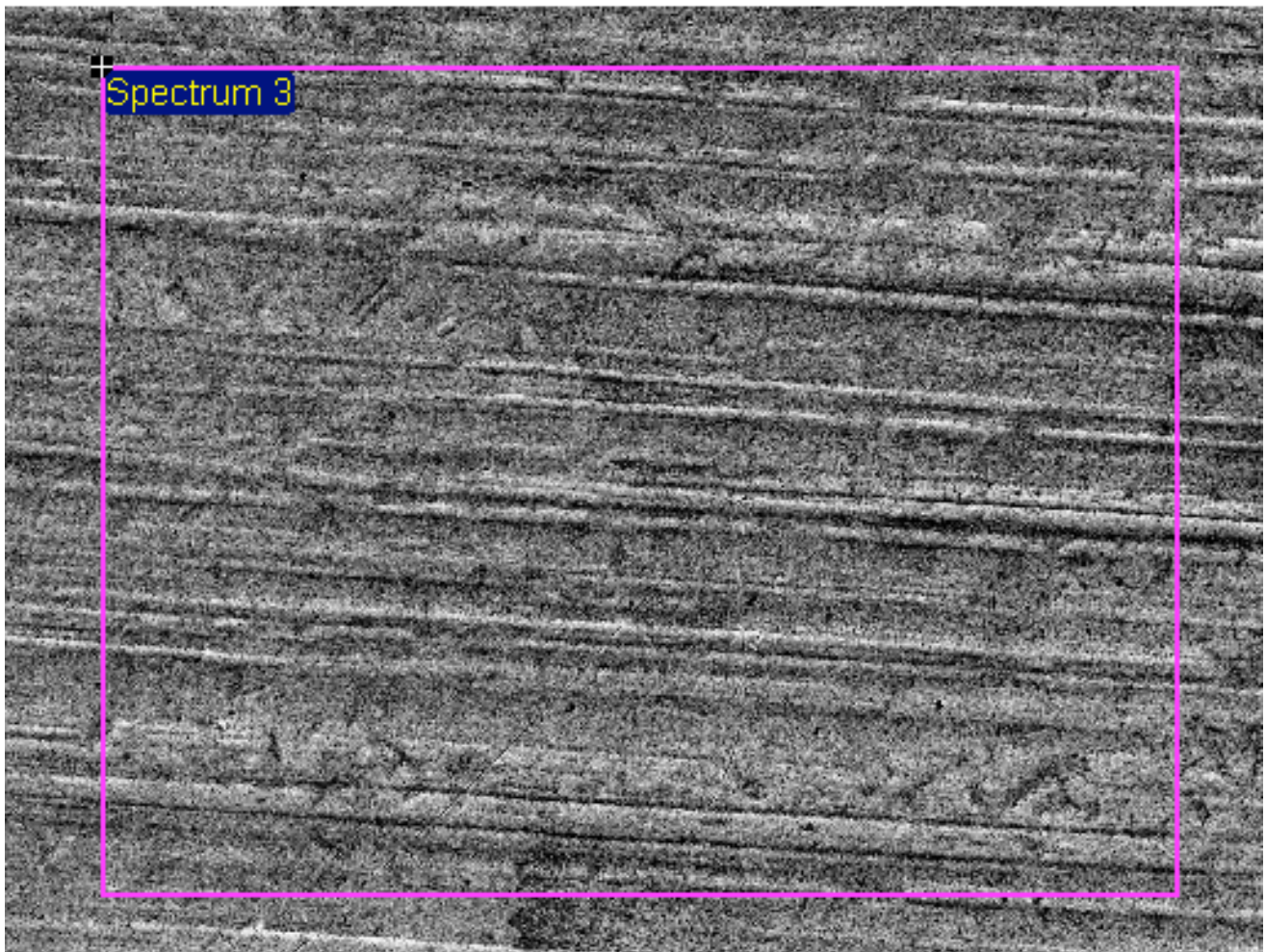


100µm

Electron Image 1

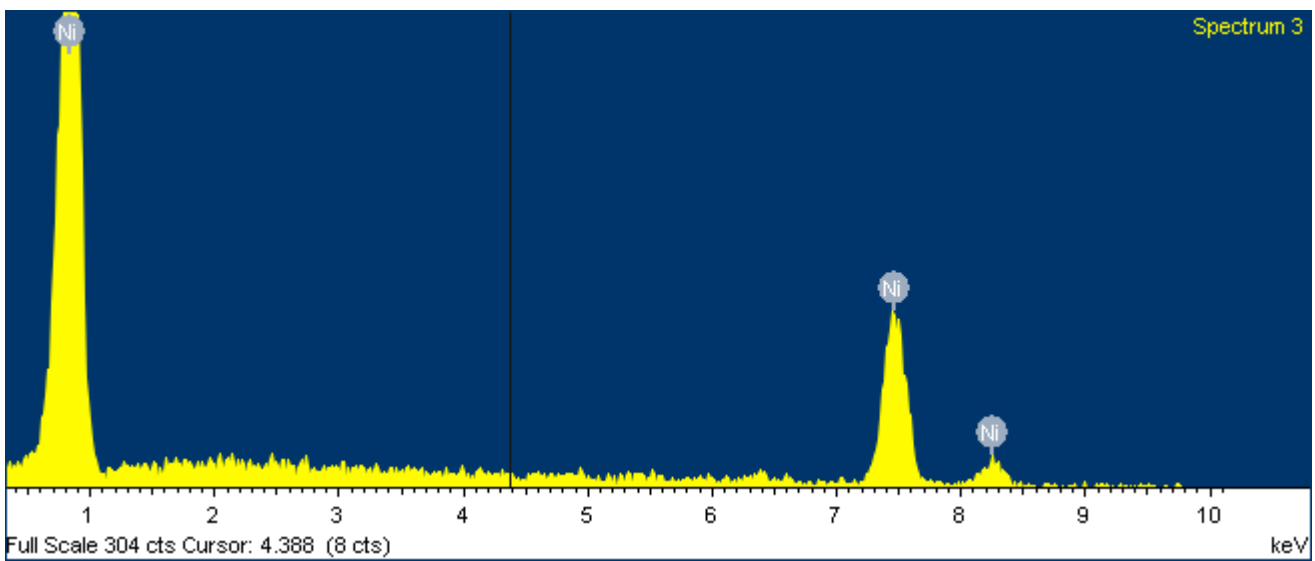






100µm

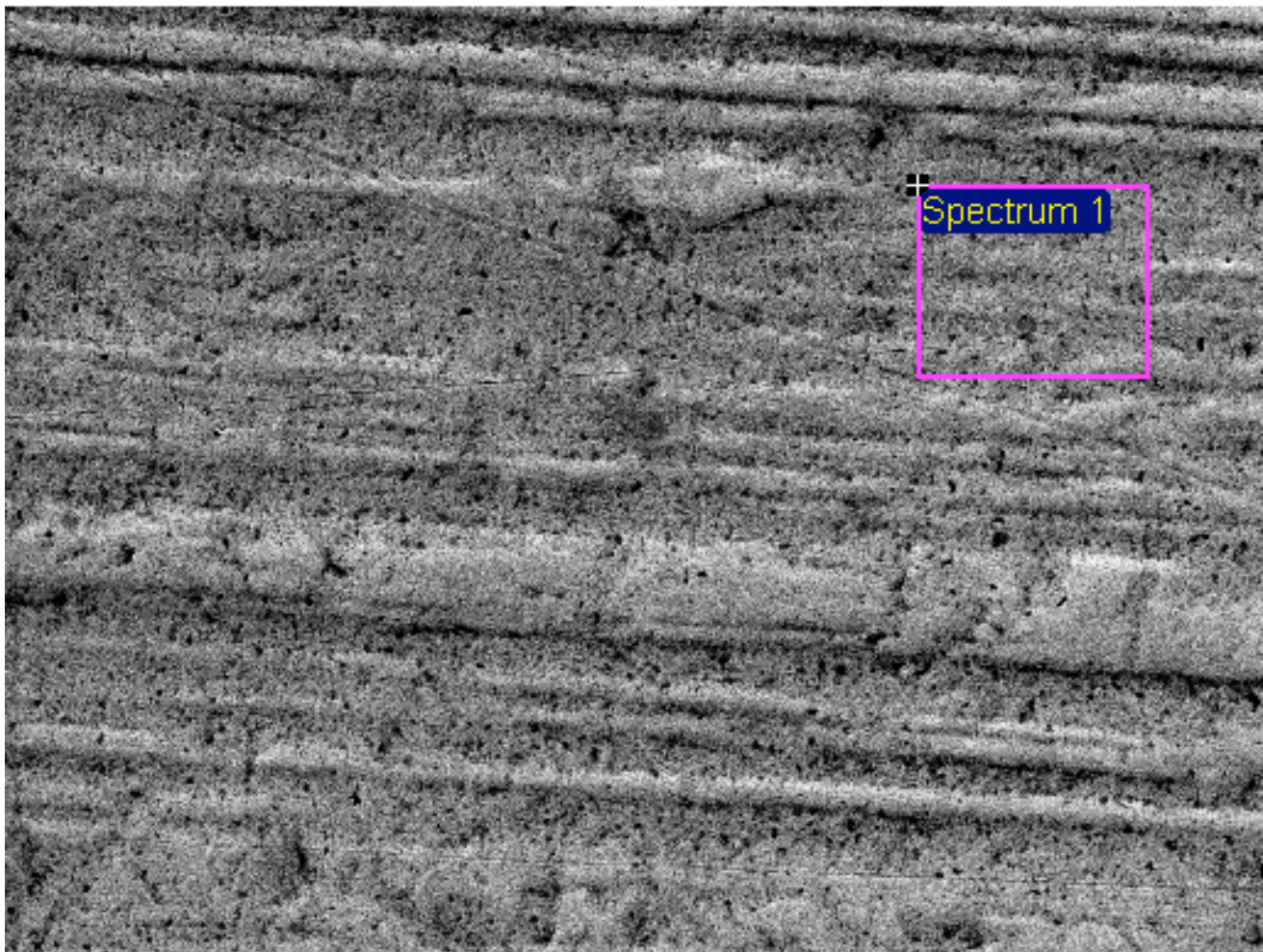
Electron Image 1



Spectrum 3

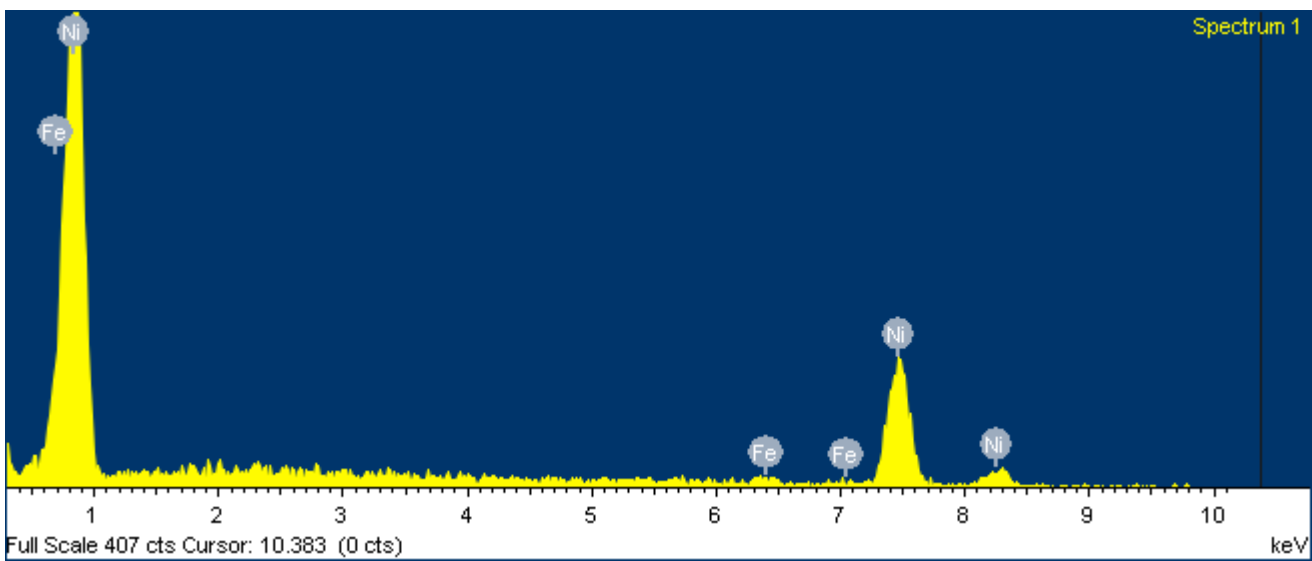
Full Scale 304 cts Cursor: 4.388 (8 cts)

keV

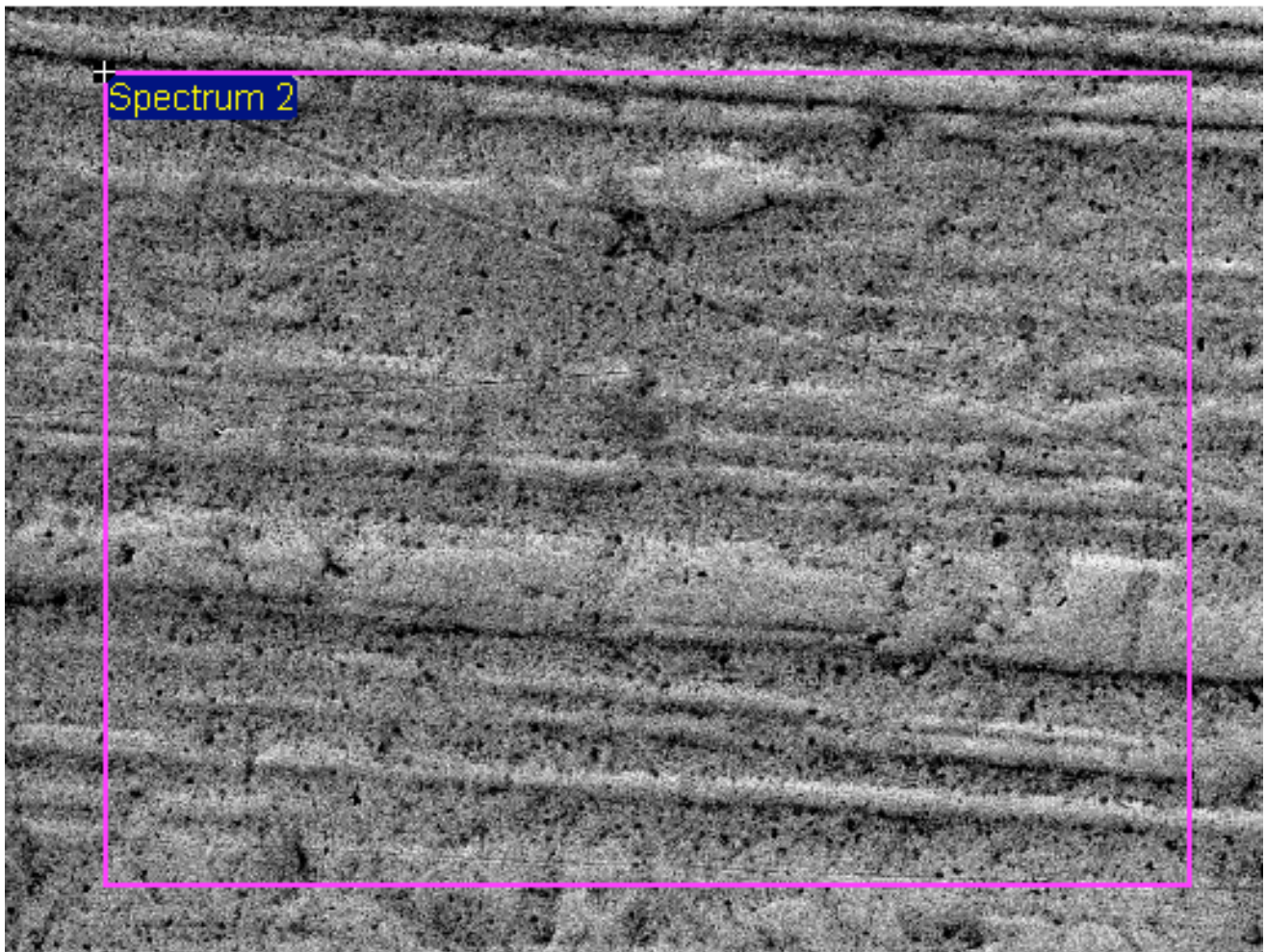


60µm

Electron Image 1

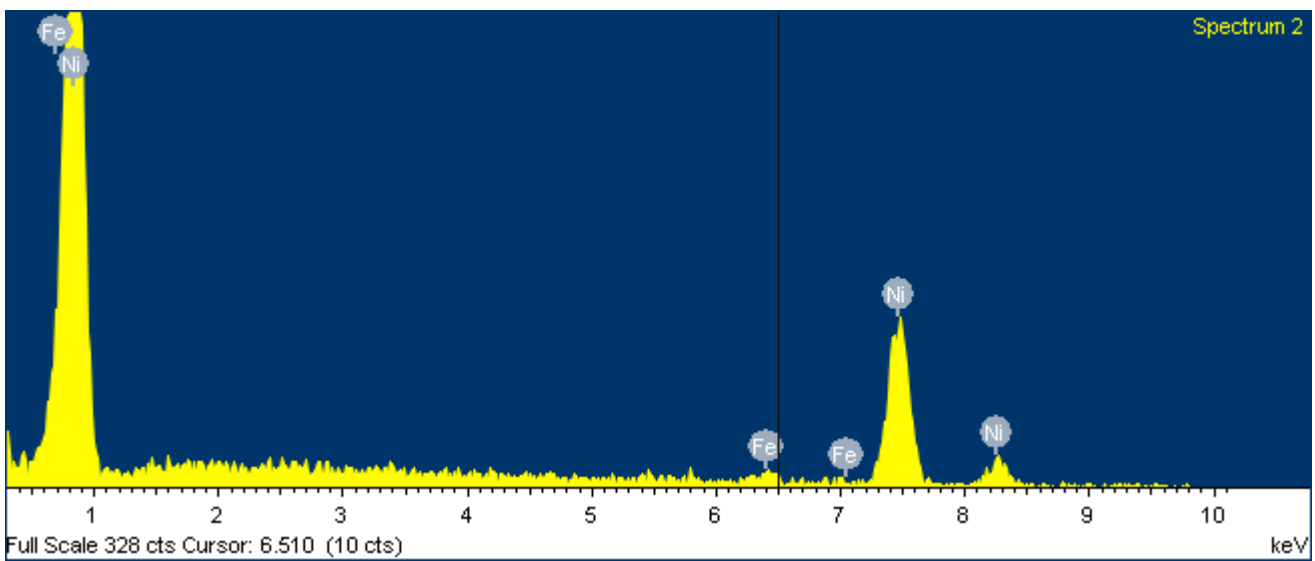


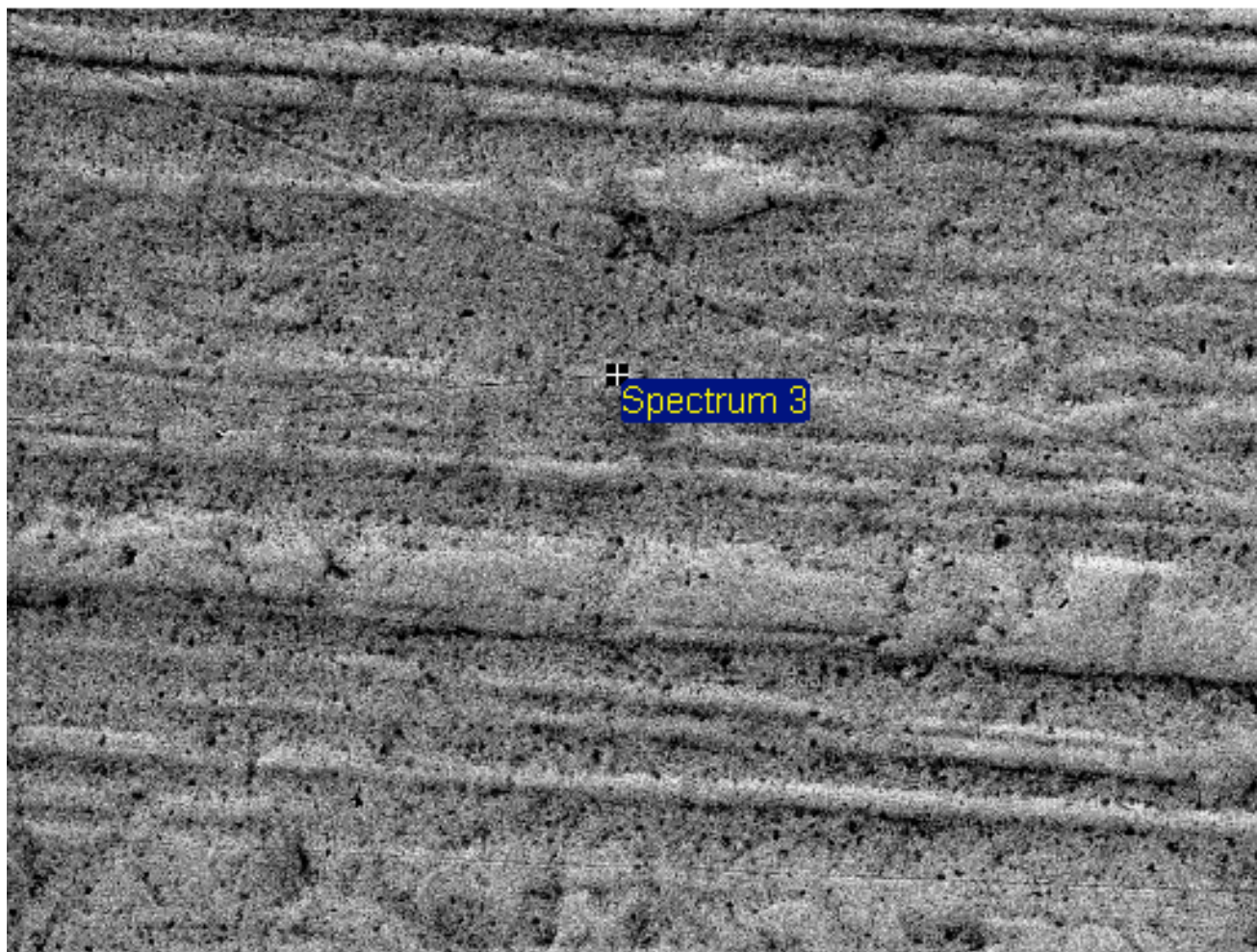




60µm

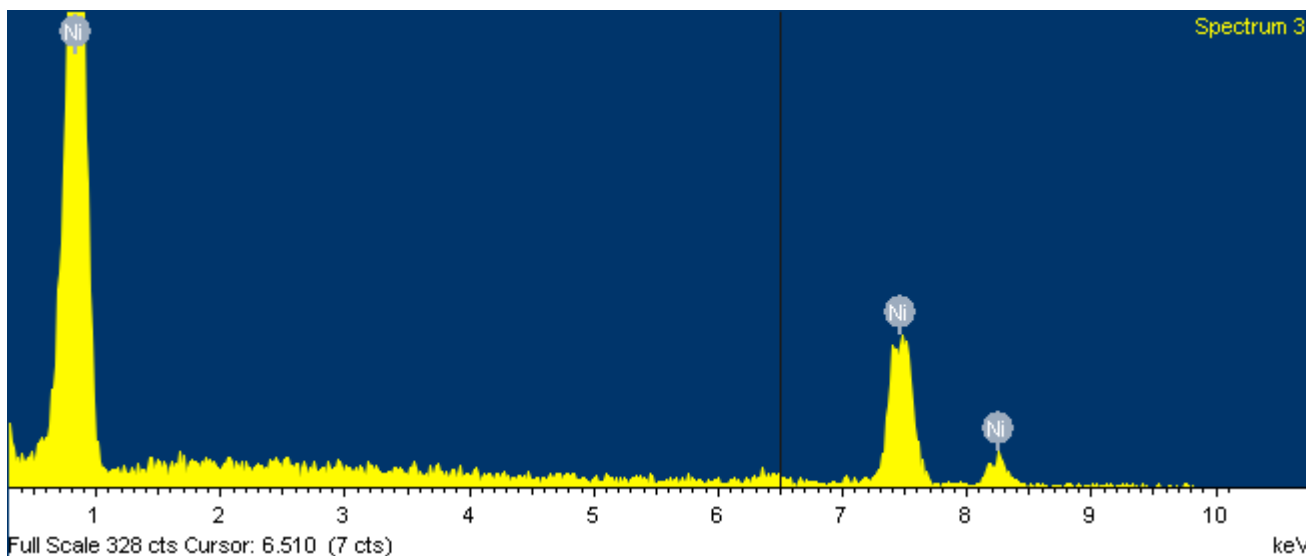
Electron Image 1



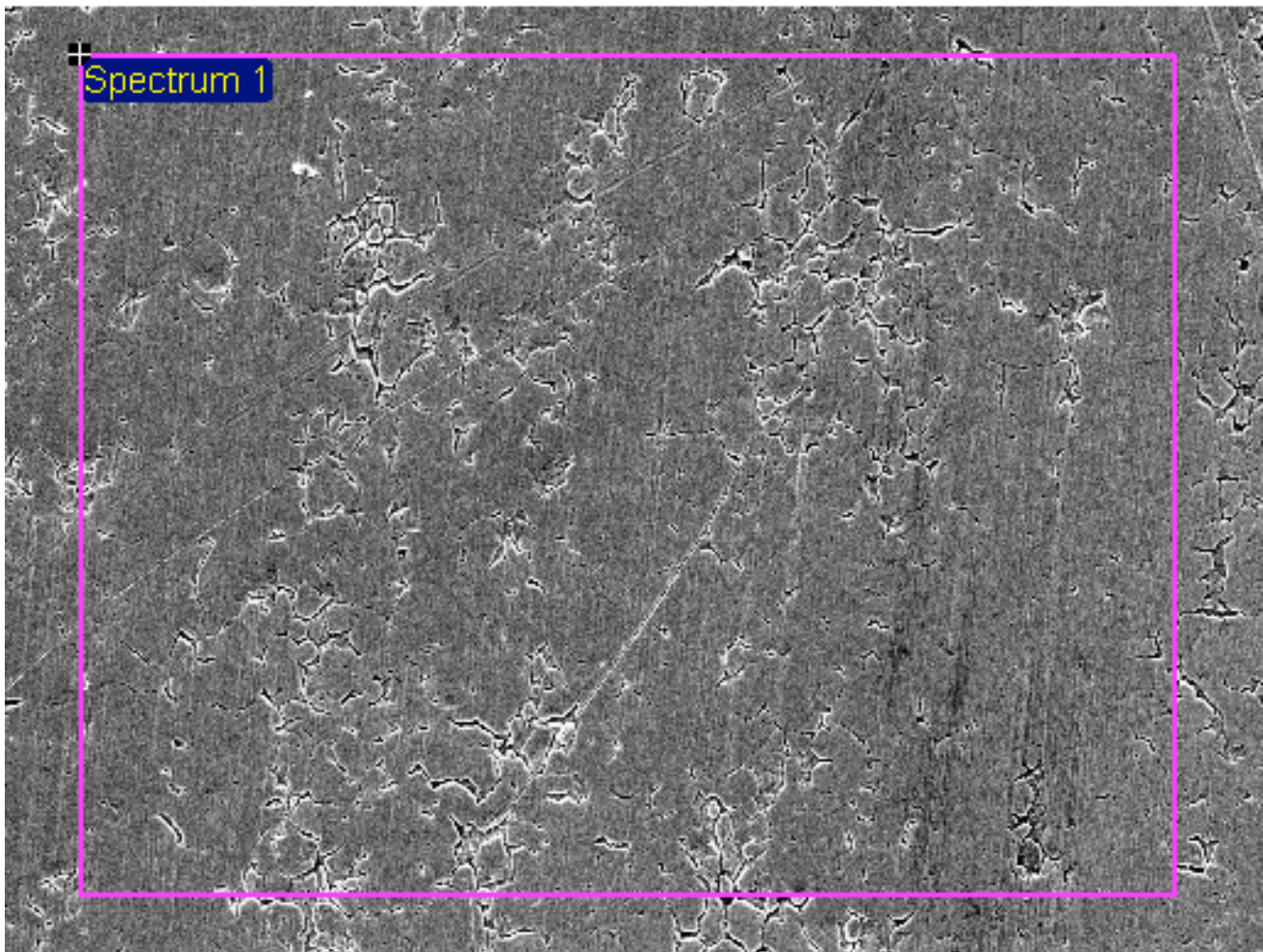


60µm

Electron Image 1

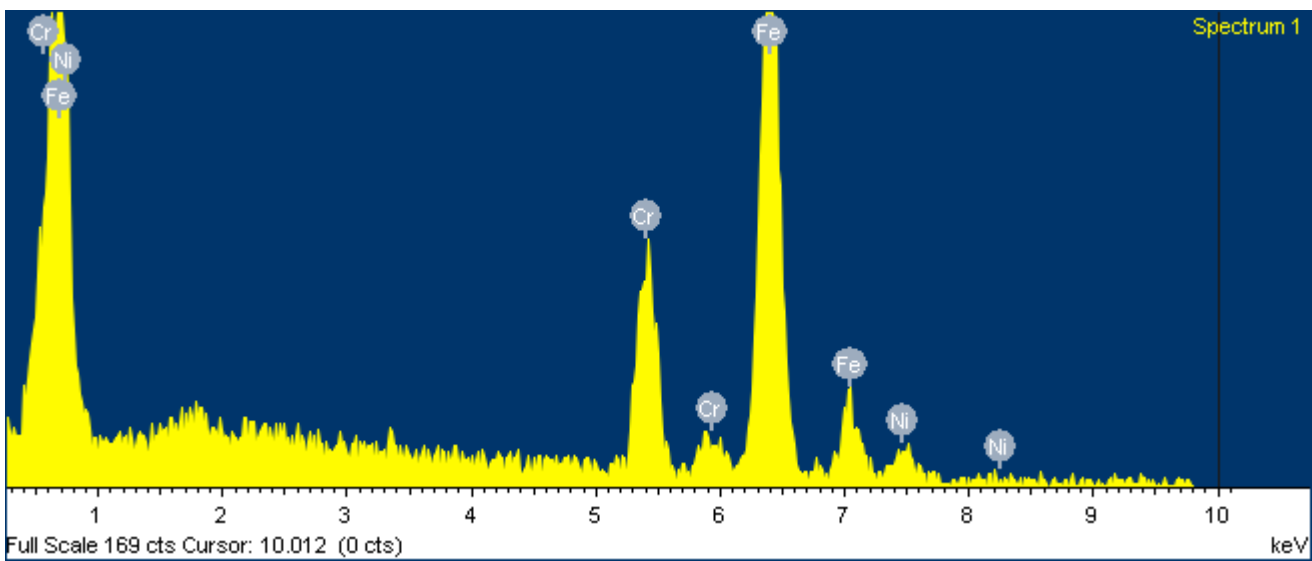


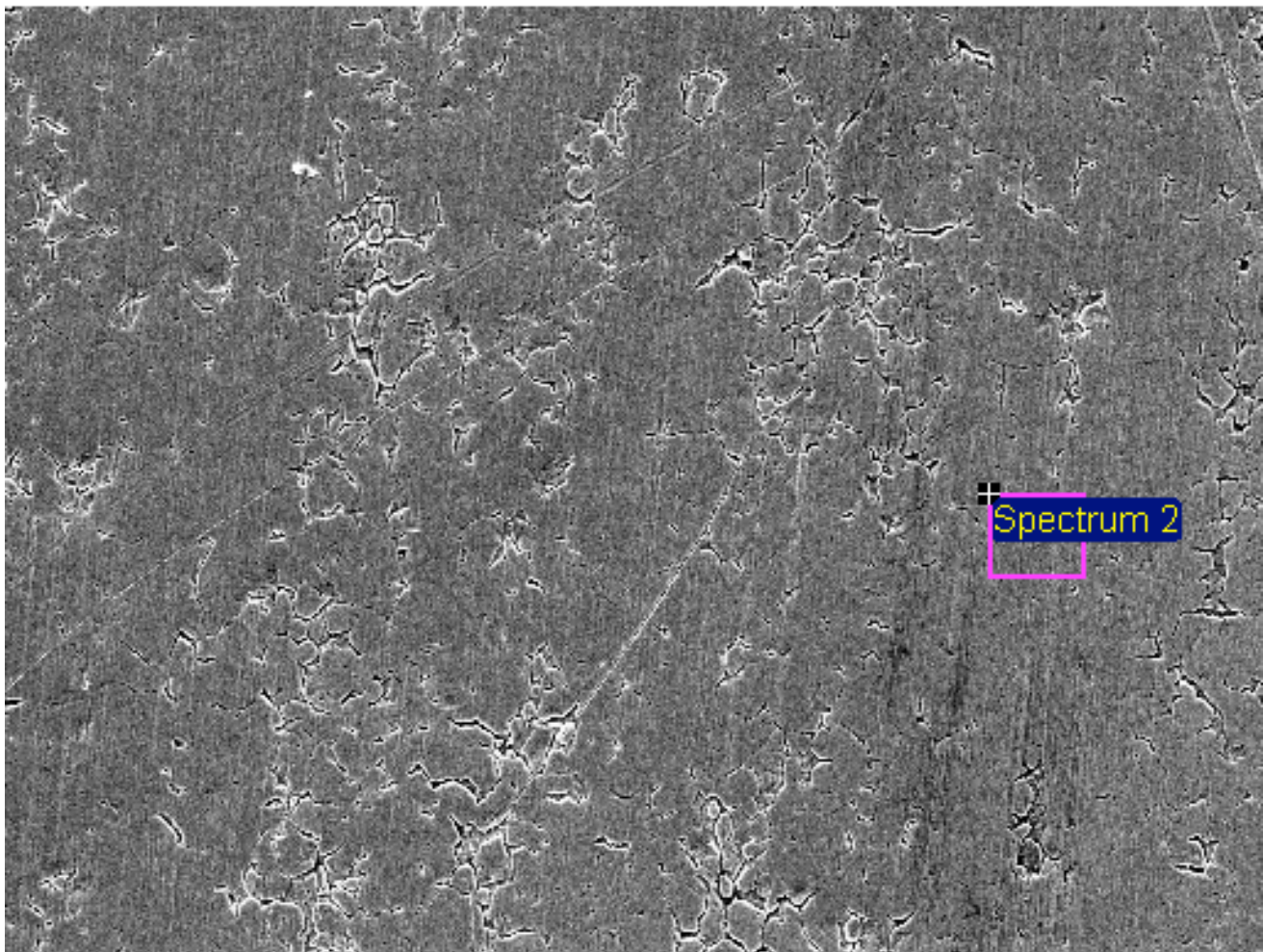




100µm

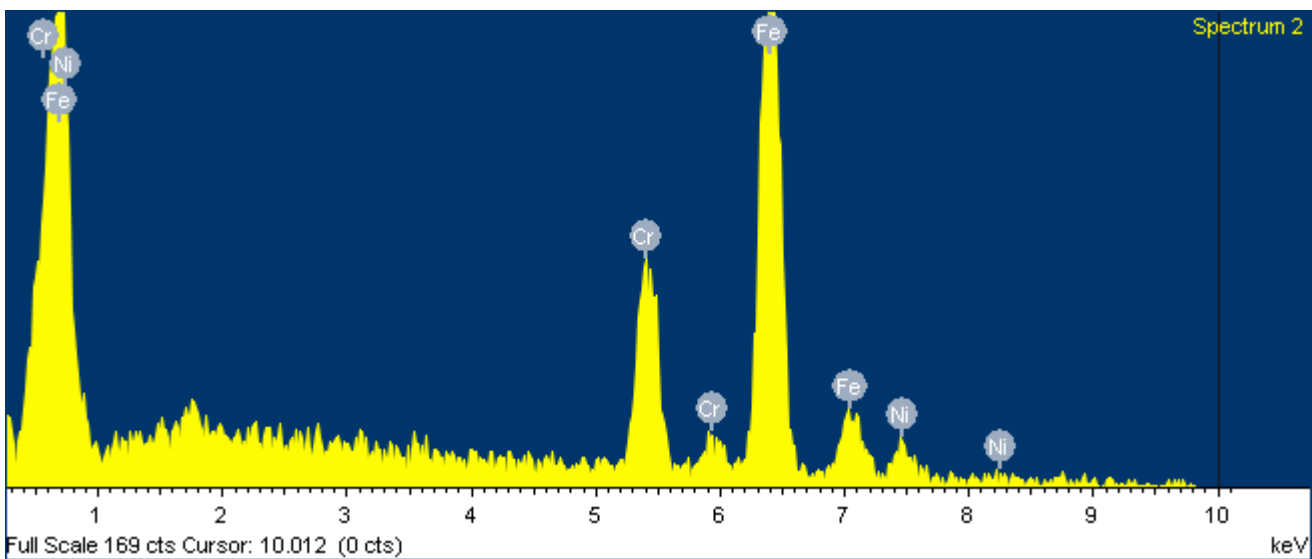
Electron Image 1



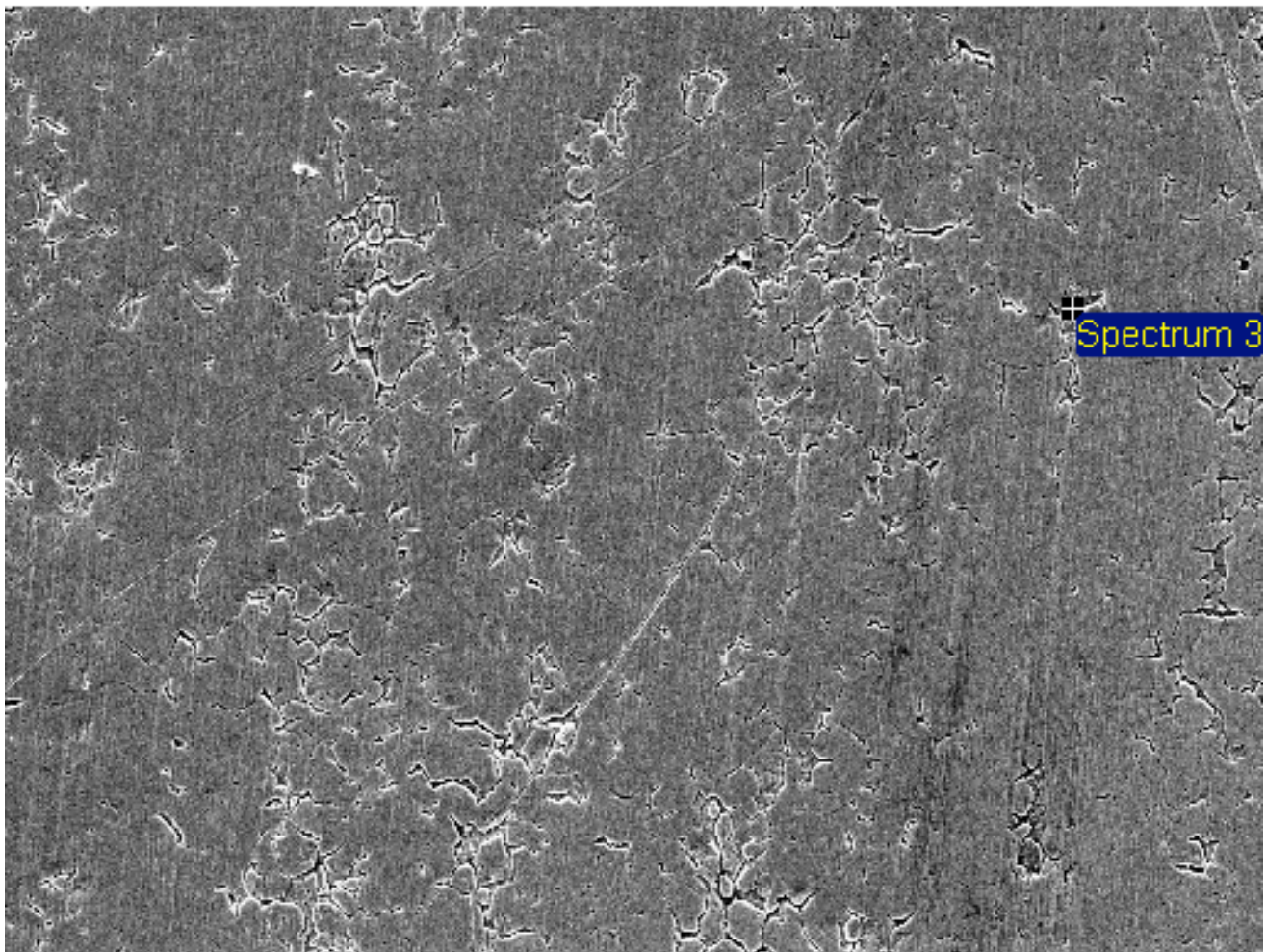


100µm

Electron Image 1

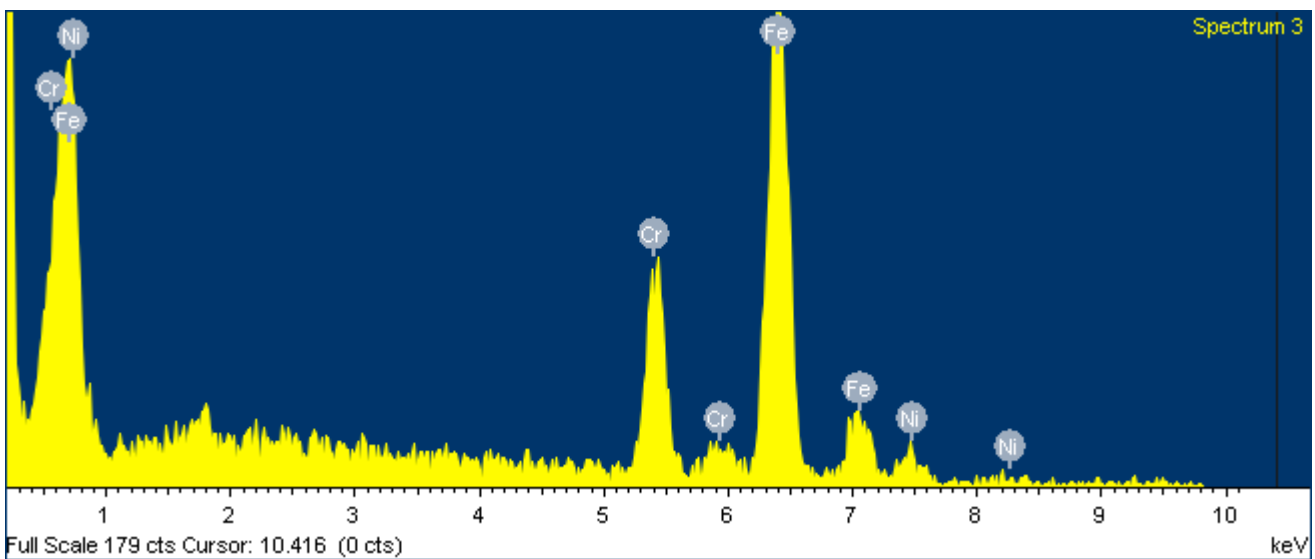






100µm

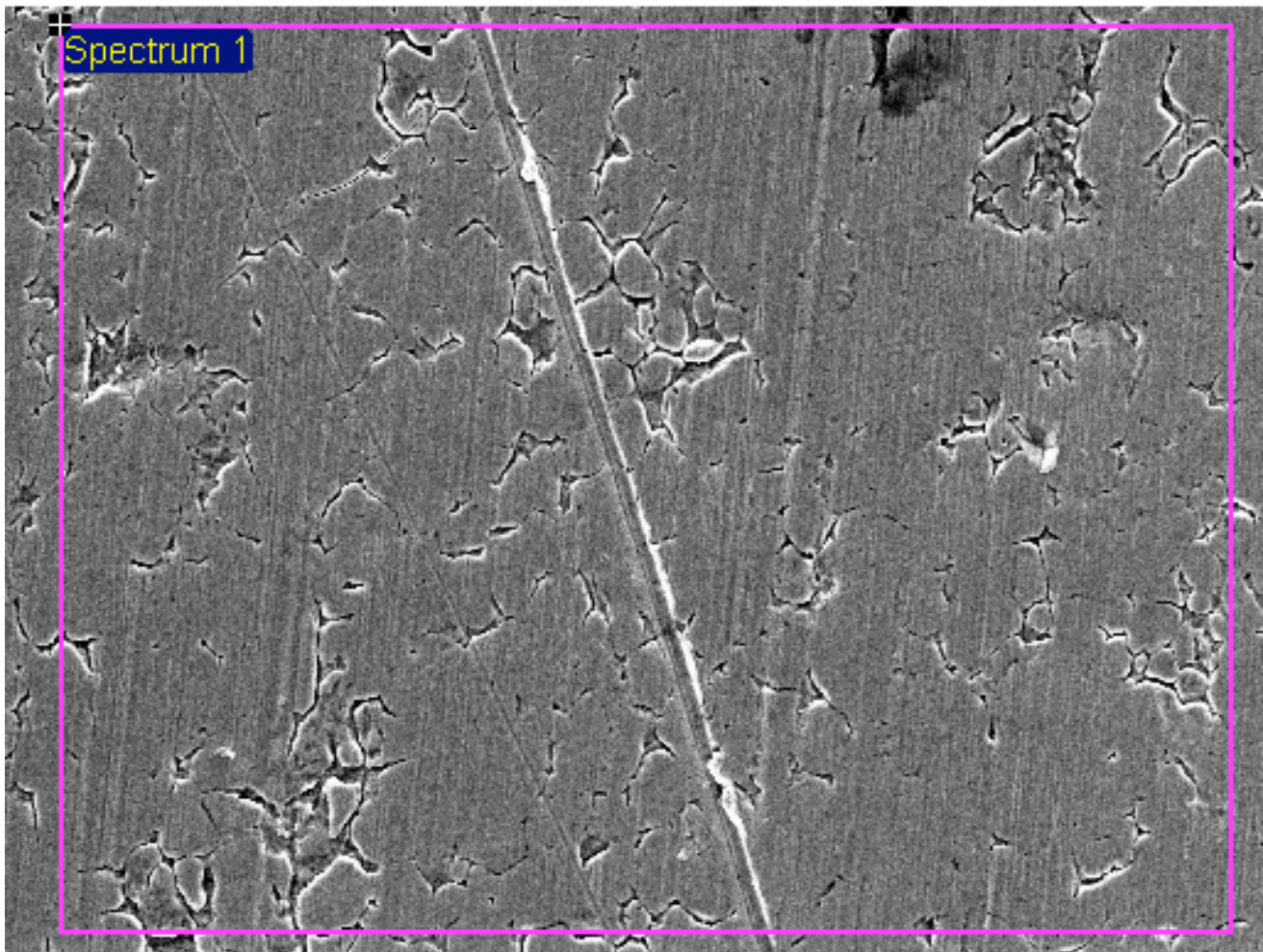
Electron Image 1



Full Scale 179 cts Cursor: 10.416 (0 cts)

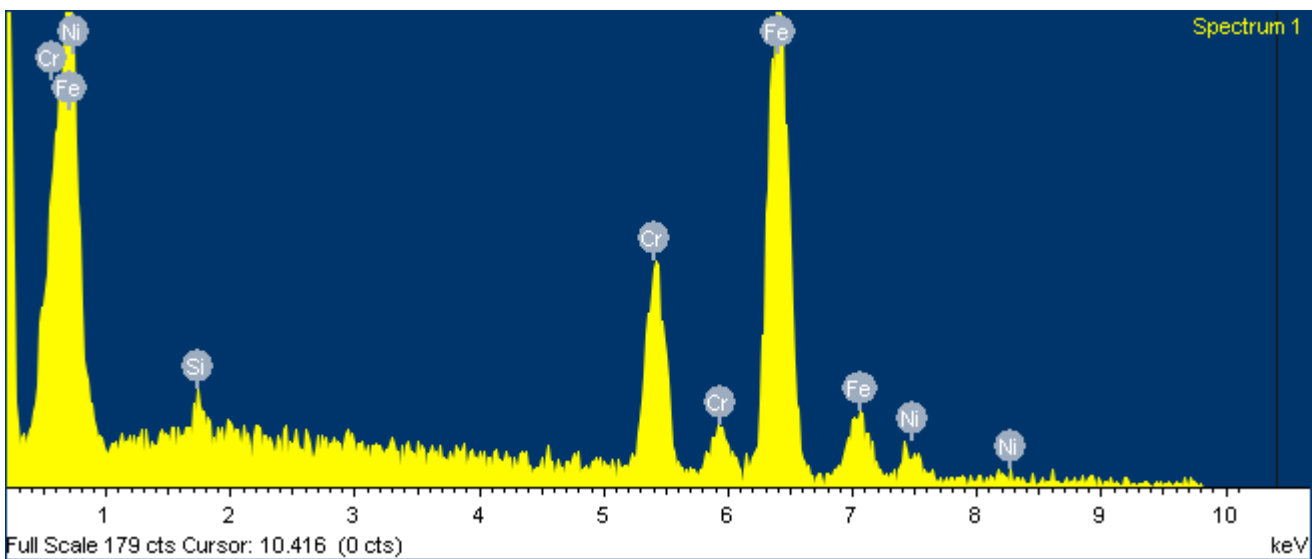
keV



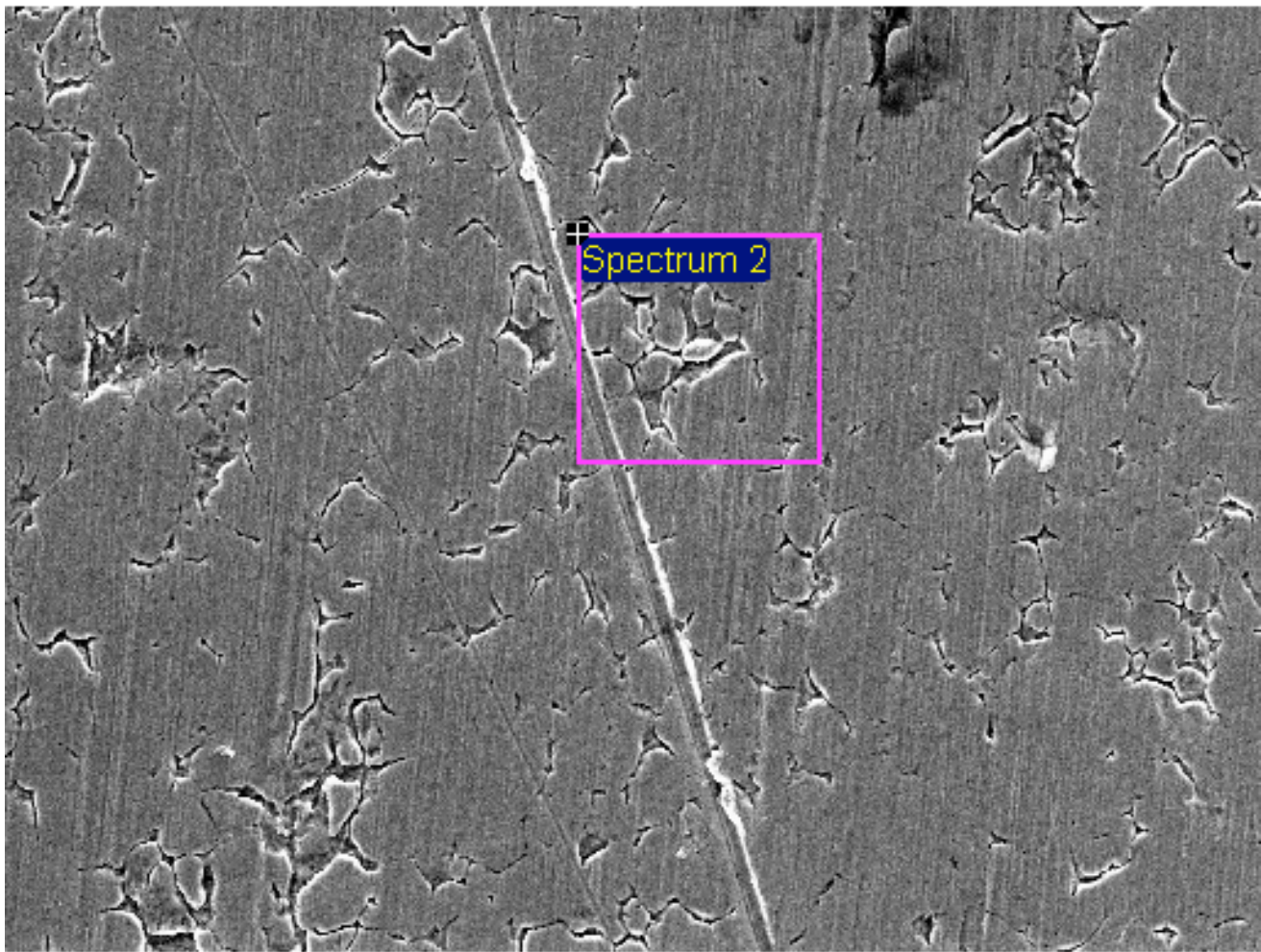


60µm

Electron Image 1

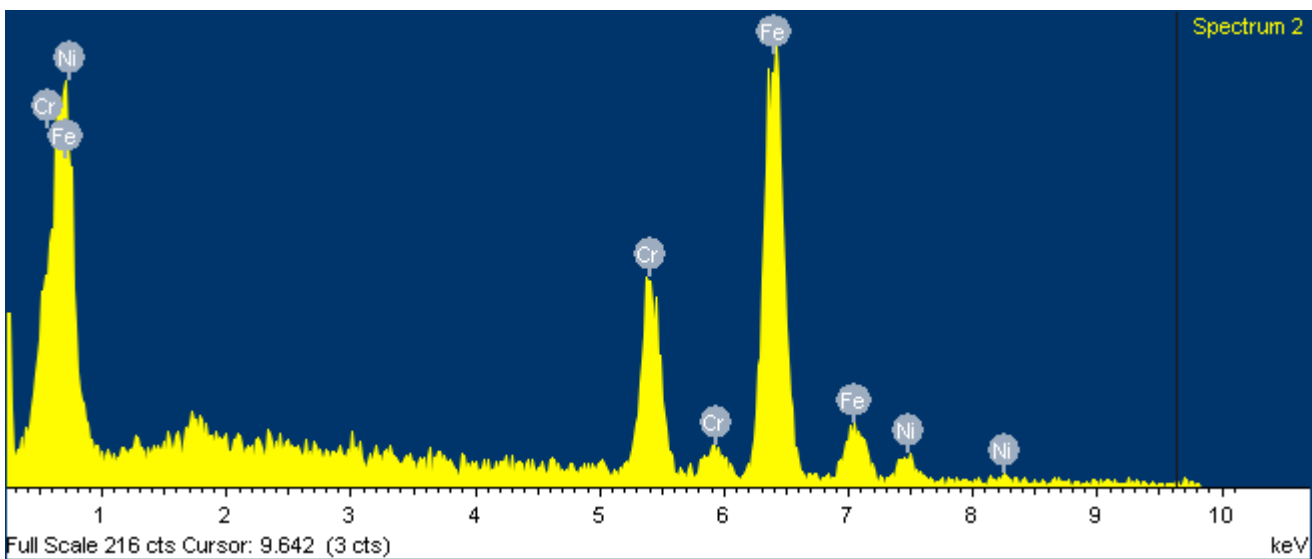






60µm

Electron Image 1

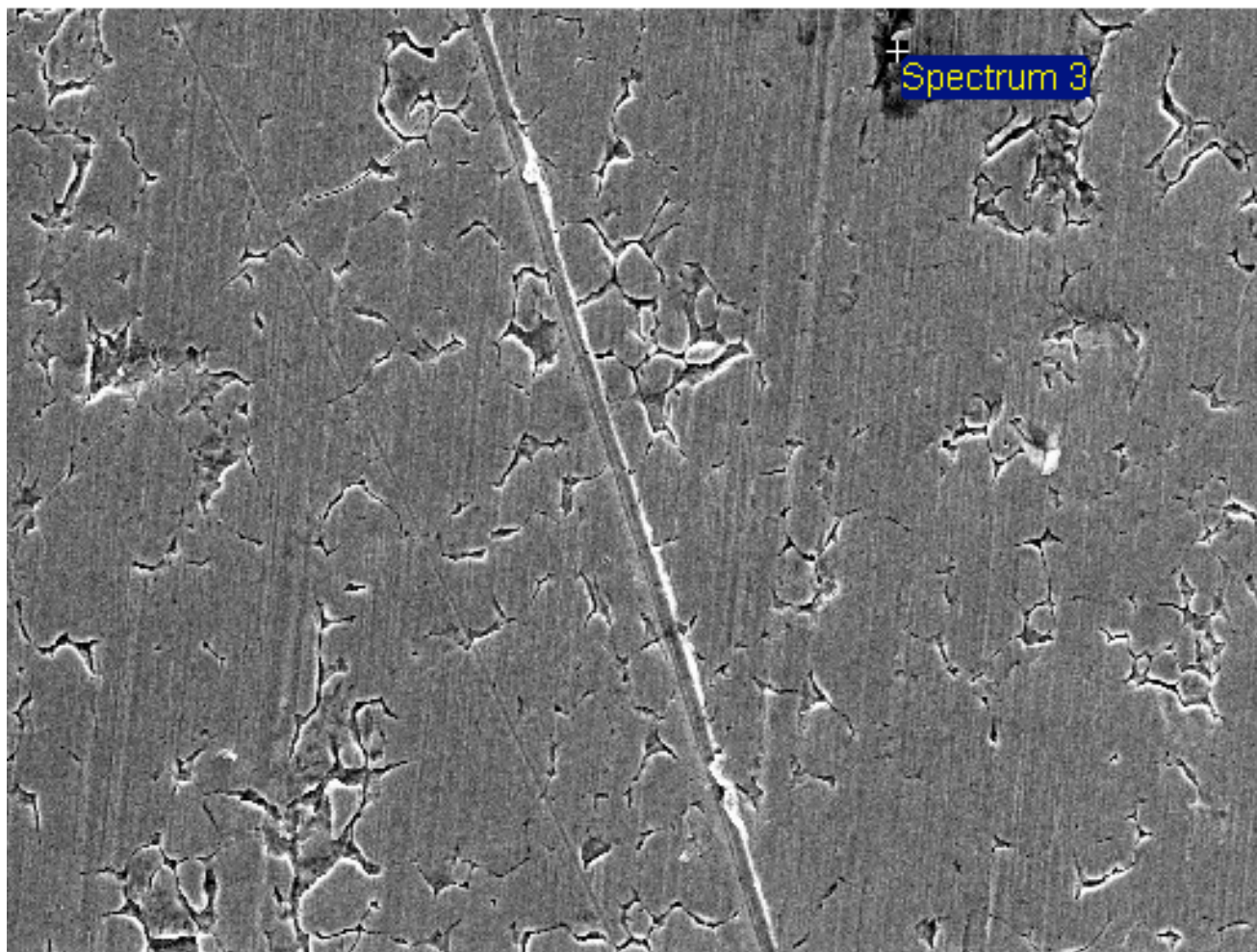


Spectrum 2

Full Scale 216 cts Cursor: 9.642 (3 cts)

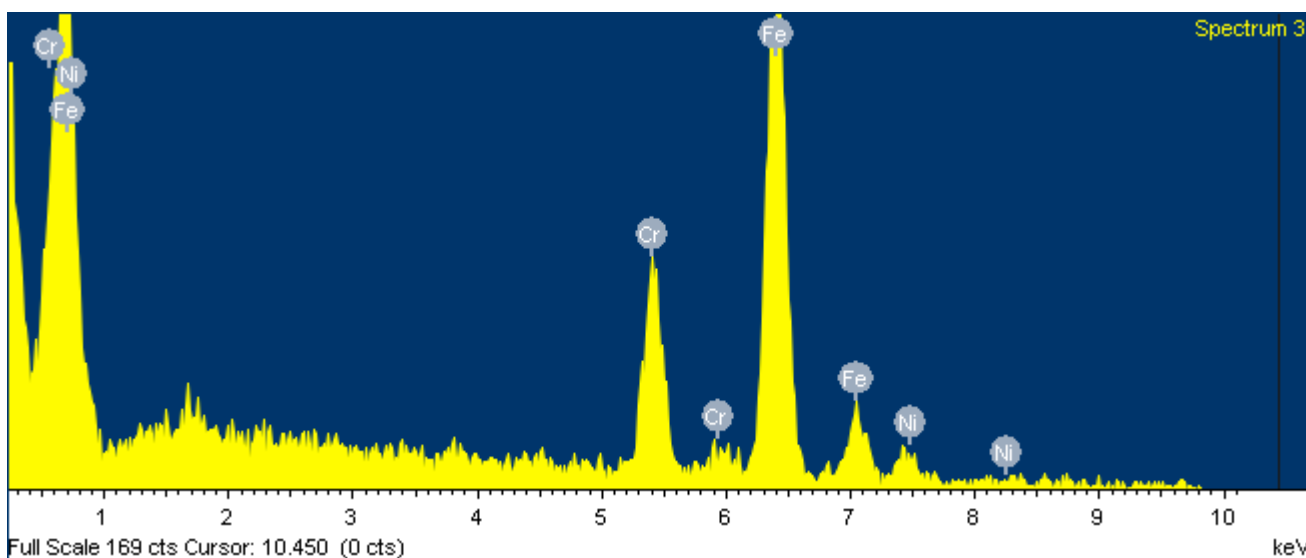
keV



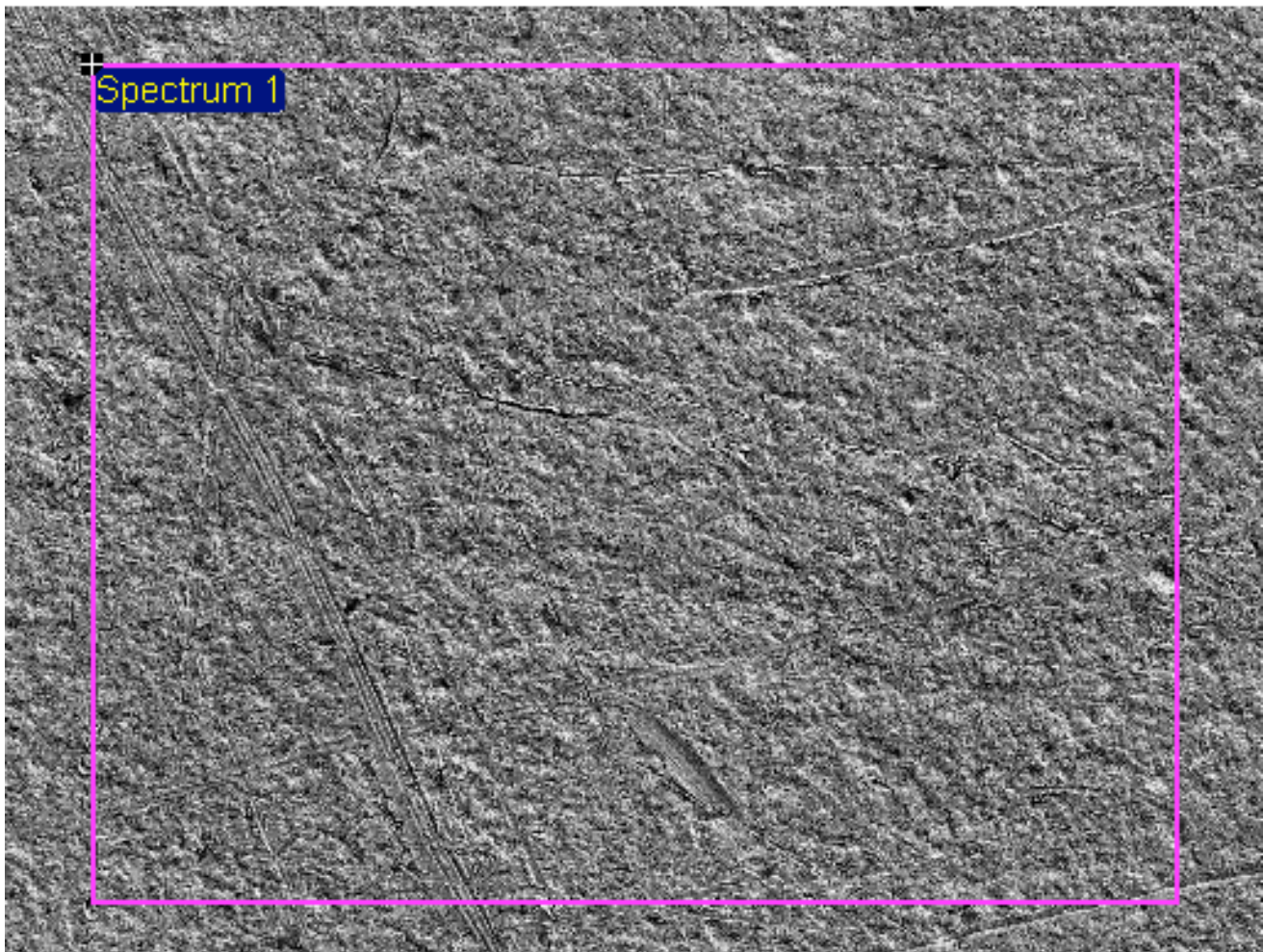


60µm

Electron Image 1

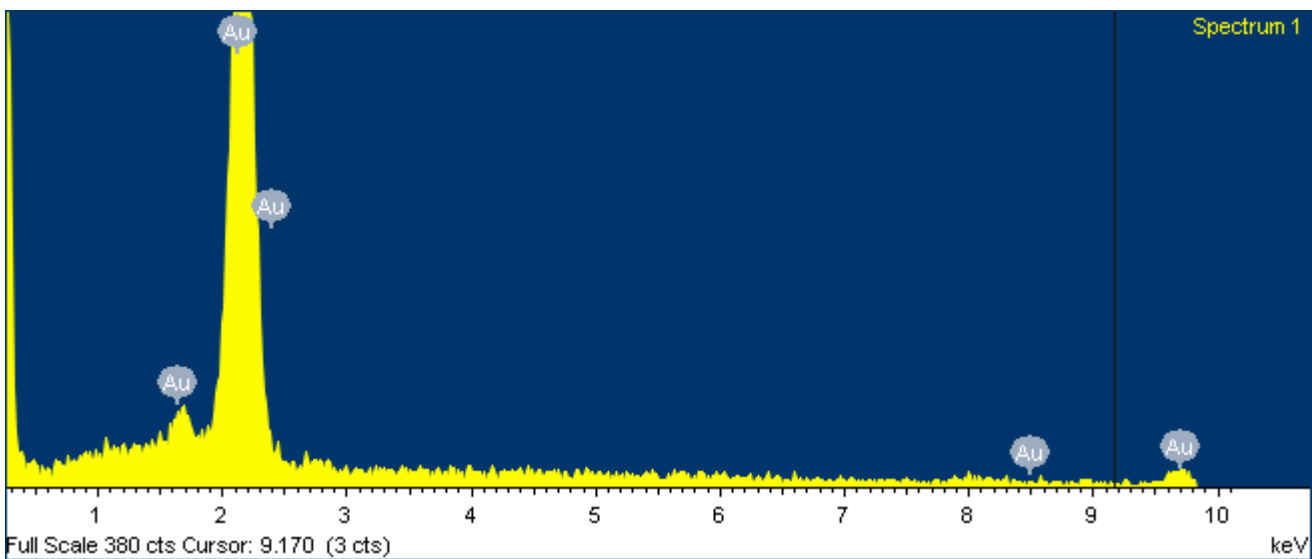


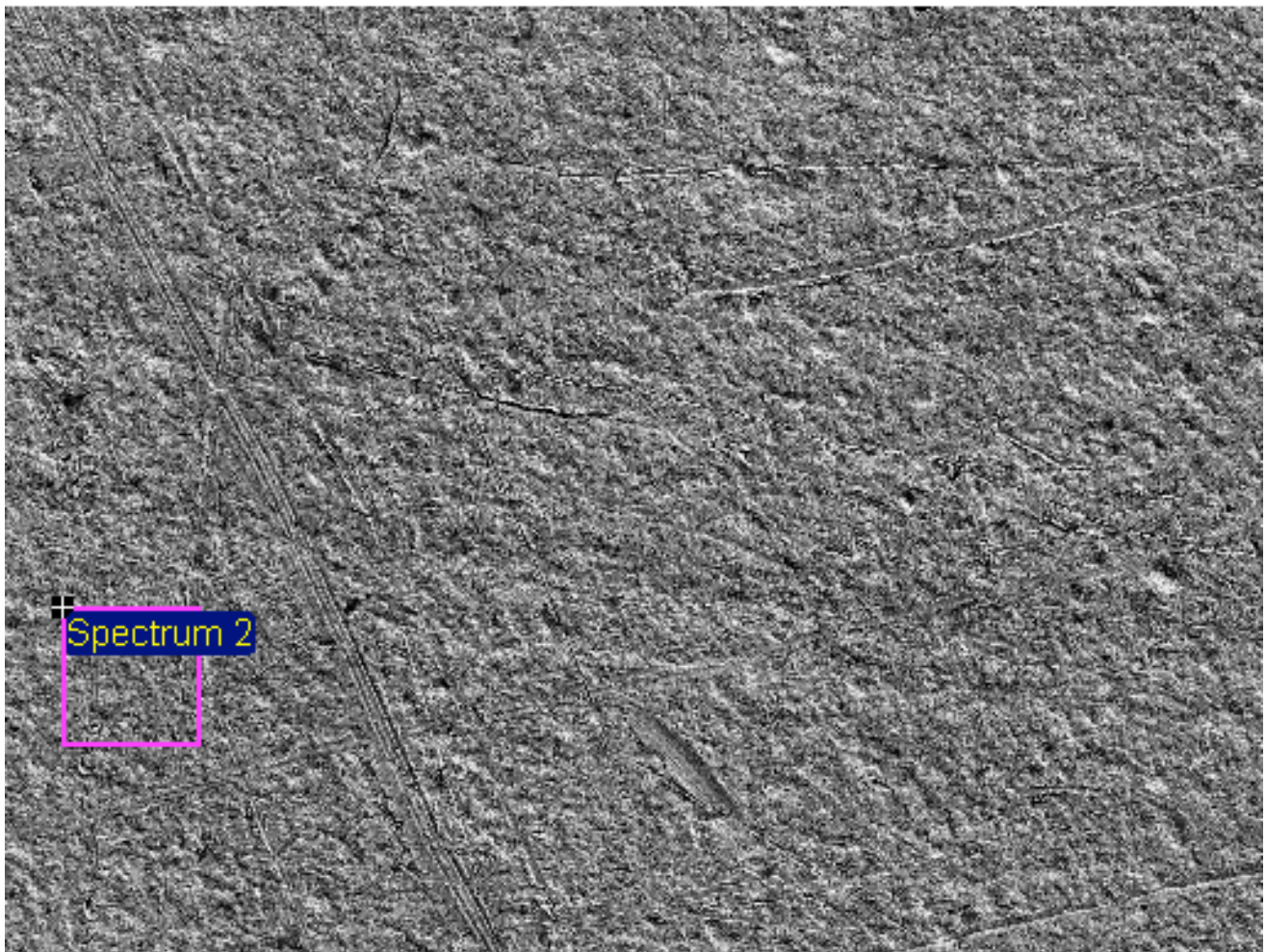




100µm

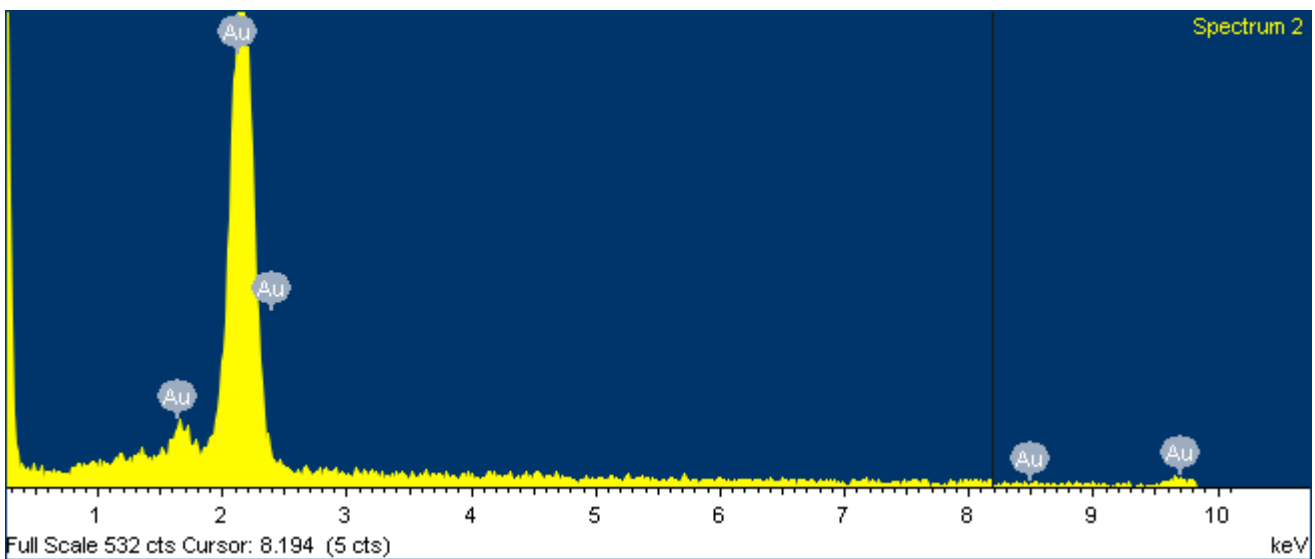
Electron Image 1



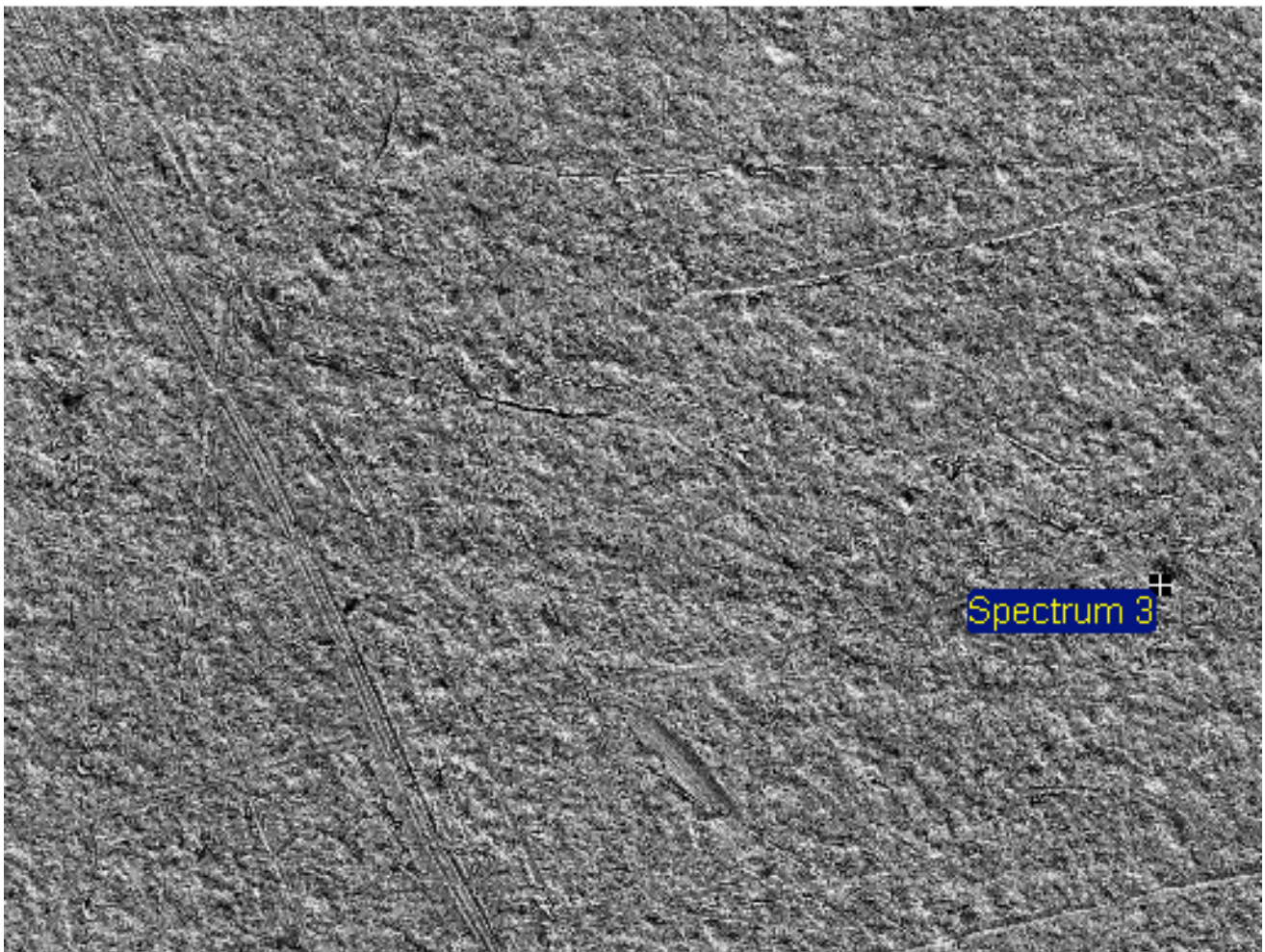


100µm

Electron Image 1

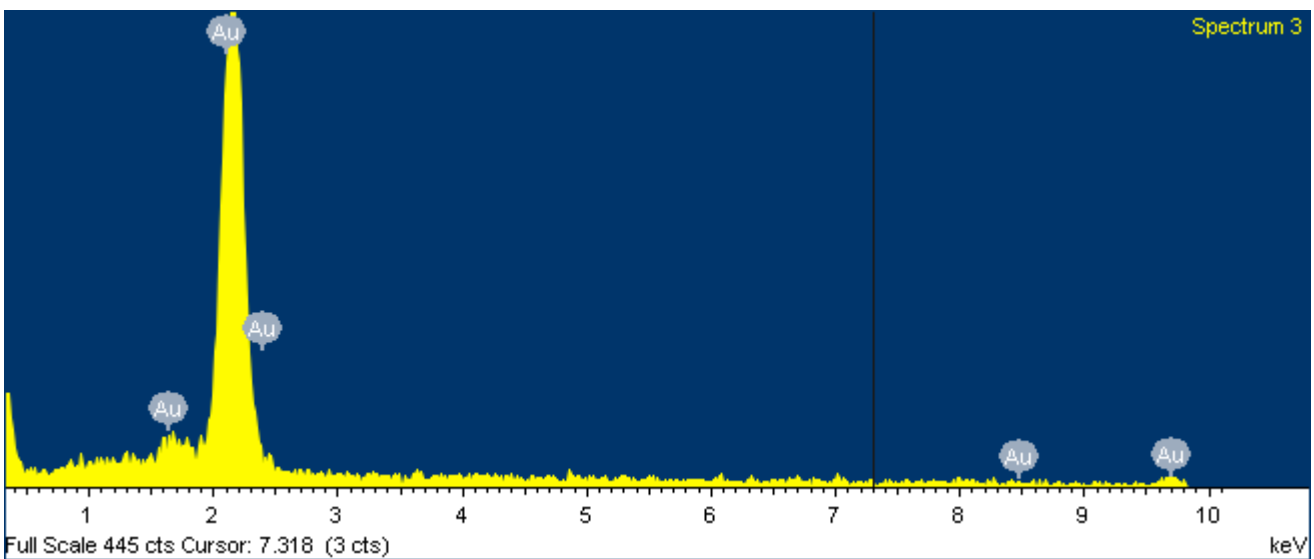


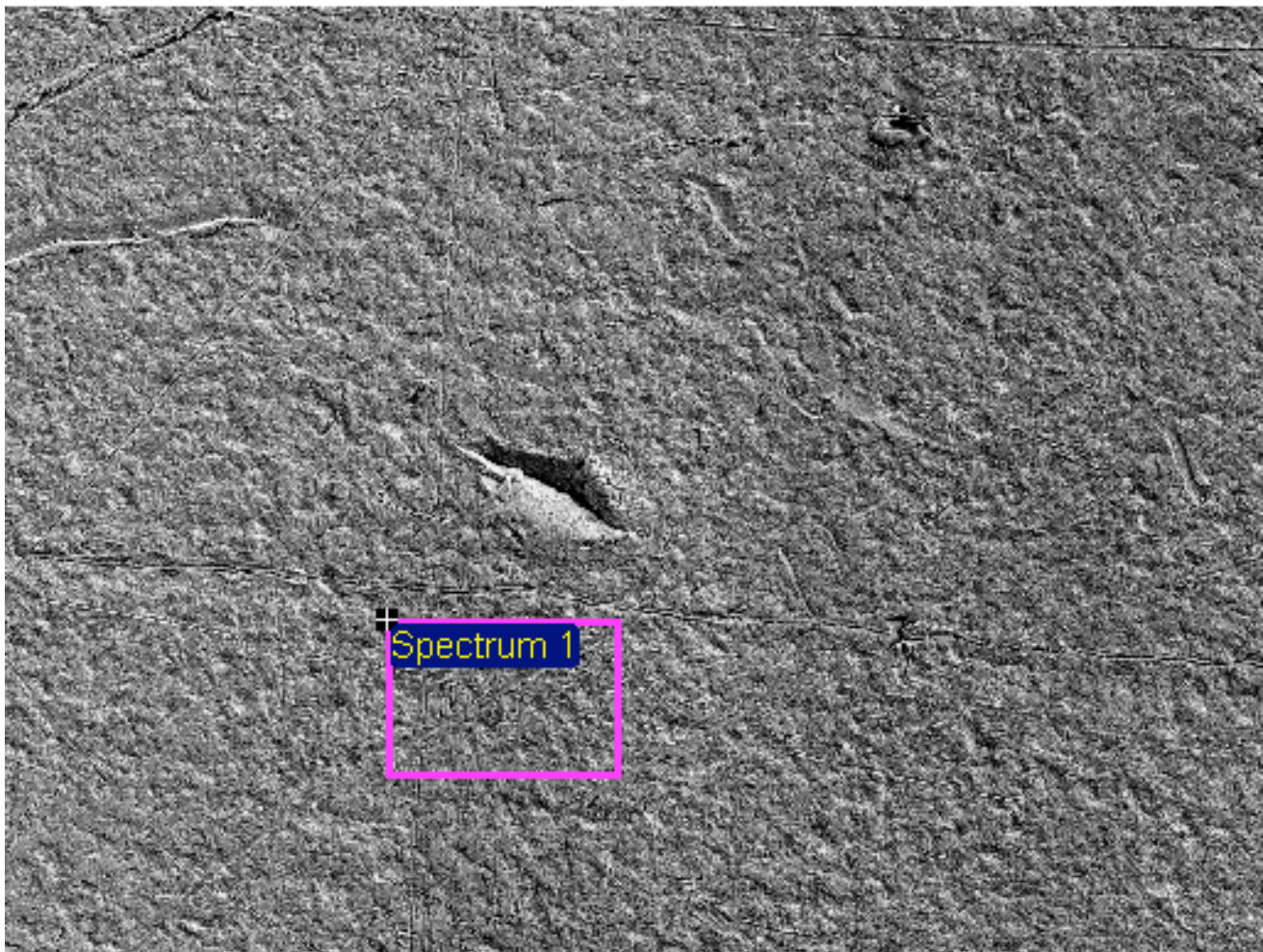




100µm

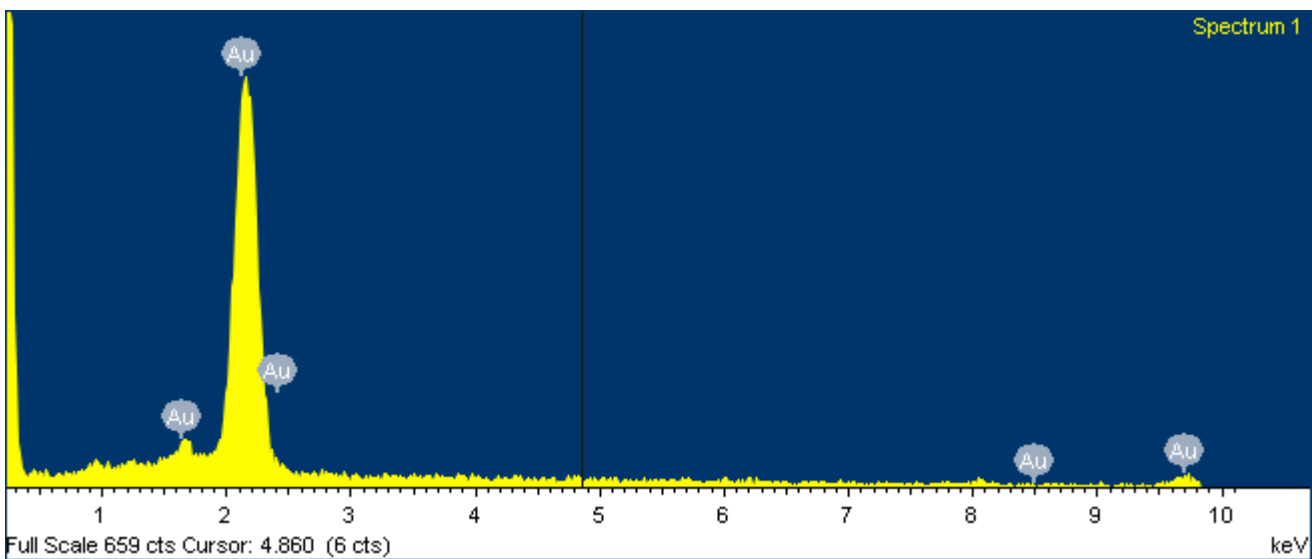
Electron Image 1



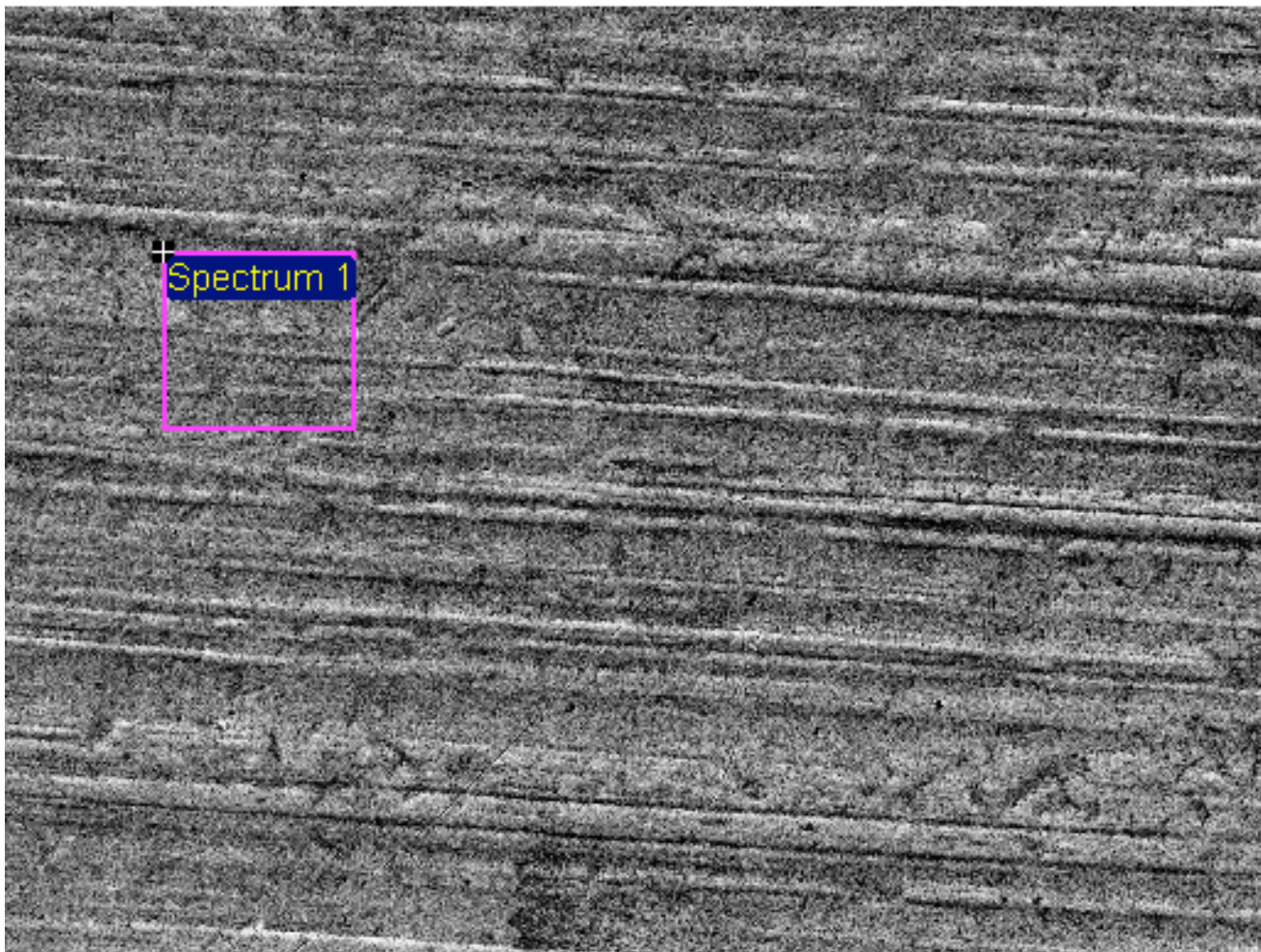


100µm

Electron Image 1

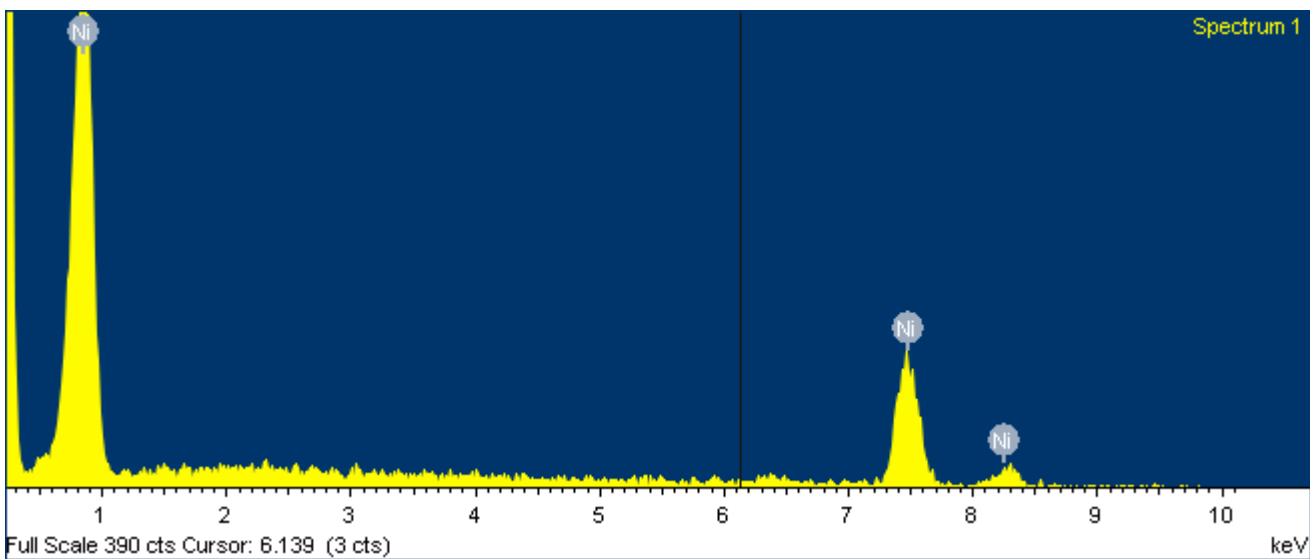


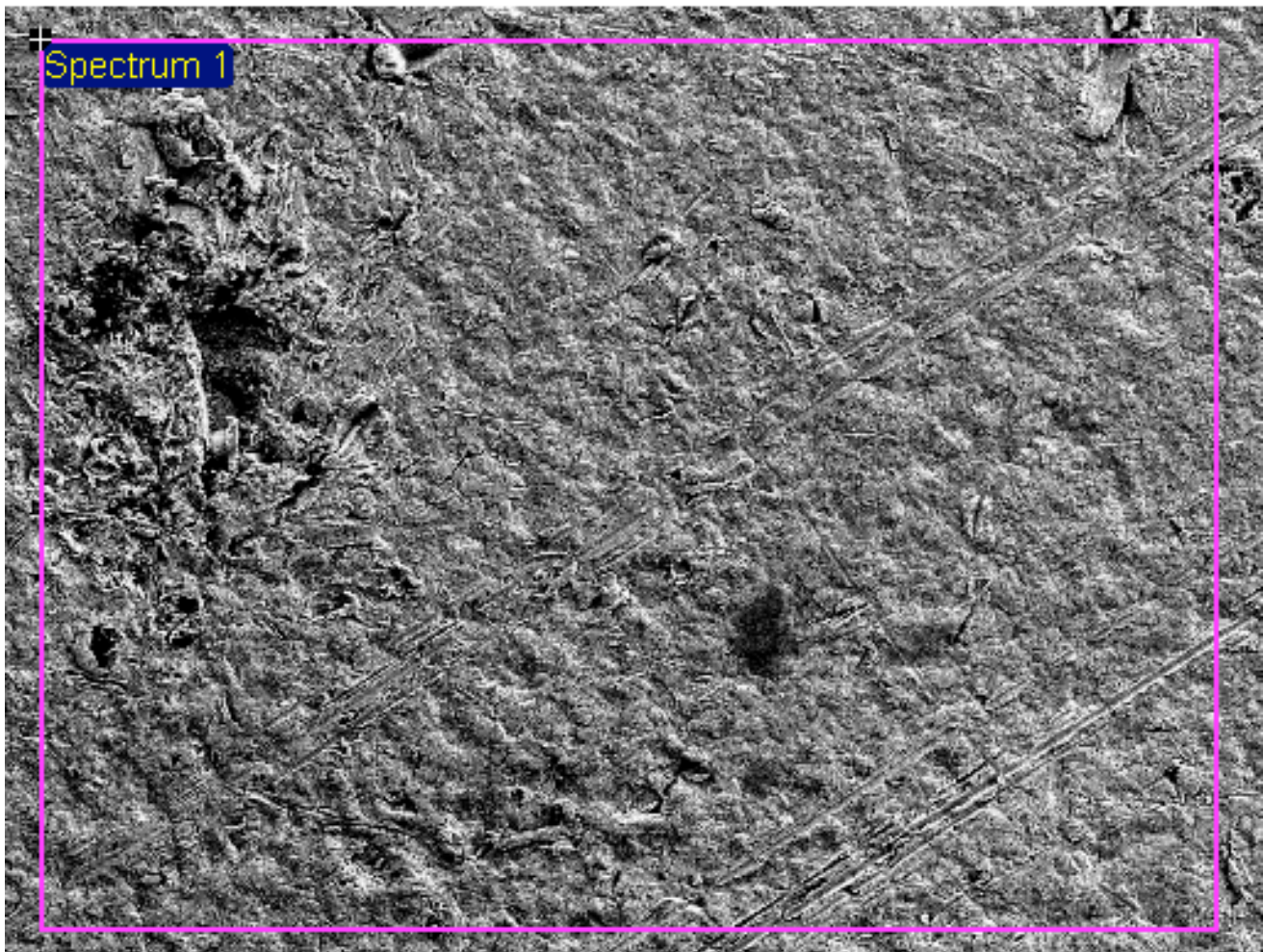




100µm

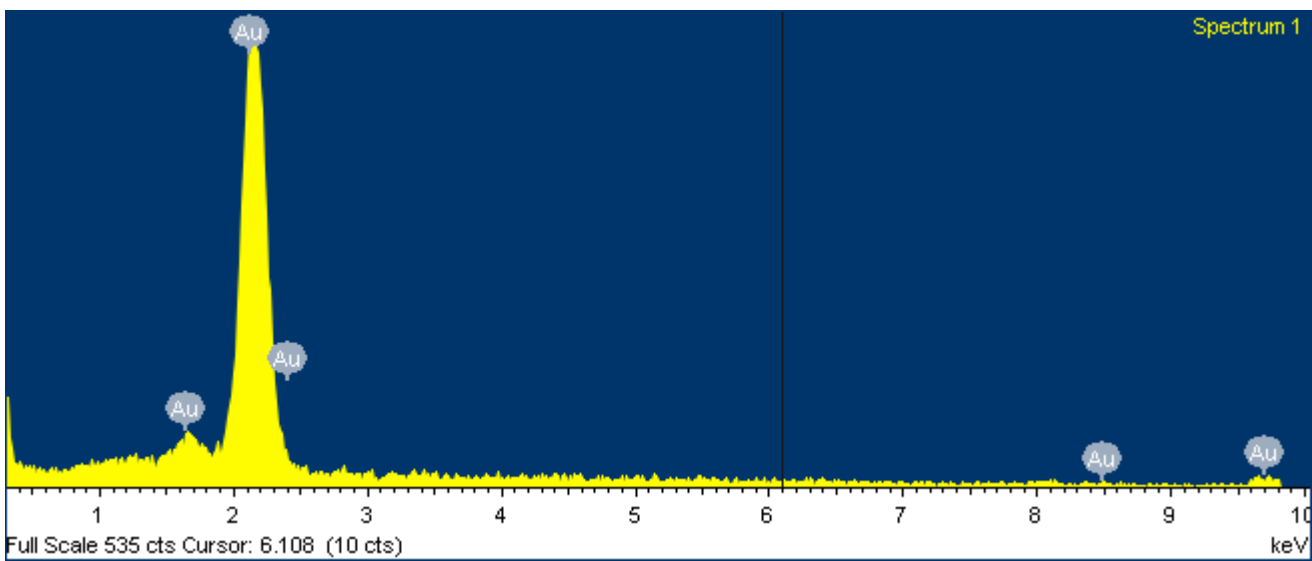
Electron Image 1



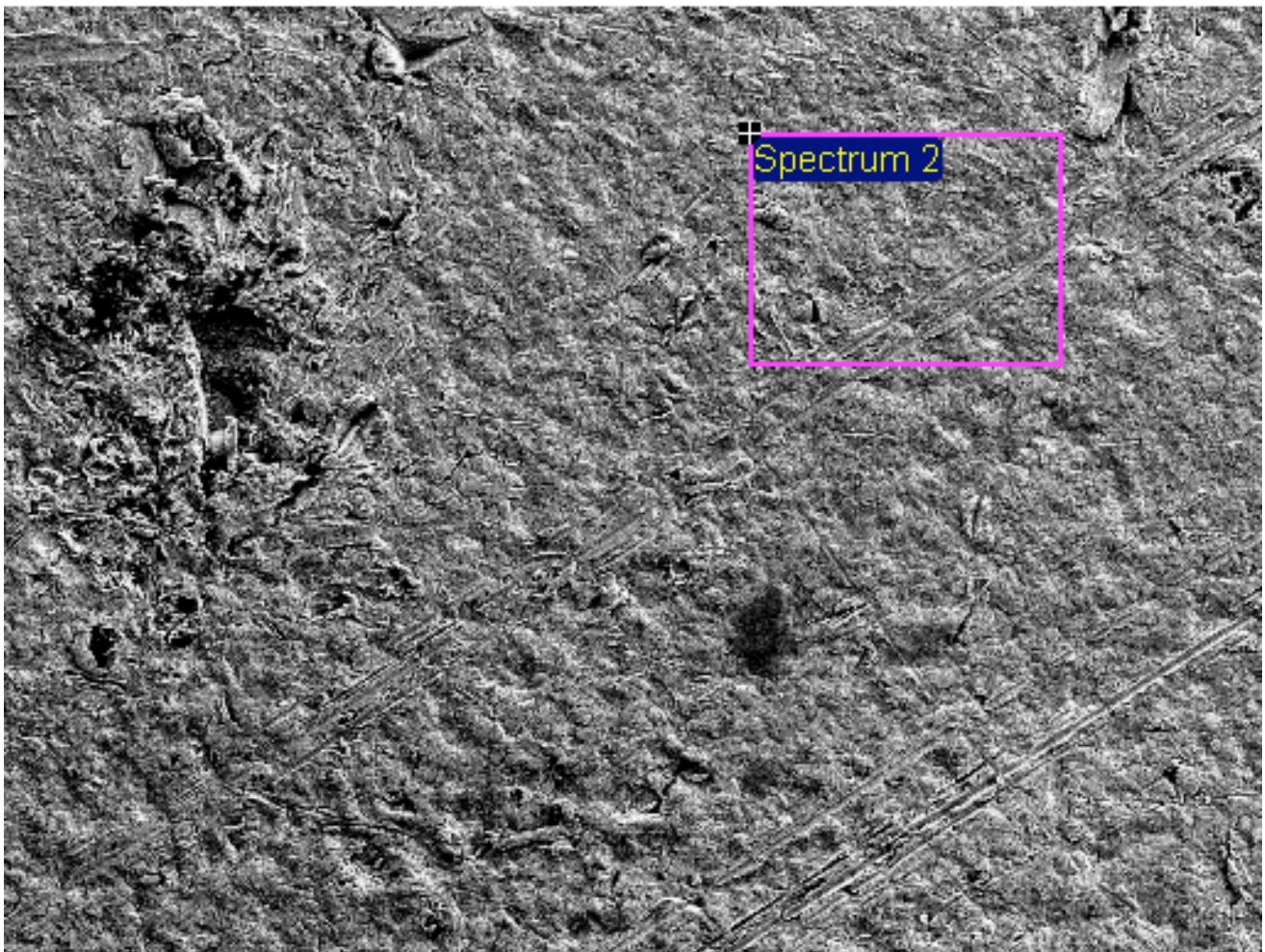


60µm

Electron Image 1

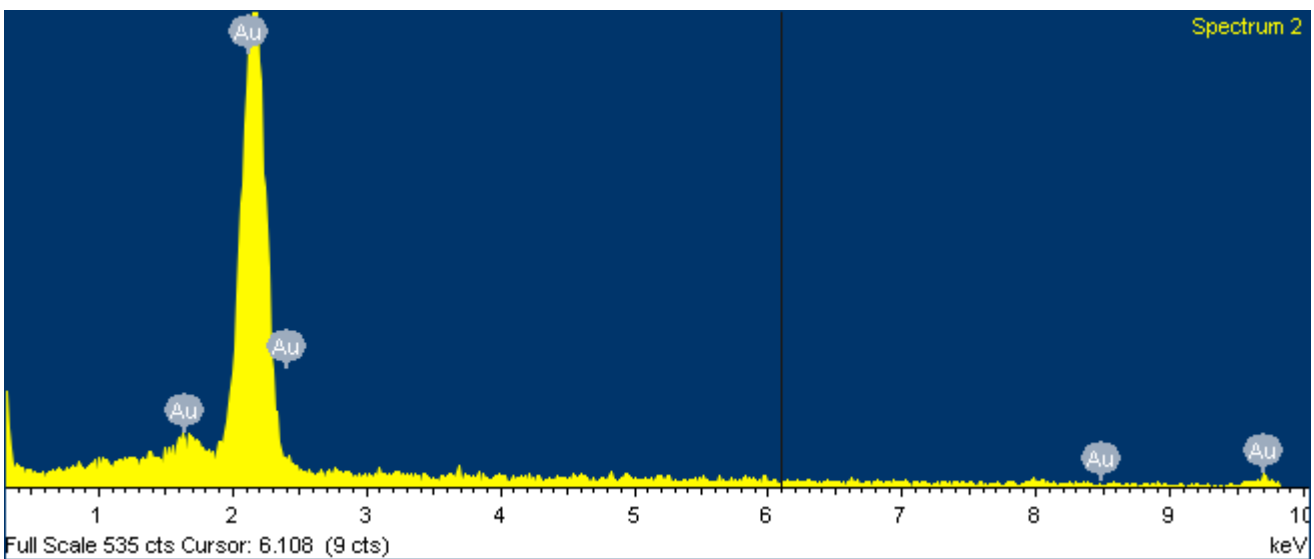


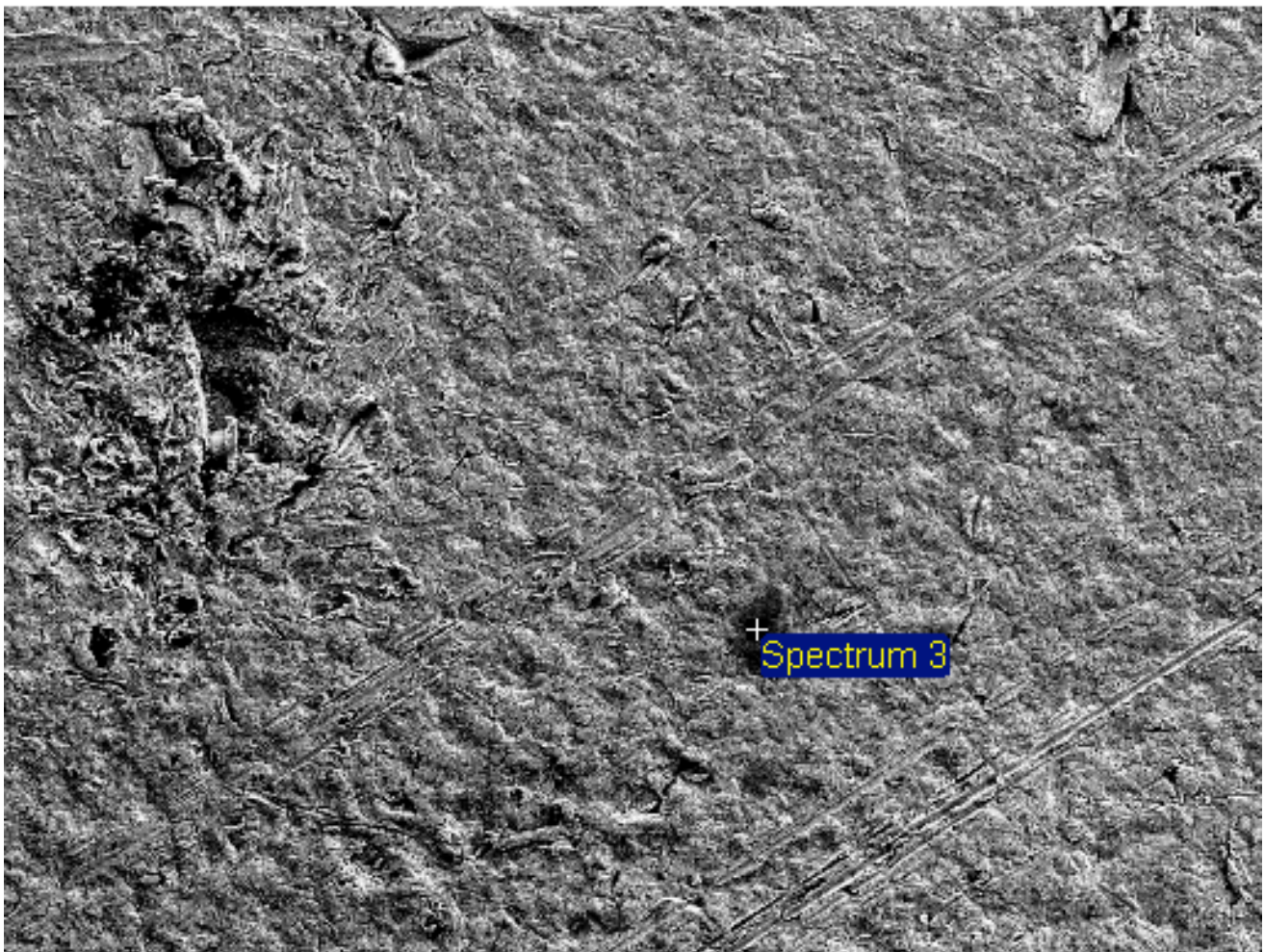




60µm

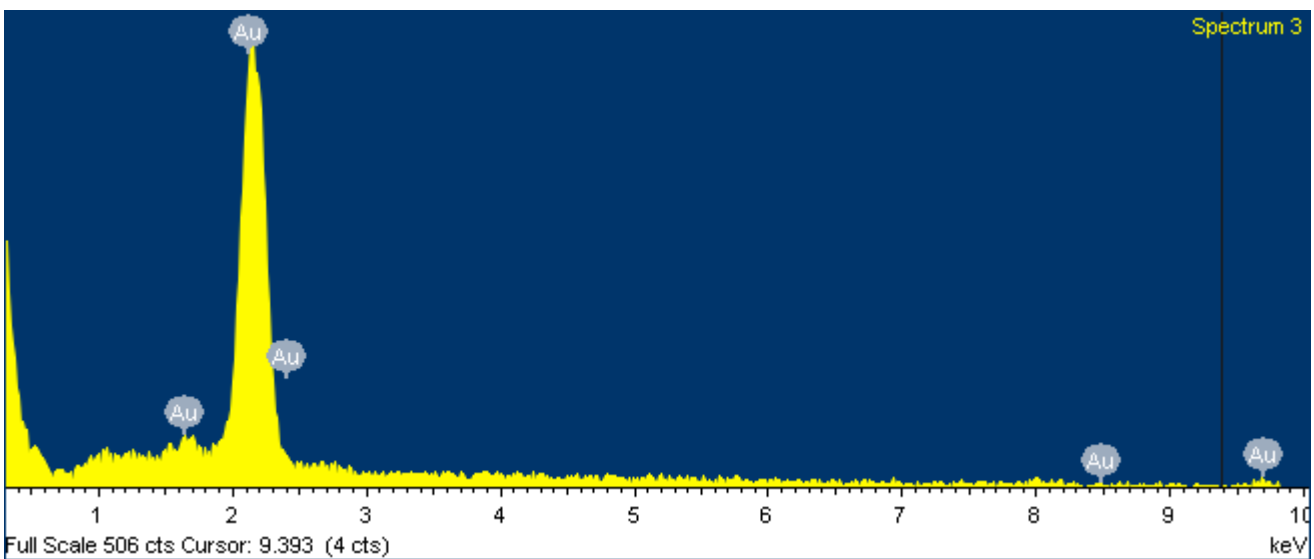
Electron Image 1





60µm

Electron Image 1





## Appendix D. XRF Matrix

For the matrix below, the team put all of the numbers from the element counts into percents. The important thing to note is that these percents in no way represent the percentage of that material in the piece, but rather how much of that element was present in relation to the other elements. For the sake of consistency, the team ranked the normalized counts from 1-4, with a 1 being from 0-.1, a 2 from .1-.3, a 3 from .3-.6, and a 4 from .6-1 (those values were then converted into percents). Once the matrix was complete, the team identified the top four elements for each piece and also identified the key elements that the team was trying to identify. The final part of the matrix compares the XRF testing with the SEM testing. The column labeled as "Further Analysis" displays the elements that were the most likely to be present in that given piece based on the XRF results.

Table 26. XRF Results Matrix (%)

	Ca	Sc	Ti	V	Cr	Mn
A001	1.69	0.00	3.39	1.69	0.00	0.00
A002	1.67	0.00	0.00	0.00	0.00	0.00
A003	3.03	0.00	0.00	0.00	6.06	3.03
A004	0.96	0.00	0.00	1.92	0.96	0.00
A005	1.35	0.00	0.00	0.00	4.05	0.00
A006	0.68	0.00	1.35	0.00	0.68	0.00
A007	0.00	0.00	2.49	0.50	3.98	0.00

B001	0.00	0.00	0.69	1.39	2.78	0.00
B002	0.00	1.74	2.61	0.00	1.74	0.00
B003	0.00	0.00	10.00	0.00	0.00	0.00
B004	0.00	0.00	0.75	0.00	0.75	0.75
B005	0.00	0.00	8.00	0.00	0.00	0.00

C001	0.00	0.00	0.00	0.00	0.00	0.00
C002	0.00	0.00	0.00	4.00	4.00	0.00
C003	0.00	0.56	2.26	0.56	0.56	0.00
C004	0.00	0.00	0.00	0.00	0.00	0.00
C005	0.00	0.00	0.70	1.41	2.11	0.00
C006	0.00	0.00	6.90	3.45	3.45	0.00
C007	0.00	2.42	1.82	0.61	2.42	0.00
C008	0.00	2.63	3.51	0.00	0.88	0.00
C009	0.00	0.00	3.85	1.92	1.92	0.00

Fe	Co	Ni	Cu	Zn	Ga	Ge
5.08	0.00	3.39	10.17	3.39	0.00	0.00
0.00	0.00	0.00	3.33	1.67	0.00	1.67
18.18	0.00	18.18	0.00	0.00	0.00	0.00
7.69	0.00	3.85	1.92	0.00	0.96	0.00
8.11	0.00	8.11	0.00	1.35	0.00	0.00
2.03	0.68	0.68	4.05	2.03	0.68	0.68
1.00	2.99	2.99	3.98	1.49	2.99	1.00

4.86	1.39	4.17	2.08	1.39	2.78	3.47
4.35	0.87	1.74	3.48	2.61	1.74	3.48
0.00	5.00	5.00	30.00	5.00	0.00	0.00
2.99	2.24	0.00	7.46	0.00	0.00	1.49
4.00	0.00	4.00	24.00	0.00	0.00	0.00

0.00	0.00	14.29	57.14	0.00	0.00	0.00
12.00	0.00	8.00	16.00	0.00	0.00	0.00
3.39	2.82	4.52	3.95	1.13	2.26	2.26
0.00	0.00	14.29	28.57	0.00	0.00	0.00
2.11	2.11	2.82	2.11	0.70	1.41	2.11
10.34	0.00	6.90	13.79	3.45	0.00	0.00
2.42	4.85	1.82	4.24	4.24	1.82	3.64
5.26	0.00	1.75	2.63	1.75	3.51	2.63
5.77	0.00	3.85	7.69	3.85	1.92	0.00

As	Se	Br	Kr	Rb	Sr	Y
0.00	1.69	0.00	0.00	0.00	15.25	1.69
1.67	1.67	1.67	0.00	6.67	11.67	1.67
0.00	0.00	0.00	0.00	0.00	15.15	3.03
0.00	1.92	0.96	0.00	0.00	9.62	8.65
0.00	5.41	0.00	0.00	0.00	6.76	2.70
0.00	2.70	0.00	0.00	1.35	5.41	5.41
0.00	3.98	1.00	0.00	2.49	4.48	2.99

0.69	2.78	0.00	0.00	4.86	8.33	3.47
1.74	0.87	0.87	0.00	6.09	9.57	3.48
0.00	0.00	0.00	0.00	0.00	30.00	0.00
0.00	2.99	1.49	0.00	1.49	2.24	1.49
0.00	0.00	0.00	0.00	0.00	20.00	0.00

0.00	0.00	0.00	0.00	0.00	28.57	0.00
0.00	0.00	0.00	0.00	0.00	16.00	0.00
1.69	2.82	1.13	0.00	1.69	5.08	3.39
0.00	0.00	0.00	0.00	0.00	28.57	0.00
0.70	2.11	0.00	0.00	2.82	2.82	6.34
0.00	0.00	0.00	0.00	0.00	6.90	3.45
1.21	3.03	0.61	0.00	1.21	3.64	6.67
0.88	3.51	1.75	0.00	4.39	4.39	2.63
1.92	1.92	1.92	0.00	1.92	5.77	5.77

Zr	Nb	Mo	Tc	Ru	Rh	Pd
5.08	0.00	1.69	1.69	1.69	1.69	0.00
5.00	6.67	1.67	1.67	1.67	10.00	10.00
0.00	6.06	3.03	6.06	0.00	6.06	0.00
11.54	2.88	1.92	9.62	1.92	6.73	5.77
8.11	2.70	2.70	5.41	6.76	9.46	5.41
6.08	3.38	1.35	7.43	2.70	6.76	5.41
4.48	2.49	2.99	3.48	2.49	5.97	5.47

6.25	2.78	2.08	4.86	4.17	6.25	7.64
5.22	0.87	0.87	0.00	0.87	5.22	1.74
0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.22	5.22	5.22	2.99	5.97	11.94	8.21
4.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	0.00	0.00	0.00
7.34	2.26	0.56	3.39	4.52	6.21	7.34
14.29	0.00	0.00	0.00	0.00	0.00	0.00
6.34	2.11	2.82	7.04	4.23	5.63	7.04
3.45	6.90	0.00	0.00	0.00	0.00	3.45
4.85	3.64	0.61	4.85	3.03	9.09	4.24
4.39	0.00	0.00	0.00	3.51	5.26	6.14
7.69	0.00	0.00	0.00	0.00	0.00	0.00

Ag	Cd	In	Sn	Sb	Te	I
5.08	1.69	3.39	10.17	3.39	1.69	6.78
5.00	5.00	3.33	10.00	6.67	0.00	0.00
3.03	0.00	0.00	0.00	0.00	0.00	0.00
4.81	4.81	0.96	0.96	1.92	0.96	0.00
6.76	5.41	1.35	0.00	1.35	0.00	0.00
4.73	7.43	2.70	8.11	6.76	0.68	0.68
5.47	3.98	1.00	6.47	9.95	1.49	0.00

0.69	4.86	3.47	4.17	0.00	2.08	0.00
3.48	6.09	2.61	11.30	8.70	1.74	0.00
10.00	0.00	0.00	5.00	0.00	0.00	0.00
8.21	5.97	2.24	3.73	0.00	0.00	0.00
0.00	0.00	0.00	12.00	12.00	4.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	0.00	0.00	16.00	0.00	4.00	0.00
3.39	2.82	2.82	6.21	5.65	2.82	0.00
0.00	0.00	0.00	7.14	0.00	0.00	0.00
5.63	1.41	3.52	7.04	7.04	2.11	0.00
6.90	0.00	0.00	3.45	3.45	3.45	0.00
6.06	2.42	3.64	2.42	0.00	1.82	0.00
3.51	7.02	4.39	6.14	6.14	1.75	0.00
3.85	5.77	1.92	15.38	3.85	0.00	0.00

Ta	W	Re	Pt	Au	Pb
0.00	0.00	0.00	1.69	3.39	3.39
0.00	0.00	0.00	0.00	0.00	0.00
0.00	9.09	0.00	0.00	0.00	0.00
1.92	0.00	0.00	0.00	3.85	0.00
2.70	0.00	1.35	0.00	2.70	0.00
0.68	0.00	0.68	0.00	3.38	2.70
0.00	0.00	0.00	0.50	3.98	1.49

0.00	2.08	0.00	0.00	3.47	0.00
0.87	0.87	0.00	0.00	1.74	0.87
0.00	0.00	0.00	0.00	0.00	0.00
0.00	2.99	2.24	0.75	1.49	1.49
0.00	0.00	0.00	0.00	8.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	8.00	0.00
0.00	0.56	0.00	0.00	2.82	1.13
0.00	0.00	0.00	0.00	7.14	0.00
0.70	0.00	0.00	0.00	4.23	0.70
0.00	0.00	0.00	0.00	10.34	0.00
0.61	0.00	0.61	0.00	4.24	1.21
0.88	2.63	0.00	0.00	4.39	1.75
1.92	1.92	0.00	0.00	5.77	1.92

	1	2	3	4
A001	15.25	10.17	10.17	6.78
A002	11.67	10.00	10.00	10.00
A003	18.18	18.18	15.15	9.09
A004	11.54	9.62	9.62	8.65
A005	9.46	8.11	8.11	8.11
A006	8.11	7.43	7.43	6.76
A007	9.95	6.47	5.97	5.47
B001	8.33	7.64	6.25	6.25
B002	11.30	9.57	8.70	6.09
B003	30.00	30.00	10.00	10.00
B004	11.94	8.21	8.21	7.46
B005	24.00	20.00	12.00	12.00
C001	57.14	28.57	14.29	0.00
C002	16.00	16.00	16.00	12.00
C003	7.34	7.34	6.21	6.21
C004	28.57	28.57	14.29	14.29
C005	7.04	7.04	7.04	7.04
C006	13.79	10.34	10.34	6.90
C007	9.09	6.67	6.06	4.85
C008	7.02	6.14	6.14	6.14
C009	15.38	7.69	7.69	5.77

	1	2	3	4
A001	Sr	Cu	Sn	I
A002	Sr	Rh	Pd	Sn
A003	Fe	Ni	Sr	W
A004	Zr	Sr	Tc	Y
A005	Rh	Fe	Ni	Zr
A006	Sn	Tc	Cd	Rh
A007	Sb	Sn	Rh	Pd
B001	Sr	Pd	Zr	Rh
B002	Sn	Sr	Sb	Rb
B003	Cu	Sr	Ti	Ag
B004	Rh	Pd	Ag	Cu
B005	Cu	Sr	Sn	Sb
C001	Cu	Sr	Ni	Ca
C002	Cu	Sr	Sn	Fe
C003	Zr	Pd	Rh	Sn
C004	Cu	Sr	Ni	Zr
C005	Tc	Pd	Sn	Sb
C006	Cu	Fe	Au	Ti
C007	Rh	Y	Ag	Co
C008	Cd	Pd	Sn	Sb
C009	Sn	Cu	Zr	Fe

Further Analysis	SEM Testing	Fit
Cu, Sn, Au, Pt		
Pd, Ag, Cu		
Ni	Ni (18.18)	Very Well
Zr, Ta		
Ni, Zr, Fe, Ta		
Noise		
Noise		
Noise		
Sn		
Cu, Ag		
Pd, Ag, Pt		
Cu, Au		
Cu	Cu (57.14)	Very Well
Cu, Te, Au	Ni (8.00), Au (8.00), Zr (4.00)	OK
Noise		
Cu, Au		
Pd, Sn	Cr (2.11), Ni (2.82), Fe (2.11)	OK
Te, Au		
Au	Au (4.24)	Very Well
Pd, Sn		
Ta		

## Appendix E. Cell Phone Data

Table 27. Collected Cell Phone Data

Number	Brand	Model	Year
1	Apple	Iphone A1203 (8GB)	2007
2	Apple	Iphone A1303 (3GS) (32 GB)	2009
3	Apple	Iphone A1241 (3G) (8 GB)	2008
4	HTC	Thunderbolt ADR6400L (4 GB)	2011
5	LG	LG-VX9200M	-
6	LG	LG-VX9600WOK	-
7	LG	VX8300	-
8	LG	VX8100	-
9	LG	VX6100 (?)	-
10	Samsung	SCH-U340	-
11	Motorola	MQ3-4411H11 (Razor)	-
12	Samsung	SGH-A777	-
13	Nokia	2320c-2b	-
14	Samsung	SCH-U960	-
15	Apple	Iphone A1241 (3G) (8GB)	2008
16	Apple	Iphone A1303 (3GS)	2009
17	Samsung	SGH-A167	-
18	Samsung	SCH-U960	-
19	Samsung	SGH-A137	-
20	Samsung	SPH-A660	-
21	Nokia	6085H	-
22	Nokia	6133	-
23	Nokia	1661-2b	-
24	Sanyo	SCP-3200	-
25	UTStarcom	PCS1450VMR	-
26	LG	GR500 (?)	-
27	LG	VX10000	-
28	LG	VX9100M	-
29	Motorola	610214611277	-
30	Motorola	V325i	-
31	Motorola	V325i	-
32	LG	LG-VX9200M	-
33	LG	C2000	-
34	LG	VX3100	-
35	Pantech	P6010	-
36	Motorola	601(Y)	-
37	Samsung	SGH-A187	-

Weight - With Battery (kg)	Weight of Battery (kg)	Weight of LCD (kg)
0.14	-	-
0.14	.02 (alone)/.05 (with back casing)	0.05
0.13	.05 (with back casing)	-
0.18	0.03	-
No Battery		
No Battery		
0.14	0.02	-
0.13	-	-
0.13	-	-
No Battery		
0.14	0.02	-
No Battery		
No Battery		
0.11	0.01	-
0.11	0.01	-



Weight of Circuit Board (No SIM) (kg)	Description (flip, camera, etc)
-	Smart phone
0.01	Smart phone
0.01	Smart phone
-	Smart phone
	Flip phone with full keyboard
	Flip phone with full keyboard
	Flip phone with camera and extra electronics on top
	Flip phone with camera and extra electronics on top
	Flip phone with camera
	Flip phone with camera
	Flip phone with camera
	Flat phone
	Flat phone
-	Sliding phone with touch screen
-	Smart phone
-	Cracked screen; Smart phone
	Flip phone with camera; Heavy damage
-	Smart Phone slider
	Flip phone without camera
	Flip phone without camera
	Flip phone with camera
	Flip phone with camera
	Flat phone
	Flip phone with camera and speaker on top
	Flat phone
	Sliding phone with touch screen
	Flip phone with full keyboard
	Flip phone with full keyboard
	Flip phone without camera; Heavy damage
-	Flip phone with camera
-	Flip phone with camera
	Flip phone with full keyboard
	Flip phone with camera and extra electronics on top
	Flip phone without camera
	Sliding phone with touch screen
	Flip phone without camera; Extra electronics on top
	Flat phone with full keyboard



## Appendix F. XRF Cell Phone Pieces



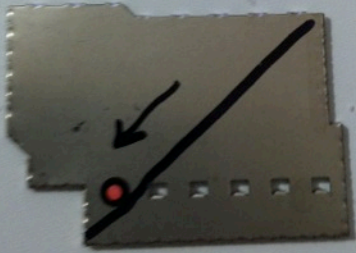
A003



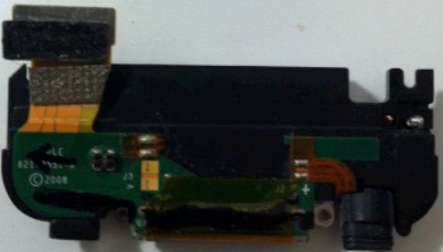
A004



A005



A006



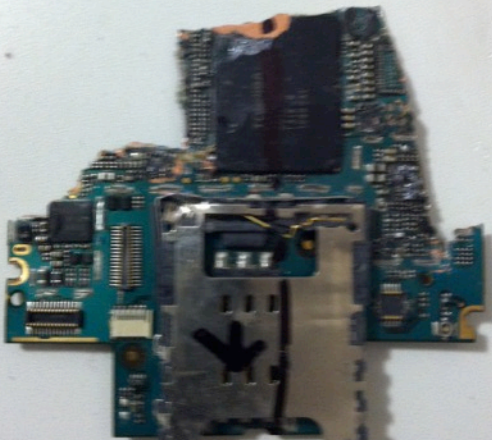




B001



B002



B003



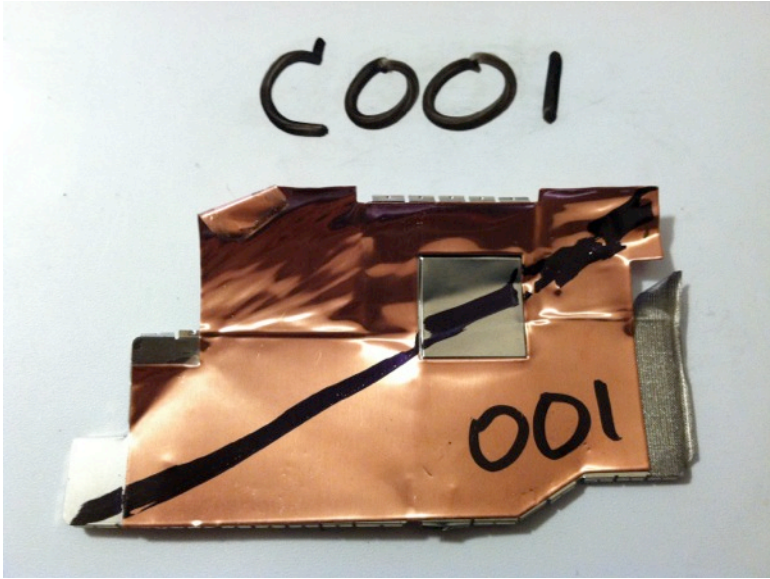
B004





B005

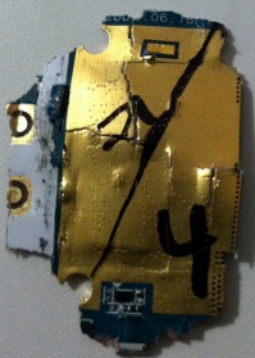




C003



C004



C005



C006









## **Appendix G. Collection Evaluation Scheme**

Although this mode of evaluation was not applied during the course of the project because it fell outside of the overall scope, it is being included so that future teams could use it in order to evaluate the successes and failures of electronic waste collection schemes. The table is based on concepts used in the EU, but it could be adapted to evaluate the systems used in the US as well.

Table 28. Collection Evaluation Scheme

Piece Being Evaluated	Value
Type of product being collected	
Level of sorting of incoming material	
Who is collecting the material (producer, distributor, municipality)	
Regulations/Laws driving the collection	
Incentives for collector	
Incentives for user	
Educational component	
Location of collection	
Mode of collection (bins, mail in, picked up)	
Possibility of Reuse	
Volume of products	

EU	
Average cost of incineration (Assume cost for e-waste equal to MSW)	
Average cost to landfill	
Percent of incinerators with energy recovery	
For discarded trash - percent landfilled	
For discarded trash - percent incinerated	
Total number of cell phones discarded per year (In EU)	
Number landfilled	
Number incinerated	
Average mass of cell phone	
Total mass of landfilled cell phones	
Total mass of incinerated cell phones	
Cost to landfill	
Cost to incinerate	
Environmental releases due to landfill	
Environmental releases due to incineration	
Average transportation distance	
Average mileage for transportation trucks	
Average cost of transportation	
Number of cell phones recycled	
Total profit of recycling	
Total Cost	



## **Appendix H. Preprocessing Evaluation Scheme**

Although this mode of evaluation was not applied during the course of the project because it fell outside of the overall scope, it is being included so that future teams could use it in order to evaluate the successes and failures of electronic waste processing schemes. The table is based on concepts used in the EU, but it could be adapted to evaluate the system used in the US as well.

Table 29. Preprocessing Evaluation Scheme

<b>Piece Being Evaluated</b>	<b>Value</b>
Mode of transport to facility	
Mode of transport from facility	
Lowest degree of initial sorting (ie, all cell phones, all e-waste, etc.)	
Mechanical or manual dismantling	
-If mechanical, what type of machine/process was used	
Target end products to be sent to refinery (include amount of each product per cell phone and laptop)	
Time required to "completely" dismantle each product	
Total cost of sorting and dismantling per device	
Primary vs secondary energy (mined cost includes transport cost) (mined concentration in g/tonne)	
<b>Recover precious metals</b>	
Precious metals present	
Mass of precious metals	
Locations within cell phone/tablet	
Price of recovered precious metals (price per g, average of all precious metals present)	
Price of mined precious metals (price per g, average of all precious metals present)	
Negative environmental impact of metal	
<b>Recover rare earth elements</b>	
Rare earth elements present	
Mass of rare earth elements	
Locations within cell phone/tablet	
Price of recovered rare earth elements	
Price of mined rare earth elements	
Negative environmental impact of elements	
<b>Recover critical materials</b>	
Critical materials present	
Mass of critical materials	
Locations within cell phone/tablet	
Price of recovered critical materials	
Price of mined critical materials	
Negative environmental impact of materials	
<b>Mechanical (%)</b>	
<b>Manual (%)</b>	
<b>No Preprocessing (%)</b>	

## Appendix I. Elements in Phones

Table 30. Common Elements Found in Cell Phones

Rare Earths	Precious Metals	Base Metals	Hazardous Elements/Heavy Metals	Halogens	Other
Neodymium	Gold	Copper	Lead	Bromine	Cobalt
Cerium	Silver	Aluminum	Arsenic	Chlorine	Phosphorous
	Palladium	Zinc	Mercury		Sulfur
	Platinum	Tin	Barium		Potassium
		Nickel	Antimony		Calcium
		Iron	Cadmium		Titanium
			Beryllium		Vanadium
			Lithium		Magnesium
			Nickel		Strontium
			Selenium		Zirconium
			Chromium		Niobium
					Molybdenum
					Iodine
					Hafnium
					Tantalum
					Tungsten
					Rhenium
					Bismuth



## Appendix K. Mass Balance of Electronic Waste System

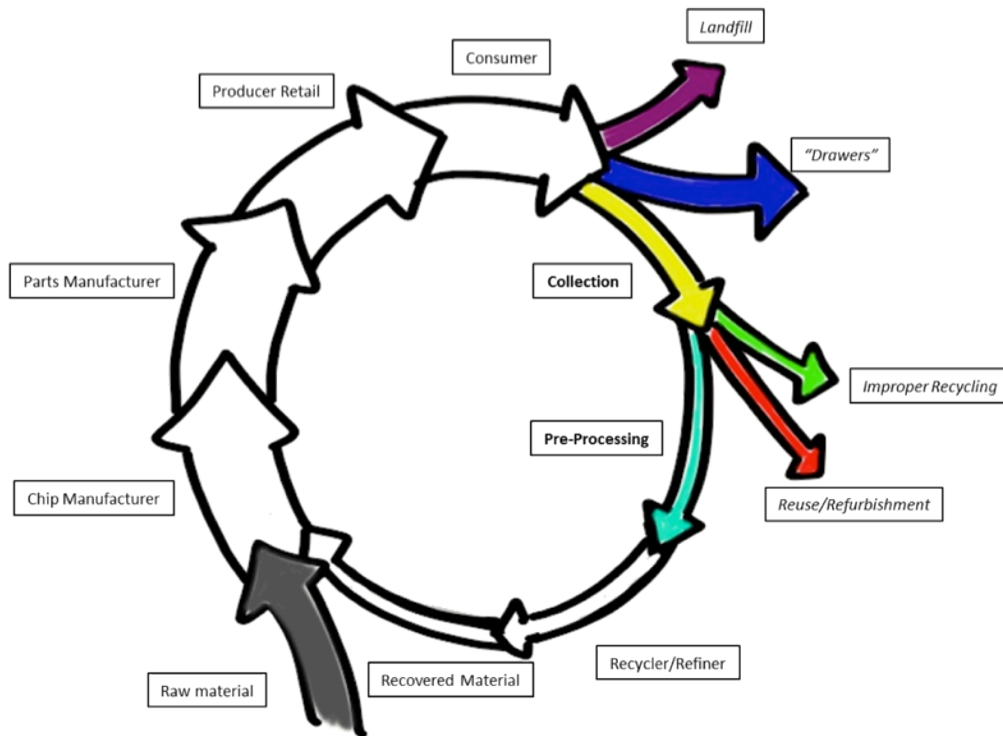
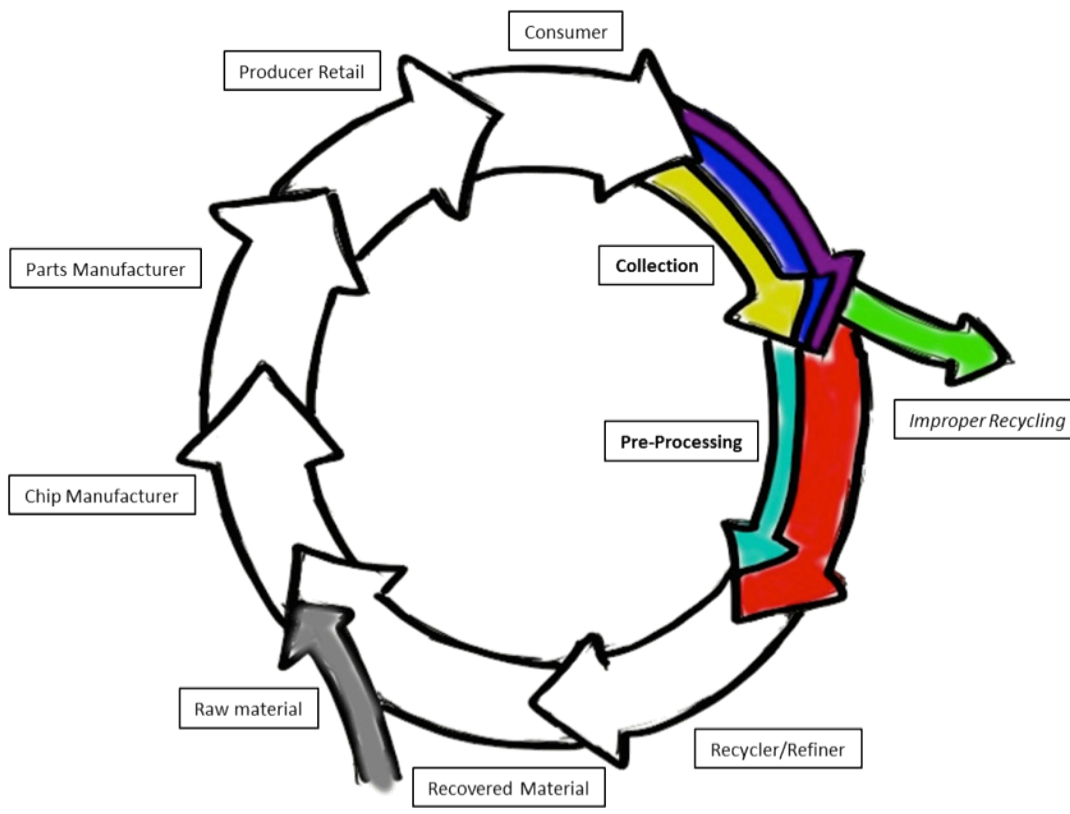


Figure 43. Current Open Loop System

In this visual representation of a mass balance for a recycling system, each color represents a different piece of the life cycle:

- Purple – Electronic devices that are thrown away at their end of life stage
- Blue – Devices that are stored in houses
- Yellow – Devices that are properly recycled by the consumer
- Green – Losses due to illegal shipments abroad
- Red – Materials that are reused or refurbished
- Turquoise – Metals that are recovered through preprocessing



**Figure 44. Proposed Closed Loop System**

In this visual representation of a mass balance for a recycling system, each color represents a different piece of the life cycle:

- Purple – Electronic devices that are thrown away at their end of life stage
- Blue – Devices that are stored in houses
- Yellow – Devices that are properly recycled by the consumer
- Green – Losses due to illegal shipments abroad
- Red – Materials that are reused or refurbished
- Turquoise – Metals that are recovered through preprocessing

The reason why the green arrow representing losses due to illegal shipments abroad has not been included in the closed loop is because it was outside of the scope of this project.