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Australian Government
Department of Industry, Science and Resources
Cooperative Research Centres Program

LONDON'S GLOBAL UNIVERSITY

CENG0037 MSc Research Project

Linking pyrite chemistry to mineralization across the Delamerian Orogeny, South Australia

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A thesis submitted to the University of London for the degree of Master of Science

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September 2023

Declaration

I, Shiyue Zhang, confirm that the work presented in this thesis is my own.

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Word count: 5850

(excluding the title page, table of contents, references, tables, figures and appendices)

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Abstract

This study examines pyrite from recent drilling by the Geological Survey of South Australia and MinEx CRC in the Delaermian Orogen to determine the mineralization potential of the area. The Delamerian Orogen has shown considerable potential for Porphyry and Volcanic Massive Sulfide (VMS) mineralization present across South Australia, New South Wales and Victoria. However, much of the region is underexplored, with little known about the eastern part of South Australia. This study used microscopy, backscattered electron images and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) techniques to observe and analyze the geochemical elements of the pyrite samples collected from several locations, with a primary focus on Co, Ni, As, Se, Te, Sb, Cu, Pb, Zn, Au, Ag, Mo, Tl, Bi. The results show that there are two main types of pyrite sample genesis: sedimentary and magmatic-hydrothermal, with the latter being more prevalent, and elemental ratios such as Co/Ni and Au/Ag have been identified as key determinants of the genesis of these deposits. The study showed that one sample, 4331854, displays characteristics typical of VMS deposits, sample 4331855 displays characteristics of VMS deposits associated with marine sedimentary environments, while the other samples are closer to porphyry mineral systems. This study provides important baseline data for further exploration and development activities in the Delamerian Orogen.

Keywords: Delamerian Orogen, pyrite deposits, elemental ratios, geochemical analyses, deposit genesis.

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1. Introduction

With global population growth and the development of green energy, human demand for mineral resources such as copper and iron are rising dramatically [1]. However, global reserves of these resources are rapidly diminishing as the rate of discovery of economically viable mineral deposits declines [2]. Easily accessible surface minerals have been extensively exploited and the surge in demand for key minerals is driving a shift in the exploration frontier to deeper horizons [3]. However, this shift has been accompanied by increased costs and risks. To mitigate some of these risks, innovative technologies are being developed to aid mineral exploration, for example, by analyzing and studying the chemical characteristics of minerals, as well as fluid properties to better inform stratigraphy for exploration.

Given current exploration challenges, pyrite (FeS_2), a prevalent sulfide phase in Earth's crust, gains elevated importance as an indicator mineral. Pyrite is commonly associated with various ore deposits across diverse geological settings [4], and its microtextures and trace element compositions serve as archives of significant geological data, including hydrothermal fluid characteristics and multi-stage mineralization processes [5]. Thus, understanding the conditions favoring pyrite formation is integral to risk-mitigated, cost-effective deep mineral exploration. Such insights into physicochemical conditions and fluid chemistry not only facilitate targeted exploration in challenging depths but also serve as a strategic asset for optimizing mineral discovery in today's constrained landscape.

A joint Geological Survey of South Australia (GSSA) and MinEx CRC drilling effort has recently been undertaken in the eastern part of the Cambrian-Ordovician Delamerian Orogen in South Australia. To date, exploration for base and precious metals within the Delamerian basement has been focused on the western margin [6]. However, initial findings from recent drilling along the eastern margin suggest that the area possesses the necessary elements for the occurrence of porphyry copper-gold and volcanic massive sulfide (VMS) mineralization [7]. Numerous studies have shown that porphyry and VMS deposits are strongly associated with pyrite occurrences [8]. In 2019 the first phase of the project data release was completed and the GSSA and collaborative partners undertook a geological review and data audit of the Delamerian basement [20]. From this work two areas were identified for the NDI drilling program. The second phase was research and scientific drilling. the Quondong Vale and Alawoona areas provided a cross-section of the geological and geophysical domains within the Murray Basin basement. Future work in these areas will provide valuable knowledge of the Delamerian orogenic belt and its mineral potential. As of May 2023, drilling was substantially complete and progressed to geochemical analysis of drill samples [20]. This paper assesses the trace and rare earth element chemistry of five pyrite samples from the recent drilling undertaken in the Delamerian Orogen, in South Australia. This data will be used to investigate the chemical and physical conditions of fluids through the assessment of pyrite chemistry, to determine the link between Porphyry and VMS mineralization in the region. This data will be compared to other datasets in literature that are from different mineralizing systems, to provide an understanding of the prospectivity of the region.

2. Background

2.1 Pyrite

Pyrite is a sulfide mineral that has a metallic luster and a light brass color. Because of its similarity to gold in appearance, it has the alias of fool's gold [9]. Pyrite is ubiquitously found and shaped under various conditions and exhibits particular associations with specific geological settings. In igneous environments, for instance, pyrite production can be attributed to two main processes. Firstly, it can grow during the separation of magma. Secondly, pyrite may precipitate under hydrothermal conditions within quartz and sulfide vein deposits, a testament to the mineral's ability to form under intense heat and pressure [10].

When considering sedimentary environments, pyrite displays a strong affinity for certain rock types, such as shale, coal, and limestone. As a primary mineral, pyrite can be directly deposited in primary sediments [11]. For instance, in black shales and similar sedimentary rocks formed under reducing environmental conditions, pyrite often replaces fossils, forming pseudocrysts with albite [12]. Additionally, shales, formed by precipitation from anoxic seawater, frequently contain pyrite as an accessory mineral, just as coal seams often harbor significant pyrite quantities.

In the context of metamorphic environments, pyrite reveals itself predominantly through contact metamorphism, evident in large deposits that lie in proximity with other metamorphic rocks, such as schist or slate [13]. These rocks have undergone transformation due to intense heat and pressure, justifying their classification as metamorphic [14]. For instance, copper-bearing pyrite deposits, which are large and distributed widely, typically occur at or near the contact of eruptive rocks with schist or slate. However, pyrite undergoes weathering over time, transitioning into hydrated iron oxide, acanthite, or limonite. The occurrence of acanthite pseudocrysts following pyrite is quite common [9].

2.2 Role of pyrite composition in mineral exploration

Pyrite (FeS_2) is a common mineral found in many geological settings and is of great interest in exploration because of its association with various mineral deposits. The chemical composition of pyrite plays a vital role in exploration as it can provide valuable information about the geological processes that led to its formation and the possible presence of economically significant minerals[15]. Among the aspects of pyrite chemical composition that are relevant to exploration are:

(1) Sulfur isotopic composition [16]: Pyrite contains sulfur and the isotopic composition of sulfur in pyrite can provide insight into the origin of sulfur and the conditions of pyrite formation. Different isotopic signatures can indicate different sources of sulfur, such as magmatic, sedimentary or hydrothermal. These signatures help to understand the geological setting and the potential for associated mineralization.

(2) Trace elements [17]: Pyrite may contain a variety of trace elements including Au, Ag, Cu, Zn, an As, as well as many other elements. The presence and abundance of these trace elements in pyrite can indicate the type of deposit in which the pyrite is associated with, based on the physiochemical conditions which formed that mineralizing system. For example, gold-rich pyrite can indicate the presence of gold mineralization nearby. Analysis of the trace element content of pyrite can help target exploration efforts.

(3) Microscopic inclusions [18]: Pyrite often contains microscopic inclusions of other minerals within its lattice. These inclusions can provide valuable information about the mineralizing fluids and the geological processes involved in the formation of pyrite. The study of the nature and composition of these inclusions can provide insight into the potential for associated mineralization.

(4) Oxidation state [19]: Pyrite can occur in different oxidation states, including the common iron sulfide (FeS_2) form and the oxidized form (FeS_2-x). The oxidation state of pyrite can provide information about the redox conditions of the environment in which it formed. This information is useful for understanding the potential of the associated mineralization and the chemical evolution of the system.

2.3 Delamerian Orogen

The two work areas for this study, Quondong Vale and Alawoona, are located in the Delamerian Orogen (Fig.1[20]). The Delamerian Orogen (c. 514-490 Ma), spanning across the eastern half of South Australia and western parts of Victoria New South Wales and Tasmania, is an orogenic belt (Fig.1[20]). It encompasses various geological units and tectonic events and involved multiple phases of deformation spanning from the late Middle Cambrian, to the Early Ordovician [21]. The Delamerian Orogen is preserved in sedimentary sequences of the Kanmantoo Group, the basal Normanville Group, and Neoproterozoic rocks of the extensive Adelaide Rift Complex, and extends eastwards towards the Koonenberry Belt in New South Wales. The main outcropping region is within the Adelaide Rift Complex, which then extends eastwards into Victoria, and is overlain by younger sediments of the Murray Basin [22].

The collision and subsequent deformation of tectonic plates during the Delamerian Orogeny played a crucial role in the formation of the region's geological structures and mineral deposits. The orogenic processes associated with the orogeny created favorable conditions for the development of various mineral deposits, including copper, gold, lead, zinc, silver, and uranium [23]. Created favorable conditions for the development of Porphyry Cu-Au (e.g. Anabamma Hill, Netley Hill), VMS deposits (e.g. Loch Lilly-Kars Belt) and Iron-Oxide Copper-Gold (IOCG) deposits (e.g. Prominent Hill, Olympic Dam) [24]. These mineral deposits are of economic significance and are found within different rock units associated with the Delamerian Orogen [25].

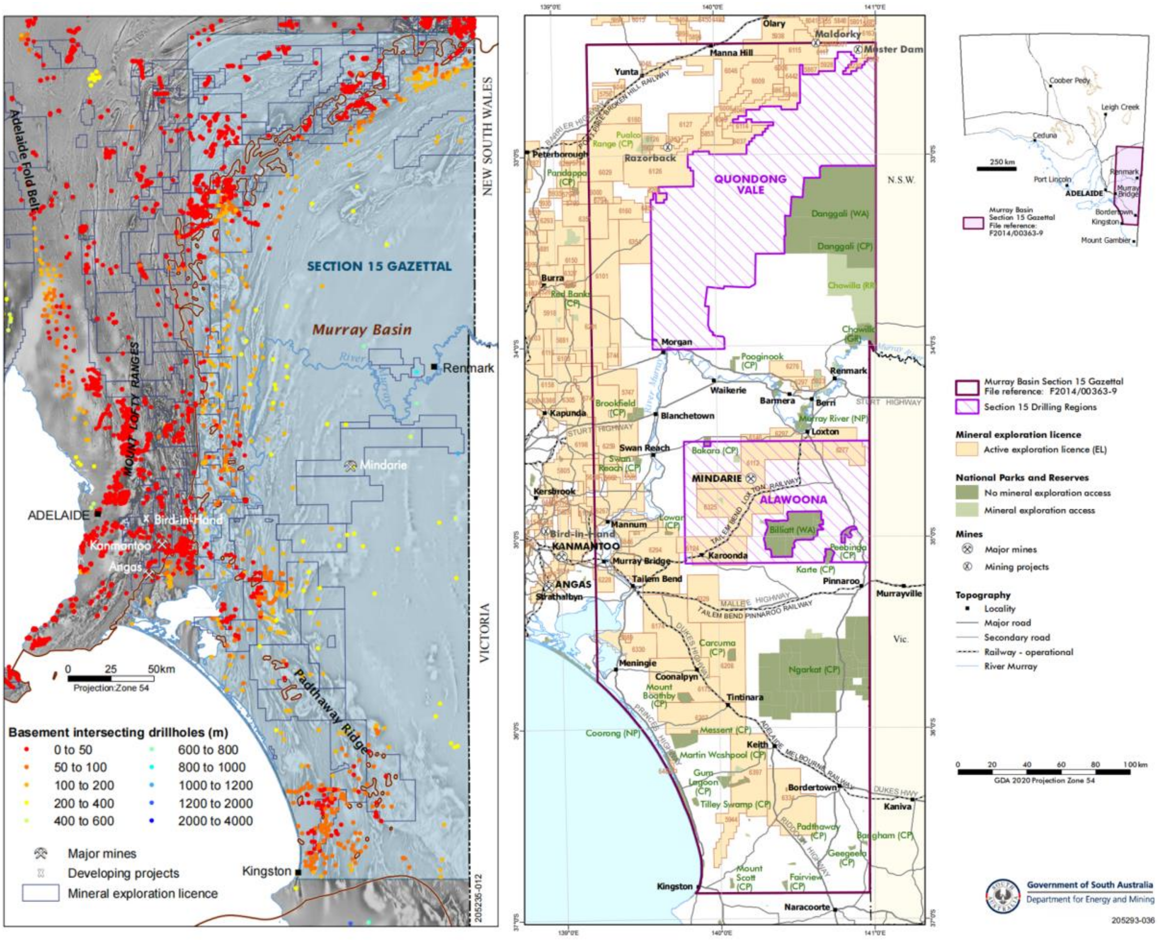

Figure 1. Geological map displaying the extent of the Delamerian Orogen in South-eastern Australia [20]

3. Methodology

In order to study the potential deposit types in the work area, this study focuses on understanding the geological information (e.g., fluid type) provided by pyrite as an indicator mineral by observing microscopic and backscattered electron (BSE) images of pyrite. As well as obtaining geochemical elemental data by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS), and then analyzing the deposit information reflected by pyrite in the samples.

3.1 Sample Preparation

Five drill core samples were mainly used in this study, taken across the Quondong Vale and Alawoona drilling areas, undertaken by the Geological Survey of South Australia and MinEx CRC Delamerian National Drilling Initiative (NDI) Campaign (Tab. 1).

Table 1. Pyrite Sample Description

Number	Hole	From(m)	To(m)	Sample Description
4331858	NDI_AWD06	252.74	252.81	Pyrite within Volcanics (primary), primary or associated with the contact volcanics. Also some sitting within the vein close by
4331859	NDI_AWD06	271.15	271.22	Pyrite associated with quartz veins
4331857	NDI_AWD05	364.33	364.39	Pyrite in clasts within a brecciated matrix
4331855	NDI_AWD02	270	270.1	Pyrite in sediments
4331854	NDI_QVD20	252.23	252.3	Pyrite in Breccia where there some volcanics

All samples underwent a meticulous preparation process to preserve their original state for scrutiny and evaluation. Individual pyrite grains and chips were selected and mounted in an epoxy resin to create 1-inch rounds. Eight mounts were produced from the 5 samples. Subsequently, the mounts was ground and polished to expose pyrite grains, attaining a perfectly smooth state ideal for later microscopic analysis. We exercised due caution to avoid bias during particle selection, ensuring a comprehensive assortment across all dimensions, hues, and forms [26].

3.2 Microscope

We conducted an in-depth study of the pyrite samples using a Nikon optical microscope, under reflected light. Observing the samples at different magnifications allowed us to explore a variety of pyrite characteristics, including grain size, shape, dispersion, and distinctive inclusions or structural patterns [27]. To fully document our findings, we took photographs as a visual record, preserving the minute details of our microscopic explorations. When interpreting our observations, we pay careful attention to any anomalies or unique features in the samples.

3.3 SEM Images

The pyrite specimens slated for investigation were examined using a HITACHI TM-4000 Plus Tabletop Scanning Electron Microscope (SEM). Backscattered electron (BSE) imaging offers a finely detailed perspective that enables the identification and microscopic examination of features that would remain unseen under a standard optical microscope and insight into surface morphology [28] . We obtained images at multiple magnifications, documenting a spectrum of features ranging from the holistic structural architecture to minute details pertaining to the pyrite's grain boundaries and crystalline structure.

Special attention was accorded to phenomena like impurities, fractures, or shifts in grain size, which could serve as potential indicators of altered conditions under which the pyrite was formed [26].

3.4 LA-ICP-MS

Pyrite chemistry was collected through Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS). The prepared pyrite samples were analyzed by LA-ICP-MS to determine their elemental and isotopic compositions to study the amount of REE and trace element concentrations in the pyrite samples [29]. All LA-ICP-MS trace element images presented in this paper were collected in 2023 at Adelaide Microscopy, the University of Adelaide.

During the analysis, a focused laser beam was used to ablate a small area of the sample surface, at a spot size of 51 μm. The ablated material is then transported by a carrier gas to an inductively coupled plasma source where it is ionized. The ions are separated in a mass spectrometer according to their mass-to-charge ratio, and the ion signals are then measured to obtain information about the concentration of each element in the sample [30]. To secure the reliability and exactitude of our findings, we employed the use of established reference materials. Specifically, we used STDGL3 [31] for assessing chalcophile and siderophile elements present in sulfides. For the scrutiny of all elements found in silicates, carbonates, and oxides, the GSD-1G benchmark [32] was applied (Appendix B). Reference materials were analyzed in blocks of every 20 analyses. We ablated both reference materials and pyrite analysis using a 51 μm round beam, for 90 seconds, including 30s background. Samples were ablated at 10 Hz, a method designed to decrease the effect of downhole fractionation. The laser fluence on average for STDGL3 was recorded at 2.7 J/cm^3, while a slightly higher value of 3.5 J/cm^3 was noted for GSD-1G.

The exhaustive catalogue of elements and corresponding isotopes studied in this research is inclusive of, but not limited to [30]: ^{23}Na, ^{24}Mg, ^{27}Al, ^{29}Si, ^{31}P, ^{34}S, ^{39}K, ^{43}Ca, ^{45}Sc, ^{49}Ti, ^{51}V, ^{53}Cr, ^{55}Mn, ^{57}Fe, ^{59}Co, ^{60}Ni, ^{65}Cu, ^{66}Zn, ^{71}Ga, ^{75}As, ^{77}Se, ^{85}Rb, ^{88}Sr, ^{89}Y, ^{90}Zr, ^{93}Nb, ^{95}Mo, ^{107}Ag, ^{109}Ag, ^{111}Cd, ^{11}8Sn, ^{121}Sb, ^{125}Te, ^{137}Ba,

^{140}Ce, ^{157}Gd, ^{178}Hf, ^{181}Ta, ^{182}W, ^{185}Re, ^{195}Pt, ^{197}Au, ^{202}Hg, ^{205}Tl, ^{206}Pb, ^{207}Pb, ^{208}Pb, ^{209}Bi, ^{232}Th, and ^{238}U (Appendix A). Counts per second data retrieved were processed using iolite 4 to produce elemental data in ppm, which is used in this study.

4. Results

4.1 Sample Description

Five pyrite-bearing rocks were analyzed in this study, where 8 mounts were produced. Samples are labeled 4331854, 4331855, 4331857, 4331858, and 4331859 (Tab. 1). All samples are from recent drilling in the Delamerian Orogen in eastern South Australia, with sample 4331854 coming from the Quondong Vale area and all other samples coming from the Alawoona area [20].

Microscopic examination of pyrite shows several distinctive features, which were systematically analyzed in this study. The typical cubic crystal structure of pyrite is clearly visible under the microscope in some of the samples. Under the microscope single polar, pyrite is greyish white, the crystal surfaces of some samples are usually rough and pitted, and some samples contain some inclusions and inclusions of other minerals. In general, the pyrite grains are usually large, and due to the large number of samples, the grain size varies considerably from around 0.7 mm for large grains up to 0.5 cm, to only 50 μm for small grains.

Sample 4331854 has pyrite grains averaging about 70 μm in size, which are fine-grained cubic crystals with an overall concentration of grains (Fig. 2a).

Sample 4331855M1 has three larger pyrite grains with a maximum grain size of 2.2 mm and a minimum of 1.7 mm (Fig. 2b). The pyrite is in brecciated grains, while the pyrite in Sample 4331855M2 is more dispersed, with grains ranging from 1.6 mm at the largest to 100 μm at the smallest (Fig. 2c). Most of the grains have flat surfaces and low content of impurities within the grains.

Sample 4331857M2 has pyrite grains up to 0.5 cm in size, with sharp edges, brecciated grains, and small amounts of impurities (Fig. 2d).

Sample 4331858M1 has more dispersed pyrite grains with a maximum size of 2 mm and a minimum size of 0.2 mm, and the surface of the pyrite grains is relatively flat and smooth (Fig. 3a). Chalcopyrite grains can be observed. The pyrite grains in sample 4331858M2 have a coarse surface and sericitization is visible. The pyrite grains are large, all around 2 mm (Fig. 3b).

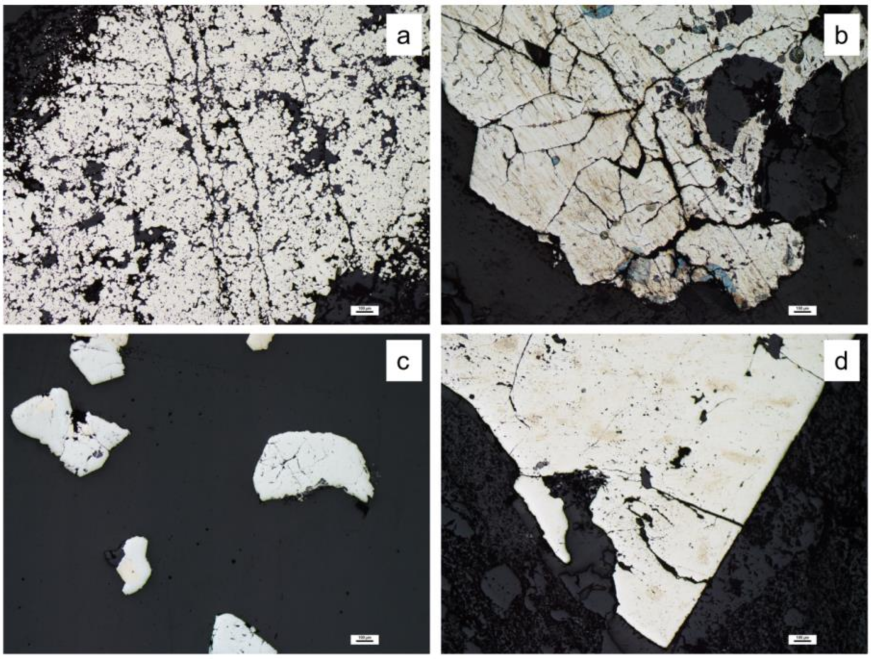

Figure 2. Microscopic characterization of pyrite samples (a:4331854; b:4331855M1; c:4331855M2; d:4331857M2)

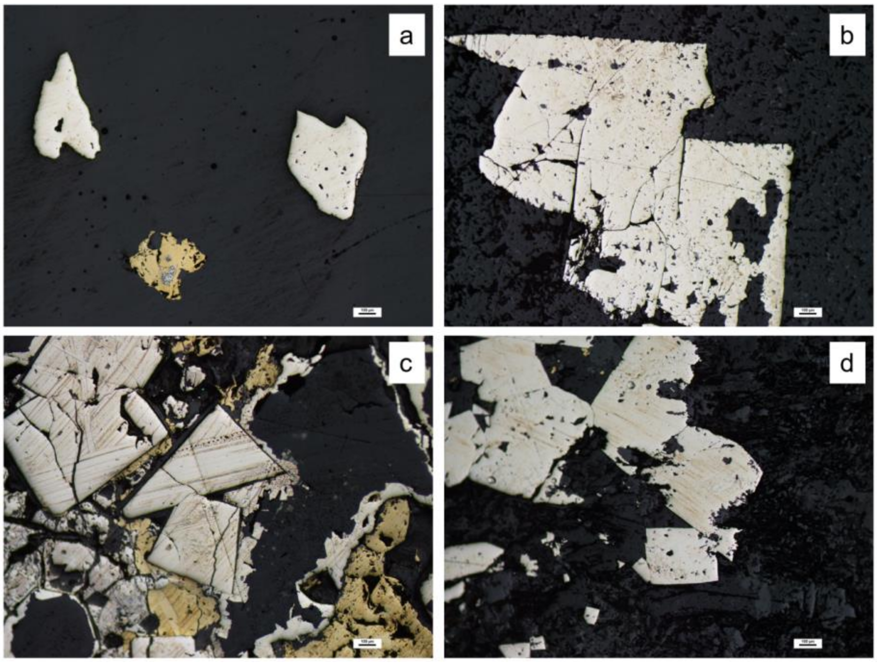

Figure 3.Microscopic characterization of pyrite samples(a:4331858M1; b:4331858M2; c:4331859M1; d:4331859M2)

Some of the pyrite grains in sample 4331859M1 have a very coarse surface with visible sericitization and many holes and cracks on the grain surface (Fig. 3c). However, there are also some pyrite grains with a relatively smooth and flat surface, showing cubic grains. Meanwhile, it can be observed that chalcopyrite occurs more, some of which are wrapped by pyrite and some of which are adjacent to pyrite grains. The situation of sample 4331859M2 is the same as that of M1, some pyrite grains are disseminated and have coarse surfaces, but some pyrite grains also show a clear cubic structure with smooth and flat surfaces. However, almost no chalcopyrite was observed in 4331859M2 (Fig. 3d).

The microscopic studies provide a comprehensive understanding of the microscopic characteristics of pyrite. They provide valuable insights into the structure, formation, and potential applications of pyrite.

4.2 SEM Images

Detection of pyrite through the utilization of backscattered electron (BSE) imaging has furnished a distinctive perspective into both the structural and compositional attributes inherent to this mineral. Within the BSE images, contrasts in composition become evident, revealing variations in brightness that correspond directly to spatial distributions of the elemental constituents, specifically iron and sulfur. A notably luminous pyrite fraction is distinctly observable within the experimental imagery. Moreover, the BSE mode serves to emphasize differences in atomic numbers, enabling the clear differentiation of pyrite from any potential inclusions or extraneous impurities.

The pyrite in sample 4331854 shows in the BSE image small inclusion-free euhedral cubes that have a high reflectivity, and the difference in brightness between it and other impurities can be clearly observed (Fig. 4a).

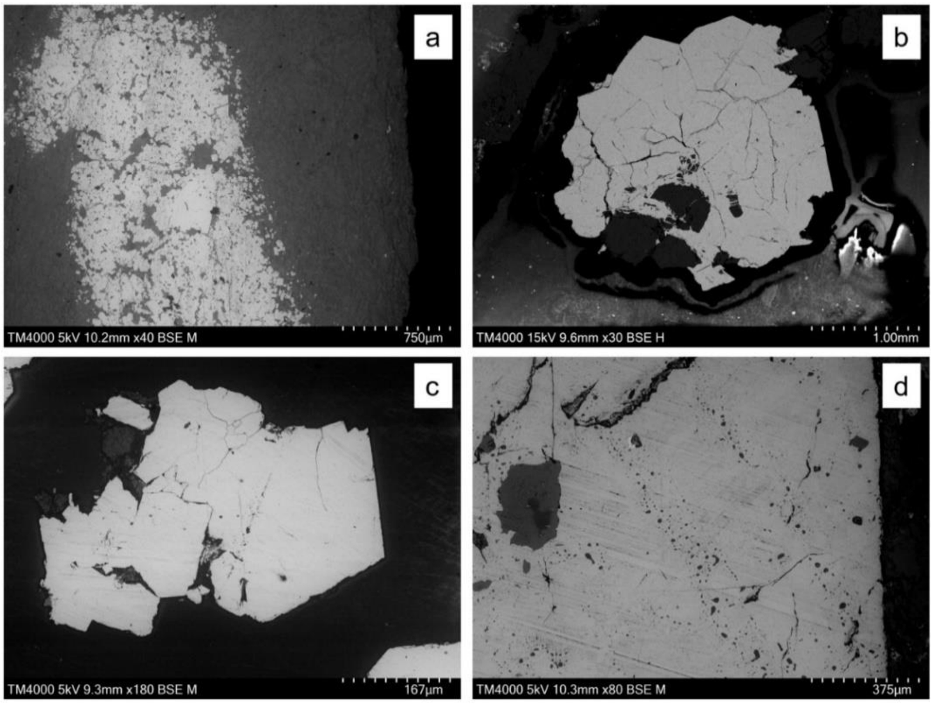

Figure 4. Backscattered electron images of pyrite samples(a:4331854; b:4331855M1; c:4331855M2; d:4331857M2)

The surface of the pyrite grains of both sample 4331855M1 and sample 4331855M2 is relatively flat, and almost no other impurities can be seen in the center except cracks (Figs. 4b and 4c).

Sample 4331857M2 pyrite grains have relatively flat surfaces with more inclusions and many small round holes on the surface, showing poor polished surfaces and a spongy appearance (Fig. 4d).

Sample 4331858M2 The surface of the pyrite grains is relatively coarse, and many impurities can be seen (Fig. 5a). It can also be seen that the pyrite grains are heavily eroded and the grain morphology is incomplete. There are several other minerals in the center that are much brighter than pyrite (Fig. 5b).

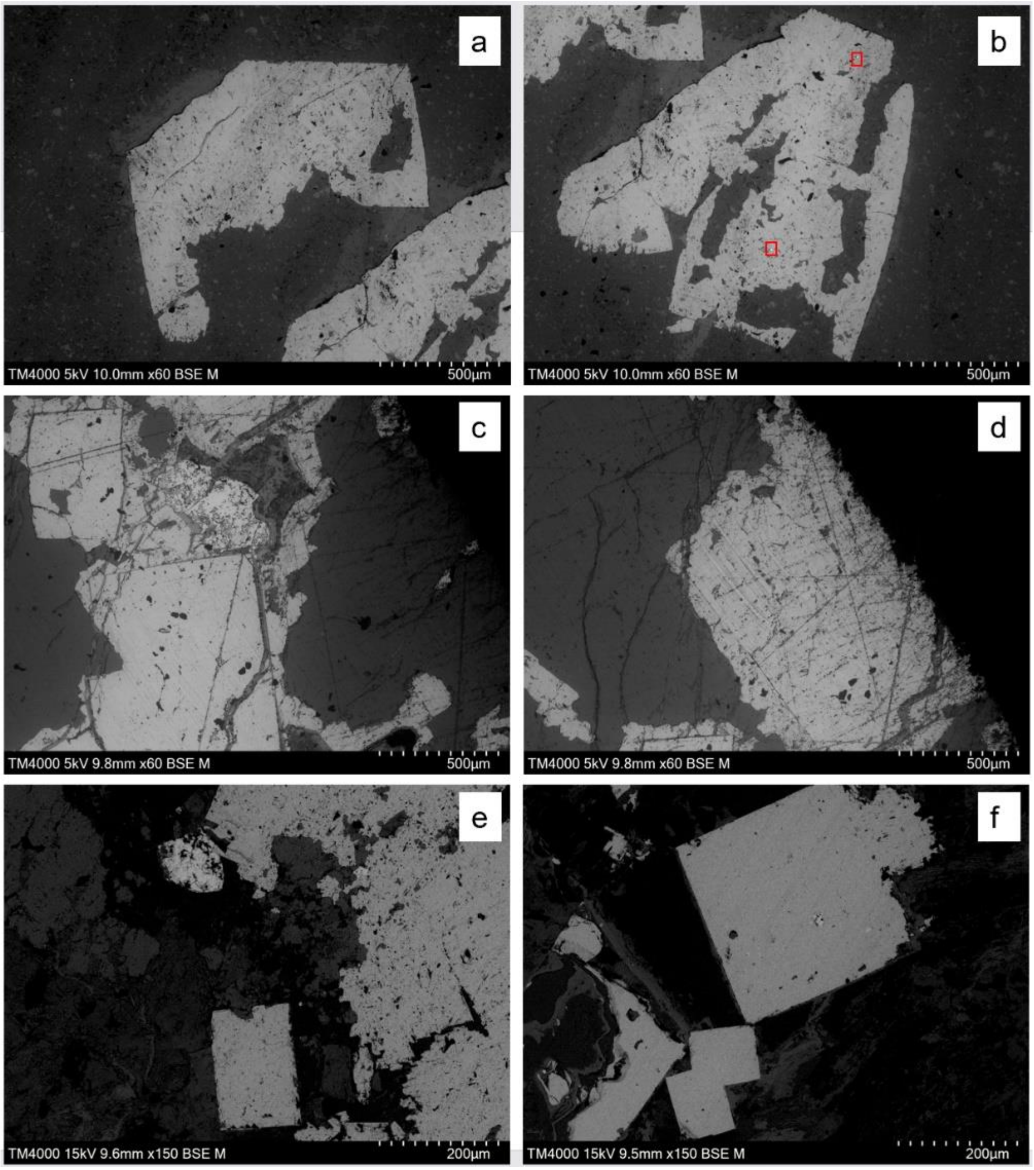

Figure 5. Backscattered electron images of pyrite samples (a: 4331858M1; b:4331858M2; c,d:4331859M1; e,f:4331859M2)

In sample 4331859M1, a clear difference in the pyrite grains can be clearly observed, ranging from those with flatter surfaces to those with coarser surfaces and more impurities, with many cleavages on the surface of the grains (Figs. 5c and 5d). Chalcopyrite, which is brighter than pyrite, can be seen in the figure. Sample 4331859M2 is also a pyrite grain, but there are some differences, some with porous and coarse surfaces (Fig. 5e), and others with flat surfaces, sharp edges, and essentially no other minerals in the center (Fig. 5f).

4.3 LA-ICP-MS Pyrite Chemistry

In this study, the surface of pyrite grains from eight mounts was laser ablated to analyze the chemical elements in the grains (Appendix C). All pyrite grains contain variable trace and rare earth elements (Appendix A). For this study, the elements Si, Co, Ni, Cu, Zn, As, Mo, Ag, Sb, Te, Au, Tl, Pb, Se, and Bi were primarily used (Tab. 2).

Table 2. Trace element analysis of sample portions (1)

	The number of spots		Si_ppm	Co_ppm	Ni_ppm	Cu_ppm	Zn_ppm	As_ppm	Mo_ppm	Ag_ppm	Sb_ppm	Te_ppm	Au_ppm	Tl_ppm	Pb_ppm	Se_ppm	Bi_ppm
4331854	21	Median	6690.000	2150.000	17.310	160.000	14.400	526.000	0.199	3.940	19.100	0.600	0.053	16.900	560.000	26.800	13.370
		MAD	5130.000	540.000	2.910	37.500	6.000	177.000	0.141	1.150	6.100	0.250	0.031	7.760	170.000	3.100	3.630
		GM	4979.821	1268.688	13.999	150.820	9.905	481.534	0.189	2.431	13.575	0.487	0.031	11.066	438.139	21.985	7.476
		SD	26646.490	1526.689	11.676	77.363	15.983	571.973	1.190	1.825	9.252	0.321	0.033	18.812	281.592	10.336	6.396
4331855_M1	17	Median	47.000	0.015	0.034	0.176	4.630	0.460	0.071	0.010	0.157	0.123	0.002	0.011	2.730	3.410	0.003
		MAD	7.000	0.013	0.007	0.082	3.020	0.210	0.041	0.006	0.047	0.035	0.000	0.006	1.219	0.790	0.001
		GM	40.453	0.020	0.032	0.184	6.440	0.642	0.070	0.007	0.150	0.105	0.002	0.013	2.751	3.067	0.003
		SD	15.963	0.054	0.019	0.541	9.337	1.325	0.470	0.011	0.119	0.050	0.000	0.017	1.789	0.877	0.002
4331855_M2	38	Median	88.000	0.022	0.056	0.184	6.725	1.940	0.574	0.012	0.080	0.068	0.002	0.008	0.460	2.405	0.004
		MAD	48.500	0.011	0.025	0.079	4.605	1.598	0.526	0.108	0.062	0.025	0.000	0.073	0.345	0.370	0.001
		GM	183.963	0.025	0.045	0.193	6.628	1.962	0.415	0.012	0.111	0.062	0.002	0.012	0.646	2.551	0.004
		SD	2431.468	0.038	0.065	0.311	5.857	7.427	5.953	0.109	0.639	0.044	0.001	0.054	10.716	1.050	0.009
4331857_M2	21	Median	1240.000	945.000	192.900	1.805	2.375	80.200	0.007	0.022	0.729	0.327	0.006	0.012	9.790	27.700	3.905
		MAD	1085.000	725.500	82.500	0.850	1.150	24.250	0.002	0.013	0.430	0.098	0.005	0.008	5.635	3.200	1.885
		GM	804.147	714.816	209.788	1.332	2.386	101.969	0.007	0.020	0.465	0.309	0.006	0.012	5.676	28.701	2.174
		SD	1834.150	1030.886	142.417	1.689	2.601	122.252	0.003	0.029	0.528	0.193	0.010	0.020	8.205	4.596	3.236

MAD (median absolute deviation); GM(Geometric mean);
MSD(Multiplicative standard deviation)

Table 3. Trace element analysis of sample portions (2)

	The number of spots		Si_ppm	Co_ppm	Ni_ppm	Cu_ppm	Zn_ppm	As_ppm	Mo_ppm	Ag_ppm	Sb_ppm	Te_ppm	Au_ppm	Tl_ppm	Pb_ppm	Se_ppm	Bi_ppm
4331858_M1	22	Median	102.500	93.000	21.000	0.510	1.170	377.000	0.005	0.007	0.048	0.485	0.002	0.004	1.015	113.900	0.620
		MAD	68.500	68.630	16.780	0.471	0.325	188.000	0.000	0.004	0.030	0.208	0.000	0.001	1.011	23.200	0.616
		GM	205.870	128.065	23.540	1.277	1.847	379.746	0.006	0.011	0.059	0.439	0.002	0.005	0.441	102.124	0.296
		SD	2064.325	713.751	88.599	265.816	7.642	270.486	0.002	0.122	0.334	0.340	0.002	0.006	5.426	34.714	2.874
4331858_M2	20	Median	2290.000	116.300	8.940	2.190	0.960	540.000	0.009	0.018	0.605	0.460	0.002	0.004	7.365	63.450	2.740
		MAD	1890.000	69.200	5.285	0.915	0.150	204.000	0.002	0.016	0.332	0.105	0.000	0.001	3.850	16.600	1.265
		GM	1489.429	110.476	13.404	3.254	1.759	514.136	0.008	0.033	0.462	0.594	0.003	0.009	6.865	72.671	2.337
		SD	4498.013	2633.519	96.369	753.171	28.938	706.649	0.004	0.921	1.939	1.097	0.021	0.205	163.856	42.983	7.874
4331859_M1	30	Median	52.500	14550.000	10.050	0.094	1.150	438.500	0.009	0.010	0.023	0.206	0.002	0.005	0.038	47.350	0.006
		MAD	10.000	10400.000	5.605	0.052	0.150	431.780	0.003	0.007	0.011	0.100	0.000	0.002	0.037	5.850	0.004
		GM	50.889	4175.505	48.582	0.148	1.257	394.511	0.066	0.012	0.367	0.264	0.002	0.113	0.042	51.109	0.012
		SD	50.752	10841.103	610.146	2.661	1.158	2087.511	8.079	0.293	20.612	1.604	0.002	16.857	3.318	13.854	1.322
4331859_M2	41	Median	220.000	68.500	275.000	0.980	1.000	967.000	0.009	0.010	0.267	0.360	0.002	0.007	2.690	41.700	0.650
		MAD	173.000	66.550	163.500	0.812	0.200	383.000	0.000	0.005	0.237	0.148	0.000	0.004	2.463	7.500	0.520
		GM	328.892	99.607	198.863	1.868	1.518	990.505	0.008	0.014	0.272	0.367	0.002	0.018	1.554	40.316	0.309
		SD	3181.608	7737.503	251.832	167.446	4.942	3026.750	0.007	0.165	80.614	0.416	0.002	2.110	307.862	13.126	1.797

The median, median absolute deviation (MAD), geometric mean, and standard deviation of some of the important trace elements obtained from the experiment are presented in Tables 2 and 3. Depending on the distribution of the data, the geometric mean and median together provide reliable information, while the standard deviation provides a better summary of the data [33] but when the data are not lognormally distributed, the median and MAD are more appropriate [34].

From the data, there is variability in chemistry between samples, including mounts from the same sample.

The two mounts from sample 4331855 have consistently lower Co, Ni, As and Se compared to the other samples which are elevated in these elements in this dataset (Tab. 2 and Tab. 3).

There is some variability, with Co ranging between 60-120 ppm in samples 4331858 (M1 and M2) and 4331859 M2. Samples 4331854, 4331857M2 and 4331859M1 have a median Co content of >900ppm. Ni has the highest values (>190 ppm) in samples 4331857M2 and 4331859M2, but the content of Ni is <21 ppm in other samples. The median contents of As in samples 4331854, 4331858 (M1 and M2), 4331859 (M1 and M2) are in the range of 370-970 ppm, and 80 ppm in sample 4331857M2, while the content in 4331855 (M1 and M2) is very low (<2 ppm). The median Se content in sample 4331855 (M1 and M2) was less than 3.5 ppm, while the median content in the other samples ranged from 26 to 114 ppm.

Cu and Zn values are relatively low across all samples with the exception of sample 4331854 (Cu median: 160 ppm, Zn median: 14.4 ppm). From the data in Tab. 2 and 3, it can also be seen that sample 4331854 contains significantly more Ag (3.9 ppm), Sb (19.1 ppm), Au (0.053 ppm), Tl (16.9 ppm), Pb (560 ppm), and Bi (13.4 ppm) than the other samples, especially Pb, while the other samples have a content of < 10 ppm of Pb. At the same time, the contents of Ag, Sb, Au, Tl, Pb and Bi show a positive correlation. Median contents of Mo and Te were low in all samples (<0.6 ppm).

It is noted that there is variability in trace element content from mounts from the same sample, with 4331859 showing variability in Co, Ni, Si, Pb and As content between M1 an M2.

5. Discussion

This study was conducted in the Delamerian area to analyze the relationship between the pyrite source and its genesis, and to identify the geochemical information of the pyrite samples to further determine the type of mineralization that is present in the area, while could lead to future exploration work. The study also aims to compare the data from the study samples with other data in the literature to analyze the similarities and differences between the study samples and and samples from known mineral deposits to aid in understanding the prospectivity in the study area.

5.1 Sample Sources and Types

Pyrite genesis primarily manifests in two forms. Sedimentary pyrite forms over time through sedimentation, akin to particle settling in turbid water, where under suitable conditions, pyrite crystallizes on settling particles, typically yielding smaller grains [35]. The more prevalent form originates from hydrothermal processes: as magma evolves, it releases fluids rich in iron and sulfur, leading to pyrite formation. This hydrothermal pyrite can be found in settings like copper-nickel sulfide magmatic systems, magma-rock interfaces resulting in thermal metamorphism, and volcanic-related environments [36]. The genesis of pyrite is pivotal for grasping its geological significance.

Th five samples in this study came from four wells in two regions. Sample 4331854 came from Quondong Vale area, which is pyrite from volcanic breccia, and its pyrite is distributed sporadically in the colluvium in a stellate manner with a relatively uniform particle size of about 100 μm, indicating a slow rate of precipitation in its breccia. There is an obvious siliceous band in the middle of the sample running through a large pyrite grain aggregate, which may indicate the activity of hydrothermal fluids after the formation of pyrite.

Samples 4331855, 4331857, 4331858, and 4331859 are all from the Alawoona drilling area. 4331855 samples M1 and M2 are pyrite from the sediments of well 02 in the Alawoona area. Sample 4331855M1 has a heavily sericitized surface, with grains up to several centimeters in size, and shows a brecciated structure. Sample 4331855M2 is smaller and more dispersed, with fewer inclusions between grains, suggesting that it formed later than M1. Sample 4331855M2 has smaller grains that are dispersed and square, with fewer intergranular inclusions, suggesting that the two samples were formed at different times and at different fluid temperatures, which may indicate that the two samples are not from the same period [37].

Rock 4331858 was taken from 252.4-252.81 meters, while rock 4331859 was taken from deeper in the sample drill hole (271.15-271.22 meters). Samples 4331858M1 and M2 samples are likely to be from volcanic rocks or veins, and their crystals are both orthorhombic and semi-individual, suggesting that their pyrite crystals crystallized at a later stage, and spatial constraints prevented them from developing into a complete crystal form [38]. The samples also contain chalcopyrite inclusions and chalcopyrite associates. Meanwhile, sericite mineralization is present on the surface of the samples, which may further indicate porphyry mineralization. Samples 4331859M1 and M2, the two samples from the quartz vein, have extremely pronounced sericitization on their surfaces and chalcopyrite inclusions have become more abundant, which suggests that pyrite may be associated with the mineralization.

5.2 Characterization of pyrite geochemical data

The pyrite compositions in the study area are relatively complex, with more than 40 kinds of elements analyzed, among which the most meaningful ones are Co, Ni, As, Se, Te, Sb, Cu, Pb, Zn, Au, Ag. Different deposit types can be concentrated in key elements that can be associated with their formation and can provide information on the physical and chemical environment during formation [39]. Additionally, chemical compositional differences in pyrite can also be used as an indicator mineral to discriminate between different deposit styles [33]. As the Delamerian Orogen is prospective for Porphyry and VMS style mineralization, pyrite association with these deposits has been the main focus.

5.2.1 Source Environment

High, medium, and low-temperature effects form different combinations of mineralized elements, and sedimentary deposits are also related to the redox environment of the elements in the process of mineralization. It is possible to judge the type of deposit by these characteristics of mineralizing elements, such as Co/Ni ratios can provide information on the crystallization environment of pyrite, including host magma, temperature, and association with different mineralizing systems. Furthermore, elemental ratios such as Au/Ag have been used to discriminate between different deposit types [40].

The Co and Ni contents in pyrite, especially the Co/Ni values, can determine the generative environment of the deposit [41]. The high Co/Ni ratio may be due to the fact that during the deep magmatic oxidation, Ni will preferentially enter into the early crystallized minerals with a high proportion of octahedra (e.g. olivine, plagioclase), whereas Co is mainly enriched in minerals of the late magmatic evolution, which leads to the occurrence of the magmatic-hydrothermal fluid itself with a Co/Ni value of greater than one [41]. It is generally believed that Co/Ni > 1 in pyrite is related to volcanic or magmatic-hydrothermal fluids and is of deep origin, while Co/Ni < 1 is related to sedimentation [42]. As can be seen from Fig. 6a, the Co/Ni ratios in pyrite in the study area are overwhelmingly greater than 1, with the exception of samples 4331855 and 4331859M2. It can be shown that the ore-forming fluids in samples 4331854, 4331857M2, 4331858M1, 4331858M2, and 4331859M1 are predominantly of magmatic-hydrothermal origin. And the formation of pyrite in samples 4331855M1 as well as 4331855M2 may be related to sedimentation.

The Au/Ag ratio of pyrite reflects, to some extent, information about the genesis of the deposit [43]. It can also be said that the Au/Ag ratio reflects the temperature of mineralization and the different hydrothermal systems in which pyrite formed [44]. Fig. 6b shows that most of the samples in the study area are characterized by Au/Ag < 1. This also suggests that the genesis may be related to magmatic-hydrothermal fluids but needs to be determined in conjunction with other chemical element signatures [44]. It can also be seen from Figure 6b that sample 4331854 has more Au and Ag than the other samples, which suggests that 4331854 has a different type of deposit than the other samples.

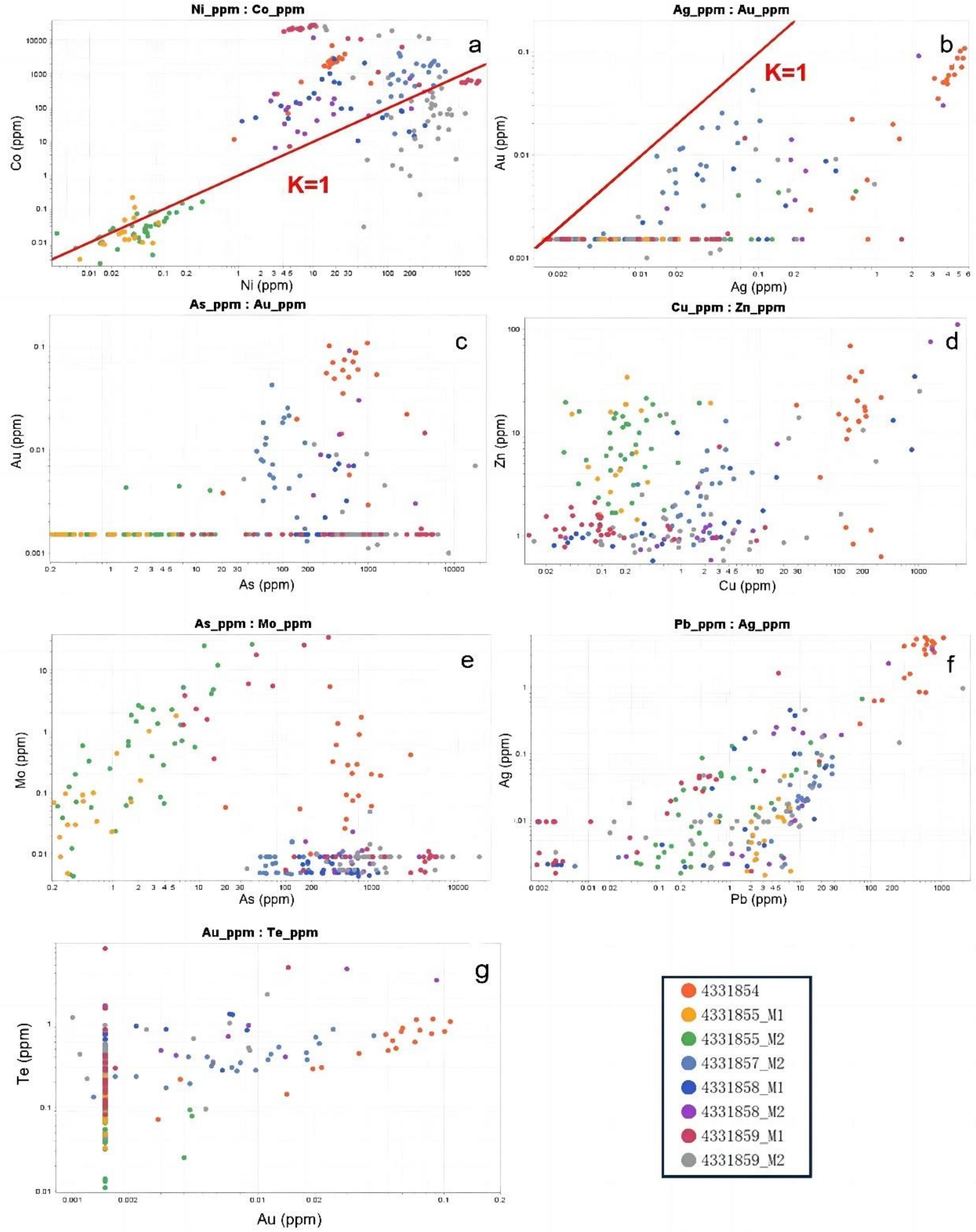

Figure 6. Scatter plots of trace elements in pyrite from eight samples: (a) Co versus Ni, (b) Au versus Ag, (c) Au versus Ag , (d) Zn versus Cu, (e) Mo versus As, (f) Ag versus Pb, (g) Te versus Au. (The slopes of the plotted line segments are all 1)

Combined with the analysis of Tab. 2 and 3, it can be observed that the study area shows As-rich characteristics with mean values ranging from 101.97-909.51 ppm for all samples except sample 4331855. Meanwhile, a strong positive correlation between As and Au elements can be seen in Fig. 6c. The study of Au-As correlation in arsenic-bearing pyrite from hydrothermal deposits by Reich et al [45] showed that As content is an important factor influencing the form of Au endowment, and that the Au elemental content within the pyrite in the study area is indeed closely related to the As element. This suggests that these samples could potentially be associated with Au mineralization due to the elevated As content.

As can be seen in Fig. 6, the content of Pb, Au, Ag and Cu in sample 4331854 is relatively higher than the other samples. This may indicate that the mineralizing fluid is different from the other samples and could potentially be associated with VMS mineralization. It is well known that molybdenum enrichment occurs in many sedimentary environments, especially when euxinic conditions are present [46]. Thus, high molybdenum can be used to identify sedimentary pyrite, usually formed in marine environments. However, it is also possible that VMS deposits are associated with marine environments, deposited on or near the seafloor. From Fig. 5e, the Mo/As ratio of sample 4331855 is close to 1 and, based on previous analyses, the source could be either pyrite formed in sedimentary environments or the portion of the workings VMS deposits that were deposited in marine environments.

In summary, enrichment in Cu, Zn, Ag, Sb, and Pb elements in samples 4331854 are consistent with VMS style mineralization. Au/Ag and Co/Ni ratios indicate that pyrite is derived from deep magmatic-hydrothermal high-temperature fluids. Additionally, Zn/Cu indicates the potential formation of pyrite in a marine environment, however, this signature may also be reflective of an association with a VMS mineralizing system.

5.2.2 Comparison with literature data

Pyrite elemental ratios have been widely used to discriminate between different deposit types. Gregory et al. (2019) [33] collected literature data from different types of deposits around the world, including SEDEX, VHMS, Sedimentary Pyrite, Porphyry, IOCG, and Orogenic gold, and analyzed the data for their geochemical properties.

Key plots that Gregory et al. (2019) used to discriminate between deposit styles have been recreated with the Delamerian NDI samples used in this study, to assess the prospectivity of this study area.

These plots show that samples 4331857M2, 4331858M1, 4331858M2, 4331859M1, and 4331859M2 largely overlap in the Co vs Ni, Zn vs Cu, Mo vs

As, Ag vs Pb and Te vs Au plots. In these plots, these samples plot within the Porphyry mineralization field established by Gregory et al. (2019), suggesting that this style of mineralization is present in these drill holes.

Sample 4331854 often plots away from the other samples with high Cu, Zn, Ag, and Pb content and lower Co, Ni content (Fig. 7), suggesting a different deposit style. This is consistent with typical VMS style signatures and is confirmed as it overlaps with the VMS field by Gregory et al. (2019).

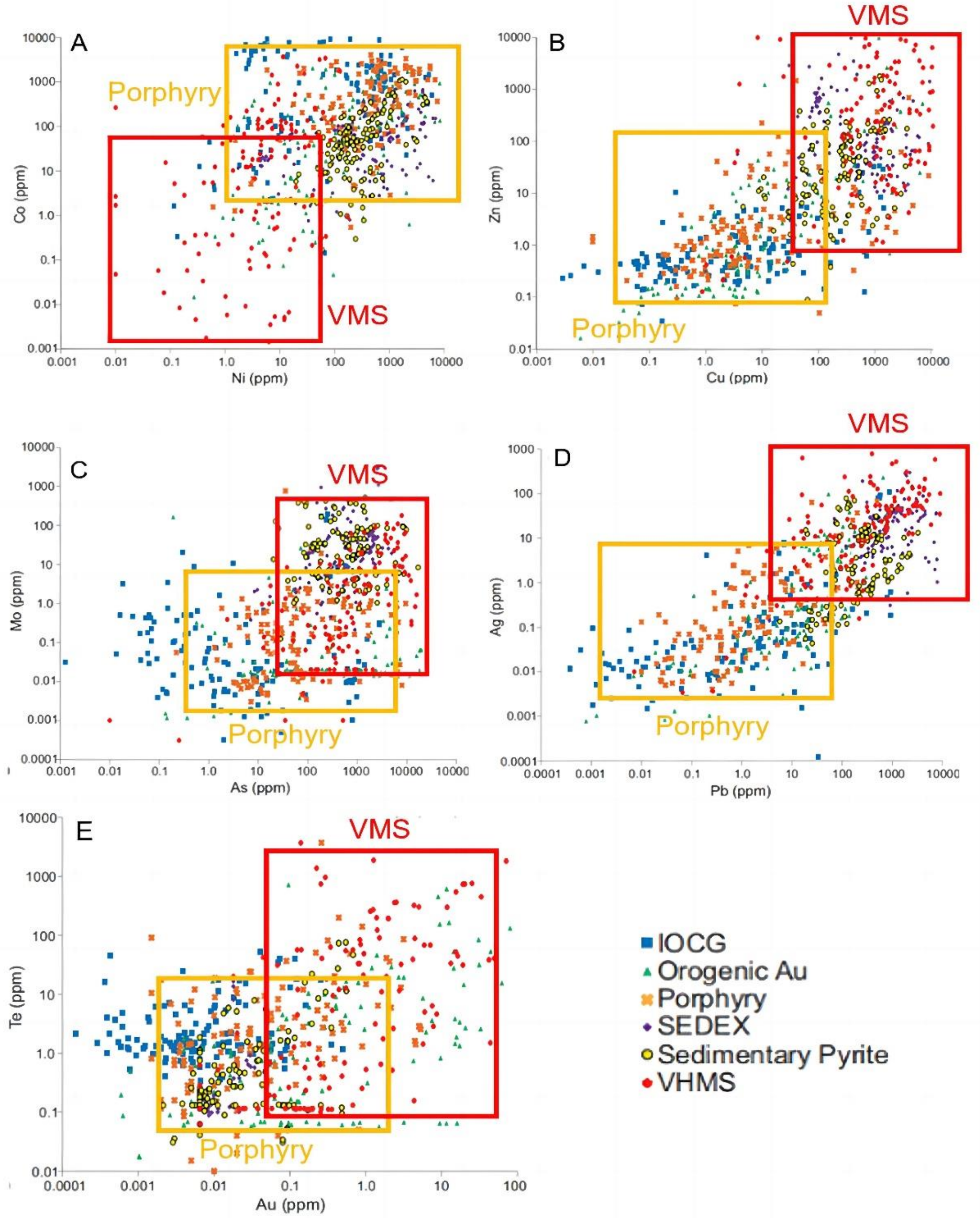

Figure 7. Scatter plots of trace elements in pyrite used in training data set for the ore deposit type Random Forests classifier [33]: A) Co versus Ni, B) Zn versus Cu, C) Mo versus As, D) Ag versus Pb, E) Te versus Au.

5.2.3 Mineralization Potential in the Delamerian

Combined with the above analysis, it can be judged that 4331854 is from the VMS deposit, which is formed by shallow low-temperature hydrothermal fluids. 4331855 displays sedimentary traits, likely indicating VMS deposits originating from a marine environment, because its Co and Ni contents are very small. 4331857, 4331858, and 4331859 are samples of porphyry deposits, and the evolution process of the ore-forming fluids is relatively complicated. The evolution of mineralizing fluids in porphyry deposits is complex. The veins are often interspersed with multiple phases, indicating that the fluids in these deposits have undergone multiple phases. Because the process involves the boiling of fluids, inclusions are mostly seen in the samples [47].

6. Conclusion

The study conducted in the Delamerian area aimed to elucidate the relationship between the source of pyrite and its genesis, determine the type of deposits in the area, and compare the data with existing literature to fill gaps in the domain knowledge. Based on the comprehensive analysis of pyrite samples from various wells and regions, the study has achieved several key insights:

(1) Pyrite samples 4331854, 4331857, 4331858, and 4331859 from the area were formed primarily through magmatic-hydrothermal processes, as evidenced by the overwhelming Co/Ni ratios greater than 1 in most samples. Special attention to elemental ratios such as Au/Ag and Zn/Cu also suggests that most of the pyrite in the study area is of high-temperature hydrothermal origin.

(2) Comparison with literature data confirms that sample 4331854 fits well with typical VMS style characteristics, while samples 4331857, 4331858 and 4331859 show characteristics of porphyry deposits.

(3) Sample 4331855 shows features of sediment genesis that may have formed as VMS deposits associated with the marine environment, deposited on or near the seafloor.

Pyrite from drill core samples in the Delamerian National Drilling Initiative Campaign indicates that there is significant potential for VMS and Porphyry style of mineralization in the terrane. These results provide a theoretical basis that could guide future exploration work, thereby promoting a more focused approach to resource discovery in the region.

Further work will be required to explore the mineral potential of the region and build upon this work. Additional pyrite samples could be collected from different geographic locations in the Delamerian region to provide a more robust dataset. These pyrite geochemical data can be further compared with other known VMS and porphyry systems in the Delamerian region to confirm or challenge current conclusions. Additionally, a more thorough study can be undertaken on these samples through LA-ICP-MS mapping, Sulfur isotopic composition, Microscopic inclusions and Oxidation state which will provide a greater context and understanding of the genesis of these pyrite grains. In the future, the recovery of palaeotemperatures and palaeopressures from the stratigraphy of the region and the temporal determination of the different samples through isotope dating could also provide further insights into understanding the link between different stages of fluid evolution and mineralization events in the region.

Acknowledgements

First and foremost, I would like to extend my deepest gratitude to and Dr Adrienne Brotodewo and Professor Caroline Tiddy for their unwavering support and professional guidance during the writing of this thesis. I am particularly grateful to Dr Adrienne Brotodewo, whose extraordinary pursuit of academic rigour greatly enriched this study. Her patience, encouragement, and meticulous attention to detail set the standard high for me.

I would like to express my sincere gratitude to the MinEx CRC project, under whose auspices this study was conducted. The resources and framework provided by the project were critical to the success of this study.

Equally important was the support of the Microscopy Society of Australia. Special thanks go to technician Alex Anthony Cavallaro, whose expertise and guidance helped me to conduct my research. In addition, I would like to thank Sarah Gilbert of Adelaide Microscopy. Her help made it possible for my research to proceed smoothly.

I would also like to thank all the professors in the GNRM programme for helping me over the past year and for teaching me valuable knowledge. I appreciate Dr Isobel Mackay and the other members of the GMNR team for their help and guidance with my dissertation.

Finally, I would like to thank my parents, whose unwavering support has been indispensable. Without their support, I would not have been able to study abroad.

In short, I could not have successfully completed this thesis without the support and contributions of each of the individuals and organizations mentioned above. I sincerely appreciate the role you have played in this academic endeavor and extend my sincerest thanks to all concerned.

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Appendix A

Sample Number	Si_ppm_m29	P_ppm_m31	K_ppm_m39	Ca_ppm_m43	Sc_ppm_m45	V_ppm_m51	Cr_ppm_m53	Ga_ppm_m71
4331854_1	1390	4	76	63	0.66	0.354	0.082	0.0205
4331854_2	6700	940	759	3090	4.33	37.2	0.26	0.626
4331854_3	54	3.15	4.23	64	0.116	0.73	0.134	0.0038
4331854_4	1560	810	52	2680	10.2	55.4	0.9	0.17
4331854_5	5000	4.3	6.1	16900	0.281	0.35	0.176	0.09
4331854_6	12700	443	2450	1480	4.09	37	0.137	0.638
4331854_7	25500	850	5960	2420	6.48	67.6	0.41	3.41
4331854_8	16900	55	3100	680	5.5	47.9	0.43	1.79
4331854_9	6690	960	815	2530	4.09	62.2	0.232	0.882
4331854_10	2130	379	163	1530	0.88	11.7	0.157	0.5
4331854_11	6540	710	1790	1770	4.87	52.3	0.265	0.54
4331854_12	22500	1140	3780	3110	5	38.1	0.16	0.97
4331854_13	17900	2770	4700	7400	5.33	63.3	0.58	1.83
4331854_14	3890	770	620	2680	3.17	47.1	0.254	0.39
4331854_15	8700	1460	1240	4170	4.07	67.6	0.249	0.76
4331854_16	39	3.3	0.6	47	0.0305	0.294	0.142	0.0038
4331854_17	126000	6	11300	1310	1.44	3.37	0.32	2.55
4331854_18	4840	621	468	1840	3.27	28.2	0.43	0.434
4331854_19	5920	994	551	3120	5.04	36.3	0.215	0.944
4331854_20	16900	864	3030	2410	4.43	48	0.4	1.87
4331854_21	6750	1310	943	3390	9.07	116.9	0.297	0.93
4331855_M2_1	78	3.1	18.85	47.5	0.207	0.061	0.073	0.0021
4331855_M2_2	91	8.8	1.67	60	0.2	0.042	0.14	0.061
4331855_M2_3	191	14.6	68	44	0.177	0.403	0.168	0.065
4331855_M2_4	228	10.3	34	76	0.248	0.682	0.144	0.041
4331855_M2_5	43	3.15	3.79	44	0.05	0.057	0.106	0.0053
4331855_M2_6	65	3.9	4.2	65	0.069	0.073	0.117	0.0008
4331855_M2_7	41	13.8	14.5	48	0.043	0.622	0.107	0.0038
4331855_M2_8	85	2.95	11.95	43.5	0.096	0.167	0.124	0.005
4331855_M2_9	4100	176	362	46.5	10.1	5.5	0.18	0.74
4331855_M2_10	55	3.6	0.75	55	0.0485	0.049	0.078	0.0038
4331855_M2_11	570	4.05	150	41.5	0.165	0.38	0.082	0.143
4331855_M2_12	240	4	58	50	0.161	0.4	0.116	0.073
4331855_M2_13	10800	3.05	11.7	41.5	0.11	0.3	0.17	0.015
4331855_M2_14	46	3.15	1.29	46	0.069	0.125	0.075	0.0008
4331855_M2_15	47	2.65	4.37	40.5	0.065	0.186	0.08	0.0088
4331855_M2_16	4800	3.35	25	60	0.66	0.44	0.162	0.035
4331855_M2_17	480	2.9	11.4	65	0.065	0.156	0.165	0.021
4331855_M2_18	9600	2.95	139	141	0.092	0.379	0.141	0.699
4331855_M2_19	40	6.7	23.1	55	0.041	0.291	0.092	0.007
4331855_M2_20	96	3.1	3.6	60	0.312	0.08	0.112	0.00043
4331855_M2_21	590	9.5	107	50	7.7	9.6	0.225	0.266
4331855_M2_22	67	37.6	22.3	43	0.214	0.202	0.132	0.288
4331855_M2_23	118	3	30.5	34.5	0.244	0.58	0.4	0.0333
4331855_M2_24	1720	515	269	122	2.1	5.43	1.01	3.68
4331855_M2_25	1010	4.3	243	34.5	0.253	0.56	0.137	0.243
4331855_M2_26	1830	2.65	430	45.5	0.37	0.89	0.16	0.45
4331855_M2_27	55	3.7	1.34	50	0.059	0.0213	0.13	0.0038
4331855_M2_28	220	13.2	43	41.5	0.74	0.71	0.075	0.071
4331855_M2_29	1580	75	191	138	3.8	3.13	0.186	0.335
4331855_M2_30	65	3.6	0.9	65	0.04	0.08	0.08	0.0038
4331855_M2_31	40	4.1	3.6	46	0.0475	0.099	0.165	0.0013
4331855_M2_32	220	3.3	11.6	50	0.053	0.295	0.095	0.032
4331855_M2_33	41	2.65	15.3	41.5	0.042	1.155	0.096	0.0047
4331855_M2_34	44	99	0.85	45	0.5	0.83	0.106	0.43
4331855_M2_35	50	3.3	1.4	43.5	0.061	0.04	0.072	0.0038
4331855_M2_36	39	2.9	9.11	41	0.0395	0.146	0.084	0.0038
4331855_M2_37	39	21	39	55	0.094	0.194	0.07	0.126
4331855_M2_38	28	3.2	1.48	50	0.04	0.051	0.075	0.0038

Sample Number	Rb_ppm_m85	Y_ppm_m89	Nb_ppm_m93	Ba_ppm_m137	Ce_ppm_m140	Na_ppm_m23	Mg_ppm_m24	Al_ppm_m27
4331854_1	0.175	0.0049	0.0036	5	0.015	239	0.059	447
4331854_2	1.96	33.1	1.35	18.1	8.6	251	860	2410
4331854_3	0.045	0.0036	0.0036	0.243	0.015	26.8	0.31	0.033
4331854_4	0.174	6.3	1.7	3.69	7.65	243	31	410
4331854_5	0.0215	0.86	0.0036	0.002	1.06	1390	24.9	1720
4331854_6	8	12.7	2.59	62.5	7.04	614	880	3290
4331854_7	11.3	9.2	3.35	215	7.62	549	6600	11500
4331854_8	5.7	2.81	17.2	158	1.85	1500	2500	6800
4331854_9	2.17	6.76	2.42	17.7	25.2	678	1130	2650
4331854_10	0.443	1.97	0.41	2.74	3.9	154	420	770
4331854_11	4.03	10.1	3.97	42	10.6	258	670	2350
4331854_12	6.61	16.2	3.98	173	13.1	3520	550	7790
4331854_13	8.8	15	3.1	177	16.8	800	3010	7300
4331854_14	2.95	4.91	1.56	9	12.8	391	440	1350
4331854_15	4.01	9.9	2.92	23.6	24.8	970	840	3170
4331854_16	0.0072	0.003	0.0036	0.002	0.015	3.14	0.024	0.16
4331854_17	19.5	0.023	0.0036	352	0.049	27400	212	40700
4331854_18	1.45	4.41	2.61	11.3	9.5	847	550	1898
4331854_19	1.87	28.5	2.59	12.87	9.06	537	1710	2930
4331854_20	6.13	6.61	1.92	81	10.4	1400	2950	7100
4331854_21	2.32	18.3	6.02	34.9	23	684	1220	2610
4331855_M2_1	0.139	1.52	0.0036	0.002	0.123	25	1.22	15.7
4331855_M2_2	0.0146	3.1	0.0036	0.002	37	0.84	0.31	3.7
4331855_M2_3	0.293	1.22	0.0036	0.38	5	68	10.2	105
4331855_M2_4	0.208	7.2	0.0036	0.94	0.83	27	16.7	127
4331855_M2_5	0.0242	0.4	0.0036	0.002	0.93	5.65	1.11	4.45
4331855_M2_6	0.0165	0.137	0.0036	0.002	0.015	5.5	0.69	5.5
4331855_M2_7	0.0269	0.49	0.0036	0.241	0.015	61.7	3.57	1.24
4331855_M2_8	0.095	1.42	0.0036	0.002	0.064	14	2.2	9
4331855_M2_9	2.42	620	0.37	2.99	12.4	490	81	1910
4331855_M2_10	0.0172	0.003	0.0036	0.002	0.015	1.1	0.043	0.103
4331855_M2_11	1.24	0.44	0.0036	0.2	0.015	10.5	23.4	440
4331855_M2_12	0.45	0.45	0.0036	0.002	0.015	7.1	14.3	176
4331855_M2_13	0.069	0.8	0.0036	0.43	1.04	19.3	4.1	40
4331855_M2_14	0.0195	0.067	0.0036	0.002	0.111	5.56	0.97	1.92
4331855_M2_15	0.024	0.16	0.0036	0.002	0.23	6.8	1.23	6.17
4331855_M2_16	0.173	25	0.64	0.76	3.1	25	7	63
4331855_M2_17	0.072	0.026	0.0036	0.002	0.015	141	2.7	140
4331855_M2_18	0.8	0.96	0.0036	2.52	0.46	2690	16.7	3530
4331855_M2_19	0.023	0.042	0.0036	0.002	0.015	38.9	1.5	13.4
4331855_M2_20	0.0142	0.094	0.0036	0.002	0.015	5.41	0.295	1.02
4331855_M2_21	0.95	24.5	19.5	3.25	6	22.6	30.7	266
4331855_M2_22	0.262	13.7	0.0036	0.69	114	8.39	4.95	22
4331855_M2_23	0.375	0.083	0.33	0.002	0.037	12.08	10	28.5
4331855_M2_24	1.9	216	1.77	8	1330	43.2	99	930
4331855_M2_25	1.96	2.79	0.0036	0.33	0.037	23.5	43	620
4331855_M2_26	3.16	1.49	0.0036	1.06	0.03	25	64	960
4331855_M2_27	0.0053	0.355	0.0036	0.002	0.015	0.99	0.12	0.21
4331855_M2_28	0.34	30	0.0036	0.29	1.35	33.7	13.6	119
4331855_M2_29	1.24	204	0.147	1.62	6	68	65	690
4331855_M2_30	0.0112	0.305	0.0036	0.002	0.015	0.6	0.048	1.3
4331855_M2_31	0.023	0.69	0.0036	0.002	0.023	50.3	1.11	8.6
4331855_M2_32	0.08	1.57	0.0036	0.24	6.4	47	2.4	94
4331855_M2_33	0.041	0.171	0.0036	0.002	1.1	16	0.51	0.85
4331855_M2_34	0.033	54	0.0036	1.95	81	3.06	0.65	2.27
4331855_M2_35	0.0031	0.66	0.0036	0.002	0.112	0.57	0.021	0.09
4331855_M2_36	0.0257	0.003	0.0036	0.002	0.015	16.6	0.89	0.085
4331855_M2_37	0.0107	14.6	0.0036	0.38	28	116	0.74	1.49
4331855_M2_38	0.0104	0.023	0.0036	0.002	0.015	2.85	0.214	0.21

Sample Number	S_ppm_m34	Ti_ppm_m49	Mn_ppm_m55	Co_ppm_m59	Ni_ppm_m60	Cu_ppm_m63	Zn_ppm_m66	As_ppm_m75
4331854_1	647000	2.22	0.87	1760	14.4	340	0.626	600
4331854_2	610000	1870	41	3050	22.3	219	14.4	980
4331854_3	556000	3.16	7.74	67.1	4.61	122	1.2	2810
4331854_4	663000	3390	20.1	258	3.34	28.9	18.4	20.3
4331854_5	695000	3.74	264	570	7	254	1.14	490
4331854_6	618000	3000	51.6	2830	24.6	179	12.8	714
4331854_7	605000	4050	145	3960	26.7	139	69	352
4331854_8	613000	17800	70	1610	16.6	160	32	328
4331854_9	622000	3690	63.1	2150	17.3	211	17.7	757
4331854_10	645000	506	18.5	534	59.6	99	15	147
4331854_11	657000	5390	53.8	2470	20.1	122.5	13.5	387
4331854_12	665000	4780	37.9	1990	17.31	176	12.9	526
4331854_13	605000	4490	91	1760	14.2	193	38.6	406
4331854_14	632000	2640	78.6	2320	21.1	133	10.6	507
4331854_15	604000	3630	72.1	2490	17.1	214	16.4	594
4331854_16	562000	2.81	0.794	11.5	0.88	151	0.83	990
4331854_17	672000	8.4	3.89	6940	18	58	3.71	195
4331854_18	666000	3140	26.8	2270	16.2	125	8.7	504
4331854_19	613000	3180	64.4	2500	19.02	340	21.9	1260
4331854_20	590000	2740	95	2070	18.58	133.8	34.4	669
4331854_21	601000	8330	110.7	2880	18.6	171	20.4	703
4331855_M2_1	538000	2.53	1.83	0.144	0.175	1.71	19.38	6.35
4331855_M2_2	644000	3.58	16.1	0.0221	0.056	0.096	1.47	1.6
4331855_M2_3	592000	3.04	6.39	0.0138	0.046	0.129	4.31	1.88
4331855_M2_4	589000	4.48	3.7	0.0208	0.057	0.44	18.9	5.27
4331855_M2_5	571000	3.28	1.51	0.0132	0.013	0.13	7.04	0.37
4331855_M2_6	646000	3.17	1.06	0.0331	0.084	0.134	1.68	4.81
4331855_M2_7	588000	2.69	1.89	0.0254	0.055	0.92	5.14	41.2
4331855_M2_8	549000	3.58	1.46	0.0304	0.066	0.295	9.95	6.6
4331855_M2_9	585000	8.4	6.92	0.054	0.109	0.172	4.52	16.5
4331855_M2_10	624000	3.43	1.59	0.0163	0.039	0.033	6.47	0.35
4331855_M2_11	649000	3.71	32.8	0.0175	0.039	0.063	5.43	0.335
4331855_M2_12	638000	3.26	142	0.042	0.101	0.051	3.18	0.32
4331855_M2_13	576000	4.25	2.97	0.0069	0.0066	0.251	3.09	0.93
4331855_M2_14	597000	2.84	7.43	0.0094	0.014	0.197	5.53	1.52
4331855_M2_15	582000	3.32	2.09	0.0216	0.019	0.172	6.02	2.18
4331855_M2_16	627000	33	4.71	0.0104	0.048	0.091	2.34	13.9
4331855_M2_17	649000	2.18	25.5	0.0149	0.014	0.15	1.67	1.44
4331855_M2_18	530000	2.41	3.06	0.0179	0.04	0.216	12.01	2.84
4331855_M2_19	559000	2.67	7.86	0.0024	0.014	0.42	6.98	3.87
4331855_M2_20	544000	2.15	8.4	0.0062	0.024	0.239	6.26	8.97
4331855_M2_21	579000	2490	63	0.077	0.118	0.27	7.6	0.315
4331855_M2_22	529000	3.76	2.11	0.079	0.148	0.54	14.62	6.12
4331855_M2_23	542000	144	1.94	0.163	0.331	0.182	14.32	14.56
4331855_M2_24	555000	239	109	0.107	0.232	0.8	12.6	1.07
4331855_M2_25	550000	2.8	6	0.0208	0.028	0.052	16	2.93
4331855_M2_26	550000	3.03	9.6	0.026	0.057	0.035	19.6	0.53
4331855_M2_27	637000	3.18	0.483	0.0318	0.058	0.24	2.09	0.38
4331855_M2_28	593000	3.64	3.62	0.0314	0.037	0.185	11.3	11.4
4331855_M2_29	551000	3.98	6.7	0.0199	0.059	0.202	12.2	2
4331855_M2_30	671000	3.42	9.25	0.0156	0.061	0.12	2.03	0.265
4331855_M2_31	673000	3.44	2.34	0.0043	0.071	0.61	1.77	3.57
4331855_M2_32	604000	3.24	30.4	0.035	0.078	0.142	13.7	0.45
4331855_M2_33	546000	2.7	10.86	0.0105	0.015	0.126	9.98	3.32
4331855_M2_34	634000	3.48	55	0.077	0.067	0.35	4.66	3.92
4331855_M2_35	638000	3.16	35.1	0.0263	0.021	0.15	15.4	0.56
4331855_M2_36	556000	2.82	9.79	0.072	0.044	0.362	21.57	1.52
4331855_M2_37	582000	3.48	37.3	0.083	0.076	0.368	13.2	1.64
4331855_M2_38	539000	2.87	3.62	0.0186	0.0037	0.113	6	0.23

Sample Number	Se_ppm_m77	Sr_ppm_m88	Zr_ppm_m90	Mo_ppm_m95	Ag_ppm_m107	Ag_ppm_m109	Cd_ppm_m111	Sn_ppm_m118
4331854_1	22.1	3.8	0.0065	0.074	0.83	0.82	0.71	0.025
4331854_2	20.4	25.4	37	0.199	5.56	5.49	0.88	1.28
4331854_3	2.61	0.247	0.0065	0.413	0.618	0.647	1.29	0.018
4331854_4	19.2	14.9	13	0.058	0.625	0.607	0.066	1.68
4331854_5	37.2	19.1	0.0065	0.026	1.56	1.56	0.52	0.0225
4331854_6	29.9	22.2	57	0.9	5.43	5.32	1.53	1.31
4331854_7	24.1	26.2	43	0.32	5.09	5.26	0.98	2.2
4331854_8	28.7	21	17.5	5.4	3.08	3.08	0.53	1.74
4331854_9	33.2	21.7	21.3	1.7	4.56	4.68	1.38	2.13
4331854_10	26.8	6.2	3.67	0.054	1.37	1.25	0.54	0.245
4331854_11	32.7	13.7	61.2	0.61	4.34	4.27	0.93	1.99
4331854_12	28.1	36.2	45.6	0.286	4.31	4.38	1.35	2.93
4331854_13	38.2	43.3	33.4	1.34	3.98	3.79	0.75	2.66
4331854_14	25.5	21.8	8.9	0.093	3.3	3.12	1.08	1.68
4331854_15	27.2	31.6	26.7	0.209	3.68	3.79	1.07	2.39
4331854_16	1.99	0.099	0.0065	0.061	0.277	0.257	0.337	0.0155
4331854_17	48.4	178	0.66	0.01	0.84	0.86	0.0285	0.073
4331854_18	24.5	11.6	22.2	0.037	4.06	4.19	0.432	1.14
4331854_19	25.2	53.8	83	0.189	3.94	3.99	1.88	1.39
4331854_20	28.7	19.9	22.8	0.293	5.27	5.37	1.98	1.43
4331854_21	23.8	30.1	57.2	0.09	4.82	4.89	0.97	5.99
4331855_M2_1	4.06	0.102	1.41	0.712	0.666	0.63	0.091	0.33
4331855_M2_2	2.05	0.29	0.023	0.081	0.0024	0.00335	0.013	0.818
4331855_M2_3	2.96	0.59	0.47	1.45	0.002	0.0046	0.008	1.67
4331855_M2_4	4.03	1.91	7.1	0.642	0.0032	0.0024	0.0145	0.397
4331855_M2_5	2.88	0.0317	0.146	0.199	0.008	0.0048	0.0075	0.139
4331855_M2_6	2.16	0.0225	0.131	2.26	0.002	0.0036	0.01	1.11
4331855_M2_7	2.73	0.517	0.368	26.5	0.0299	0.0338	0.01	0.514
4331855_M2_8	2.3	0.126	1.29	5.3	0.0282	0.035	0.01	0.44
4331855_M2_9	3.6	2.9	500	12	0.039	0.0123	0.011	3.41
4331855_M2_10	2.9	0.0044	0.0065	0.0044	0.00405	0.0055	0.0195	0.095
4331855_M2_11	2.32	0.036	0.26	0.0124	0.0028	0.0055	0.0095	0.547
4331855_M2_12	2.41	0.042	0.192	0.00465	0.0044	0.00335	0.0225	2.53
4331855_M2_13	2.4	0.38	0.33	0.25	0.058	0.053	0.01	1.61
4331855_M2_14	1.93	0.025	0.03	0.69	0.086	0.096	0.008	3.12
4331855_M2_15	2.16	0.055	0.171	2.45	0.051	0.065	0.0075	0.798
4331855_M2_16	2.04	0.75	36	4.1	0.046	0.031	0.009	3.01
4331855_M2_17	2.72	0.22	0.074	0.062	0.0121	0.0086	0.01	2.13
4331855_M2_18	1.41	5.25	0.58	0.396	0.043	0.049	0.01	1.19
4331855_M2_19	1.53	0.182	0.037	0.283	0.0023	0.0022	0.0075	2.95
4331855_M2_20	2.3	0.0099	0.037	0.558	0.0205	0.0235	0.01	4.31
4331855_M2_21	2.75	1.77	38	0.125	0.0082	0.0145	0.017	31
4331855_M2_22	2.35	0.99	0.35	1.3	0.018	0.0243	0.007	0.565
4331855_M2_23	4	0.068	0.15	4.85	0.067	0.065	0.184	1.16
4331855_M2_24	7.4	13.4	19.3	0.024	0.0029	0.0078	0.018	2.96
4331855_M2_25	2.93	0.096	0.95	2.26	0.0016	0.00295	0.007	0.552
4331855_M2_26	1.99	0.161	1.48	0.33	0.0115	0.0037	0.0185	0.8
4331855_M2_27	2.66	0.0059	0.31	0.071	0.00425	0.0027	0.009	0.078
4331855_M2_28	2.5	0.72	20	24.9	0.0064	0.0109	0.0085	0.76
4331855_M2_29	2.71	6.2	184	2.7	0.129	0.124	0.0105	1.41
4331855_M2_30	2.4	0.0014	0.43	0.039	0.002	0.0022	0.01	0.31
4331855_M2_31	2.4	0.115	0.89	0.086	0.0033	0.0096	0.01	0.959
4331855_M2_32	2.03	0.33	0.86	0.59	0.0031	0.0051	0.0125	1.92
4331855_M2_33	1.58	0.057	0.0089	1.339	0.0022	0.00325	0.0185	0.779
4331855_M2_34	2.37	1.48	17.9	0.067	0.057	0.05	0.01	2.13
4331855_M2_35	1.42	0.0014	0.047	0.058	0.012	0.0123	0.01	1.075
4331855_M2_36	4.2	0.058	0.0065	0.592	0.147	0.153	0.021	0.851
4331855_M2_37	2.94	0.29	0.097	1.84	0.047	0.045	0.01	2.64
4331855_M2_38	2.98	0.0154	0.0065	0.06	0.0155	0.0116	0.0105	0.049

Sample Number	Sb_ppm_m121	Te_ppm_m125	Gd_ppm_m157	Hf_ppm_m178	Ta_ppm_m181	W_ppm_m182	Re_ppm_m185	Pt_ppm_m195
4331854_1	4.62	0.35	0.01	0.035	0.0015	0.002	0.0211	0.0022
4331854_2	32.5	1.06	2.63	1.02	0.083	0.505	0.085	0.0022
4331854_3	13	0.298	0.01	0.035	0.0015	0.0071	0.004	0.0022
4331854_4	5.69	0.217	1.25	0.345	0.083	0.448	0.00077	0.0022
4331854_5	5.8	0.144	0.103	0.035	0.0015	0.002	0.0119	0.0022
4331854_6	24.6	0.76	1.23	1.58	0.148	0.354	0.203	0.0022
4331854_7	21.3	0.81	1.26	1.11	0.202	0.97	0.291	0.0022
4331854_8	13.5	0.51	0.314	0.72	0.62	0.69	0.074	0.0022
4331854_9	25.5	0.89	1.27	0.71	0.159	0.463	0.038	0.0022
4331854_10	7.6	0.288	0.53	0.035	0.0254	0.131	0.081	0.0022
4331854_11	19.3	0.6	1.36	1.52	0.187	0.66	0.126	0.0022
4331854_12	20.1	0.83	1.73	1.28	0.221	1.2	0.0311	0.0022
4331854_13	19.1	0.74	3.58	0.94	0.22	1.22	0.0279	0.0022
4331854_14	16.8	0.44	1.05	0.035	0.105	0.432	0.0067	0.0022
4331854_15	20.45	0.48	2.29	0.7	0.202	0.583	0.0247	0.0022
4331854_16	1.34	0.072	0.01	0.035	0.0015	0.002	0.0049	0.0022
4331854_17	5.7	0.28	0.01	0.035	0.0015	0.002	0.0009	0.0022
4331854_18	17.3	0.8	0.84	0.66	0.149	0.279	0.035	0.0022
4331854_19	27.8	0.63	2.27	1.79	0.149	0.391	0.0311	0.0022
4331854_20	22.7	1.12	1.49	0.542	0.12	0.445	0.091	0.0022
4331854_21	32.7	1.13	2.74	1.68	0.474	2.29	0.052	0.0022
4331855_M2_1	1.402	0.079	0.063	0.035	0.0015	0.002	0.002	0.0022
4331855_M2_2	0.021	0.055	1.6	0.035	0.0015	0.002	0.00064	0.0022
4331855_M2_3	0.01	0.05	0.5	0.035	0.0015	0.0175	0.0002	0.0022
4331855_M2_4	0.432	0.049	0.36	0.035	0.0015	0.0077	0.00018	0.0022
4331855_M2_5	0.057	0.084	0.051	0.035	0.0015	0.002	0.00125	0.0022
4331855_M2_6	0.199	0.049	0.01	0.035	0.0015	0.002	0.00048	0.0022
4331855_M2_7	1.74	0.032	0.01	0.035	0.0015	0.002	0.00135	0.0022
4331855_M2_8	1.014	0.106	0.055	0.035	0.0015	0.002	0.00051	0.0022
4331855_M2_9	0.987	0.038	24.7	10.3	0.017	0.42	0.0016	0.0022
4331855_M2_10	0.0265	0.04	0.01	0.035	0.0015	0.002	0.00029	0.0022
4331855_M2_11	0.026	0.128	0.01	0.035	0.0015	0.002	0.00155	0.0022
4331855_M2_12	0.011	0.07	0.01	0.035	0.0015	0.002	0.00039	0.0022
4331855_M2_13	0.062	0.032	0.092	0.035	0.0015	0.002	0.0036	0.0022
4331855_M2_14	0.026	0.088	0.01	0.035	0.0015	0.002	0.002	0.0022
4331855_M2_15	0.06	0.112	0.024	0.035	0.0015	0.002	0.00125	0.0022
4331855_M2_16	0.85	0.095	1.09	0.86	0.07	0.24	0.00285	0.0022
4331855_M2_17	0.044	0.066	0.01	0.035	0.0015	0.002	0.00255	0.0022
4331855_M2_18	0.24	0.078	0.047	0.035	0.0015	0.002	0.00044	0.0022
4331855_M2_19	0.017	0.066	0.01	0.035	0.0015	0.002	0.0015	0.0022
4331855_M2_20	0.516	0.163	0.01	0.035	0.0015	0.002	0.00155	0.0022
4331855_M2_21	0.227	0.23	1.17	1	2.88	1.29	0.00043	0.0022
4331855_M2_22	0.454	0.072	6.3	0.035	0.0015	0.002	0.0002	0.0022
4331855_M2_23	3.31	0.025	0.019	0.035	0.077	0.043	0.00155	0.0022
4331855_M2_24	0.037	0.129	81.9	0.53	0.174	0.26	0.00155	0.0022
4331855_M2_25	0.032	0.124	0.062	0.035	0.0015	0.002	0.00175	0.0022
4331855_M2_26	0.064	0.055	0.028	0.035	0.0015	0.002	0.0019	0.0022
4331855_M2_27	0.021	0.1	0.016	0.035	0.0015	0.002	0.00175	0.0022
4331855_M2_28	0.042	0.047	1.7	0.63	0.0015	0.02	0.0016	0.0022
4331855_M2_29	0.133	0.049	8	4.7	0.0059	0.155	0.0017	0.0022
4331855_M2_30	0.018	0.043	0.01	0.035	0.0015	0.002	0.0011	0.0022
4331855_M2_31	0.303	0.065	0.052	0.035	0.0015	0.002	0.0013	0.0022
4331855_M2_32	0.101	0.091	0.32	0.035	0.0015	0.002	0.0038	0.0022
4331855_M2_33	0.04	0.077	0.058	0.035	0.0015	0.0034	0.00125	0.0022
4331855_M2_34	0.271	0.114	7	0.54	0.0015	0.0115	0.00015	0.0022
4331855_M2_35	0.095	0.014	0.014	0.035	0.0015	0.002	0.00145	0.0022
4331855_M2_36	0.366	0.093	0.01	0.035	0.0015	0.002	0.00042	0.0022
4331855_M2_37	0.25	0.011	3.5	0.035	0.0015	0.002	0.0017	0.0022
4331855_M2_38	0.025	0.013	0.01	0.035	0.0015	0.002	0.0002	0.0022

Sample Number	Au_ppm_m197	Tl_ppm_m205	Pb_ppm_m206	Pb_ppm_m207	Pb_ppm_m208	Bi_ppm_m209	Th_ppm_m232	U_ppm_m238
4331854_1	0.0057	11.4	600	570	580	1.61	0.0013	0.0013
4331854_2	0.108	30.2	584	547	560	19.7	2.31	0.76
4331854_3	0.022	86.1	111.4	106.1	107.7	1.35	0.0013	0.0013
4331854_4	0.0038	0.056	143.8	136.9	138.3	2.55	0.98	0.472
4331854_5	0.0142	2.2	357	328	344	2.85	0.0013	0.0013
4331854_6	0.086	26.3	1068	1003	1030	14.85	2.22	0.63
4331854_7	0.101	17	625	587	606	14.78	2.28	0.581
4331854_8	0.055	6.2	600	573	580	9.66	0.61	0.118
4331854_9	0.0598	25.1	782	737	755	15	2.17	0.394
4331854_10	0.0197	12.1	297	278	285	5.4	0.45	0.067
4331854_11	0.07	12.5	615	581	596	16.54	2.06	0.626
4331854_12	0.074	20.04	404	392	390	16.2	2.4	0.9
4331854_13	0.0485	12.34	730	688	699	15.3	2.7	0.536
4331854_14	0.0348	10.6	797	757	777	11.54	1.39	0.276
4331854_15	0.05	16.9	576	546	558	12.01	2.31	0.53
4331854_16	0.0029	9.14	70	68	68	0.56	0.0013	0.0013
4331854_17	0.0015	0.7	480	450	460	2.46	0.0013	0.0014
4331854_18	0.059	20.9	294	279	285	13.47	1.38	0.369
4331854_19	0.053	41.5	1215	1119	1174	13.37	3.08	0.94
4331854_20	0.071	37.6	444	437	440	17.37	1.62	0.328
4331854_21	0.087	23.6	735	700	708	17	4.71	1.62
4331855_M2_1	0.0044	0.171	74.7	43.3	64.3	0.0523	0.226	0.067
4331855_M2_2	0.0015	0.0029	0.22	0.165	0.184	0.0051	0.78	0.095
4331855_M2_3	0.0015	0.0195	0.282	0.136	0.202	0.004	0.33	0.06
4331855_M2_4	0.0015	0.08	0.58	0.326	0.501	0.00495	1.09	0.32
4331855_M2_5	0.0015	0.0037	0.287	0.161	0.26	0.00435	0.065	0.0077
4331855_M2_6	0.0015	0.00465	0.545	0.3	0.516	0.0033	0.023	0.0108
4331855_M2_7	0.0015	0.0146	0.432	0.232	0.384	0.0043	0.103	0.0339
4331855_M2_8	0.0015	0.0487	0.219	0.124	0.184	0.0029	0.327	0.064
4331855_M2_9	0.0015	0.036	2.32	1.22	1.98	0.0045	123	26.4
4331855_M2_10	0.0015	0.00435	0.15	0.102	0.116	0.0031	0.0013	0.0013
4331855_M2_11	0.0015	0.0102	0.097	0.06	0.087	0.0055	0.039	0.0067
4331855_M2_12	0.0015	0.0023	0.456	0.267	0.419	0.0045	0.037	0.0126
4331855_M2_13	0.0015	0.0052	1.95	0.92	1.64	0.00475	0.28	0.032
4331855_M2_14	0.0015	0.0174	0.407	0.212	0.355	0.00355	0.04	0.0024
4331855_M2_15	0.0015	0.0081	0.751	0.436	0.635	0.0032	0.15	0.0118
4331855_M2_16	0.0015	0.0078	0.76	0.44	0.73	0.0033	9.8	2.16
4331855_M2_17	0.0015	0.0136	0.186	0.112	0.187	0.0038	0.004	0.0013
4331855_M2_18	0.0015	0.112	1.12	0.52	0.85	0.003	0.267	0.049
4331855_M2_19	0.0015	0.0078	0.048	0.034	0.0315	0.0033	0.009	0.0076
4331855_M2_20	0.0015	0.0187	0.173	0.095	0.162	0.00325	0.0197	0.0035
4331855_M2_21	0.0015	0.0029	9.9	7.9	8.9	0.0034	8.2	5.6
4331855_M2_22	0.0015	0.071	3.91	2.24	3.35	0.00345	3.9	0.396
4331855_M2_23	0.004	0.261	18.4	11.06	15.88	0.0048	0.0124	0.072
4331855_M2_24	0.0015	0.0062	5.37	2.79	4.29	0.0046	50.1	7.4
4331855_M2_25	0.0015	0.049	0.203	0.139	0.2	0.00435	0.209	0.062
4331855_M2_26	0.0015	0.07	0.72	0.49	0.65	0.00325	0.149	0.088
4331855_M2_27	0.0015	0.00315	0.09	0.071	0.114	0.00365	0.066	0.0135
4331855_M2_28	0.0015	0.0033	0.369	0.255	0.341	0.00325	5.4	1.47
4331855_M2_29	0.0015	0.103	1.07	0.571	0.93	0.0033	42	12
4331855_M2_30	0.0015	0.00485	0.096	0.059	0.094	0.0049	0.07	0.0168
4331855_M2_31	0.0015	0.005	0.119	0.07	0.139	0.00355	0.3	0.075
4331855_M2_32	0.0015	0.0045	0.282	0.168	0.267	0.0033	0.81	0.109
4331855_M2_33	0.0015	0.0024	0.055	0.0361	0.0436	0.00295	0.102	0.0105
4331855_M2_34	0.0015	0.0028	8.73	5.02	7.49	0.035	6.1	3.6
4331855_M2_35	0.0015	0.0028	2.34	1.382	2.06	0.0037	0.0199	0.034
4331855_M2_36	0.0043	0.0611	14	8.05	12.01	0.0161	0.0013	0.002
4331855_M2_37	0.0015	0.0148	7.47	4.32	6.36	0.0036	0.45	0.131
4331855_M2_38	0.0015	0.0029	2.113	1.176	1.769	0.00295	0.0013	0.0013

Sample Number	Si_ppm_m29	P_ppm_m31	K_ppm_m39	Ca_ppm_m43	Sc_ppm_m45	V_ppm_m51	Cr_ppm_m53	Ga_ppm_m71
4331858_M2_1	2730	28	1.5	4470	4.26	33.9	0.305	0.074
4331858_M2_2	2080	5.6	3.83	3370	2.2	27	0.4	0.063
4331858_M2_3	3790	98	18.7	6170	4.87	52.6	0.167	0.141
4331858_M2_4	16200	215	161	23400	18.8	221	0.7	1.16
4331858_M2_5	13600	218	85	21700	12.3	177	1	0.72
4331858_M2_6	2400	270	63.3	3430	2.42	309	1.31	1.36
4331858_M2_7	360	3.55	1	420	0.345	3	0.155	0.0038
4331858_M2_8	500	3.8	5.1	260	0.28	1.86	0.108	0.017
4331858_M2_9	9490	94	199	12200	13.9	134	0.95	0.513
4331858_M2_10	201	27	1.05	410	0.306	2.9	0.133	0.0045
4331858_M2_11	4800	141	8.4	4700	2.98	43.8	0.11	0.191
4331858_M2_12	2180	11.8	4.6	3380	2.26	28.4	0.76	0.059
4331858_M2_13	209	3.1	1.69	148	0.16	2.36	0.123	0.066
4331858_M2_14	2600	65	48	3740	2.67	29	0.73	0.106
4331858_M2_15	3190	6.4	22.9	4550	4.53	44	0.45	0.116
4331858_M2_16	230	222	2.8	620	0.141	1.98	0.27	0.052
4331858_M2_17	50	3.9	0.85	60	0.047	0.0055	0.102	0.0038
4331858_M2_18	1720	28	1	2350	1.4	23.5	0.244	0.043
4331858_M2_19	4680	8.2	23.5	6300	4.9	66	0.34	0.139
4331858_M2_20	440	1430	1.1	4400	0.57	2.94	0.23	0.028
4331857_M2_1	47	3.65	0.8	60	0.037	0.0078	0.136	0.0038
4331857_M2_2	930	6.2	56	340	0.86	1.94	7.6	0.85
4331857_M2_3	581	3.9	198	55	0.32	0.77	11.7	0.078
4331857_M2_4	60	3.55	0.75	50	0.127	0.012	0.095	0.0038
4331857_M2_5	50	3.1	1.1	75	0.184	0.0115	0.097	0.00037
4331857_M2_6	3730	10.9	1380	45.5	0.99	4.44	21	0.75
4331857_M2_7	3100	3.8	126	60	0.195	0.347	1.36	0.05
4331857_M2_8	2000	6.3	786	55	0.66	2.54	17.1	0.392
4331857_M2_9	3210	4	1290	55	0.96	4.52	24.2	0.598
4331857_M2_10	5350	2.9	1930	55	1.32	8.6	7.3	1.26
4331857_M2_11	1090	78	420	203	0.509	2.23	18.9	0.225
4331857_M2_12	1610	46	470	87	0.58	2.15	6.4	0.391
4331857_M2_13	97	42	28.9	74	0.123	0.456	1.05	0.0172
4331857_M2_14	213	390	50	1000	0.124	0.285	0.82	0.039
4331857_M2_15	3820	11.9	1440	46	0.96	4.63	23.8	0.82
4331857_M2_16	1430	13.1	558	60	0.607	2.37	18.6	0.329
4331857_M2_17	1100	4.15	380	45.5	0.36	1.49	4.9	0.199
4331857_M2_18	2450	517	840	1210	0.51	3.65	6.1	0.47
4331857_M2_19	480	9.2	14.5	45	1.19	1.31	3.36	0.058
4331857_M2_20	47	4.3	0.95	55	0.088	0.295	0.7	0.00039
4331857_M2_21	7160	4.25	2920	55	1.52	8.8	88	1.35
4331857_M2_22	1380	3.1	480	64	0.563	1.44	7	0.252
4331857_M2_23	309	3.8	63	52	0.277	0.53	3.73	0.051
4331857_M2_24	580	11.8	197	60	0.49	1.23	12.7	0.137
4331857_M2_25	3800	3.55	104	49.5	0.144	0.136	0.5	0.0165
4331857_M2_26	1410	7.6	529	60	0.608	13.8	50.1	0.721
4331858_M1_1	680	3.5	1.3	940	3.9	7.4	0.075	0.111
4331858_M1_2	45	3.7	1.15	50	0.044	0.0048	0.115	0.0038
4331858_M1_3	73	3.3	0.95	190	0.112	1.51	0.161	0.0038
4331858_M1_4	23	3.45	0.9	47.5	0.072	0.0039	0.084	0.0038
4331858_M1_5	22	4	1.05	60	0.031	0.0051	0.1	0.0038
4331858_M1_6	60	3.65	22	43	0.12	0.33	0.163	0.012
4331858_M1_7	55	2.9	1.1	55	0.039	0.0068	0.166	0.0038
4331858_M1_8	2020	2.9	95	55	0.86	10.1	1.56	0.81
4331858_M1_9	7730	17.1	533	2550	3.14	25.5	1.1	0.602
4331858_M1_10	65	4.35	1.05	70	0.0475	0.0015	0.137	0.0038
4331858_M1_11	1420	3.5	42	2030	0.94	13.7	0.099	0.056
4331858_M1_12	800	5.5	3.5	50	0.072	0.047	0.103	0.096
4331858_M1_13	55	2.75	1.05	55	0.0325	0.0121	0.089	0.0038
4331858_M1_14	140	4.45	26.3	90	0.07	1.19	0.104	0.016
4331858_M1_15	1500	8.7	161	1690	1.32	14.7	0.275	0.108
4331858_M1_16	6500	11.4	47	8000	4.89	66	1.31	0.235
4331858_M1_17	132	3.7	1	60	0.21	0.059	0.095	0.0037
4331858_M1_18	410	3.6	3.4	380	0.39	4.2	0.15	0.0128
4331858_M1_19	60	3.2	1.1	55	0.109	0.78	0.1	0.0038
4331858_M1_20	72	3.05	0.85	55	0.092	0.0188	0.13	0.0038
4331858_M1_21	210	290	3.7	110	2	2.5	0.158	0.55
4331858_M1_22	50	4.9	0.9	60	0.05	0.0093	0.109	0.0038

Sample Number	Rb_ppm_m85	Y_ppm_m89	Nb_ppm_m93	Ba_ppm_m137	Ce_ppm_m140	Na_ppm_m23	Mg_ppm_m24	Al_ppm_m27
4331858_M2_1	0.031	9	2.36	0.33	0.75	68	13.2	385
4331858_M2_2	0.0198	5.34	1.69	0.002	0.401	13.3	4.1	294
4331858_M2_3	0.112	12.27	3.24	0.69	1.07	64	54.8	567
4331858_M2_4	1	46.6	13	4.21	4.39	226	1130	3390
4331858_M2_5	0.61	45.1	14.5	1.72	3.4	182	421	2030
4331858_M2_6	0.33	8.8	1.3	0.76	3.5	68	251	585
4331858_M2_7	0.0122	0.58	0.18	0.002	0.037	13.9	0.3	49
4331858_M2_8	0.032	0.53	0.0036	0.002	0.04	105	3.6	96
4331858_M2_9	1.28	27.3	7.89	3.2	2.22	235	301	1800
4331858_M2_10	0.0097	0.84	0.144	0.002	0.166	2.9	0.76	30
4331858_M2_11	0.069	9.1	2.31	0.5	1.53	450	37	1160
4331858_M2_12	0.055	6.7	2.03	0.258	0.502	45.5	17.3	333
4331858_M2_13	0.0189	0.239	0.0036	0.002	0.028	1.82	65.8	74.9
4331858_M2_14	0.18	7.4	1.89	1.11	1.13	100	22	440
4331858_M2_15	0.142	8.6	2.61	0.62	0.73	31.5	25.4	564
4331858_M2_16	0.019	0.31	0.0036	0.002	0.13	13	38	48
4331858_M2_17	0.0025	0.003	0.0036	0.002	0.015	0.34	0.0135	0.55
4331858_M2_18	0.0139	4.3	1.22	0.248	0.447	83	1.76	315
4331858_M2_19	0.129	13.5	3.76	0.65	1.05	188	36	810
4331858_M2_20	0.0049	3.7	0.233	0.002	1.9	43	9.4	106
4331857_M2_1	0.0059	0.003	0.0036	0.002	0.015	0.38	0.0135	0.03
4331857_M2_2	0.41	14.9	4.88	1.72	284	3.85	20	460
4331857_M2_3	1.06	0.176	1.35	5.3	0.028	4.9	36	378
4331857_M2_4	0.0032	0.032	0.0036	0.002	0.015	0.36	0.041	0.065
4331857_M2_5	0.012	0.31	0.0036	0.002	0.015	0.43	0.219	0.87
4331857_M2_6	7.5	3.84	8.3	40.7	18.2	28.9	185	2690
4331857_M2_7	0.77	0.003	0.138	3.13	0.015	2.76	20.9	231
4331857_M2_8	4.14	0.96	2.71	20.6	5.1	14.8	101	1520
4331857_M2_9	6.85	2.62	11.2	34.1	6.8	23.3	148	2440
4331857_M2_10	6.57	0.43	1.89	68.1	1.79	93	160	4430
4331857_M2_11	2.31	3.24	7.53	12.4	6.6	8.9	61	800
4331857_M2_12	2.79	7.2	5.15	13.3	44	16.4	75	1010
4331857_M2_13	0.383	2.15	2.54	0.002	0.54	0.84	34.5	38.7
4331857_M2_14	0.26	5.4	1.38	1.2	3.2	8.4	14.3	124
4331857_M2_15	7.8	5.27	9.9	40.1	28.6	46.7	196	2890
4331857_M2_16	3.1	4.2	9.9	15.2	13.6	11	75.2	1030
4331857_M2_17	2.01	1.58	5.1	10.5	3.3	7.6	49	700
4331857_M2_18	5.1	7.4	2.57	20.4	13.3	48	117	1720
4331857_M2_19	0.08	39	11.6	0.32	2.38	22.4	48	270
4331857_M2_20	0.0219	0.77	1.44	0.002	0.11	0.33	5.4	4.8
4331857_M2_21	16.3	0.581	2.03	96	3	49.9	391	5400
4331857_M2_22	2.49	0.145	0.76	12.6	1.83	10.3	74	940
4331857_M2_23	0.373	0.49	2.65	1.6	1.17	2.08	20.1	114
4331857_M2_24	1.23	4.7	7.6	4.92	9.9	4.61	40.9	337
4331857_M2_25	0.543	0.003	0.0036	2.83	0.015	4.4	6.52	212
4331857_M2_26	3.22	4.7	6.03	14.1	5.39	13.4	108	970
4331858_M1_1	0.024	2.62	0.77	0.002	3	2.8	17.7	177
4331858_M1_2	0.0042	0.003	0.0036	0.002	0.015	0.1	0.028	0.13
4331858_M1_3	0.006	0.47	0.29	0.002	0.015	0.59	1.7	9.7
4331858_M1_4	0.012	0.003	0.0036	0.002	0.015	0.13	0.05	0.077
4331858_M1_5	0.0127	0.003	0.0036	0.002	0.015	0.17	0.0225	0.095
4331858_M1_6	0.2	0.003	0.0036	0.3	0.015	0.14	27	45
4331858_M1_7	0.01	0.003	0.0036	0.002	0.015	0.23	0.0105	0.031
4331858_M1_8	0.59	0.003	0.0036	2.8	0.015	1.62	1190	1760
4331858_M1_9	3.25	4.07	1.25	10.2	0.191	1420	489	2820
4331858_M1_10	0.0069	0.003	0.0036	0.002	0.015	0.325	0.0195	0.33
4331858_M1_11	0.247	4.3	2.15	0.85	0.161	29.3	40	214
4331858_M1_12	0.02	0.06	0.0036	0.229	0.015	233	0.91	305
4331858_M1_13	0.026	0.003	0.0036	0.002	0.015	0.6	0.29	0.36
4331858_M1_14	0.205	0.29	0.162	0.39	0.015	0.79	19.4	40
4331858_M1_15	1.02	5.6	2.85	2.64	0.288	41.1	116	389
4331858_M1_16	0.32	21.1	17	3.66	0.81	420	125	1230
4331858_M1_17	0.0034	0.3	0.0036	0.002	0.015	11	0.068	11
4331858_M1_18	0.043	1.39	0.99	0.52	0.0186	2.32	5	31
4331858_M1_19	0.0165	0.226	0.15	0.002	0.015	0.39	0.51	4
4331858_M1_20	0.0016	0.0045	0.0036	0.002	0.08	0.5	1.11	1.02
4331858_M1_21	0.025	30	0.0036	2.3	320	3.7	35	28
4331858_M1_22	0.0074	0.003	0.0036	0.002	0.015	0.5	0.014	0.19

Sample Number	S_ppm_m34	Ti_ppm_m49	Mn_ppm_m55	Co_ppm_m59	Ni_ppm_m60	Cu_ppm_m63	Zn_ppm_m66	As_ppm_m75
4331858_M2_1	672000	3680	4.89	723	197	2.67	0.96	794
4331858_M2_2	656000	2830	3.03	187	19.21	2.4	0.58	808
4331858_M2_3	639000	5260	9.01	63	18.8	2.79	0.96	372
4331858_M2_4	660000	21400	89.9	92.8	209	3130	111	601
4331858_M2_5	616000	19900	50.8	311	369	1430	76	775
4331858_M2_6	565000	2470	43.8	57.8	55.6	16.4	7.7	279
4331858_M2_7	672000	350	0.37	83.5	4.3	0.31	0.73	562
4331858_M2_8	697000	260	0.53	6.54	3.14	0.61	0.92	291
4331858_M2_9	665000	11500	24.8	103.6	4.69	1.62	2.98	170
4331858_M2_10	677000	300	0.5	17	7.78	0.5	0.79	419
4331858_M2_11	696000	3960	6	11900	10.1	2.31	1.27	3520
4331858_M2_12	656000	3090	4.06	129	18.1	1.89	0.91	518
4331858_M2_13	635000	145	3.2	134	6.62	2.07	1.21	594
4331858_M2_14	681000	3100	5.6	161	2.7	2.5	0.96	270
4331858_M2_15	672000	4290	4.99	130	6.81	1.95	1.1	691
4331858_M2_16	681000	75	2.2	41	11.2	8.2	1.12	460
4331858_M2_17	672000	3.52	0.092	33.4	4.17	0.035	0.95	958
4331858_M2_18	644000	2120	2.43	255	3.04	1.61	0.95	616
4331858_M2_19	613000	5700	7	19.4	6.2	4.51	1.06	229
4331858_M2_20	686000	276	2.9	184	11.9	0.96	0.93	367
4331857_M2_1	652000	3.15	0.065	224	152	0.068	1.05	66.5
4331857_M2_2	657000	1180	38.5	1746	304	7.9	4.1	119.1
4331857_M2_3	688000	338	8.6	1129	352	0.79	1.91	149.2
4331857_M2_4	641000	3.06	0.097	3310	147.4	0.1	0.82	458
4331857_M2_5	702000	3.88	0.071	4050	141.2	0.241	0.99	570
4331857_M2_6	641000	727	8.3	911	112.2	2.46	3.19	57.1
4331857_M2_7	674000	35.8	0.8	300	307	2.3	1.07	81.6
4331857_M2_8	623000	427	9.1	670	140.8	1.76	2.41	63.3
4331857_M2_9	657000	1250	18.7	215	111	3.1	3.23	59.7
4331857_M2_10	644000	174	2.46	147.5	77.2	0.99	1.59	50.6
4331857_M2_11	650000	2030	51.2	872	212	3.72	6.8	75.6
4331857_M2_12	652000	377	1.86	1169	166	1.93	1.61	71.7
4331857_M2_13	629000	1140	39.2	1169	596	2.15	6.61	161
4331857_M2_14	663000	121	1.38	2310	417	0.78	1.25	182.9
4331857_M2_15	661000	1150	13.1	2018	390	4.64	3.55	105.6
4331857_M2_16	660000	1660	36	545	173.8	3.39	4.68	65
4331857_M2_17	641000	361	1.35	505	109.8	1.27	1.38	77
4331857_M2_18	645000	326	7.3	61.9	97	2.09	2.34	59.4
4331857_M2_19	636000	730	3.03	979	117.7	0.92	1.54	60.4
4331857_M2_20	689000	730	26.9	1820	475	0.283	3.16	193.4
4331857_M2_21	653000	316	7.2	442	235	1.85	4.22	78.8
4331857_M2_22	663000	264	7.9	457	410	1.7	1.94	118.9
4331857_M2_23	673000	693	16.3	2370	423	1.2	2.62	184.5
4331857_M2_24	679000	1260	31.2	2030	245	2.12	4.37	100.5
4331857_M2_25	627000	4.89	0.077	16.9	126	1.43	0.82	51.2
4331857_M2_26	592000	1610	48	1700	372	3.71	12.9	116
4331858_M1_1	661000	660	3.8	694	13.2	0.425	1.01	584
4331858_M1_2	665000	3.4	0.092	531	22.6	0.041	0.96	688
4331858_M1_3	678000	166	0.37	2740	19.4	0.32	1.06	1180
4331858_M1_4	693000	3.92	0.055	111.9	3.75	0.025	0.81	198.8
4331858_M1_5	671000	3.54	0.117	196	8.93	0.047	1.05	623
4331858_M1_6	648000	8.1	1.17	563	19.2	0.095	1.28	697
4331858_M1_7	647000	2.94	0.062	50.9	1.7	0.037	0.86	176
4331858_M1_8	645000	34	64	141	5.87	0.9	9.9	354
4331858_M1_9	667000	2420	25.5	47.2	4.69	4.2	4.54	313
4331858_M1_10	693000	3.05	0.0495	39.9	1.11	0.057	0.96	144
4331858_M1_11	665000	2020	4.14	29.1	319	900	35	675
4331858_M1_12	670000	7.3	0.112	14.3	229	3.2	0.97	400
4331858_M1_13	653000	3.83	0.103	19.64	195	10.9	1.76	410
4331858_M1_14	636000	168	1.73	1045	16.7	0.34	1.31	275
4331858_M1_15	679000	1560	7.36	2130	49.3	16	3.7	940
4331858_M1_16	602000	7000	14	82.1	154	5.39	1.37	456
4331858_M1_17	656000	7.6	0.192	76	157	820	6.8	559
4331858_M1_18	640000	520	0.89	92	32.2	0.58	0.83	252
4331858_M1_19	606000	90	0.154	94	24.1	0.44	0.57	183
4331858_M1_20	665000	3.08	0.43	49.7	86	480	13.1	348
4331858_M1_21	656000	56	1.9	265	10.36	3.5	1.33	158.5
4331858_M1_22	644000	5.2	0.055	10.6	39.9	0.136	0.79	263

Sample Number	Se_ppm_m77	Sr_ppm_m88	Zr_ppm_m90	Mo_ppm_m95	Ag_ppm_m107	Ag_ppm_m109	Cd_ppm_m111	Sn_ppm_m118
4331858_M2_1	79.2	0.442	12.3	0.009	0.0193	0.0122	0.01	1.24
4331858_M2_2	151.7	0.228	3.42	0.0052	0.01	0.0096	0.015	0.752
4331858_M2_3	61.3	0.648	16.9	0.005	0.0207	0.009	0.013	1.59
4331858_M2_4	64.1	2.05	97	0.023	2.26	2.16	4	5.97
4331858_M2_5	72.4	2.05	164	0.0113	3.66	3.84	2.32	5.23
4331858_M2_6	46	1	29.3	0.009	0.186	0.209	0.019	0.8
4331858_M2_7	119.1	0.075	0.41	0.009	0.0022	0.0022	0.018	0.095
4331858_M2_8	51.7	0.076	3	0.009	0.0031	0.0022	0.01	0.074
4331858_M2_9	31.4	1.35	40.4	0.016	0.201	0.195	0.0205	3.5
4331858_M2_10	121.8	0.073	4.8	0.01	0.0029	0.003	0.0225	0.07
4331858_M2_11	50.4	0.95	48	0.009	0.0166	0.0035	0.01	0.78
4331858_M2_12	62.8	0.288	5.03	0.005	0.0092	0.0066	0.017	0.788
4331858_M2_13	184	0.116	0.48	0.007	0.25	0.258	0.017	0.036
4331858_M2_14	51.5	0.64	45	0.0048	0.234	0.161	0.018	0.83
4331858_M2_15	80.9	0.401	17.8	0.0085	0.0154	0.0121	0.0145	1.15
4331858_M2_16	134.8	0.33	0.063	0.0055	0.19	0.22	0.01	0.042
4331858_M2_17	131.9	0.0035	0.0065	0.007	0.00285	0.0022	0.01	0.0185
4331858_M2_18	54.6	0.4	3.5	0.005	0.0027	0.00215	0.01	0.48
4331858_M2_19	34.3	0.64	10	0.01	0.203	0.197	0.0105	1.43
4331858_M2_20	56.4	1.48	16.1	0.0055	0.0022	0.0022	0.01	0.111
4331857_M2_1	28.2	0.0027	0.0065	0.009	0.00205	0.0021	0.01	0.0175
4331857_M2_2	28	7.1	20	0.0155	0.102	0.065	0.031	0.105
4331857_M2_3	31.7	0.127	2.18	0.005	0.0146	0.0078	0.0235	0.054
4331857_M2_4	34.7	0.0039	0.8	0.011	0.00275	0.00495	0.0095	0.013
4331857_M2_5	35.2	0.0093	7.9	0.005	0.012	0.0159	0.0105	0.015
4331857_M2_6	24	1.22	29.1	0.0049	0.032	0.041	0.026	0.306
4331857_M2_7	33.4	0.052	0.0065	0.00495	0.0154	0.026	0.017	0.018
4331857_M2_8	27.1	0.466	8.8	0.009	0.0215	0.0176	0.01	0.125
4331857_M2_9	26.5	0.601	33	0.009	0.033	0.036	0.014	0.303
4331857_M2_10	23.7	1.33	4.7	0.0049	0.0137	0.0078	0.01	0.354
4331857_M2_11	26.7	0.72	29.5	0.009	0.089	0.092	0.01	0.134
4331857_M2_12	24.1	1.93	77	0.007	0.0333	0.0234	0.01	0.228
4331857_M2_13	29.9	0.33	16.7	0.009	0.099	0.072	0.0165	0.03
4331857_M2_14	31.8	2.5	16.6	0.007	0.0048	0.0026	0.014	0.024
4331857_M2_15	25.5	2.52	49	0.0048	0.065	0.041	0.014	0.361
4331857_M2_16	26.6	0.65	81	0.009	0.066	0.04	0.02	0.21
4331857_M2_17	39.6	0.239	21	0.0072	0.0195	0.0157	0.0095	0.264
4331857_M2_18	26.1	2.68	13.1	0.0065	0.036	0.0168	0.01	0.144
4331857_M2_19	20.5	1.18	420	0.0048	0.034	0.0183	0.021	0.167
4331857_M2_20	36.2	0.027	10.7	0.0051	0.0037	0.0022	0.01	0.02
4331857_M2_21	27.4	1.54	6	0.005	0.0197	0.0232	0.0235	0.392
4331857_M2_22	34.9	0.296	0.341	0.016	0.0201	0.0267	0.0385	0.087
4331857_M2_23	31.1	0.12	3.8	0.0055	0.0228	0.0187	0.0275	0.06
4331857_M2_24	27.2	0.273	28.6	0.005	0.045	0.036	0.01	0.12
4331857_M2_25	24.7	0.067	0.0071	0.009	0.0022	0.0036	0.01	0.0175
4331857_M2_26	30.3	0.564	43.2	0.00465	0.049	0.055	0.0135	0.186
4331858_M1_1	113.8	1.6	0.197	0.00485	0.00205	0.0085	0.01	0.222
4331858_M1_2	121.1	0.0028	0.0065	0.005	0.00215	0.0022	0.0145	0.015
4331858_M1_3	123.8	0.0094	0.072	0.00495	0.0021	0.003	0.01	0.06
4331858_M1_4	68.1	0.0065	0.0065	0.005	0.00215	0.0055	0.01	0.0165
4331858_M1_5	115.4	0.0018	0.0065	0.005	0.00215	0.0031	0.0145	0.0165
4331858_M1_6	122.1	0.0015	0.0065	0.0044	0.002	0.0022	0.03	0.0135
4331858_M1_7	59.4	0.00315	0.0065	0.005	0.0022	0.00225	0.0105	0.0245
4331858_M1_8	82.5	0.0046	0.0065	0.009	0.0042	0.0027	0.0145	0.016
4331858_M1_9	83.1	1.78	1.46	0.0075	0.0104	0.0121	0.011	0.498
4331858_M1_10	55.9	0.00315	0.0065	0.009	0.0095	0.0022	0.0145	0.0145
4331858_M1_11	159.8	0.122	4.6	0.0055	0.45	0.47	1.02	0.44
4331858_M1_12	183	0.23	1.56	0.005	0.0059	0.0097	0.0105	0.0175
4331858_M1_13	176.6	0.006	0.0065	0.005	0.03	0.0147	0.038	0.0135
4331858_M1_14	71	0.0056	0.16	0.0055	0.0095	0.00235	0.019	0.056
4331858_M1_15	116.7	0.231	27	0.0045	0.099	0.079	0.04	0.442
4331858_M1_16	77.5	1.4	35	0.009	0.061	0.065	0.02	2.07
4331858_M1_17	117.3	0.028	15	0.0055	0.169	0.147	0.174	0.02
4331858_M1_18	92.7	0.056	4.6	0.009	0.0073	0.0049	0.015	0.131
4331858_M1_19	114	0.00295	0.81	0.0075	0.0022	0.00395	0.028	0.031
4331858_M1_20	90.3	0.0136	0.0065	0.007	0.37	0.26	0.28	0.015
4331858_M1_21	91.1	7.7	4.1	0.0068	0.117	0.086	0.015	0.04
4331858_M1_22	126	0.0026	0.0065	0.005	0.00425	0.0022	0.0105	0.0155

Sample Number	Sb_ppm_m121	Te_ppm_m125	Gd_ppm_m157	Hf_ppm_m178	Ta_ppm_m181	W_ppm_m182	Re_ppm_m185	Pt_ppm_m195
4331858_M2_1	0.7	0.74	0.9	0.47	0.079	0.99	0.0024	0.0022
4331858_M2_2	0.476	1.64	0.476	0.035	0.059	0.714	0.0079	0.0022
4331858_M2_3	0.687	0.73	1.18	0.81	0.106	1.12	0.0017	0.0022
4331858_M2_4	2.6	3.31	4.28	3.02	0.524	4.62	0.0038	0.0022
4331858_M2_5	3.78	4.5	4.69	4.48	0.489	2.94	0.0049	0.0022
4331858_M2_6	1.18	0.95	0.9	0.81	0.057	0.41	0.0043	0.0022
4331858_M2_7	0.032	0.218	0.053	0.035	0.0045	0.086	0.003	0.0022
4331858_M2_8	0.024	0.34	0.014	0.035	0.0014	0.032	0.0183	0.0022
4331858_M2_9	0.789	0.44	2.54	1.65	0.31	1.97	0.0088	0.0022
4331858_M2_10	0.084	0.236	0.043	0.035	0.0015	0.085	0.0044	0.0022
4331858_M2_11	0.56	0.48	0.69	0.8	0.079	1.01	0.0134	0.0022
4331858_M2_12	0.459	0.38	0.7	0.035	0.063	0.735	0.0215	0.0022
4331858_M2_13	0.649	0.7	0.01	0.035	0.002	0.0164	0.0042	0.0022
4331858_M2_14	0.78	0.37	0.72	1.15	0.054	0.8	0.0039	0.0022
4331858_M2_15	0.498	0.49	0.85	0.64	0.085	0.94	0.0205	0.0022
4331858_M2_16	8.3	0.4	0.027	0.035	0.0015	0.083	0.00047	0.0022
4331858_M2_17	0.0185	0.55	0.01	0.035	0.0015	0.002	0.0147	0.0022
4331858_M2_18	0.411	0.39	0.33	0.035	0.0271	0.582	0.0232	0.0022
4331858_M2_19	2.66	0.42	1.03	0.46	0.108	1.19	0.0106	0.0022
4331858_M2_20	0.135	0.37	0.45	0.34	0.0051	0.4	0.0167	0.0022
4331857_M2_1	0.0175	0.129	0.01	0.035	0.0015	0.002	0.0015	0.0022
4331857_M2_2	1.25	0.58	18.4	0.462	0.363	0.58	0.001	0.0022
4331857_M2_3	0.323	0.235	0.01	0.035	0.103	0.151	0.00031	0.0022
4331857_M2_4	0.0205	0.112	0.01	0.035	0.0015	0.002	0.00185	0.0022
4331857_M2_5	0.043	0.139	0.01	0.035	0.0015	0.002	0.0007	0.0022
4331857_M2_6	0.807	0.34	0.73	0.74	0.66	0.508	0.00032	0.0022
4331857_M2_7	0.8	0.191	0.01	0.035	0.0048	0.0132	0.0011	0.0022
4331857_M2_8	0.6	0.37	0.17	0.035	0.179	0.228	0.0032	0.0022
4331857_M2_9	0.933	0.45	0.29	0.82	0.95	0.84	0.0012	0.0022
4331857_M2_10	0.274	0.279	0.046	0.035	0.143	0.337	0.0016	0.0022
4331857_M2_11	1.86	0.72	0.47	0.75	0.516	0.722	0.00155	0.0022
4331857_M2_12	0.78	0.339	2.05	2.5	0.456	0.44	0.0019	0.0022
4331857_M2_13	1.35	0.314	0.156	0.374	0.13	0.349	0.0011	0.0022
4331857_M2_14	0.203	0.234	2.1	0.416	0.099	0.136	0.0019	0.0022
4331857_M2_15	1.36	0.69	1.12	1.37	0.662	0.74	0.0008	0.0022
4331857_M2_16	1.51	0.53	0.67	2.59	0.646	0.751	0.00034	0.0022
4331857_M2_17	0.84	0.299	0.15	0.56	0.4	0.44	0.00061	0.0022
4331857_M2_18	0.796	0.272	1.43	0.43	0.152	0.22	0.00055	0.0022
4331857_M2_19	0.509	0.172	1.54	9.5	0.78	0.83	0.0021	0.002
4331857_M2_20	0.276	0.133	0.01	0.3	0.159	0.078	0.00055	0.0022
4331857_M2_21	0.521	0.4	0.114	0.035	0.143	0.161	0.0016	0.0022
4331857_M2_22	0.54	0.4	0.069	0.035	0.037	0.111	0.00044	0.0022
4331857_M2_23	0.678	0.43	0.05	0.035	0.172	0.329	0.00255	0.0022
4331857_M2_24	1.054	0.37	0.56	0.89	0.458	0.544	0.00028	0.0022
4331857_M2_25	0.136	0.242	0.01	0.035	0.0015	0.002	0.0016	0.0022
4331857_M2_26	1.74	0.86	0.374	1.16	0.402	0.735	0.00155	0.0022
4331858_M1_1	0.095	0.56	0.43	0.035	0.03	0.101	0.0057	0.0022
4331858_M1_2	0.017	0.47	0.01	0.035	0.0015	0.002	0.0074	0.0022
4331858_M1_3	0.031	0.65	0.033	0.035	0.02	0.049	0.0038	0.0022
4331858_M1_4	0.0155	0.231	0.01	0.035	0.0015	0.002	0.00023	0.0022
4331858_M1_5	0.019	0.37	0.01	0.035	0.0015	0.002	0.0041	0.0022
4331858_M1_6	0.016	0.53	0.01	0.035	0.0015	0.002	0.0055	0.0022
4331858_M1_7	0.018	0.086	0.01	0.035	0.0015	0.002	0.0035	0.0022
4331858_M1_8	0.085	0.5	0.01	0.035	0.0015	0.002	0.0058	0.0022
4331858_M1_9	0.796	0.93	0.252	0.035	0.048	1.33	0.002	0.0022
4331858_M1_10	0.0185	0.105	0.01	0.035	0.0015	0.002	0.002	0.0022
4331858_M1_11	0.326	1.3	0.257	0.035	0.04	0.295	0.00033	0.0022
4331858_M1_12	0.027	0.39	0.01	0.035	0.0015	0.002	0.00023	0.0022
4331858_M1_13	0.025	0.275	0.01	0.035	0.0015	0.002	0.00032	0.0022
4331858_M1_14	0.065	0.15	0.01	0.035	0.006	0.06	0.0008	0.0022
4331858_M1_15	0.504	0.78	0.318	0.84	0.186	0.575	0.0022	0.0022
4331858_M1_16	1.4	1.28	1.47	1.05	1.19	2.03	0.0008	0.0022
4331858_M1_17	0.057	0.86	0.01	0.42	0.0073	0.002	0.0031	0.0022
4331858_M1_18	0.07	0.65	0.063	0.035	0.074	0.074	0.0011	0.0022
4331858_M1_19	0.039	0.47	0.01	0.035	0.012	0.0059	0.0045	0.0022
4331858_M1_20	0.06	0.83	0.01	0.035	0.0015	0.002	0.00029	0.0022
4331858_M1_21	0.083	0.28	14	0.035	0.0015	0.018	0.0026	0.0022
4331858_M1_22	0.02	0.33	0.01	0.035	0.0018	0.002	0.0052	0.0022

Sample Number	Au_ppm_m197	Tl_ppm_m205	Pb_ppm_m206	Pb_ppm_m207	Pb_ppm_m208	Bi_ppm_m209	Th_ppm_m232	U_ppm_m238
4331858_M2_1	0.0015	0.0037	11.6	10.9	11.2	4.85	0.2	0.23
4331858_M2_2	0.0015	0.0097	8.36	8	8.09	3.73	0.0368	0.041
4331858_M2_3	0.0015	0.0041	12.51	12.29	12.17	4.48	0.117	0.1
4331858_M2_4	0.091	0.0206	177	178	174	23.5	0.82	0.528
4331858_M2_5	0.0299	0.0237	740	710	730	30.8	0.95	0.461
4331858_M2_6	0.0089	0.0044	22	18.9	19.6	9.32	2.01	0.29
4331858_M2_7	0.0015	0.0037	0.86	0.81	0.77	0.39	0.012	0.0053
4331858_M2_8	0.0015	0.0042	1.09	1.11	1.13	0.5	0.021	0.0045
4331858_M2_9	0.0015	0.0171	4.22	3.17	3.65	3.2	0.266	0.211
4331858_M2_10	0.0015	0.005	1.5	1.36	1.39	0.69	0.083	0.0146
4331858_M2_11	0.003	0.00365	10.6	10.3	10.2	3.59	1.7	0.79
4331858_M2_12	0.0015	0.0033	7.39	6.87	7.13	2.53	0.097	0.0558
4331858_M2_13	0.0069	0.0399	4.54	4.16	4.44	1.51	0.0124	0.0016
4331858_M2_14	0.0015	0.0043	8.1	7.5	7.6	3.82	0.35	0.108
4331858_M2_15	0.0015	0.00465	6.9	6.6	6.54	2.57	0.127	0.109
4331858_M2_16	0.014	0.146	38	36	36	2.08	0.025	0.005
4331858_M2_17	0.0015	0.00335	0.034	0.031	0.0369	0.0436	0.0013	0.0013
4331858_M2_18	0.0015	0.00295	5.77	5.55	5.59	1.96	0.062	0.0326
4331858_M2_19	0.0036	0.92	10.9	10.6	10.7	2.91	0.165	0.099
4331858_M2_20	0.0015	0.00325	3.6	3.6	3.5	1.44	0.44	0.044
4331857_M2_1	0.0015	0.00365	0.0064	0.0048	0.0068	0.00315	0.0013	0.0013
4331857_M2_2	0.0213	0.0163	17.2	16.8	17.5	5.63	13.7	0.77
4331857_M2_3	0.0022	0.0102	4.29	4.12	4.13	1.72	0.106	0.047
4331857_M2_4	0.0015	0.00495	0.0265	0.034	0.0308	0.017	0.0147	0.0184
4331857_M2_5	0.0015	0.0043	0.53	0.44	0.404	0.127	0.074	0.126
4331857_M2_6	0.008	0.043	15	14.3	15.4	6.01	11.4	0.89
4331857_M2_7	0.0043	0.0031	9.4	9	9.3	2.29	0.0023	0.0057
4331857_M2_8	0.0113	0.0204	10.42	9.98	10.28	3.99	1.56	0.183
4331857_M2_9	0.0182	0.0391	18.7	17.8	18	6.95	2.34	0.502
4331857_M2_10	0.0097	0.0265	7.14	6.87	7.13	2.93	0.86	0.106
4331857_M2_11	0.042	0.0115	28.4	26.4	27	10.25	2.01	0.59
4331857_M2_12	0.0057	0.0131	13.7	12.5	12.8	4.96	9.6	1.21
4331857_M2_13	0.0056	0.008	9.8	8.9	9.1	3.82	0.53	0.39
4331857_M2_14	0.0017	0.004	3.85	3.48	4.29	1.31	3.8	0.378
4331857_M2_15	0.0204	0.0439	28	26.7	26.8	11.4	5.09	0.685
4331857_M2_16	0.0129	0.0245	23.5	22.4	22.7	8.8	3.67	0.85
4331857_M2_17	0.0072	0.0154	9.1	8.6	9	3.44	1.39	0.321
4331857_M2_18	0.0077	0.0257	15.7	14.7	15.8	5.95	1.48	0.172
4331857_M2_19	0.0032	0.0023	7.1	5.23	6.2	2.19	13.5	3.3
4331857_M2_20	0.0013	0.0026	1.83	1.67	1.74	0.74	0.148	0.147
4331857_M2_21	0.0053	0.092	12.69	12.09	12.7	4.74	4.8	0.208
4331857_M2_22	0.0042	0.0279	10.8	10.3	10.9	4.42	0.359	0.062
4331857_M2_23	0.0117	0.0112	9.33	8.87	8.9	3.24	0.52	0.147
4331857_M2_24	0.0183	0.0087	16.1	15	15.5	5.62	4.7	0.79
4331857_M2_25	0.0015	0.0044	6	5.5	5.3	2.31	0.0017	0.0013
4331857_M2_26	0.0254	0.0299	28.1	27.4	27.4	10.63	3.72	1.159
4331858_M1_1	0.0015	0.0037	1.77	1.65	1.82	0.8	0.148	0.06
4331858_M1_2	0.0015	0.0039	0.0036	0.0055	0.0034	0.0032	0.0013	0.0013
4331858_M1_3	0.0015	0.00315	0.43	0.44	0.44	0.29	0.0013	0.0015
4331858_M1_4	0.0015	0.0055	0.0041	0.00295	0.0045	0.0085	0.0013	0.0013
4331858_M1_5	0.0015	0.00405	0.00315	0.0029	0.0024	0.00275	0.0013	0.0013
4331858_M1_6	0.0015	0.0034	0.232	0.28	0.28	0.109	0.0013	0.0013
4331858_M1_7	0.0015	0.00405	0.00265	0.0028	0.0041	0.0053	0.0013	0.0013
4331858_M1_8	0.0015	0.0057	3.05	3.09	3.15	1.53	0.0013	0.0013
4331858_M1_9	0.0022	0.0294	15.7	15	15	6.73	0.0351	0.0243
4331858_M1_10	0.0015	0.00325	0.0019	0.00355	0.00255	0.0041	0.0013	0.0013
4331858_M1_11	0.007	0.006	7.2	6.6	6.9	4.58	0.035	0.0279
4331858_M1_12	0.0015	0.0033	2.1	2.15	2.26	1.38	0.003	0.0131
4331858_M1_13	0.0064	0.00265	0.56	0.65	0.62	0.174	0.0013	0.0013
4331858_M1_14	0.0015	0.0034	0.7	0.72	0.82	0.41	0.0025	0.002
4331858_M1_15	0.0015	0.0126	8.21	7.17	7.54	3.77	0.154	0.091
4331858_M1_16	0.0073	0.0125	22.2	21.1	21.1	12	0.26	0.163
4331858_M1_17	0.0032	0.0037	1.65	1.41	1.57	1.47	0.1	0.067
4331858_M1_18	0.0015	0.0035	1.65	1.69	1.7	1.36	0.028	0.021
4331858_M1_19	0.0015	0.005	0.94	0.82	0.88	0.69	0.0013	0.0013
4331858_M1_20	0.0087	0.0049	8.4	7.7	7.7	2.57	0.0026	0.0013
4331858_M1_21	0.0015	0.0073	1.15	0.6	1.15	0.55	16	10.9
4331858_M1_22	0.0015	0.0032	0.11	0.106	0.142	0.136	0.0013	0.0017

Sample Number	Si_ppm_m29	P_ppm_m31	K_ppm_m39	Ca_ppm_m43	Sc_ppm_m45	V_ppm_m51	Cr_ppm_m53	Ga_ppm_m71
4331859_M2_1	550	16900	0.95	44000	0.085	0.31	0.155	0.0132
4331859_M2_2	57	184	5.3	16200	0.103	0.44	0.13	0.0084
4331859_M2_3	920	250	8.3	1540	0.32	1.53	0.48	0.31
4331859_M2_4	21	2650	1	7200	0.041	0.0021	0.115	0.00034
4331859_M2_5	13940	3.75	276	107	0.061	1.47	0.183	0.258
4331859_M2_6	1150	3.35	123	1180	0.202	4.2	0.79	0.062
4331859_M2_7	4000	4	0.95	4400	0.75	8.5	0.26	1.58
4331859_M2_8	295	239	29	740	0.039	0.32	0.26	0.057
4331859_M2_9	154	5	1.05	220	0.075	0.111	0.17	0.0009
4331859_M2_10	262	3.45	3.4	440	0.198	0.68	0.34	0.088
4331859_M2_11	196	8.9	17	192	0.097	0.3	0.135	0.022
4331859_M2_12	11900	9.4	8	13700	4.39	29.3	1.78	4.49
4331859_M2_13	4800	6.4	2180	60	0.076	8.4	0.39	0.76
4331859_M2_14	8000	48	2100	9000	1.04	9.3	1.31	1.14
4331859_M2_15	88	3.55	5.3	50	0.076	0.039	0.086	0.0038
4331859_M2_16	6100	4.15	17.8	6400	2.84	14.3	0.66	2.06
4331859_M2_17	48	4.55	0.9	60	0.045	0.0149	0.046	0.0009
4331859_M2_18	556	3.6	0.85	396	0.172	0.96	0.153	0.139
4331859_M2_19	109	3.8	1	257	0.059	0.059	0.09	0.0023
4331859_M2_20	220	3.8	56	55	0.0405	0.25	0.184	0.0155
4331859_M2_21	710	3.8	150	122	0.055	1.25	0.49	0.093
4331859_M2_22	25	3.2	1.1	50	0.06	0.0012	0.095	0.0038
4331859_M2_23	730	4.2	25	970	0.34	3.4	1.25	0.03
4331859_M2_24	55	3.8	1.1	46.5	0.0485	0.031	0.112	0.0041
4331859_M2_25	33	3.95	0.95	60	0.04	0.0037	0.095	0.0038
4331859_M2_26	55	4	1.2	65	0.055	0.0057	0.124	0.0038
4331859_M2_27	132	4.1	45	50	0.053	0.205	0.28	0.024
4331859_M2_28	1100	4.9	193	600	0.151	2.83	0.7	0.191
4331859_M2_29	150	3.7	37	60	0.055	0.14	0.085	0.014
4331859_M2_30	4100	3.75	23.6	6700	0.16	24.2	0.4	0.052
4331859_M2_31	53	4.05	0.95	60	0.0455	0.0128	0.096	0.0038
4331859_M2_32	55	3.8	0.85	55	0.055	0.0093	0.075	0.0038
4331859_M2_33	590	4.35	0.95	1140	0.116	2.5	0.41	0.073
4331859_M2_34	88	4.95	1.29	68	0.259	0.0076	0.176	0.0038
4331859_M2_35	50	3.4	1	60	0.109	0.0054	0.092	0.0038
4331859_M2_36	3000	92	16.8	3500	0.87	10.9	0.36	0.68
4331859_M2_37	370	4	0.95	48	0.091	0.0034	0.1	0.0064
4331859_M2_38	89	4.5	1	55	0.045	0.0023	0.125	0.0038
4331859_M2_39	3150	4.25	8.5	72	0.074	0.0009	0.09	0.0038
4331859_M2_40	87	3.75	0.9	45.5	0.08	0.0033	0.144	0.0038
4331859_M2_41	47	3.4	1.15	48	0.031	0.0023	0.098	0.0038
4331855_M1_1	50	3.1	0.95	40	0.037	0.051	0.073	0.0038
4331855_M1_2	55	4.3	1.1	50	0.043	0.0124	0.135	0.0038
4331855_M1_3	19	3.5	1	49	0.056	0.0261	0.05	0.0038
4331855_M1_4	16	2.8	7.8	50	0.036	0.102	0.04	0.0038
4331855_M1_5	44	3.25	0.9	40	0.0405	0.087	0.103	0.0038
4331855_M1_6	23	3.85	14.7	55	0.044	0.057	0.104	0.0038
4331855_M1_7	23	3.8	6.4	55	0.0375	0.047	0.121	0.0038
4331855_M1_8	54	2.8	0.8	40.5	0.038	0.0247	0.09	0.0038
4331855_M1_9	38	27	20.7	43	0.047	0.999	0.049	0.116
4331855_M1_10	47	3.8	8.6	41.5	0.062	0.281	0.039	0.00037
4331855_M1_11	43	2.95	9.6	45.5	0.038	0.216	0.07	0.0145
4331855_M1_12	45	3.25	9.8	50	0.036	0.118	0.095	0.0038
4331855_M1_13	75	2.8	96	46	0.164	0.246	0.123	0.0063
4331855_M1_14	50	2.55	39.3	45	0.083	0.071	0.112	0.0038
4331855_M1_15	47	3.35	4.04	45	0.066	0.077	0.092	0.0038
4331855_M1_16	65	5.4	113.2	60	0.1	0.221	0.091	0.0038
4331855_M1_17	50	3.3	19.6	48.5	0.085	0.188	0.134	0.0053

Sample Number	Rb_ppm_m85	Y_ppm_m89	Nb_ppm_m93	Ba_ppm_m137	Ce_ppm_m140	Na_ppm_m23	Mg_ppm_m24	Al_ppm_m27
4331859_M2_1	0.0024	4.03	0.0036	0.002	0.037	1.81	0.65	4.7
4331859_M2_2	0.02	0.74	0.0036	0.64	0.35	6.2	250	10.5
4331859_M2_3	0.069	1.87	0.0036	0.002	1.27	0.29	7.8	530
4331859_M2_4	0.0063	0.54	0.0036	0.002	0.015	0.71	0.17	0.14
4331859_M2_5	2.84	0.042	0.0036	0.68	0.015	32.2	303	495
4331859_M2_6	0.83	4.9	0.78	0.82	0.14	2.25	90	202
4331859_M2_7	0.016	1.6	0.0036	0.002	0.113	0.36	1.81	2680
4331859_M2_8	0.28	0.092	0.0036	0.002	0.015	0.1	31	150
4331859_M2_9	0.0059	0.025	0.0036	0.002	0.024	0.2	2.4	1.5
4331859_M2_10	0.035	0.44	0.0036	0.002	0.332	0.4	35	144
4331859_M2_11	0.127	0.145	0.0036	0.002	0.15	1.23	81	58
4331859_M2_12	0.053	8.2	0.15	0.9	1.35	1.75	39	8400
4331859_M2_13	14.5	0.003	0.0036	23.5	0.015	9.4	1310	2260
4331859_M2_14	18.2	2	0.0036	6.7	5.2	35	4100	2560
4331859_M2_15	0.056	0.003	0.0036	0.002	0.015	0.32	9.4	5.1
4331859_M2_16	0.128	6.1	0.0036	0.53	0.69	0.55	25.3	4100
4331859_M2_17	0.0026	0.003	0.0036	0.002	0.015	0.15	0.125	2.3
4331859_M2_18	0.0056	0.223	0.0036	0.002	0.05	2	1.9	308
4331859_M2_19	0.0045	0.045	0.0036	0.002	0.054	0.38	41	6.4
4331859_M2_20	0.23	0.0082	0.0036	0.2	0.015	0.41	50	74
4331859_M2_21	1.33	0.023	0.0036	2	0.015	1.25	115	260
4331859_M2_22	0.0017	0.003	0.0036	0.002	0.015	0.43	0.52	0.28
4331859_M2_23	0.176	1.88	0.5	0.002	0.054	3.2	50	115
4331859_M2_24	0.0031	0.0067	0.0036	0.002	0.015	0.33	0.028	6.4
4331859_M2_25	0.0014	0.003	0.0036	0.002	0.015	0.37	0.075	0.085
4331859_M2_26	0.0025	0.003	0.0036	0.002	0.015	0.39	0.015	0.019
4331859_M2_27	0.4	0.003	0.0036	0.002	0.015	0.47	30	53
4331859_M2_28	1.26	0.288	0.186	1.08	0.046	2.4	240	430
4331859_M2_29	0.37	0.003	0.0036	0.002	0.015	0.38	22	37
4331859_M2_30	0.184	5.2	3.7	0.28	0.67	1.83	20.4	241
4331859_M2_31	0.031	0.003	0.0036	0.002	0.015	0.09	0.51	1.5
4331859_M2_32	0.007	0.003	0.0036	0.002	0.015	0.5	0.03	0.05
4331859_M2_33	0.025	1.48	0.96	0.002	0.034	0.97	6.6	162
4331859_M2_34	0.007	0.003	0.0036	0.002	0.015	0.6	0.066	0.135
4331859_M2_35	0.0075	0.003	0.0036	0.002	0.015	0.16	0.024	0.063
4331859_M2_36	0.093	3.8	0.95	0.002	0.39	15.1	240	1240
4331859_M2_37	0.0186	0.003	0.0036	0.002	0.015	0.61	7.8	5.59
4331859_M2_38	0.023	0.003	0.0036	0.002	0.015	4.12	0.126	0.11
4331859_M2_39	0.017	0.003	0.0036	0.002	0.015	4.14	0.45	0.36
4331859_M2_40	0.0053	0.003	0.0036	0.002	0.015	5	0.0195	0.018
4331859_M2_41	0.0066	0.003	0.0036	0.002	0.015	1.34	0.23	0.142
4331855_M1_1	0.0064	0.003	0.0036	0.002	0.015	0.315	0.021	0.086
4331855_M1_2	0.0031	0.003	0.0036	0.002	0.015	0.09	0.027	0.073
4331855_M1_3	0.0078	0.003	0.0036	0.002	0.015	0.72	0.026	0.072
4331855_M1_4	0.015	0.131	0.0036	0.002	0.2	11	0.5	1.77
4331855_M1_5	0.0225	0.0034	0.0036	0.002	0.015	1.36	0.027	0.43
4331855_M1_6	0.0046	0.003	0.0036	0.002	0.015	37.8	1.35	0.042
4331855_M1_7	0.0036	0.003	0.0036	0.002	0.015	9	0.72	0.059
4331855_M1_8	0.0064	0.067	0.0036	0.002	0.092	0.96	0.066	0.29
4331855_M1_9	0.042	9.5	0.0036	0.4	38	29.5	0.89	0.9
4331855_M1_10	0.0079	0.043	0.0036	0.002	0.072	8.23	0.73	1.34
4331855_M1_11	0.0112	1.44	0.0036	0.002	7.3	13.1	0.484	1.38
4331855_M1_12	0.002	0.0119	0.0036	0.002	0.044	25	0.282	0.2
4331855_M1_13	0.072	0.36	0.0036	0.002	0.03	98	5.77	14.2
4331855_M1_14	0.0103	0.039	0.0036	0.002	0.016	50.8	1.61	0.446
4331855_M1_15	0.0246	0.0255	0.0036	0.002	0.015	6.52	0.365	0.54
4331855_M1_16	0.0211	0.0045	0.0036	0.002	0.015	118	3.79	0.124
4331855_M1_17	0.04	0.003	0.0036	0.002	0.015	59	3.08	6.9

Sample Number	S_ppm_m34	Ti_ppm_m49	Mn_ppm_m55	Co_ppm_m59	Ni_ppm_m60	Cu_ppm_m63	Zn_ppm_m66	As_ppm_m75
4331859_M2_1	651000	114	14.2	278	396	4	0.89	1120
4331859_M2_2	612000	3.08	151	768	101	4.7	1.14	624
4331859_M2_3	687000	6.9	10.4	19300	115	7.6	0.87	17600
4331859_M2_4	673000	3.31	4.37	12900	265	0.94	0.77	8620
4331859_M2_5	568000	114	16.6	2.79	53.2	104.7	1.63	36
4331859_M2_6	636000	1210	10.1	51.4	111.5	0.84	1.97	957
4331859_M2_7	617000	8.9	45	120	430	0.78	0.9	1277
4331859_M2_8	677000	7.8	3.3	25.2	484	0.6	1.49	1390
4331859_M2_9	632000	34	1.3	370	525	0.35	0.92	1420
4331859_M2_10	622000	9.5	12.5	21.9	660	0.26	0.69	1650
4331859_M2_11	602000	7	18.3	11.7	475	0.098	0.82	1610
4331859_M2_12	597000	200	152	820	499	290	5.3	1550
4331859_M2_13	619000	500	111	5.6	151	0.66	15.1	584
4331859_M2_14	586000	275	780	163	337	23.2	8.8	425
4331859_M2_15	683000	4.48	1.61	39.2	345	0.4	0.73	967
4331859_M2_16	683000	47	70	10930	354	1.73	0.9	6480
4331859_M2_17	617000	3.03	0.192	7.2	275	3.4	0.75	912
4331859_M2_18	644000	4.47	6.2	96	382	39	0.96	1003
4331859_M2_19	656000	5.1	20.3	65.4	633	31	14	1270
4331859_M2_20	642000	20.1	4.8	130	384	200	10.6	837
4331859_M2_21	652000	129	9.1	206	405	0.32	2.5	1470
4331859_M2_22	605000	2.92	0.067	3	834	0.014	0.89	2090
4331859_M2_23	643000	880	4.9	11.9	234	0.64	1.46	765
4331859_M2_24	669000	3.03	0.15	0.97	198	0.45	0.98	473
4331859_M2_25	667000	3.26	0.055	1.54	154	0.68	0.98	449
4331859_M2_26	664000	3.63	0.059	0.0295	47.8	0.096	0.89	295
4331859_M2_27	679000	10.4	1.91	1.95	116	2.4	1.61	528
4331859_M2_28	684000	500	16.9	158	210	1.73	3.2	702
4331859_M2_29	656000	8.1	1.5	0.263	270	0.137	1.2	1039
4331859_M2_30	636000	6900	33	57.4	413	1030	25	956
4331859_M2_31	672000	4.48	0.119	87.8	672	0.25	0.81	1324
4331859_M2_32	658000	3.51	0.057	68.5	1105	0.27	1.02	1251
4331859_M2_33	675000	880	3	13610	76.8	0.98	1.11	5430
4331859_M2_34	679000	2.72	0.114	66.1	509	7.3	0.74	805
4331859_M2_35	651000	3.02	0.056	60.3	729	20	0.86	1340
4331859_M2_36	627000	1660	23	20.6	227	2.1	2.4	421
4331859_M2_37	663000	2.77	2.31	760	34	3.43	0.572	234
4331859_M2_38	701000	3.81	0.055	24850	14.36	1.38	1.01	685
4331859_M2_39	725000	3.28	0.076	19500	15.2	1.45	1.16	1031
4331859_M2_40	670000	2.91	0.077	21800	7.2	0.93	0.88	499
4331859_M2_41	696000	3.48	0.087	25400	11.05	0.168	1	646
4331855_M1_1	645000	3	45.5	0.22	0.038	0.28	1.43	0.25
4331855_M1_2	663000	3.9	15.5	0.11	0.041	0.094	1.61	0.3
4331855_M1_3	623000	3.04	23.5	0.0181	0.025	0.13	15.8	0.65
4331855_M1_4	579000	2.83	15.4	0.047	0.03	0.15	3.88	0.6
4331855_M1_5	617000	3.39	20.4	0.055	0.04	0.17	4.29	0.285
4331855_M1_6	639000	3.29	156	0.0092	0.015	0.088	3.56	0.37
4331855_M1_7	617000	3.31	12.39	0.0147	0.041	0.128	2.65	0.3
4331855_M1_8	631000	3.37	24.5	0.0102	0.052	0.042	15.1	0.97
4331855_M1_9	519000	2.76	28.5	0.0185	0.026	0.202	18.81	2.65
4331855_M1_10	581000	3.37	5.25	0.0124	0.034	0.272	6.41	0.245
4331855_M1_11	550000	2.87	11.4	0.0097	0.071	0.2	18.8	0.21
4331855_M1_12	585000	2.66	28.4	0.0032	0.0075	0.067	4.63	0.46
4331855_M1_13	542000	2.37	18.2	0.0137	0.041	2.38	19.25	1.12
4331855_M1_14	561000	2.55	50.6	0.0089	0.016	0.313	16.35	1.65
4331855_M1_15	578000	2.61	55	0.0211	0.03	0.21	34.3	2.1
4331855_M1_16	647000	4.05	52.8	0.0125	0.03	0.38	3.3	0.45
4331855_M1_17	604000	3.04	2.83	0.039	0.084	0.176	1.75	5.39

Sample Number	Se_ppm_m77	Sr_ppm_m88	Zr_ppm_m90	Mo_ppm_m95	Ag_ppm_m107	Ag_ppm_m109	Cd_ppm_m111	Sn_ppm_m118
4331859_M2_1	35.2	11.5	0.051	0.0055	0.0176	0.0096	0.048	0.039
4331859_M2_2	47	7.2	15	0.0055	0.0079	0.0034	0.01	0.019
4331859_M2_3	41.7	5	9.4	0.009	0.0174	0.0183	0.0235	0.057
4331859_M2_4	47.8	2.85	0.0065	0.009	0.0112	0.0057	0.0205	0.0135
4331859_M2_5	32.6	0.321	0.017	0.0058	0.959	0.888	0.03	0.0165
4331859_M2_6	38.7	0.057	8	0.0145	0.0135	0.0075	0.01	0.138
4331859_M2_7	45.1	22.7	0.135	0.009	0.002	0.00315	0.0105	0.147
4331859_M2_8	40	0.43	0.0065	0.009	0.0026	0.0022	0.01	0.02
4331859_M2_9	52.6	0.24	0.017	0.006	0.0019	0.0022	0.017	0.0175
4331859_M2_10	54.3	1.68	0.063	0.009	0.0095	0.00245	0.01	0.041
4331859_M2_11	52.2	0.46	0.033	0.009	0.0095	0.00215	0.0145	0.0135
4331859_M2_12	44.6	84	0.73	0.009	0.178	0.198	0.3	0.87
4331859_M2_13	23.5	0.03	0.0065	0.0075	0.0095	0.0038	0.01	0.0155
4331859_M2_14	38.2	10.5	0.49	0.0068	0.146	0.142	0.012	0.015
4331859_M2_15	37.4	0.024	0.0065	0.009	0.005	0.0023	0.025	0.014
4331859_M2_16	42.1	36	0.61	0.009	0.0087	0.0105	0.013	0.4
4331859_M2_17	39.7	0.031	0.0065	0.009	0.00295	0.0106	0.0175	0.017
4331859_M2_18	42.1	3.07	2.2	0.009	0.039	0.035	0.026	0.035
4331859_M2_19	49.2	0.167	0.02	0.009	0.047	0.16	0.27	0.0185
4331859_M2_20	37.2	0.04	0.02	0.009	0.21	0.24	0.43	0.022
4331859_M2_21	41.7	0.0136	0.0063	0.005	0.0077	0.00225	0.02	0.0145
4331859_M2_22	55.7	0.00315	0.0065	0.009	0.0095	0.00225	0.0145	0.011
4331859_M2_23	27	0.027	10.4	0.005	0.0045	0.0023	0.0205	0.094
4331859_M2_24	26.7	0.046	0.0065	0.009	0.0095	0.0022	0.01	0.0175
4331859_M2_25	25.4	0.0116	0.0065	0.0055	0.0098	0.0075	0.0185	0.0155
4331859_M2_26	18.1	0.006	0.0065	0.0075	0.0065	0.0022	0.011	0.014
4331859_M2_27	23.7	0.0038	0.0065	0.0055	0.0047	0.0081	0.0115	0.0175
4331859_M2_28	27.2	0.35	1.75	0.009	0.031	0.023	0.01	0.031
4331859_M2_29	34.8	0.013	0.0065	0.007	0.00435	0.00315	0.018	0.011
4331859_M2_30	35.2	0.28	7.7	0.049	0.45	0.43	1.16	0.54
4331859_M2_31	36.9	0.003	0.0065	0.009	0.0095	0.0022	0.0155	0.0155
4331859_M2_32	43	0.0031	0.0065	0.0125	0.0033	0.00245	0.0115	0.017
4331859_M2_33	32.9	1.53	0.27	0.0055	0.0076	0.0078	0.011	0.13
4331859_M2_34	63.8	0.0031	0.0065	0.009	0.0055	0.007	0.013	0.017
4331859_M2_35	44.7	0.0029	0.0065	0.009	0.018	0.011	0.019	0.0135
4331859_M2_36	31	11.8	13.6	0.0055	0.052	0.041	0.0215	0.178
4331859_M2_37	54.4	0.0132	0.0065	0.01	0.094	0.104	0.018	0.01
4331859_M2_38	72.5	0.0055	0.0065	0.0105	0.0095	0.0079	0.011	0.014
4331859_M2_39	60.5	0.031	0.0065	0.009	0.0117	0.0046	0.019	0.0165
4331859_M2_40	77.2	0.0027	0.0065	0.009	0.0095	0.00225	0.023	0.0165
4331859_M2_41	59.9	0.0075	0.0065	0.009	0.0044	0.0023	0.01	0.0165
4331855_M1_1	3.61	0.002	0.0065	0.009	0.0015	0.0032	0.0095	1.26
4331855_M1_2	3.41	0.0046	0.0065	0.00485	0.006	0.00215	0.014	0.445
4331855_M1_3	3.5	0.00315	0.0065	0.034	0.0152	0.0061	0.009	0.524
4331855_M1_4	2.64	0.0157	0.017	0.1	0.0113	0.0131	0.0195	0.271
4331855_M1_5	2.62	0.0033	0.0065	0.097	0.0017	0.0027	0.0095	0.414
4331855_M1_6	2.5	0.06	0.0065	0.03	0.0095	0.0022	0.0145	0.682
4331855_M1_7	2.17	0.0233	0.0065	0.03	0.0031	0.0028	0.01	1.078
4331855_M1_8	3.84	0.0049	0.0065	0.023	0.0095	0.0022	0.0215	0.347
4331855_M1_9	4.01	0.41	0.107	1.019	0.0208	0.0196	0.0115	0.834
4331855_M1_10	2.08	0.045	0.0065	0.019	0.0025	0.0045	0.0085	0.241
4331855_M1_11	2.05	0.172	0.026	0.069	0.0108	0.0129	0.01	0.844
4331855_M1_12	2.11	0.024	0.0065	0.072	0.0049	0.0078	0.01	0.285
4331855_M1_13	4.44	0.126	0.068	0.437	0.0153	0.0143	0.014	0.971
4331855_M1_14	2.7	0.037	0.0065	0.071	0.0096	0.0121	0.024	0.546
4331855_M1_15	4.55	0.019	0.0065	0.159	0.046	0.0402	0.009	1.047
4331855_M1_16	4.3	0.206	0.0065	0.091	0.0017	0.0067	0.036	1.054
4331855_M1_17	3.58	0.42	0.0073	1.79	0.00465	0.0022	0.013	0.67

Sample Number	Sb_ppm_m121	Te_ppm_m125	Gd_ppm_m157	Hf_ppm_m178	Ta_ppm_m181	W_ppm_m182	Re_ppm_m185	Pt_ppm_m195
4331859_M2_1	2.6	0.54	0.087	0.035	0.0134	4.45	0.0032	0.0022
4331859_M2_2	1.75	0.96	0.041	0.3	0.0015	0.134	0.0036	0.0022
4331859_M2_3	0.258	1.01	0.35	0.035	0.0015	0.097	0.00049	0.0022
4331859_M2_4	0.079	1.19	0.01	0.035	0.0015	1.33	0	0.0022
4331859_M2_5	515	0.096	0.01	0.035	0.0015	0.0162	0.00105	0.0022
4331859_M2_6	0.348	0.4	0.39	0.035	0.049	0.217	0.00026	0.0022
4331859_M2_7	0.35	0.32	0.061	0.035	0.0015	0.002	0.002	0.0022
4331859_M2_8	0.08	0.51	0.01	0.035	0.0015	0.14	0.00255	0.0022
4331859_M2_9	0.35	0.36	0.01	0.035	0.0015	0.0072	0.00325	0.0022
4331859_M2_10	0.037	0.19	0.063	0.035	0.0015	0.0109	0.0018	0.0022
4331859_M2_11	0.024	0.38	0.035	0.035	0.0015	0.0089	0.0029	0.0022
4331859_M2_12	0.93	0.66	0.51	0.035	0.004	0.061	0.0018	0.0022
4331859_M2_13	0.185	0.26	0.01	0.035	0.0015	0.0118	0.0034	0.0022
4331859_M2_14	59	0.52	0.53	0.035	0.0015	0.063	0.00275	0.0022
4331859_M2_15	1.14	0.35	0.01	0.035	0.0015	0.002	0.00205	0.0022
4331859_M2_16	0.53	0.84	0.31	0.035	0.0017	0.038	0.0007	0.0022
4331859_M2_17	0.153	0.2	0.01	0.035	0.0015	0.002	0.0029	0.0022
4331859_M2_18	1.92	0.43	0.01	0.035	0.0015	0.002	0.00195	0.0022
4331859_M2_19	0.031	0.22	0.01	0.035	0.0015	0.002	0.0027	0.0022
4331859_M2_20	0.093	0.179	0.01	0.035	0.0015	0.002	0.0016	0.0022
4331859_M2_21	0.48	0.244	0.01	0.035	0.0015	0.043	0.00225	0.0022
4331859_M2_22	0.02	0.58	0.01	0.035	0.0015	0.002	0.0031	0.0022
4331859_M2_23	0.267	0.28	0.127	0.035	0.024	0.152	0.002	0.0022
4331859_M2_24	0.03	0.229	0.01	0.035	0.0015	0.002	0.00235	0.0022
4331859_M2_25	0.352	0.18	0.01	0.035	0.0015	0.002	0.0023	0.0022
4331859_M2_26	0.014	0.183	0.01	0.035	0.0015	0.002	0.0017	0.0022
4331859_M2_27	0.3	0.278	0.01	0.035	0.0015	0.002	0.00065	0.0022
4331859_M2_28	3.5	0.41	0.042	0.035	0.0054	0.082	0.0003	0.0022
4331859_M2_29	0.0145	0.239	0.01	0.035	0.0015	0.002	0.00165	0.0022
4331859_M2_30	0.87	0.48	0.2	0.035	0.233	0.9	0.003	0.0022
4331859_M2_31	0.0145	0.3	0.01	0.035	0.0015	0.002	0.0026	0.0022
4331859_M2_32	0.0175	0.043	0.01	0.035	0.0015	0.002	0.0028	0.0022
4331859_M2_33	0.2	0.2	0.045	0.035	0.046	0.075	0.00275	0.0022
4331859_M2_34	0.021	1.52	0.01	0.035	0.0015	0.002	0.0022	0.0022
4331859_M2_35	0.015	0.27	0.01	0.035	0.0015	0.002	0.002	0.0022
4331859_M2_36	2.4	0.42	0.25	0.035	0.05	0.076	0.0026	0.0022
4331859_M2_37	20.8	2.23	0.01	0.035	0.0015	0.002	0.00021	0.0022
4331859_M2_38	0.334	0.46	0.01	0.035	0.0015	0.002	0.0003	0.0022
4331859_M2_39	0.381	0.49	0.01	0.035	0.0015	0.002	0.0027	0.0022
4331859_M2_40	0.215	0.85	0.01	0.035	0.0015	0.002	0.001	0.0022
4331859_M2_41	0.084	0.212	0.01	0.035	0.0015	0.002	0.00027	0.0022
4331855_M1_1	0.18	0.132	0.01	0.035	0.0015	0.002	0.00046	0.0022
4331855_M1_2	0.11	0.158	0.01	0.035	0.0015	0.002	0.00026	0.0022
4331855_M1_3	0.139	0.085	0.01	0.035	0.0015	0.002	0.0019	0.0022
4331855_M1_4	0.196	0.112	0.01	0.035	0.0015	0.002	0.00033	0.0022
4331855_M1_5	0.18	0.033	0.01	0.035	0.0015	0.002	0.0002	0.0022
4331855_M1_6	0.068	0.123	0.01	0.035	0.0015	0.002	0.001	0.0022
4331855_M1_7	0.171	0.124	0.01	0.035	0.0015	0.002	0.00265	0.0022
4331855_M1_8	0.081	0.048	0.01	0.035	0.0015	0.002	0.00026	0.0022
4331855_M1_9	0.246	0.12	2.42	0.035	0.0015	0.0036	0.0015	0.0022
4331855_M1_10	0.037	0.076	0.01	0.035	0.0015	0.002	0.001	0.0022
4331855_M1_11	0.132	0.075	0.42	0.035	0.0015	0.002	0.0008	0.0022
4331855_M1_12	0.11	0.068	0.01	0.035	0.0015	0.002	0.00195	0.0022
4331855_M1_13	0.298	0.234	0.01	0.035	0.0015	0.002	0.00038	0.0022
4331855_M1_14	0.338	0.176	0.01	0.035	0.0015	0.002	0.00027	0.0022
4331855_M1_15	0.528	0.125	0.01	0.035	0.0015	0.002	0.0025	0.0022
4331855_M1_16	0.157	0.149	0.01	0.035	0.0015	0.0037	0.0016	0.0022
4331855_M1_17	0.103	0.138	0.01	0.035	0.0015	0.004	0.0028	0.0022

Sample Number	Au_ppm_m197	Tl_ppm_m205	Pb_ppm_m206	Pb_ppm_m207	Pb_ppm_m208	Bi_ppm_m209	Th_ppm_m232	U_ppm_m238
4331859_M2_1	0.0015	0.0024	6.79	6.22	6.4	3.13	0.0013	0.0013
4331859_M2_2	0.0015	0.0121	9.7	9.1	9.7	0.526	0.019	0.024
4331859_M2_3	0.007	0.0031	6.5	6.37	6.5	2.06	0.051	0.0081
4331859_M2_4	0.001	0.00255	2.56	2.75	2.8	0.66	0.0013	0.0013
4331859_M2_5	0.0052	12.75	1994	1912	1966	0.378	0.0013	0.0013
4331859_M2_6	0.0015	0.0082	6.3	6.2	6	1.17	0.0149	0.0168
4331859_M2_7	0.0015	0.00315	5.5	5.01	5.3	0.98	0.0096	0.0044
4331859_M2_8	0.0015	0.00435	2.36	2.31	2.31	0.68	0.0013	0.0013
4331859_M2_9	0.0015	0.117	0.54	0.6	0.69	0.17	0.0013	0.0013
4331859_M2_10	0.0015	0.0022	0.66	0.65	0.66	0.102	0.0093	0.0085
4331859_M2_11	0.0015	0.0048	0.39	0.35	0.38	0.068	0.0081	0.0013
4331859_M2_12	0.0045	0.00285	20.4	19.2	19.6	3.45	0.03	0.042
4331859_M2_13	0.0015	0.125	3.54	3.44	3.45	0.85	0.0013	0.0013
4331859_M2_14	0.0089	1.81	252	239	248	10.7	0.15	0.102
4331859_M2_15	0.0015	0.67	0.281	0.252	0.227	0.044	0.0013	0.0013
4331859_M2_16	0.0015	0.0095	7.1	6.8	6.8	1	0.0027	0.0198
4331859_M2_17	0.0015	0.054	0.54	0.43	0.45	0.153	0.0013	0.0013
4331859_M2_18	0.0011	0.85	5.1	4.9	4.5	0.95	0.0022	0.0013
4331859_M2_19	0.0012	0.0025	0.43	0.38	0.41	0.133	0.0013	0.0013
4331859_M2_20	0.0015	0.0046	2.26	2.41	2.36	0.82	0.0013	0.0013
4331859_M2_21	0.0015	0.206	1.07	1.12	1.14	0.32	0.0013	0.0013
4331859_M2_22	0.0015	0.0045	0.023	0.022	0.02	0.0078	0.0013	0.0013
4331859_M2_23	0.0015	0.00405	2.61	2.35	2.69	0.65	0.0096	0.0016
4331859_M2_24	0.0015	0.00355	0.32	0.29	0.3	0.149	0.0013	0.0013
4331859_M2_25	0.0015	0.0321	1.26	1.27	1.3	0.078	0.0013	0.0013
4331859_M2_26	0.0015	0.0037	0.02	0.0185	0.0213	0.0128	0.0013	0.0013
4331859_M2_27	0.0015	0.0131	1.86	1.69	1.71	0.257	0.0013	0.0013
4331859_M2_28	0.0015	0.24	14.8	11.7	10.5	1.86	0.0058	0.0013
4331859_M2_29	0.0015	0.0101	0.3	0.24	0.27	0.039	0.0013	0.0013
4331859_M2_30	0.009	0.0086	11.7	11.3	11.3	3.49	0.022	0.0182
4331859_M2_31	0.0015	0.0027	0.0032	0.0093	0.0057	0.00275	0.0013	0.0013
4331859_M2_32	0.0015	0.00305	0.00345	0.00315	0.00225	0.0031	0.0013	0.0013
4331859_M2_33	0.0015	0.0051	2.4	2.8	2.9	0.72	0.0127	0.005
4331859_M2_34	0.0015	0.0108	0.065	0.093	0.073	0.026	0.0013	0.0013
4331859_M2_35	0.0015	0.0045	0.038	0.039	0.038	0.015	0.0013	0.0013
4331859_M2_36	0.0015	0.052	12	11.2	12	1.52	0.089	0.021
4331859_M2_37	0.0112	4.75	19.7	19.1	19.2	1.29	0.0013	0.0013
4331859_M2_38	0.0015	0.0073	3.03	2.98	2.93	0.98	0.0013	0.0013
4331859_M2_39	0.0015	0.099	7.7	7.6	7.6	1.85	0.0013	0.0013
4331859_M2_40	0.0025	0.00375	3.44	3.25	2.96	0.97	0.0013	0.0013
4331859_M2_41	0.0015	0.0037	1.04	1.26	1.14	0.52	0.0013	0.0013
4331855_M1_1	0.0015	0.0022	3.15	1.83	2.74	0.0025	0.0013	0.0013
4331855_M1_2	0.0015	0.0034	2.12	1.203	1.914	0.00235	0.0013	0.0013
4331855_M1_3	0.0015	0.0033	2.7	1.546	2.3	0.0034	0.0013	0.0013
4331855_M1_4	0.0015	0.0164	4.81	2.82	4.28	0.00285	0.0066	0.0042
4331855_M1_5	0.0015	0.0104	1.77	1.024	1.511	0.0035	0.0013	0.0013
4331855_M1_6	0.0015	0.0076	2.02	1.03	1.65	0.00335	0.0013	0.0013
4331855_M1_7	0.0015	0.0345	2.39	1.25	2.03	0.0032	0.0013	0.0013
4331855_M1_8	0.0015	0.0097	0.646	0.349	0.58	0.0031	0.0062	0.0013
4331855_M1_9	0.0015	0.049	4.93	2.81	4.25	0.00185	0.41	0.151
4331855_M1_10	0.0015	0.0176	2.26	1.354	1.95	0.0046	0.0021	0.00123
4331855_M1_11	0.0015	0.0112	5.54	3.12	4.88	0.0037	0.106	0.0315
4331855_M1_12	0.0015	0.0154	3.11	1.83	2.73	0.002	0.0013	0.0013
4331855_M1_13	0.0015	0.0666	7.07	4	6.15	0.0038	0.0154	0.0103
4331855_M1_14	0.0015	0.0103	5.92	3.35	5.14	0.0029	0.0016	0.0017
4331855_M1_15	0.0015	0.0238	5.92	3.3	5.2	0.0086	0.0013	0.0013
4331855_M1_16	0.0015	0.0113	7.3	4.13	6.29	0.0053	0.0013	0.0046
4331855_M1_17	0.0015	0.0226	2.05	1.16	1.71	0.0018	0.0013	0.0087

Sample Number	Si_ppm_m29	P_ppm_m31	K_ppm_m39	Ca_ppm_m43	Sc_ppm_m45	V_ppm_m51	Cr_ppm_m53	Ga_ppm_m71
4331859_M1_1	51	4.35	0.95	55	0.089	0.0008	0.105	0.0038
4331859_M1_2	44	4.8	0.85	48.5	0.071	0.0028	0.129	0.0038
4331859_M1_3	46	3.95	1	65	0.06	0.0033	0.073	0.0038
4331859_M1_4	22	4.15	1	65	0.045	0.0029	0.095	0.0038
4331859_M1_5	60	3.35	0.95	60	0.047	0.0058	0.115	0.0038
4331859_M1_6	48	2.9	14.94	122	0.0335	0.0144	0.107	0.0064
4331859_M1_7	18	1.95	19.67	39	0.0355	0.0263	0.111	0.0099
4331859_M1_8	45	2.5	18.66	4600	0.024	0.0066	0.092	0.0065
4331859_M1_9	140	4.5	0.85	140	0.06	0.017	0.09	0.0038
4331859_M1_10	54	4	94.3	471	0.031	0.042	0.071	0.0156
4331859_M1_11	13	2.65	17.69	75	0.029	0.0262	0.071	0.0041
4331859_M1_12	17	2.55	14.81	30.5	0.0315	0.0062	0.098	0.0054
4331859_M1_13	47	2.5	15.49	40	0.0375	0.0099	0.077	0.0045
4331859_M1_14	41	3.05	18	52	0.0335	0.0226	0.073	0.0052
4331859_M1_15	89	3	16.71	42	0.124	0.012	0.093	0.0062
4331859_M1_16	274	2.9	1.26	50	0.162	0.0085	0.077	0.0038
4331859_M1_17	55	3	0.95	50	0.13	0.0021	0.125	0.0038
4331859_M1_18	158	3.8	1.25	70	0.086	0.0139	0.127	0.016
4331859_M1_19	48	4.1	1.15	55	0.081	0.0053	0.074	0.0038
4331859_M1_20	25	3.35	1.05	50	0.055	0.0006	0.205	0.0038
4331859_M1_21	60	4.3	1.2	70	0.087	0.001	0.11	0.0038
4331859_M1_22	65	4.4	1.15	55	0.051	0.000027	0.095	0.0038
4331859_M1_23	60	3.85	1.05	65	0.042	0.003	0.138	0.0038
4331859_M1_24	70	3.95	1.05	55	0.07	0.0022	0.13	0.0038
4331859_M1_25	26	4.7	1.3	55	0.06	0.0031	0.072	0.0038
4331859_M1_26	55	3.25	0.95	44.5	0.042	0.005	0.094	0.0038
4331859_M1_27	50	3.55	1.1	60	0.047	0.0022	0.121	0.0038
4331859_M1_28	87	3.95	1.2	50	0.05	0.0108	0.139	0.0038
4331859_M1_29	65	3.8	1	60	0.046	0.0000337	0.11	0.0038
4331859_M1_30	55	3.85	1.1	48.5	0.042	0.0025	0.07	0.0038

Sample Number	Rb_ppm_m85	Y_ppm_m89	Nb_ppm_m93	Ba_ppm_m137	Ce_ppm_m140	Na_ppm_m23	Mg_ppm_m24	Al_ppm_m27
4331859_M1_1	0.003	0.003	0.0036	0.002	0.015	0.13	0.023	0.064
4331859_M1_2	0.0019	0.003	0.0036	0.002	0.015	0.475	0.014	0.062
4331859_M1_3	0.003	0.003	0.0036	0.002	0.015	0.475	0.026	0.033
4331859_M1_4	0.0138	0.003	0.0036	0.002	0.015	0.43	0.024	0.04
4331859_M1_5	0.0017	0.003	0.0036	0.002	0.015	0.41	0.015	0.024
4331859_M1_6	0.117	0.003	0.0036	0.002	0.015	20.94	6.94	0.282
4331859_M1_7	0.121	0.003	0.0036	0.002	0.015	28.9	4.77	0.332
4331859_M1_8	0.11	0.058	0.0036	0.209	0.036	34.3	193	0.47
4331859_M1_9	0.017	0.2	0.0036	0.23	0.022	1.1	83	0.75
4331859_M1_10	0.119	0.0156	0.0036	0.43	0.015	593	42.2	1.9
4331859_M1_11	0.11	0.011	0.0036	0.002	0.015	27.63	5.6	0.206
4331859_M1_12	0.092	0.003	0.0036	0.002	0.015	22.68	2.93	0.208
4331859_M1_13	0.1	0.003	0.0036	0.002	0.015	21.48	6.1	0.267
4331859_M1_14	0.117	0.003	0.0036	0.002	0.015	23.5	5.42	0.193
4331859_M1_15	0.103	0.003	0.0036	0.002	0.015	21.86	3.62	0.311
4331859_M1_16	0.0103	0.003	0.0036	0.002	0.015	0.31	0.026	0.22
4331859_M1_17	0.0083	0.003	0.0036	0.002	0.015	2.16	0.17	0.57
4331859_M1_18	0.0078	0.003	0.0036	0.002	0.015	2.7	2	5.5
4331859_M1_19	0.0054	0.003	0.0036	0.002	0.015	0.14	0.55	0.08
4331859_M1_20	0.01	0.003	0.0036	0.002	0.015	0.335	0.015	0.1
4331859_M1_21	0.0077	0.003	0.0036	0.002	0.015	0.465	0.0155	0.067
4331859_M1_22	0.0083	0.003	0.0036	0.002	0.015	4.8	0.26	0.105
4331859_M1_23	0.0018	0.003	0.0036	0.002	0.015	0.2	0.028	0.081
4331859_M1_24	0.0115	0.003	0.0036	0.002	0.015	0.23	0.016	0.11
4331859_M1_25	0.0102	0.003	0.0036	0.002	0.015	0.55	0.0315	0.115
4331859_M1_26	0.0103	0.003	0.0036	0.002	0.015	0.37	0.029	0.017
4331859_M1_27	0.0027	0.003	0.0036	0.002	0.015	0.42	0.0265	0.055
4331859_M1_28	0.0095	0.003	0.0036	0.002	0.015	0.77	0.051	0.02
4331859_M1_29	0.0095	0.003	0.0036	0.002	0.015	0.45	0.025	0.12
4331859_M1_30	0.0115	0.003	0.0036	0.002	0.015	0.43	0.037	0.11

Sample Number	S_ppm_m34	Ti_ppm_m49	Mn_ppm_m55	Co_ppm_m59	Ni_ppm_m60	Cu_ppm_m63	Zn_ppm_m66	As_ppm_m75
4331859_M1_1	738000	3.18	0.11	22140	6.85	0.034	0.78	5430
4331859_M1_2	692000	3.39	0.06	21820	6.26	0.084	0.89	2810
4331859_M1_3	679000	3.52	0.071	20720	5.21	0.012	1.01	307
4331859_M1_4	705000	3.51	0.085	20040	6.74	0.026	1.15	5610
4331859_M1_5	699000	3.5	0.068	17860	4.1	0.098	1.01	882
4331859_M1_6	505000	2.86	0.491	655	1192	0.088	1.59	6.64
4331859_M1_7	503000	3.12	0.263	616	1699	0.082	2.11	165
4331859_M1_8	486000	2.94	53	531	1571	0.041	1.88	317.8
4331859_M1_9	598000	3.74	52	7.1	4.9	11.6	1.2	15
4331859_M1_10	507000	3.09	12.5	636	1327	3.07	7.34	37.5
4331859_M1_11	498000	2.81	0.62	615	1631	0.02	1.54	46.3
4331859_M1_12	490000	2.93	0.213	545	1109	0.093	1.5	71.7
4331859_M1_13	491000	2.65	0.403	560	1102	0.098	1.53	6.8
4331859_M1_14	492000	2.54	0.368	562	984	0.043	1.56	12.43
4331859_M1_15	501000	2.03	0.287	559	1095	0.033	1.17	9.19
4331859_M1_16	670000	2.91	0.067	10600	43.9	9.1	0.9	4540
4331859_M1_17	713000	3.61	0.117	23800	9.12	2.83	0.97	4130
4331859_M1_18	720000	3.64	0.126	27630	9.63	0.82	0.93	4620
4331859_M1_19	708000	3.53	0.05	21770	6.56	0.091	1.13	4140
4331859_M1_20	652000	2.97	0.06	1130	75.6	0.14	1.06	499
4331859_M1_21	704000	3.37	0.063	22060	5.32	0.116	1.04	378
4331859_M1_22	681000	3.18	0.06	469	266	0.122	1.03	100
4331859_M1_23	679000	3.33	0.065	6170	156	0.72	1.15	1030
4331859_M1_24	714000	3.84	0.06	11240	29.7	0.68	1.25	1407
4331859_M1_25	730000	3.6	0.066	28310	10.47	0.095	1.24	4770
4331859_M1_26	709000	4.04	0.0485	26100	9.23	0.03	0.99	3980
4331859_M1_27	700000	3.92	0.097	20660	6.66	0.19	0.95	4680
4331859_M1_28	694000	3.21	0.094	23030	6.94	0.056	1.28	3660
4331859_M1_29	710000	2.94	0.048	23160	5.34	0.127	1.15	162
4331859_M1_30	699000	3.51	0.105	20420	4.79	0.074	1.28	126

Sample Number	Se_ppm_m77	Sr_ppm_m88	Zr_ppm_m90	Mo_ppm_m95	Ag_ppm_m107	Ag_ppm_m109	Cd_ppm_m111	Sn_ppm_m118
4331859_M1_1	49.4	0.00315	0.0065	0.009	0.00225	0.0023	0.011	0.0145
4331859_M1_2	61.1	0.00315	0.0065	0.00495	0.0095	0.00305	0.0265	0.015
4331859_M1_3	69.9	0.0048	0.0065	0.009	0.00215	0.00315	0.015	0.0125
4331859_M1_4	47.6	0.00315	0.0065	0.009	0.0095	0.0024	0.01	0.014
4331859_M1_5	69.5	0.00315	0.0065	0.012	0.0095	0.0022	0.2	0.014
4331859_M1_6	45.6	0.529	0.038	1.293	0.0195	0.0165	0.011	0.013
4331859_M1_7	45.8	0.448	0.029	25.46	0.0297	0.038	0.0075	0.01
4331859_M1_8	40.1	8.9	0.129	34.11	0.046	0.037	0.01	0.0129
4331859_M1_9	42.9	0.27	0.0065	0.36	1.62	1.48	0.0115	0.0135
4331859_M1_10	44	2.57	0.048	6.01	0.0361	0.0269	0.01	0.04
4331859_M1_11	44.9	0.551	0.038	17.67	0.0126	0.0146	0.01	0.01
4331859_M1_12	38.7	0.341	0.038	5.51	0.0404	0.0454	0.015	0.011
4331859_M1_13	39.7	0.381	0.051	3.89	0.0446	0.0323	0.008	0.0095
4331859_M1_14	41	0.455	0.055	1.57	0.0273	0.0263	0.016	0.012
4331859_M1_15	42	0.373	0.04	2.31	0.046	0.0563	0.0275	0.0135
4331859_M1_16	50.1	0.00315	0.0065	0.011	0.076	0.076	0.024	0.013
4331859_M1_17	45.9	0.02	0.0065	0.0075	0.055	0.084	0.022	0.016
4331859_M1_18	43.8	0.0041	0.029	0.0085	0.043	0.022	0.031	0.0155
4331859_M1_19	49.3	0.0017	0.0065	0.0051	0.0095	0.00245	0.016	0.014
4331859_M1_20	63.1	0.00315	0.0065	0.009	0.00325	0.0024	0.022	0.016
4331859_M1_21	65.6	0.00315	0.0065	0.009	0.0016	0.00245	0.0115	0.0115
4331859_M1_22	65.9	0.00315	0.0065	0.0055	0.00245	0.0022	0.0165	0.0155
4331859_M1_23	79.2	0.00315	0.0065	0.009	0.0017	0.00485	0.06	0.04
4331859_M1_24	54.5	0.00315	0.0065	0.009	0.0055	0.0055	0.012	0.014
4331859_M1_25	47.1	0.00315	0.0065	0.0095	0.0095	0.0022	0.012	0.0115
4331859_M1_26	48.5	0.0046	0.0065	0.009	0.0024	0.0022	0.01	0.014
4331859_M1_27	33.8	0.0025	0.0065	0.009	0.0095	0.0022	0.0195	0.0155
4331859_M1_28	45.4	0.0028	0.0065	0.0055	0.0032	0.0024	0.01	0.0155
4331859_M1_29	93.4	0.00315	0.0065	0.0055	0.0024	0.0025	0.01	0.018
4331859_M1_30	71.7	0	0.0065	0.009	0.0095	0.0022	0.012	0.013

Sample Number	Sb_ppm_m121	Te_ppm_m125	Gd_ppm_m157	Hf_ppm_m178	Ta_ppm_m181	W_ppm_m182	Re_ppm_m185	Pt_ppm_m195
4331859_M1_1	0.018	0.099	0.01	0.035	0.0015	0.002	0.0027	0.0022
4331859_M1_2	0.0155	0.106	0.01	0.035	0.0015	0.002	0.0015	0.0022
4331859_M1_3	0.016	0.15	0.01	0.035	0.0015	0.002	0.0033	0.0022
4331859_M1_4	0.018	0.106	0.01	0.035	0.0015	0.002	0.00061	0.0022
4331859_M1_5	0.012	0.114	0.01	0.035	0.0015	0.002	0.00025	0.0022
4331859_M1_6	16.9	0.42	0.01	0.035	0.0015	2.393	0.0012	0.0022
4331859_M1_7	41.1	0.201	0.01	0.035	0.0015	1.995	0.00115	0.0022
4331859_M1_8	58.7	0.294	0.01	0.035	0.0015	1.753	0.0016	0.0022
4331859_M1_9	60.8	0.123	0.01	0.035	0.0015	0.0059	0.00265	0.0022
4331859_M1_10	28.9	0.28	0.01	0.035	0.0015	2.005	0.00018	0.0022
4331859_M1_11	41.94	0.341	0.01	0.035	0.0015	1.751	0.00108	0.0022
4331859_M1_12	35.09	0.186	0.01	0.035	0.0015	1.859	0.0023	0.0022
4331859_M1_13	27.3	0.287	0.01	0.035	0.0015	2.05	0.00023	0.0022
4331859_M1_14	55	0.345	0.01	0.035	0.0015	1.987	0.00049	0.0022
4331859_M1_15	32	0.398	0.01	0.035	0.0015	2.151	0.0022	0.0022
4331859_M1_16	0.658	4.65	0.01	0.035	0.0015	0.002	0.0032	0.0022
4331859_M1_17	2.81	0.294	0.01	0.035	0.0015	0.002	0.0012	0.0022
4331859_M1_18	2	0.211	0.01	0.035	0.0015	0.002	0.0013	0.0022
4331859_M1_19	0.016	0.082	0.01	0.035	0.0015	0.002	0.0008	0.0022
4331859_M1_20	0.019	0.42	0.01	0.035	0.0015	0.002	0.0008	0.0022
4331859_M1_21	0.0245	0.105	0.01	0.035	0.0015	0.002	0.0008	0.0022
4331859_M1_22	0.021	1.51	0.01	0.035	0.0015	0.002	0.0018	0.0022
4331859_M1_23	0.084	7.9	0.01	0.035	0.0015	0.002	0.0035	0.0022
4331859_M1_24	0.016	0.86	0.01	0.035	0.0015	0.002	0.0026	0.0022
4331859_M1_25	0.0205	0.101	0.01	0.035	0.0015	0.002	0.00335	0.0022
4331859_M1_26	0.015	0.1	0.01	0.035	0.0015	0.002	0.0016	0.0022
4331859_M1_27	0.0175	0.121	0.01	0.035	0.0015	0.002	0.00175	0.0022
4331859_M1_28	0.0205	0.163	0.01	0.035	0.0015	0.002	0.005	0.0022
4331859_M1_29	0.0185	0.187	0.01	0.035	0.0015	0.002	0.0027	0.0022
4331859_M1_30	0.0115	0.28	0.01	0.035	0.0015	0.002	0.004	0.0022

Sample Number	Au_ppm_m197	Tl_ppm_m205	Pb_ppm_m206	Pb_ppm_m207	Pb_ppm_m208	Bi_ppm_m209	Th_ppm_m232	U_ppm_m238
4331859_M1_1	0.0015	0.0041	0.0032	0.005	0.0042	0.0028	0.0013	0.0013
4331859_M1_2	0.0015	0.00415	0.0025	0.0028	0.0021	0.0029	0.0013	0.0013
4331859_M1_3	0.0015	0.0048	0.00185	0.00205	0.0019	0.0021	0.0013	0.0013
4331859_M1_4	0.0015	0.0032	0.0033	0.00305	0.00205	0.0026	0.0013	0.0013
4331859_M1_5	0.0015	0.00395	0.00325	0.003	0.0055	0.00245	0.0013	0.0013
4331859_M1_6	0.0015	25.01	0.147	0.135	0.151	0.0142	0.0013	0.0013
4331859_M1_7	0.0015	51.7	0.328	0.323	0.327	0.0266	0.0013	0.0051
4331859_M1_8	0.0015	38.76	0.526	0.533	0.555	0.052	0.0013	0.0074
4331859_M1_9	0.0015	16.8	4.9	4.7	4.48	0.00325	0.0013	0.0013
4331859_M1_10	0.0015	32.3	0.206	0.21	0.207	0.0215	0.0013	0.0185
4331859_M1_11	0.0015	40.53	0.13	0.117	0.12	0.015	0.0013	0.0092
4331859_M1_12	0.0015	30.19	0.641	0.553	0.582	0.0534	0.0013	0.0013
4331859_M1_13	0.0015	29.41	0.496	0.513	0.468	0.038	0.0013	0.0013
4331859_M1_14	0.0015	39.06	0.417	0.405	0.372	0.0349	0.0013	0.0013
4331859_M1_15	0.0015	31	0.373	0.365	0.377	0.0436	0.0013	0.0013
4331859_M1_16	0.0145	0.006	18.4	17.3	17.8	7.26	0.0013	0.0013
4331859_M1_17	0.0017	0.63	2.98	2.81	3.06	0.081	0.0013	0.0013
4331859_M1_18	0.0015	2	0.37	0.39	0.49	0.0037	0.0013	0.0013
4331859_M1_19	0.0015	0.0021	0.002	0.0044	0.0021	0.0042	0.0013	0.0013
4331859_M1_20	0.0015	0.0042	0.049	0.04	0.044	0.0228	0.0013	0.0013
4331859_M1_21	0.0015	0.0047	0.0034	0.00225	0.00235	0.0031	0.0013	0.0013
4331859_M1_22	0.0015	0.005	0.00345	0.0023	0.0069	0.0036	0.0013	0.0013
4331859_M1_23	0.0015	0.0042	2.02	1.93	1.85	0.508	0.0013	0.0013
4331859_M1_24	0.0015	0.0038	0.0388	0.0209	0.0324	0.0195	0.0013	0.0013
4331859_M1_25	0.0015	0.0026	0.0108	0.00395	0.0088	0.0077	0.0013	0.0013
4331859_M1_26	0.0015	0.00395	0.00345	0.00225	0.0022	0.0027	0.0013	0.0013
4331859_M1_27	0.0015	0.0022	0.002	0	0.0028	0.00245	0.0013	0.0013
4331859_M1_28	0.0015	0.00425	0.002	0.00305	0.00125	0.00365	0.0013	0.0013
4331859_M1_29	0.0015	0.0041	0.0043	0.00225	0.00095	0.0036	0.0013	0.0013
4331859_M1_30	0.0015	0.003	0.0032	0.00385	0.0018	0.0026	0.0013	0.0013

Appendix B

Sample Number	Fe57_CPS	Fe57_CPS_Int2SE	Si_ppm_m29	Si_ppm_m29_Int2SE	Si_ppm_m29_LOD	P_ppm_m31	P_ppm_m31_Int2SE	P_ppm_m31_LOD	
S_STDGL3_1	1.11E+06	57000	431	29	49	-1.3	1.5	4.6	
S_STDGL3_2	1.08E+06	54000	482	27	57	-1.5	2	5.7	
S_STDGL3_3	1.10E+06	56000	390	28	60	-0.5	1.9	5.1	
S_STDGL3_4	1.07E+06	55000	480	28	57	-0.1	1.7	5.3	
S_STDGL3_5	1.06E+06	53000	387	30	63	0.6	1.7	4	
S_STDGL3_6	1.04E+06	52000	473	29	60	-2.2	1.5	4.7	
S_STDGL3_7	1.07E+06	55000	367	24	79	2.1	1.8	5.4	
S_STDGL3_8	1.02E+06	49000	450	29	58	0.8	1.7	3.9	
S_STDGL3_9	1.06E+06	52000	374	30	56	2.2	2	4.2	
S_STDGL3_10	1.03E+06	50000	450	27	74	-1.4	1.7	3.5	
S_STDGL3_11	1.05E+06	53000	367	33	77	0.3	1.5	4.8	
S_STDGL3_12	1.01E+06	50000	479	23	65	0.2	2.1	4.4	
S_STDGL3_13	1.03E+06	53000	366	33	69	1.4	1.7	4.2	
S_STDGL3_14	985000	48000	460	31	64	-1.4	1.7	4.6	
S_STDGL3_15	1.03E+06	54000	415	26	78	-1.4	1.6	5.1	
S_STDGL3_16	990000	50000	457	31	50	0.3	1.3	3.6	
S_STDGL3_17	1.01E+06	51000	370	27	68	-0.9	1.9	6	
S_STDGL3_18	965000	47000	445	27	69	0.4	1.6	4.9	
S_STDGL3_19	1.00E+06	51000	419	27	75	0.7	2.5	4.9	
S_STDGL3_20	944000	47000	473	29	69	-1.9	1.9	5	
S_STDGL3_21	983000	49000	357	28	72	-0.1	1.8	4.9	
S_STDGL3_22	937000	46000	466	29	77	0.6	1.9	4.3	
S_STDGL3_23	980000	49000	416	30	79	1.1	1.7	4.2	
S_STDGL3_24	930000	47000	480	28	71	-0.8	1.6	5.3	

Sample Number	K_ppm_m39	K_ppm_m39_Int2SE	K_ppm_m39_LOD	Ca_ppm_m43	Ca_ppm_m43_Int2SE	Ca_ppm_m43_LOD	Th_ppm_m232	Th_ppm_m232_Int2SE	Th_ppm_m232_LOD
S_STDGL3_1	22.68	0.49	1	161	31	67	13.66	0.13	
S_STDGL3_2	23.52	0.37	1.1	112	35	75	14.06	0.11	
S_STDGL3_3	23.08	0.59	1	158	29	81	14.04	0.13	
S_STDGL3_4	23.22	0.58	1.2	169	32	82	14.45	0.13	
S_STDGL3_5	21.85	0.49	0.99	203	31	76	14.42	0.13	
S_STDGL3_6	22.93	0.64	1.2	231	33	60	14.81	0.13	
S_STDGL3_7	21.93	0.6	1.2	196	35	82	14.13	0.11	
S_STDGL3_8	22.53	0.58	1.4	192	32	68	14.58	0.13	
S_STDGL3_9	22.17	0.61	1.1	131	34	50	14	0.11	
S_STDGL3_10	22.6	0.63	1	143	30	80	14.41	0.14	
S_STDGL3_11	22.5	0.66	1.1	199	28	84	14	0.12	
S_STDGL3_12	22.35	0.55	1.4	185	29	61	14.32	0.13	
S_STDGL3_13	22.48	0.52	1.3	158	31	73	14.02	0.12	
S_STDGL3_14	22.52	0.57	1.5	156	38	63	14.43	0.13	0.001
S_STDGL3_15	22.28	0.58	1.2	149	34	62	14.01	0.14	
S_STDGL3_16	22.99	0.56	1.2	159	32	61	14.14	0.16	
S_STDGL3_17	22.89	0.7	0.93	190	36	60	14	0.13	
S_STDGL3_18	22.63	0.53	1.1	219	34	69	14.33	0.12	
S_STDGL3_19	22.18	0.65	1.1	167	30	65	14.02	0.13	
S_STDGL3_20	22.64	0.57	1.2	186	32	74	14.51	0.13	
S_STDGL3_21	21.95	0.69	2.2	157	34	76	13.99	0.1	
S_STDGL3_22	22.63	0.59	1.3	186	29	71	14.41	0.14	0.0021
S_STDGL3_23	22.15	0.73	0.92	197	35	75	13.88	0.13	
S_STDGL3_24	24.78	0.56	2.7	170	32	71	14.44	0.12	

Sample Number	Sc_ppm_m45	Sc_ppm_m45_Int2SE	Sc_ppm_m45_LOD	V_ppm_m51	V_ppm_m51_Int2SE	V_ppm_m51_LOD	U_ppm_m238	U_ppm_m238_Int2SE	U_ppm_m238_LOD
S_STDGL3_1	0.12	0.023	0.062	2.025	0.051	0.017	13.21	0.12	
S_STDGL3_2	0.092	0.022	0.055	2.063	0.059	0.016	13.44	0.12	
S_STDGL3_3	0.128	0.025	0.052	2.054	0.067	0.01	13.3	0.13	
S_STDGL3_4	0.119	0.036	0.066	2.062	0.065	0.014	13.651	0.095	
S_STDGL3_5	0.165	0.027	0.061	2.095	0.06	0.013	13.57	0.13	
S_STDGL3_6	0.135	0.031	0.071	2.103	0.049	0.0092	14.05	0.12	
S_STDGL3_7	0.188	0.033	0.052	2.016	0.08	0.01	13.28	0.12	
S_STDGL3_8	0.133	0.035	0.078	1.982	0.069	0.011	13.65	0.11	
S_STDGL3_9	0.119	0.024	0.077	2.129	0.069	0.0035	13.32	0.1	
S_STDGL3_10	0.086	0.036	0.071	2.035	0.065	0.013	13.6	0.11	
S_STDGL3_11	0.13	0.029	0.062	1.989	0.058	0.0094	13.33	0.12	
S_STDGL3_12	0.108	0.028	0.075	1.952	0.067	0.013	13.59	0.12	
S_STDGL3_13	0.128	0.029	0.061	2.083	0.059	0.013	13.3	0.15	
S_STDGL3_14	0.129	0.031	0.076	2.067	0.068	0.0071	13.65	0.12	
S_STDGL3_15	0.13	0.027	0.061	2.007	0.06	0.0092	13.21	0.11	
S_STDGL3_16	0.118	0.028	0.053	2.014	0.066	0.0052	13.56	0.11	
S_STDGL3_17	0.101	0.025	0.058	1.963	0.057	0.02	13.36	0.14	
S_STDGL3_18	0.074	0.028	0.068	1.946	0.073	0.013	13.77	0.12	
S_STDGL3_19	0.094	0.025	0.068	2.045	0.065	0.0088	13.26	0.13	
S_STDGL3_20	0.052	0.026	0.064	2.016	0.074	0.0089	13.61	0.12	
S_STDGL3_21	0.105	0.023	0.053	1.981	0.065	0.0095	13.4	0.1	0.0041
S_STDGL3_22	0.112	0.026	0.066	2.03	0.071	0.012	13.76	0.11	
S_STDGL3_23	0.07	0.021	0.057	2.02	0.061	0.0085	13.29	0.13	0.0021
S_STDGL3_24	0.139	0.03	0.053	2.039	0.068	0.0083	13.63	0.13	0.0011

Sample Number	Cr_ppm_m53	Cr_ppm_m53_Int2SE	Cr_ppm_m53_LOD	Ga_ppm_m71	Ga_ppm_m71_Int2SE	Ga_ppm_m71_LOD
S_STDGL3_1	5.42	0.3	0.097	0.128	0.013	0.0048
S_STDGL3_2	5.73	0.31	0.15	0.126	0.013	0.0038
S_STDGL3_3	5.44	0.32	0.1	0.119	0.014	0.0043
S_STDGL3_4	5.05	0.28	0.081	0.123	0.011	
S_STDGL3_5	4.88	0.31	0.11	0.137	0.014	
S_STDGL3_6	5.37	0.28	0.11	0.134	0.015	0.0039
S_STDGL3_7	5.47	0.29	0.12	0.131	0.013	
S_STDGL3_8	5.35	0.3	0.093	0.125	0.013	0.0023
S_STDGL3_9	5.37	0.29	0.047	0.137	0.015	0.0022
S_STDGL3_10	5.28	0.29	0.2	0.136	0.012	0.0023
S_STDGL3_11	5.28	0.33	0.077	0.13	0.014	0.0022
S_STDGL3_12	5.08	0.32	0.15	0.128	0.015	
S_STDGL3_13	5.14	0.34	0.072	0.134	0.013	
S_STDGL3_14	4.77	0.3	0.15	0.121	0.014	
S_STDGL3_15	5.17	0.35	0.1	0.124	0.013	0.0023
S_STDGL3_16	5.07	0.29	0.069	0.127	0.013	0.0024
S_STDGL3_17	5.29	0.36	0.067	0.131	0.014	
S_STDGL3_18	5.02	0.34	0.099	0.128	0.013	0.0024
S_STDGL3_19	5.35	0.28	0.079	0.135	0.011	
S_STDGL3_20	5.48	0.34	0.17	0.136	0.013	0.0042
S_STDGL3_21	5.03	0.37	0.15	0.121	0.015	0.0033
S_STDGL3_22	5.34	0.36	0.079	0.131	0.013	
S_STDGL3_23	5.07	0.34	0.14	0.115	0.011	
S_STDGL3_24	5.01	0.34	0.11	0.123	0.013	0.0035

Sample Number	Rb_ppm_m85	Rb_ppm_m85_Int2SE	Rb_ppm_m85_LOD	Y_ppm_m89	Y_ppm_m89_Int2SE	Y_ppm_m89_LOD
S_STDGL3_1	0.098	0.018	0.015	0.111	0.016	
S_STDGL3_2	0.088	0.017	0.015	0.13	0.018	0.0038
S_STDGL3_3	0.102	0.018	0.015	0.134	0.015	
S_STDGL3_4	0.093	0.016	0.014	0.125	0.015	
S_STDGL3_5	0.087	0.016	0.012	0.122	0.017	
S_STDGL3_6	0.089	0.015	0.013	0.11	0.016	
S_STDGL3_7	0.083	0.014	0.014	0.124	0.015	0.019
S_STDGL3_8	0.112	0.018	0.014	0.109	0.015	0.004
S_STDGL3_9	0.105	0.016	0.015	0.098	0.012	
S_STDGL3_10	0.089	0.018	0.018	0.11	0.013	
S_STDGL3_11	0.098	0.014	0.013	0.109	0.014	
S_STDGL3_12	0.088	0.017	0.016	0.115	0.017	
S_STDGL3_13	0.083	0.016	0.014	0.11	0.014	
S_STDGL3_14	0.1	0.019	0.0083	0.117	0.016	
S_STDGL3_15	0.099	0.017	0.015	0.129	0.016	
S_STDGL3_16	0.081	0.015	0.01	0.095	0.012	
S_STDGL3_17	0.094	0.018	0.008	0.132	0.019	
S_STDGL3_18	0.087	0.016	0.015	0.109	0.017	
S_STDGL3_19	0.089	0.017	0.017	0.132	0.018	
S_STDGL3_20	0.071	0.016	0.017	0.111	0.016	
S_STDGL3_21	0.099	0.019	0.0093	0.122	0.015	
S_STDGL3_22	0.076	0.015	0.0071	0.111	0.015	0.0042
S_STDGL3_23	0.112	0.02	0.02	0.132	0.016	
S_STDGL3_24	0.088	0.017	0.011	0.115	0.016	

Sample Number	Nb_ppm_m93	Nb_ppm_m93_Int2SE	Nb_ppm_m93_LOD	Ba_ppm_m137	Ba_ppm_m137_Int2SE	Ba_ppm_m137_LOD
S_STDGL3_1	0.069	0.014	0.0044	0.82	0.12	
S_STDGL3_2	0.052	0.012	0.0077	0.82	0.13	
S_STDGL3_3	0.057	0.012		0.89	0.11	
S_STDGL3_4	0.058	0.012	0.0045	0.68	0.11	
S_STDGL3_5	0.054	0.012		0.75	0.11	
S_STDGL3_6	0.068	0.014	0.0047	0.816	0.098	
S_STDGL3_7	0.059	0.011		0.72	0.1	
S_STDGL3_8	0.07	0.014		0.768	0.087	
S_STDGL3_9	0.05	0.011		0.81	0.11	
S_STDGL3_10	0.074	0.013	0.009	0.86	0.11	0.022
S_STDGL3_11	0.062	0.013		0.79	0.1	
S_STDGL3_12	0.058	0.012	0.0047	0.731	0.085	
S_STDGL3_13	0.056	0.012		0.93	0.11	
S_STDGL3_14	0.069	0.014	0.0067	0.85	0.1	
S_STDGL3_15	0.063	0.012		0.74	0.11	
S_STDGL3_16	0.066	0.015	0.0081	0.85	0.12	
S_STDGL3_17	0.075	0.016		0.753	0.09	
S_STDGL3_18	0.069	0.012	0.0049	0.89	0.13	
S_STDGL3_19	0.068	0.012		0.825	0.087	
S_STDGL3_20	0.067	0.015	0.011	0.799	0.098	
S_STDGL3_21	0.06	0.012		0.85	0.12	
S_STDGL3_22	0.061	0.014	0.0099	0.78	0.1	
S_STDGL3_23	0.065	0.012		0.702	0.098	
S_STDGL3_24	0.072	0.016	0.011	0.99	0.11	

Sample Number	Ce_ppm_m140	Ce_ppm_m140_Int2SE	Ce_ppm_m140_LOD	Hg201_CPS	Hg201_CPS_Int2SE	Hg201_CPS_LOD
S_STDGL3_1	0.3	0.024	0.015	151	20	
S_STDGL3_2	0.304	0.024		147	27	
S_STDGL3_3	0.282	0.022		70	21	
S_STDGL3_4	0.29	0.026		89	22	
S_STDGL3_5	0.303	0.022		51	21	
S_STDGL3_6	0.292	0.02		52	19	
S_STDGL3_7	0.305	0.023		30	13	
S_STDGL3_8	0.29	0.025		26	14	
S_STDGL3_9	0.289	0.022		16	13	
S_STDGL3_10	0.306	0.023		24	14	
S_STDGL3_11	0.295	0.024	0.0028	9	12	
S_STDGL3_12	0.292	0.025		21	14	
S_STDGL3_13	0.294	0.021		19	13	
S_STDGL3_14	0.275	0.019		17	11	
S_STDGL3_15	0.304	0.024		2.5	8.7	
S_STDGL3_16	0.28	0.023		21	11	
S_STDGL3_17	0.282	0.022		4.7	9.2	
S_STDGL3_18	0.301	0.024		3.1	8.2	
S_STDGL3_19	0.294	0.025		2.2	7.8	
S_STDGL3_20	0.286	0.021		7	8.2	
S_STDGL3_21	0.295	0.018	0.0059	15.9	9	
S_STDGL3_22	0.32	0.024		5	7.8	
S_STDGL3_23	0.28	0.021		9.4	7.5	
S_STDGL3_24	0.264	0.022		-2.2	5.3	

Sample Number	IntStdWv	IntStdWv_Int2SE	IntStdWv_LOD	Na_ppm_m23	Na_ppm_m23_Int2SE	Na_ppm_m23_LOD
S_STDGL3_1	1.7	1		53380	240	0.39
S_STDGL3_2	1.7	1		53230	250	0.46
S_STDGL3_3	1.7	1		53380	270	0.45
S_STDGL3_4	1.7	1		52970	240	0.36
S_STDGL3_5	1.7	1		53130	240	0.42
S_STDGL3_6	1.7	1		53290	260	0.32
S_STDGL3_7	1.7	1		53080	280	0.32
S_STDGL3_8	1.7	1		53160	310	0.45
S_STDGL3_9	1.7	1		53410	290	0.42
S_STDGL3_10	1.7	1		53010	280	0.49
S_STDGL3_11	1.7	1		53180	240	0.38
S_STDGL3_12	1.7	1		53120	300	0.58
S_STDGL3_13	1.7	1		53410	290	0.47
S_STDGL3_14	1.7	1		53140	280	0.54
S_STDGL3_15	1.7	1		53350	260	0.49
S_STDGL3_16	1.7	1		53360	330	0.48
S_STDGL3_17	1.7	1		53150	310	2.6
S_STDGL3_18	1.7	1		53140	300	0.55
S_STDGL3_19	1.7	1		53150	320	0.5
S_STDGL3_20	1.7	1		53340	340	0.51
S_STDGL3_21	1.7	1		53320	320	0.59
S_STDGL3_22	1.7	1		53220	310	0.53
S_STDGL3_23	1.7	1		53180	260	2.8
S_STDGL3_24	1.7	1		53140	260	3.1

Sample Number	Mg_ppm_m24	Mg_ppm_m24_Int2SE	Mg_ppm_m24_LOD	Al_ppm_m27	Al_ppm_m27_Int2SE	Al_ppm_m27_LOD
S_STDGL3_1	58.56	0.77	0.011	117.5	1	0.17
S_STDGL3_2	57.92	0.7	0.032	116.64	0.99	0.14
S_STDGL3_3	57.6	0.6	0.024	116.6	1	0.15
S_STDGL3_4	58.33	0.65	0.02	117.09	0.94	0.13
S_STDGL3_5	57.87	0.66	0.017	117.34	0.98	0.13
S_STDGL3_6	57.89	0.66	0.036	117	1.1	0.12
S_STDGL3_7	57.99	0.73	0.02	116.81	0.99	0.13
S_STDGL3_8	57.89	0.8	0.034	116.97	0.96	0.18
S_STDGL3_9	57.96	0.74	0.039	116.5	1.1	0.4
S_STDGL3_10	57.98	0.68	0.026	117.46	0.97	0.17
S_STDGL3_11	57.62	0.66	0.02	116.9	1	0.27
S_STDGL3_12	58.14	0.74	0.031	117.12	0.96	0.18
S_STDGL3_13	58.93	0.68	0.031	117.4	1.1	0.15
S_STDGL3_14	57.44	0.61	0.018	116.68	0.94	0.14
S_STDGL3_15	57.83	0.73	0.028	116.5	1	0.13
S_STDGL3_16	58.71	0.63	0.025	117.63	0.99	0.13
S_STDGL3_17	58.31	0.74	0.021	116.9	1	0.16
S_STDGL3_18	57.76	0.77	0.035	116.9	1.3	0.13
S_STDGL3_19	57.31	0.79	0.018	116.5	1.2	0.16
S_STDGL3_20	57.86	0.74	0.041	117.4	1.2	0.15
S_STDGL3_21	57.95	0.68	0.088	116.8	1.1	0.17
S_STDGL3_22	57.94	0.73	0.04	117.3	1	0.12
S_STDGL3_23	58.12	0.87	0.05	116.2	1.2	0.14
S_STDGL3_24	58.29	0.86	0.033	117.6	1.1	2

Sample Number	S_ppm_m34	S_ppm_m34_Int2SE	S_ppm_m34_LOD	Ti_ppm_m49	Ti_ppm_m49_Int2SE	Ti_ppm_m49_LOD
S_STDGL3_1	11970	140	100	258.2	3.1	0.12
S_STDGL3_2	12440	160	110	257.6	3.2	0.12
S_STDGL3_3	12060	260	410	254.5	3	0.19
S_STDGL3_4	13020	220	530	252.1	3.1	0.19
S_STDGL3_5	11690	280	590	258.5	2.6	0.19
S_STDGL3_6	13410	250	550	255	3.2	0.26
S_STDGL3_7	11360	320	650	253.1	3.1	0.2
S_STDGL3_8	13570	290	530	257.4	3.3	0.22
S_STDGL3_9	11160	370	550	257.8	3.2	0.22
S_STDGL3_10	12740	300	670	254.1	3.3	0.24
S_STDGL3_11	11460	320	770	256.9	3.1	0.3
S_STDGL3_12	12800	300	650	255.2	3	0.32
S_STDGL3_13	11470	310	760	259.2	3	0.21
S_STDGL3_14	13030	320	630	254	3.5	0.21
S_STDGL3_15	11700	370	580	255.7	3.2	0.23
S_STDGL3_16	13630	250	490	254.7	3.3	0.22
S_STDGL3_17	11480	360	560	255.4	3.1	0.38
S_STDGL3_18	13480	300	630	258.6	2.7	0.33
S_STDGL3_19	10950	310	850	254.9	3.5	0.22
S_STDGL3_20	13700	300	770	254.7	3.3	0.29
S_STDGL3_21	11260	330	620	255.7	3.3	0.27
S_STDGL3_22	12380	290	620	255.2	3.5	0.35
S_STDGL3_23	11280	300	740	256.4	3.2	0.22
S_STDGL3_24	13620	410	610	256.5	3.3	0.2

Sample Number	Mn_ppm_m55	Mn_ppm_m55_Int2SE	Mn_ppm_m55_LOD	Co_ppm_m59	Co_ppm_m59_Int2SE	Co_ppm_m59_LOD
S_STDGL3_1	215.1	1.3	0.063	76.21	0.44	0.0027
S_STDGL3_2	215.2	1.4	0.054	76.89	0.47	0.0049
S_STDGL3_3	214.5	1.3	0.069	75.79	0.41	0.0068
S_STDGL3_4	214.6	1.2	0.066	75.7	0.36	0.0054
S_STDGL3_5	215	1.3	0.076	76.24	0.42	0.0039
S_STDGL3_6	214.9	1.3	0.062	75.77	0.47	0.0064
S_STDGL3_7	214	1.2	0.052	75.77	0.41	0.0034
S_STDGL3_8	215.2	1.3	0.071	75.89	0.41	0.0036
S_STDGL3_9	215.5	1.4	0.067	76.37	0.47	0.0044
S_STDGL3_10	215.1	1.3	0.068	75.65	0.45	0.0096
S_STDGL3_11	215.1	1.2	0.063	76.05	0.4	0.0064
S_STDGL3_12	215.1	1.1	0.076	75.62	0.43	0.0037
S_STDGL3_13	215.5	1.4	0.067	75.87	0.49	0.0041
S_STDGL3_14	215.2	1.1	0.071	75.75	0.41	0.0069
S_STDGL3_15	215	1.3	0.059	76.56	0.47	0.0041
S_STDGL3_16	217.7	1.5	0.062	76.23	0.43	0.0031
S_STDGL3_17	215	1.6	0.077	75.94	0.48	0.0064
S_STDGL3_18	215.4	1.6	0.07	75.69	0.39	0.012
S_STDGL3_19	214.5	1.3	0.069	76.56	0.47	0.0051
S_STDGL3_20	215.7	1.3	0.055	75.86	0.43	0.006
S_STDGL3_21	215.3	1.6	0.065	76.49	0.48	1.9
S_STDGL3_22	214.7	1.1	0.068	75.67	0.45	0.0073
S_STDGL3_23	214.6	1.3	0.064	76.11	0.64	0.0072
S_STDGL3_24	213.5	1.3	0.082	75.94	0.47	0.013

Sample Number	Ni_ppm_m60	Ni_ppm_m60_Int2SE	Ni_ppm_m60_LOD	Cu_ppm_m63	Cu_ppm_m63_Int2SE	Cu_ppm_m63_LOD
S_STDGL3_1	246	1.5	0.0097	362.5	2.1	0.023
S_STDGL3_2	244.5	1.6	0.014	363	2.2	0.042
S_STDGL3_3	242.4	1.6		360.1	1.9	0.024
S_STDGL3_4	241.2	1.4	0.019	359	2	0.038
S_STDGL3_5	242.4	1.5	0.01	359.6	2	0.02
S_STDGL3_6	242.8	1.6	0.018	362.7	2.3	0.028
S_STDGL3_7	243.4	1.6		360.4	1.9	0.023
S_STDGL3_8	241	1.8	0.015	359.8	2.2	0.027
S_STDGL3_9	242.8	1.5	0.01	363.5	2.1	0.025
S_STDGL3_10	243.3	1.8	0.025	361	2.5	0.03
S_STDGL3_11	243.2	1.6	0.16	361.3	1.9	0.028
S_STDGL3_12	241.3	1.7	0.015	358.8	2	0.026
S_STDGL3_13	243.2	1.8	0.011	363.1	2.3	0.033
S_STDGL3_14	242.5	1.5	0.028	360.1	2.1	0.03
S_STDGL3_15	244.6	1.6	0.011	362.4	2.3	0.037
S_STDGL3_16	243.5	1.7	0.031	360.8	2.2	0.026
S_STDGL3_17	242.8	1.6	0.011	361.6	2.5	0.032
S_STDGL3_18	241.5	1.4	0.025	361	2.4	0.037
S_STDGL3_19	244	1.5	0.011	360.6	2.5	0.033
S_STDGL3_20	242.9	1.5		359.9	2.3	0.032
S_STDGL3_21	244.8	1.9	0.11	363	2.2	0.027
S_STDGL3_22	241.9	1.7	0.06	360.6	2.4	0.029
S_STDGL3_23	245.4	1.8	0.024	361.6	2.1	0.023
S_STDGL3_24	241.7	1.6	0.026	359.3	2.1	0.035

Sample Number	Zn_ppm_m66	Zn_ppm_m66_Int2SE	Zn_ppm_m66_LOD	As_ppm_m75	As_ppm_m75_Int2SE	As_ppm_m75_LOD
S_STDGL3_1	5887	30	0.061	356.3	2.6	0.24
S_STDGL3_2	5938	29	0.096	357.5	2.2	0.23
S_STDGL3_3	5897	28	0.084	354.6	2.4	0.43
S_STDGL3_4	5892	27	0.068	354	2.5	0.4
S_STDGL3_5	5878	26	0.12	354.1	2.4	0.47
S_STDGL3_6	5932	29	0.092	358.4	2.1	0.51
S_STDGL3_7	5880	29	0.086	355.2	2.4	0.4
S_STDGL3_8	5917	32	0.084	357.2	2.6	0.35
S_STDGL3_9	5901	29	0.055	357.6	2.6	0.46
S_STDGL3_10	5918	30	0.071	355.9	2.5	0.37
S_STDGL3_11	5869	28	0.078	355	2.1	0.34
S_STDGL3_12	5860	29	0.082	355.4	2.3	0.43
S_STDGL3_13	5893	36	0.093	355.2	3	0.47
S_STDGL3_14	5905	31	0.094	356.8	2.5	0.48
S_STDGL3_15	5879	29	0.088	354.3	2.2	0.39
S_STDGL3_16	5900	33	0.091	359.1	2.5	0.45
S_STDGL3_17	5871	40	0.07	356.3	2.6	0.43
S_STDGL3_18	5914	33	0.11	356.5	2.6	0.4
S_STDGL3_19	5914	33	0.074	353.4	2.7	0.34
S_STDGL3_20	5900	33	0.092	356.7	2.6	0.52
S_STDGL3_21	5887	41	0.1	355.9	2.8	0.42
S_STDGL3_22	5928	36	0.089	356.2	2.5	0.3
S_STDGL3_23	5905	35	0.069	355.4	2.2	0.4
S_STDGL3_24	5904	30	0.12	357.1	2.6	0.38

Sample Number	Se_ppm_m77	Se_ppm_m77_Int2SE	Se_ppm_m77_LOD	Sr_ppm_m88	Sr_ppm_m88_Int2SE	Sr_ppm_m88_LOD
S_STDGL3_1	3995	45	0.38	27.95	0.32	0.0046
S_STDGL3_2	4061	45	0.62	27.98	0.28	0.0057
S_STDGL3_3	4021	36	1	28.01	0.28	
S_STDGL3_4	4033	44	1.4	27.95	0.25	0.0034
S_STDGL3_5	3996	48	1.3	28.03	0.27	
S_STDGL3_6	4048	38	1.4	28.26	0.29	
S_STDGL3_7	3996	38	1.1	27.81	0.26	
S_STDGL3_8	4061	41	1.2	28.2	0.27	0.0035
S_STDGL3_9	4009	36	1.4	27.81	0.24	
S_STDGL3_10	4050	40	1.1	28.03	0.28	0.0035
S_STDGL3_11	4015	30	1.2	27.94	0.28	0.0034
S_STDGL3_12	4046	42	1.4	28.09	0.29	
S_STDGL3_13	4020	48	1.4	27.9	0.3	0.0035
S_STDGL3_14	4036	39	1.2	28.23	0.31	0.0051
S_STDGL3_15	4026	43	1.3	27.9	0.27	0.0049
S_STDGL3_16	4023	40	1.4	27.98	0.29	0.0036
S_STDGL3_17	4007	39	1.3	27.75	0.3	
S_STDGL3_18	4048	36	1.7	28.17	0.26	0.0037
S_STDGL3_19	4021	38	1.3	27.95	0.3	
S_STDGL3_20	4029	40	1.2	28.17	0.26	0.0053
S_STDGL3_21	4020	44	1.3	27.91	0.31	
S_STDGL3_22	4034	36	1.6	28.19	0.3	0.0038
S_STDGL3_23	4031	35	1.1	27.9	0.33	
S_STDGL3_24	4022	35	1.6	27.89	0.32	

Sample Number	Zr_ppm_m90	Zr_ppm_m90_Int2SE	Zr_ppm_m90_LOD	Mo_ppm_m95	Mo_ppm_m95_Int2SE	Mo_ppm_m95_LOD
S_STDGL3_1	44.84	0.45		170.9	0.99	0.0059
S_STDGL3_2	45.21	0.5		173.9	1	0.0085
S_STDGL3_3	44.79	0.52		172	1	0.0059
S_STDGL3_4	45.09	0.48		173.05	0.99	0.014
S_STDGL3_5	44.89	0.44		173.2	1.1	
S_STDGL3_6	45.45	0.52	0.0073	176.2	1.3	0.0089
S_STDGL3_7	45.01	0.44		172.4	1.2	0.0085
S_STDGL3_8	44.83	0.4	0.0074	174.11	0.97	0.0064
S_STDGL3_9	44.74	0.55		173.1	1.3	0.0061
S_STDGL3_10	45.24	0.54		173.6	1.1	0.0063
S_STDGL3_11	45.12	0.49		173.15	0.82	0.015
S_STDGL3_12	44.99	0.45		171.6	1.2	0.011
S_STDGL3_13	44.79	0.51		172.9	1.2	0.015
S_STDGL3_14	45.16	0.55		173.4	1	
S_STDGL3_15	45.13	0.47		172.6	1	0.0063
S_STDGL3_16	45	0.48		174.2	1.3	
S_STDGL3_17	44.81	0.45		171	1.3	0.0064
S_STDGL3_18	44.9	0.58	0.015	173.4	1.4	0.0066
S_STDGL3_19	45.33	0.59		172	1.2	0.011
S_STDGL3_20	44.96	0.46		172.2	1.1	
S_STDGL3_21	45.21	0.53		174.1	1.2	0.0091
S_STDGL3_22	44.87	0.5		174.1	1.2	0.0095
S_STDGL3_23	44.82	0.58		171.9	1.3	
S_STDGL3_24	45.06	0.48		173.4	1.1	0.0069

Sample Number	Ag_ppm_m107	Ag_ppm_m107_Int2SE	Ag_ppm_m107_LOD	Ag_ppm_m109	Ag_ppm_m109_Int2SE	Ag_ppm_m109_LOD
S_STDGL3_1	100.2	1.3	0.023	100	1.2	0.027
S_STDGL3_2	100.8	1.3	0.032	101	1.1	0.024
S_STDGL3_3	101.3	1.1	0.0098	100.7	1.1	0.009
S_STDGL3_4	103.2	1.2	0.013	103.4	1.2	0.012
S_STDGL3_5	102.1	1.3	0.0072	101.9	1.3	0.0026
S_STDGL3_6	103.1	1.2	0.0083	104.1	1.4	0.0038
S_STDGL3_7	101.3	1.1	0.0035	101.4	1.2	
S_STDGL3_8	103.8	1.2	0.0075	103.9	1.3	0.007
S_STDGL3_9	102.6	1	0.0025	102.6	1.2	0.0059
S_STDGL3_10	102.6	1.1	0.0071	102.6	1.1	0.0084
S_STDGL3_11	101.1	1.1		101.3	1.2	0.0037
S_STDGL3_12	103.3	1.2	0.0084	103.7	1.1	0.0067
S_STDGL3_13	101.3	1.1	0.0026	101.2	1.1	
S_STDGL3_14	101.9	1.2	0.0067	102.4	1.2	0.0055
S_STDGL3_15	101.4	1.3	0.0083	101.4	1.2	0.0028
S_STDGL3_16	103.2	1.2	0.0071	102.6	1.2	0.0055
S_STDGL3_17	100.6	1.3		100.8	1.3	
S_STDGL3_18	102	1.2	0.0039	102	1	0.0075
S_STDGL3_19	101.6	1.2	0.0027	102.1	1.1	0.0028
S_STDGL3_20	103.2	1.2	0.011	103.3	1.2	0.0051
S_STDGL3_21	100.2	1.2		100.3	1.1	0.004
S_STDGL3_22	101.9	1.5	0.0094	101.9	1.2	0.011
S_STDGL3_23	101.2	1.1	0.0039	100.4	1.1	0.0029
S_STDGL3_24	103.2	1	0.0049	103.19	0.91	0.0059

Sample Number	Cd_ppm_m111	Cd_ppm_m111_Int2SE	Cd_ppm_m111_LOD	Sn_ppm_m118	Sn_ppm_m118_Int2SE	Sn_ppm_m118_LOD
S_STDGL3_1	543.2	3.7	0.046	132.56	0.9	0.036
S_STDGL3_2	555.2	4.8	0.048	133.65	0.84	0.032
S_STDGL3_3	549.1	3.8	0.012	133.81	0.82	0.028
S_STDGL3_4	555.8	4.2	0.04	134.48	0.84	0.028
S_STDGL3_5	553.4	3.7	0.017	134.54	0.9	0.028
S_STDGL3_6	563.6	4.5	0.025	136.75	0.95	0.021
S_STDGL3_7	548.7	5.2	0.017	132.89	0.89	0.02
S_STDGL3_8	561.7	4.8	0.035	134.66	0.9	0.029
S_STDGL3_9	547.4	4.8	0.042	133.5	0.96	0.025
S_STDGL3_10	558	5.2	0.043	135.7	1	0.024
S_STDGL3_11	547.6	4.4	0.018	132.14	0.82	0.021
S_STDGL3_12	548.5	4.9	0.032	133.78	0.84	0.022
S_STDGL3_13	549.7	4.1		133.2	1	0.019
S_STDGL3_14	555.8	4.3	0.023	135.03	0.78	0.025
S_STDGL3_15	548.5	3.9		133.62	0.82	0.029
S_STDGL3_16	551.7	5.3	0.05	134.16	0.94	0.024
S_STDGL3_17	548	3.9	0.013	132.71	0.98	0.017
S_STDGL3_18	557.6	4.9	0.055	135.37	0.86	0.023
S_STDGL3_19	550.6	4.6	0.03	133.33	0.97	0.025
S_STDGL3_20	555.3	5.1	0.038	134.5	1	0.017
S_STDGL3_21	550.7	3.3	0.014	133	1	0.025
S_STDGL3_22	554.8	3.7	0.046	135.14	0.91	0.026
S_STDGL3_23	549.8	4.3	0.027	133	1	0.014
S_STDGL3_24	553.5	4.3	0.057	134.41	0.89	0.019

Sample Number	Sb_ppm_m121	Sb_ppm_m121_Int2SE	Sb_ppm_m121_LOD	Te_ppm_m125	Te_ppm_m125_Int2SE	Te_ppm_m125_LOD
S_STDGL3_1	93.97	0.76	0.06	1304	14	0.058
S_STDGL3_2	95.44	0.67	0.068	1326	11	0.16
S_STDGL3_3	95.94	0.65	0.04	1325	13	0.058
S_STDGL3_4	97.02	0.63	0.038	1333	13	0.13
S_STDGL3_5	95.89	0.76	0.031	1337	13	0.077
S_STDGL3_6	97.4	0.68	0.032	1356	15	0.17
S_STDGL3_7	96.14	0.67	0.02	1326	13	0.076
S_STDGL3_8	97.52	0.71	0.025	1346	13	0.19
S_STDGL3_9	95.19	0.85	0.02	1321	15	0.087
S_STDGL3_10	96.54	0.73	0.025	1341	12	0.17
S_STDGL3_11	94.44	0.78	0.029	1301	14	0.084
S_STDGL3_12	96.19	0.7	0.021	1321	12	0.14
S_STDGL3_13	94.56	0.96	0.02	1317	15	0.099
S_STDGL3_14	96.1	0.75	0.027	1338	13	0.23
S_STDGL3_15	95.15	0.73	0.025	1317	14	0.074
S_STDGL3_16	96.67	0.84	0.027	1330	12	0.2
S_STDGL3_17	94.93	0.88	0.023	1322	16	0.09
S_STDGL3_18	96.5	0.68	0.022	1336	13	0.14
S_STDGL3_19	95.28	0.7	0.024	1315	13	0.067
S_STDGL3_20	97.42	0.77	0.02	1335	13	0.19
S_STDGL3_21	95.25	0.89	0.021	1322	13	0.073
S_STDGL3_22	96.74	0.8	0.021	1342	13	0.24
S_STDGL3_23	94.97	0.77	0.022	1316	11	0.12
S_STDGL3_24	96.68	0.67	0.023	1342	13	0.16

Sample Number	Gd_ppm_m157	Gd_ppm_m157_Int2SE	Gd_ppm_m157_LOD	Hf_ppm_m178	Hf_ppm_m178_Int2SE	Hf_ppm_m178_LOD
S_STDGL3_1	79.96	0.9		36.11	0.39	
S_STDGL3_2	81.66	0.81		36.66	0.45	
S_STDGL3_3	81.97	0.66		36.73	0.35	
S_STDGL3_4	83.11	0.97		37.81	0.37	
S_STDGL3_5	82.54	0.85		37.45	0.35	
S_STDGL3_6	83.87	0.9		37.96	0.42	
S_STDGL3_7	82.1	1		36.37	0.45	
S_STDGL3_8	82.95	0.99		37.41	0.41	
S_STDGL3_9	81.31	0.94		36.93	0.4	
S_STDGL3_10	82.3	0.99		37.13	0.45	
S_STDGL3_11	81.19	0.86		36.64	0.36	
S_STDGL3_12	82.07	0.75		37.09	0.4	
S_STDGL3_13	80.7	1.1		36.52	0.29	
S_STDGL3_14	82.43	0.87		38.04	0.45	
S_STDGL3_15	81	1		36.29	0.46	
S_STDGL3_16	83.4	0.9		36.97	0.39	
S_STDGL3_17	81.33	0.77		36.71	0.34	
S_STDGL3_18	83	1		37.58	0.35	
S_STDGL3_19	80.55	0.92		36.17	0.38	
S_STDGL3_20	82.24	0.86	0.013	37.7	0.38	
S_STDGL3_21	81.01	0.86		36.84	0.37	
S_STDGL3_22	82.66	0.8		37.59	0.44	
S_STDGL3_23	81.43	0.91		36.19	0.41	
S_STDGL3_24	83.59	0.97		37.65	0.43	

Sample Number	Ta_ppm_m181	Ta_ppm_m181_Int2SE	Ta_ppm_m181_LOD	W_ppm_m182	W_ppm_m182_Int2SE	W_ppm_m182_LOD
S_STDGL3_1	15.64	0.16		78.18	0.61	0.0047
S_STDGL3_2	16.08	0.16		79.74	0.58	
S_STDGL3_3	15.9	0.17		79.31	0.38	
S_STDGL3_4	16.19	0.17		81	0.46	
S_STDGL3_5	16.12	0.15		80.59	0.61	
S_STDGL3_6	16.41	0.19		82.58	0.51	
S_STDGL3_7	15.73	0.17		79.13	0.53	
S_STDGL3_8	16.25	0.14		80.79	0.6	
S_STDGL3_9	15.85	0.19		79.02	0.54	
S_STDGL3_10	16.12	0.18		80.88	0.51	
S_STDGL3_11	15.76	0.14		78.8	0.61	
S_STDGL3_12	15.99	0.14		80.12	0.57	
S_STDGL3_13	15.88	0.19		78.83	0.55	
S_STDGL3_14	16.13	0.15		80.88	0.44	
S_STDGL3_15	15.83	0.19	0.004	78.91	0.57	
S_STDGL3_16	16.1	0.15		80.2	0.69	
S_STDGL3_17	15.95	0.15	0.004	79.13	0.55	0.0023
S_STDGL3_18	16.27	0.17		80.78	0.58	
S_STDGL3_19	15.74	0.13		79.45	0.63	
S_STDGL3_20	16.09	0.19		80.76	0.62	
S_STDGL3_21	15.96	0.14		79.61	0.6	0.0047
S_STDGL3_22	16.23	0.17		80.92	0.54	
S_STDGL3_23	15.88	0.18		78.89	0.54	
S_STDGL3_24	16.09	0.15		80.87	0.59	0.0035

Sample Number	Re_ppm_m185	Re_ppm_m185_Int2SE	Re_ppm_m185_LOD	Pt_ppm_m195	Pt_ppm_m195_Int2SE	Pt_ppm_m195_LOD
S_STDGL3_1	15.11	0.16		22.19	0.31	
S_STDGL3_2	15.45	0.14	0.0021	22.42	0.41	
S_STDGL3_3	15.41	0.14		22.05	0.35	
S_STDGL3_4	15.69	0.14	0.0015	22.08	0.33	
S_STDGL3_5	15.51	0.16	0.002	22.51	0.39	
S_STDGL3_6	16.1	0.15	0.0015	23.04	0.37	
S_STDGL3_7	15.34	0.16	0.0024	22.04	0.33	
S_STDGL3_8	15.68	0.16	0.0021	24.3	1.5	
S_STDGL3_9	15.32	0.18	0.0045	22.21	0.29	
S_STDGL3_10	15.47	0.14		22.57	0.34	
S_STDGL3_11	15.22	0.18	0.0014	22.1	0.32	
S_STDGL3_12	15.64	0.16	0.0025	22.34	0.34	0.0027
S_STDGL3_13	15.25	0.12	0.005	22.16	0.32	
S_STDGL3_14	15.72	0.14	0.0038	22.6	0.32	
S_STDGL3_15	15.35	0.16	0.003	22.14	0.33	
S_STDGL3_16	15.49	0.15	0.0025	22.32	0.34	
S_STDGL3_17	15.52	0.17	0.002	22.03	0.36	
S_STDGL3_18	15.72	0.17	0.0049	22.25	0.35	
S_STDGL3_19	15.29	0.17		22.22	0.39	
S_STDGL3_20	15.69	0.16	0.0026	22.52	0.33	
S_STDGL3_21	15.33	0.17	0.004	21.98	0.34	
S_STDGL3_22	15.74	0.15	0.0037	22.78	0.35	
S_STDGL3_23	15.24	0.14	0.0025	22.02	0.33	
S_STDGL3_24	15.69	0.15	0.0042	22.44	0.29	

Sample Number	Au_ppm_m197	Au_ppm_m197_Int2SE	Au_ppm_m197_LOD	Tl_ppm_m205	Tl_ppm_m205_Int2SE	Tl_ppm_m205_LOD
S_STDGL3_1	19.53	0.41		104.4	1.3	0.014
S_STDGL3_2	19.87	0.42	0.0018	107.82	0.96	0.013
S_STDGL3_3	19.56	0.32		106.8	1.1	0.006
S_STDGL3_4	19.7	0.38	0.0017	109	1	0.0087
S_STDGL3_5	19.99	0.47		108.4	1.3	0.0044
S_STDGL3_6	20.63	0.42	0.0018	111.8	1	0.0097
S_STDGL3_7	19.56	0.42		107.1	1.2	0.0043
S_STDGL3_8	20.38	0.73	0.0018	109.13	0.94	0.008
S_STDGL3_9	19.95	0.32	0.0017	106	1.3	0.0046
S_STDGL3_10	19.86	0.39	0.0017	109.3	1.1	0.009
S_STDGL3_11	19.59	0.37		106.2	1.1	0.0048
S_STDGL3_12	19.86	0.4	0.004	108.1	1.1	0.0078
S_STDGL3_13	19.55	0.34		106.4	1.3	0.0042
S_STDGL3_14	20.05	0.35		109.5	1.1	0.0082
S_STDGL3_15	19.7	0.39		106.3	1.1	0.0028
S_STDGL3_16	19.52	0.33	0.0018	107.5	1.1	0.0096
S_STDGL3_17	19.5	0.38		106.7	1.3	0.0033
S_STDGL3_18	20.13	0.33	0.0019	110	1	0.0087
S_STDGL3_19	19.97	0.43	0.0018	106.4	1.1	0.0047
S_STDGL3_20	19.77	0.4	0.0019	109.2	1.2	0.011
S_STDGL3_21	19.71	0.33	0.0037	107.5	1.3	0.0053
S_STDGL3_22	20.07	0.37		110.2	1.1	0.0084
S_STDGL3_23	19.76	0.41		106.6	1	0.0039
S_STDGL3_24	19.74	0.28		108.5	1.2	0.0092

Sample Number	Pb_ppm_m206	Pb_ppm_m206_Int2SE	Pb_ppm_m206_LOD	Pb_ppm_m207	Pb_ppm_m207_Int2SE	Pb_ppm_m207_LOD
S_STDGL3_1	59.16	0.55	0.018	59.45	0.49	0.015
S_STDGL3_2	60.88	0.42	0.0098	60.68	0.49	0.015
S_STDGL3_3	60.36	0.46	0.009	60.61	0.51	0.0085
S_STDGL3_4	61.75	0.4	0.0074	61.97	0.45	0.0073
S_STDGL3_5	61.19	0.43	0.0044	60.89	0.46	0.0069
S_STDGL3_6	62.89	0.49	0.0085	63.22	0.5	0.0064
S_STDGL3_7	60.59	0.5	0.0023	60.59	0.49	0.0064
S_STDGL3_8	61.83	0.49	0.0024	62.04	0.51	0.0088
S_STDGL3_9	60.27	0.62	0.0043	60.17	0.6	0.0035
S_STDGL3_10	61.27	0.52	0.0076	61.31	0.5	0.0036
S_STDGL3_11	59.89	0.54	0.0054	60.01	0.44	0.0035
S_STDGL3_12	60.87	0.5	0.004	61.02	0.43	0.0051
S_STDGL3_13	60.22	0.52	0.0048	60.59	0.64	0.0056
S_STDGL3_14	61.77	0.45	0.0046	61.77	0.5	0.0027
S_STDGL3_15	60.36	0.51	0.0044	59.88	0.57	0.0049
S_STDGL3_16	61.11	0.52	0.0046	60.76	0.44	0.0037
S_STDGL3_17	60.16	0.61	0.0023	60.32	0.63	0.0043
S_STDGL3_18	61.5	0.52	0.0041	62	0.47	0.0038
S_STDGL3_19	60.55	0.54	0.0063	60.07	0.55	0.0082
S_STDGL3_20	61.87	0.6	0.0025	62.1	0.55	0.0027
S_STDGL3_21	60.33	0.5	0.0023	60.28	0.57	
S_STDGL3_22	62.08	0.47	0.0034	61.94	0.58	
S_STDGL3_23	60.5	0.42	0.0052	60.22	0.56	0.0036
S_STDGL3_24	61.22	0.49	0.0025	61.31	0.5	0.0038

Sample Number	Pb_ppm_m208	Pb_ppm_m208_Int2SE	Pb_ppm_m208_LOD	Bi_ppm_m209	Bi_ppm_m209_Int2SE	Bi_ppm_m209_LOD
S_STDGL3_1	59.6	0.46	0.0098	18.93	0.16	0.015
S_STDGL3_2	60.7	0.38	0.009	19.31	0.15	0.014
S_STDGL3_3	60.57	0.41	0.0029	19.35	0.17	0.0092
S_STDGL3_4	61.73	0.36	0.0064	19.57	0.14	0.0077
S_STDGL3_5	61.17	0.5	0.0029	19.42	0.18	0.0052
S_STDGL3_6	63.13	0.47	0.0044	20.19	0.15	0.0052
S_STDGL3_7	60.67	0.42	0.0027	19.2	0.17	0.0044
S_STDGL3_8	61.85	0.4	0.0034	19.63	0.16	0.0049
S_STDGL3_9	60.03	0.51	0.0025	19.11	0.19	0.0042
S_STDGL3_10	61.25	0.38	0.0045	19.55	0.14	0.004
S_STDGL3_11	59.99	0.43	0.0033	18.99	0.15	0.0046
S_STDGL3_12	61	0.41	0.0028	19.42	0.15	0.0063
S_STDGL3_13	60.36	0.47	0.0022	19.15	0.2	0.0048
S_STDGL3_14	61.72	0.41	0.0021	19.57	0.15	0.0034
S_STDGL3_15	60.19	0.49	0.0029	19.15	0.18	0.0028
S_STDGL3_16	61.13	0.43	0.0034	19.46	0.14	0.0063
S_STDGL3_17	60.14	0.53	0.002	19.11	0.16	0.0043
S_STDGL3_18	61.83	0.47	0.0028	19.75	0.14	0.0042
S_STDGL3_19	60.39	0.52	0.0023	19.19	0.16	0.0047
S_STDGL3_20	61.87	0.54	0.0022	19.56	0.2	0.0034
S_STDGL3_21	60.34	0.51	0.0018	19.22	0.2	0.003
S_STDGL3_22	61.68	0.5	0.0048	19.62	0.17	0.003
S_STDGL3_23	60.35	0.48	0.0028	19.13	0.18	0.0029
S_STDGL3_24	61.49	0.46	0.0032	19.62	0.17	0.0036

Sample Number	Fe57_CPS	Fe57_CPS_Int2SE	Si_ppm_m29	Si_ppm_m29_Int2SE	Si_ppm_m29_LOD	P_ppm_m31	P_ppm_m31_Int2SE	P_ppm_m31_LOD	
G_GSD_1G_1	1.93E+06	59000	248400	1400	210	879	18	16	
G_GSD_1G_2	1.94E+06	60000	248900	1300	240	870	21	17	
G_GSD_1G_3	1.93E+06	51000	247500	1800	260	836	19	15	
G_GSD_1G_4	2.01E+06	61000	250500	2300	260	848	20	15	
G_GSD_1G_5	1.90E+06	54000	249900	2700	220	850	20	17	
G_GSD_1G_6	2.00E+06	62000	247300	2800	190	891	22	18	
G_GSD_1G_7	1.91E+06	61000	248600	3000	230	843	24	12	
G_GSD_1G_8	1.98E+06	64000	249100	3900	200	866	27	19	
G_GSD_1G_9	1.90E+06	53000	248500	3600	190	872	25	15	
G_GSD_1G_10	2.05E+06	68000	248700	4200	230	827	28	13	
G_GSD_1G_11	1.93E+06	53000	249100	4500	240	853	21	16	
G_GSD_1G_12	2.02E+06	58000	248300	4800	220	855	26	17	
G_GSD_1G_13	1.89E+06	64000	246900	3900	190	844	25	18	
G_GSD_1G_14	1.94E+06	68000	249900	3100	220	866	22	15	
G_GSD_1G_15	1.81E+06	52000	249800	2900	290	886	26	18	
G_GSD_1G_16	1.96E+06	58000	247200	3000	180	848	23	16	
G_GSD_1G_17	1.82E+06	45000	247600	3400	230	862	24	16	
G_GSD_1G_18	1.94E+06	69000	251100	4500	220	885	21	16	
G_GSD_1G_19	1.84E+06	52000	245200	4000	210	854	26	12	
G_GSD_1G_20	1.91E+06	63000	252700	4600	230	857	28	16	
G_GSD_1G_21	1.79E+06	52000	251400	4500	210	886	26	18	
G_GSD_1G_22	1.89E+06	59000	246900	3700	210	863	29	14	
G_GSD_1G_23	1.77E+06	48000	248600	3300	230	833	18	16	
G_GSD_1G_24	1.86E+06	53000	248800	4900	250	884	29	13	

Sample Number	K_ppm_m39	K_ppm_m39_Int2SE	K_ppm_m39_LOD	Ca_ppm_m43	Ca_ppm_m43_Int2SE	Ca_ppm_m43_LOD	Th_ppm_m232	Th_ppm_m232_Int2SE	Th_ppm_m232_LOD
G_GSD_1G_1	25430	150	4.3	51920	700	270	31.6	0.27	
G_GSD_1G_2	25250	140	2.9	51830	790	280	32.21	0.31	
G_GSD_1G_3	25320	170	4.1	51790	740	260	33.61	0.37	
G_GSD_1G_4	25330	310	2.5	51240	770	260	33.27	0.38	
G_GSD_1G_5	25190	230	3.6	51060	780	260	34.62	0.43	
G_GSD_1G_6	25080	290	3.9	51650	940	240	33.64	0.45	
G_GSD_1G_7	25510	380	3.6	52030	870	210	34.26	0.48	
G_GSD_1G_8	25050	360	4	50400	920	260	33.47	0.47	
G_GSD_1G_9	25210	380	4.1	51080	960	200	34	0.46	
G_GSD_1G_10	24990	440	4.7	50000	1000	230	32.17	0.65	
G_GSD_1G_11	25130	460	3.8	50900	1100	220	32.44	0.5	
G_GSD_1G_12	25130	480	3.9	50800	1100	210	31.49	0.43	
G_GSD_1G_13	25090	400	3.8	51000	1000	220	32.67	0.54	
G_GSD_1G_14	25650	380	5.7	52230	890	230	32.82	0.4	
G_GSD_1G_15	25450	240	4.3	52550	780	300	33.83	0.44	
G_GSD_1G_16	25310	370	3.6	51590	910	220	32.44	0.42	
G_GSD_1G_17	25710	440	3.6	51270	750	180	33.83	0.41	
G_GSD_1G_18	25270	460	4	51900	1100	190	32.72	0.52	
G_GSD_1G_19	24930	440	4	50360	860	260	32.92	0.45	
G_GSD_1G_20	25040	480	3.8	51600	1100	250	32.56	0.51	
G_GSD_1G_21	25330	430	3.7	51700	1100	200	32.92	0.53	
G_GSD_1G_22	25160	480	3.8	51700	1100	230	32.16	0.62	
G_GSD_1G_23	25460	330	3.8	51700	1000	210	32.85	0.48	
G_GSD_1G_24	25340	590	3.7	51900	1100	200	32.19	0.49	0.0032

Sample Number	Sc_ppm_m45	Sc_ppm_m45_Int2SE	Sc_ppm_m45_LOD	V_ppm_m51	V_ppm_m51_Int2SE	V_ppm_m51_LOD	U_ppm_m238	U_ppm_m238_Int2SE	U_ppm_m238_LOD
G_GSD_1G_1	51.78	0.73	0.17	43.9	0.64	0.037	36.56	0.35	
G_GSD_1G_2	52.17	0.61	0.21	44.15	0.62	0.058	37.44	0.35	
G_GSD_1G_3	51.83	0.74	0.17	44.05	0.64	0.044	38.72	0.41	
G_GSD_1G_4	51.89	0.67	0.19	43.79	0.68	0.043	38.42	0.48	
G_GSD_1G_5	52.81	0.6	0.21	43.91	0.8	0.042	39.48	0.46	
G_GSD_1G_6	51.48	0.68	0.18	44.15	0.76	0.031	38.55	0.58	
G_GSD_1G_7	51.99	0.78	0.19	44.06	0.68	0.038	38.96	0.56	
G_GSD_1G_8	51.94	0.8	0.18	44.05	0.81	0.019	38	0.62	
G_GSD_1G_9	52.6	1	0.19	43.68	0.86	0.033	39.88	0.84	
G_GSD_1G_10	51.1	1.1	0.21	44.14	0.92	0.021	38.36	0.84	
G_GSD_1G_11	51.63	0.8	0.17	43.84	0.93	0.033	38.93	0.72	
G_GSD_1G_12	51.55	0.96	0.14	44.21	0.82	0.016	39.01	0.96	0.0031
G_GSD_1G_13	51.03	0.71	0.15	43.92	0.86	0.033	38.51	0.55	
G_GSD_1G_14	52.9	0.83	0.2	44.07	0.77	0.02	38.47	0.58	
G_GSD_1G_15	52.66	0.75	0.21	43.48	0.77	0.032	39.38	0.5	
G_GSD_1G_16	52.26	0.8	0.15	44.51	0.87	0.029	38.71	0.74	
G_GSD_1G_17	52.22	0.78	0.19	43.9	0.8	0.031	40.03	0.57	
G_GSD_1G_18	52.58	0.95	0.19	44.46	0.88	0.029	38.76	0.74	
G_GSD_1G_19	51.6	1	0.15	43.86	0.87	0.028	39.34	0.67	
G_GSD_1G_20	51.19	0.89	0.2	43.76	0.88	0.028	38.43	0.84	
G_GSD_1G_21	52	1.1	0.2	43.65	0.99	0.017	39.27	0.74	
G_GSD_1G_22	51.5	1	0.17	44.7	1.1	0.047	39.2	1	
G_GSD_1G_23	52.37	0.86	0.22	43.97	0.94	0.038	39.73	0.65	
G_GSD_1G_24	52.03	0.83	0.19	43.9	1.4	0.023	39.3	1	

Sample Number	Cr_ppm_m53	Cr_ppm_m53_Int2SE	Cr_ppm_m53_LOD	Ga_ppm_m71	Ga_ppm_m71_Int2SE	Ga_ppm_m71_LOD
G_GSD_1G_1	42.7	1.6	0.39	53.82	0.57	0.018
G_GSD_1G_2	43	1.8	0.56	54.03	0.7	0.028
G_GSD_1G_3	41.1	1.5	0.48	54.08	0.57	0.0075
G_GSD_1G_4	43.3	1.5	0.38	54.39	0.84	
G_GSD_1G_5	41.2	1.8	0.33	53.98	0.74	0.0076
G_GSD_1G_6	41.8	1.6	0.46	54.06	0.78	
G_GSD_1G_7	40.7	1.9	0.28	53.96	0.83	0.0075
G_GSD_1G_8	40.4	1.6	0.31	53.85	0.86	
G_GSD_1G_9	41.5	1.9	0.48	53.93	0.84	
G_GSD_1G_10	42.5	1.4	0.33	53.6	1.1	0.017
G_GSD_1G_11	42.8	2.1	0.68	53.42	0.91	
G_GSD_1G_12	42	1.6	0.3	54.8	1.1	0.0071
G_GSD_1G_13	41.4	1.7	0.37	53.9	1	
G_GSD_1G_14	42.6	2	0.21	54.55	0.81	
G_GSD_1G_15	42.3	1.6	0.46	54.02	0.82	0.011
G_GSD_1G_16	40.9	1.8	0.29	54.02	0.83	0.0073
G_GSD_1G_17	41.2	1.9	0.37	53.5	0.7	0.0078
G_GSD_1G_18	41.8	2.2	0.27	54.37	0.96	0.0073
G_GSD_1G_19	43.3	1.7	0.44	53.9	1	
G_GSD_1G_20	42.8	1.4	0.33	54.33	0.91	
G_GSD_1G_21	42.7	2.2	0.38	53.9	0.94	
G_GSD_1G_22	41.6	1.9	0.33	53.6	1.2	0.01
G_GSD_1G_23	40.7	1.6	0.41	54.47	0.99	
G_GSD_1G_24	43.2	2	0.24	53.7	1	0.0076

Sample Number	Rb_ppm_m85	Rb_ppm_m85_Int2SE	Rb_ppm_m85_LOD	Y_ppm_m89	Y_ppm_m89_Int2SE	Y_ppm_m89_LOD
G_GSD_1G_1	37.34	0.64	0.06	41.85	0.59	
G_GSD_1G_2	36.96	0.58	0.055	41.67	0.53	
G_GSD_1G_3	37.59	0.64	0.03	42.76	0.6	
G_GSD_1G_4	37.06	0.62	0.026	41.95	0.58	
G_GSD_1G_5	38.04	0.71	0.062	42.15	0.73	
G_GSD_1G_6	37.38	0.71	0.057	41.9	0.72	
G_GSD_1G_7	36.85	0.79	0.054	42.14	0.67	
G_GSD_1G_8	37.2	0.83	0.039	41.85	0.67	
G_GSD_1G_9	37.69	0.8	0.05	42.52	0.71	
G_GSD_1G_10	36.9	0.86	0.041	40.46	0.86	0.012
G_GSD_1G_11	37.49	0.91	0.052	41.84	0.74	0.026
G_GSD_1G_12	37	1.1	0.048	41.42	0.84	
G_GSD_1G_13	37.96	0.91	0.045	41.81	0.9	
G_GSD_1G_14	37.28	0.77	0.049	42.79	0.77	
G_GSD_1G_15	37.2	0.85	0.04	43.06	0.68	
G_GSD_1G_16	37.02	0.88	0.044	42.02	0.81	
G_GSD_1G_17	37.28	0.75	0.034	42.36	0.66	0.013
G_GSD_1G_18	37.08	0.83	0.054	41.13	0.68	
G_GSD_1G_19	37.28	0.84	0.033	41.7	0.77	
G_GSD_1G_20	37.2	1	0.058	42.17	0.84	
G_GSD_1G_21	38.12	0.98	0.052	42.1	1	
G_GSD_1G_22	36.7	1.1	0.045	41.72	0.87	
G_GSD_1G_23	37.43	0.8	0.046	42.16	0.77	
G_GSD_1G_24	36.95	0.95	0.04	41.72	0.85	

Sample Number	Nb_ppm_m93	Nb_ppm_m93_Int2SE	Nb_ppm_m93_LOD	Ba_ppm_m137	Ba_ppm_m137_Int2SE	Ba_ppm_m137_LOD
G_GSD_1G_1	41.21	0.64		67.2	2.1	
G_GSD_1G_2	42.45	0.62		66.7	1.8	
G_GSD_1G_3	42.11	0.63		67.9	1.6	
G_GSD_1G_4	41.67	0.69		65.7	1.8	
G_GSD_1G_5	42.54	0.71		67.4	2	
G_GSD_1G_6	41.85	0.89		67.5	1.9	
G_GSD_1G_7	42.77	0.89		67.6	2.1	
G_GSD_1G_8	42.54	0.93		65.7	2	
G_GSD_1G_9	41.69	0.8	0.015	66.5	1.9	
G_GSD_1G_10	41.55	0.64		67.8	2.2	
G_GSD_1G_11	42.2	1.1	0.015	67.2	1.9	
G_GSD_1G_12	41.09	0.99		67.3	1.9	
G_GSD_1G_13	41.54	0.85		66.5	1.9	
G_GSD_1G_14	42.52	0.79		66.3	1.9	
G_GSD_1G_15	43.08	0.79		68.4	2.2	
G_GSD_1G_16	42.42	0.87		67.4	2.2	0.072
G_GSD_1G_17	42.22	0.8		67	1.8	
G_GSD_1G_18	41.52	0.78		66.2	1.7	
G_GSD_1G_19	41.79	0.84		66.4	1.9	
G_GSD_1G_20	41.8	1.1		67.4	2	
G_GSD_1G_21	42	1	0.016	68.9	1.9	
G_GSD_1G_22	41.38	0.94	0.03	65.1	2.4	
G_GSD_1G_23	41.88	0.86		67.5	1.6	
G_GSD_1G_24	42.14	0.68		65.7	2.2	

Sample Number	Ce_ppm_m140	Ce_ppm_m140_Int2SE	Ce_ppm_m140_LOD	Hg201_CPS	Hg201_CPS_Int2SE	Hg201_CPS_LOD
G_GSD_1G_1	41.13	0.58		17	22	
G_GSD_1G_2	41.48	0.54		-4	17	
G_GSD_1G_3	41.61	0.57		24	18	
G_GSD_1G_4	41.17	0.58		26	20	
G_GSD_1G_5	41.55	0.62		8	14	
G_GSD_1G_6	41.56	0.65		-4	13	
G_GSD_1G_7	41.89	0.65		18	15	
G_GSD_1G_8	40.92	0.74		17	13	
G_GSD_1G_9	41.26	0.73		-10.7	8.6	
G_GSD_1G_10	41.32	0.98		-1	10	
G_GSD_1G_11	41.65	0.79		2	11	
G_GSD_1G_12	41.59	0.92		-9.4	7.6	
G_GSD_1G_13	40.56	0.84		11	11	
G_GSD_1G_14	41.13	0.82		18	12	
G_GSD_1G_15	41.88	0.65		5.7	9.1	
G_GSD_1G_16	41.6	0.84	0.073	1.1	8.1	
G_GSD_1G_17	41.39	0.82		7.1	8.5	
G_GSD_1G_18	40.65	0.89		-1.1	8.2	
G_GSD_1G_19	42.25	0.86		-8.9	5.4	
G_GSD_1G_20	41.1	1		-6.7	5.8	
G_GSD_1G_21	40.93	0.8		6.1	7.4	
G_GSD_1G_22	41.11	0.96		0	6.5	
G_GSD_1G_23	41.57	0.69		11.4	8.3	
G_GSD_1G_24	41.6	1		-1.9	5.4	

Sample Number	IntStdWv	IntStdWv_Int2SE	IntStdWv_LOD	Na_ppm_m23	Na_ppm_m23_Int2SE	Na_ppm_m23_LOD
G_GSD_1G_1	10.3	1		27890	190	1.5
G_GSD_1G_2	10.3	1		27580	150	1.2
G_GSD_1G_3	10.3	1		27330	200	1.1
G_GSD_1G_4	10.3	1		27240	270	1.3
G_GSD_1G_5	10.3	1		27290	300	1.5
G_GSD_1G_6	10.3	1		27100	300	1.6
G_GSD_1G_7	10.3	1		27710	400	1.5
G_GSD_1G_8	10.3	1		27300	430	1.5
G_GSD_1G_9	10.3	1		27310	460	1.3
G_GSD_1G_10	10.3	1		27500	590	1.6
G_GSD_1G_11	10.3	1		26840	370	1.5
G_GSD_1G_12	10.3	1		27190	500	1.6
G_GSD_1G_13	10.3	1		27260	610	1.6
G_GSD_1G_14	10.3	1		27530	340	1.9
G_GSD_1G_15	10.3	1		26940	270	1.3
G_GSD_1G_16	10.3	1		26900	460	1.6
G_GSD_1G_17	10.3	1		27040	370	1.7
G_GSD_1G_18	10.3	1		26950	490	1.7
G_GSD_1G_19	10.3	1		26480	510	1.7
G_GSD_1G_20	10.3	1		27000	640	1.5
G_GSD_1G_21	10.3	1		26990	690	1.6
G_GSD_1G_22	10.3	1		26770	480	1.5
G_GSD_1G_23	10.3	1		27370	410	2.3
G_GSD_1G_24	10.3	1		26890	490	1.8

Sample Number	Mg_ppm_m24	Mg_ppm_m24_Int2SE	Mg_ppm_m24_LOD	Al_ppm_m27	Al_ppm_m27_Int2SE	Al_ppm_m27_LOD
G_GSD_1G_1	20560	120	0.081	67290	460	2
G_GSD_1G_2	20640	120	0.056	68030	430	0.59
G_GSD_1G_3	20410	170	0.056	67510	550	0.53
G_GSD_1G_4	20580	250	0.099	67370	620	0.47
G_GSD_1G_5	20540	190	0.057	66840	710	0.48
G_GSD_1G_6	20410	250	0.054	66710	770	0.48
G_GSD_1G_7	20610	240		67180	650	0.5
G_GSD_1G_8	20460	330	0.055	66470	810	0.47
G_GSD_1G_9	20420	250	0.079	67900	950	0.4
G_GSD_1G_10	20110	400	0.038	66000	1100	0.45
G_GSD_1G_11	20320	340	0.068	66900	1000	0.38
G_GSD_1G_12	20580	450	0.13	66020	970	0.4
G_GSD_1G_13	20190	350	0.04	68200	1000	0.58
G_GSD_1G_14	20370	250	0.085	67640	750	0.44
G_GSD_1G_15	20280	190	0.073	67440	700	0.48
G_GSD_1G_16	20090	350	0.067	66730	770	0.45
G_GSD_1G_17	20140	260	0.043	67390	840	0.92
G_GSD_1G_18	20390	340	0.13	66710	810	0.4
G_GSD_1G_19	20080	270	0.12	65500	1100	0.42
G_GSD_1G_20	20290	400	0.29	66000	1100	0.46
G_GSD_1G_21	20510	380	0.11	66500	1200	0.48
G_GSD_1G_22	20320	310	0.057	65930	930	0.44
G_GSD_1G_23	20400	280	0.12	66650	860	2.5
G_GSD_1G_24	20420	420	0.14	66600	1300	0.4

Sample Number	S_ppm_m34	S_ppm_m34_Int2SE	S_ppm_m34_LOD	Ti_ppm_m49	Ti_ppm_m49_Int2SE	Ti_ppm_m49_LOD
G_GSD_1G_1	520	150	250	7261	60	0.42
G_GSD_1G_2	440	110	300	7286	52	
G_GSD_1G_3	11990	940	1800	7206	59	1.2
G_GSD_1G_4	13800	750	1600	7279	61	3.4
G_GSD_1G_5	13060	880	1700	7286	64	0.78
G_GSD_1G_6	14020	920	2100	7331	83	0.52
G_GSD_1G_7	15940	990	1800	7319	84	0.7
G_GSD_1G_8	18050	790	1900	7323	90	0.54
G_GSD_1G_9	16130	850	3200	7295	99	0.8
G_GSD_1G_10	16880	730	2100	7350	130	0.96
G_GSD_1G_11	18700	1100	2100	7300	110	1.3
G_GSD_1G_12	17460	860	2000	7220	120	1.2
G_GSD_1G_13	18880	960	2400	7186	99	1.2
G_GSD_1G_14	19270	940	2200	7338	68	1.2
G_GSD_1G_15	16880	900	2000	7289	73	1.5
G_GSD_1G_16	16550	790	1500	7273	91	0.86
G_GSD_1G_17	20560	880	2200	7239	78	1.5
G_GSD_1G_18	20110	960	1900	7340	100	0.78
G_GSD_1G_19	20900	1000	2300	7110	100	1.2
G_GSD_1G_20	19200	1000	2400	7273	95	0.84
G_GSD_1G_21	18950	820	2400	7200	110	0.99
G_GSD_1G_22	16720	900	1700	7330	120	1
G_GSD_1G_23	21600	1000	1900	7344	90	0.81
G_GSD_1G_24	20800	900	3000	7310	120	0.82

Sample Number	Mn_ppm_m55	Mn_ppm_m55_Int2SE	Mn_ppm_m55_LOD	Co_ppm_m59	Co_ppm_m59_Int2SE	Co_ppm_m59_LOD
G_GSD_1G_1	219.4	1.9	0.24	43.17	0.46	0.018
G_GSD_1G_2	218	1.9	0.2	42.98	0.45	0.012
G_GSD_1G_3	219.9	2.3	0.21	43.43	0.52	0.012
G_GSD_1G_4	221.1	3	0.2	42.78	0.47	0.42
G_GSD_1G_5	219.5	2.6	0.25	43.2	0.58	0.015
G_GSD_1G_6	218.8	2.5	0.22	42.94	0.57	0.026
G_GSD_1G_7	214.9	3.4	0.22	43.81	0.59	0.0097
G_GSD_1G_8	217.7	3.8	0.19	42.83	0.69	0.017
G_GSD_1G_9	224.7	5.1	0.27	43.6	0.63	0.094
G_GSD_1G_10	218.1	4.4	0.2	43.56	0.75	0.012
G_GSD_1G_11	215	3.6	0.21	43.28	0.94	0.21
G_GSD_1G_12	220.8	4.9	0.23	43.74	0.85	0.011
G_GSD_1G_13	219.5	4.2	0.19	43.3	0.72	0.022
G_GSD_1G_14	221.9	3.5	0.22	43.65	0.58	0.035
G_GSD_1G_15	218.2	2	0.21	42.98	0.65	0.014
G_GSD_1G_16	217.5	3.2	0.26	44.42	0.69	0.0068
G_GSD_1G_17	218.7	3.2	0.22	43.74	0.68	0.022
G_GSD_1G_18	215.1	3.2	0.21	43.07	0.84	0.014
G_GSD_1G_19	217.6	4.7	0.23	43.42	0.9	0.014
G_GSD_1G_20	218.3	4.5	0.23	43.43	0.92	0.071
G_GSD_1G_21	218.1	3.9	0.18	43.48	0.78	0.11
G_GSD_1G_22	217.9	4.7	0.19	43.72	0.71	0.034
G_GSD_1G_23	215.1	2.7	0.21	44.7	1.4	0.55
G_GSD_1G_24	218.6	5.2	0.21	43.7	1.4	3.9

Sample Number	Ni_ppm_m60	Ni_ppm_m60_Int2SE	Ni_ppm_m60_LOD	Cu_ppm_m63	Cu_ppm_m63_Int2SE	Cu_ppm_m63_LOD
G_GSD_1G_1	65.5	1.3		48.5	0.83	0.091
G_GSD_1G_2	64.1	1.1	0.034	46.75	0.61	0.12
G_GSD_1G_3	64.3	1.2	0.034	47.01	0.66	0.076
G_GSD_1G_4	64.1	1.1	0.033	47.93	0.75	0.083
G_GSD_1G_5	64	1.3		46.54	0.74	0.071
G_GSD_1G_6	64.2	1.5	0.046	47.56	0.93	0.082
G_GSD_1G_7	63.9	1.5	0.035	47.93	0.9	0.079
G_GSD_1G_8	65.2	1.3		47.88	0.96	0.07
G_GSD_1G_9	64.3	1.4	0.12	47.78	0.94	0.091
G_GSD_1G_10	64.3	1.5	0.032	47.5	1	0.07
G_GSD_1G_11	63.7	1.3	0.058	46.68	0.85	0.06
G_GSD_1G_12	64.5	1.7	0.033	48.2	1.1	0.063
G_GSD_1G_13	64.5	1.4	0.049	46.82	0.78	0.063
G_GSD_1G_14	66.5	1.5	0.048	47.9	0.86	0.11
G_GSD_1G_15	64.7	1.3	0.052	47.56	0.75	0.095
G_GSD_1G_16	67.3	1.3	0.066	48.17	0.97	0.071
G_GSD_1G_17	64.5	1.5	4.1	46.81	0.87	0.089
G_GSD_1G_18	64.8	1.8	0.24	48.03	0.94	0.093
G_GSD_1G_19	63.3	1.3	0.051	47	1.1	0.085
G_GSD_1G_20	65.3	1.6	0.091	47.4	1.2	0.085
G_GSD_1G_21	65.2	1.5	0.43	47.3	1	0.1
G_GSD_1G_22	66.1	1.7	0.3	48	1.1	0.089
G_GSD_1G_23	64.5	1.6	0.039	46.6	1	0.077
G_GSD_1G_24	66.1	1.6	0.052	47.19	0.98	0.091

Sample Number	Zn_ppm_m66	Zn_ppm_m66_Int2SE	Zn_ppm_m66_LOD	As_ppm_m75	As_ppm_m75_Int2SE	As_ppm_m75_LOD
G_GSD_1G_1	56.8	1.4	0.19	39	1	1.4
G_GSD_1G_2	56.4	1.3	0.23	40.02	0.94	1.2
G_GSD_1G_3	55.6	1.2	0.26	37.9	1.1	2
G_GSD_1G_4	57.4	1.3	0.27	37.8	1	1.5
G_GSD_1G_5	56.9	1.2	0.28	36.8	1	1.8
G_GSD_1G_6	59.5	1.6	0.25	39.6	1.2	1.6
G_GSD_1G_7	58.6	1.4	0.31	40.2	1.1	1.5
G_GSD_1G_8	57.6	1.6	0.29	39.3	1.1	1.4
G_GSD_1G_9	59.4	1.5	0.33	38	1.2	1.2
G_GSD_1G_10	57.9	1.9	0.25	41.1	1.4	1.3
G_GSD_1G_11	58.7	1.7	0.3	39.8	1.2	1.5
G_GSD_1G_12	57.5	1.7	0.23	39.5	1.2	1.5
G_GSD_1G_13	57.6	2	0.38	39.7	1	1.2
G_GSD_1G_14	59.5	1.5	0.27	39.8	1.4	1.3
G_GSD_1G_15	56.5	1.5	0.31	38.99	0.91	1.2
G_GSD_1G_16	55.9	1.7	0.27	38.9	1.2	1.1
G_GSD_1G_17	58.5	1.7	0.5	40.2	1.1	1.9
G_GSD_1G_18	58.4	1.5	0.32	40.3	1.4	1.2
G_GSD_1G_19	58.8	1.8	0.32	39.3	1.2	1.3
G_GSD_1G_20	56.7	1.2	0.26	41.2	1.3	1.4
G_GSD_1G_21	58.3	2.1	0.36	39.2	1.4	1.1
G_GSD_1G_22	58.8	1.9	0.4	40.5	1.4	1.3
G_GSD_1G_23	59.8	1.6	0.54	41	1.2	1.4
G_GSD_1G_24	59.6	1.8	0.26	40.8	1.3	1.3

Sample Number	Se_ppm_m77	Se_ppm_m77_Int2SE	Se_ppm_m77_LOD	Sr_ppm_m88	Sr_ppm_m88_Int2SE	Sr_ppm_m88_LOD
G_GSD_1G_1	2.76	0.6	1.3	59.17	0.85	
G_GSD_1G_2	1.89	0.6	0.89	59.95	0.66	
G_GSD_1G_3	6.9	1.9	3.7	60.59	0.95	0.011
G_GSD_1G_4	4.6	1.4	3.4	60.49	0.82	
G_GSD_1G_5	6	1.8	4	61.17	0.79	
G_GSD_1G_6	4.7	1.7	3.6	60.85	0.78	
G_GSD_1G_7	7.9	1.8	3.9	60.48	0.79	
G_GSD_1G_8	6.9	1.8	3.6	59.8	1.1	
G_GSD_1G_9	7	1.8	4.1	59.92	0.88	
G_GSD_1G_10	7.7	1.9	3.8	60	1.1	
G_GSD_1G_11	8.9	1.6	2.9	61	1.3	
G_GSD_1G_12	9.7	1.9	4.6	59	1.3	0.011
G_GSD_1G_13	10.4	1.8	4.5	59.2	1.1	
G_GSD_1G_14	10.3	2.1	5.2	60.65	0.87	0.011
G_GSD_1G_15	9.6	2	5.4	61.23	0.97	0.017
G_GSD_1G_16	7.4	1.6	4.4	60.8	1.2	0.011
G_GSD_1G_17	11.5	2	5.6	60.1	1.1	
G_GSD_1G_18	9.7	1.8	5.5	58.7	1	
G_GSD_1G_19	10.5	1.9	4.5	59	1	
G_GSD_1G_20	12.3	2	4.3	59.6	1.3	0.011
G_GSD_1G_21	11	2.3	4.4	60.9	1.3	
G_GSD_1G_22	8.2	1.9	3.9	60.1	1.1	0.011
G_GSD_1G_23	12.2	2.2	4.7	61.85	0.97	0.012
G_GSD_1G_24	10.3	2.2	3.9	60.8	1	

Sample Number	Zr_ppm_m90	Zr_ppm_m90_Int2SE	Zr_ppm_m90_LOD	Mo_ppm_m95	Mo_ppm_m95_Int2SE	Mo_ppm_m95_LOD
G_GSD_1G_1	38.27	0.71		39	0.71	0.042
G_GSD_1G_2	38.48	0.72		39.86	0.68	0.021
G_GSD_1G_3	38.61	0.92		39.42	0.74	0.041
G_GSD_1G_4	39.03	0.91		40.92	0.83	0.028
G_GSD_1G_5	38.99	0.9		41.36	0.89	
G_GSD_1G_6	38.73	0.76		41.02	0.77	0.028
G_GSD_1G_7	39.68	0.71		39.77	0.66	0.021
G_GSD_1G_8	38.5	0.86		40.89	0.86	0.04
G_GSD_1G_9	38.91	0.97		39.61	0.83	0.021
G_GSD_1G_10	37.64	0.86		39.4	1	
G_GSD_1G_11	37.25	0.72		41.01	0.97	0.035
G_GSD_1G_12	37.02	0.97		39.6	1	0.047
G_GSD_1G_13	37.73	0.83		40.3	1	0.029
G_GSD_1G_14	38.96	0.81		40.75	0.85	0.02
G_GSD_1G_15	37.96	0.8		39.77	0.74	
G_GSD_1G_16	38.15	0.81		40.41	0.86	0.02
G_GSD_1G_17	38	1.1		41.73	0.71	0.021
G_GSD_1G_18	37.43	0.84		40.86	0.98	
G_GSD_1G_19	37.47	0.91		39.96	0.93	
G_GSD_1G_20	38.14	0.85		39.89	0.91	
G_GSD_1G_21	39.21	0.95		40.25	0.85	0.06
G_GSD_1G_22	36.81	0.84		40	1	0.021
G_GSD_1G_23	38	0.83		40.34	0.82	
G_GSD_1G_24	37.6	1.1		40.3	0.84	

Sample Number	Ag_ppm_m107	Ag_ppm_m107_Int2SE	Ag_ppm_m107_LOD	Ag_ppm_m109	Ag_ppm_m109_Int2SE	Ag_ppm_m109_LOD
G_GSD_1G_1	25.17	0.34	0.18	24.6	0.38	0.14
G_GSD_1G_2	24.97	0.37	0.11	24.54	0.35	0.14
G_GSD_1G_3	24.88	0.39	0.025	24.98	0.41	0.036
G_GSD_1G_4	25.13	0.45	0.025	25.02	0.44	0.023
G_GSD_1G_5	25.27	0.36	0.0086	25.29	0.42	0.019
G_GSD_1G_6	25.88	0.53	0.012	25.87	0.55	0.012
G_GSD_1G_7	25.48	0.54	0.019	25.68	0.46	0.012
G_GSD_1G_8	25.23	0.42	0.014	25.52	0.56	
G_GSD_1G_9	25.4	0.56	0.0087	25.42	0.51	
G_GSD_1G_10	25.47	0.59		25.65	0.6	0.012
G_GSD_1G_11	25.27	0.54	0.0086	25.32	0.62	0.0089
G_GSD_1G_12	25.91	0.62	0.0082	25.73	0.59	
G_GSD_1G_13	25.14	0.48	0.0086	25.21	0.57	
G_GSD_1G_14	25.66	0.5	0.012	25.3	0.41	0.0089
G_GSD_1G_15	25.21	0.5	0.0092	25.09	0.45	
G_GSD_1G_16	25.35	0.53	0.0084	25.35	0.54	
G_GSD_1G_17	25.65	0.53	0.0091	25.31	0.64	0.013
G_GSD_1G_18	25.14	0.75	0.022	25.66	0.66	
G_GSD_1G_19	25.04	0.49	0.02	25.14	0.65	
G_GSD_1G_20	25.29	0.63		25.12	0.62	
G_GSD_1G_21	25.66	0.6	0.0091	25.46	0.56	
G_GSD_1G_22	24.52	0.56	0.0087	25.16	0.58	
G_GSD_1G_23	25.19	0.57	0.013	25.48	0.56	
G_GSD_1G_24	25.57	0.68		24.86	0.53	

Sample Number	Cd_ppm_m111	Cd_ppm_m111_Int2SE	Cd_ppm_m111_LOD	Sn_ppm_m118	Sn_ppm_m118_Int2SE	Sn_ppm_m118_LOD
G_GSD_1G_1	28.3	1.1	0.2	42.23	0.54	0.093
G_GSD_1G_2	28.98	0.8	0.21	42.25	0.6	0.18
G_GSD_1G_3	28.5	1	0.058	42.22	0.49	0.087
G_GSD_1G_4	28.87	0.79	0.04	43.41	0.67	0.1
G_GSD_1G_5	28.64	0.94	0.059	44.39	0.73	0.068
G_GSD_1G_6	31.1	1.1	0.057	43.64	0.7	0.066
G_GSD_1G_7	30.29	0.94	0.059	43.89	0.82	0.083
G_GSD_1G_8	29.23	0.97	0.057	43.14	0.76	0.077
G_GSD_1G_9	29.61	0.86		43.28	0.85	0.083
G_GSD_1G_10	30.6	1.2	0.039	42.89	0.83	0.049
G_GSD_1G_11	29.9	1.1		42.85	0.77	0.057
G_GSD_1G_12	29.3	1		43.28	0.89	0.069
G_GSD_1G_13	30	1.2	0.042	42.99	0.71	0.042
G_GSD_1G_14	29.17	0.72		42.89	0.72	0.065
G_GSD_1G_15	30.2	1.1	0.045	42.94	0.67	0.076
G_GSD_1G_16	30.2	1.1	0.058	43.23	0.71	0.069
G_GSD_1G_17	30.7	1.1	0.044	43.38	0.69	0.11
G_GSD_1G_18	30.9	1.1	0.041	43.17	0.84	0.056
G_GSD_1G_19	30.3	1.1		42.76	0.88	0.056
G_GSD_1G_20	29.6	1		42.67	0.94	0.054
G_GSD_1G_21	31.1	1.3	0.045	43.57	0.84	0.047
G_GSD_1G_22	30.4	1.1	0.043	43.1	1.1	0.057
G_GSD_1G_23	30.6	1.2	0.064	42.92	0.76	0.067
G_GSD_1G_24	30.9	1.4	0.061	42.8	0.8	0.054

Sample Number	Sb_ppm_m121	Sb_ppm_m121_Int2SE	Sb_ppm_m121_LOD	Te_ppm_m125	Te_ppm_m125_Int2SE	Te_ppm_m125_LOD
G_GSD_1G_1	46.6	0.57	0.33	30.6	1.4	0.56
G_GSD_1G_2	46.76	0.5	0.29	31.8	1.2	0.28
G_GSD_1G_3	46.57	0.53	0.15	28.9	1.4	0.25
G_GSD_1G_4	46.53	0.71	0.12	32.9	1.5	0.28
G_GSD_1G_5	46.85	0.79	0.097	32	1.3	0.32
G_GSD_1G_6	47.74	0.85	0.11	32.1	1.4	0.43
G_GSD_1G_7	48.35	0.8	0.086	32.5	1.4	0.36
G_GSD_1G_8	46.91	0.82	0.1	31.4	1.4	0.26
G_GSD_1G_9	46.72	0.83	0.079	31.5	1.4	0.27
G_GSD_1G_10	46.6	1.1	0.071	31.4	1.4	0.28
G_GSD_1G_11	46.89	0.8	0.069	31.1	1.5	0.35
G_GSD_1G_12	46.65	0.77	0.071	31.2	1.1	0.28
G_GSD_1G_13	47	1	0.086	31.5	1.6	0.27
G_GSD_1G_14	47.78	0.66	0.077	32.5	1.4	0.24
G_GSD_1G_15	47.43	0.86	0.07	31.1	1.3	0.35
G_GSD_1G_16	47.39	0.78	0.075	33.3	1.5	0.25
G_GSD_1G_17	47.45	0.72	0.075	30.9	1.3	0.3
G_GSD_1G_18	46.93	0.93	0.072	31.8	1.4	0.28
G_GSD_1G_19	46.54	0.79	0.07	31	1.1	0.4
G_GSD_1G_20	47.41	0.92	0.066	33.2	1.4	0.49
G_GSD_1G_21	48.3	1	0.067	31.5	1.4	0.38
G_GSD_1G_22	47.2	1.1	0.08	31	1.3	0.33
G_GSD_1G_23	47.54	0.81	0.065	31.9	1.5	0.26
G_GSD_1G_24	47.66	0.76	0.078	31.6	1.3	0.43

Sample Number	Gd_ppm_m157	Gd_ppm_m157_Int2SE	Gd_ppm_m157_LOD	Hf_ppm_m178	Hf_ppm_m178_Int2SE	Hf_ppm_m178_LOD
G_GSD_1G_1	38.9	1.1		32.17	0.6	
G_GSD_1G_2	40.1	1		32.87	0.6	
G_GSD_1G_3	41.1	1		33.4	0.71	
G_GSD_1G_4	40.53	0.79		33.44	0.56	
G_GSD_1G_5	42.23	0.9		33.89	0.91	
G_GSD_1G_6	40.5	0.89		33.29	0.6	
G_GSD_1G_7	41.8	1.1		33.74	0.6	
G_GSD_1G_8	40.3	1.1		32.55	0.72	
G_GSD_1G_9	39.7	1.2		33.15	0.65	
G_GSD_1G_10	38.3	1.1		31.86	0.83	
G_GSD_1G_11	38.89	0.99		32.18	0.73	
G_GSD_1G_12	37.9	1.1		30.89	0.68	
G_GSD_1G_13	39.9	1		33.03	0.89	
G_GSD_1G_14	39.72	0.98		32.55	0.58	
G_GSD_1G_15	40.69	0.96		32.92	0.71	
G_GSD_1G_16	39.9	1.2		31.91	0.65	
G_GSD_1G_17	40.8	1.5		33.29	0.67	
G_GSD_1G_18	38.5	1.1		31.93	0.83	
G_GSD_1G_19	39.7	1		32.48	0.79	
G_GSD_1G_20	39.2	1.2		31.92	0.93	
G_GSD_1G_21	40.4	1.1		33.44	0.81	
G_GSD_1G_22	39.5	1.2		31.87	0.77	
G_GSD_1G_23	40.1	1		32.73	0.86	
G_GSD_1G_24	39.97	0.99		31.85	0.88	

Sample Number	Ta_ppm_m181	Ta_ppm_m181_Int2SE	Ta_ppm_m181_LOD	W_ppm_m182	W_ppm_m182_Int2SE	W_ppm_m182_LOD
G_GSD_1G_1	35.06	0.45		37.75	0.43	
G_GSD_1G_2	36.28	0.51		38.39	0.41	0.0083
G_GSD_1G_3	36.86	0.44		39.35	0.51	
G_GSD_1G_4	36.02	0.52		39.83	0.59	
G_GSD_1G_5	36.81	0.5		39.99	0.57	
G_GSD_1G_6	35.93	0.56		40.08	0.55	
G_GSD_1G_7	36.43	0.45		39.83	0.61	
G_GSD_1G_8	35.22	0.57		38.92	0.63	
G_GSD_1G_9	36.4	0.63		40.53	0.74	
G_GSD_1G_10	34.39	0.63		38.69	0.73	0.0071
G_GSD_1G_11	35.54	0.79		39.78	0.73	
G_GSD_1G_12	34.97	0.87		38.61	0.8	0.0072
G_GSD_1G_13	35.53	0.59		39.46	0.59	
G_GSD_1G_14	36.06	0.54		39.57	0.73	
G_GSD_1G_15	36.54	0.51		40.5	0.57	
G_GSD_1G_16	35.54	0.59		39.63	0.61	
G_GSD_1G_17	36.72	0.58		39.84	0.71	
G_GSD_1G_18	35.27	0.6		40.09	0.78	
G_GSD_1G_19	35.6	0.62		40.25	0.84	
G_GSD_1G_20	35.23	0.65		39.56	0.68	
G_GSD_1G_21	35.35	0.66		40.59	0.84	
G_GSD_1G_22	34.56	0.62		39.63	0.75	
G_GSD_1G_23	36.31	0.5		40.14	0.73	
G_GSD_1G_24	34.9	0.7		40.18	0.85	

Sample Number	Re_ppm_m185	Re_ppm_m185_Int2SE	Re_ppm_m185_LOD	Pt_ppm_m195	Pt_ppm_m195_Int2SE	Pt_ppm_m195_LOD
G_GSD_1G_1	4.77	0.13	0.01	4.8	0.16	
G_GSD_1G_2	4.99	0.13	0.012	4.78	0.12	
G_GSD_1G_3	5.15	0.13	0.0049	5.06	0.16	
G_GSD_1G_4	4.95	0.12	0.0092	5.05	0.21	
G_GSD_1G_5	5.06	0.13	0.0083	7.4	0.86	
G_GSD_1G_6	5.13	0.14	0.0065	5.39	0.19	
G_GSD_1G_7	5.08	0.12	0.016	5.35	0.2	
G_GSD_1G_8	4.93	0.13	0.014	4.99	0.18	
G_GSD_1G_9	5.12	0.13	0.014	5.66	0.43	
G_GSD_1G_10	4.99	0.11	0.0085	5.11	0.18	
G_GSD_1G_11	5.16	0.14	0.009	4.95	0.19	0.012
G_GSD_1G_12	5.1	0.16	0.0076	5.9	0.28	0.0081
G_GSD_1G_13	5.04	0.15	0.012	5.18	0.17	
G_GSD_1G_14	5.04	0.13	0.012	4.99	0.19	
G_GSD_1G_15	5.05	0.11	0.013	5.01	0.22	
G_GSD_1G_16	4.95	0.15	0.0097	5.19	0.19	
G_GSD_1G_17	4.96	0.11	0.0049	4.98	0.15	
G_GSD_1G_18	5.07	0.15	0.0097	7.1	1.2	0.0084
G_GSD_1G_19	5.05	0.15	0.0067	7.8	1.2	
G_GSD_1G_20	5	0.14	0.0065	4.99	0.21	
G_GSD_1G_21	4.93	0.15	0.0093	5.19	0.23	
G_GSD_1G_22	4.98	0.15	0.0065	5.14	0.21	0.0087
G_GSD_1G_23	5.04	0.12	0.015	9.1	1.7	
G_GSD_1G_24	5.07	0.15	0.008	5.36	0.52	

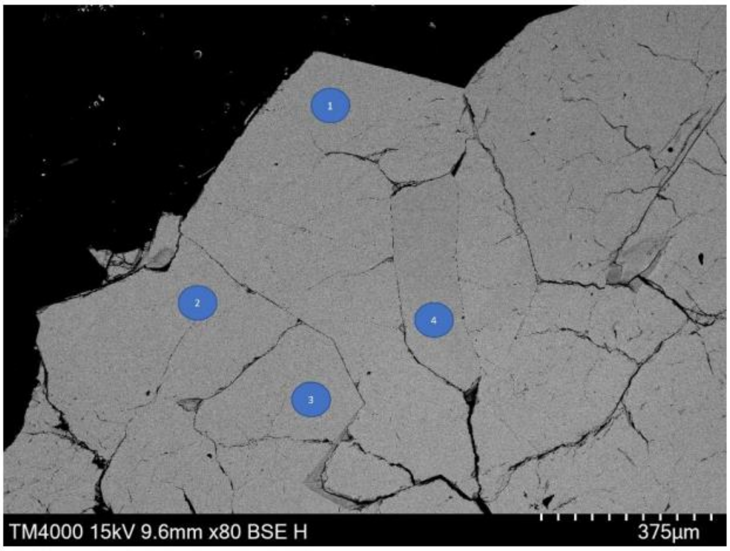
Sample Number	Au_ppm_m197	Au_ppm_m197_Int2SE	Au_ppm_m197_LOD	Tl_ppm_m205	Tl_ppm_m205_Int2SE	Tl_ppm_m205_LOD
G_GSD_1G_1	3.9	0.12		0.977	0.043	0.069
G_GSD_1G_2	3.87	0.12	0.006	0.879	0.044	0.046
G_GSD_1G_3	4.05	0.1		0.973	0.038	0.017
G_GSD_1G_4	4.07	0.13	0.0056	0.963	0.045	0.015
G_GSD_1G_5	4	0.13		1.012	0.045	0.011
G_GSD_1G_6	4.28	0.13		0.987	0.037	0.013
G_GSD_1G_7	4.12	0.12		1.037	0.035	0.011
G_GSD_1G_8	4.16	0.12		1.005	0.041	0.014
G_GSD_1G_9	4.17	0.14	0.0058	1.036	0.04	0.011
G_GSD_1G_10	3.98	0.13		1.012	0.04	0.012
G_GSD_1G_11	4.09	0.14		1.011	0.045	0.014
G_GSD_1G_12	4	0.12	0.0054	1.013	0.041	0.014
G_GSD_1G_13	3.85	0.13		1.008	0.041	0.012
G_GSD_1G_14	4.15	0.12		1.013	0.037	0.011
G_GSD_1G_15	4.01	0.13		0.993	0.041	0.013
G_GSD_1G_16	4.11	0.13		0.966	0.039	0.0074
G_GSD_1G_17	4	0.12		0.976	0.038	0.01
G_GSD_1G_18	4.11	0.15		0.967	0.039	0.012
G_GSD_1G_19	3.96	0.14		1.016	0.038	0.013
G_GSD_1G_20	4.05	0.12		0.915	0.047	0.013
G_GSD_1G_21	4.21	0.14		0.986	0.046	0.02
G_GSD_1G_22	4.03	0.18		0.949	0.038	0.014
G_GSD_1G_23	4.18	0.14		1.004	0.035	0.01
G_GSD_1G_24	4.01	0.15		1	0.045	0.0095

Sample Number	Pb_ppm_m206	Pb_ppm_m206_Int2SE	Pb_ppm_m206_LOD	Pb_ppm_m207	Pb_ppm_m207_Int2SE	Pb_ppm_m207_LOD
G_GSD_1G_1	50.85	0.59	0.094	44.67	0.73	0.075
G_GSD_1G_2	51.51	0.65	0.067	45.81	0.53	0.062
G_GSD_1G_3	52.6	0.66	0.027	46.31	0.75	0.039
G_GSD_1G_4	52.35	0.73	0.12	46.38	0.57	0.049
G_GSD_1G_5	53.76	0.82	0.017	47.34	0.78	0.0088
G_GSD_1G_6	53.35	0.89	0.018	47.71	0.78	0.018
G_GSD_1G_7	54.17	0.97	0.0077	47.52	0.79	0.018
G_GSD_1G_8	52.5	1.2	0.013	46.46	0.72	0.0083
G_GSD_1G_9	52.4	1	0.016	47.14	0.79	0.0086
G_GSD_1G_10	52.3	1.1	0.014	46.9	1.1	0.017
G_GSD_1G_11	53.24	0.88		47.3	1.1	0.0084
G_GSD_1G_12	52.63	0.94	0.012	46.83	0.98	0.03
G_GSD_1G_13	52.5	1.1	0.01	46.8	1.1	0.018
G_GSD_1G_14	53	0.78	0.016	46.84	0.81	0.0083
G_GSD_1G_15	52.71	0.81	0.011	46.72	0.77	0.017
G_GSD_1G_16	52.1	1	0.017	45.55	0.79	0.019
G_GSD_1G_17	52.73	0.76	0.013	47.79	0.84	0.0087
G_GSD_1G_18	53.2	1.2	0.0073	47	1	0.018
G_GSD_1G_19	53.97	0.98	0.016	47.37	0.95	0.012
G_GSD_1G_20	52.16	0.98	0.01	45.67	0.97	0.02
G_GSD_1G_21	53.2	1	0.011	46.9	1	0.015
G_GSD_1G_22	52.1	1.1	0.01	46.4	1.1	0.0083
G_GSD_1G_23	53.33	0.88	0.019	47.54	0.81	0.0087
G_GSD_1G_24	52.7	1.1	0.0075	46.76	0.87	0.012

Sample Number	Pb_ppm_m208	Pb_ppm_m208_Int2SE	Pb_ppm_m208_LOD	Bi_ppm_m209	Bi_ppm_m209_Int2SE	Bi_ppm_m209_LOD
G_GSD_1G_1	45.94	0.42	0.05	33.29	0.36	0.084
G_GSD_1G_2	46.89	0.39	0.041	33.82	0.27	0.079
G_GSD_1G_3	47.84	0.5	0.055	34.71	0.37	0.024
G_GSD_1G_4	47.74	0.65	0.015	35.03	0.44	0.024
G_GSD_1G_5	48.94	0.6	0.01	35.98	0.43	0.017
G_GSD_1G_6	48.9	0.66	0.012	36.06	0.57	0.019
G_GSD_1G_7	49.36	0.75	0.0086	36.32	0.57	0.018
G_GSD_1G_8	47.99	0.75	0.0072	35.42	0.55	0.018
G_GSD_1G_9	48.4	0.84	0.0091	36.62	0.63	0.012
G_GSD_1G_10	47.8	1.1	0.0055	35.81	0.55	0.018
G_GSD_1G_11	47.57	0.84	0.0058	35.87	0.66	0.011
G_GSD_1G_12	47.61	0.86	0.011	35.72	0.76	0.017
G_GSD_1G_13	47.92	0.93	0.0079	35.72	0.83	0.013
G_GSD_1G_14	48.13	0.69	0.0079	35.65	0.53	0.013
G_GSD_1G_15	47.93	0.64	0.011	35.69	0.55	0.014
G_GSD_1G_16	47.93	0.76	0.011	35.72	0.68	0.014
G_GSD_1G_17	48.68	0.85	0.0076	35.91	0.48	0.01
G_GSD_1G_18	48.5	0.89	0.0065	35.7	0.7	0.012
G_GSD_1G_19	48.39	0.88	0.0099	35.66	0.64	0.009
G_GSD_1G_20	48.26	0.96	0.0078	34.64	0.64	0.015
G_GSD_1G_21	48.26	0.84	0.01	35.81	0.53	0.0091
G_GSD_1G_22	48.16	0.86	0.0065	35.38	0.68	0.017
G_GSD_1G_23	48.68	0.81	0.0082	35.8	0.72	0.0097
G_GSD_1G_24	48.21	0.89	0.0058	35.5	0.59	0.014

Appendix C


4331855
M1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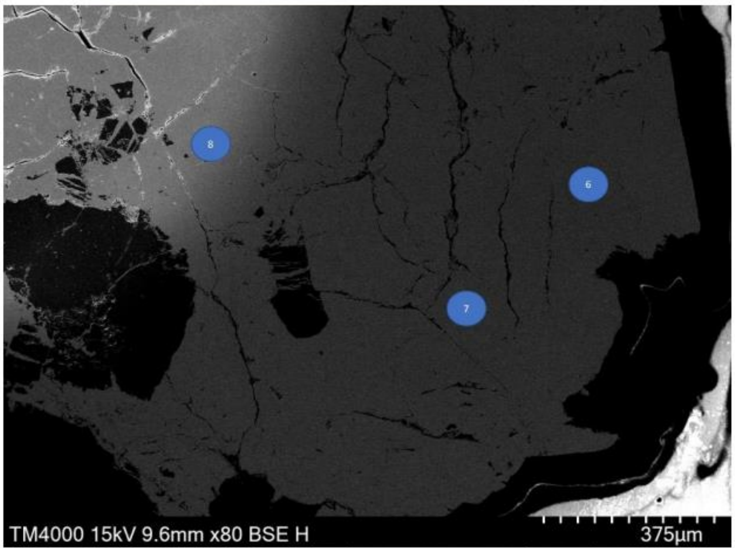
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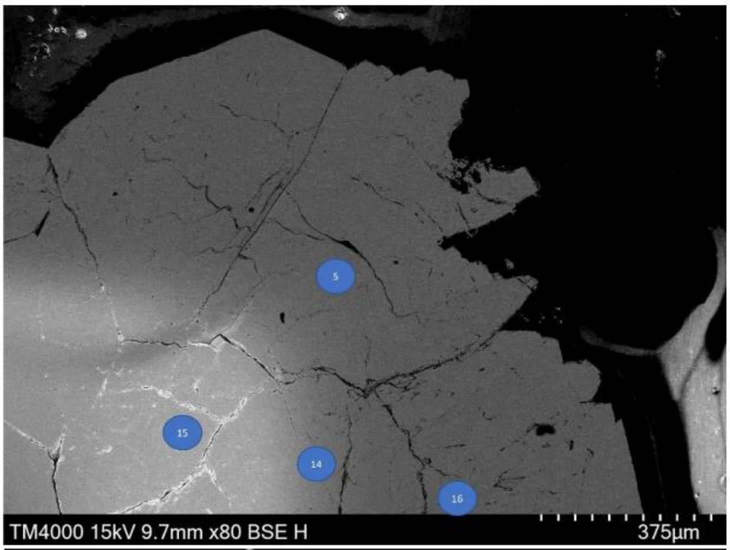
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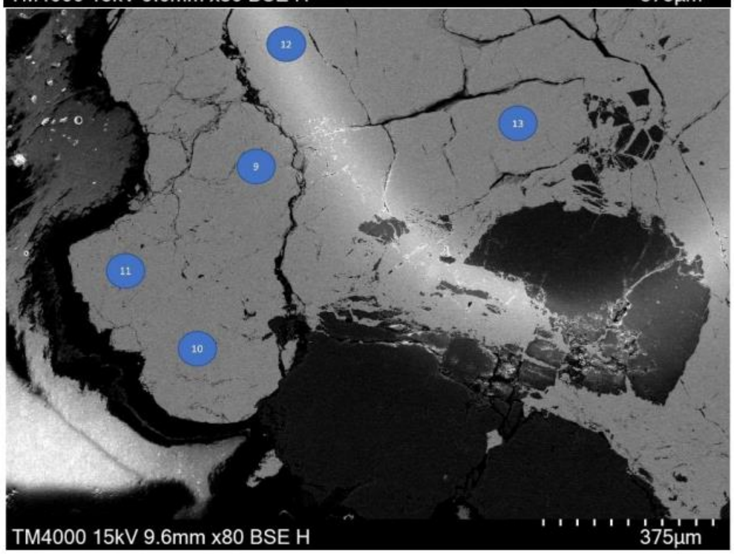
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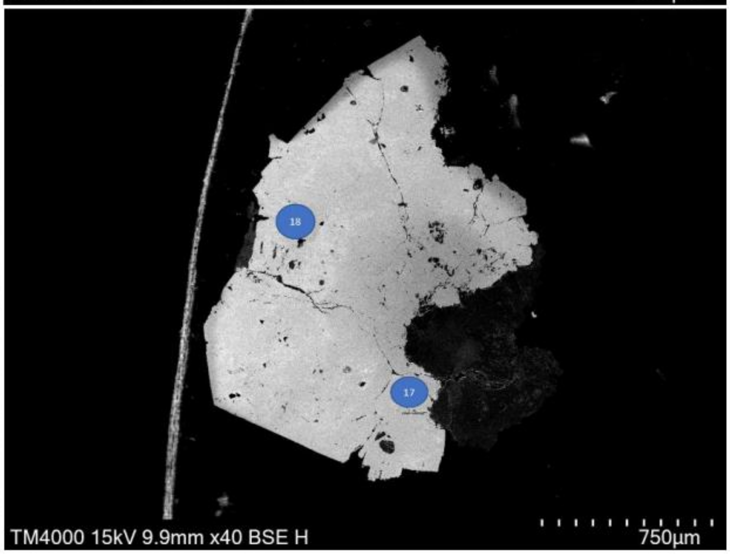
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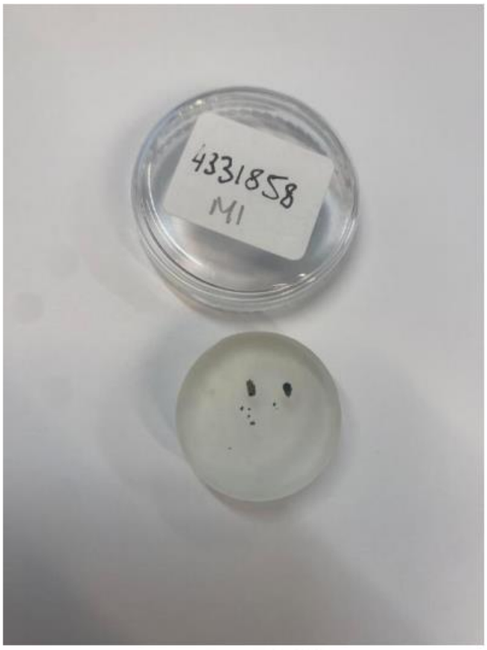
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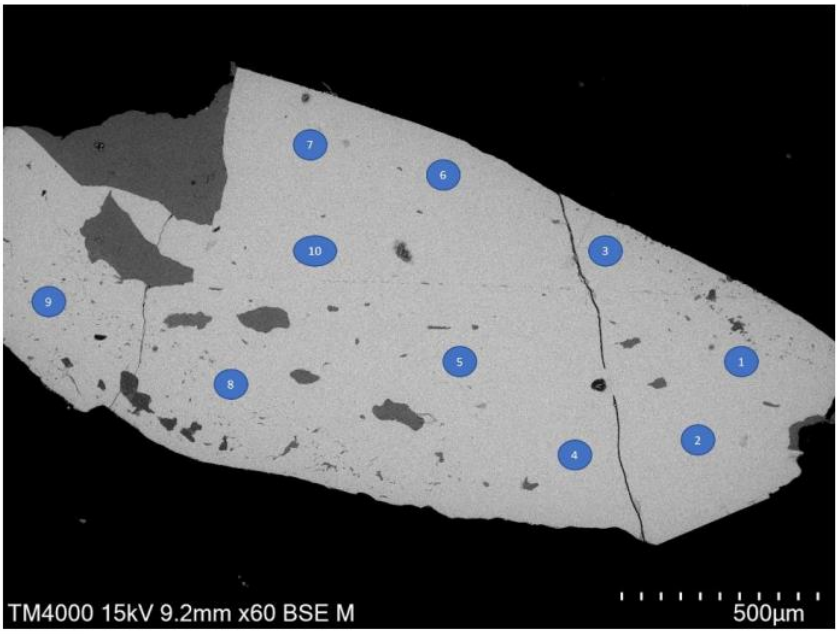
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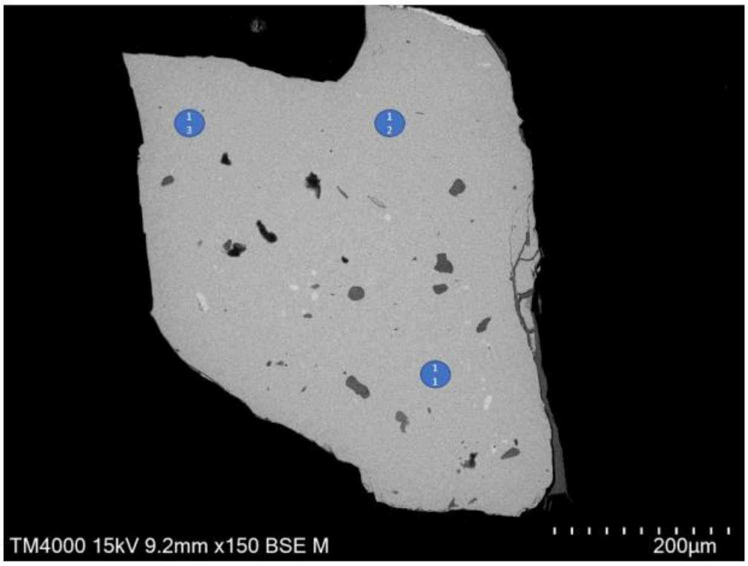
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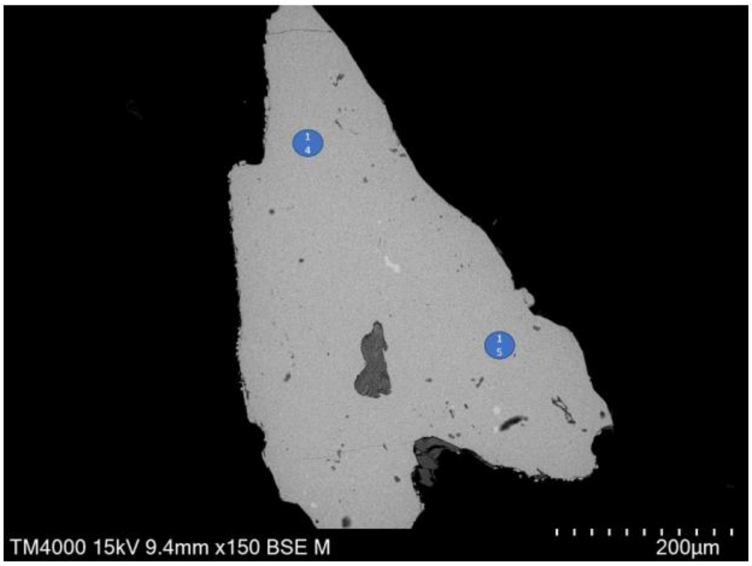
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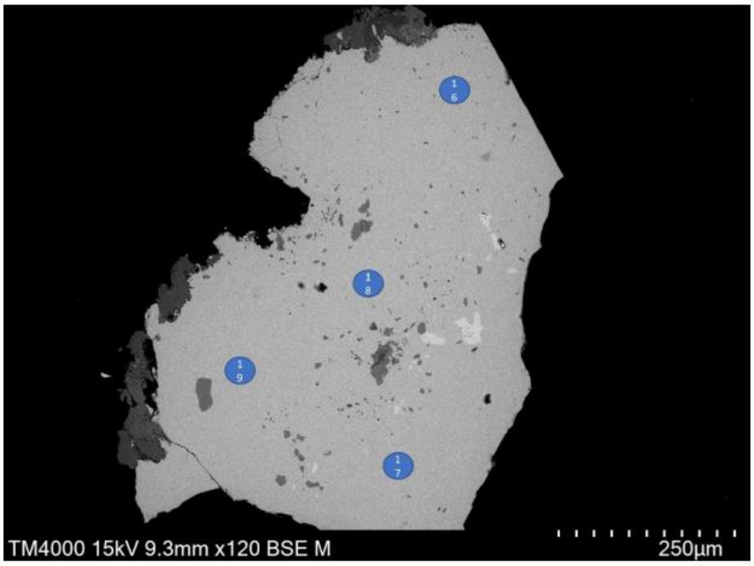
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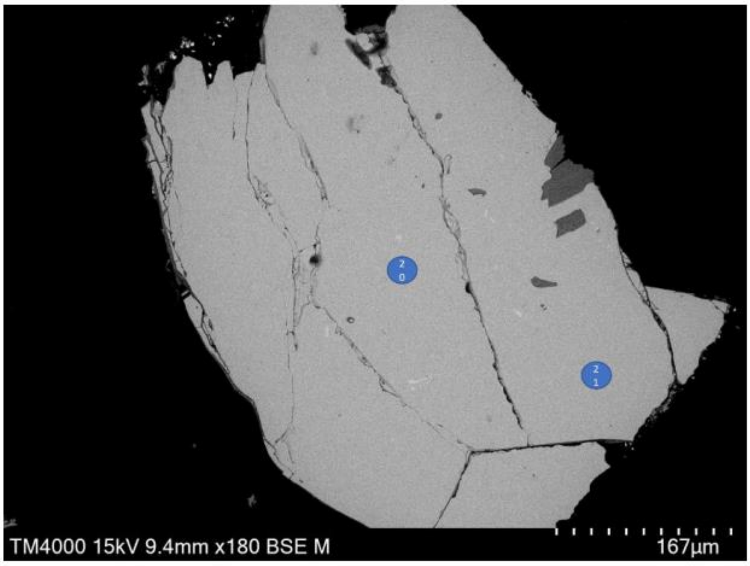
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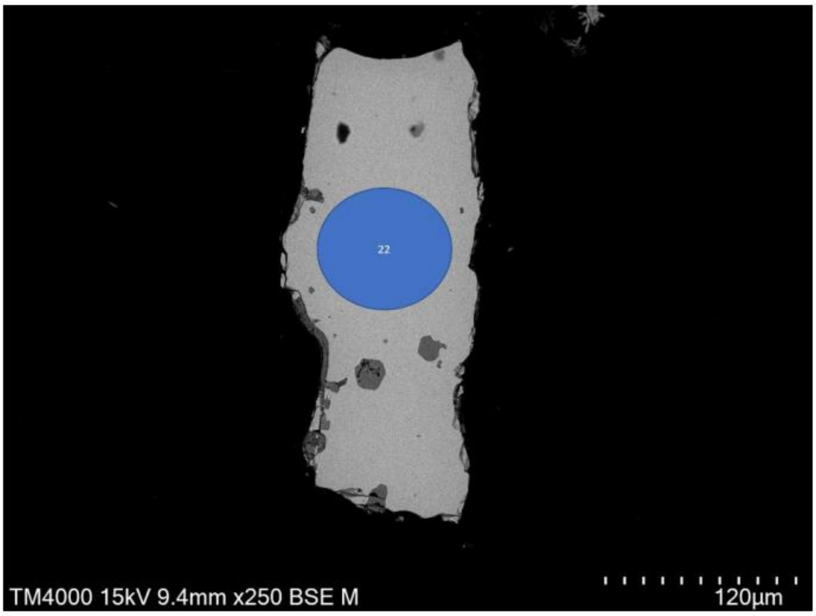
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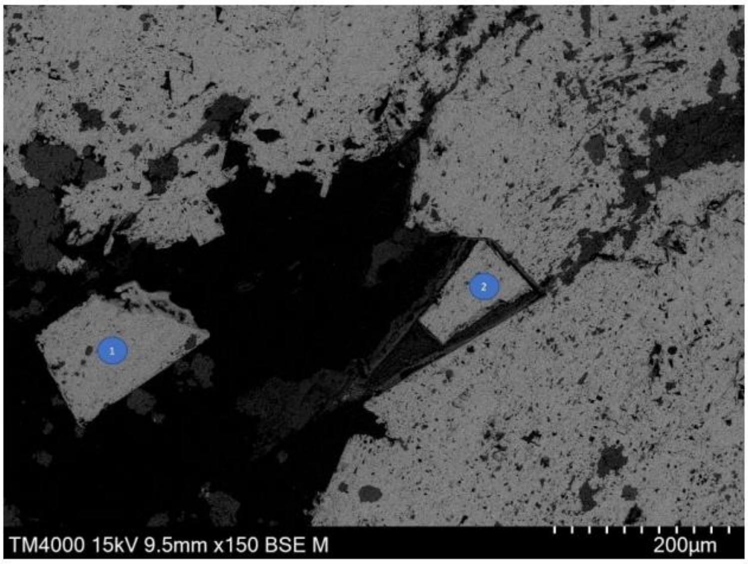
4331859
MZ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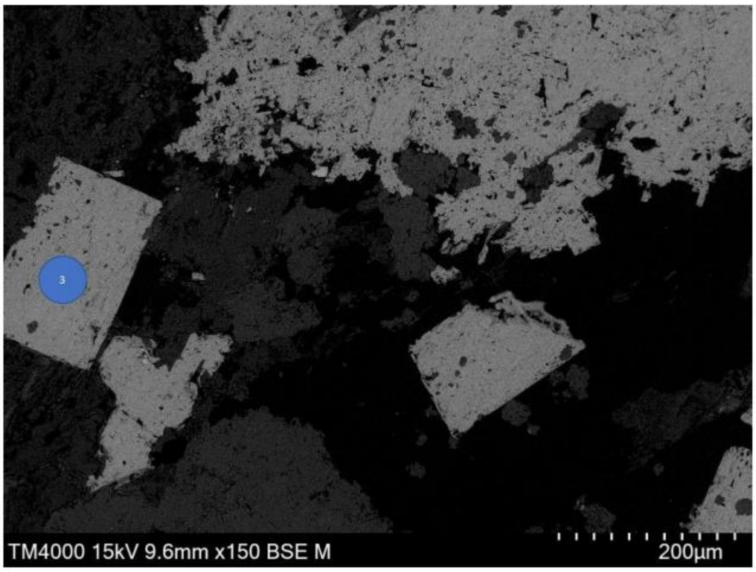
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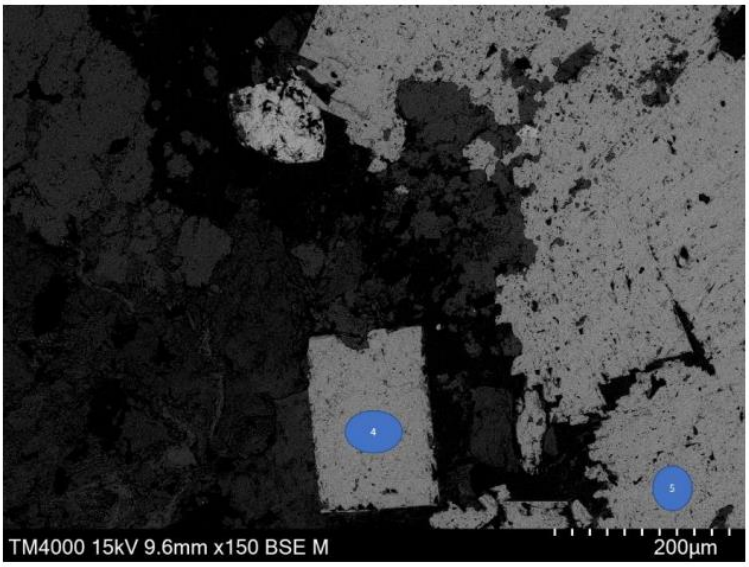
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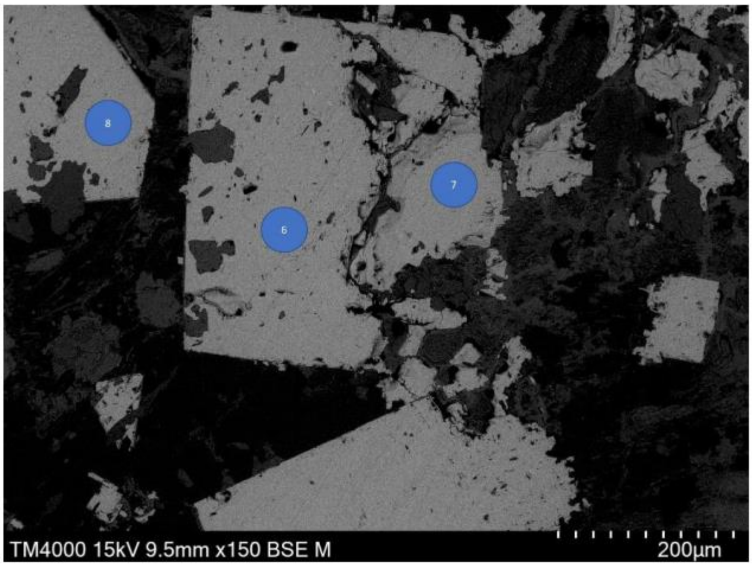
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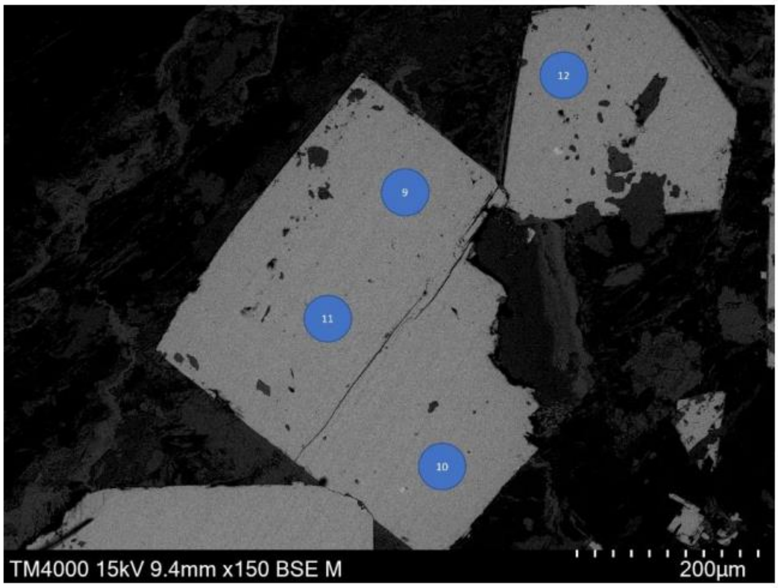
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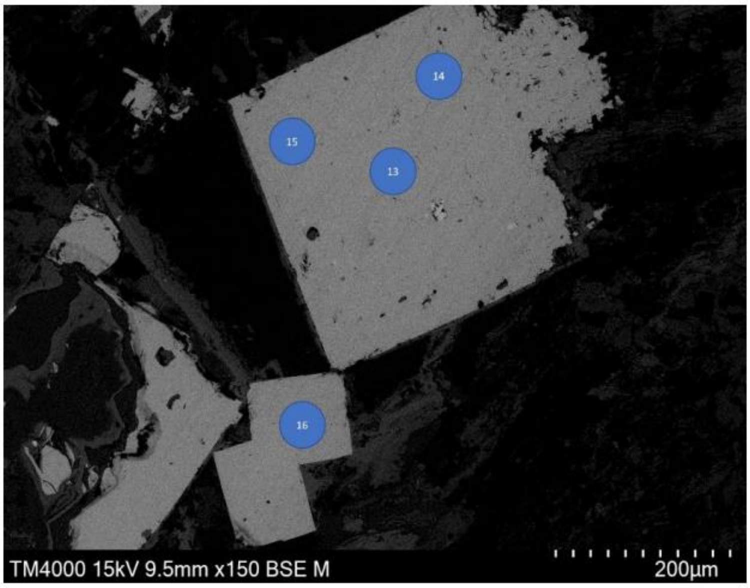
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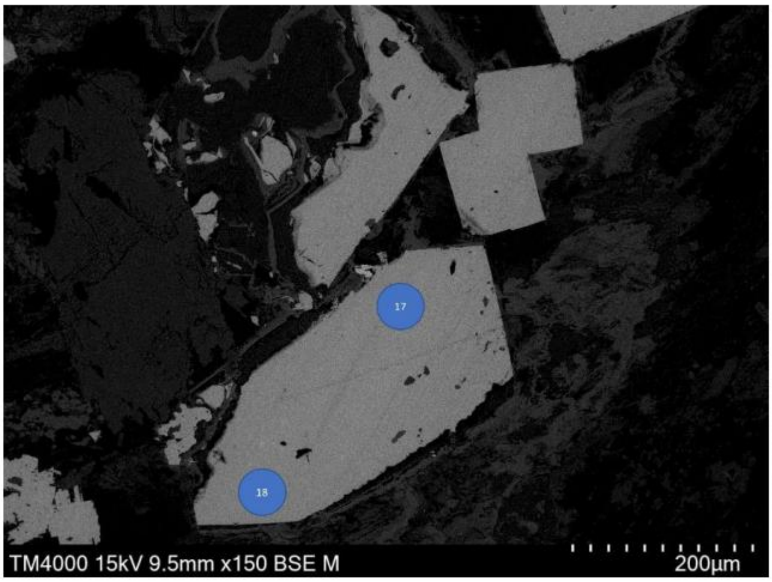
200µm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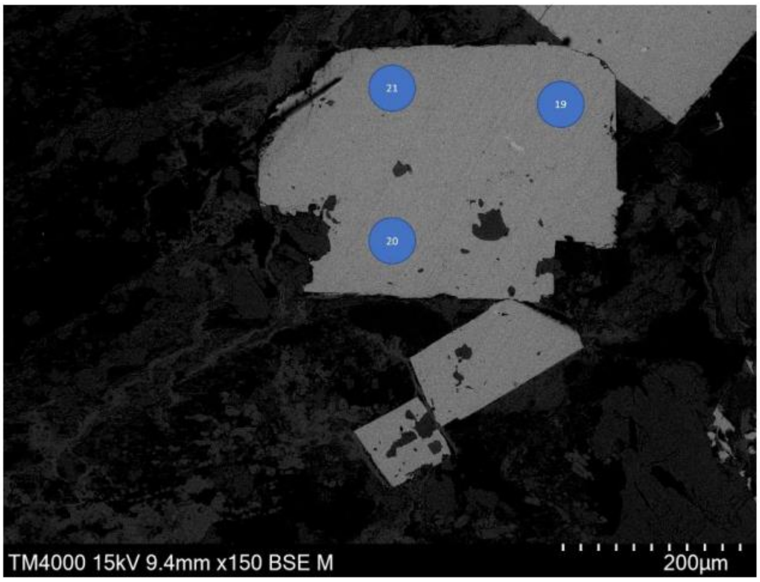
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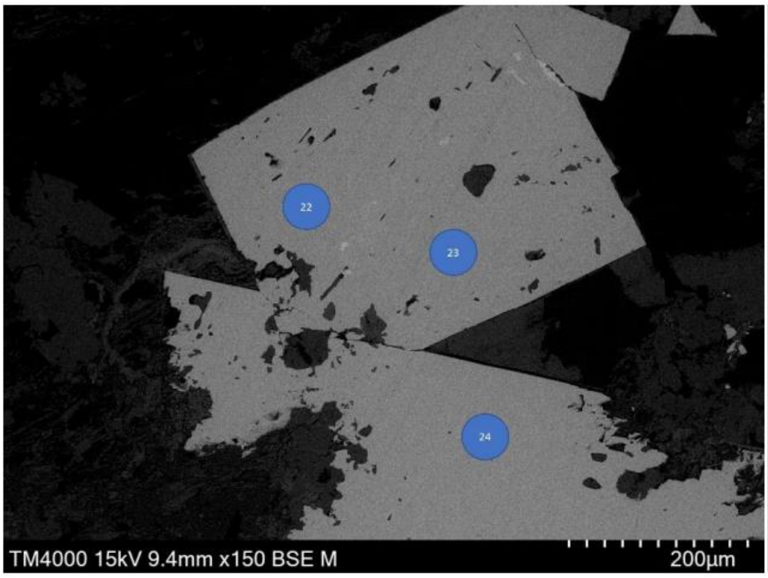
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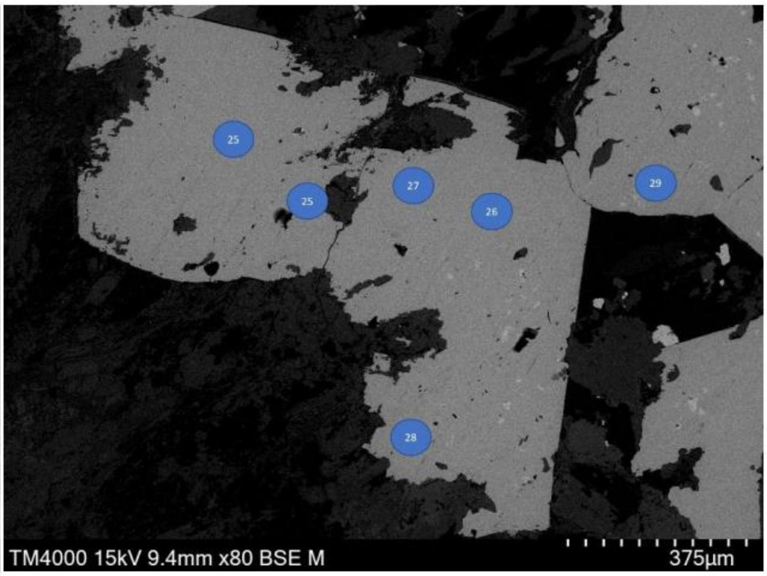
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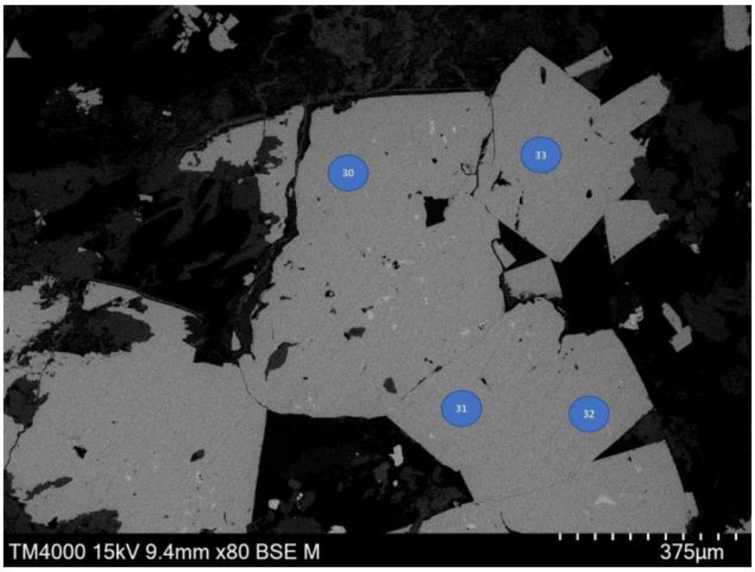
375µm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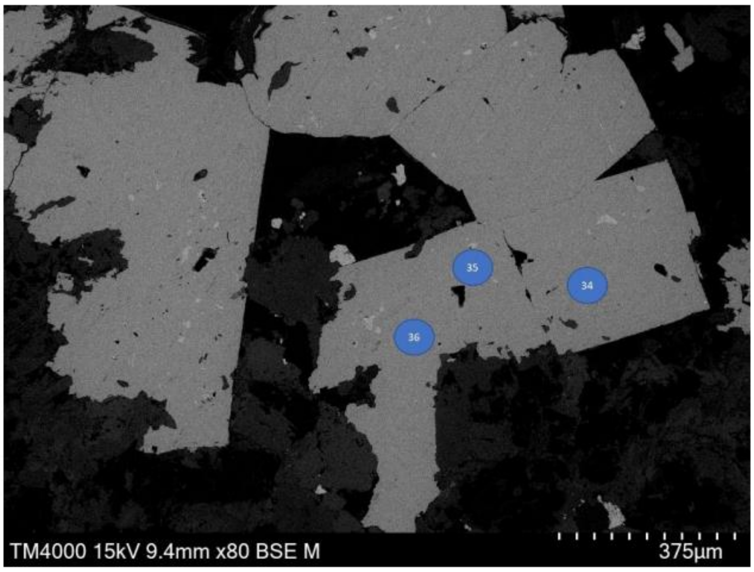
375μm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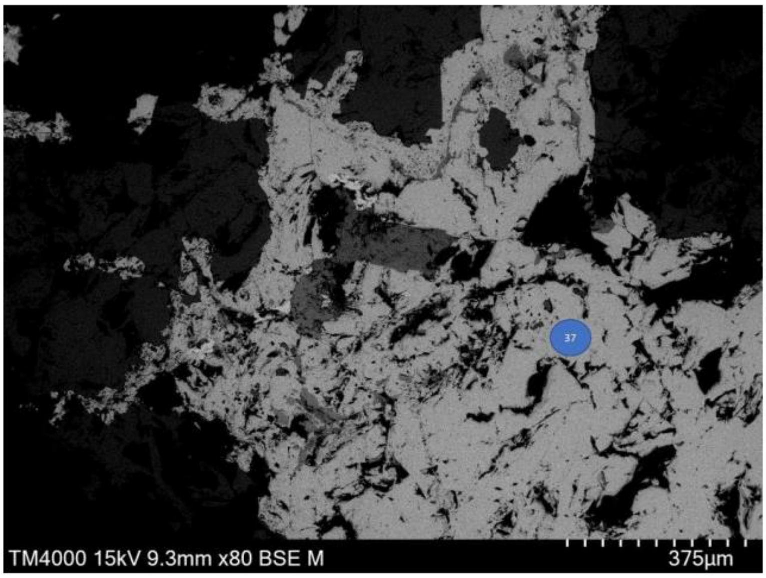
TM4000 15kV 9.4mm x80 BSE M
375μm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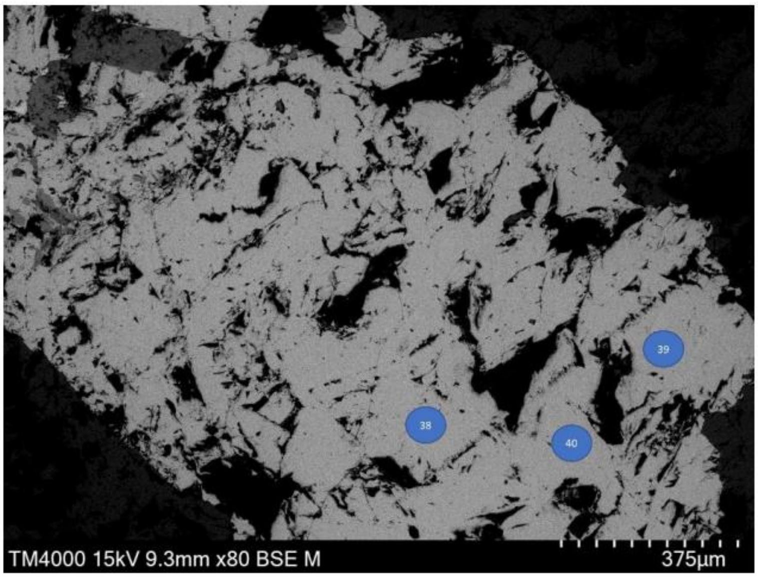
TM4000 15kV 9.3mm x80 BSE M
375μm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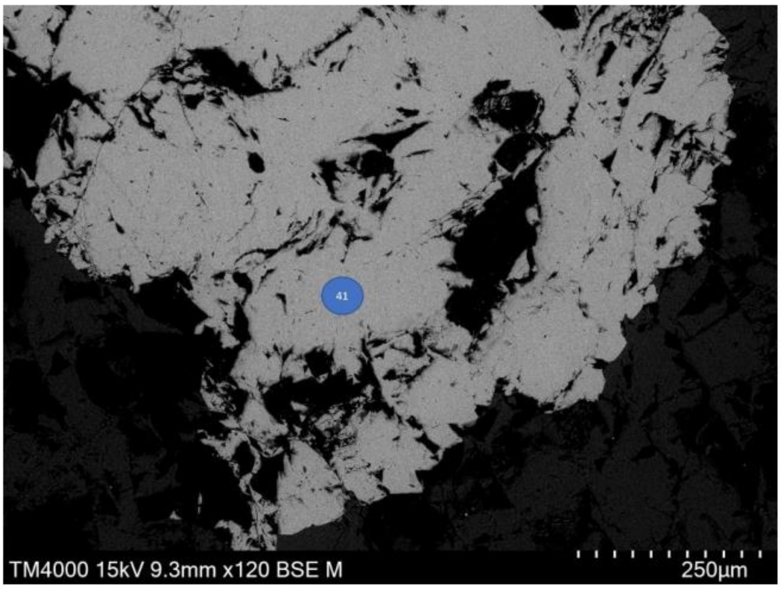
375μm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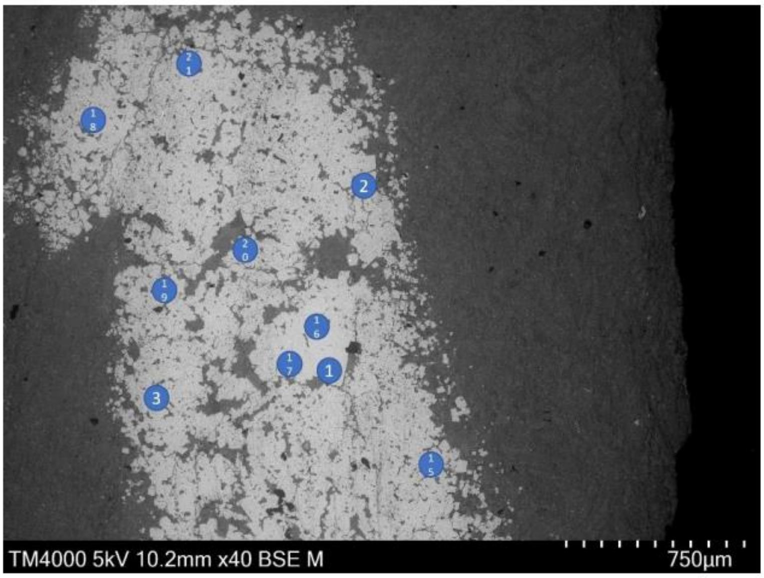
250μm


4331854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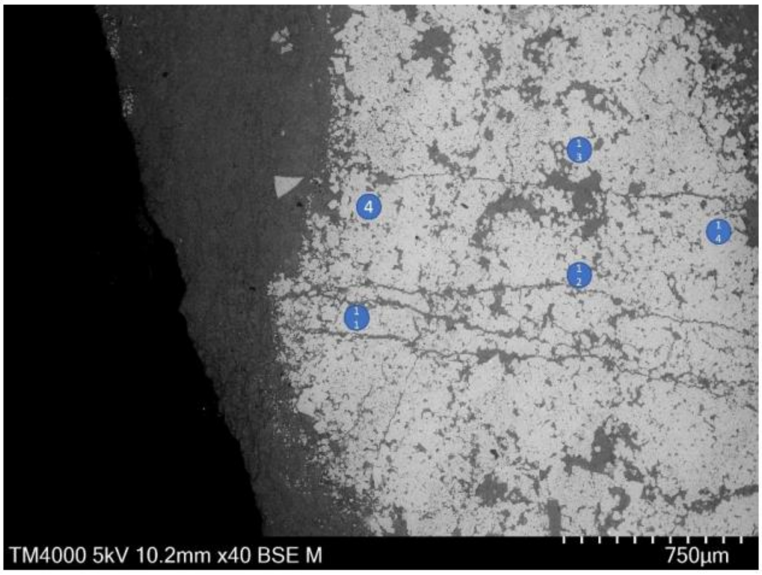
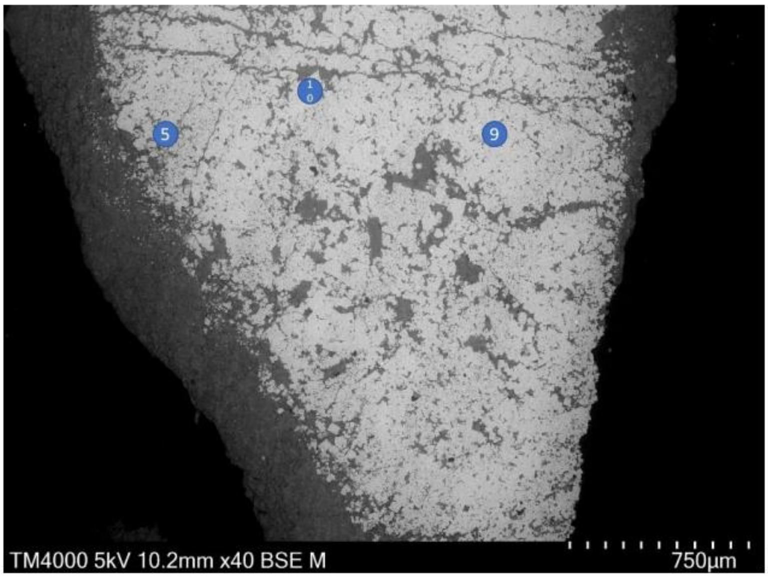
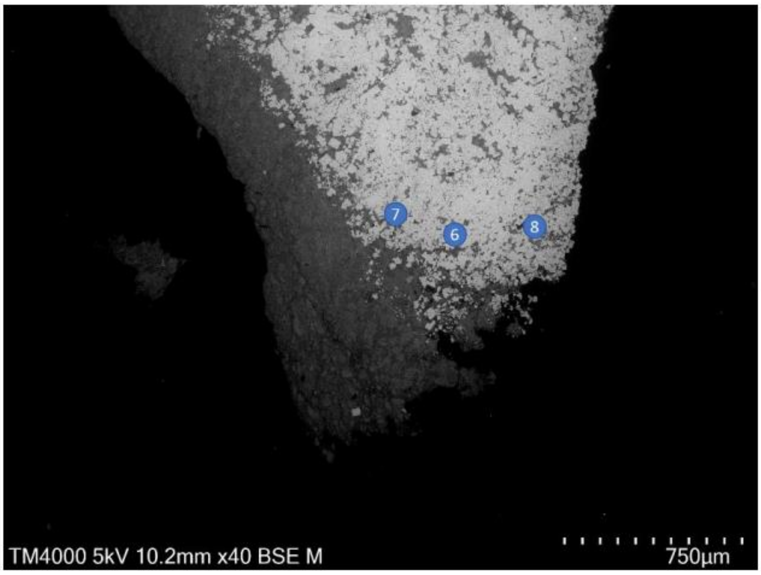
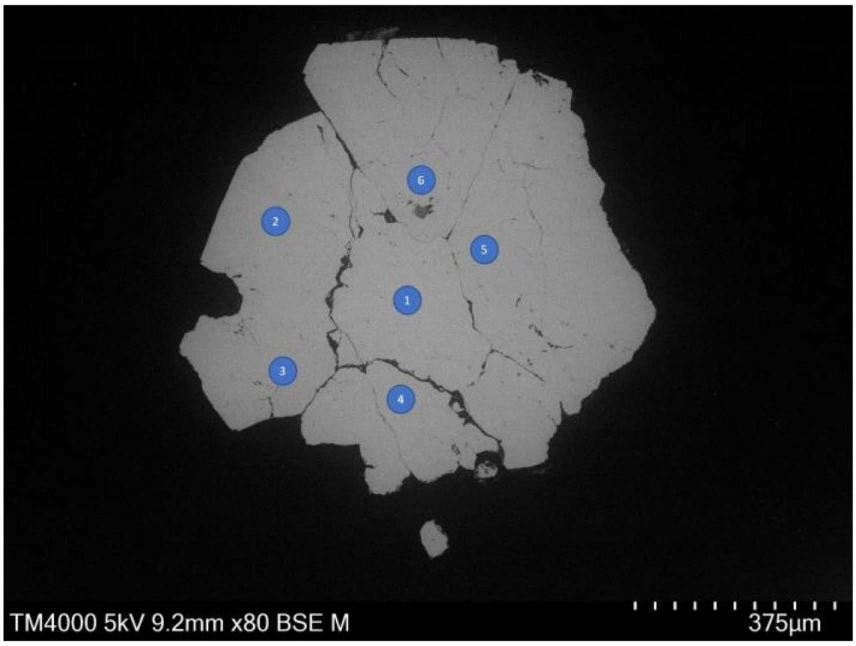
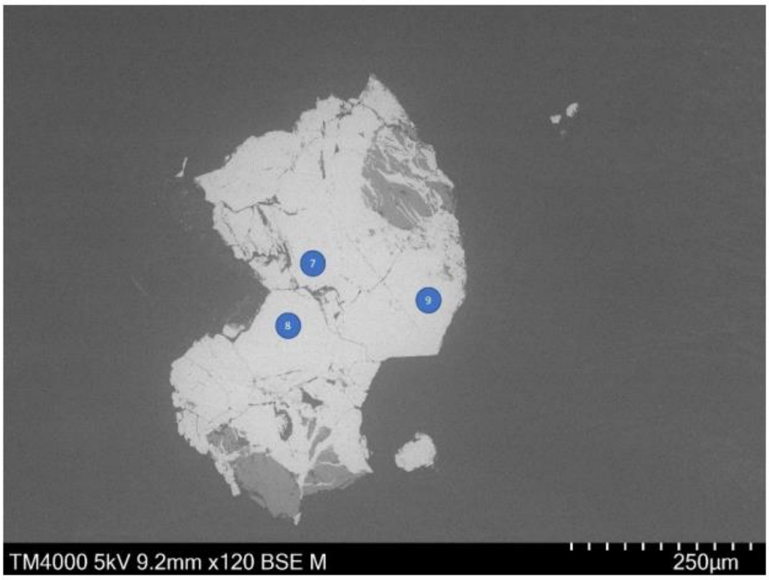

TM4000 5kV 10.2mm x40 BSE M
750µm

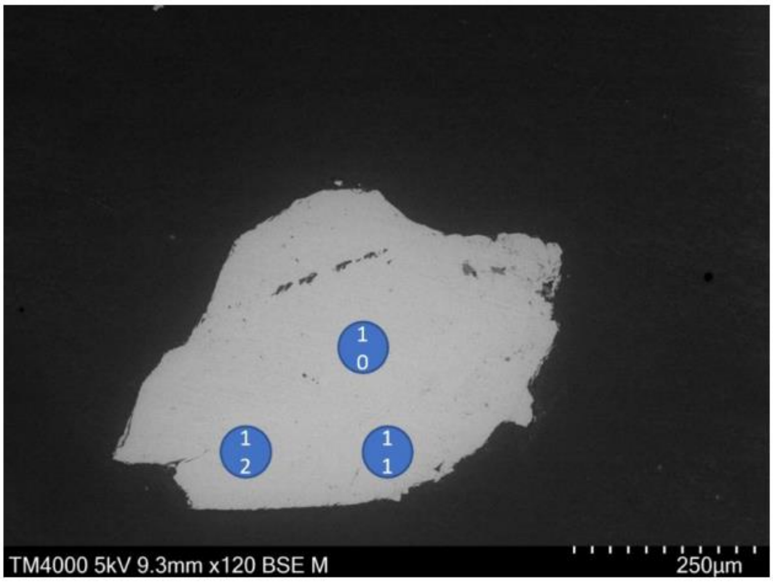

TM4000 5kV 10.2mm x40 BSE M
750µm

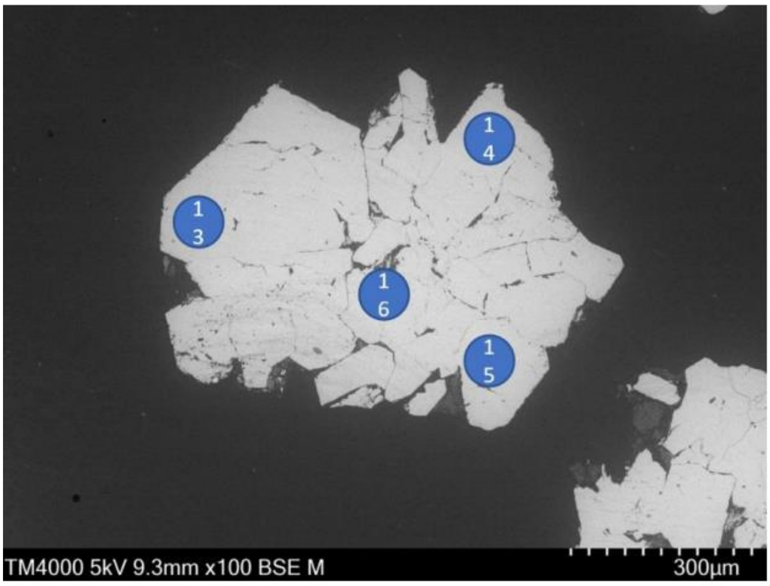

TM4000 5kV 10.2mm x40 BSE M
750µm

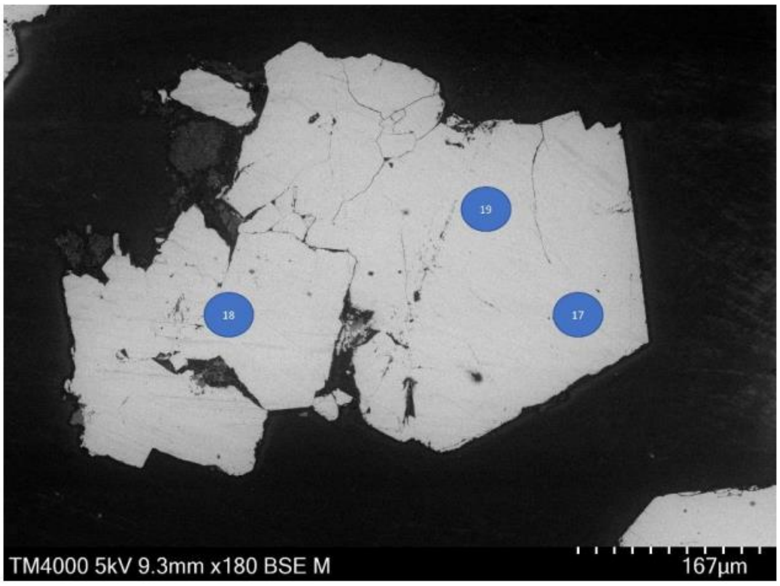

4331855
M2

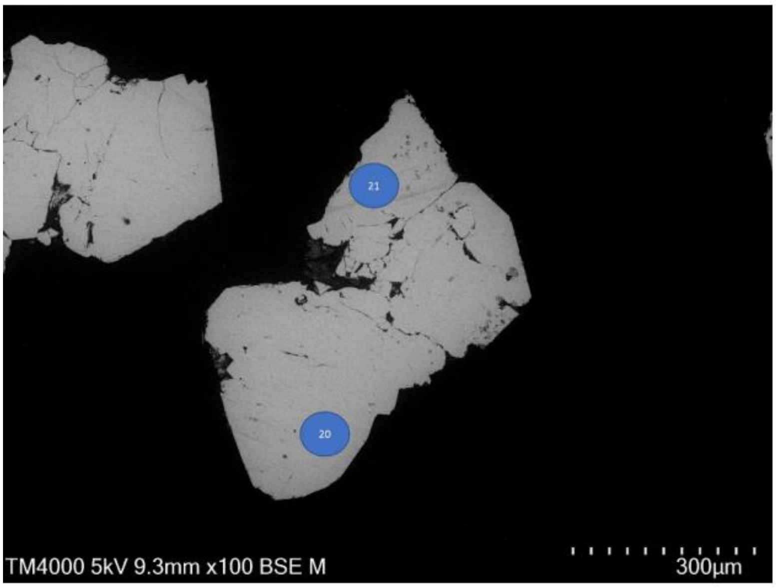

TM4000 5kV 9.2mm x80 BSE M
375µm

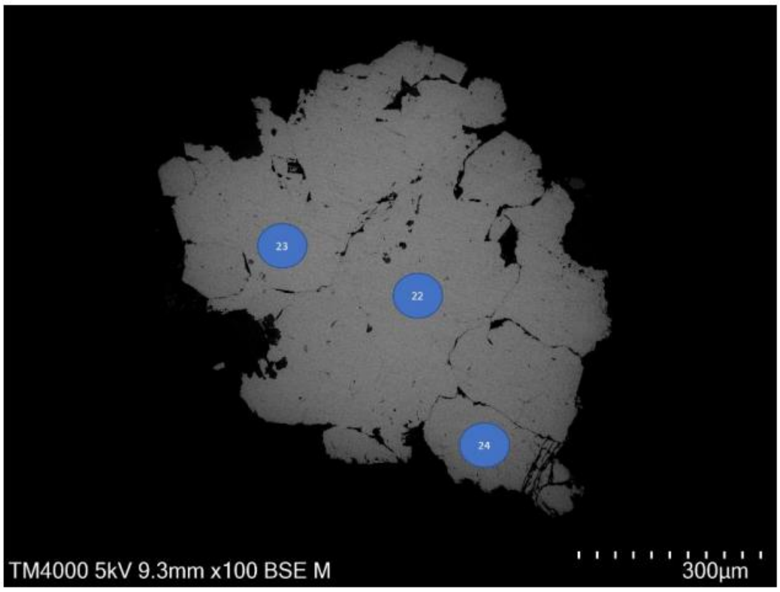

7
8
9
TM4000 5kV 9.2mm x120 BSE M
250µm

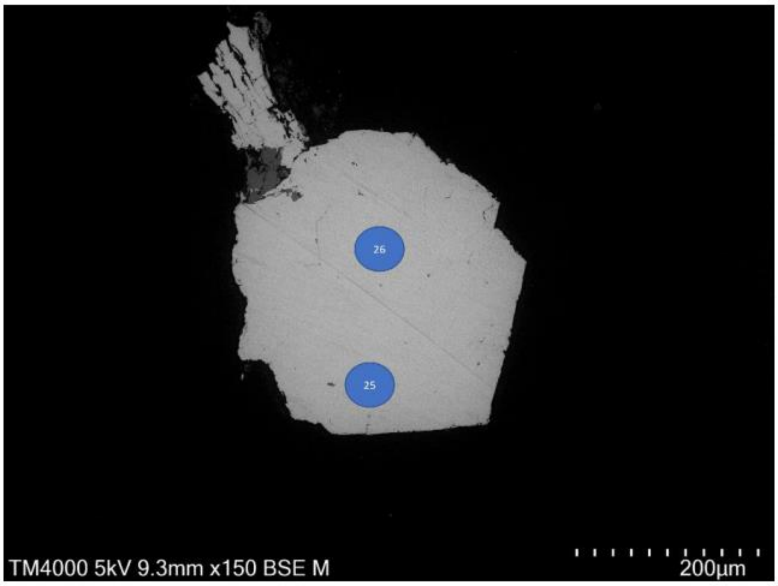

10
11
12
TM4000 5kV 9.3mm x120 BSE M
250µm

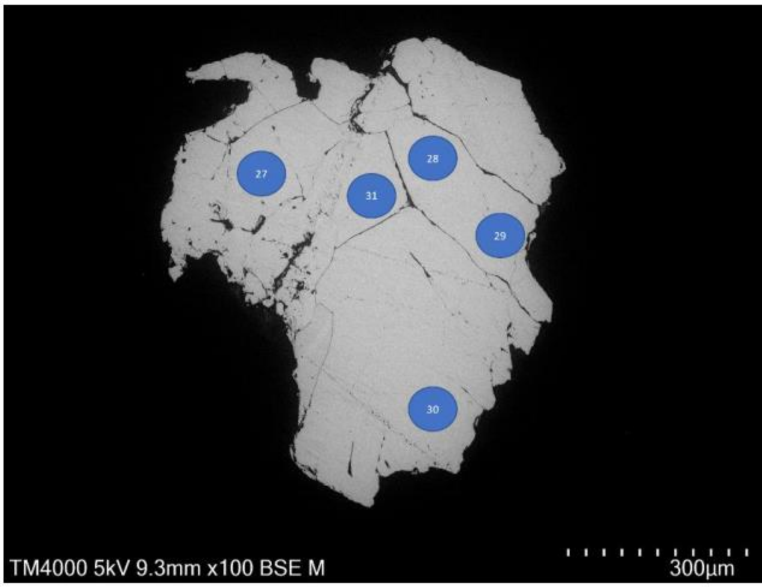

13
14
15
16
TM4000 5kV 9.3mm x100 BSE M
300µm

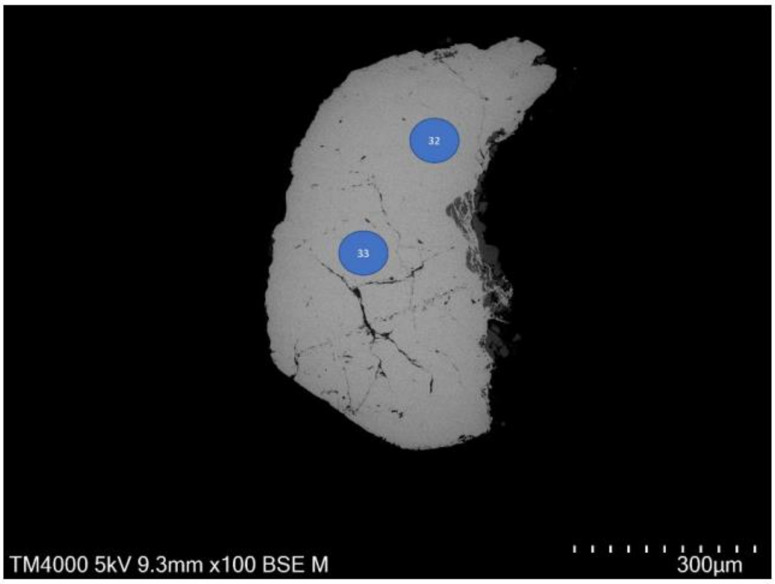

17
18
19
TM4000 5kV 9.3mm x180 BSE M
167µm

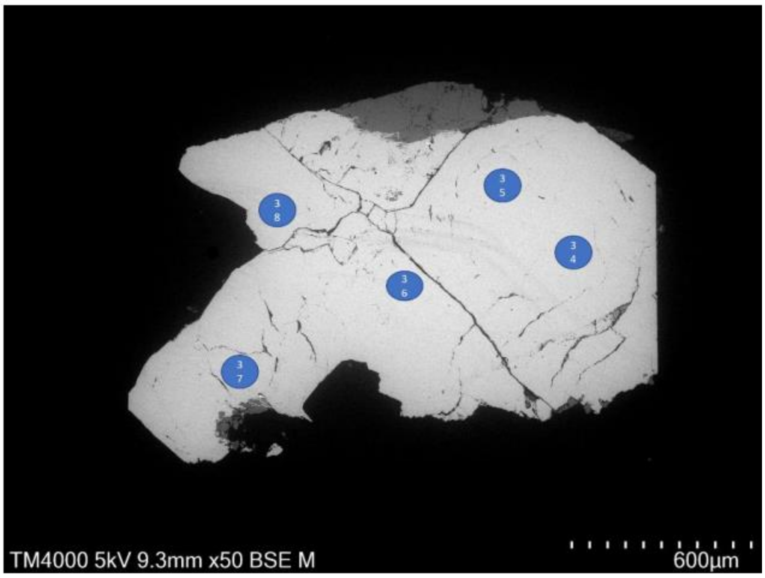

20
21
TM4000 5kV 9.3mm x100 BSE M
300µm


22
23
24
TM4000 5kV 9.3mm x100 BSE M
300µm


26
25
TM4000 5kV 9.3mm x150 BSE M
200µm


27
28
31
29
30
TM4000 5kV 9.3mm x100 BSE M
300µm


32
33
TM4000 5kV 9.3mm x100 BSE M
300µm


35
38
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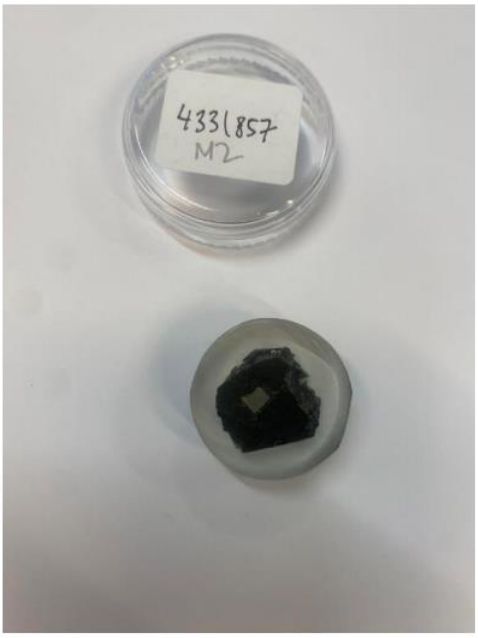
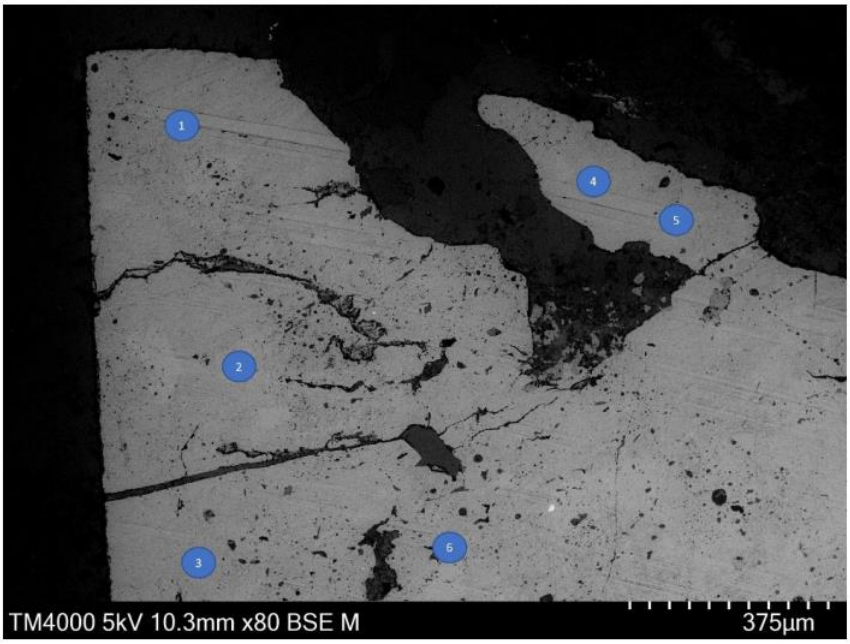
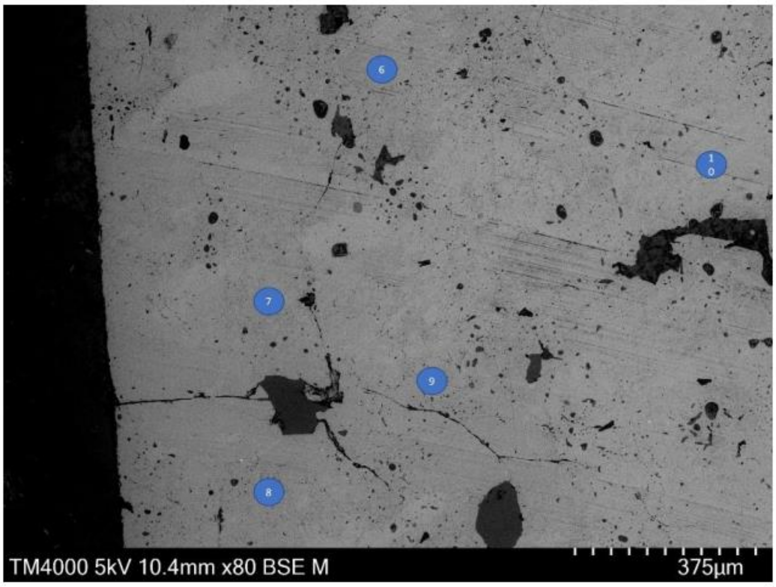
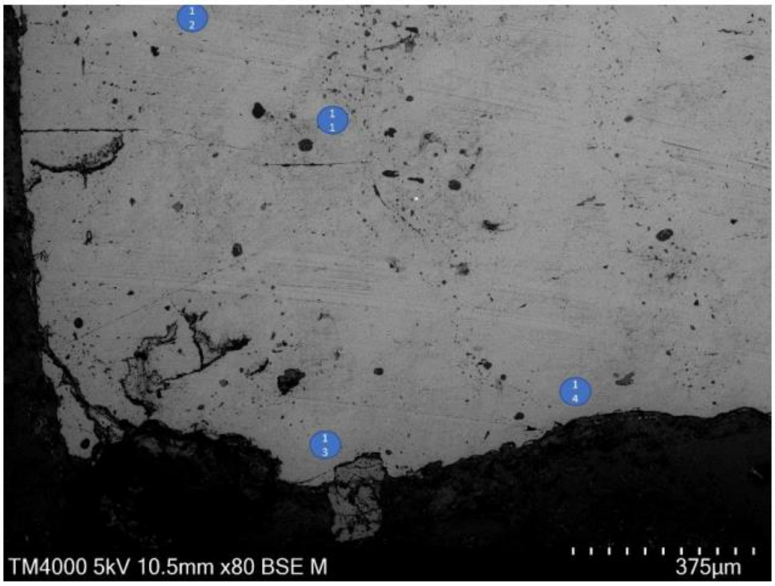
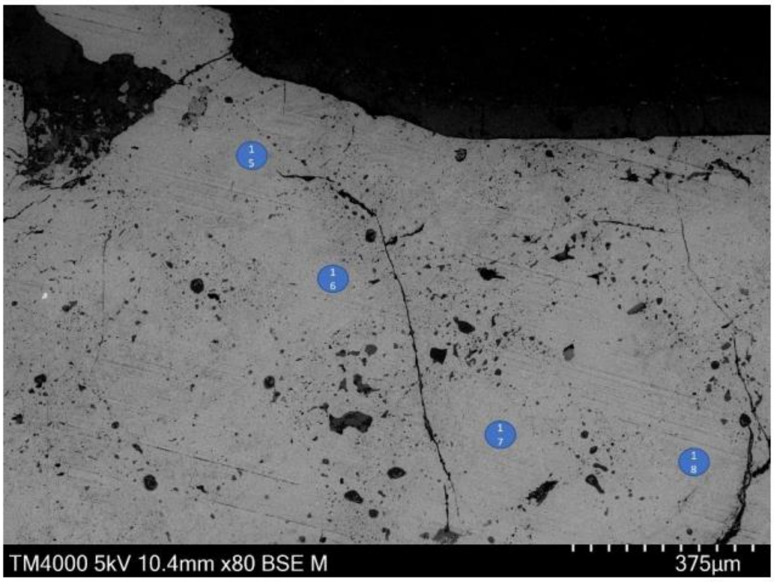
36
37
TM4000 5kV 9.3mm x50 BSE M
600µm

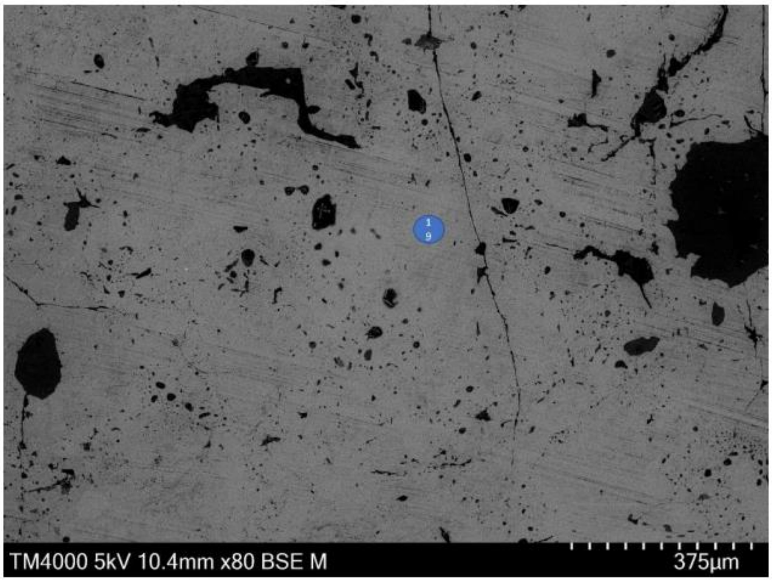

4331857
M2


1
4
5
2
6
3
TM4000 5kV 10.3mm x80 BSE M
375µm


6
10
7
9
8
TM4000 5kV 10.4mm x80 BSE M
375µm


12
11
14
13
TM4000 5kV 10.5mm x80 BSE M
375µm


15
16
17
18
TM4000 5kV 10.4mm x80 BSE M
375µm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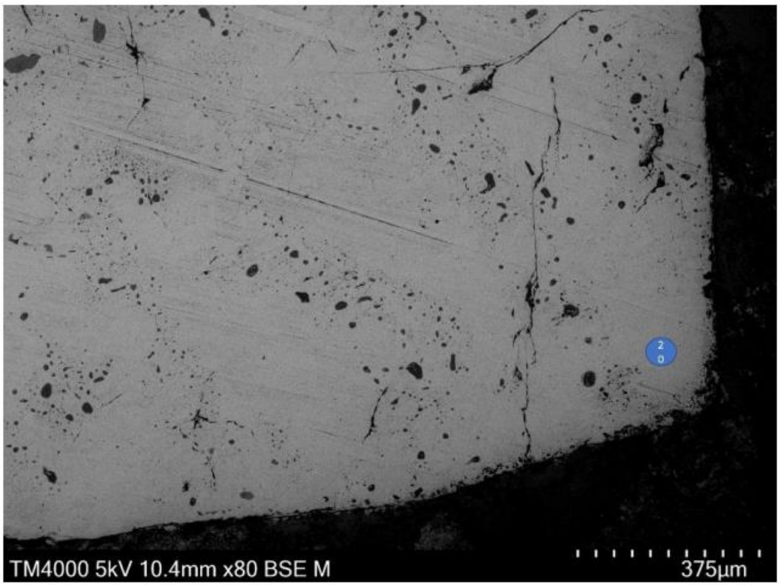
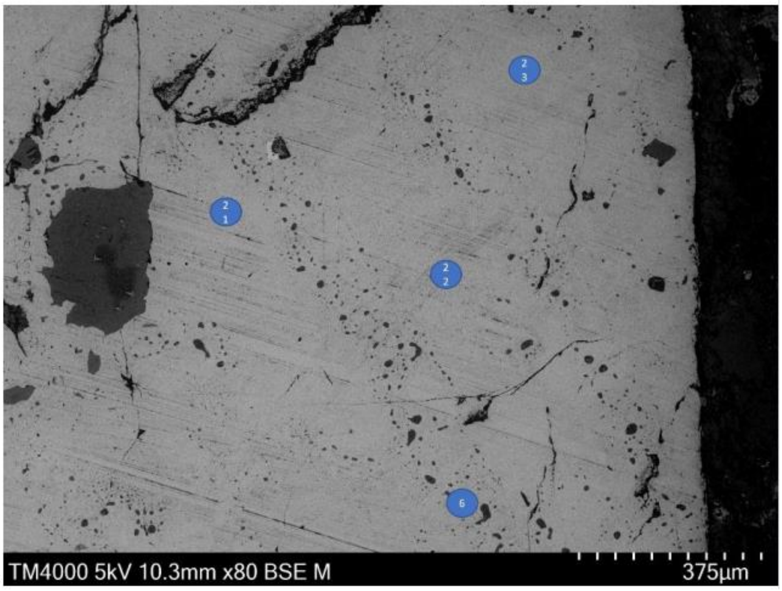
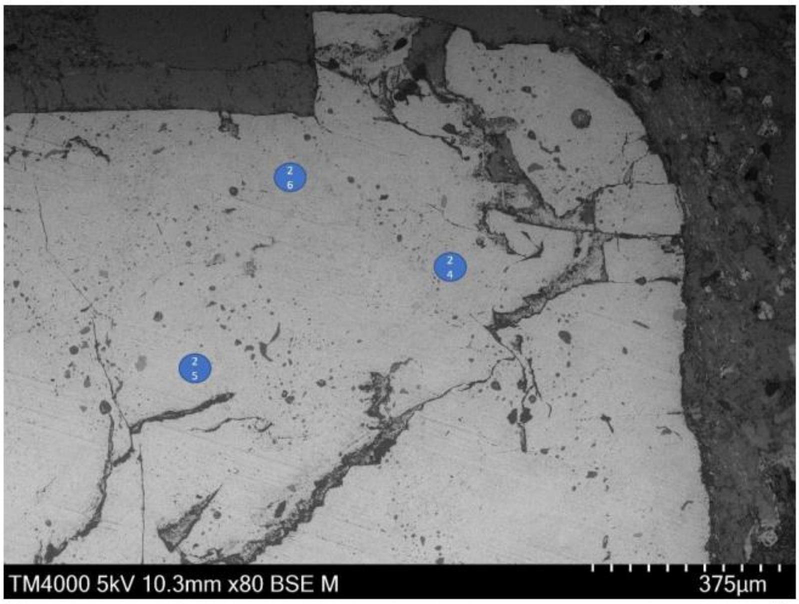
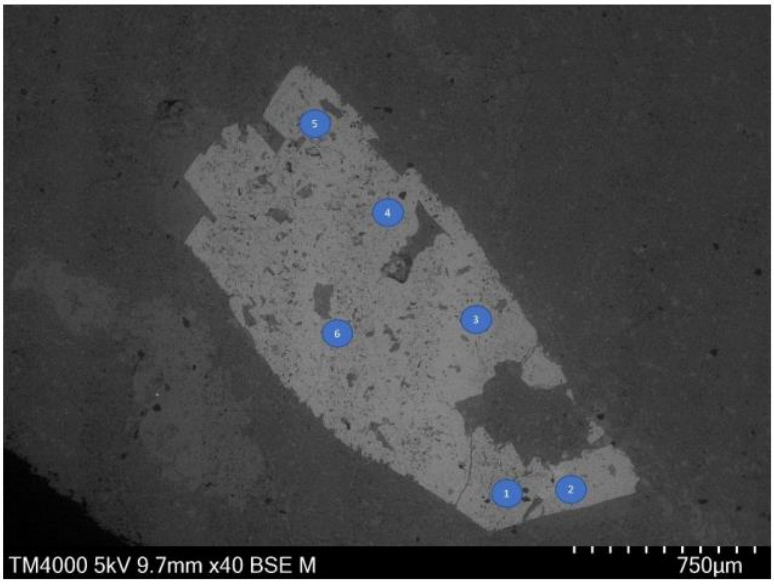
TM4000 5kV 10.4mm x80 BSE M
375µm

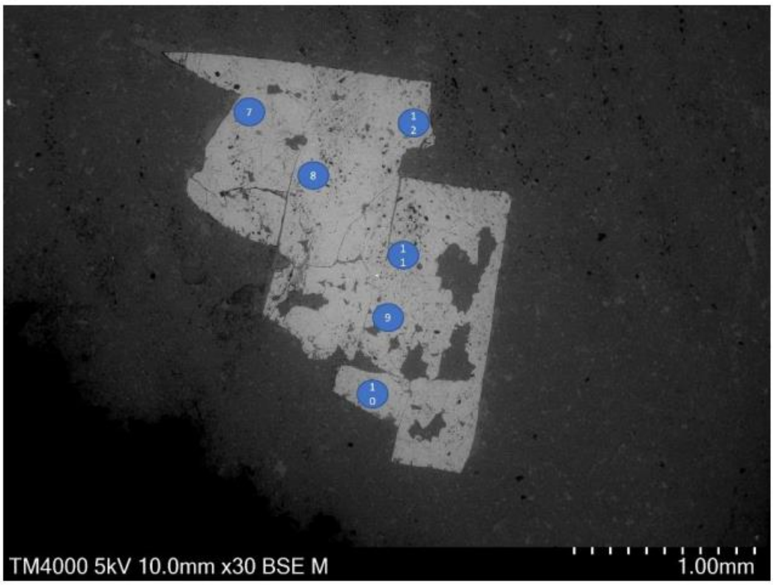

20
TM4000 5kV 10.4mm x80 BSE M
375µm

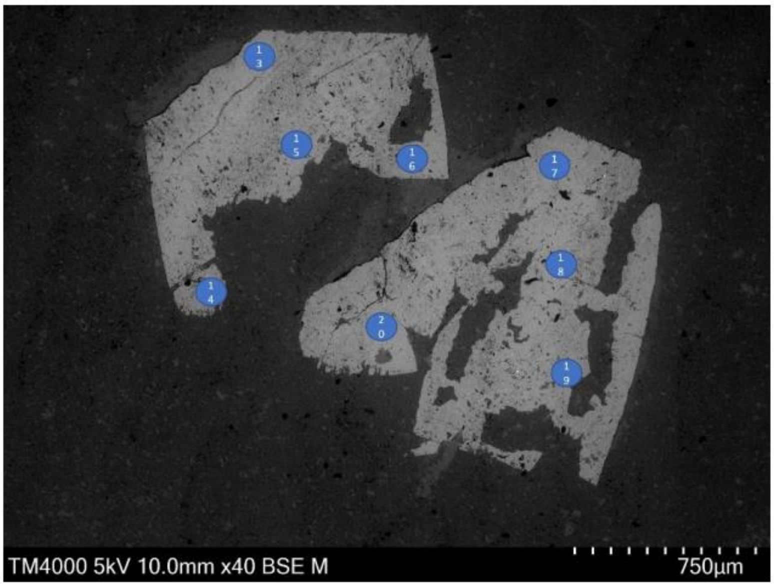

23
21
22
6
TM4000 5kV 10.3mm x80 BSE M
375µm

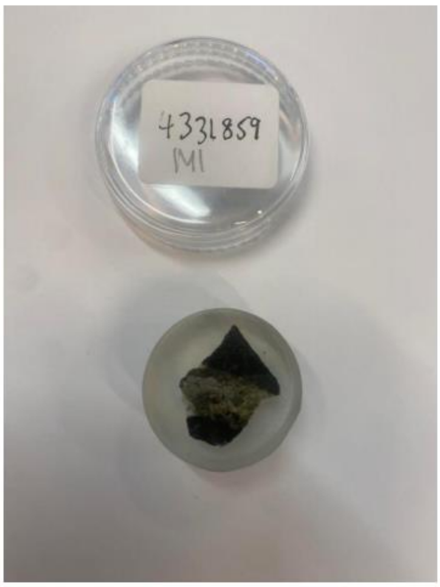

2 6
2 4
2 5
TM4000 5kV 10.3mm x80 BSE M
375µm

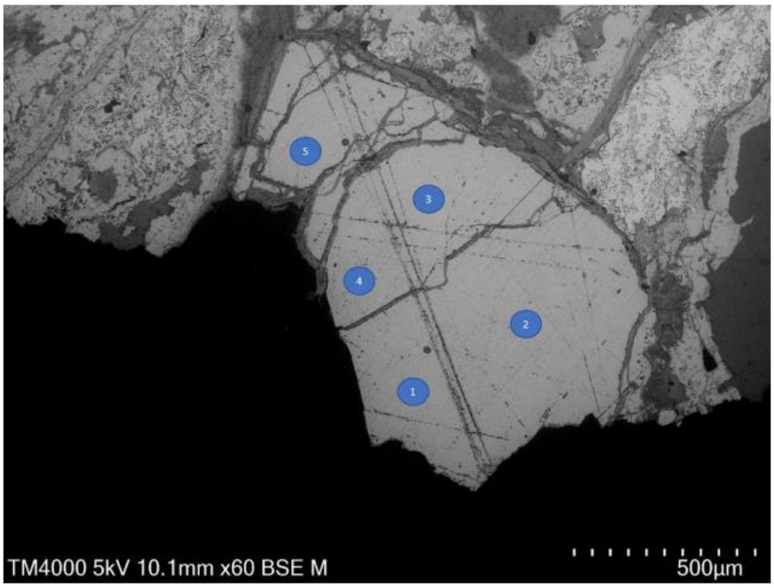

4331858
M2

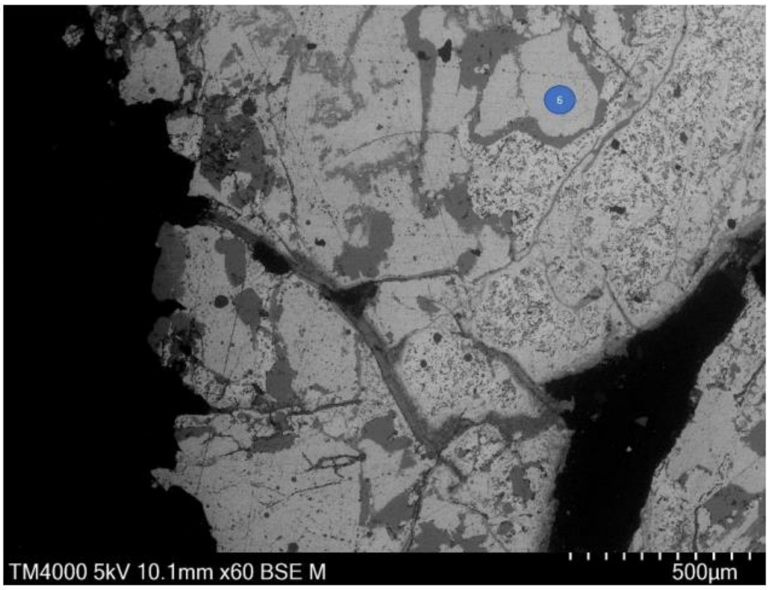

5
4
3
6
1
2
TM4000 5kV 9.7mm x40 BSE M
750µm

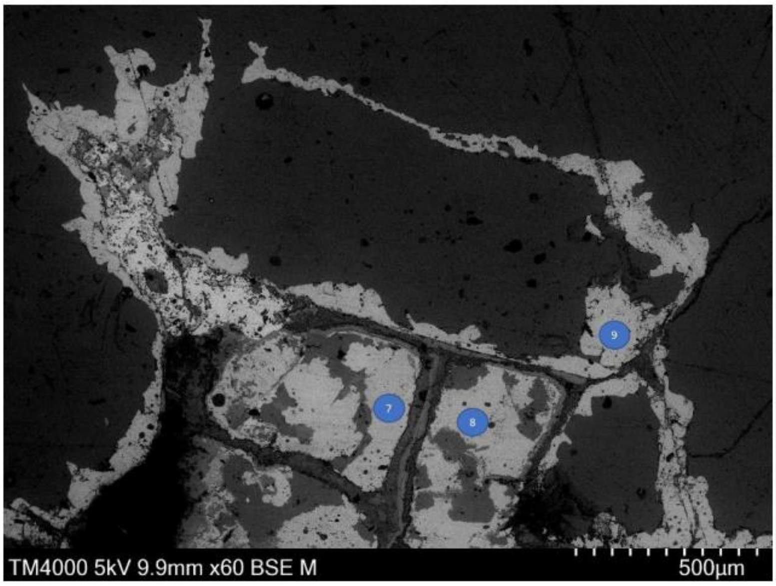

7
1 2
8
1 1
9
1 0
TM4000 5kV 10.0mm x30 BSE M
1.00mm

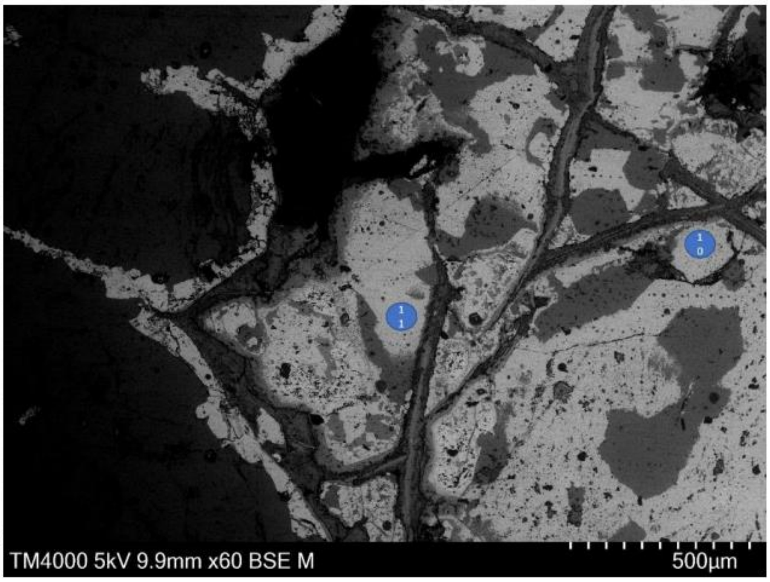

1 3
1 5
1 6
1 7
1 4
1 8
2 0
1 9
TM4000 5kV 10.0mm x40 BSE M
750µm

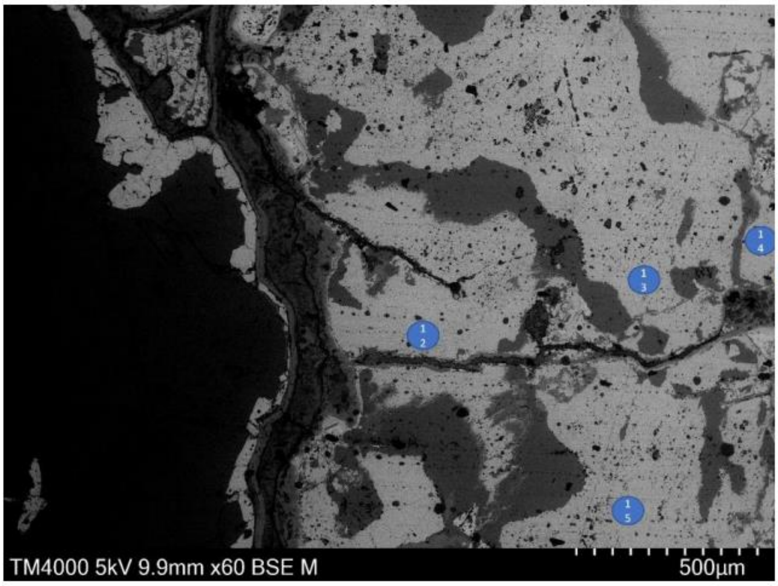

4331859
M1

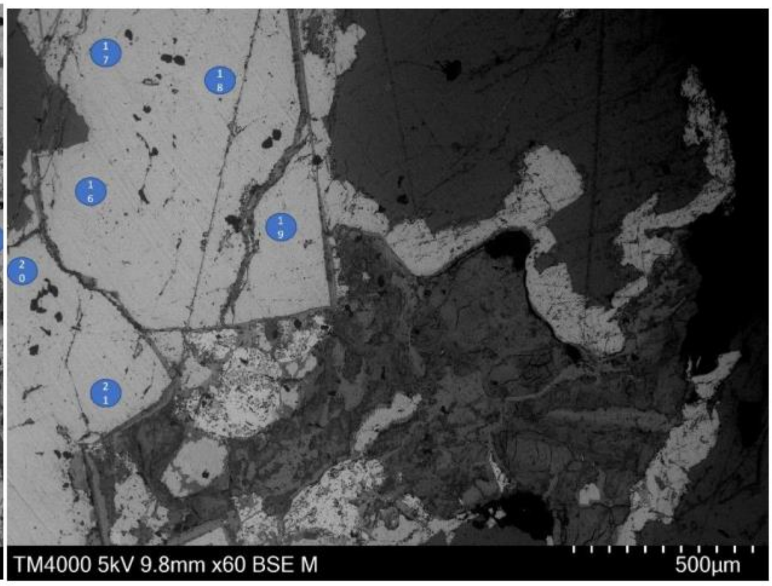

5
3
4
2
1
TM4000 5kV 10.1mm x60 BSE M
500µm

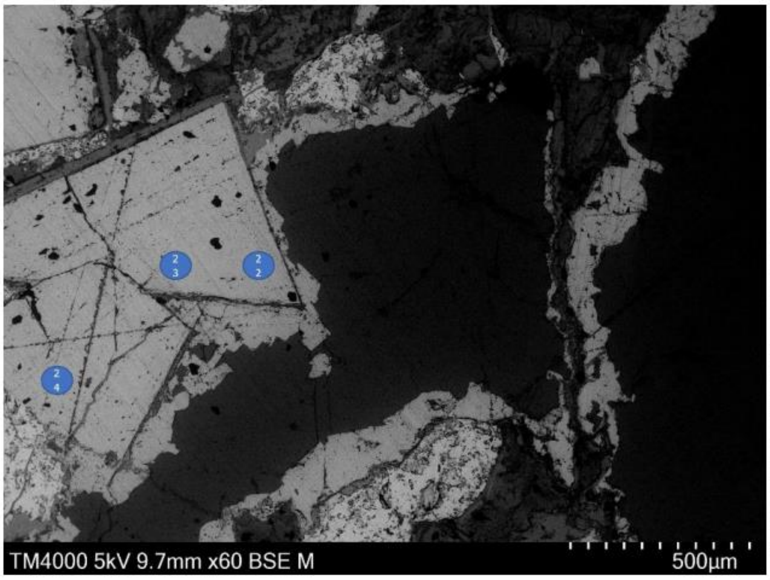

6
TM4000 5kV 10.1mm x60 BSE M
500µm

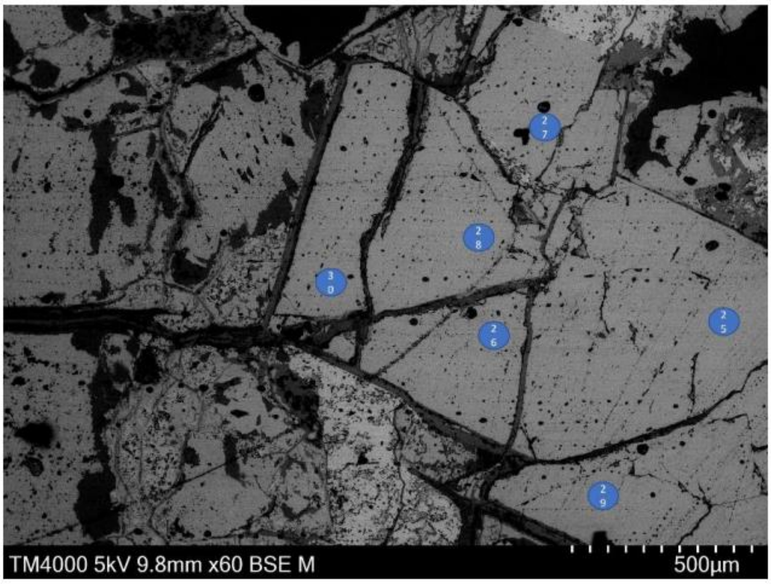

9
7
8
TM4000 5kV 9.9mm x60 BSE M
500µm


10
11
TM4000 5kV 9.9mm x60 BSE M
500µm


14
13
12
15
TM4000 5kV 9.9mm x60 BSE M
500µm


17
18
16
19
20
21
TM4000 5kV 9.8mm x60 BSE M
500µm


TM4000 5kV 9.7mm x60 BSE M
500μm


TM4000 5kV 9.8mm x60 BSE M
500μm