Appendices

Appendix 1: List of sample locations

A1 – 1 Mineralisation site samples

Table A1- 1: GPS coordinates of natural outcrop samples (near Mount Isa city)

Sample ID	**Easting**	**Northing**
BGR1	326863	7722037
BGR2	340685	7710669
BGR3	340765	7710709
BGR4	341081	7710312
BGR5	341434	7710189
BGR6	341972	7710181
BGR7	341017	7710339
BGR8	343036	7711800
BGR9	343094	7711826
BGR11	347436	7707740
BGR12	338581	7707635
BGR13	334966	7712200
BGR14	344298	7712728

Table A1- 2: GPS coordinates of natural mineralisation samples

Sample ID	**Easting**	**Northing**
NM3	341936	7704742
NM4	342319	7708667
NM5	342343	7709843
NM6	343436	7705889
NM7	341858	7705044

Table A1- 3: GPS coordinates of footpath samples

Sample ID	Easting	Northing
CS1	0344602	7706435
CS2	0344286	7705207
CS3	0344084	7704440
CS4	0344023	7707843
CS5	034472	7708484
CS6	342203	7705831
CS7	342205	7705855
CS8	343397	7705950
CS9	343397	7705949
CS10	344126	7708348
CS11	343899	7708583
CS12	343750	7705504
CS13	343750	7705504
CS14	343750	7705504

A1 - 2 Mine site samples

Table A1- 4: GPS coordinates of mine site samples

Sample ID	Sites	Easting	Northing
SS1	Mt Haney Pb slag	341058	7709274
SS2	Mt Haney Pb slag old ground	341663	7708251
SS3	CuSm slag old - Eastern transport Rd	341328	7706963
SS4	CuSm slag - RHF Cu sm	341173	7706291
SS5	Zn conc from Zn filter storage area	341961	7708774
SS6	Cu concentrator	341802	7707885
SS7	PAC Rim dust	340856	7707766
SS8	Lead Stack	341864	7707539
SS9	Pb smelter (Sinter Plant - crusher/vibrating feeder)	341906	7707244
SS10	Pb smelter (Sinter Plant - baghouses)	341951	7707194
SS11	Pb smelter (Sinter Plant - sinter feedprep)	341901	7707252
SS12	HBF plant, copper stacker/reclaimer, feed prep	341641	7706925
SS13	Tailing dam 5	339114	7707421
SS14	Tailing dam 7 surface	339149	7705747
SS15	Tailing dam 8 surface	338869	7701553
SS16	BSOC ore at PAC Rim	340850	7707770
SS17	GF ore at PAC Rim	340850	7707770
SS18	HHOC Ore at PAC Rim	340850	7707770
SS19	BSOC NAW	N/A	N/A
SS20	BSOC PAF	339860	7708042
SS21	HMR from cone	341310	7707910
SS22	Pb smelter dust	341939	7707323
SS23	P/mill (19A) Ground	341530	7707650
SS24	Isa Chalco	N/A	N/A
SS25	EHM concentrate	N/A	N/A
SS26	Pb concentrator dust from hyper basic filter	341897	7707257
SS27	Cu smelter dust	341924	7706871
SS28	Waster rock and dust from West of BSOC	341373	7708803

Table A1- 5: GPS coordinates of haul road dust samples

Sample ID	**Easting**	**Northing**

HR1	341314	7709595
HR2	341282	7709367
HR3	341615	7708850
HR4	341613	7708692
HR5	341663	7708585
HR6	341611	7708460
HR7	341139	7709040
HR8	340781	7708617
HR9	340716	7708300

Table A1- 6: GPS coordinates of tailing samples

Sample ID	Sites	Easting	Northing
TD5S6-1	TD5 site6 surface	339277	7706565
TD7S2-1	TD7 site2 surface	338869	7705118
TD7S5-1	TD7 site5 surface	339149	7705747
TD8S2-1	TD8 site2 surface	338869	7701553
TD8S3-1	TD8 site3 surface	338016	7701869
TD8S4-1	TD8 site4 surface	338074	7702726

Table A1- 7: GPS coordinates of fallout samples collected at mine site

Sample ID	Sites	Easting	Northing
FM1	Vulcaniser Pit - N	342184	7707565
FM3	Copper Smelter - N	341922	7707225
FM4	Copper Smelter - S	341922	7707225
FM5	Landfill - N	340672	7706465
FM6	Landfill - S	340672	7706465
FM7	Lead Smelter - N	341971	7707604
FM8	Lead Smelter - S	341971	7707604
FM9	R62 Car Park - N	341217	7707342
FM10	R62 Car Park - S	341217	7707342
FM11	Vulcaniser Pit - N	342184	7707565
FM12	Vulcaniser Pit - S	342184	7707565
FM13	Copper Smelter - N	341922	7707225
FM14	Copper Smelter - S	341922	7707225
FM15	Landfill - N	340672	7706465
FM16	Landfill - S	340672	7706465
FM17	Lead Smelter - N	341971	7707604

FM18	Lead Smelter - S	341971	7707604
FM19	R62 Car Park - N	341217	7707342
FM2	Vulcaniser Pit - S	342184	7707565
FM20	R62 Car Park - S	341217	7707342
FM21	4 Urquhart St	342793	7710179
FM22	14 Kokoda Rd	342370	7709730
FM23	37 Kokoda Rd	342670	7709690
FM24	18 Finschafen St	342779	7709786
FM25	192 Miles St	343345	7709233
FM26	17 Hinkler Cres	345039	7709068
FM27	7 Oxide St	342462	7708486
FM28	90 Pamela St	344374	7706662
FM29	23 Paterson	344403	7705058
FMB	BSD	342162	7706391
FMK	K-Oval	342428	7706757
FMR	RSL	342373	7708656
FMRC	RC	343544	7708347
FMS	Station St	342227	7707223

Appendix 2: Analytical procedures

A2 - 1: Methods used by CMLR/Earth Sciences geochemistry laboratory to analyse total concentrations of air particulates, rocks and minerals samples

1. Hot plate digestion method for Air PM_{10} filters

This method is modified from the NOISH_7303 and Hot Plate Digestion Method for geological materials from Geochemistry Lab of Earth Sciencencs, The University of Queensland.

(1) Weigh the filter and put in the acid washed clean TFL beaker with a clean tweezers.

(2) Add 0.4 ml **HNO3 (double distilled nitric) + 1.6 ml **HCl + (0.5 ml H2O2) to the beaker. All acids are concentrated acids. Put the lid back and screw tightly. Leave the beakers on the hot block at 140 °C for overnight.

(3) Allow the vessels to cool down, rinse the contents of the lid into the new vessel with minimal amount of Milli-Q, and evaporate at 80-90 °C to incipient dryness again.

(4) Add 1 ml of concentrated HNO3**. Replace the lid on tightly and heat overnight at 140 °C.

(5) Allow Teflon vessels to cool sufficiently, rinse the contents of the lid into the new vessel with minimal amount of Milli-Q, and evaporate at 80-90 °C to incipient dryness.

(6) Add 2 mL 6 M HNO_3** (i.e. 0.75 mL of HNO3** and 1.25 mL Milli-Q), gently swirl the contents, cap the vessels tightly and leave on the hotplate at 140 °C for at least 2 hrs, but its best left at 140 °C overnight. This step ensures all chlorides are converted to soluble nitrates.

(7) Weigh accurately empty acid-washed 10 mL ICP tubes. Quantitatively transfer each sample into a separate pre-weighed tube, rinsing the Teflon vessel and the lid with minimal Milli-Q. Finally, make up to “10 mL mark” with Milli-Q.

(8) Weigh accurately empty acid-washed 10 mL ICP tubes.

(9) Quantitatively transfer each sample into a separate pre-weighed tube, rinsing the Teflon vessel and the lid with minimal Milli-Q. Make up to “10 mL mark” with Milli-Q. Re-weigh the tube + sample solution. They are the solutions from residual via HF digestion procedure. The solutions will be further diluted for ICP-MS.

The following quality control samples for each batch must be carried out through the entire procedures:

*Digestion blank: At least one vessel without sample.

*Duplicate preparation: A minimum of one duplicate preparation is done per ten samples or batch.

*SRM 1648a has been applied in each digestion batch.

2. Hot plate digestion method for rock and mineral samples

It is important to work “clean” whilst carrying out the following digestion procedure to eliminate sample contamination. Do not touch the tip of the Milli-Q water and acid bottles to any part of any sample vessels at all times. Always decant the stock acids into a separate clean container for use. Never pipette directly out of the stock acids.

(1) Weigh accurately 0.1 g of dry sample into clean screw-cap Teflon vessel using a clean spatula. Weigh sample on weighing paper, making sure that all the sample is transferred to the vessel.

(2) Add 2ml concentrated HNO_3** (double distilled nitric) using a new acid washed pipette tip on a 1000 µL micro-pipette. Make sure that all the sample is washed to the base of the vessel. Thoroughly mix by gently swirling the contents. The purpose of this step is to reduce the concentration of Ca, Al and Mg to minimise the formation of insoluble Al-Mg-Al fluorides.

(3) If organic material is present in the sample, allow the sample to sit for at least 30 mins, before screwing the lid on tightly and heating on a hot plate at 140 °C overnight.

(4) Using minimal amounts of Milli-Q water rinse the contents of the lid into the new vessel.

(5) Evaporate down the remaining solid residue (in the original vessel) to incipient dryness at 80-90 °C. DO NOT "burn" the residue, as this will cause the loss of volatile elements.

(6) Add 1ml concentrated HNO_3** and 3 ml concentrated HF* (single-distilled HF) using a 5000 µL micro-pipette with a clean 5 mL pipette tip.

(7) Cap the vessel tightly and digest on the hot plate at 140 °C until the sample is totally dissolved. Gently swirl the contents in the vessels intermittently to aid mixing.

(8) Note: It may be necessary to repeat Steps 5-6 a few times until all samples are dissolved.

(9) Once the sample has dissolved, allow the vessels to cool down, rinse the contents of the lid into the new vessel with minimal amount of Milli-Q, and evaporate at 80-90 °C to incipient dryness.

(10) Add 2 mL 6 M HCl** (i.e. 1 mL concentrated HCl** + 1 mL Milli-Q), gently swirl the contents, replace lids on tightly, and redissolve at 140 °C overnight. This step converts insoluble fluorides into chlorides.

(11) Allow the vessels to cool down, rinse the contents of the lid into the new vessel with minimal amount of Milli-Q, and evaporate at 80-90 °C to incipient dryness again.

(12) Add 1 ml of concentrated HNO3** and recombine it quantitatively with the original 2mL aliquot of sample from Step 4, making sure all the contents from the original vessel and lid is transferred using minimal amount of Milli-Q. Replace the lid on tightly and heat overnight at 140 °C.

(13) Allow Teflon vessels to cool sufficiently, rinse the contents of the lid into the new vessel with minimal amount of Milli-Q, and evaporate at 80-90 °C to incipient dryness.

(14) Add 2 mL 6 M HNO_3** (i.e. 0.75 mL of HNO3** and 1.25 mL Milli-Q), gently swirl the contents, cap the vessels tightly and leave on the hotplate at 140 °C for at least 2 hrs, but its best left at 140 °C overnight. This step ensures all chlorides are converted to soluble nitrates.

(15) Weigh accurately empty acid-washed 10 mL ICP tubes.

(16) Quantitatively transfer each sample into a separate pre-weighed tube, rinsing the Teflon vessel and the lid with minimal Milli-Q. Take care not to overshoot the "10 mL mark".

(17) Make up to "10 mL mark" with Milli-Q.

(18) Re-weigh the tube + sample solution. The difference in weight is the final "sample make-up volume". This final solution contains 7.5% nitric acid.

A2 - 2: Methods used by Australia Government National Measurement Institute (NMI) to analyse total concentrations of house dust wipe and roof gutter dust samples

NMI: METHOD DESCRIPTION SUMMARY	
Analysis description:	**Metal Analysis of Filters**
Matrix:	**All types of filters, hand wipes and cotton swabs**
NMI Method Code:	**NT 2.52**
Reference Method(s):	**Digestion Method: in-house method and USEPA Method IO-3.1 (Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air) Metal Determination: USEPA 6010 for ICP-AES, USEPA 6020 for ICP-MS**
LOR and units:	**0.05 ug / filter for Ag, Ba, Be, Bi, Cd, Co, Cu, Hg, Mn, Mo, Ni, Pb, Sb, Sr, Tl and U. 0.1 ug / filter for As, Cr, V, Sn, Zn, Ti, Th, Li and Ga. 0.2 ug / filter for Se. 0.5 ug / filter for Ca, Fe and Mg. 1 ug / filter for Al and B. 5 ug / filter for Na, K, P. LORs are subject to filter size and may be adjusted when only portion of filter are available for analysis.**
NATA Accredited:	**Yes**
Method summary (including any preparation, digestion, extraction, cleanup, determination etc and brief description of instrumentation / equipment used):	
Method Title	
Determination of Trace Elements in Filters	
Preparation & Procedure:	
A whole filter or half filter is digested with HNO_3 / HCl. After appropriate dilution the metal concentrations are determined using ICP-MS and/or ICP-AES depending on concentration.	
Comments, limitations or known interferences:	
The presence of HCl is required to give optimum recovery for Al, Cr, Fe, and Hg. HNO_3 is the best acid when lead determination only is required, however reverse aqua regia is also satisfactory. This method has been validated and has been recommended to use by EPA NSW.	
Equipment used:	
ICP-AES (Varian Vista Pro) ICP-MS (Perkin Elmer Elan DRC II) HR-ICP-MS (Finnigan Element 2)	
Amount of sample required, container type, preservation and holding time:	
Minimum half filters. Filter samples should be placed in cassettes to ensure collected dust not separate from the filter.	
QA / QC protocols used (eg: number of duplicates, spikes, matrix spikes, blanks etc per batch)	
For every batch of 20 samples or less, at least one blank, one blank spike, one sample spike and one laboratory control sample (such as a spiked filter sample).	
MU for specific matrix/matrices	
6 – 22 % depending on the concentration and elements.	
Date this summary produced and by whom:	
Andrew Evans 28/11/2008 National Measurement Institute, 1 Suakin St., PYMBLE NSW 2073	

This summary is provided on a 'commercial-in-confidence' basis and this document may not be copied, published, disseminated or otherwise circulated without the express written permission of the NMI.

A2 - 3: Method used by ALS to analyse total concentrations of garden soil samples, carpet dust and soil PM10 fraction, thimbles and mind dust samples

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **EB1104092**	Page	: 1 of 10
Client	: THE UNIVERSITY OF QUEENSLAND	Laboratory	: Environmental Division Brisbane
Contact	: MR BARRY NOLLER	Contact	: Customer Services
Address	: CENTRE FOR MINED LAND REHABILITATION THE UNIVERSITY OF QUEENSLAND ST LUCIA QLD, AUSTRALIA 4072	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: b.noller@uq.edu.au	E-mail	: Brisbane.Enviro.Services@alsglobal.com
Telephone	: +61 07 33653457	Telephone	: +61 7 3243 7222
Facsimile	: +61 07 33653452	Facsimile	: +61 7 3243 7218
Project	: ----	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2011
Sampler	: ----	Issue Date	: 18-MAR-2011
Order number	: 4290000980		
		No. of samples received	: 137
Quote number	: ----	No. of samples analysed	: 137

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES							
Plastic specimen jar							
CS33, CS35, CS36.13, CS37.13, CS38.16, CS39.16, CS40.13, CS41.13, CS42.9, CS43.9, CS44.9, CS45.9, CS46.9, CS47.9, CS48.9, CS49.9, CS50.9, CS51.8, CS52.8, CS53, CS54, CS55, CS56A, 56B, CS57, CS57.14B, CS58, CS58.14, CS59, CS60, CS61, CS61B, CS62, CS63, CS64, CS65, CS66, CS67.14, CS68.14, CS69.14	**03-MAR-2011**	**10-MAR-2011**	30-AUG-2011	✓	**14-MAR-2011**	30-AUG-2011	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES - Continued							
Plastic specimen jar							
CS70.14, 70.14B, CS71.14, CS72, CS72.14B, CS73, CS74.14, CS75.14, CS76, VD33, VD36, VD37, VD38, VD39, VD40, VD41, VD42, VD43, VD44, VD45, VD46, VD47, VD48, VD49, VD50, VD52, VD53, VD54, VD55, VD56, VD57, VD58, VD59, VD60, VD61, VD63, VD64, VD65, VD66, VD67	**03-MAR-2011**	**11-MAR-2011**	30-AUG-2011	✓	**14-MAR-2011**	30-AUG-2011	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES - Continued							
Plastic specimen jar							
VD68, VD69, VD70, VD71, VD72, VD73, VD74, VD76, PM10_33, PM10_35, PM10_36, PM10_37, PM10_38.16, PM10_39.16, PM10_40.13, PM10_41.13, PM10_42.9, PM10_43.9, PM10_44.9, PM10_45.9, PM10_46.9, PM10_47.9, PM10_48.9, PM10_49.9, PM10_50.9, PM10_51.8, PM10_52.8, PM10_53, PM10_54, PM10_55, PM10_56A, PM10_56B, PM10_57, PM10_57.14B, PM10_58, PM10_58.14B, PM10_59, PM10_60, PM10_61, PM10_61B, PM10_62, PM10_63, PM10_64, PM10_65, PM10_66.14, PM10_67.14, PM10_68.14, PM10_69.14, PM10_70.14, PM10_70.14B, PM10_71.14, PM10_72, PM10_72.14B, PM10_73, PM10_74.14, PM10_75.14, PM10_76	**03-MAR-2011**	**11-MAR-2011**	30-AUG-2011	✓	**15-MAR-2011**	30-AUG-2011	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Plastic specimen jar								
CS33,	CS35,	03-MAR-2011	10-MAR-2011	31-MAR-2011	✓	15-MAR-2011	31-MAR-2011	✓
CS36.13,	CS37.13,							
CS38.16,	CS39.16,							
CS40.13,	CS41.13,							
CS42.9,	CS43.9,							
CS44.9,	CS45.9,							
CS46.9,	CS47.9,							
CS48.9,	CS49.9,							
CS50.9,	CS51.8,							
CS52.8,	CS53,							
CS54,	CS55,							
CS56A,	56B,							
CS57,	CS57.14B,							
CS58,	CS58.14,							
CS59,	CS60,							
CS61,	CS61B,							
CS62,	CS63,							
CS64,	CS65,							
CS66,	CS67.14,							
CS68.14,	CS69.14							
Plastic specimen jar								
CS70.14,	70.14B,	03-MAR-2011	11-MAR-2011	31-MAR-2011	✓	15-MAR-2011	31-MAR-2011	✓
CS71.14,	CS72,							
CS72.14B,	CS73,							
CS74.14,	CS75.14,							
CS76,	VD33,							
VD36,	VD37,							
VD38,	VD39,							
VD40,	VD41,							
VD42,	VD43,							
VD44,	VD45,							
VD46,	VD47,							
VD48,	VD49,							
VD50,	VD52,							
VD53,	VD54,							
VD55,	VD56,							
VD57,	VD58,							
VD59,	VD60,							
VD61,	VD63,							
VD64,	VD65,							
VD66,	VD67							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS - Continued							
Plastic specimen jar							
VD68, VD69, VD70, VD71, VD72, VD73, VD74, VD76, PM10_33, PM10_35, PM10_36, PM10_37, PM10_38.16, PM10_39.16, PM10_40.13, PM10_41.13, PM10_42.9, PM10_43.9, PM10_44.9, PM10_45.9, PM10_46.9, PM10_47.9, PM10_48.9, PM10_49.9, PM10_50.9, PM10_51.8, PM10_52.8, PM10_53, PM10_54, PM10_55, PM10_56A, PM10_56B, PM10_57, PM10_57.14B, PM10_58, PM10_58.14B, PM10_59, PM10_60, PM10_61, PM10_61B, PM10_62, PM10_63, PM10_64, PM10_65, PM10_66.14, PM10_67.14, PM10_68.14, PM10_69.14, PM10_70.14, PM10_70.14B, PM10_71.14, PM10_72, PM10_72.14B, PM10_73, PM10_74.14, PM10_75.14, PM10_76	**03-MAR-2011**	**11-MAR-2011**	31-MAR-2011	✓	**16-MAR-2011**	31-MAR-2011	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*	
Laboratory Duplicates (DUP)							
Total Mercury by FIMS	EG035T	10	100	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	14	140	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Mercury by FIMS	EG035T	5	100	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	7	140	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Mercury by FIMS	EG035T	5	100	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	7	140	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS	EG035T	5	100	5.0	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	7	140	5.0	5.0	✓	ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2010 Draft) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	EB1104092-101	PM10_46.9	Copper	7440-50-8	69.3 %	0-20%	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	EB1104092-101	PM10_46.9	Zinc	7440-66-6	33.9 %	0-20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EG005T: Total Metals by ICP-AES	EB1104092-022	CS55	Copper	7440-50-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-082	VD69	Copper	7440-50-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-042	70.14B	Copper	7440-50-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-022	CS55	Lead	7439-92-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-002	CS35	Manganese	7439-96-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-022	CS55	Manganese	7439-96-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-002	CS35	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-062	VD47	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-082	VD69	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-022	CS55	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EG005T: Total Metals by ICP-AES	EB1104092-042	70.14B	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Laboratory Control outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.

A2 - 4: Method of column chemistry for lead isotope analysis in RIF

1. Column cleaning preparation

(1) Remove dry resin in the columns and clean with Milli-Q water 3 times until clean;
(2) 250 mL Milli-Q mixed with concentrated 50 mL HNO3** (double distilled) in a big clean glass beaker.
(3) Leave the beaker, pipette tips, acid mixture on 200 ºC hot plate and cook for 2h.
(4) Cool down and rinse with Milli-Q.
(5) Repeat step (3) and (4) once.
(6) Dry the columns in the clean fume hood.

2. Column samples preparation

(1) Take appropriate amounts of digested liquid samples and dry in clean Teflon beakers on 120 ºC hot plate. Make sure at least 200 ng of lead is contained in the liquid samples.
(2) Add a drop of 0.6 N HBr** to the dried samples in Teflon beakers and allow the added HBr** cover the dried sample.
(3) Dry the HBr** mixture on 120 ºC hot plate.
(4) Add 0.5 mL of 0.6 N HBr** to the dried samples (called MIX1) in Teflon beakers and keep the lids on tightly.

3. Lead isotope exchange with columns

(1) Set up the column rack and put the columns in position.
(2) Wash all the columns with 1 volume (full column) of Milli-Q water.
(3) Add 7 drops of homogeneous resins.
(4) Wash the resin with 1 volume of 6 N HCl.
(5) Wash the resin with 1 volume of Milli-Q water.
(6) Repeat step (4) and (5) twice.
(7) Condition with 1 volume of 6 N HBr.
(8) Load the MIX1 samples from Process 1. One sample in one column.
(9) Elute 1 mL of 6 N HBr.
(10) Elute 1 mL of 6 N HBr again.
(11) Add 1 volume of 6 N HCl and collected the dripped liquid sample (MIX2) in the original Teflon sample beakers.

4. Post-column sample processing

(1) Dry the MIX2 in the Teflon sample beakers.
(2) Add drops of concentrated (15.8 N) HNO3*** (triple-distilled) and leave it dry on 120 ºC hot plate.
(3) Repeat the above step.
(4) Remove organic material with other reagents if necessary but need to discuss with the lab manager first.
(5) Dry the mixture on 120 ºC hot plate.
(6) Add a drop of concentrated (15.8 N) HNO3***, and ad 1 mL of pre-made Tl standard (5 ppb Tl).
(7) Leave the solution stored in the Teflon beaks and keep the lid tightly on before analysis.

A2 - 5: The procedure for in-vitro physiologically based extraction test (PBET)

PBET measures bio-accessible metal and metalloid concentrations and is an *in vitro* test that simulates extraction by the gastro-intestinal (GI) tract of a human being (Ruby *et al*. 1996) to predict the bioavailability (BA) of a substance or its absorption via the gut. PBET considers a range of stomach pH's to take into consideration varying bio-availabilities resulting from differing stomach conditions (e.g. fasting). Conceptual representation of the gastro-intestinal phases which are tested by PBET as below:

Phases	Stomach Phase			Intestinal Phase
	Fasted- solution	Average- solution	Fed- solution	Small Intestine
pH	1.3	2.5	4.0	7.0

The PBET was undertaken on samples ground to <250 µm and oven dried for approximately 10 h at 50^{o}C in a vacuum oven prior to being weighed. The *in vitro* reactor design employed for PBET was similar to that described by Ruby *et al.* (1996). In order to simulate stomach mixing, an inert gas (argon) was purged through the reaction mixture at approximately 0.7 L/min. This flow rate was less than the 1.07 L/min described by Ruby *et al.* (1996), although the reaction vessels used in this experiment were smaller. The 50 ml falcon (PPT) tube, 120 mm in length and fitted with rubber bungs, were used as reaction vessels. Each rubber bung was fitted with a Teflon tube approximately 2 mm internal diameter to deliver the argon gas and a one-way pressure valve (bicycle tyre valve) (Figure A 6-1). Detachable polyethylene gas lines were connected to the stainless steel gas delivery tube, after passing through a water trap to heat the gas prior to mixing the reactants. Gas flow was calibrated periodically using a gas flow meter. Each sample for PBET was replicated four times, and all reaction vessels were partially submerged to above the reaction mixture volume in a temperature-controlled water bath maintained at 37^{o}C. The 120 mL glass reaction vessels were used to simulate the GI environment during the PBET determination. The samples were allowed to equilibrate at 37^{o}C for 10 min prior to the introduction of argon gas which was used to provide the physical mixing within the reaction vessel.

Gastric solution for PBET was prepared using the same recipe as that outlined in Ruby *et al*.(1996): 1.25 g of pepsin (Sigma Chemical Co.), 0.5 g of sodium citrate (MERCK, Germany), 0.5 g of malic acid (Sigma Chemical, USA), 420 µL of lactic acid (Sigma Chemical Co.), and 500 µL of acetic acid (BDH, Australia) was added to 1 L of deionised water (Milli-Q) and mixed gently for approximately 1 min. Three separate batches of the gastric solution were prepared and each was adjusted to the selected pH using concentrated (10N) HCl. The pH values selected reflect those used by Ruby *et al.* (1996), and are based on the "fasting (empty stomach), pH 1.3", "average (with some food ingestion), pH 2.5" and "fed (full stomach), pH 4.0" pH states of a human stomach, and pH 7 reflects the small intestinal pH in humans (Figure 3). All pH states (1.3, 2.5, 4.0 and 7.0) were tested during PBET analysis of the waste material, in order to simulate various physiological states of the gastro-intestinal tract of a normal human being. An average BAc from all pH conditions is taken as a representative BAc of the tested material.

Variation in the measure of bio-accessibility by PBET of arsenic, chromium, nickel, cadmium, and lead, as a function of liquid-to-solid ratio, was evaluated by Hamel *et al.* (1998). These authors determined

the BAc in synthetic gastric juices was affected only slightly by changes in the liquid-to-solid ratio in the range of 100:1 to 5000:1 (mL/g).

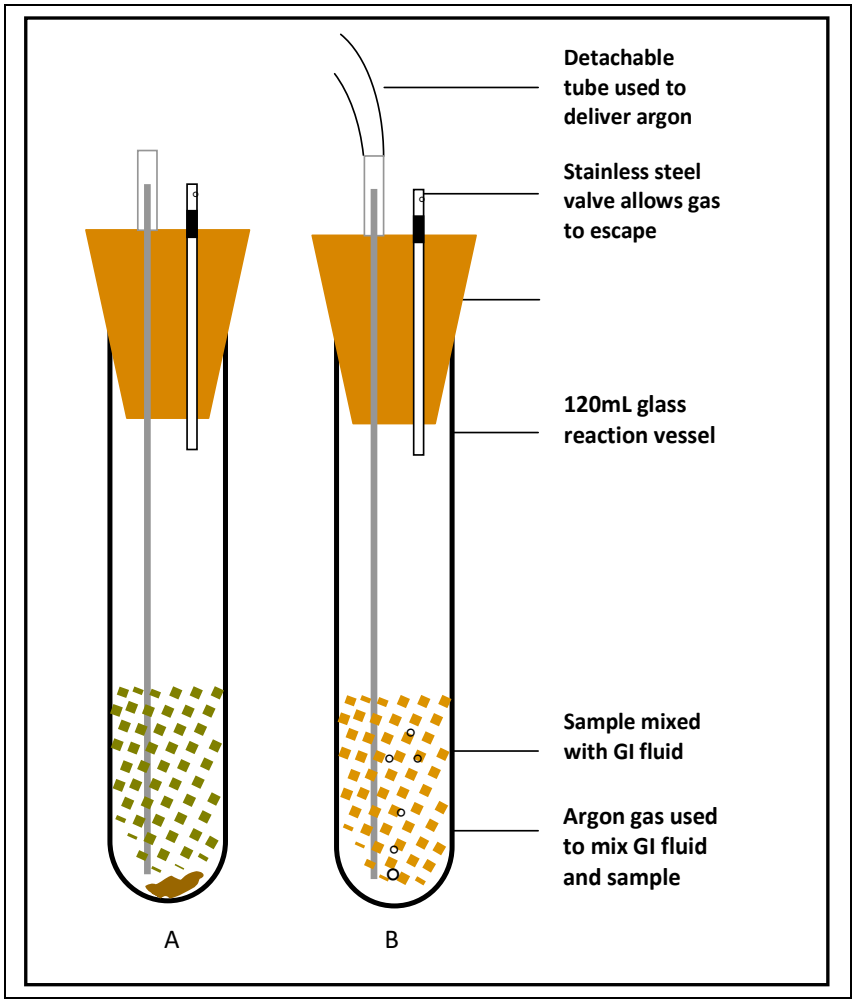


Figure A 6-1: The 50mL falcon tube reaction vessels used to simulate the GI environment during the PBET. (A) the sample is allowed to sit for 10 min prior to the introduction of argon gas; (B) the bubbled argon is used to create a mixing environment

A liquid-to-solid ratio of 100:1 (mL/g) was used for PBET. The gastric solution (30 mL) was added to a reaction vessel and combined with 0.1 g of solid material. Four replicates of each of the three different stomach and one small intestine solutions were used for each material (n = 12). The pH of the 37^{0}C mixture being purged with argon gas was then checked after 5 min and adjusted with HCl or saturated $NaHCO_3$ if necessary to maintain the selected pH environment. The pH was then checked again after 10 min and every 20 min thereafter. One mL samples of the mixture were collected at 20, 40 and 60 min after the argon was introduced. Each time the mixture was sampled, an equal volume was replaced from the stock solution of the appropriate gastric solution, to maintain the initial 30 mL volume. After 1 hr, all mixtures were titrated to pH 7.0 using a saturated $NaHCO_3$ solution, rather than a suspended dialysis bag as used by Ruby *et al*. (1996). At this stage, 70 mg of porcine bile salts (Sigma Chemical Co.) and 20 mg of porcine pancreatin (ICN Biomedicals, Australia) were added to the mixture to reflect the small intestine conditions. Samples were taken from all reaction vessels 3 hr after titration to pH 7.0. All samples were centrifuged immediately after collection at 10,000 rpm (10,000 x gravity) for 15 min in

a IEC MicroMax Centrifuge (IEC, Massachusetts, ASA), and the liquid fraction was then filtered through a disposable 0.22 µm Millipore filter to remove any remaining mine waste material. Elemental analysis of the filtrate was undertaken by ICP-MS.

The bioaccessibility % (BAc %) is calculated using the following equation.

$$\boldsymbol{BAc}\% = \frac{\textbf{concentration of the element solubalised from the media}}{\textbf{concentration in the media before extraction}}$$

An average pH is selected to provide an intermediate pH for testing in the PBET and represents a nutritional status intermediate between fasting and fed states. The use of fasting state alone using PBET overestimates the bioavailability of lead (Bruce et al. 2007).

The pH values selected reflect those used by Ruby et al. (1996), and are based on the “fasting”, “average” and “fed” pH states (pH 1.3, 2.5, 4.0) of a human stomach, and pH 7 reflects the intestinal pH in humans. Bruce et al. 2007 tested all pH states (1.3, 2.5, 4.0) during PBET analyses of the waste material, to maximise the potential to correlate BAc results with in vivo BA results.

Appendix 3: Quality Control and Quality Assurance reports

A3- 1: Quality assurance and control report for garden soil, soil PM10 and carpet dust analysed by Analytical Chemistry and Testing Services (ALS)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **EB1104092**	Page	: 1 of 15
Client	: THE UNIVERSITY OF QUEENSLAND	Laboratory	: Environmental Division Brisbane
Contact	: MR BARRY NOLLER	Contact	: Customer Services
Address	: CENTRE FOR MINED LAND REHABILITATION THE UNIVERSITY OF QUEENSLAND ST LUCIA QLD, AUSTRALIA 4072	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: b.noller@uq.edu.au	E-mail	: Brisbane.Enviro.Services@alsglobal.com
Telephone	: +61 07 33653457	Telephone	: +61 7 3243 7222
Facsimile	: +61 07 33653452	Facsimile	: +61 7 3243 7218
Project	: ----	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2011
Sampler	: ----	Issue Date	: 18-MAR-2011
Order number	: 4290000980		
		No. of samples received	: 137
Quote number	: ----	No. of samples analysed	: 137

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA
WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics

A Campbell Brothers Limited Company

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 1702118)									
EB1104092-001	CS33	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	120	120	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	36	36	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	14	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	20	19	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	10	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	448	445	0.8	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	136	134	1.3	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	380	379	0.0	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	60	60	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	320	320	0.0	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	27600	27300	1.1	0% - 20%
EB1104092-011	CS44.9	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	6	7	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	60	60	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	22	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	10	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	12	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	12	8.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	273	272	0.4	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	214	228	6.0	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	268	279	4.3	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	51	54	6.3	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	430	449	4.4	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	25700	26900	4.8	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1702120)									
EB1104092-021	CS54	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	100	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	28	28	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	14	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	18	19	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1702120) - continued									
EB1104092-021	CS54	EG005T: Arsenic	7440-38-2	5	mg/kg	6	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	192	190	1.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	190	190	0.0	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	372	373	0.3	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	61	60	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	322	321	0.5	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	28700	28600	0.04	0% - 20%
EB1104092-031	CS61	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	120	110	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	23	24	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	13	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	14	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	36	34	4.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	709	598	17.0	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	840	806	4.2	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	296	302	2.0	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	56	55	1.9	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	1020	985	4.0	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	35800	35100	2.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1702249)									
EB1104092-041	CS70.14	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	100	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	24	24	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	13	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	16	16	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	10	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	389	358	8.4	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	185	180	2.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	377	378	0.4	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	57	56	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	457	450	1.5	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
EB1104092-051	VD36	EG005T: Beryllium	7440-41-7	1	mg/kg	<24	<25	4.9	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<12	<12	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	640	640	0.0	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 1702249) - continued									
EB1104092-051	VD36	EG005T: Chromium	7440-47-3	2	mg/kg	51	48	5.2	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<24	<25	4.9	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	31	43	31.4	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	63	57	11.1	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	1280	1300	1.8	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	887	847	4.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	268	242	10.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	28	<25	9.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1690	1690	0.2	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<24	<25	4.9	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1702251)									
EB1104092-061	VD46	EG005T: Beryllium	7440-41-7	1	mg/kg	<23	<21	8.7	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<11	<10	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	270	260	4.6	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	486	534	9.5	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<23	<21	8.7	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<23	27	18.7	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	74	46	47.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	1680	1620	3.6	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	851	893	4.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	171	163	4.8	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	<23	<21	8.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	2040	1990	2.3	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<23	<21	8.7	No Limit
EB1104092-071	VD57	EG005T: Beryllium	7440-41-7	1	mg/kg	<7	<7	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	10	9	10.6	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	260	260	0.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	55	58	4.4	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	18	17	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	56	67	18.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	44	46	3.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	1500	1410	6.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	759	731	3.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	377	365	3.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	28	27	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	4960	5970	18.5	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<7	<7	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1702266)									
EB1104092-081	VD68	EG005T: Beryllium	7440-41-7	1	mg/kg	<2	<2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1702266) - continued									
EB1104092-081	VD68	EG005T: Cadmium	7440-43-9	1	mg/kg	16	15	0.0	0% - 50%
		EG005T: Barium	7440-39-3	10	mg/kg	780	740	5.9	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	40	40	0.0	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	26	26	0.0	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	52	52	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	94	94	0.0	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	3720	3600	3.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	1690	1600	5.6	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	305	301	1.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	28	26	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	5580	5620	0.7	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	27800	28600	2.9	0% - 20%
EB1104092-091	PM10_36	EG005T: Beryllium	7440-41-7	1	mg/kg	<18	<21	11.8	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<9	<10	11.8	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	380	380	0.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	34	34	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	20	<21	5.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	27	24	12.3	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<18	<21	11.8	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	432	443	2.6	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	277	274	1.3	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	602	609	1.2	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	51	53	3.6	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	744	757	1.7	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<18	29	43.6	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	29000	29800	2.8	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1702268)									
EB1104092-101	PM10_46.9	EG005T: Beryllium	7440-41-7	1	mg/kg	<17	<20	14.8	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<9	<10	14.8	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	190	<200	5.3	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	98	64	41.8	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	27	<20	28.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	30	23	28.5	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	29	25	14.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	1140	554	# 69.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	309	200	43.0	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	719	806	11.3	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	63	43	37.8	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1702268) - continued									
EB1104092-101	PM10_46.9	EG005T: Zinc	7440-66-6	5	mg/kg	1910	1360	# 33.9	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<17	<20	14.8	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	35100	34900	0.4	0% - 20%
EB1104092-111	PM10_56A	EG005T: Beryllium	7440-41-7	1	mg/kg	<25	<23	9.5	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<12	<11	9.5	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<250	<230	9.5	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	33	37	11.2	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<25	26	0.0	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	31	33	5.9	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<25	31	20.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	350	451	25.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	145	172	16.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	927	1020	9.5	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	82	88	8.2	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	648	639	1.4	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<25	<23	9.5	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	41000	45800	11.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1702270)									
EB1104092-121	PM10_62	EG005T: Beryllium	7440-41-7	1	mg/kg	<11	<11	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<6	<6	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	180	180	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	36	36	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	18	19	5.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	25	24	4.6	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	33	33	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	512	532	3.7	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	565	584	3.4	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	503	506	0.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	68	70	3.2	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	915	938	2.4	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	<11	<11	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	35000	35400	1.2	0% - 20%
EB1104092-131	PM10_71.14	EG005T: Beryllium	7440-41-7	1	mg/kg	<24	<22	9.1	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<12	<11	9.1	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	<240	<220	9.1	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	89	83	6.4	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	29	30	6.2	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	41	39	3.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	54	49	9.1	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1702270) - continued									
EB1104092-131	PM10_71.14	EG005T: Copper	7440-50-8	5	mg/kg	705	650	8.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	268	262	2.0	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	820	768	6.6	0% - 20%
		EG005T: Vanadium	7440-62-2	5	mg/kg	94	90	4.1	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	424	398	6.3	0% - 20%
		EG005T: Thallium	7440-28-0	5	mg/kg	26	<22	17.1	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	47700	44200	7.5	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1702119)									
EB1104092-001	CS33	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EB1104092-011	CS44.9	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1702121)									
EB1104092-021	CS54	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.3	1.3	0.0	0% - 50%
EB1104092-031	CS61	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1702267)									
EB1104092-081	VD68	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.7	0.0	No Limit
EB1104092-091	PM10_36	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.9	<1.0	11.8	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1702269)									
EB1104092-101	PM10_46.9	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.9	<0.1	158	No Limit
EB1104092-111	PM10_56A	EG035T: Mercury	7439-97-6	0.1	mg/kg	<1.2	<1.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1702271)									
EB1104092-121	PM10_62	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.6	<0.6	0.0	No Limit
EB1104092-131	PM10_71.14	EG035T: Mercury	7439-97-6	0.1	mg/kg	<1.2	<1.1	9.1	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1702118)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	112	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	109	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	111	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	98.6	82	124
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	105	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	102	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	93.1	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	102	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	102	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	106	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	107	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	106	86	124
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG005T: Total Metals by ICP-AES (QCLot: 1702120)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	118	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	111	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	114	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	101	82	124
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	108	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	104	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	95.7	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	105	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	104	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	108	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	110	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	106	86	124
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG005T: Total Metals by ICP-AES (QCLot: 1702249)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	115	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	112	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	112	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	97.8	82	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1702249) - continued								
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	108	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	100	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	105	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	104	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	102	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	108	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	109	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	105	86	124
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG005T: Total Metals by ICP-AES (QCLot: 1702251)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	114	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	112	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	113	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	99.1	82	124
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	108	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	104	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	105	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	105	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	103	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	109	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	109	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	106	86	124
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG005T: Total Metals by ICP-AES (QCLot: 1702266)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	117	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	108	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	111	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	103	82	124
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	108	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	106	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	106	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	106	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	103	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	108	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	110	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	114	86	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1702266) - continued								
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG005T: Total Metals by ICP-AES (QCLot: 1702268)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	118	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	109	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	112	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	103	82	124
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	108	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	103	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	110	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	105	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	103	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	109	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	110	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	116	86	124
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG005T: Total Metals by ICP-AES (QCLot: 1702270)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.11 mg/kg	117	90	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	137.41 mg/kg	106	91	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.51 mg/kg	111	94	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	100	82	124
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.93 mg/kg	106	89	129
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	24.49 mg/kg	102	87	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.68 mg/kg	103	89	125
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.76 mg/kg	103	83	123
EG005T: Manganese	7439-96-5	5	mg/kg	<5	135.6 mg/kg	100	88	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.23 mg/kg	107	86	124
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	34.03 mg/kg	109	92	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	103.88 mg/kg	104	86	124
EG005T: Thallium	7440-28-0	5	mg/kg	<5	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702119)								
EG035T: Mercury	7439-97-6	0.10	mg/kg	<0.1	1.34 mg/kg	87.6	73	127
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702121)								
EG035T: Mercury	7439-97-6	0.10	mg/kg	<0.1	1.34 mg/kg	89.6	73	127
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702267)								
EG035T: Mercury	7439-97-6	0.10	mg/kg	<0.1	1.34 mg/kg	104	73	127
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702269)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702269) - continued								
EG035T: Mercury	7439-97-6	0.10	mg/kg	<0.1	1.34 mg/kg	103	73	127
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702271)								
EG035T: Mercury	7439-97-6	0.10	mg/kg	<0.1	1.34 mg/kg	102	73	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1702118)							
EB1104092-002	CS35	EG005T: Arsenic	7440-38-2	50 mg/kg	99.1	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	104	70	130
		EG005T: Beryllium	7440-41-7	5 mg/kg	114	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	103	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	101	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	102	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	127	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	97.0	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	# Not Determined	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70	130
		EG005T: Vanadium	7440-62-2	50 mg/kg	97.7	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	# Not Determined	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1702120)							
EB1104092-022	CS55	EG005T: Arsenic	7440-38-2	50 mg/kg	99.5	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	103	70	130
		EG005T: Beryllium	7440-41-7	5 mg/kg	115	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	103	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	101	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	102	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	# Not Determined	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	# Not Determined	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	# Not Determined	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG005T: Vanadium	7440-62-2	50 mg/kg	95.3	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	# Not Determined	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1702249)							
EB1104092-042	70.14B	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	111	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	105	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	104	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	# Not Determined	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	103	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	99.2	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	104	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1702249) - continued							
EB1104092-042	70.14B	EG005T: Vanadium	7440-62-2	50 mg/kg	100	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	# Not Determined	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1702251)							
EB1104092-062	VD47	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	108	70	130
		EG005T: Beryllium	7440-41-7	5 mg/kg	115	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	106	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	104	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	106	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	118	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	105	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	105	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70	130
		EG005T: Vanadium	7440-62-2	50 mg/kg	106	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	# Not Determined	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1702266)							
EB1104092-082	VD69	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	93.6	70	130
		EG005T: Beryllium	7440-41-7	5 mg/kg	106	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	98.5	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.2	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	98.8	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	# Not Determined	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	101	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	97.2	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG005T: Vanadium	7440-62-2	50 mg/kg	98.9	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	# Not Determined	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1702268)							
EB1104092-102	PM10_47.9	EG005T: Arsenic	7440-38-2	50 mg/kg	97.2	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	96.9	70	130
		EG005T: Beryllium	7440-41-7	5 mg/kg	104	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	98.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.8	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	97.5	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	79.9	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	93.7	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	89.8	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1702268) - continued							
EB1104092-102	PM10_47.9	EG005T: Nickel	7440-02-0	50 mg/kg	96.9	70	130
		EG005T: Vanadium	7440-62-2	50 mg/kg	96.6	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	73.1	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1702270)							
EB1104092-122	PM10_63	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	99.5	70	130
		EG005T: Beryllium	7440-41-7	5 mg/kg	109	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	102	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	100	70	130
		EG005T: Cobalt	7440-48-4	50 mg/kg	101	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	100	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	102	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	100	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG005T: Vanadium	7440-62-2	50 mg/kg	101	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	97.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702119)							
EB1104092-002	CS35	EG035T: Mercury	7439-97-6	5.0 mg/kg	95.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702121)							
EB1104092-022	CS55	EG035T: Mercury	7439-97-6	5.0 mg/kg	92.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702267)							
EB1104092-082	VD69	EG035T: Mercury	7439-97-6	5.0 mg/kg	86.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702269)							
EB1104092-102	PM10_47.9	EG035T: Mercury	7439-97-6	5.0 mg/kg	88.9	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1702271)							
EB1104092-122	PM10_63	EG035T: Mercury	7439-97-6	5.0 mg/kg	98.3	70	130

A3- 2: Quality assurance and control report for wipe samples analysed by Queensland Health (House dust study 2008)

Samples	Arsenic (µg/wipe)	Cadmium (µg/wipe)	Copper (µg/wipe)	Iron (µg/wipe)	Lead (µg/wipe)	Zinc (µg/wipe)
BLK	-0.08	-0.0002	0.04	1.233	0.06	0.852
BLK1	-0.01	0.0018	0.03	0.52	0.07	0.386
BLK3	0	-0.0138	0.07	0.457	0.05	0.357
BLK4	0	-0.0163	0.04	0.258	0.02	0.166
BLK5	0.01	-0.0146	0.06	0.382	0.05	0.991
BLK6	0	-0.0461	0.14	1.198	0.21	0.435
Mean Value	-0.013	-0.015	0.063	0.675	0.077	0.530

A3- 3: Quality assurance and control report for garden soil samples analysed by Queensland Health (House dust study 2008)

QHSS sample ID	Item	Arsenic	Cadmium	Copper	Iron	Lead	Zinc
		(mg/kg)					
08NA6772U5	Mean value (n=2)	< 20	< 2	160	32250	84	200
	RSD (%)	N/A	N/A	0	0.2	0.8	0
08NA6793U5	Mean value (n=2)	< 20	< 2	365	24250	200	1300
	RSD (%)	N/A	N/A	1.9	0.3	0	0
08NA6818U5	Mean value (n=2)	< 20	< 2	78	32400	22	96
	RSD (%)	N/A	N/A	0	0.9	0	0.7
08NA6845U5	Mean value (n=2)	< 20	< 2	140	29650	42	125
	RSD (%)	N/A	N/A	0	2.6	0	5.7
08NA6859U2	Mean value (n=2)	21	1	295	33550	165	290
	RSD (%)	3.4	10.1	2.4	0.2	4	0
08NA6883U5	Mean value (n=2)	< 20	< 2	1100	34300	160	180
	RSD (%)	N/A	N/A	0	2.1	0	0
08NA8154U5	Mean value (n=2)	< 20	< 2	70	25150	36	87
	RSD (%)	N/A	N/A	2.0	3.1	0	4.1
08NA8157U5	Mean value (n=2)	< 20	< 2	160	29750	96	285
	RSD (%)	N/A	N/A	0	5.9	2.2	2.5
08NA8160U5	Mean value (n=2)	< 20	< 2	800	26300	155	215
	RSD (%)	N/A	N/A	10.6	0.5	4.6	3.3
08NA8163U5	Mean value (n=2)	< 20	< 2	110	30600	38	97
	RSD (%)	N/A	N/a	0	3.2	1.9	0.7

08NA8149U2	Mean value (n=2)	23	5	1400	22700	450	1400
	RSD (%)	3.1	8.3	0	0.6	0	0.0
08NA8165	Mean value (n=2)	20	3	471	28937	283	573
	RSD (%)	0	2.0	3.3	1.3	1	1.7
08NA8143	Mean value (n=2)	11	2	483	5198	151	460
	RSD (%)	6.7	0	6.7	11	0.9	3.1

<DL: Bellow detection limits

N/A: Data not available.

A3- 4: Quality assurance and control report for wipe samples analysed by National Measurement Institute (NMI)

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: UNIVERSITY OF QUEENSLAND

NMI QA Report No: UNIQ09/110715T1 **Sample Matrix:** Dust Wipe

Analyte	Method	LOR	Blank	Duplicates			Recoveries		
				Sample	Duplicate	RPD	LCS	Matrix Spike	Matrix Spike
		mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%
Inorganics Section								N11/021908	N11/021954
Arsenic	NT2.52	0.1	<0.1	ND	ND	ND	85	100	100
Barium	NT2.52	0.05	<0.05	ND	ND	ND	95	103	100
Beryllium	NT2.52	0.05	<0.05	ND	ND	ND	95	110	109
Cadmium	NT2.52	0.05	<0.05	ND	ND	ND	95	100	100
Chromium	NT2.52	0.1	<0.1	ND	ND	ND	102	91	102
Cobalt	NT2.52	0.05	<0.05	ND	ND	ND	106	102	99
Copper	NT2.52	0.05	<0.05	ND	ND	ND	96	91	92
Iron	NT2.52	0.5	<0.5	ND	ND	ND	98	95	100
Lead	NT2.52	0.05	<0.05	ND	ND	ND	94	100	100
Manganese	NT2.52	0.05	<0.05	ND	ND	ND	104	100	98
Mercury	NT2.52	0.05	<0.05	ND	ND	ND	85	108	100
Nickel	NT2.52	0.05	<0.05	ND	ND	ND	104	100	100
Thallium	NT2.52	0.05	<0.05	ND	ND	ND	96	110	100
Uranium	NT2.52	0.05	<0.05	ND	ND	ND	95	100	99
Vanadium	NT2.52	0.1	<0.1	ND	ND	ND	108	96	100
Zinc	NT2.52	0.1	<0.1	ND	ND	ND	98	97	105

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Legend:
Acceptable recovery is 75-120%.
Acceptable RPDs on duplicates is 44% at concentrations >5 times LOR. Greater RPD may be expected at <5 times LOR.
LOR = Limit Of Reporting ND = Not Determined
RPD = Relative Percent Difference NA = Not Applicable
LCS = Laboratory Control Sample.
#: Spike level is less than 50% of the sample's concentration, hence the recovery data is not reliable.

Comments:
Results greater than ten times LOR have been rounded to two significant figures.
This report shall not be reproduced except in full.

Signed:

Dr Michael Wu
Inorganics Manager, NMI-Pymble

Date: **2/08/2011**

A3- 5: Quality assurance and control summary for chemical analysis at Earth Sciences geochemistry laboratory

Table A3-5.1: Summary of detection limits for ICP-MS at Earth Science geochemistry laboratory

Sample (n=18)*	V	Cr	Mn	Fe	Co	Cu	Zn	As	Cd	Pb
Detection limits(pg/g)	11	43	3	614	17	90	83	53	1	10

Table A3-5.2: Elemental concentrations (ng/g) in blank filters for air PM10 sampling

	Mean (n=3)	SD (n=3)		Mean (n=3)	SD (n=3)
Aluminium	2786	734	Iron	5063	1582
Arsenic	8218	2870	Lead	178	205
Barium	302	59	Manganese	< DL	< DL
Cadmium	< DL	< DL	Molybdenum	68	45.7
Chromium	15732	919	Nickel	105	31
Cobalt	< DL	< DL	Vanadium	10	2.78
Copper	131	92	Zinc	< DL	< DL

< DL: means below detection limit

N/A: data not available

Filter weight is 0.00848g ± 0.0009 (SD)

Table A3-5.3: Recovery of elements for sample with aqua-regia for digestion method

	NIST SRM 1648a certified value (mg/kg)		Uncertainty	NIST SRM 1648a measured* (mg/kg) (n=5)	RSD (%)
As	115.5	±	3.9	83.5	7.6
Cd	73.7	±	2.3	61	7.6
Co	17.9	±	0.68	10.6	8
Cu	610	±	70	401	8.6
Fe	39200	±	2100	25916	8.5
Mn	790	±	44	480	8.7
Pb	6600	±	330	5111	7
V	127	±	11	83	6
Zn	4800	±	270	2750	6

Table A3-5.4: Recovery of elements for samples with HF+ HNO_3 digestion method

	SRM 1648a certified value (mg/kg)		Uncertainty	SRM 1648a measured** (mg/kg) (n=6)	RSD (%)
As	115.5	±	3.9	114	4
Cd	73.7	±	2.3	34	12
Co	17.9	±	0.68	14.4	7
Cu	610	±	70	476	5
Fe	39200	±	2100	33251	4
Mn	790	±	44	689	3
Pb	6600	±	330	6139	4
V	127	±	11	100	6
Zn	4800	±	270	3311	6

Table A3-5.5: Summary of total elemental concentrations for air particulates samples with duplicates (n=2)

ID	V		Mn		Fe		Co		Cu		Zn		As		Cd		Pb	
	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)	µg/m^3	RSD (%)
AH13	0.00	6	0.00	0.4	0.14	1	<DL	N/A	0.02	1	0.02	13	0.01	6	0.00	1	0.08	4
AH23	0.00	2	0.00	8	0.09	9	<DL	N/A	0.01	6	0.02	2	0.00	2	0.00	6	0.03	0.0
AM15	0.01	76	0.04	19	1.85	21	0.00	18	0.25	21	0.57	10	0.03	8	0.02	19	0.74	4
AM16	0.01	45	0.08	11	3.16	11	0.00	1.8	0.44	17	1.06	13	0.12	33	0.02	3	1.43	2
AM17	0.02	18	1.06	10	48.6	10	0.02	12	0.89	7	23.84	9	0.15	4	0.08	8	15.6	9
AM20	0.01	84	0.00	10	0.18	16	<DL	N/A	0.03	4	0.03	9	0.01	28	0.00	8	0.05	17
AH34*	0.00	100	0.01	15	0.38	17	0.00	12	0.03	14	0.04	25	0.01	4	0.00	17	0.06	11
AH41	0.00	78	0.00	4	0.20	3	0.00	4.6	0.00	2	0.02	69	0.00	44	0.00	8	0.00	7
AM24	0.01	75	0.01	9	1.33	9	0.01	1.4	0.88	8	1.24	10	0.24	10	0.22	11	12	9
AM27	0.01	28	0.06	15	2.43	12	0.01	12	0.12	4	0.24	13	0.03	4	0.00	1	0.24	11

*N=3 for this sample

<DL : Bellow the detection limits

N/A data not available

A3-6: Quality assurance and control summary for chemical analysis at Entox laboratory

Table A3-6.1 Reproducibility of PBET (bioaccessibility estimation) for EnTox in-house quality control material (n=18)

	As	Cd	Co	Cr	Cu	Mn	Pb	Zn
Total mean (mg/kg)	282	195	29	88	626	1486	39350	20425
Bioaccessibility mean (%)	5	56	24	2.4	25	8	22	39
SD	5.6	29	12	2.0	15	3	9	22
RSD (%)	113	52	50	83	60	36	40	57

Appendix 4: Analytical results

A4 – 1 Total concentrations and bioaccessibility by PBET

A4 – 1.1 Mineralisation site samples

Table A4- 1: Total concentration of metals and metalloids in natural outcrop near Mount Isa city

Sample ID	Arsenic	Barium	Cobalt	Copper	Iron	Lead	Manganese	Thallium	Zinc
	(mg/kg)								
BGR1	-	26	-	-	903	9	-	-	-
BGR2	79	272	-	203	61806	318	77	0.8	-
BGR3	21	397	-	257	28061	199	51	0.9	-
BGR4	16	386	-	115	15605	289	2423	0.5	-
BGR5	18	515	16	39	61517	11	437	2.1	-
BGR6	78	582	41	55	102910	109	5350	27	1173
BGR7	-	289	-	57	26138	18	4002	0.6	-
BGR8	23	370	-	39	26772	41	726	2.5	-
BGR9	-	259	-	-	3287	8	25	0.1	-
BGR11	6	570	57	325	135747	11	2338	0.4	213
BGR12	30	6	-	125	2246	323	5	-	-
BGR13	-	413	31	22	62395	10	942	0.1	-
BGR14	12	693	-	37	22308	55	35	1.7	-

‘ – ‘ data is not available

Table A4- 2: Total concentration of metals and metalloids in natural mineralisation samples

Sample ID	Aluminium	Arsenic	Bariu m	Cad mium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Thallium	Vanadium	Zinc
	(mg/kg)												
NM3	49128	645	318	4.0	90	1368	190204	3180	6801	6.74	74	125	2470
NM4	80107	500	1025	1.1	2	143	165323	5013	32	15	48	77	963
NM5	6417	218	35	0.3	3	293	172448	1184	21	19	1.4	-	1787
NM6	113518	8.83	906	-	-	11	7737	47	-	0.52	2.8	98	-
NM7	64498	625	336	1.3	12	711	57175	3993	970	2.56	21	-	716

‘ – ‘ data is not available

Table A4- 3: Total concentration of metals and metalloids in samples collected at footpath at Mount Isa city

Sample ID	Antimony	Arsenic	Cadmium	Cobalt	Copper	Lead	Nickel	Thallium	Zinc
	(mg/kg)								
CS1	0.5	2	0.5	9	104	57	16	-	66
CS2	0.6	7	0.4	9	123	44	15	-	63
CS3	0.6	8	0.3	12	107	28	23	-	44
CS4	0.9	13	0.3	12	71	37	19	-	74
CS5	0.6	4	0.9	10	151	70	15	0.1	111
CS6	2.4	21	3.1	15	789	288	16	0.6	350
CS7	1.9	13	2.5	15	884	303	17	0.9	394
CS8	-	-	0.2	10	165	50	17	-	62
CS9	-	-	0.1	11	108	33	18	-	51
CS10	-	-	0.4	13	112	50	18	-	85
CS11	0.1	-	0.2	17	90	40	25	-	73
CS12	0.4	3	0.5	14	284	129	18	0.1	130
CS13	-	-	0.4	12	150	54	18	0.1	70
CS14	-	-	0.3	14	150	46	21	-	90

‘ – ‘ data is not available

A4 – 1.2 Mine Sites samples

Table A4- 4: Total concentration of metal and metalloid of samples collected at mine sites

Sample ID	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Silver	Zinc
	(mg/kg)											
SS1	358	42	61	148	1742	192359	30673	27	39	216	28	108125
SS2	302	36	49	220	1389	204136	24882	9	40	180	30	100189
SS3	875	20	63	673	15114	243938	3919	10	238	132	32	7054
SS4	45	2	23	592	9056	221037	245	5	606	81	23	337
SS5	70	1,603	-	54	1285	65656	21834	294	2	1	118	398739
SS6	489	2	-	296	10954	43528	337	283	3	18	3	198
SS7	250	172	-	30	845	53675	1756	1,086	3	16	12	33124
SS8	618	77,700	<20	<20	2465	19800	656000	225	-	<20	-	50600
SS9	271	2,852	9	-	6251	90499	126432	N/D	77	124	-	47023
SS10	231	6,294	4	-	4657	85249	61568	N/D	79	99	-	47969
SS11	258	2,573	-	31	3724	25680	68645	368	17	28	15	19887
SS12	1057	7	-	522	90956	92715	599	90	10	30	19	392
SS13	222	15	-	67	600	41585	2053	1,542	2	33	7	2937
SS14	392	30	-	264	1498	58908	708	560	75	15	5	4222
SS15	363	26	-	169	1004	37160	2854	624	11	24	13	4704
SS16	112	382	111	54	479	79201	22307	2,446	15	93	34	90343
SS17	113	360	90	63	539	75533	39304	2,538	9	43	73	84343
SS18	165	365	42	90	132	80237	3956	98	7	1	18	50960
SS19	14	7	-	38	466	65948	771	1,662	0.28	47	1.2	1351
SS20	36	10	-	24	96	48446	1210	2,293	-	42	1.2	4264
SS21	25	70	79	16	84	45662	9269	2,492	6	55	5.9	20144

Sample ID	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Silver	Zinc
	(mg/kg)											
SS22	341	750	-	17	4613	18362	44944	289	26	122	14	10345
SS23	1154	24	21	1,025	164675	213627	1161	173	96	145	47	838
SS24	684	28	9	520	173298	210638	2204	113	16	92	56	1087
SS25	218	20	4	317	204584	239659	193	319	622	111	48	325
SS26	180	357	5	-	1961	132579	19064	-	56	84	-	77746
SS27	740	1	-	64.91	275339	3958	853	251	1	35.31	-	268
SS28	226	32	-	88.55	1451	55723	50001	102	0.8	16.40	-	26060

‘ – ‘ data is not available

Table A4- 5: Total concentration of metals and metalloids in haul road dust samples

ID	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Titanium	Zinc
HR1	75	21	18	41	1600	50000	3400	2300	38	19	190	4900
HR2	120	34	17	49	4800	57000	8600	1900	51	18	170	8400
HR3	180	40	19	100	7600	62000	6100	780	59	19	170	8700
HR4	660	31	62	460	6600	220000	3500	720	79	12	550	7100
HR5	760	18	91	550	6100	280000	2000	680	84	8	720	5400
HR6	640	39	70	400	5400	230000	4300	780	79	10	570	9300
HR7	170	46	11	48	1100	82000	7900	2200	57	16	150	14000
HR8	90	30	11	29	530	53000	4800	2500	45	12	140	8800
HR9	92	23	10	30	530	52000	4600	2900	47	15	120	7300

Table A4- 6: Total concentration of metals and metalloids in tailings samples

Sample ID	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Silver	Thallium	Vanadium	Zinc
	(mg/kg)												
TD5S31	229	11	7	131	3742	18394	1828	500	17	2	1	7	2949
TD5S61	304	6	9	202	2169	43432	2616	548	8	3	6	4	3854
TD7S21	606	24	10	185	1571	44015	4485	700	16	7	14	4	8695
TD7S51	389	22	9	186	2082	47633	4287	545	11	8	14	3	6058
TD8S21	397	22	7	137	1362	34227	5349	629	18	6	5	3	9168
TD8S31	404	16	10	135	1582	42043	4855	827	14	5	9	3	9589
TD8S41	569	20	9	287	1343	35395	4268	917	21	6	14	2	9237

Table A4- 7: Total concentration of metal and metalloids in thimbles collected from lead smelter

Sample ID	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Vanadium	Zinc
	(mg/kg)													
HMA	2320	<160	8690	205	<16	1120	17700	166000	136	431	332	403	97	8470
ATP1	386	160	7360	6	84	5020	117000	292000	194	52	38	283	110	71400
ATP2	588	1680	6840	9	132	14000	104000	499000	238	<0.4	44	249	85	81800
ATP4	410	1500	5950	18	107	9020	102000	470000	338	42.4	48	360	86	81500
ATP5	369	340	6250	12	85	6260	69800	336000	268	4.3	34	51	115	51200
ATP8	172	<110	25700	<11	13	1220	16500	230000	35	489	<11	1080	16	20000

Table A4- 8: Total concentration of metals and metalloids in thimbles samples collected from copper smelter

Sample ID	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Vanadium	Zinc
	(mg/kg)													
ATC1	3310	1180	34	<9	1220	229000	269000	4120	198	2.3	202	31	20	1770
ATC2	3300	830	41	<23	970	251000	267000	2770	207	2	89	54	<23	1750
ATC3	32000	160	184	17	464	95300	137000	4140	200	<0.3	59	96	120	1030
ATC4	13100	350	56	<13	1160	251000	281000	4340	216	8.1	134	68	16	1340
ATC5	6000	290	29	<5	1080	223000	247000	1770	208	2.4	116	31	20	1060
ATC7	10000	340	68	19	820	186000	181000	2870	210	0.7	100	37	30	977
ATC10	694	5670	46	<25	927	576000	72100	5320	131	<1.2	464	80	<25	1260
ATC11	282	770	10	57	3010	136000	296000	2420	214	<0.6	242	<12	13	1280
PESP01	8560	<110	450	314	149	44800	29000	26400	86	1.8	166	616	40	3630
LPC01	4120	660	62	11	725	261000	68100	7160	60	2.2	361	124	15	696

‘ – ‘ data is not available

Table A4- 9: Total concentration of metals and metalloids in thimbles samples collected from smelter dust

Sample ID	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Vanadium	Zinc
SD1	748	70	3	34	973	5500	200000	704	253	<0.1	5	<5	13	2610
SD2	10	40	1	3	6	412	3580	1740	60	<0.1	4	<5	<5	122
SD3	276	40	6470	4	40	3610	41200	73400	113	0.3	15	8	105	35100
SD4	58	30	16	24	10	683	13000	14200	269	0.3	122	<5	604	1450
SD5	511	<10	228	11	26	4160	32500	8690	2590	6.8	6	<5	<5	49500
SD6	772	40	4310	3	37	24300	28900	50200	127	14.1	225	43	47	21800
SD7	275	<10	255	<2	77	4210	142000	16356	171	2.1	13	73	<5	98600
SD8	303	<10	9450	4	58	4470	72800	24006	185	24.6	34	143	51	68000
SD9	1080	70	139	<2	11	32500	2010	43000	22	0.3	410	<5	<5	1280
SD10	223	<10	59000	<2	4	469	3340	15800	15	163	3	1620	5	15000
SD11	261	<10	4965	9.88	70	3629	93400	22106	236	24.5	32	192	76	54698
SMD1	262	-	125000	<2	2.00	325	-	64066	10	-	-	-	-	22600
SMD1R	262	-	125000	<2	2	325	-	64066	10	-	-	-	-	22600
SMD2	36	-	60	9	2	2570	-	16400	10	-	-	-	-	953
SMD3	257	-	228	23	23	3950	-	24300	2010	-	-	-	-	43600
SMD4	409	-	13900	8	52	5720	-	32416	207	-	-	-	-	54900
SMD5	220	-	13200	7	60	2240	-	35246	202	-	-	-	-	90100
SMD6	634	-	42	29	317	7320	-	1790	192	-	-	-	-	1810
SMD7	273	-	5610	6	317	2220	-	25846	214	-	-	-	-	108000
SMD8	70	-	32	26	16	1340	-	13400	228	-	-	-	-	3160
SMD9	425	-	3330	5	47	6690	-	42986	172	-	-	-	-	36100
SMD10	41	-	43	3	67	38	-	12276	214	-	-	-	-	64558

‘ – ‘ data is not available

Table A4- 10: Total concentration of metals and metalloids (µg/m^3) of air particulates sampled at mine sites in 2009

Sample ID	Aluminium	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Vanadium	Zinc
	µg/m^3														
AM1	0.92	0.0394	0.014	0.021	0.023	0.0021	0.14	1.30	1.01	0.034	0.0011	$<3X10^{-5}$	0.0022	0.0013	0.22
AM2	0.48	0.0070	0.005	0.001	0.016	0.0005	0.02	0.33	0.06	0.004	0.0003	$<3X10^{-5}$	0.0005	0.0008	0.01
AM3	1.58	0.0247	0.022	0.055	0.024	0.0041	0.55	3.46	2.72	0.078	0.0032	$<3X10^{-5}$	0.0080	0.0039	1.77
AM4	3.84	0.0178	0.020	0.012	0.015	0.0034	0.14	3.40	1.32	0.067	0.0027	$<3X10^{-5}$	0.0029	0.0038	1.10
AM5	7.29	0.0953	0.093	0.048	0.048	0.0084	0.46	16.48	5.44	0.457	0.0027	$<3X10^{-5}$	0.0151	0.0082	9.25
AM6	11.68	1.8205	0.663	2.280	0.085	0.0383	10.41	23.34	164.6	0.124	0.0195	$<3X10^{-5}$	0.1770	0.0547	4.97
AM7	4.25	0.3707	0.503	7.636	0.049	0.0341	2.38	27.75	168.2	0.067	0.0269	$<3X10^{-5}$	0.5136	0.0827	9.15
AM8	1.67	0.3981	0.834	0.508	0.389	0.0061	0.73	3.62	41.8	0.056	0.0069	$<3X10^{-5}$	0.1071	0.0043	9.61
AM11	1.67	0.0036	0.009	0.002	0.001	0.0005	0.02	0.97	0.08	0.015	0.0001	$<3X10^{-5}$	0.0003	0.0022	0.04
AM12	0.85	0.0008	0.006	0.001	0.001	0.0003	0.01	0.51	0.03	0.008	0.0001	$<3X10^{-5}$	0.0001	0.0012	0.01

Table A4- 11: Total concentration of metals and metalloids (µg/m^3) of air particulates sampled at mine sites in 2010

Sample ID	Aluminium	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Thallium	Vanadium	Zinc
	µg/m^3												
AM14	0.35	0.0529	0.010	0.050	$<4x10^{-6}$	0.08	0.37	0.46	0.009	0.0042	0.0033	$< 10^{-6}$	0.15
AM15	1.45	0.0342	0.017	0.084	0.0029	0.29	2.12	0.76	0.046	0.0073	0.0023	0.0104	0.61
AM16	1.95	0.1429	0.020	0.055	0.0036	0.49	2.93	1.45	0.076	0.0096	0.0067	0.0083	0.96
AM17	19.87	0.1535	0.082	0.118	0.0252	0.93	52.06	16.56	1.133	0.0105	0.0364	0.0198	25.34
AM18	0.30	0.1395	0.016	0.020	0.0010	0.12	0.47	0.53	0.008	0.0018	0.0022	0.0010	0.14
AM20	0.26	0.0138	0.003	0.055	$< 5x10^{-6}$	0.03	0.20	0.06	0.003	0.0012	0.0008	0.0028	0.04
AM21	0.17	0.0062	0.001	0.036	0.0006	0.02	0.19	0.05	0.004	0.0015	0.0004	0.0055	0.06

Table A4- 12: Total concentration of metals and metalloids (µg/m^3) of air particulates sampled at mine sites in 2011

Sample ID	Aluminium	Antimony	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Vanadium	Zinc
	µg/m^3															
AM22	1.51	0.06378	0.6451	1.96	0.70046	0.057	0.03447	2.659	14.87	83.65	0.060	0.0216	0.01094	0.14176	0.0409	5.52
AM23	2.69	0.11541	0.8271	2.15	1.06623	0.208	0.04494	3.071	25.17	144.03	0.104	0.0309	0.01638	0.53451	0.1225	10.47
AM24	0.45	0.03309	0.2531	0.82	0.23149	0.103	0.00513	0.933	1.42	12.72	0.013	0.0062	0.00766	0.03616	0.0151	1.32
AM25	3.48	0.00712	0.1313	0.07	0.02481	0.057	0.00627	0.490	6.76	1.82	0.166	0.0081	0.00261	0.00740	0.0148	1.84
AM27	0.79	0.00381	0.0253	0.01	0.00259	0.047	0.00605	0.116	2.43	0.24	0.065	0.0008	$< 3 \times 10^{-6}$	0.00104	0.0083	0.24
AM31	0.41	0.00039	0.0095	0.01	0.00173	0.014	0.00077	0.058	0.58	0.17	0.011	0.0005	0.00038	0.00057	0.0044	0.08
AM32	0.30	0.00090	0.0050	0.00	0.00117	0.010	0.00018	0.018	0.33	0.13	0.004	0.0003	$< 2 \times 10^{-6}$	0.00030	0.0034	0.02

Table A4- 13: Bioaccessibility of metals and metalloids in samples collected at mine sites

Sample ID	BAc	Arsenic	Cadmium	Copper	Zinc	Lead
SS1	(mg/kg)	36	4	45	15894	4172
	(%)	10.1	9.7	2.6	14.7	13.6
SS2	(mg/kg)	22	3	47	8917	2414
	(%)	7.3	8.6	3.4	8.9	9.7
SS3	(mg/kg)	63	5	1844	1016	1979
	(%)	7.2	25.4	12.2	14.4	50.5
SS4	(mg/kg)	6	0	326	25	69
	(%)	13.2	1.2	3.6	7.3	28.1
SS5	(mg/kg)	3	16	1	8772	3100
	(%)	4.8	1	0.1	2.2	14.2
SS6	(mg/kg)	25	0	142	40	63
	(%)	5.2	15.5	1.3	20.2	18.6
SS7	(mg/kg)	16	2	7	3875	562
	(%)	6.4	1.2	0.8	11.7	32
SS8	(mg/kg)	4	8	12	1037	3280
	(%)	0.7	0.01	0.5	2.1	0.5
SS10	(mg/kg)	52	390	1	1007	26413
	(%)	22.5	6.2	0.03	2.1	42.9
SS11	(mg/kg)	46	260	48	1193	26428
	(%)	17.8	10.1	1.3	6	38.5
SS12	(mg/kg)	68	3	2729	82	31
	(%)	6.4	46.4	3	20.8	5.2
SS13	(mg/kg)	12	1	61	317	296
	(%)	5.4	9.7	10.1	10.8	14.4
SS17	(mg/kg)	2	3	1	843	6407
	(%)	1.4	0.8	0.1	1	16.3
SS18	(mg/kg)	2	83	14	6064	1590
	(%)	1.5	22.7	10.9	11.9	40.2
SS22	(mg/kg)	41	68	332	321	8944
	(%)	11.9	9	7.2	3.1	19.9
SS26	(mg/kg)	7	2	nd	233	4842
	(%)	3.8	0.7	bdl	0.3	25.4
SS27	(mg/kg)	-	-	5066	41	80
	(%)	-	-	1.8	15.2	9.4

‘ – ‘ data is not available

Table A4- 14: Bioaccessibility of metals and metalloids in samples collected at haul road

Sample ID	BAc	Arsenic	Cadmium	Cobalt	Copper	Lead	Zinc
HR1	(mg/kg)	10	8	10	685	1428	1321
	(%)	14	40	25	43	42	27
HR2	(mg/kg)	20	13	11	1018	3010	2321
	(%)	16	38	22	21	35	28
HR3	(mg/kg)	30	21	18	1332	2684	2062
	(%)	16	52	18	18	44	24
HR4	(mg/kg)	67	23	44	996	1820	1612
	(%)	10	74	10	15	52	23
HR5	(mg/kg)	71	17	62	902	1240	1292
	(%)	9	94	11	15	62	24
HR6	(mg/kg)	64	26	32	611	2623	1577
	(%)	10	68	8	11	61	17
HR7	(mg/kg)	8	10	12	210	2054	2698
	(%)	5	22	25	19	26	19
HR8	(mg/kg)	9	6	8	152	1440	1337
	(%)	10	20	27	29	30	15
HR9	(mg/kg)	10	6	7	151	1426	1521
	(%)	11	24	25	29	31	21

Table A4- 15: Bioaccessibility of metals and metalloids in tailing samples

Sample ID	BAc	Arsenic	Cadmium	Copper	Lead	Zinc
TD5S3-1	(mg/kg)	140	7	2881	493	1150
TD5S3-1	(%)	61	63	77	27	39
TD5S6-1	(mg/kg)	97	3	954	602	1118
TD5S6-1	(%)	32	53	44	23	29
TD7S2-1	(mg/kg)	73	6	204	1839	1217
TD7S2-1	(%)	12	27	13	41	14
TD7S5-1	(mg/kg)	23	8	146	1415	606
TD7S5-1	(%)	6	34	7	33	10
TD8S2-1	(mg/kg)	313	8	259	2461	2750
TD8S2-1	(%)	79	35	19	46	30
TD8S3-1	(mg/kg)	61	4	206	1505	1534
TD8S3-1	(%)	15	25	13	31	16
TD8S4-1	(mg/kg)	74	7	161	1280	2309
TD8S4-1	(%)	13	37	12	30	25

Table A4- 16: Bioaccessibility of metals and metalloids in smelter dust

Sample ID	BAc	Arsenic	Cadmium	Copper	Lead	Zinc
SD1	(mg/kg)	60	-	399	502	451
	(%)	8	-	7	71	17
SD2	(mg/kg)	1	< 43	56	395	17
	(%)	12	< 13.4	14	23	14
SD3	(mg/kg)	16	311	313	15736	1278
	(%)	6	5	9	21	4
SD4	(mg/kg)	2	1	22	1585	49
	(%)	4	9	3	11	3
SD5	(mg/kg)	3	13		6861	722
	(%)	1	6	< 7.6	79	1
SD6	(mg/kg)	86	444	116	23810	1015
	(%)	11	10	0.48	47	5
SD7	(mg/kg)	1	1	3	-	343
	(%)	0.32	0.34	0.06	-	0
SD8	(mg/kg)	32	1105	5	-	3426
	(%)	11	12	0.12	-	5
SD9	(mg/kg)	165	37	247	34702	122
	(%)	15	27	1	81	10
SD10	(mg/kg)	11	9968	2	14580	2589
	(%)	5	17	0.34	92	17
SD11	(mg/kg)	15	439	27	-	896
	(%)	6	7	1	-	2

‘ – ‘ data is not available

Table A4- 17: Bioaccessibility of metals and metalloids in thimbles samples collected from lead smelter

Sample ID	BAc	Arsenic	Cadmium	Copper	Lead	Zinc
ATP1	(mg/kg)	97	677	20	28324	1928
ATP1	(%)	25	9	0.4	10	3
ATP2	(mg/kg)	144	575	182	16467	1227
ATP2	(%)	25	8	1	3	2
ATP4	(mg/kg)	93	321	99	9400	571
ATP4	(%)	23	5	1	2	1
ATP5	(mg/kg)	113	519	357	28896	2355
ATP5	(%)	31	8	6	9	5
ATP8	(mg/kg)	138	3213	54	18860	3020
ATP8	(%)	80	13	4	8	15
HMA	(mg/kg)	246	200	10	4482	263
HMA	(%)	11	2	1	3	3

Table A4- 18: Bioaccessibility of metals and metalloids in thimbles samples collected from copper smelter

Sample ID	BAc	Arsenic	Cadmium	Copper	Lead	Zinc
ATC1	(mg/kg)	1185	22	5954	1063	193
ATC1	(%)	36	64	3	26	11
ATC10	(mg/kg)	99	12	3501	699	172
ATC10	(%)	14	27	1	13	14
ATC11	(mg/kg)	40	6	6538	568	131
ATC11	(%)	14	61	5	23	10
ATC3	(mg/kg)	9568	38	4193	1292	164
ATC3	(%)	30	20	4	31	16
ATC4	(mg/kg)	5256	-	16059	1163	94
ATC4	(%)	40	-	6	27	7
ATC5	(mg/kg)	1679	14	3947	624	350
ATC5	(%)	28	49	2	35	33
ATC7	(mg/kg)	1803	13	5838	528	197
ATC7	(%)	18	19	3	18	20
LPC01	(mg/kg)	799	40	22185	1854	273
LPC01	(%)	19	64	9	26	39
LPESP01	(mg/kg)	5239	87	7168	3854	526
LPESP01	(%)	61	19	16	15	15

‘ – ‘ data is not available

Table A4- 19: Bioaccessibility of metals and metalloids in smelter dust collected at mine site

Sample ID	BAc	(%)	(%)	(%)	(%)	(%)
		Arsenic	Cadmium	Copper	Lead	Zinc
SD1	(mg/kg)	60		399	296	451
	(%)	8	-	7	42	17
SD2	(mg/kg)	1	< 43	56	395	17
	(%)	12	< 13.4	14	23	14
SD3	(mg/kg)	16	311	313	15736	1278
	(%)	6	5	9	21	4
SD4	(mg/kg)	2	1	22	1585	49
	(%)	4	9	3	11	3
SD5	(mg/kg)	3	13		6861	722
	(%)	1	6	< 7.6	79	1
SD6	(mg/kg)	86	444	116	23810	1015
	(%)	11	10	0.48	47	5
SD7	(mg/kg)	1	1	3	8342	343
	(%)	0.32	0.34	0.06	51	0.35
SD8	(mg/kg)	32	1105	5	14884	3426
	(%)	11	12	0.12	62	5
SD9	(mg/kg)	165	37	247	34702	122
	(%)	15	27	1	81	10
SD10	(mg/kg)	11	9968	2	14580	2589
	(%)	5	17	0.34	92	17
SD11	(mg/kg)	15	439	21	8621	896
	(%)	6	9	1	39	2
SMD1R	(mg/kg)	11	28964	1	27409	4192
	(%)	4	23	0.3	43	19
SMD1	(mg/kg)	11	26787	1	28300	4453
	(%)	4	21	0.39	44	20
SMD2	(mg/kg)	6	11	310	980	197
	(%)	16	18	12.04	6	21
SMD3	(mg/kg)	3	5	<300	7370	399
	(%)	1	2	< 7.6	30	1
SMD4	(mg/kg)	26	1198	18	26716	2970
	(%)	6	9	0.32	82	5
SMD5	(mg/kg)	26	1657	1	23394	1926
	(%)	12	13	0.04	66	2
SMD6	(mg/kg)	115	19	1154	455	205
	(%)	18	45	15.76	25	11
SMD7	(mg/kg)	42	1324	2	-	4205
	(%)	15	24	0.09	-	4
SMD8	(mg/kg)	3	4	69	2233	82
	(%)	4	13	5.18	17	3
SMD9	(mg/kg)	23	390	670	34203	2230
	(%)	5	12	10.02	80	6
SMD10	(mg/kg)	1	1	1	-	589
	(%)	4	2	2.44	-	1

‘ – ‘ data is not available

Table A4- 20: Bioaccessibility of metals and metalloids in fallout dust collected at mine site

Sample ID	BAc	Arsenic	Cadmium	Copper	Lead	Zinc
FM21	(mg/kg)	-	-	892	1506	461
FM21	(%)	-	-	19	41	18
FM22	(mg/kg)	126	-	863	1735	418
FM22	(%)	30	-	6	17	6
FM22-C	(mg/kg)	86	-	1240	1641	546
FM22-C	(%)	26	-	13	24	10
FM23	(mg/kg)	202	-	1190	1955	489
FM23	(%)	46	-	7	20	8
FM24	(mg/kg)	174	-	2024	1914	676
FM24	(%)	56	-	17	27	11
FM25	(mg/kg)	61	7	595	516	413
FM25	(%)	87	61	13	21	15
FM26	(mg/kg)	-	2	463	304	244
FM26	(%)	-	58	16	25	19
FM27	(mg/kg)	258	-	1017	2097	712
FM27	(%)	81	-	8	25	10
FM28	(mg/kg)	27	-	393	425	152
FM28	(%)	34	-	5	14	10
FM29	(mg/kg)	27	2	548	411	215
FM29	(%)	79	60	12	24	29
FMB	(mg/kg)	227	-	3025	2256	729
FMB	(%)	37	-	4	19	17
FMK	(mg/kg)	163	-	1629	1166	365
FMK	(%)	55	-	6	19	12
FMR	(mg/kg)	51	41	549	2678	3140
FMR	(%)	17	36	3	15	10
FMRC	(mg/kg)	24	-	313	453	344
FMRC	(%)	38	-	13	38	21
FMS	(mg/kg)	263	-	1782	4341	2507
FMS	(%)	28	-	2	21	25

‘ – ‘ data is not available

A4 – 1.3 Mount Isa city samples

Table A4- 21: Total concentration of metals and metalloids in garden soil (<250 µm fraction)

Sample number	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Zinc
	Total concentration in <250 µm fraction (mg/kg)									
1	6	1	24	10	141	-	112	338	15	170
2	8	2	27	11	435	-	220	298	16	531
3	14	5	27	11	504	-	331	296	16	1445
4	5	2	30	11	139	-	63	306	17	191
5	4	-	21	8	72	-	41	241	10	85
6	23	2	34	10	307	-	201	328	15	219
7	4	4	18	9	108	-	63	373	14	109
8	15	4	22	12	262	-	221	722	15	249
9	9	7	23	12	481	-	197	450	15	235
10	16	10	43	20	1829	-	328	505	17	245
11	7	1	32	12	160	-	133	433	18	898
12	18	4	28	16	1380	-	427	397	19	559
13	5	0	29	8	58	-	43	265	14	82
14	8	2	36	13	257	-	163	404	20	617
15	18	5	31	16	826	-	597	410	15	1605
16	7	2	36	13	153	-	117	408	23	295
17	7	1	27	11	280	-	164	334	14	854
18	7	2	28	11	288	-	186	366	15	316
19	12	2	32	16	851	-	211	404	16	240
20	8	2	34	11	303	-	174	351	16	395
21	11	2	32	14	395	-	227	342	17	996
22	2	1	35	10	96	-	42	349	19	100
23A	3	1	30	11	100	-	56	380	15	116
23B	16	11	19	27	686	-	514	1747	30	878
23C	4	2	32	11	155	-	87	399	16	127
23D	2	1	22	7	75	-	36	289	11	101
33	11	1	36	14	448	27600	136	380	20	320
35	6	<1	26	12	178	26900	120	356	18	451
36	9	2	21	10	283	22900	147	305	13	372
37	20	3	27	18	1320	32300	315	400	17	1230
38	6	<1	32	14	108	31800	430	360	21	284
39	15	4	24	14	662	27400	409	359	16	726
40	<5	<1	26	12	95	27400	44	312	16	106
41	44	5	29	24	2680	30500	745	382	23	440
42	<5	<1	14	7	86	19400	26	163	8	54

‘ – ‘ data is not available

Table A4-21. (cont.)

Sample number	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Zinc
	Total concentration in <250 µm fraction (mg/kg)									
43	<5	<1	24	11	53	28100	12	261	14	42
44	11	6	21	10	273	25700	214	268	12	430
45	14	2	26	16	506	29800	255	532	22	606
46	9	2	52	13	225	24300	135	409	18	634
47	20	2	26	25	765	30800	248	413	16	1200
48	8	1	33	14	205	25600	122	386	23	296
49	6	<1	26	12	219	27400	104	384	17	572
50	12	<1	34	14	301	30300	93	376	19	188
51	19	6	29	15	737	31300	522	345	19	1160
52	7	<1	32	13	135	27400	107	384	20	184
53	31	8	23	15	676	32600	778	514	17	1230
54	6	1	28	14	192	28700	190	372	18	322
55	16	3	25	15	535	26900	416	456	17	811
56A	7	<1	27	15	191	34000	98	520	23	279
56B	<5	<1	11	4	46	13800	16	76	4	89
57A	10	1	25	11	278	23000	147	306	17	277
57B	19	2	26	12	394	24000	200	300	16	432
58A	8	1	28	14	218	26400	140	368	19	292
58B	14	4	25	15	607	24600	418	385	18	990
59	14	1	28	13	491	27300	166	325	16	363
60	15	51	43	25	1280	44800	302	553	36	1500
61A	36	4	23	13	709	35800	840	296	15	1020
61B	50	7	22	12	520	41000	1070	318	12	1460
62	13	2	23	10	358	24400	260	267	14	445
63	10	1	31	13	286	29800	164	286	18	2310
64	<5	<1	29	20	133	60900	23	661	19	93
65	8	<1	25	13	322	25400	90	359	18	417
66	6	<1	26	12	175	26800	60	348	18	241
67	5	<1	33	12	145	27700	72	335	21	338
68	26	<1	29	17	1500	30200	390	312	21	1508
69	6	<1	20	11	338	24000	100	315	13	258
70A	11	2	24	13	389	29500	185	377	16	457
70B	6	<1	20	11	338	18300	100	315	13	258
71	10	<1	32	11	329	22900	83	315	15	137
72A	7	<1	23	11	114	24500	59	296	14	136
72B	10	<1	32	11	329	24000	83	315	15	137
73	31	2	33	16	868	24400	253	444	17	473
74	27	7	24	19	1310	29800	815	371	20	1450
75	11	<1	24	12	223	28200	122	435	16	337
76	7	1	27	12	240	27700	118	290	16	335

‘ – ‘ data is not available

Table A4- 22: Total concentration of metals and metalloids in garden soil (PM10 fraction)

Sample number	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Zinc
	Total concentration in PM10 fraction (mg/kg)									
1	32	2	283	32	409	48120	260	-	84	611
2	39	3	282	31	1204	41999	754	-	34	1941
3	34	12	30	15	1076	-	651	424	44	4087
4	12	<2	28	12	353	-	128	358	35	523
5	18	2	26	15	303	-	166	478	39	362
6	127	6	69	14	672	-	568	476	42	635
7	40	5	29	16	596	32004	499	955	40	624
8	12	1	52	17	240	-	187	-	22	343
9	24	6	20	13	844	-	466	522	36	553
10	49	10	22	19	2828	-	612	579	44	661
11	21	1	29	26	270	39771	162		29	2424
12	56	13	26	20	2526	3965	786	609	36	1557
13	34	3	39	14	363	11513	217	425	45	351
14A	23	2	41	20	373	35930	195	-	30	867
14B	18	1	28	26	309	39373	208	-	31	382
15	66	5	229	31	1555	39854	1429	-	32	4429
16	3	0	32	30	450	44858	213	-	20	591
17	49	2	481	21	676	37393	548	-	44	3637
18	27	7	29	15	829	-	601	492	48	991
19	38	7	25	16	1739	-	471	459	40	699
20	26	6	33	15	781	-	425	488	39	1310
21	53	8	30	15	1618	-	530	324	41	4628
22	10	2	30	13	400	-	142	421	51	316
23a	11	3	22	13	279	37185	213	434	48	347
23b	51	5	250	34	1098	-	1078	-	67	2039
23c	16	5	28	17	1410	-	342	547	63	455
23d	10	3	23	12	313	-	174	445	106	382
33	38	<11	70	28	804	43600	317	976	38	741
35	20	<10	28	<19	242	28200	174	559	24	733
36	<18	<9	34	20	432	29000	277	602	27	744
37	42	7	37	28	2420	43000	666	814	28	2750
38	31	<8	40	34	241	36200	830	984	31	527

39	31	<11	35	26	1410	39300	881	638	24	1690
40	<23	<11	37	<23	188	35700	77	499	26	216
41	56	<10	35	32	3110	38400	1070	591	34	799
42	10	1	32	20	170	30300	101	511	22	164
43	<17	<9	32	25	201	38600	25	480	23	121
44	<25	23	33	<25	562	39200	606	513	<25	1130
45	37	<12	54	39	1210	56800	780	1080	54	2000
46	16	4	84	23	387	35100	254	773	29	1006

Table A4-22. (cont.)

Sample number	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Zinc
	Total concentration in PM10 fraction (mg/kg)									
47	46	<10	47	63	1530	47900	598	1050	35	3160
48	<23	<11	44	<23	369	33800	225	669	31	568
49	<22	<11	51	33	469	52000	257	994	43	1340
50	<24	<12	42	<24	406	36400	134	537	<24	292
51	36	14	44	25	1048	37000	1028	718	29	1993
52	<25	<12	44	<25	227	31300	163	517	34	405
53	50	20	36	28	958	49200	1490	862	32	2760
54	35	<10	49	30	515	49500	496	887	39	875
55	37	<10	36	26	971	36600	888	798	32	1780
56A	<25	<12	33	<25	350	41000	317	927	31	648
57A	29	4	46	21	720	28100	427	608	40	624
57B	73	<9	51	25	1090	41900	607	583	31	1380
58	<18	<9	40	26	566	36500	364	743	32	716
59	26	4	51	24	858	45300	387	707	34	710
60	34	85	80	50	2170	75600	756	1320	83	3740
61	117	16	35	24	1460	60800	2480	483	27	3500
61	94	16	35	25	1120	58600	2080	537	<19	3080
62	33	<6	36	18	512	35000	565	503	25	915
63	48	<9	56	26	720	50700	425	656	40	4710
64	6	1	31	28	215	94300	44	1203	33	166
65	47	<12	50	31	610	49200	228	1050	46	933
66	13	2	44	24	292	38900	147	769	34	471
67	11	2	52	26	330	40700	181	801	41	780
68	130	21	68	45	4600	60000	1950	830	50	6350
69	16	3	37	24	514	39100	256	867	26	529
70A	40	<11	34	23	561	36600	342	649	32	796
70B	43	<10	38	23	865	42600	354	724	32	1090

71	30	6	84	25	577	47700	262	787	33	340
72A	8	1	41	18	184	39400	122	612	29	241
72B	32	<10	31	29	392	39500	226	574	25	455
73	80	<11	57	26	928	35500	470	675	32	858
74	100	21	45	36	2920	60600	2550	825	34	4040
75	56	<11	41	25	380	55000	302	953	37	847
76	54	<11	50	32	543	52800	319	786	46	898

Table A4- 23: Total concentration of metals and metalloids in roof gutter dust

Sample number	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Zinc
	Total concentration in roof gutter dust (mg/kg)									
3	330	26	-	-	33500	51000	3400	-	-	29000
5	170	11	-	-	12900	53000	1800	-	-	2900
6	140	25	-	-	16600	47000	4500	-	-	5400
7	180	22	-	-	13400	52000	3700	-	-	3700
8	320	37	-	-	18700	64000	6200	-	-	7500
38	1387	106	57	278	9964	135640	18125	985	42	42884
39	1198	131	45	168	25146	134956	18198	875	53	37851
40	471	26	36	114	17745	68656	3417	348	72	10299
42	7902	1143	448	1619	290295	1075886	175190	5140	514	154724
46	203	20	27	57	8967	66907	2301	277	27	4993
47	1708	46	46	357	75515	151031	12066	569	167	12769
48	454	49	54	89	11447	70601	6467	553	44	9899
49	149	13	16	20	5248	23112	2498	102	10	1895
50	1375	73	69	228	23697	205036	13751	801	93	31178
51	4566	448	200	955	100540	411845	54910	2596	328	132376
52	362	31	67	89	11625	79180	5904	546	49	12325
53	940	109	45	185	7978	85812	14035	660	58	18354
54	477	43	28	72	7647	54505	5964	484	22	9907
55	720	67	49	120	18763	159918	11141	583	46	19173
56	2919	123	1855	242	45615	212852	42572	1499	93	164429
57	189	15	11	32	5414	27298	2263	183	12	4288
58	1375	119	40	318	7335	96905	17671	565	128	22125
59	787	55	88	138	8351	189960	7719	1050	76	34308
60	1229	57	52	146	6574	138508	12703	343	46	19319
61	1086	128	28	176	20871	60699	5260	600	65	22571
62	2922	222	91	551	49038	229603	36539	1671	222	42589
63	326	27	36	60	4570	38895	5177	233	27	19848
65	698	41	34	169	7504	74569	11317	846	40	16028
66	638	46	30	89	14432	48473	7877	406	33	25970
67	126	14	48	34	5594	60881	2837	289	26	30524
70	3226	338	446	831	248938	959508	47306	3995	414	85785
71	623	39	63	137	13348	34566	4469	259	45	5945
72	299	35	220	65	12820	50973	5283	503	38	18813
73	453	50	101	67	20682	296409	7780	1021	84	34391
74	1071	210	40	320	5471	76981	21541	574	155	34084
75	642	55	42	81	5758	53438	8159	573	36	17973
76	470	47	20	105	8022	42212	7567	353	38	5857

Table A4- 24: Total concentration of metals and metalloids in fallout dust sampled at Mount Isa city

Sample ID	Aluminium	Arsenic	Barium	Cadmium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Zinc
	Total concentration in fallout dust (mg/kg)												
FMB	5107	615	132	41	154	67425	44326	11802	396	34	67	14	4180
FMK	8452	296	383	20	71	29081	31142	6105	358	13	23	6	3070
FMR	10603	298	166	113	77	17694	44279	17975	634	28	41	20	30783
FMRC	8655	63	121	6	14	2424	15969	1200	272	3	17	2	1662
FMS	6343	929	144	99	217	96246	71673	20989	395	53	56	19	9939
FM21	10190	135	181	11	28	4796	26680	3673	400	6	33	4	2520
FM22	4142	415	208	20	68	14876	35790	10388	485	8	14	5	6960
FM22C	7500	337	315	25	46	9611	28808	6753	426	14	16	8	5304
FM23	10558	441	323	28	68	18312	45775	9776	584	16	21	8	6428
FM24	10908	311	266	31	48	11835	31574	7222	501	19	28	9	6032
FM25	13861	70	232	11	29	4687	27386	2459	378	10	42	4	2698
FM26	8869	24	134	4	10	2840	13801	1203	172	7	51	3	1290
FM27	7212	319	223	18	57	13210	35509	8354	472	10	27	5	6845
FM28	7975	78	138	6	30	7851	23839	3076	359	6	14	2	1478
FM29	10528	34	93	4	33	4452	21423	1693	357	2	14	1	754

Table A4- 25: Total concentration of metals and metalloids in carpet dust

Sample number	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc	Iron
	Total concentration in carpet dust (mg/kg)										
3	28	-	5	-	-	1200	490	-	-	1300	8400
4	83	-	24	-	-	6300	3400	-	-	7200	33000
5	33	-	8.5	-	-	1700	1300	-	-	4400	18000
6	32	-	4.1	-	-	1200	610	-	-	1100	11000
7	38	-	6.5	-	-	1600	490	-	-	1100	12000
8	37	-	6	-	-	3700	880	-	-	1800	19000
9	94	-	11	-	-	4100	1100	-	-	2300	23000
10	66	-	9.4	-	-	2900	1300	-	-	4100	24000
11	30	-	39	-	-	1200	510	-	-	1400	15700
12	45	-	6	-	-	2400	640	-	-	2100	20000
13	10	-	1.7	-	-	460	150	-	-	470	4800
15	25	-	5.9	-	-	1200	600	-	-	1600	12000
17	33	-	6.7	-	-	1700	680	-	-	3400	17300
18	31	-	4.8	-	-	1100	520	-	-	1100	12100
19	110	-	15	-	-	3600	1700	-	-	14900	27000
20	36	-	6.5	-	-	2500	650	-	-	2100	18000
21	23	-	4.8	-	-	1400	450	-	-	1400	22800
22	18	-	3.1	-	-	840	330	-	-	870	11300
23	40	-	5.3	-	-	1500	1100	-	-	1700	17600
33	61	520	28	41	19	1800	2970	356	42	13600	26400
36	63	640	<1	51	<24	1280	887	268	31	1690	18000
37	13	130	<1	15	<12	459	240	99	<1	1280	7230
38	23	640	<1	27	11	503	309	308	27	13700	50600
39	97	700	29	49	34	2940	2860	310	40	5250	27200
40	26	260	<1	79	14	900	472	157	63	5510	21900
41	62	380	14	21	22	3150	1310	329	52	2000	29400
42	93	700	13	36	40	3550	1190	242	60	1900	19200
43	48	540	11	40	19	2050	1040	196	34	2570	14500
44	78	600	20	29	36	2280	1770	247	37	4300	19600
45	58	300	8	335	20	1810	885	231	42	2220	20800
46	74	270	<1	486	<23	1680	851	171	<1	2040	14400
47	67	550	10	77	17	2080	965	225	23	6600	22300
48	37	260	<1	61	<21	867	481	212	<1	2730	14000
49	44	260	<1	39	<18	1180	538	179	24	1720	13400
50	38	760	<1	33	<14	1560	388	141	34	1170	9440
52	14	190	<5	42	<11	583	238	154	36	890	6240
53	56	240	11	102	<11	1520	970	202	16	1850	13500
54	41	340	8	46	15	1260	747	287	34	7570	49100
55	56	340	<9	35	<17		735	167	30	2050	16000

‘ – ‘ data is not available

Table A4-25: Total concentration of metals and metalloids in carpet dust (cont.)

Sample number	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc	Iron
	Total concentration in carpet dust (mg/kg)										
56	16	180	<7	33	<14	585	276	166	20	908	14000
57	44	260	10	55	18	1500	759	377	56	4960	48400
58	47	1040	<11	35	<22	1630	1090	159	24	1950	12100
59	37	380	6	24	13	1770	560	228	22	1790	19700
60	27	350	115	38	34	1410	541	283	42	2930	32100
61	89	3260	14	39	32	4600	982	201	28	2050	24400
63	11	180	<5	36	<10	449	245	86	38	1710	7630
64	17	730	<3	84	12	506	290	380	31	806	39600
65	<14	200	8	290	<14	388	210	132	41	2420	10300
66	25	180	4	30	13	741	312	186	18	1170	16300
67	111	510	36	189	32	3860	2450	287	1460	6230	31000
68	94	780	16	40	26	3720	1690	305	52	5580	27800
69	48	460	8	64	17	1600	762	243	29	1940	16700
70	17	470	3	51	9	690	286	196	116	4150	18400
71	48	320	8	62	17	1560	754	302	32	1350	17900
72	34	470	9	37	15	1240	706	210	43	1580	17600
73	48	1510	9	84	24	2260	876	206	49	3990	17500
74	48	160	23	21	18	2290	1560	188	16	5830	16200
76	25	510	7	53	21	708	598	171	25	1720	13800

Table A4- 26: Bioaccessibility of metals and metalloids in garden soil (<250µm fraction)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
1	(mg/kg)	0.9	-	0.1	2.4	26.6	25.2	117.5	-	56.5
	(%)	15.6	<13.4	0.3	23.3	18.9	22.4	34.7	<19	33.3
2	(mg/kg)	1.3	0.9	0.1	2.3	108.6	65.1	104	-	281.1
	(%)	16.7	41.6	0.5	20.1	24.9	29.6	34.9	<19	52.9
3	(mg/kg)	1.7	1.2	0.2	1.6	73.1	71.7	64.3	-	674.1
	(%)	11.7	24.8	0.7	14.8	14.5	21.7	21.8	<19	46.7
4	(mg/kg)	0.5	0.3	0.1	2	26.5	9.8	98.4	-	85.7
	(%)	10.4	17.9	0.2	19.1	19.1	15.4	32.2	<19	44.7
5	(mg/kg)	0.6	0.1	0.2	1.6	13.8	4.9	97.7	-	23.1
	(%)	15.1	53.8	0.8	18.8	19.1	11.8	40.6	<19	27.2
6	(mg/kg)	4.2	0.7	0.6	2	50.9	48.1	112.7	-	77.3
	(%)	18.2	45.5	1.6	20.4	16.6	23.9	34.3	<19	35.4
7	(mg/kg)	0.5	1	0.1	2.1	11.4	8.7	155.6	10.2	26
	(%)	12.4	26.7	0.8	23.6	10.5	13.8	41.8	74.7	23.9
8	(mg/kg)	1.3	2.3	0.1	2.8	56.9	44.8	268.3	1	70.7
	(%)	8.5	61	0.3	24.1	21.7	20.3	37.1	6.4	28.3
9	(mg/kg)	1.3	0.9	0.1	2.1	92.3	53.1	136.8	1.4	63.9
	(%)	13.8	13.7	0.4	18.1	19.2	27	30.4	9.5	27.2
10	(mg/kg)	2	1.3	0	2.4	249.1	71.4	123.6	-	81
	(%)	12.7	12.7	0.1	11.9	13.6	21.8	24.5	<19	33
11	(mg/kg)	1.5	0.7	0.3	1.6	29.1	29.6	98.6	2.7	451.2
	(%)	21.5	50.7	1	13.4	18.2	22.3	22.8	15.5	50.2
12	(mg/kg)	3.7	3.7	0.2	2.4	273	125	117	-	203.6
	(%)	20.6	<13.4	0.7	14.9	19.8	29.3	29.5	<19	36.4
13	(mg/kg)	0.9	0.1	0.4	1.1	11	6.7	49.3	-	22.1
	(%)	17.1	17	1.4	13	18.9	15.4	18.6	<19	26.9
14	(mg/kg)	1	0.3	0.5	1.3	22.8	18	76.9	-	209.9
	(%)	13.3	17.9	1.4	10	8.9	11.1	19	<19	34
15	(mg/kg)	2.8	1.5	0.5	2	109.2	119.5	76.1	-	595.7
	(%)	16.1	29.6	1.6	12.6	13.2	20	18.6	<19	37.1
16	(mg/kg)	1	0.3	0.1	1.3	21.2	16	67	-	91.6
	(%)	14.2	17.7	0.3	10.1	13.9	13.6	16.4	<19	31.1
17	(mg/kg)	1.4	0.3	0.3	1.4	38.3	28.1	77.3	4.1	465.5
	(%)	21.1	24.9	1.1	12.9	13.7	17.1	23.1	30.3	54.5
18	(mg/kg)	0.9	0.5	0	1.3	24.8	27.4	72.1	2.6	99.7
	(%)	14.4	30.4	0.1	11.2	8.6	14.7	19.7	17.6	31.6
19	(mg/kg)	1.7	0.7	0.1	1.7	184.7	46.4	68.8	1.2	68.4
	(%)	14.9	31.3	0.3	10.7	21.7	22	17	7.1	28.5
20	(mg/kg)	1	0.6	0.2	1.4	37.4	28.8	68.8	0.2	127.8
	(%)	12.1	25.2	0.5	12	12.3	16.6	19.6	1.1	32.3

‘ – ‘ data is not available

Table A4-26: Bioaccessibility of metals and metalloids in garden soil (<250µm fraction) (cont.)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
21	(mg/kg)	1.8	0.6	0.1	1.7	74.5	42.7	72	2.9	474.2
	(%)	15.5	34.9	0.4	12.4	18.8	18.8	21.1	16.7	47.6
22	(mg/kg)	0.4	0.3	0	0.8	19.1	10.9	44.4	-	39
	(%)	22.8	22.7	0.1	8.6	19.9	26.1	12.7	<19	39
23A	(mg/kg)	0.3	0.6	0.1	1.8	8.5	6.7	86.8	-	19.6
	(%)	9	<13.4	0.3	15.4	8.5	12.1	22.9	<19	16.9
23B	(mg/kg)	2	1.6	0.2	2.3	78.6	104.5	287.8	-	156
	(%)	13.1	14.5	0.9	8.5	11.5	20.3	16.5	<19	17.8
23C	(mg/kg)	0.5	0.6	0.1	1.6	23.7	13.4	81.1	-	30.4
	(%)	13.2	38.1	0.3	14.5	15.3	15.5	20.3	<19	23.9
23D	(mg/kg)	0.2	0.1	0	1.3	9.9	3.3	74	-	19.9
	(%)	8.1	13.4	0.2	17.5	13.2	9.1	25.7	<19	19.7
33	(mg/kg)	2.2	0.8	2.5	2.6	22.8	45.4	108.5	21.4	89.8
	(%)	20.4	80.4	6.8	18.3	5.1	33.4	28.6	<19	28.1
35	(mg/kg)	1.1	-	0.3	2.5	9	12.1	85.9	7.2	83.6
	(%)	18.9	<13.4	1.2	20.9	5	10	24.1	40	18.5
36	(mg/kg)	2.2	-	0.6	3.4	14.7	7.6	84.6	6.4	56.1
	(%)	24.8	<13.4	3	33.8	5.2	5.2	27.7	49.2	15.1
37	(mg/kg)	2.5	-	0.1	2.8	49.1	59.9	57.9	2.9	282
	(%)	12.4	<13.4	0.2	15.8	3.7	19	14.5	17	22.9
38	(mg/kg)	0.4	-	0.1	1.1	4.1	76.2	53.7	5.6	52
	(%)	6.9	<13.4	0.2	8	3.8	17.7	14.9	26.9	18.3
39	(mg/kg)	1.2	0.1	0.1	1.5	20.8	47.8	54.3	-	106.5
	(%)	7.9	2.3	0.4	10.6	3.1	11.7	15.1	<19	14.7
40	(mg/kg)	-	-	0.1	1.1	13.1	5.9	75.2	-	10.9
	(%)	<1.3	<13.4	0.2	9.6	13.8	13.4	24.1	<19	10.3
41	(mg/kg)	9.5	2.4	0.3	1.7	561.6	228.4	34.3	43.8	111
	(%)	21.6	47.5	1	7	21	30.7	9	<19	25.2
42	(mg/kg)	-	-	0	1.3	6.1	0.1	44.3	-	2.7
	(%)	<1.3	<13.4	0.2	18.1	7.1	0.5	27.2	<19	5
43	(mg/kg)	-	-	-	1.2	3.9	-	61.6	-	-
	(%)	<1.3	<13.4	<1	10.8	7.4	<4.4	23.6	<19	<0.04
44	(mg/kg)	1.1	2.5	0.1	1.4	47.4	47.5	64.8	-	131.9
	(%)	10	41	0.3	14.1	17.4	22.2	24.2	<19	30.7
45	(mg/kg)	1.5	0.6	0.3	2.1	72.1	59.7	108.6	-	162.9
	(%)	11	32	1.2	13.3	14.2	23.4	20.4	<19	26.9
46	(mg/kg)	0.8	0.6	1.5	1.3	30.7	33.9	73.3	-	162.5
	(%)	8.7	29.4	2.9	10.2	13.7	25.1	17.9	<19	25.6

‘ – ‘ data is not available

Table A4-26: Bioaccessibility of metals and metalloids in garden soil (<250µm fraction) (cont.)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
47	(mg/kg)	2.3	0.9	0.4	4.8	143.9	62.5	113.4	-	446.4
	(%)	11.6	44	1.5	19.2	18.8	25.2	27.4	<19	37.2
48	(mg/kg)	0.5	0.4	0.1	0.9	20.8	21.1	65.2	-	73.8
	(%)	6.4	40.5	0.3	6.3	10.1	17.3	16.9	<19	24.9
49	(mg/kg)	0.6	-	0	1.3	31.9	22.1	83.5	0.9	197.1
	(%)	9.7	<13.4	0.2	10.7	14.6	21.2	21.7	5.2	34.5
50	(mg/kg)	1.6	-	0.2	1.7	-	16.3	77.3	-	38.4
	(%)	12.9	<13.4	0.7	12	<7.6	17.5	20.6	<19	20.4
51	(mg/kg)	2.2	2.3	0.3	1.9	121.5	134.6	87.2	-	323.2
	(%)	11.8	39	0.9	12.3	16.5	25.8	25.8	<19	27.9
52	(mg/kg)	0.6	-	0.1	1.5	20.3	13.8	76.8	-	29.8
	(%)	8.2	<13.4	0.3	11.4	15	12.9	20	<19	16.2
53	(mg/kg)	2.4	3.1	0.2	1.9	75.9	156.6	100.5	-	288.3
	(%)	7.7	39.1	0.7	12.6	11.2	20.1	19.6	<19	23.4
54	(mg/kg)	2.9	0.5	0.4	1.6	115.2	123.3	109	-	82
	(%)	48.8	51.7	1.6	11.5	60	64.9	29.3	<19	25.5
55	(mg/kg)	2.5	1.1	0.3	1.7	62	94.2	99.6	-	206.5
	(%)	15.8	35.2	1	11.4	11.6	22.6	21.8	<19	25.5
56A	(mg/kg)	0.7	-	0.2	1.5	26.2	19.4	133.2	-	69.6
	(%)	10.2	<13.4	0.9	10.2	13.7	19.8	25.6	<19	25
56B	(mg/kg)	-	-	0.1	0.4	5.8	3.1	14.6	-	30.7
	(%)	<1.3	<13.4	0.5	9.9	12.6	19.6	19.2	<19	34.5
57A	(mg/kg)	1.3	0.5	0.4	1.3	50.7	42.5	82.6	-	90.2
	(%)	13.3	53	1.5	11.7	18.3	28.9	27	<19	32.6
57B	(mg/kg)	2.5	0.8	0.4	1.6	68.3	56	81.9	-	152.4
	(%)	12.9	37.6	1.6	13.4	17.3	28	27.3	<19	35.3
58A	(mg/kg)	1.1	0.7	0.3	2.2	58.3	55	108.5	-	89.1
	(%)	13.9	71.9	1.1	15.8	26.7	39.3	29.5	<19	30.5
58B	(mg/kg)	2.7	1.8	0.5	2.7	137.1	158	114.4	0	373.3
	(%)	19.2	44.2	2.1	18.3	22.6	37.8	29.7	0.1	37.7
59	(mg/kg)	2.5	0.6	0.5	2.4	121	60.4	116.1	-	121.8
	(%)	17.8	59.5	1.7	18.6	24.6	36.4	35.7	<19	33.6
60	(mg/kg)	1.8	18.1	1.9	5.2	330.6	103.3	168.6	6	559.2
	(%)	11.8	35.4	4.4	20.7	25.8	34.2	30.5	16.6	37.3
61A	(mg/kg)	3	1.5	0.2	1.8	93.1	181.9	66.1	-	224.8
	(%)	8.3	37.2	0.7	13.8	13.1	21.7	22.3	<19	22
61B	(mg/kg)	2	2.8	0.2	1.8	118	206	70.4	4.6	517.1
	(%)	4	40.5	1.1	14.6	22.7	19.3	22.1	38.1	35.4
62	(mg/kg)	2.4	1	0.3	1.6	47	76.1	86.6	2.5	125.4

	(%)	18.2	51	1.5	15.8	13.1	29.3	32.4	17.7	28.2

‘ – ‘ data is not available

Table A4-26: Bioaccessibility of metals and metalloids in garden soil (<250µm fraction) (cont.)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
63	(mg/kg)	1.8	0.8	0.8	2.4	82.5	68.7	102.2	4.4	1304.8
	(%)	17.7	77.2	2.7	18.3	28.9	41.9	35.7	24.7	56.5
64	(mg/kg)	-	-	0.2	2.1	10.5	7.9	113.2	1.9	23
	(%)	<1.3	<13.4	0.7	10.5	7.9	34.2	17.1	9.9	24.7
65	(mg/kg)	1.7	0.1	0.4	2	65.7	27.8	116.7	2.2	168.7
	(%)	20.7	-	1.6	15.4	20.4	30.9	32.5	12	40.5
66	(mg/kg)	0.5	-	0.2	1.8	15.8	8.8	106.1	-	45.9
	(%)	8.9	<13.4	0.9	14.8	9	14.7	30.5	<19	19.1
67	(mg/kg)	0.7	-	0.6	2.1	45.7	20.9	111.3	-	123.9
	(%)	15	<13.4	1.7	17.8	31.5	29	33.2	<19	36.6
68	(mg/kg)	7.2	-	0.8	2.3	200	199.5	90.2	-	793.5
	(%)	27.7	<13.4	2.9	13.6	13.3	51.2	28.9	<19	52.6
69	(mg/kg)	1.4	-	0.4	2.9	104.7	42.2	167.6	-	138.5
	(%)	24.1	<13.4	2	26.4	31	42.2	53.2	<19	53.7
70A	(mg/kg)	0.8	0.3	0.2	1.2	41	25	60.5	-	85.7
	(%)	7.2	16.1	0.7	8.9	10.6	13.5	16.1	<19	18.7
70B	(mg/kg)	1.9	-	0.5	2.5	79.2	61.3	137.2	-	180.9
	(%)	32	<13.4	2.7	22.4	23.4	61.3	43.6	<19	70.1
71	(mg/kg)	2.6	0.3	1.7	2.2	69	28.8	113.9	-	40.7
	(%)	26.4	<13.4	5.3	19.8	21	34.8	36.2	<19	29.7
72A	(mg/kg)	1.6	-	0.4	1.8	38.4	34.6	84.8	-	47.6
	(%)	23.4	<13.4	1.8	16.8	33.7	58.6	28.7	<19	35
72B	(mg/kg)	1.1	0.2	0.3	1.6	24.1	23.3	86.5	-	42.2
	(%)	11.1	19.2	1.4	14.9	9.3	20.4	28.4	<19	24.8
73	(mg/kg)	6.4	0.8	2.4	2	127.4	87.8	87.2	-	114.7
	(%)	20.7	37.6	7.4	12.8	14.7	34.7	19.6	<19	24.2
74	(mg/kg)	4.7	3	0.3	2.5	300	292.4	78.5	-	520.8
	(%)	17.4	43.1	1.4	13.1	22.9	35.9	21.2	<19	35.9
75	(mg/kg)	1.3	-	0.3	1.6	32.4	32	112	-	85.6
	(%)	12	<13.4	1.1	13.7	14.5	26.2	25.7	<19	25.4
76	(mg/kg)	1.1	0.5	0.2	1.6	40.7	45.6	77.4	-	118.3
	(%)	15.4	49.8	0.9	13.2	16.9	38.6	26.7	<19	35.3

‘ – ‘ data is not available

Table A4- 27: Bioaccessibility of metals and metalloids in garden soil (PM10 fraction)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
1	(mg/kg)	4.8	1	2.8	7	102	21	-	2.5	79
	(%)	15	40	1	22	25	8	-	3	13
2	(mg/kg)	8.6	1.6	5.6	7	409	98	-	3.4	524
	(%)	22	55	2	24	34	13	-	10	27
3	(mg/kg)	8.6	3.1	2.2	4	254	167	142	4.6	1451
	(%)	25.7	25.7	7.5	24	24	26	33	10.4	35
4	(mg/kg)	6.2	<2	1.8	5	127	31	169	5.9	334
	(%)	51.6	<13.4	6.5	40	36	24	47	17	64
5	(mg/kg)	16	0.8	1.8	4	53	24	223	5	243
	(%)	90.4	42.1	7	29	17	14	47	12.8	67
6	(mg/kg)	26.5	1.8	3.2	5	120	114	268	4.2	275
	(%)	20.9	28.4	4.6	38	18	20	56	10	43
7	(mg/kg)	1.7	0.4	1.1	3	38	25	-	-	63
	(%)	14.1	47.7	2.1	16	16	13	-	-	18
8	(mg/kg)	11.7	1.6	1.2	5	146	106	446	64.1	292
	(%)	29.5	29.8	4.3	33	24	21	47	159.8	47
9	(mg/kg)	11.6	1.8	1.3	6	167	125	315	7	234
	(%)	47.4	32	6.6	43	20	27	60	19.6	42
10	(mg/kg)	20.4	2.9	1.2	9	846	193	417	3.5	250
	(%)	41.9	28.2	5.2	46	30	32	72	7.9	38
11	(mg/kg)	2.4	0.9	0.8	4	64	42	-	-	981
	(%)	11.7	68.8	2.7	14	24	26	-	-	40
12	(mg/kg)	26.5	4.2	2	10	1032	364	396	5.8	659
	(%)	47.1	32.7	7.6	48	41	46	65	16.3	42
13	(mg/kg)	8	1.2	2.1	5	70	34	184	4.5	137
	(%)	23.5	36.5	5.3	34	19	16	43	10	39
14A	(mg/kg)	3	1.1	1.5	4	107	60	-	-	389
	(%)	13.2	69	3.8	22	29	31	-	<19	45
14B	(mg/kg)	2.3	0.5	0.8	4	68	42	-	-	106
	(%)	12.5	34.5	2.8	14	22	20	-	<19	28
15	(mg/kg)	13.8	2.9	2.3	7	373	186	-	3.5	1284
	(%)	21	54	1	24	24	13	-	11	29
16	(mg/kg)	-	-	2.1	8	146	58	-	-	255
	(%)	-	-	6.6	25	32	27	-	<19	43
17	(mg/kg)	13.2	0.9	9.6	5	223	99	-	4.4	1055
	(%)	27	59	2	21	33	18	-	10	29
18	(mg/kg)	8.4	1.7	1.2	6	145	136	255	3.8	342
	(%)	31	22.6	4.2	40	18	23	52	7.8	35
19	(mg/kg)	16.8	1.9	1.6	8	713	147	232	4.5	264
	(%)	44.1	25.6	6.7	48	41	31	51	11.3	38
20	(mg/kg)	8.2	1.9	2.4	6	163	82	233	3.8	526
	(%)	32.1	30.9	7.2	40	21	19	48	9.6	40
21	(mg/kg)	17.4	2.2	1.4	4	524	166	130	<10	1727
	(%)	32.8	28.5	4.5	25	32	31	40	<19	37

‘ – ‘ data is not available

Table A4-27: Bioaccessibility of metals and metalloids in garden soil (PM10 fraction) (cont.)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
22	(mg/kg)	6.9	0.8	1.2	4	95	35	167	<10	122
	(%)	67.2	36.2	4	30	24	25	40	<19	39
23a	(mg/kg)	5.5	1	1	10	72	36	288	31	140
	(%)	52.7	34.5	4.7	73	26	17	66	64.3	40
23b	(mg/kg)	10.2	2.7	2.5	5	187	119	-	5.3	387
	(%)	20	59	1	16	17	11	-	8	19
23c	(mg/kg)	6.8	1.7	1.3	10	125	58	360	40.6	126
	(%)	41.9	32.2	4.8	59	9	17	66	64	28
23d	(mg/kg)	5	0.8	1	5	57	30	269	<10	142
	(%)	49.8	32.4	4.3	45	18	17	61	<19	37
33	(mg/kg)	3.2	<1	0.8	5	130	33	180	2.4	122
	(%)	8.5	<13.4	1.2	16	16	10	18	6.4	16
35	(mg/kg)	1.8	<1	0.6	6	63	42	188	2.2	192
	(%)	8.9	<13.4	2.1	<11	26	24	34	9.4	26
36	(mg/kg)	1.9	<1	0.4	3	46	36	155	0.8	135
	(%)	<1.3	<13.4	1.2	17	11	13	26	3.1	18
37	(mg/kg)	4.5	1.2	0.6	5	469	86	179	1.5	542
	(%)	10.8	17.7	1.7	16	19	13	22	5.3	20
38	(mg/kg)	3.6	<1	1.9	15	146	452	558	8.9	310
	(%)	11.5	<13.4	4.9	44	61	54	57	28.7	59
39	(mg/kg)	9.6	<1	1.7	8	576	442	287	3.9	665
	(%)	31.1	<13.4	4.9	29	41	50	45	16.4	39
40	(mg/kg)	0.9	<1	0.2	3	48	6	135	1.5	61
	(%)	<1.3	<13.4	0.7	<1	25	7	27	5.6	28
41	(mg/kg)	19	0.4	0.5	6	1166	366	193	1.8	237
	(%)	33.9	<13.4	1.4	20	37	34	33	5.3	30
42	(mg/kg)	1.7	0.3	0.5	6	36	28	192	2.4	18
	(%)	16.9	34.9	1.4	30	21	28	38	10.9	11
43	(mg/kg)	1.2	<1	0.1	5	66	0	143	1.7	15
	(%)	<1.3	<13.4	0.4	21	33	0	30	7.3	12
44	(mg/kg)	6.1	10.1	0.6	7	243	134	188	2.9	391
	(%)	<1.3	43.7	1.9	<1	43	22	37	<19	35
45	(mg/kg)	7.3	2.4	1.3	7	231	134	196	4.5	417
	(%)	19.7	<13.4	2.5	17	19	17	18	8.3	21
46	(mg/kg)	3.8	2	9.4	8	116	99	384	3.1	469
	(%)	24	51.5	11.1	34	30	39	50	10.6	47
47	(mg/kg)	12.7	2.8	1.5	23	579	142	310	3.1	1162
	(%)	27.7	<13.4	3.2	37	38	24	30	8.8	37
48	(mg/kg)	6.8	2.8	2.5	8	238	142	269	4.8	347
	(%)	<1.3	<13.4	5.7	<1	65	63	40	15.5	61
49	(mg/kg)	2.5	1.3	0.5	6	103	49	243	3	341
	(%)	<1.3	<13.4	1	19	22	19	24	6.9	25
50	(mg/kg)	7.9	1.7	0.8	6	162	33	221	2.8	98
	(%)	<1.3	<13.4	1.9	<1	40	25	41	<19	33

‘ – ‘ data is not available

Table A4-27: Bioaccessibility of metals and metalloids in garden soil (PM10 fraction) (cont.)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
51	(mg/kg)	7.1	7.4	1.3	6	329	445	294	2.7	839
	(%)	19.9	51.6	3	25	31	43	41	9.3	42
52	(mg/kg)	7.6	2.2	1.7	11	207	133	382	6.6	212
	(%)	<1.3	<13.4	4	<1	91	82	74	19.5	52
53	(mg/kg)	18	17.2	1.7	11	446	789	455	5.7	1132
	(%)	36	85.8	4.8	40	47	53	53	17.9	41
54	(mg/kg)	9.8	4.5	2.2	14	267	326	399	6.3	355
	(%)	28	<13.4	4.5	45	52	66	45	16.1	41
55	(mg/kg)	13.1	4	0.9	6	239	213	316	2.3	601
	(%)	35.3	<13.4	2.6	25	25	24	40	7.1	34
56	(mg/kg)	7.7	2.9	2	11	196	111	554	6.1	308
	(%)	<1.3	<13.4	6	<1	56	35	60	19.6	47
57A	(mg/kg)	6.8	1.6	2.2	5	178	166	233	3.4	198
	(%)	23.1	41.7	4.7	22	25	39	38	8.4	32
57B	(mg/kg)	21.7	4.3	4.4	8	499	397	282	6.1	649
	(%)	29.7	<13.4	8.6	32	46	65	48	19.7	47
58	(mg/kg)	7.5	3.2	1.5	12	378	296	399	5.1	350
	(%)	<1.3	<13.4	3.7	46	67	81	54	15.9	49
59	(mg/kg)	7.7	1.9	1.8	7	327	165	325	2.6	280
	(%)	29.5	55.2	3.5	30	38	43	46	7.5	39
60	(mg/kg)	17.7	43.1	5.6	19	1374	214	516	28.4	1642
	(%)	51.9	50.7	7	37	63	28	39	34.2	44
61	(mg/kg)	33.1	5	1.3	8	522	707	151	4.1	877
	(%)	28.3	31.1	3.7	31	36	28	31	15.3	25
61	(mg/kg)	34.2	11.2	1.9	10	949	1202	222	5.8	1913
	(%)	36.4	70.2	5.5	38	85	58	41	<19	62
62	(mg/kg)	1.9	<5	<1	2	<10	19	<10	<19	<10
	(%)	5.7	<13.4	<1	12	<7.6	3	<7	<19	<14.3
63	(mg/kg)	11.4	2.5	2.4	8	440	245	245	5.5	3738
	(%)	23.8	<13.4	4.3	31	61	58	37	13.8	79
64	(mg/kg)	0.9	0.2	0.3	7	23	13	345	1.5	5
	(%)	14.5	29.5	1	24	11	29	29	4.6	3
65	(mg/kg)	11	1.6	1.4	12	388	133	413	6.9	427
	(%)	23.3	<13.4	2.9	39	64	59	39	15	46
66	(mg/kg)	2.4	0.8	0.8	7	83	61	344	2.5	209
	(%)	18.4	46.6	1.9	31	28	42	45	7.3	44
67	(mg/kg)	3	1.4	2.2	10	137	94	382	5.7	427
	(%)	26.9	63.9	4.2	39	41	52	48	13.8	55
68	(mg/kg)	70.1	10.1	14.5	14	3219	1588	365	9.5	4034
	(%)	53.9	47.9	21.3	32	70	81	44	19	64
69	(mg/kg)	3.9	1.7	0.7	9	185	116	416	3.7	244
	(%)	24.2	63.6	2	38	36	45	48	14.4	46
70A	(mg/kg)	11.1	2.3	2.8	11	388	283	340	4.8	643
	(%)	27.7	<13.4	8.2	50	69	83	52	14.9	81

‘ – ‘ data is not available

Table A4-27: Bioaccessibility of metals and metalloids in garden soil (PM10 fraction) (cont.)

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Zinc
70B	(mg/kg)	8.8	2.7	1.7	10	402	191	331	4.9	548
	(%)	20.4	<13.4	4.6	45	46	54	46	15.4	50
71	(mg/kg)	9.3	2.1	7.2	8	174	107	367	2.6	110
	(%)	31.3	34.2	8.6	31	30	41	47	8	32
72A	(mg/kg)	1.9	0.8	1.3	6	54	64	324	3.2	125
	(%)	25.5	65.1	3.2	32	29	53	53	11.3	52
72B	(mg/kg)	3.3	0.9	0.6	3	80	41	97	1.3	63
	(%)	10.3	<13.4	1.8	10	21	18	17	5.2	14
73	(mg/kg)	27.1	2	6.4	8	321	252	221	3.7	328
	(%)	33.8	<13.4	11.2	32	35	54	33	11.6	38
74	(mg/kg)	30.8	11.1	1.6	12	1472	1727	249	3.1	1907
	(%)	30.8	53	3.7	33	50	68	30	9.2	47
75	(mg/kg)	8.7	1	1.4	9	187	137	312	4.9	270
	(%)	15.5	<13.4	3.5	37	49	45	33	13.1	32
76	(mg/kg)	6.8	1.3	1.7	8	199	171	260	3.6	348
	(%)	12.6	<13.4	3.3	25	37	54	33	7.8	39

‘ – ‘ data is not available

Table A4- 28: Bioaccessibility of metals and metalloids in roof gutter dust

Sample number	BAc	Arsenic	Cadmium	Chromium	Cobalt	Iron	Copper	Lead	Manganese	Nickel	Zinc
3	(mg/kg)	42.9	4.1	-	-	318	2083	743	-	-	4647
	(%)	13.0	15.8	-	-	1	6	22	-	-	16
5	(mg/kg)	11.6	0.9	-	-	208	425	961	-	-	330
	(%)	6.8	7.9	-	-	0	3	53	-	-	11
6	(mg/kg)	9.4	2.6	-	-	443	796	859	-	-	380
	(%)	6.7	10.6	-	-	1	5	19	-	-	7
7	(mg/kg)	15.5	3.6	-	-	358	1206	655	-	-	313
	(%)	8.6	16.6	-	-	1	9	18	-	-	8
8	(mg/kg)	23.3	6.9	-	-	395	1012	1127	-	-	654
	(%)	7.3	18.7	-	-	1	5	18	-	-	9
39	(mg/kg)	77.8	2.7	0.4	3.3	-	1071	1093	22.2	2.2	861
	(%)	6.5	2.1	0.9	2.0	-	4	6	2.5	4.2	2
40	(mg/kg)	36.4	0.7	0.5	1.6	-	1795	239	11.8	1.2	708
	(%)	7.7	2.8	1.3	1.4	-	10	7	3.4	1.7	7
47	(mg/kg)	83.5	1.4	0.5	2.2	-	2475	512	8.4	1.6	319
	(%)	4.9	3.0	1.1	0.6	-	3	4	1.5	1.0	2
48	(mg/kg)	29.5	3.4	0.8	1.5	-	625	656	22.8	1.0	749
	(%)	6.5	6.9	1.5	1.7	-	5	10	4.1	2.2	8
50	(mg/kg)	48.7	1.1	0.3	2.1	-	6	508	10.5	1.4	997
	(%)	3.5	1.6	0.5	1.3	-	6	4	1.3	1.5	3
52	(mg/kg)	24.2	1.2	1.5	1.9	-	628	742	15.3	1.1	920
	(%)	6.7	3.9	2.2	1.9	-	5	13	2.8	2.0	7
54	(mg/kg)	47.3	2.3	0.7	1.9	-	1246	931	25.1	0.8	393
	(%)	9.9	5.4	2.3	2.7	-	16	16	5.2	3.6	4
55	(mg/kg)	30.9	2.1	-	2.3	-	1193	350	20.2	2.1	627
	(%)	4.3	3.2	<1	1.9	-	6	3	3.5	4.6	3
57	(mg/kg)	87.7	3.4	1.2	3.9	-	2471	964	58.4	1.8	941
	(%)	46.3	22.1	11.3	12.2	-	46	43	31.9	15.3	22
61	(mg/kg)	227.7	5.7	2.1	7.1	-	3406	1704	49.6	2.7	504
	(%)	21.0	4.5	7.5	4.0	-	16	32	8.3	4.1	2
67	(mg/kg)	15.1	0.8	0.5	0.7	-	416	283	10.0	0.4	3312
	(%)	12.0	5.9	1.0	2.0	-	7	10	3.4	1.4	11
70	(mg/kg)	5.9	1.2	0.2	0.4	-	214	147	12.4	0.4	361
	(%)	0.2	0.4	0.0	0.0	-	0	0	0.3	0.1	0
71	(mg/kg)	115.4	2.4	4.7	5.4	-	3617	503	16.3	3.3	249
	(%)	18.5	6.3	7.4	3.9	-	27	11	6.3	7.4	4

‘ – ‘ data is not available

Table A4- 29: Bioaccessibility of metals and metalloids in fallout dust sampled at Mount Isa city

Sample ID	BAc	Arsenic	Cadmium	Copper	Lead	Zinc
FMB	(mg/kg)	227	-	3025	2256	729
	(%)	37	-	4	19	17
FMK	(mg/kg)	163	-	1629	1166	365
	(%)	55	-	6	19	12
FMR	(mg/kg)	51	41	549	2678	3140
	(%)	17	36	3	15	10
FMRC	(mg/kg)	24	-	313	453	344
	(%)	38	-	13	38	21
FMS	(mg/kg)	263	-	1782	4341	2507
	(%)	28	-	2	21	25
FM21	(mg/kg)	-	-	892	1506	461
	(%)	-	-	19	41	18
FM22	(mg/kg)	126	-	863	1735	418
	(%)	30	-	6	17	6
FM22-C	(mg/kg)	86	-	1240	1641	546
	(%)	26	-	13	24	10
FM23	(mg/kg)	202	-	1190	1955	489
	(%)	46	-	7	20	8
FM24	(mg/kg)	174	-	2024	1914	676
	(%)	56	-	17	27	11
FM25	(mg/kg)	61	7	595	516	413
	(%)	87	61	13	21	15
FM26	(mg/kg)	-	2	463	304	244
	(%)	-	58	16	25	19
FM27	(mg/kg)	258	-	1017	2097	712
	(%)	81	-	8	25	10
FM28	(mg/kg)	27	-	393	425	152
	(%)	34	-	5	14	10
FM29	(mg/kg)	27	2	548	411	215
	(%)	79	60	12	24	29
FMB	(mg/kg)	227	-	3025	2256	729
	(%)	37	-	4	19	17
FMK	(mg/kg)	163	-	1629	1166	365
	(%)	55	-	6	19	12
FMR	(mg/kg)	51	41	549	2678	3140
	(%)	17	36	3	15	10
FMRC	(mg/kg)	24	-	313	453	344
	(%)	38	-	13	38	21
FMS	(mg/kg)	263	-	1782	4341	2507
	(%)	28	-	2	21	25

‘ – ‘ data is not available

Table A4- 30: Bioaccessibility of metals and metalloids in carpet dust

Sample number	BAc	Arsenic	Cadmium	Copper	Manganese	Lead	Zinc	Nickel	Iron
3	(mg/kg)	12	3.8	256	-	188	811	-	-
	(%)	43	76.5	21	-	38	62	-	9
4	(mg/kg)	7	3.4	173	-	191	1079	-	-
	(%)	9	14.2	3	-	6	15	-	754
5	(mg/kg)	5	2.2	144	-	133	1410	-	-
	(%)	15	25.5	8	-	10	32	-	8400
6	(mg/kg)	5	0.9	67	-	64	293	-	-
	(%)	16	22.9	6	-	11	27	-	1.4
7	(mg/kg)	7	2.6	98	-	70	268	-	-
	(%)	20	40.7	6	-	14	24	-	452
8	(mg/kg)	9	2.1	238	-	115	620	-	-
	(%)	25	35.5	6	-	13	34	-	33000
10	(mg/kg)	18	3.2	285	-	164	1726	-	-
	(%)	27	34.1	10	-	13	42	-	408
11	(mg/kg)	5	24.4	96	-	51	573	-	-
	(%)	18	62.5	8	-	10	41	-	18000
12	(mg/kg)	10	3.2	267	-	139	960	-	-
	(%)	22	52.9	11	-	22	46	-	3.4
13	(mg/kg)	3	1.0	66	-	28	267	-	-
	(%)	30	59.8	14	-	19	57	-	371
15	(mg/kg)	5	1.8	103		100	789		-
	(%)	19	29.7	9	-	17	49	-	11000
17	(mg/kg)	9	3.2	137	-	131	1235	-	-
	(%)	26	47.5	8	-	19	36	-	3.8
18	(mg/kg)	8	1.8	106	-	109	588	-	-
	(%)	24	37.1	10		21	53		450.4
19	(mg/kg)	42	10.1	569	-	389	588	-	-
	(%)	38	67.1	16	-	23	4	-	12000
20	(mg/kg)	3	0.7	60	-	38	295	-	-
	(%)	8	11.4	2	-	6	14	-	2.8
21	(mg/kg)	3	1.2	77	-	59	405	-	-
	(%)	13	24.9	5	-	13	29	-	537
22	(mg/kg)	5	1.1	78	-	71	385	-	-
	(%)	25	34.8	9	-	21	44	-	19000
23	(mg/kg)	5	1.4	94	-	162	547	-	-
	(%)	14	26	6	-	15	32	-	-
33	(mg/kg)	17	8.9	275	79	500	1753	-	
	(%)	28	31.6	15	22	17	13	-	-
36	(mg/kg)	14	-	142	73	162	448	4.21	-
	(%)	22	<6.4	11	27	18	27	13.6	23000
37	(mg/kg)	4	-	87	29	70	558	-	-

Sample number	BAc	Arsenic	Cadmium	Copper	Manganese	Lead	Zinc	Nickel	Iron
	(%)	29	<6.4	19	29	29	44	-	3.1
38	(mg/kg)	4	-	82	72	84	5756	1.0	-
	(%)	16	<6.4	16	23	27	42	3.7	748
39	(mg/kg)	23	6.3	255	76	516	1010	2.9	-
	(%)	24	21.6	9	24	18	19	7.2	24000
40	(mg/kg)	6	-	86	31	87	1012	6.2	-
	(%)	22	<6.4	10	20	18	18	9.8	2
41	(mg/kg)	22	5.1	747	108	480	676	-	-
	(%)	36	36.7	24	33	37	34	-	383

‘ – ‘ data is not available

Table A4-30: Bioaccessibility of metals and metalloids in carpet dust (cont.)

Sample number	BAc	Arsenic	Cadmium	Copper	Manganese	Lead	Zinc	Nickel	Iron
42	(mg/kg)	16	3	228	52	269	1305	-	-
	(%)	18	23.1	6	22	23	69	-	15700
43	(mg/kg)	13	2.7	207	61	255	790	-	
	(%)	26	24.3	10	31	25	31	-	2
44	(mg/kg)	17	4.1	236	60	364	974	-	-
	(%)	22	20.5	10	24	21	23	-	453
45	(mg/kg)	14	1.9	214	65	206	672	-	-
	(%)	25	24.2	12	28	23	30	-	20000
46	(mg/kg)	14	-	146	41	184	499	-	-
	(%)	19	<6.4	9	24	22	24	-	4
47	(mg/kg)	23	2.6	370	70	285	3351	2.3	-
	(%)	35	25.8	18	31	30	51	9.9	166
48	(mg/kg)	6	-	166	55	113	749	-	-
	(%)	16	<6.4	19	26	24	27	-	4800
49	(mg/kg)	8	-	164	65	157	660	0.8	-
	(%)	19	<6.4	14	36	29	38	3.5	3
50	(mg/kg)	12	-	192	37	107	451	-	-
	(%)	31	<6.4	12	26	28	39	-	374
52	(mg/kg)	1	0.3	23	13	17	106	1.9	-
	(%)	9	<13.4	4	8	7	12	5.2	12000
53	(mg/kg)	4	1	54	18	71	236	3.3	-
	(%)	8	8.6	4	9	7	13	20.7	2.4
54	(mg/kg)	4	0.7	62	21	59	1550	4.4	-
	(%)	10	8.3	5	7	8	20	12.9	412
55	(mg/kg)	7	1	65	16	62	310	3.9	-
	(%)	12	<13.4	4	9	8	15	12.9	17300
56	(mg/kg)	7	0.7	96	39	85	324	9.8	-
	(%)	41	<13.4	16	23	31	36	48.8	4
57	(mg/kg)	4	1.5	62	24	56	709	8.3	-
	(%)	10	14.7	4	6	7	14	14.8	443
58	(mg/kg)	8	1.4	87	23	90	233	5.1	-
	(%)	18	<13.4	5	14	8	12	21.4	12100
59	(mg/kg)	7	1.2	196	28	101	382	5.3	-
	(%)	19	20.3	11	12	18	21	23.9	4
60	(mg/kg)	4	13.6	109	25	70	687	5.6	-
	(%)	13	11.8	8	9	13	23	13.3	990
61	(mg/kg)	8	1.9	227	20	96	238	3.7	-
	(%)	9	13.8	5	10	10	12	13.1	27000
63A	(mg/kg)	3	0.7	38	10	34	320	-	-
	(%)	27	-	8	12	14	19	-	1.2

‘ – ‘ data is not available

Table A4-30: Bioaccessibility of metals and metalloids in carpet dust (cont.)

Sample number	BAc	Arsenic	Cadmium	Copper	Manganese	Lead	Zinc	Nickel	Iron
63B	(mg/kg)	4	0.8	40	10	37	352	-	-
	(%)	36	-	9	12	15	21	-	207
64	(mg/kg)	2	0.7	50	28	39	182	-	
	(%)	13	-	10	7	13	23	-	18000
65	(mg/kg)	2	1.6	27	12	24	452	-	-
	(%)	-	20	7	9	11	19	-	1
66	(mg/kg)	3	0.5	36	21	31	166	-	-
	(%)	11	13	5	12	10	14	-	231
67	(mg/kg)	5	2.6	40	15	109	703	-	-
	(%)	5	7	1	5	4	11	-	22800
68	(mg/kg)	11	1.8	133	23	130	600	-	-
	(%)	11	11	4	7	8	11	-	2.5
69	(mg/kg)	9	1.2	80	29	90	321	-	-
	(%)	19	15	5	12	12	17	-	283
70	(mg/kg)	3	0.8	30	19	40	565	-	-
	(%)	20	27	4	10	14	14	-	11300
71	(mg/kg)	8	1	67	25	78	118	-	-
	(%)	16	12	4	8	10	9	-	3
72	(mg/kg)	4	1.4	44	22	79	214	-	-
	(%)	13	16	4	10	11	14	-	-
73	(mg/kg)	10	1.9	104	54	125	1006	8.7	
	(%)	21	22	5	26	14	25	18	486
74	(mg/kg)	5	2	80	21	194	265	1.5	
	(%)	10	8.6	3	11	12	5	9.3	17600
76	(mg/kg)	3	0.9	26	34	64	207	2.9	-
	(%)	12	13.2	4	20	11	12	11.7	-

‘ – ‘ data is not available

Table A4- 31: Total concentration of metals and metalloids in carpet wipe

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)														
33	1	81	240	15	39	20	2837	19640	18876	295	<0.05	63	2	1	35	2619
	2	16	64	8	14	4	470	5128	1239	104	<0.05	34	<0.05	<0.05	7	1353
36	1	3	18	<0.05	1	1	59	744	34	17	<0.05	4	<0.05	<0.05	<0.1	422
	2	2	13	<0.05	<0.1	<0.05	46	611	26	13	<0.05	2	<0.05	<0.05	<0.1	422
37	1	4	33	1	2	1	111	1111	61	26	<0.05	3	<0.05	<0.05	<0.1	600
	2	3	39	1	<0.1	1	99	956	56	21	<0.05	3	<0.05	<0.05	<0.1	556
38	1	4	241	1	4	2	100	1963	56	31	<0.05	7	<0.05	<0.05	2	704
	2	3	44	0	3	1	74	1815	41	27	<0.05	6	<0.05	<0.05	2	519
	3	2	222	0	3	1	78	1000	37	20	<0.05	4	<0.05	<0.05	1	444
39	1	8	48	3	3	3	215	2185	244	29	<0.05	4	0	<0.05	2	889
40	1	2	14	1	4	1	44	1037	35	16	<0.05	3	<0.05	<0.05	1	444
	2	5	31	1	10	2	83	2444	87	43	<0.05	7	<0.05	<0.05	3	667
41	1	9	37	3	3	2	322	2481	170	44	<0.05	5	0	<0.05	3	341
	2	9	48	3	2	3	341	2741	215	41	<0.05	5	0	<0.05	3	367
42	1	5	28	1	2	2	189	1556	87	23	<0.05	12	<0.05	<0.05	1	444
43	2	11	58	3	3	3	356	2000	189	29	<0.05	4	<0.05	<0.05	1	711
44	1	12	122	4	3	4	311	3222	267	44	<0.05	7	1	<0.05	3	778
45	1	5	31	1	41	2	156	1889	87	33	<0.05	7	<0.05	<0.05	2	622
46	1	2	9	0	10	1	31	481	24	8	<0.05	2	<0.05	<0.05	0	226
47	1	16	83	3	7	4	356	3778	211	50	<0.05	6	<0.05	<0.05	3	1044
48	1	5	37	1	8	2	122	3333	72	33	<0.05	4	<0.05	<0.05	2	633
49	1	4	21	1	4	1	102	3333	50	32	<0.05	5	<0.05	<0.05	2	511
50	1	8	56	2	5	2	222	3444	122	31	<0.05	6	<0.05	<0.05	2	689
52	1	1	5	0	2	0	23	1148	14	9	<0.05	1	<0.05	<0.05	1	163
53	1	5	14	1	9	1	122	2333	100	24	<0.05	2	<0.05	<0.05	1	589
53	1	2	19	<0.05	4	1	69	1111	33	13	<0.05	2	<0.05	<0.05	<0.1	367

‘ – ‘ data is not available

Table A4-31: Total concentration of metals and metalloids in carpet wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)														
54	1	5	24	1	3	1	144	2667	97	32	<0.05	4	<0.05	<0.05	2	600
	2	12	45	15	6	7	475	4750	325	108	<0.05	14	<0.05	<0.05	3	2100
55	1	2	16	<0.05	<0.1	<0.05	40	1111	31	12	<0.05	1	<0.05	<0.05	<0.1	344
	2	2	12	<0.05	1	<0.05	52	833	23	8	<0.05	1	<0.05	<0.05	<0.1	544
56	1	3	29	<0.05	10	2	83	3889	31	60	<0.05	5	<0.05	<0.05	6	1333
	2	2	28	<0.05	7	1	77	1778	28	36	<0.05	3	<0.05	<0.05	2	1333
57	1	6	23	1	7	2	222	1778	63	50	<0.05	6	<0.05	<0.05	2	1333
	2	6	22	1	6	3	122	1667	72	40	<0.05	6	<0.05	<0.05	2	1444
58	1	4	24	1	3	1	133	878	84	18	<0.05	5	<0.05	<0.05	<0.1	1222
	2	4	19	1	2	1	122	778	69	14	<0.05	2	<0.05	<0.05	<0.1	1222
59	1	333	1444	38	122	101	26667	216667	4333	1222	1	92	6	4	267	16111
	2	23	200	4	32	11	944	66222	311	300	<0.05	1444	1	<0.05	18	2000
60	1	2	9	1	1	1	83	733	33	16	<0.05	2	<0.05	<0.05	<0.1	1222
	2	1	5	<0.05	<0.1	<0.05	52	689	10	11	<0.05	1	<0.05	<0.05	<0.1	1333
61	1	4	109	1	2	1	200	1444	73	22	<0.05	3	<0.05	<0.05	1	1222
	2	4	110	2	3	1	178	1556	73	24	<0.05	4	<0.05	<0.05	2	1333
63	1	6	18	1	5	1	93	1222	59	19	<0.05	9	<0.05	<0.05	2	1222
	2	2	7	<0.05	5	1	57	822	29	14	<0.05	4	<0.05	<0.05	1	1222
64	1	2	29	<0.05	7	1	72	1111	22	23	<0.05	2	<0.05	<0.05	1	1222
	2	<0.1	17	<0.05	3	2	57	944	21	22	<0.05	2	<0.05	<0.05	<0.1	1222
65	1	2	28	<0.05	5	1	71	1056	26	17	<0.05	3	<0.05	<0.05	<0.1	1222
	2	2	16	<0.05	14	<0.05	52	1011	16	13	<0.05	2	<0.05	<0.05	<0.1	1222
66	1	6	49	1	5	4	200	3556	87	63	<0.05	4	<0.05	<0.05	3	1333
	2	3	27	1	3	1	102	1556	47	28	<0.05	3	<0.05	<0.05	1	1222
67	1	4	36	1	4	2	144	1333	81	21	<0.05	4	<0.05	<0.05	<0.1	1333
	2	89	326	25	59	28	2963	17778	1778	281	<0.05	28	<0.05	<0.05	<0.1	19259

‘ – ‘ data is not available

Table A4-31: Total concentration of metals and metalloids in carpet wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)														
68	1	11	122	2	6	3	356	8333	189	62	<0.05	6	1	<0.05	3	1444
	2	43	700	10	19	14	1425	18500	875	195	<0.05	50	1	<0.05	11	4000
69	1	3	34	<0.05	2	1	97	733	49	16	<0.05	2	<0.05	<0.05	<0.1	1033
	2	2	20	<0.05	1	1	67	544	28	12	<0.05	1	<0.05	<0.05	<0.1	1111
70	1	3	74	1	3	2	122	1444	72	28	<0.05	27	<0.05	<0.05	<0.1	1333
	2	4	61	1	3	2	144	2222	74	44	<0.05	29	<0.05	<0.05	2	1222
71	1	3	39	1	3	1	110	944	44	20	<0.05	3	<0.05	<0.05	<0.1	1222
	2	7	56	2	8	3	178	4111	104	83	<0.05	6	<0.05	<0.05	4	1333
72	1	2	23	1	2	1	82	922	42	18	<0.05	2	<0.05	<0.05	<0.1	1222
	2	3	28	1	2	1	94	978	46	19	<0.05	3	<0.05	<0.05	<0.1	1100
73	1	4	58	2	8	1	122	889	133	29	<0.05	3	<0.05	<0.05	1	1556
	2	3	41	2	4	1	111	667	103	23	<0.05	2	<0.05	<0.05	<0.1	1333
74	1	4	37	3	2	3	156	900	200	18	<0.05	4	<0.05	<0.05	<0.1	1444
	2	7	61	4	3	3	256	1556	244	26	<0.05	3	<0.05	<0.05	<0.1	1667
76	1	2	76	<0.05	40	16	74	1078	47	18	<0.05	3	<0.05	<0.05	<0.1	1022
	2	2	88	1	32	14	98	1044	67	26	<0.05	3	<0.05	<0.05	<0.1	1222

‘ – ‘ data is not available

Table A4- 32: Total concentration of metals and metalloids in floor wipe

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)														
1	1	16	-	2	-	-	200	5067	111	-	-	-	<0.4	-	-	406
	2	10	-	1	-	-	94	1956	40	-	-	-	<0.4	-	-	239
	3	10	-	1	-	-	98	2956	38	-	-	-	<0.4	-	-	250
2	1	30	-	3	-	-	391	5009	339	-	-	-	<0.4	-	-	722
	2	11	-	1	-	-	147	2231	117	-	-	-	<0.4	-	-	167
	3	28	-	3	-	-	580	7898	472	-	-	-	<0.4	-	-	844
3	1	12	-	1	-	-	67	2278	77	-	-	-	<0.4	-	-	78
	2	14	-	1	-	-	108	3722	98	-	-	-	<0.4	-	-	133
	3	13	-	1	-	-	36	1722	51	-	-	-	<0.4	-	-	0
4	1	0	-	0	-	-	62	1562	51	-	-	-	<0.4	-	-	80
	2	18	-	2	-	-	440	11007	204	-	-	-	<0.4	-	-	447
	3	0	-	1	-	-	151	4118	81	-	-	-	<0.4	-	-	169
5	1	12	-	1	-	-	87	1956	73	-	-	-	<0.4	-	-	203
	2	12	-	0	-	-	30	1067	27	-	-	-	<0.4	-	-	92
	3	13	-	1	-	-	187	6622	134	-	-	-	<0.4	-	-	192
6	1	14	-	2	-	-	160	3656	231	-	-	-	<0.4	-	-	222
	2	10	-	1	-	-	83	2100	142	-	-	-	<0.4	-	-	122
	3	14	-	1	-	-	138	3878	209	-	-	-	<0.4	-	-	189
7	1	4	-	2	-	-	154	4933	158	-	-	-	<0.4	-	-	378
	2		-	1	-	-	71	2711	90	-	-	-	<0.4	-	-	1822
	3		-	0	-	-	13	1044	33	-	-	-	<0.4	-	-	100
8	1	0	-	1	-	-	88	1568	79	-	-	-	<0.4	-	-	114
	2	1	-	2	-	-	37	2234	36	-	-	-	<0.4	-	-	59
	3	3	-	2	-	-	68	1679	78	-	-	-	<0.4	-	-	114
9	1	12	-	2	-	-	1	5867	221	-	-	-	<0.4	-	-	333
	2	1	-	1	-	-	0	1756	57	-	-	-	<0.4	-	-	944
	3	6	-	1	-	-	0	3089	121	-	-	-	<0.4	-	-	244

‘ – ‘ data is not available

Table A4-32: Total concentration of metals and metalloids in floor wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)														
10	1	20	-	5	-	-	418	4289	523	-	-	-	<0.2	-	-	722
	2	17	-	2	-	-	396	4622	401	-	-	-	<0.2	-	-	500
	3	13	-	1	-	-	273	4067	290	-	-	-	<0.2	-	-	389
11	1	0	-	0	-	-	57	1486	48	-	-	-	<0.2	-	-	179
	2	0	-	0	-	-	32	641	22	-	-	-	<0.2	-	-	134
	3	0	-	0	-	-	18	286	17	-	-	-	<0.2	-	-	72
12	1	9	-	0	-	-	98	1397	67	-	-	-	<0.2	-	-	111
	2	0	-	0	-	-	39	641	32	-	-	-	<0.2	-	-	122
	3	10	-	0	-	-	71	1174	58	-	-	-	<0.2	-	-	178
13	1	10	-	0	-	-	28	867	22	-	-	-	<0.2	-	-	110
	2	0	-	0	-	-	13	389	9	-	-	-	<0.2	-	-	68
	3	0	-	0	-	-	14	400	9	-	-	-	<0.2	-	-	56
14	1	13	-	1	-	-	122	4713	130	-	-	-	<0.2	-	-	445
	2	0	-	0	-	-	54	2158	62	-	-	-	<0.2	-	-	411
	3	0	-	0	-	-	51	2047	99	-	-	-	<0.2	-	-	500
15	1	0	-	0	-	-	84	739	40	-	-	-	<0.2	-	-	88
	2	21	-	3	-	-	478	3839	300	-	-	-	<0.2	-	-	557
	3	0	-	0	-	-	111	594	48	-	-	-	<0.2	-	-	112
16	1	11	-	2	-	-	178	6606	141	-	-	-	<0.2	-	-	403
	2	9	-	1	-	-	70	2494	84	-	-	-	<0.2	-	-	248
	3	14	-	1	-	-	111	3828	96	-	-	-	<0.2	-	-	281
17	1	11	-	2	-	-	48	679	58	-	-	-	<0.2	-	-	98
	2	0	-	1	-	-	41	446	26	-	-	-	<0.2	-	-	74
	3	20	-	3	-	-	644	1301	122	-	-	-	<0.2	-	-	207
18	1	11	-	1	-	-	122	2738	79	-	-	-	<0.2	-	-	207
	2	0	-	0	-	-	44	1182	33	-	-	-	<0.2	-	-	130
	3	0	-	0	-	-	56	1849	40	-	-	-	<0.2	-	-	119

‘ – ‘ data is not available

Table A4-32: Total concentration of metals and metalloids in floor wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)														
19	1	21	-	2	-	-	333	2086	229	-	-	-	<0.2	-	-	1026
	2	19	-	2	-	-	300	2086	218	-	-	-	<0.2	-	-	804
	3	13	-	1	-	-	211	1308	152	-	-	-	<0.2	-	-	637
20	1	11	-	0	-	-	41	447	33	-	-	-	<0.2	-	-	116
	2	11	-	0	-	-	64	680	41	-	-	-	<0.2	-	-	138
	3	0	-	0	-	-	66	647	48	-	-	-	<0.2	-	-	116
21	1	11	-	0	-	-	37	1310	47	-	-	-	<0.2	-	-	181
	2	17	-	2	-	-	189	11088	174	-	-	-	<0.2	-	-	570
	3	11	-	0	-	-	22	1199	26	-	-	-	<0.2	-	-	68
22	1	0	-	0	-	-	44	1014	39	-	-	-	<0.2	-	-	181
	2	0	-	0	-	-	38	681	38	-	-	-	<0.2	-	-	89
	3	9	-	0	-	-	30	959	44	-	-	-	<0.2	-	-	159
23	1	<0.8	-	<0.08	-	-	58	1070	42	-	-	-	<0.2	-	-	223
	2	12	-	<0.08	-	-	122	1959	118	-	-	-	<0.2	-	-	323
	3	10	-	<0.08	-	-	66	814	66	-	-	-	<0.2	-	-	301
33	1	63	289	18	43	13	1111	13889	3444	233	1	38	1	1	26	2667
	2	17	100	5	17	4	411	5000	2556	76	<0.05	9	<0.05	<0.05	6	1222
	3	43	189	27	46	11	1556	13667	2222	222	<0.05	60	2	1	24	2778
34	1	17	66	2	20	3	467	3889	244	43	<0.05	7	<0.05	<0.05	2	778
	2	30	103	4	37	7	1444	6333	433	88	<0.05	10	<0.05	<0.05	6	1222
	3	13	43	2	11	2	422	4000	222	41	<0.05	14	<0.05	<0.05	2	933
35	1	4	17	<0.05	2	1	104	822	47	20	<0.05	3	<0.05	<0.05	<0.1	600
	2	4	14	<0.05	3	1	101	1100	50	24	<0.05	3	<0.05	<0.05	1	767
	3	3	8	<0.05	1	1	72	644	26	12	<0.05	3	<0.05	<0.05	<0.1	567
36	1	6	32	1	3	1	93	1556	70	30	<0.05	5	<0.05	<0.05	2	511
	2	5	27	1	3	1	81	1556	61	30	<0.05	3	<0.05	<0.05	2	533
	3	344	522	17	256	29	4889	31333	1889	422	<0.05	22	2	1	48	3111

‘ – ‘ data is not available

Table A4-32: Total concentration of metals and metalloids in floor wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
								($\mu g/m^2$)								
37	1	8	78	2	3	2	300	3778	167	58	<0.05	4	<0.05	<0.05	3	711
	2	8	62	2	3	2	322	4222	156	62	<0.05	4	<0.05	<0.05	3	711
	3		256	13	17	16	2778	17333	1333	267	<0.05	12	2	1	20	2111
38	1	12	233	1	9	3	156	5222	122	77	<0.05	13	<0.05	<0.05	7	1667
	2	6	256	1	49	3	156	4889	99	58	<0.05	23	<0.05	<0.05	5	1444
	3	10	178	2	12	4	322	5111	144	81	<0.05	24	<0.05	<0.05	9	14778
39	1	22	122	8	9	8	500	6333	589	84	<0.05	10	1	<0.05	6	1333
	2	33	189	10	13	12	967	9222	756	122	<0.05	13	1	<0.05	7	1556
	3	13	78	3	5	7	333	3222	311	40	<0.05	5	<0.05	<0.05	2	911
40	1	1	14	0	1	0	33	593	24	8	<0.05	3	<0.05	<0.05	1	181
	2	2	19	0	2	1	44	1074	41	16	<0.05	3	<0.05	<0.05	1	241
41	1	39	181	16	8	16	1556	7500	1000	106	0	21	1	0	14	1056
	2	500	1667	167	133	167	31111	123333	23333	1089	7	156	14	3	256	19111
42	1	12	48	3	5	4	511	4111	211	48	<0.05	8	<0.05	<0.05	4	589
43	1	2	14	0	2	1	52	741	29	9	<0.05	2	<0.05	<0.05	1	181
44	1	41	111	9	4	6	1222	3889	422	40	<0.05	5	1	<0.05	3	856
45	1	8	43	1	14	2	544	3000	133	48	<0.05	11	<0.05	<0.05	2	1078
46	1	2	9	1	2	2	63	519	30	12	<0.05	3	<0.05	<0.05	1	337
47	1	86	200	9	27	12	2000	12889	878	156	<0.05	16	1	1	20	2111
48	1	10	102	9	8	3	278	4778	211	71	<0.05	7	<0.05	<0.05	5	1111
49	1	8	40	2	14	4	178	6556	106	70	<0.05	8	<0.05	<0.05	4	744
50	1	2	24	<0.05	1	1	178	1333	19	10	<0.05	2	<0.05	<0.05	<0.1	467
51	1	150	833	106	100	56	15944	263333	3056	1444	1	128	4	4	233	12333
52	1	2	10	<0.05	2	<0.05	71	1333	20	12	<0.05	2	<0.05	<0.05	<0.1	422
53	1	7	20	1	21	1	111	2667	92	26	<0.05	2	<0.05	<0.05	1	600
	2	41	178	11	80	11	1444	27333	1089	256	<0.05	17	3	1	22	2000
	3	5	29	1	8	1	133	1556	67	18	<0.05	2	<0.05	<0.05	<0.1	556

‘ – ‘ data is not available

Table A4-32: Total concentration of metals and metalloids in floor wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
	(µg/m^2)															
54	1	16	60	3	7	3	289	9000	311	79	<0.05	6	<0.05	<0.05	5	889
	2	21	111	4	9	4	378	12556	411	104	<0.05	9	1	1	7	1222
	3	4	30	1	2	2	122	2333	92	26	<0.05	4	<0.05	<0.05	1	678
55	1	3	13	<0.05	2	<0.05	36	1556	28	13	<0.05	2	<0.05	<0.05	<0.1	433
	2	13	31	2	3	2	478	4111	211	23	<0.05	4	<0.05	<0.05	2	644
	3	2	9	<0.05	<0.1	<0.05	38	800	21	8	<0.05	1	<0.05	<0.05	<0.1	456
56	1	5	46	1	7	2	122	6889	59	48	<0.05	4	<0.05	<0.05	4	1333
	2	4	56	1	10	2	144	5444	60	48	<0.05	5	<0.05	<0.05	4	1444
	3	3	23	<0.05	9	1	78	1889	30	46	<0.05	3	<0.05	<0.05	2	1222
57	1	9	48	1	10	2	211	3556	122	72	<0.05	5	<0.05	<0.05	5	1444
	2	3	16	<0.05	3	1	77	1033	41	24	<0.05	2	<0.05	<0.05	1	1222
	3	2	13	<0.05	2	<0.05	60	467	22	12	<0.05	2	<0.05	<0.05	<0.1	1333
58	1	11	33	2	4	2	311	1889	156	31	<0.05	3	<0.05	<0.05	2	1333
	2	5	33	1	3	2	167	1444	94	27	<0.05	2	<0.05	<0.05	2	1333
	3	5	27	1	4	1	111	1222	83	20	<0.05	2	<0.05	<0.05	1	1333
59	1	4	37	1	3	1	156	1222	71	24	<0.05	5	<0.05	<0.05	1	1333
	2	3	17	<0.05	6	1	111	967	50	18	<0.05	3	<0.05	<0.05	<0.1	1333
	3	5	29	1	17	1	156	1111	80	21	<0.05	3	<0.05	<0.05	1	1556
60	1	3	46	3	3	2	167	4667	71	40	<0.05	3	<0.05	<0.05	2	1222
	2	10	167	5	8	4	289	13889	156	103	<0.05	4	<0.05	<0.05	3	1444
	3	2	42	2	4	3	156	9333	48	52	<0.05	3	<0.05	<0.05	2	1333
61	1	4	62	2	3	1	178	1667	82	27	<0.05	3	<0.05	<0.05	2	1444
	2	4	64	5	3	1	178	1778	82	26	<0.05	2	<0.05	<0.05	2	1444
	3	12	233	5	7	4	389	7889	444	90	<0.05	5	1	<0.05	9	1778
62	1	9	644	1	6	2	189	2556	144	38	<0.05	4	<0.05	<0.05	4	1222
	2	13	933	2	10	3	267	4556	222	58	<0.05	5	<0.05	<0.05	7	1333
	3	13	611	2	6	2	244	3111	189	46	<0.05	5	<0.05	<0.05	5	1444

‘ – ‘ data is not available

Table A4-32: Total concentration of metals and metalloids in floor wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)														
63	1	14	111	2	51	6	644	9444	222	89	<0.05	13	<0.05	<0.05	12	2000
	2	3	20	1	6	1	101	1778	66	33	<0.05	5	<0.05	<0.05	2	1444
	3	9	92	2	17	6	344	10667	144	111	<0.05	17	<0.05	<0.05	29	1667
64	1	5	73	1	7	2	133	6222	68	89	<0.05	4	<0.05	<0.05	7	1444
	2	4	56	<0.05	8	2	102	5333	47	90	<0.05	4	<0.05	<0.05	6	1222
	3	3	46	<0.05	8	2	86	3333	37	51	<0.05	4	<0.05	<0.05	3	1222
65	1	33	89	2	26	3	333	5000	189	89	<0.05	8	<0.05	<0.05	5	2222
	2	5	43	1	7	2	156	3111	71	43	<0.05	5	<0.05	<0.05	2	1333
	3	18	92	2	24	2	144	4444	100	81	<0.05	9	<0.05	<0.05	4	2111
66	1	7	53	1	6	3	144	3889	91	59	<0.05	5	<0.05	<0.05	4	1333
	2	5	41	1	4	2	106	2778	70	43	<0.05	6	<0.05	<0.05	3	1444
	3	4	18	<0.05	2	2	90	1444	36	24	<0.05	2	<0.05	<0.05	1	1333
67	1	16	133	7	49	6	456	8222	511	111	<0.05	9	1	<0.05	10	2222
	2	9	54	3	17	3	511	10333	322	89	<0.05	6	<0.05	<0.05	4	8000
	3	3	21	1	3	1	133	1444	78	20	<0.05	2	<0.05	<0.05	<0.1	1444
68	1	5	57	1	2	2	189	1333	111	23	<0.05	4	<0.05	<0.05	<0.1	1333
	2	7	60	1	2	2	267	1556	144	28	<0.05	5	<0.05	<0.05	1	1444
	3	84	511	14	38	27	5444	24667	1444	356	<0.05	28	2	1	34	3222
69	1	13	83	2	8	4	344	3333	289	54	<0.05	4	<0.05	<0.05	3	1444
	2	6	73	1	6	2	144	1667	84	29	<0.05	3	<0.05	<0.05	1	1222
	3	6	72	1	6	1	133	1667	84	26	<0.05	2	<0.05	<0.05	1	1333
70	1	19	267	9	23	8	478	10556	422	211	<0.05	77	1	1	17	2111
	2	3	34	3	2	1	72	1111	43	21	<0.05	19	<0.05	<0.05	<0.1	1222
	3	6	133	2	8	4	156	4000	122	68	<0.05	444	<0.05	<0.05	5	1556
71	1	12	74	2	11	3	356	4333	156	71	<0.05	11	<0.05	<0.05	5	1556
	2	7	62	1	11	2	167	2444	102	43	<0.05	7	<0.05	<0.05	3	1333
	3	14	144	3	14	5	500	5778	289	82	<0.05	8	<0.05	<0.05	6	1556

‘ – ‘ data is not available

Table A4-32: Total concentration of metals and metalloids in floor wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
	(µg/m^2)															
72	1	5	59	2	3	2	156	2222	122	37	<0.05	3	<0.05	<0.05	2	1333
	2	5	81	1	4	2	156	2333	122	38	<0.05	4	<0.05	<0.05	3	1556
	3	2	23	<0.05	1	1	97	778	41	16	<0.05	2	<0.05	<0.05	<0.1	1222
	4	66	600	26	1100	37	3000	53000	1889	633	<0.05	522	2	2	76	7333
73	1	6	42	2	2	2	344	1778	133	32	<0.05	4	<0.05	<0.05	1	1444
	2	5	53	2	2	1	222	956	88	21	<0.05	2	<0.05	<0.05	<0.1	1444
	3	2	28	1	<0.1	1	156	544	42	14	<0.05	1	<0.05	<0.05	<0.1	1222
74	1	53	311	24	19	16	2222	11111	1889	156	<0.05	10	2	1	20	5444
	2	14	84	6	6	3	433	3889	489	52	<0.05	3	1	<0.05	4	2222
	3	7	43	4	2	2	300	1556	289	26	<0.05	2	<0.05	<0.05	2	1778
75	1	9	57	2	6	3	211	2778	167	51	<0.05	4	<0.05	<0.05	3	1556
	2	8	156	2	8	4	267	5000	144	77	<0.05	6	1	<0.05	4	1333
	3	4	50	1	3	2	144	1778	68	27	<0.05	2	<0.05	<0.05	1	1222
76	1	3	91	1	3	2	122	1333	88	29	<0.05	3	<0.05	<0.05	<0.1	1222
	2	2	46	1	2	1	68	633	40	16	<0.05	2	<0.05	<0.05	<0.1	1111
	3	3	39	1	6	2	79	1333	61	28	<0.05	5	<0.05	<0.05	1	1111

‘ – ‘ data is not available

Table A4- 33: Total concentration of metals and metalloids in window sill wipe

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)													
1	1	93	-	10	-	-	1667	27630	889	-	-	<0.4	-	-	2241
	2	50	-	6	-	-	1099	17589	355	-	-	<0.4	-	-	1294
2	1	77	-	12	-	-	1231	23769	1186	-	-	<0.4	-	-	1987
	2		-	5	-	-	273	5320	187	-	-	<0.4	-	-	-
3	1	71	-	8	-	-	904	12292	450	-	-	<0.4	-	-	2333
	2	63	-	6	-	-	619	13148	400	-	-	<0.4	-	-	704
4	1	59	-	6	-	-	985	11874	19	-	-	<0.4	-	-	2637
	2	65	-	12	-	-	1109	12703	630	-	-	<0.4	-	-	1855
5	1	87	-	5	-	-	810	23385	415	-	-	<0.4	-	-	682
	2	196	-	23	-	-	5167	87857	2506	-	-	<0.4	-	-	4839
6	1	50	-	10	-	-	1050	9923	720	-	-	<0.4	-	-	728
	2	68	-	11	-	-	1301	8394	795	-	-	<0.4	-	-	924
7	1	58	-	1	-	-	126	4984	104	-	-	<0.4	-	-	129
	2	16	-	5	-	-	612	9191	362	-	-	<0.4	-	-	388
8	1	43	-	11	-	-	1567	13035	1563	-	-	<0.4	-	-	1485
	2	108	-	21	-	-	3645	26455	3727	-	-	<0.4	-	-	3216
9	1	37	-	5	-	-	1	7284	451	-	-	<0.4	-	-	432
	2	170	-	14	-	-	10	49600	1363	-	-	<0.4	-	-	1733
10	1	67	-	11	-	-	2338	12615	877	-	-	<0.2	-	-	1282
	2	308	-	37	-	-	7569	47487	3338	-	-	<0.2	-	-	4359
11	1	71	-	23	-	-	769	18186	513	-	-	<0.2	-	-	5263
	2	64	-	0	-	-	571	15622	385	-	-	<0.2	-	-	4750
12	1	103	-	0	-	-	2302	19500	1587	-	-	<0.2	-	-	3651
	2	154	-	13	-	-	4701	23564	2137	-	-	<0.2	-	-	4701
13	1	43	-	0	-	-	791	13794	323	-	-	<0.2	-	-	599
	2	64	-	0	-	-	462	34607	180	-	-	<0.2	-	-	636

‘ – ‘ data is not available

Table A4-33: Total concentration of metals and metalloids in window sill wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)													
14	1	19	-	10	-	-	559	7832	209	-	-	<0.2	-	-	1334
	2	-	-	2	-	-	183	5117	108	-	-	<0.2	-	-	751
15	1	149	-	49	-	-	4743	33814	3659	-	-	<0.2	-	-	6627
	2	129	-	93	-	-	3652	34323	2363	-	-	<0.2	-	-	4609
16	1	299	-	56	-	-	8128	64053	4913	-	-	<0.2	-	-	9183
	2	160	-	24	-	-	4192	41806	1990	-	-	<0.2	-	-	7571
17	1	213	-	27	-	-	3324	35866	2128	-	-	<0.2	-	-	4782
	2	16	-	2	-	-	313	4852	149	-	-	<0.2	-	-	484
18	1	17	-	3	-	-	181	4242	121	-	-	<0.2	-	-	291
	2	21	-	3	-	-	437	4823	279	-	-	<0.2	-	-	551
19	1	262	-	50	-	-	9488	33425	3618	-	-	<0.2	-	-	11143
	2	59	-	9	-	-	1970	11178	2570	-	-	<0.2	-	-	6353
20	1	107	-	20	-	-	3612	36094	1530	-	-	<0.2	-	-	3485
21	1	29	-	4	-	-	589	39939	347	-	-	<0.2	-	-	1961
	2	54	-	4	-	-	406	10274	271	-	-	<0.2	-	-	5171
22	1		-	0	-	-	44	401	21	-	-	<0.2	-	-	136
	2	45	-	5	-	-	1732	19948	853	-	-	<0.2	-	-	1270
23	1	17	-	3	-	-	185	3224	436	-	-	<0.2	-	-	557
	2	105	-	<0.08	-	-	2545	56416	137	-	-	<0.2	-	-	6388
33	1	15	87	8	17	5	447	6110	895	92	15	1	<0.05	6	1058
	2	31	171	19	30	10	840	10684	1852	185	28	1	<0.05	12	1994
34	1	24	94	4	20	5	542	6634	475	93	31	1	<0.05	9	1084
	2	30	110	5	20	6	799	7713	523	105	44	<0.05	<0.05	6	1818
35	1	164	506	37	178	103	3964	48530	4170	752	75	5	2	96	9364
	2	3	8	0	1	1	88	585	35	14	2	<0.05	<0.05	1	284

‘ – ‘ data is not available

Table A4-33: Total concentration of metals and metalloids in window sill wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)													
36	1	12	55	3	7	13	262	3314	133	55	10	<0.05	<0.05	4	423
	2	74	350	34	108	18	2353	17479	1345	255	52	2	1	32	2891
37	1	13	150	4	59	4	833	5167	200	125	92	<0.05	<0.05	7	1667
	2	4	29	1	1	8	114	1046	50	21	17	<0.05	<0.05	<0.1	810
38	1	50	127	11	20	110	1354	11421	1184	144	54	1	1	15	8460
	2	16	230	6	14	9	466	5569	272	85	22	0	0	8	1634
39	1	89	250	25	26	39	2786	15857	2214	196	22	3	1	18	3929
	2	15	89	5	4	13	642	3058	306	37	5	0	<0.05	2	887
40	1	2	9	0	1	0	48	479	20	9	4	<0.05	<0.05	0	188
	2	28	9429	7	40	8	571	10000	429	169	54	<0.05	<0.05	21	46286
41	1	1265	398	461	181	226	30818	202440	26932	1536	190	20	4	352	43380
	2	306	1389	102	59	93	19444	57407	8704	639	81	9	2	139	10185
42	1	19	67	5	10	7	847	7361	361	92	14	<0.05	<0.05	7	889
	2	46	151	13	11	19	1458	8892	826	121	10	1	0	15	1361
43	1	8	95	2	9	9	221	4229	119	59	12	0	0	8	514
	2	4	129	1	4	6	152	2584	79	31	8	<0.05	<0.05	4	2247
44	1	258	267	52	24	38	6417	21083	4000	217	30	5	1	39	6917
	2	84	163	26	17	19	2684	14368	1842	184	52	3	1	24	3421
45	1	1	8	0	2	1	54	430	22	9	3	<0.05	<0.05	0	116
	2	1	9	1	2	1	72	583	27	14	4	<0.05	<0.05	0	211
46	1	183	567	73	60	142	5833	64167	5167	767	142	6	4	133	9167
	2	111	432	52	33	31	3333	23827	2222	296	46	3	1	48	3951
47	1	74	538	18	38	39	2538	20812	1117	305	58	2	1	38	3147
	2	16	129	6	11	33	1501	6217	311	75	32	<0.05	<0.05	6	2358

Table A4-33: Total concentration of metals and metalloids in window sill wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)													
48	1	34	1158	8	30	24	1103	21450	551	187	23	1	1	21	1434
	2	32	2372	8	23	30	825	12378	567	103	20	1	0	12	1238
49	1	16	395	5	15	10	469	13734	230	140	17	0	<0.05	13	1809
	2	33	196	8	30	17	1020	35119	536	306	43	1	1	35	2296
50	1	12	222	2	9	8	428	8394	189	61	7	0	<0.05	8	528
	2	53	177	11	38	8	1456	13769	424	84	16	1	0	9	1456
51	1	283	640	96	53	69	14621	151547	13767	486	40	10	2	91	18783
	2	137	250	50	53	40	6433	6700	500	277	20	4	1	33	13933
52	1	4	23	1	4	3	91	5205	55	55	5	<0.05	0	4	295
	2	2	23	1	4	3	77	4114	43	30	5	<0.05	<0.05	4	318
53	1	1661	2401	500	116	280	59624	482193	81833	1761	160	42	6	240	67227
	2	1661	2401	420	320	280	63425	942377	71028	3802	1441	58	11	740	110244
54	1	2	16	0	1	1	104	911	57	6	2	<0.05	<0.05	1	145
	2	54	37219	24	119	246	1756	50562	2037	337	485	<0.05	<0.05	35	20365
55	1	27	46	6	5	5	914	8172	522	59	5	1	<0.05	5	645
	2	23	188	5	11	5	639	12389	426	87	8	<0.05	<0.05	6	2516
56	1	31	157	9	34	10	930	15821	592	193	24	1	1	18	2536
	2	11	81	5	13	7	375	6111	194	86	25	<0.05	<0.05	9	1944
57	1	110	558	32	31	41	2893	19835	1928	317	23	2	1	39	2548
	2	38	121	8	17	70	700	7061	630	108	18	1	0	8	1972
58	1	14	467	5	5	4	483	2833	333	52	10	<0.05	<0.05	3	2167
	2	23	92	6	4	4	844	4063	448	53	17	<0.05	<0.05	4	1667
59	1	140	546	31	88	36	3321	51945	2609	640	69	3	2	81	8302
	2	250	930	41	102	54	5546	58140	3936	769	88	4	3	113	9123

Table A4-33: Total concentration of metals and metalloids in window sill wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)													
60	1	39	143	10	23	18	1348	16173	663	170	48	<0.05	<0.05	18	3110
	2	5	34	6	12	13	227	4545	89	55	7	<0.05	<0.05	7	2273
61	1	99	2227	32	30	32	4560	19300	2545	223	33	3	1	23	5832
	2	90	1219	37	21	29	3213	15512	2438	177	28	3	1	19	3989
62	1	41	267	11	13	18	1333	12500	1000	188	25	<0.05	<0.05	15	5417
	2	150	286	29	15	23	4762	16952	3048	248	16	4	<0.05	25	4952
63	1	75	588	21	102	187	1765	54011	5722	455	102	1	2	96	8396
	2	7	43	2	9	13	182	3068	267	43	15	<0.05	<0.05	5	1023
64	1	7	22980	2	24	13	227	14773	117	189	14	<0.05	<0.05	37	1641
	2	2	3283	<0.05	6	20	83	3030	19	47	7	<0.05	<0.05	5	1515
65	1	13	79	23	37	21	468	5615	174	75	11	<0.05	<0.05	5	2273
	2	5	59	37	6	2	147	2273	56	35	7	<0.05	<0.05	2	1738
66	1	91	341	12	95	92	1576	33745	1155	512	49	2	2	53	3808
	2	40	234	10	47	23	4476	22165	639	362	49	1	1	30	7246
67	1	110	742	67	90	45	3820	44944	4045	584	56	4	2	63	7865
	2	19	102	7	11	8	800	12121	436	153	13	<0.05	<0.05	10	4606
68	1	87	329	247	34	137	2648	17717	1461	201	83	2	1	21	5114
	2	153	423	27	33	50	4685	24234	2252	288	32	3	1	31	3694
69	1	4	23	<0.05	1	9	72	861	32	18	7	<0.05	<0.05	<0.1	947
	2	5	30	1	2	7	160	1179	54	21	8	<0.05	<0.05	1	1011
70	1	10	250	2	15	17	405	4990	265	69	22	<0.05	<0.05	5	2651
	2	6	128	2	271	9	239	4145	223	85	21	<0.05	<0.05	4	2710
71	1	48	153	10	29	31	1528	9934	983	153	34	1	1	14	2293
	2	27	131	5	23	22	1310	8624	579	109	38	1	<0.05	12	1747

Table A4-33: Total concentration of metals and metalloids in window sill wipe (cont.)

Sample number	Rep	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)													
72	1	8	44	3	4	10	276	3525	184	55	5	<0.05	<0.05	2	1992
	2	3	90	1	1	8	111	1044	73	22	3	<0.05	<0.05	<0.1	1556
73	1	43	420	13	61	96	1435	26232	899	391	52	1	1	42	8696
	2	8	58	2	5	12	289	1911	113	40	9	<0.05	<0.05	<0.1	2667
74	1	54	82	21	3	17	1891	5846	1613	64	4	2	0	7	2793
	2	444	649	162	29	128	15361	52739	13654	597	34	15	2	46	20140
75	1	37	225	13	36	43	979	16753	1267	259	22	2	1	31	2418
	2	7	114	2	4	10	245	2800	175	39	7	<0.05	<0.05	2	1050
76	1	25	4321	8	52	17	741	20741	568	333	44	1	1	47	3210
	2	30	1222	10	70	27	877	33210	716	593	67	1	2	62	3580

Table A4- 34: Total concentration of metals and metalloids in window trough wipe

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)															
1	1	754	-	-	89	-	-	24005	238409	350	-	-	-	<1	-	-	21776
	2	1495	-	-	167	-	-	38681	384703	20132	-	-	-	<1	-	-	31429
2	1	4414	-	-	455	-	-	158050	1224690	54644	-	-	-	<4	-	-	84783
	2	2710	-	-	323	-	-	96084	820874	34047	-	-	-	<2	-	-	48689
3	1	1481	-	-	272	-	-	70510	476132	29531	-	-	-	<1	-	-	57942
	2	3644	-	-	688	-	-	188489	1684885	71363	-	-	-	<2	-	-	104453
4	1	1119	-	-	298	-	-	33343	353436	17566	-	-	-	<1	-	-	60625
	2	3525	-	-	272	-	-	170957	1247795	54220	-	-	-	<2	-	-	81591
5	1	273	-	-	25	-	-	3818	80909	3432	-	-	-	<0.4	-	-	3932
	2	386	-	-	48	-	-	10556	151625	8165	-	-	-	<0.4	-	-	10171
6	1	1665	-	-	282	-	-	68937	421127	35698	-	-	-	<1	-	-	29834
	2	10835	-	-	1219	-	-	321381	1403250	169088	-	-	-	<2	-	-	185035
7	1	3022	-	-	326	-	-	92975	994393	51121	-	-	-	<2	-	-	56698
	2	6225	-	-	341	-	-	77672	1662745	36324	-	-	-	<2	-	-	99020
8	1	1297	-	-	211	-	-	1963	288477	30864	-	-	-	<1	-	-	41029
	2	1119	-	-	161	-	-	43119	205306	37690	-	-	-	<1	-	-	27476
9	1	6135	-	-	590	-	-	933	1355530	84617	-	-	-	<2	-	-	99114
	2	1118	-	-	179	-	-	327	376296	22081	-	-	-	<1	-	-	27340
10	1	16911	-	-	1810	-	-	512527	2452503	243846	-	-	-	<4	-	-	181319
	2	4583	-	-	678	-	-	222000	757963	82139	-	-	-	<4	-	-	77315
11	1	33	-	-	11	-	-	851	13883	588	-	-	-	-	-	-	1843
	2	29	-	-	5	-	-	598	11880	439	-	-	-	-	-	-	1685
12	1	501	-	-	56	-	-	19424	137710	84586	-	-	-	-	-	-	29386
	2	1003	-	-	184	-	-	81921	197133	18362	-	-	-	-	-	-	25141
13	1	495	-	-	49	-	-	15723	243967	9223	-	-	-	-	-	-	9125
	2	1323	-	-	132	-	-	39590	898016	26415	-	-	-	-	-	-	22209

‘ – ‘ data is not available

Table A4-34: Total concentration of metals and metalloids in window trough wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
	($\mu g/m^2$)																
14	1	849	-	-	170	-	-	34965	279141	14955	-	-	-	-	-	-	33868
	2	1222	-	-	289	-	-	42222	821578	17744	-	-	-	-	-	-	62113
15	1	2905	-	-	1176	-	-	103123	667466	71169	-	-	-	-	-	-	132041
	2	6426	-	-	7530	-	-	261044	2308785	160643	-	-	-	-	-	-	542078
16	1	6208	-	-	1109	-	-	72062	1529324	121918	-	-	-	-	-	-	166221
	2	1955	-	-	288	-	-	58642	585854	39064	-	-	-	-	-	-	55485
17	1	1528	-	-	472	-	-	40278	457931	73611	-	-	-	-	-	-	52728
	2	1450	-	-	163	-	-	32544	339808	17751	-	-	-	-	-	-	41367
18	1	3030	-	-	470	-	-	100313	1263992	73114	-	-	-	-	-	-	67886
	2	3935	-	-	903	-	-	157407	1017685	85579	-	-	-	-	-	-	141127
19	1	9302	-	-	3920	-	-	471761	1361977	146156	-	-	-	-	-	-	152778
	2	156	-	-	19	-	-	4925	46450	2070	-	-	-	-	-	-	3812
20	1	1622	-	-	189	-	-	73359	385992	27019	-	-	-	-	-	-	73297
	2	1418	-	-	300	-	-	76336	752301	38157	-	-	-	-	-	-	114417
21	1	732	-	-	86	-	-	16964	231768	10304	-	-	-	-	-	-	24339
	2	2685	-	-	401	-	-	77160	1203056	43117	-	-	-	-	-	-	94537
22	1	1641	-	-	226	-	-	66667	594733	28718	-	-	-	-	-	-	40938
	2	2241	-	-	336	-	-	54622	840147	37815	-	-	-	-	-	-	60805
23	1	6944	-	-	4080	-	-	312500	2803498	147535	-	-	-	-	-	-	173446
	2	1431	-	-	960	-	-	48913	470344	36159	-	-	-	-	-	-	59438
33	1	1099	1844	3	167	259	206	49645	148936	19149	1844	<0.05	426	18	5	259	21631
	2	1239	2607	3	209	2094	329	70085	207692	28632	2778	7	1239	22	8	427	29487

34	1	4468	10213		979	2979	1043	148936	1106383	106383	18936	15	4894	100	45	2106	165957
	2	1785	3769	9	483	1521	456	64132	453554	48926	6612	7	2512	44	18	992	76033
35	1	211	788	2	41	347	66	4411	59546	5356	1040	<0.05	91	5	2	107	11027
	2	86	208	<0.05	12	64	22	2441	24155	1704	381	<0.05	46	2	<0.05	41	3814

‘ – ‘ data is not available

Table A4-34: Total concentration of metals and metalloids in window trough wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)															
36	1	223	914	2	103	543	66	6857	73714	4286	971	<0.05	151	5	3	123	7143
	2	14	80	<0.05	3	8	5	320	4800	187	87	<0.05	25	<0.05	<0.05	4	1029
37	1	376	20588	<0.05	324	329	229	12941	192941	8824	2118	21	647	10	5	229	56471
	2	1333	4074	6	244	407	289	57778	300741	21111	3704	5	4074	24	9	667	54815
38	1	437	3005	3	792	205	134	13661	123224	6831	1530	4	216	10	6	301	22131
	2	1595	10288	13	4630	1003	566	54012	627572	30864	8488	15	3601	46	31	1337	177469
39	1	9667	3033	7	1567	400	800	96667	766667	127333	9667	17	280	133	19	1400	274667
	2	667	2111	3	207	148	170	20370	145556	18889	1778	4	219	25	5	252	41481
40	1	226	629	2	60	98	56	6613	80968	4032	742	<0.05	76	6	3	177	8387
	2	146	690	<0.05	46	54	36	3333	50575	2337	460	<0.05	50	3	3	80	6130
41	1	11585	5732	11	854	793	1524	164634	926829	158537	5488	14	537	110	25	2073	91463
	2	4167	3056	4	306	258	639	69444	311111	49167	2250	7	208	33	9	750	33889
42	1	1905	5397	9	476	413	508	88254	590476	57143	6349	10	302	57	18	1333	73651
	2	1930	6579	8	614	355	439	80263	504386	64035	4825	7	268	66	14	921	105702
43	1	197	8333	6	27	180	107	6000	163333	2067	1633	<0.05	170	5	7	433	7000
	2	340	12800	6	48	228	136	9600	204000	3720	2200	<0.05	212	8	8	520	13200
44	1	11250	5417	8	917	1125	750	125833	683333	133750	8333	20	413	96	20	1667	269167
	2	316	1053	2	155	95	87	11842	77632	8684	1105	3	129	14	3	163	29737
45	1	567	2100	6	150	433	197	19000	256333	11333	3333	5	333	20	9	733	22667
	2	389	1444	4	103	236	144	13611	195833	8611	2667	3	183	14	8	500	15278

46	1	3433	18657	52	896	1940	1343	272388	2447761	118657	26119	16	3209	104	112	7463	258955
	2	7500	24250	68	4000	4250	2475	427500	3550000	240000	27500	70	6250	203	135	9000	387500
47	1	226	1481	<0.05	56	85	70	12593	61111	4074	815	<0.05	122	6	2	104	8889
	2	127	817	<0.05	36	52	42	5556	33660	2059	458	<0.05	111	3	<0.05	46	5882

Table A4-34: Total concentration of metals and metalloids in window trough wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)															
48	1	433	6250	7	100	458	258	16667	3241667	9167	1667	<0.05	425	13	9	317	2200000
	2	4778	24444	43	944	3833	1556	166667	4077778	144444	27778	30	4722	133	78	5556	213889
49	1	171	2467	3	39	151	102	5263	194408	2730	1875	<0.05	243	6	5	184	9868
	2	224	1224	3	51	201	116	7143	263265	3741	2687	<0.05	544	7	6	265	10204
50	1	363	1719	3	63	430	125	12500	225000	6641	1563	<0.05	117	7	4	273	11719
	2	242	436	<0.05	114	148	47	10738	65772	4027	503	<0.05	37	3	2	74	5705
51	1	3982	2257	11	1283	1327	752	124779	2199115	141593	6637	49	841	115	21	1770	407965
	2	8000	11333	13	2000	2867	1000	226000	1613333	231333	14667	73	667	160	33	2400	700000
52	1	1091	2818	12	168	1000	1364	31818	636364	15909	8182	4	818	22	21	1409	36818
	2	773	2591	10	141	773	1136	24545	1900000	13636	7727	5	636	18	17	1136	47273
53	1	471	1109	<0.05	128	128	94	35630	176807	18151	1008	<0.05	323	12	4	403	15126
	2	504	571	<0.05	57	370	50	9748	105546	4370	941	<0.05	185	8	5	319	13109
54	1	465	5030	<0.05	105	450	195	30781	173423	18018	1426	5	616	15	5	195	33033
	2	1	179	<0.05	0	1	0	33	687	26	6	<0.05	1	0	<0.05	1	78
55	1	2972	5943	9	381	775	472	116279	1472868	92377	5620	8	465	63	16	1163	100129
	2	1558	10840	7	393	501	434	73848	995935	65718	4472	12	318	45	14	678	81301
56	1	917	3810	8	162	1058	233	25397	330864	16226	3810	<0.05	275	18	14	705	36684
	2	580	4116	8	151	499	696	21449	286377	15652	3536	5	2493	16	12	696	35942
57	1	1818	1686	6	284	436	379	75568	482955	42424	4924	5	227	28	16	795	33523
	2	595	1527	3	99	198	122	18015	134809	9924	1985	1	134	11	7	260	12672
58	1	2400	3333	3	320	147	267	69067	309333	50933	1867	4	160	40	6	467	81333
	2	173	360	<0.05	45	31	37	6400	30800	4133	360	<0.05	73	5	1	67	7200
59	1	1412	5150	20	266	714	399	39867	632890	28239	8472	13	615	45	28	1146	59801
	2	1827	10963	22	515	1063	581	54817	775748	49834	10299	25	16611	53	35	1512	83056

Table A4-34: Total concentration of metals and metalloids in window trough wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)															
60	1	2206	7941	15	500	662	662	75000	692647	38235	7206	<0.05	647	56	25	1265	67647
	2	802	4345	13	508	2807	381	24064	532086	18048	7353	14	575	27	26	1805	45455
61	1	5385	33333	<0.05	2103	795	1462	348718	1353846	251282	13077	33	923	195	31	1282	664103
	2	4220	21739	17	1407	2430	1074	228900	1355499	150895	11765	26	908	179	40	2558	317136
62	1	44	361	<0.05	9	11	10	1472	11944	1028	178	<0.05	20	1	<0.05	14	4167
	2	183	771	<0.05	34	19	27	5143	24571	3714	286	<0.05	16	4	<0.05	25	6857
63	1	382	1324	3	126	250	129	12059	159412	9706	2029	1	215	7	6	294	15294
	2	1000	2563	14	184	719	375	36250	831250	14063	6563	6	969	24	24	1563	41250
64	1	85	30303	<0.05	8	189	68	2525	135101	593	1894	<0.05	91	<0.05	<0.05	303	15152
	2	20	21465	<0.05	<0.05	64	42	909	71970	253	871	<0.05	66	<0.05	<0.05	109	13889
65	1	1471	11765	13	1118	912	412	36765	407353	20588	5735	<0.05	676	28	21	750	64706
	2	603	9853	<0.05	368	368	147	13529	175000	8676	2794	<0.05	456	10	9	265	36765
66	1	2549	10980	53	392	2353	1451	52941	1643137	50980	19608	18	1824	65	65	3725	113725
	2	638	3188	10	261	623	304	52174	307246	10580	4928	<0.05	1594	17	16	551	65217
67	1	766	4699	10	179	562	271	20940	393258	16343	6129	8	424	20	16	817	41879
	2	713	5318	13	203	932	378	36732	619518	14803	7127	6	877	17	20	1371	58662
68	1	1522	913	4	381	304	320	15982	219178	26788	2283	5	244	30	7	350	30137
	2	3514	1595	6	676	649	676	24324	440541	63243	4054	12	297	59	14	838	55946
69	1	91	1212	<0.05	17	42	29	2727	34343	1313	535	<0.05	273	<0.05	<0.05	36	13131
	2	553	2979	<0.05	81	160	160	20213	171277	6596	2234	<0.05	213	12	6	160	27660
70	1	1861	17222	<0.05	444	1306	806	58333	444444	41667	5556	<0.05	972	39	25	889	80556
	2	221	11395	<0.05	63	44186	523	10814	131395	11512	1512	19	209	7	8	314	59302
71	1	871	8929	<0.05	127	1004	290	49107	232143	16741	3125	<0.05	848	20	13	335	62500
	2	1773	12500	14	189	1932	591	109091	468182	25000	5909	15	1864	32	30	773	61364

Table A4-34: Total concentration of metals and metalloids in window trough wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)															
72	1	383	1788	<0.05	140	294	128	10089	123883	8301	1916	<0.05	281	9	8	217	31928
	2	323	1636	<0.05	154	145	79	7071	105051	6465	1232	<0.05	303	<0.05	<0.05	131	32323
73	1	2241	14446	32	501	1975	943	112028	1244104	58962	18573	<0.05	2123	65	74	2624	241745
	2	289	3333	3	64	289	96	10889	110889	6222	1444	1	400	8	5	244	16444
74	1	8739	23193	<0.05	2790	1277	2454	282353	1357983	235294	10756	71	908	215	61	2218	594958
	2	7349	11205	11	1687	771	1446	231325	880723	191566	8072	24	482	169	31	1325	268675
75	1	829	2418	5	166	225	190	23661	221071	21934	2936	3	152	26	10	449	25734
	2	866	2126	5	138	827	228	27559	211417	18898	2362	3	169	25	8	358	27559
76	1	81	4262	<0.05	26	112	43	3371	51530	5812	814	<0.05	128	3	3	108	8524
	2	248	1898	7	43	465	159	6587	234018	5812	3448	<0.05	376	7	13	504	11236

Table A4- 35: Total concentration of metals and metalloids in veranda wipe

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		($\mu g/m^2$)															
11	1	103	-	-	8	-	-	3444	67708	1667	-	-	-	-	-	-	2090
12	1	156	-	-	18	-	-	6111	32174	3556	-	-	-	-	-	-	2200
13	1	56	-	-	4	-	-	1770	24322	697	-	-	-	-	-	-	721
14	1	23	-	-	3	-	-	511	21047	386	-	-	-	-	-	-	1211
15	1	322	-	-	133	-	-	5667	69950	9333	-	-	-	-	-	-	11101
16	1	111	-	-	9	-	-	3000	226606	219	-	-	-	-	-	-	3103
17	1	22	-	-	2	-	-	478	12190	278	-	-	-	-	-	-	496
18	1	167	-	-	19	-	-	5778	67738	7330	-	-	-	-	-	-	3663
19	1	47	-	-	3	-	-	1556	16642	607	-	-	-	-	-	-	459
20	1	29	-	-	2	-	-	944	35524	320	-	-	-	-	-	-	438
21	1	42	-	-	4	-	-	756	23310	686	-	-	-	-	-	-	770
22	1	17	-	-	0	-	-	556	14414	9	-	-	-	-	-	-	448
23	1	56	-	-	<0.08	-	-	367	26626	77	-	-	-	-	-	-	2757
33	1	156	411	1	37	77	48	6889	56444	4222	911	<0.05	156	4	2	104	5111
	2	111	500	1	70	43	28	4111	34889	4444	678	<0.05	61	9	2	37	7000
34	1	58	200	<0.05	14	20	11	1667	10667	1222	156	<0.05	11	1	<0.05	12	1778
	2	278	456	1	29	56	56	18889	37556	3778	578	<0.05	39	4	1	44	7000
35	1	93	111	<0.05	4	27	7	867	9778	478	122	<0.05	9	1	<0.05	13	1444
	2	17	63	<0.05	2	7	4	311	9111	189	211	<0.05	6	<0.05	<0.05	8	956
36	1	522	1556	1	61	97	74	12667	70889	7000	1022	1	72	8	3	122	9333

	2	38	256	<0.05	5	21	8	678	12000	511	200	<0.05	12	1	<0.05	17	1556
37	1	80	233	<0.05	17	13	18	4778	11333	1100	167	<0.05	12	2	<0.05	13	2444
	2	122	367	1	18	31	32	4889	31333	1667	489	<0.05	21	3	2	37	3222
38	1	200	625	1	32	56	57	6333	50167	3083	600	1	63	5	2	100	6000
39	1	83	239	2	17	33	41	3222	47278	1611	278	0	41	4	4	89	3111

‘ – ‘ data is not available

Table A4-35: Total concentration of metals and metalloids in veranda wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)															
40	1	111	289	1	13	40	31	2333	35889	1222	589	<0.05	28	2	1	82	3000
	2	99	267	1	13	37	24	2111	33889	1033	644	<0.05	32	2	1	73	2778
41	1	178	2000	1	34	167	63	11111	29778	3222	511	1	32	3	1	56	2333
42	1	217	592	1	58	19	44	8000	27917	5000	283	0	21	5	1	48	5583
43	1	64	117	<0.05	7	8	14	2167	9417	717	108	<0.05	8	1	<0.05	14	917
44	2	256	2333	2	82	92	93	18222	143333	4889	1111	1	66	21	3	300	8222
45	1	222	478	1	30	80	58	7111	64778	2889	856	1	44	5	2	144	5333
46	2	239	556	1	61	61	72	10889	80556	8722	833	1	42	7	2	144	13778
47	1	2111	922	1	98	69	133	30667	116667	12556	744	1	51	26	2	156	11000
48	2	80	267	1	57	34	21	2889	53778	1444	367	<0.05	22	2	1	61	2333
49	1	19	108	<0.05	3	25	7	517	20917	283	167	<0.05	12	1	1	19	1000
50	2	68	417	<0.05	12	14	14	1833	24833	1567	122	<0.05	10	2	<0.05	16	2833
51	1	450	256	0	72	37	83	8722	93889	8444	306	2	31	9	1	41	13889

	2	193	193	<0.05	41	11	41	7741	45556	5148	78	0	14	4	0	19	2667
52	1	42	275	1	7	41	12	1417	30917	617	392	<0.05	17	1	1	32	2583
53	1	52	167	1	19	18	13	2111	37889	1889	300	<0.05	19	4	1	29	2444
	2	356	833	1	111	69	90	25556	204444	17778	778	1	47	12	3	122	23778
54	1	20	189	<0.05	4	8	10	778	13444	400	86	<0.05	9	1	<0.05	9	1333
	2	19	178	<0.05	4	5	4	811	9111	378	68	<0.05	5	1	<0.05	5	1000
55	1	24	144	<0.05	5	13	7	911	17778	467	156	<0.05	9	1	<0.05	20	13889
	2	8	36	<0.05	1	4	13	167	8889	133	69	<0.05	4	<0.05	<0.05	5	756
56	1	21	178	<0.05	3	19	8	633	10000	311	189	<0.05	11	<0.05	<0.05	21	1778
	2	18	92	<0.05	3	12	7	1667	9667	367	69	<0.05	8	<0.05	<0.05	13	1556
57	1	11	41	<0.05	2	8	4	300	4222	289	90	<0.05	4	<0.05	<0.05	6	1556
	2	68	178	<0.05	13	36	14	2111	26111	1011	344	<0.05	20	1	1	22	6222

Table A4-35: Total concentration of metals and metalloids in veranda wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m²)															
58	1	111	211	<0.05	22	12	23	4778	18667	2667	178	<0.05	11	3	<0.05	21	4667
	2	89	178	<0.05	18	22	22	4222	16000	2000	200	<0.05	11	3	<0.05	22	4222
59	1	200	333	<0.05	26	41	64	6889	31444	2889	356	<0.05	34	4	1	66	8556
	2	356	511	1	31	38	69	7556	50444	3444	544	<0.05	41	4	2	78	16333
60	1	411	922	2	108	189	167	34222	415556	9889	2333	<0.05	189	8	5	378	16444

	2	91	300	1	40	58	43	7556	54444	1667	500	<0.05	38	3	1	93	7778
61	1	8	200	<0.05	3	5	3	289	4556	222	57	<0.05	4	<0.05	<0.05	5	1333
	2	27	56	<0.05	10	4	5	478	8333	1222	104	<0.05	3	2	<0.05	5	2111
62	1	633	778	1	52	73	106	19222	114444	8444	811	<0.05	57	8	3	211	16778
	2	344	656	1	43	42	71	11556	61333	4556	556	1	41	6	2	73	6889
63	1	211	633	2	38	88	59	13667	141111	3889	1222	<0.05	76	5	3	178	11111
	2	133	522	2	38	144	156	3444	89111	4222	2556	2	122	4	3	200	10667
64	1	19	133	1	2	19	12	922	24444	289	367	<0.05	46	<0.05	1	38	1556
	2	16	133	<0.05	2	19	12	511	22000	200	289	<0.05	12	<0.05	1	40	1556
65	1	122	133	<0.05	13	28	23	5222	14222	1333	167	<0.05	12	2	1	13	2667
	2	43	122	<0.05	8	13	13	3778	12444	622	189	<0.05	13	1	<0.05	10	2778
66	1	66	356	3	10	108	44	1333	88667	811	1022	<0.05	73	2	4	178	4556
	2	61	278	3	7	104	44	1067	84222	489	1011	<0.05	69	2	3	178	3222
67	1	53	289	<0.05	14	46	33	2000	20778	1444	267	<0.05	19	2	1	29	3778
	2	26	311	<0.05	30	41	13	900	17222	1056	267	<0.05	16	1	1	29	2667
68	1	267	778	1	59	56	69	10222	53222	4667	678	1	33	6	2	76	7222
	2	178	3222	1	43	34	42	6333	29000	4556	322	<0.05	20	7	1	31	5222
69	1	43	2222	<0.05	11	26	51	1111	14111	1044	222	<0.05	12	1	1	19	2222
	2	84	2556	<0.05	18	40	94	4111	21000	1889	289	<0.05	19	2	1	28	3000

Table A4-35: Total concentration of metals and metalloids in veranda wipe (cont.)

Sample number	Rep	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
		(µg/m^2)															
70	1	61	267	1	14	38	27	3111	29444	1333	400	<0.05	43	2	1	50	2889
	2	28	133	<0.05	7	14	10	1111	10444	644	156	<0.05	21	1	1	14	1889
71	1	256	467	<0.05	74	33	59	10222	31444	6667	389	<0.05	23	6	1	36	6889
	2	133	256	1	34	56	37	5889	31889	2778	444	<0.05	27	3	2	57	3222
72	1	22	189	<0.05	7	11	7	611	9556	556	156	<0.05	11	1	<0.05	12	2111
	2	33	800	<0.05	11	24	13	956	18000	956	267	<0.05	16	1	1	26	3333
74	1	189	778	1	70	61	53	10778	48000	6000	467	1	38	6	2	77	12556
	2	91	256	<0.05	24	18	26	6000	18333	2556	178	<0.05	13	2	1	26	4889
75	1	156	556	2	19	99	78	5111	76556	2556	778	<0.05	56	7	3	122	5111
	2	167	556	1	26	49	54	5889	48444	3000	833	<0.05	33	5	1	71	4444
76	1	10	244	<0.05	4	4	3	333	3889	289	60	<0.05	4	<0.05	<0.05	3	1333
	2	5	111	<0.05	1	3	2	133	1889	110	39	<0.05	2	<0.05	<0.05	1	1444

Table A4- 36: Total concentration of metals and metalloids in roof wipe

Sample number	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
	($\mu g/m^2$)														
1	3444	-	<2	-	-	42222	73067	5989	-	-	-	<10	-	-	146639
2	1333	-	11	-	-	7658	47676	2550	-	-	-	<1	-	-	6744
3	500	-	26	-	-	15519	85389	5764	-	-	-	<2	-	-	6489
4	256	-	6	-	-	1862	29896	1760	-	-	-	<0.4	-	-	2780
5	133	-	4	-	-	942	36400	1090	-	-	-	<0.4	-	-	4137
6	156	-	19	-	-	3649	62100	4098	-	-	-	<1	-	-	3033
7	138	-	14	-	-	2410	76489	3202	-	-	-	<1	-	-	2156
8	470	-	67	-	-	15536	108790	13323	-	-	-	<2	-	-	7670
9	151	-	11	-	-	30	67644	3310	-	-	-	<1	-	-	1844
10	617	-	65	-	-	16640	123178	9523	-	-	-	<2	-	-	8500
38	33333	567	97	2767	433	184667	356667	111000	1067	7	217	73	21	400	1043333
39	12667	967	130	277	333	51000	244000	47667	1133	2	367	77	11	700	177333
40	8	12	1	1	3	420	2220	120	7	0	1	1	0	2	300
41	58	1890	2	2	9	2830	2730	600	8	0	3	2	0	2	200
42	120	130	9	4	18	4420	6020	900	19	0	5	2	0	4	480
46	63	25	2	5	6	950	4660	530	17	0	3	1	0	6	1330
47	56	61	2	3	10	1700	5540	380	22	0	4	2	0	4	350
48	36	23	2	4	4	1260	4220	530	24	0	6	2	0	6	240
49	51	31	4	17	8	1720	17800	740	31	0	5	3	0	9	630
50	51	31	1	2	6	1170	2860	390	12	0	2	1	0	3	450
51	380	260	21	8	24	7050	18900	6610	49	1	8	8	1	16	10700
52	21	37	2	4	4	630	3490	530	14	0	2	2	0	5	500
53	600	530	44	15	64	20700	54000	9680	240	1	19	17	2	35	7670
54	37	43	3	5	4	790	3860	600	28	0	3	2	0	4	470
55	180	40	5	17	10	1730	9140	1440	37	0	5	2	0	10	2440
56	11	190	1	2	4	490	3160	300	10	<0.05	2	1	0	3	340

‘ – ‘ data is not available

Table A4-36: Total concentration of metals and metalloids in roof wipe (cont.)

Sample number	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Thallium	Uranium	Vanadium	Zinc
	(µg/m^2)														
57	260	30	7	15	8	1290	8450	1100	63	<0.05	6	2	0	9	2260
	200	90	9	10	13	2660	11500	1810	76	<0.05	6	3	0	11	2640
58	250	110	12	16	20	3760	11400	2280	67	<0.05	6	3	0	8	3860
59	230	170	13	13	31	9600	27900	2820	160	<0.05	14	7	1	30	2970
60	54	43	4	2	8	2040	3630	700	15	<0.05	3	2	<0.05	3	590
61	140	140	14	15	15	2610	11000	3230	670	<0.05	7	7	<0.05	7	2310
62	74	82	8	4	13	1750	10000	1700	34	<0.05	4	4	<0.05	8	1490
63	570	15	4	58	9	3070	5450	1350	20	<0.05	5	1	<0.05	8	19500
64	5	2070	1	2	3	370	3740	150	21	<0.05	2	0	<0.05	7	260
65	23	22	3	5	4	1060	2060	320	11	<0.05	2	1	<0.05	2	460
66	670	20	3	32	9	3600	6560	2750	26	<0.05	4	2	<0.05	9	21600
67	28	40	3	47	4	660	4740	760	21	<0.05	3	2	<0.05	8	450
68	700	170	12	12	19	2820	9890	3540	54	<0.05	8	4	<0.05	8	15700
69	11	15	3	1	3	500	1320	280	12	<0.05	1	1	<0.05	1	300
70	59	26	3	8	4	610	2570	340	13	<0.05	2	1	<0.05	3	1050
71	98	66	7	200	7	1720	4270	1280	21	<0.05	3	6	<0.05	4	1470
72	24	30	2	51	4	630	2590	350	20	<0.05	2	1	<0.05	3	2490
73	32	13	2	15	2	330	1530	180	9	<0.05	1	0	<0.05	2	490
74	200	67	4	6	8	780	4490	780	14	<0.05	3	2	<0.05	11	720
75	52	37	1	36	3	730	1520	190	9	<0.05	1	1	<0.05	1	950
76	48	22	2	68	4	1490	1390	230	9	<0.05	1	0	<0.05	1	2050

Table A4- 37: Carpet dust loading

Sample number	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Vanadium	Zinc
	($\mu g/m^2$)											
33	177	1508	81	119	55	5220	76560	8613	1032	122	81	39440
36	42	426	-	34	-	853	11993	591	179	21	19	1126
37	12	120	-	14	-	423	6661	221	91	-	-	1179
38	13	349	-	15	6	274	27559	168	168	15	8	7462
39	649	4685	194	328	228	19678	182055	19143	2075	268	120	35139
40	7	71	-	22	4	246	5984	129	43	17	4	1506
41	1828	11206	413	619	649	92892	866994	38631	9702	1533	855	58979
42	65	492	9	25	28	2497	13504	837	170	42	-	1336
43	24	267	-	20	9	1015	7176	515	97	17	10	1272
44	114	880	29	43	53	3344	28751	2596	362	54	32	6308
45	39	200	5	223	13	1207	13871	590	154	28	9	1480
46	89	324	-	583	-	2016	17280	1021	205	-	-	2448
47	41	336	6	47	10	1269	13609	589	137	14	13	4028
48	58	405	-	95	-	1352	21825	750	330	36	-	4256
49	42	248	-	37	-	1125	12772	513	171	23	-	1639
50	33	667	-	29	-	1370	8291	341	124	30	-	1028
52	3	36	-	8	-	111	1191	45	29	7	-	170
53	26	110	5	47	7	697	6190	445	93	7	6	848
54	17	140	3	19	6	517	20163	307	118	14	9	3109
55	12	72	-	7	-	372	3386	156	35	6	4	434
56	62	700	-	128	-	2275	54433	1073	645	78	97	3530
57	30	180	7	38	12	1039	33531	526	261	39	19	3436
58	24	523	-	18	-	819	6082	548	80	12	-	980
59	19	198	3	12	7	921	10247	291	119	11	11	931
60	4	50	16	5	5	200	4548	77	40	6	4	415
61	236	8642	37	103	85	12194	64683	2603	533	74	58	5434

‘ – ‘ data is not available

Table A4-37: Carpet dust loading (cont.)

Sample number	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Nickel	Vanadium	Zinc
	($\mu g/m^2$)											
63	2	34	-	7	-	84	1427	46	16	7	2	320
64	7	310	-	36	5	215	16839	123	162	13	11	343
65	-	96	4	139	-	186	4938	101	63	20	-	1160
66	26	189	4	32	14	779	17141	328	196	19	28	1230
67	120	550	39	204	34	4159	33402	2640	309	1573	22	6713
68	283	2349	48	120	78	11201	83704	5089	918	157	84	16801
69	11	102	2	14	4	353	3689	168	54	6	5	429
70	138	3815	24	414	73	5600	149342	2321	1591	942	187	33683
71	32	214	5	41	11	1044	11974	504	202	21	20	903
72	63	877	17	69	28	2314	32842	1317	392	80	52	2948
73	78	2454	15	137	39	3673	28445	1424	335	80	31	6485
74	129	430	62	57	48	6161	43586	4197	506	43	48	15686
76	7	138	2	14	6	192	3741	162	46	7	5	466

‘ – ‘ data is not available

Table A4- 38: Total concentration of metals and metalloids (µg/m^3) of Indoor air particulates sampled at Mount Isa city in 2010

Sample ID	Aluminium	Arsenic	Cadmium	Chro mium	Cobalt	Copper	Iron	Lead	Manganese	Molyb denum	Thallium	Vanadium	Zinc
	µg/m^3												
IAH13	0.10	0.0108	0.0026	0.018	$< 10^{-5}$	0.018	0.09	0.060	0.002	0.0009	0.00031	0.0022	0.019
IAH16	0.11	0.0023	0.0002	0.023	$< 10^{-5}$	0.007	0.08	0.018	0.001	0.0011	0.00008	0.0029	0.028
IAH17	0.14	0.0010	0.0001	0.021	$< 10^{-5}$	0.004	0.07	0.004	0.002	0.0011	0.00004	0.0026	0.011
IAH18	0.09	0.0041	0.0005	0.013	$< 10^{-5}$	0.008	0.09	0.018	0.002	0.0003	0.00017	0.0005	0.010
IAH19	0.07	0.0014	0.0002	0.014	$< 10^{-5}$	0.009	0.07	0.010	0.001	0.0003	0.00009	0.0005	0.016
IAH20	0.15	0.0018	0.0002	0.026	$< 10^{-5}$	0.006	0.10	0.011	0.002	0.0012	0.00010	0.0039	0.015
IAH22	0.23	0.0043	0.0023	0.016	$< 10^{-5}$	0.029	0.24	0.072	0.005	0.0005	0.00043	0.0006	0.062
IAH23	0.09	0.0030	0.0016	0.021	$< 10^{-5}$	0.010	0.08	0.033	0.002	0.0005	0.00026	0.0023	0.017
IAH24	0.06	0.0007	0.0005	0.012	$< 10^{-5}$	0.006	0.06	0.014	0.001	0.0002	0.00010	0.0005	0.026
IAH26	0.12	0.0032	0.0009	0.035	$< 10^{-5}$	0.013	0.13	0.025	0.003	0.0007	0.00019	0.0014	0.028
IAH27	0.17	0.0128	0.0041	0.016	$< 10^{-5}$	0.037	0.26	0.098	0.004	0.0008	0.00058	0.0018	0.071
IAH28	0.12	0.0060	0.0005	0.016	$< 10^{-5}$	0.019	0.08	0.024	0.002	0.0004	0.00032	0.0009	0.077

Table A4- 39: Total concentration of metals and metalloids (µg/m3) of Indoor air particulates sampled at Mount Isa city in 2010

Sample ID	Aluminium	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Thallium	Vanadium	Zinc
	µg/m^3												
IAH13	0.10	0.0108	0.0026	0.018	$< 10^{-5}$	0.018	0.09	0.060	0.002	0.0009	0.00031	0.0022	0.019
IAH16	0.11	0.0023	0.0002	0.023	$< 10^{-5}$	0.007	0.08	0.018	0.001	0.0011	0.00008	0.0029	0.028
IAH17	0.14	0.0010	0.0001	0.021	$< 10^{-5}$	0.004	0.07	0.004	0.002	0.0011	0.00004	0.0026	0.011
IAH18	0.09	0.0041	0.0005	0.013	$< 10^{-5}$	0.008	0.09	0.018	0.002	0.0003	0.00017	0.0005	0.010
IAH19	0.07	0.0014	0.0002	0.014	$< 10^{-5}$	0.009	0.07	0.010	0.001	0.0003	0.00009	0.0005	0.016
IAH20	0.15	0.0018	0.0002	0.026	$< 10^{-5}$	0.006	0.10	0.011	0.002	0.0012	0.00010	0.0039	0.015
IAH22	0.23	0.0043	0.0023	0.016	$< 10^{-5}$	0.029	0.24	0.072	0.005	0.0005	0.00043	0.0006	0.062
IAH23	0.09	0.0030	0.0016	0.021	$< 10^{-5}$	0.010	0.08	0.033	0.002	0.0005	0.00026	0.0023	0.017
IAH24	0.06	0.0007	0.0005	0.012	$< 10^{-5}$	0.006	0.06	0.014	0.001	0.0002	0.00010	0.0005	0.026
IAH26	0.12	0.0032	0.0009	0.035	$< 10^{-5}$	0.013	0.13	0.025	0.003	0.0007	0.00019	0.0014	0.028
IAH27	0.17	0.0128	0.0041	0.016	$< 10^{-5}$	0.037	0.26	0.098	0.004	0.0008	0.00058	0.0018	0.071
IAH28	0.12	0.0060	0.0005	0.016	$< 10^{-5}$	0.019	0.08	0.024	0.002	0.0004	0.00032	0.0009	0.077

Table A4- 40: Total concentration of metals and metalloids (µg/m^3) of Outdoor air particulates sampled Mount Isa city in 2009

Sample ID	Aluminium	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Vanadium	Zinc
	µg/m^3														
AH1	0.61	0.0009	0.0050	0.0008	0.006	0.0002	0.003	0.32	0.01	0.004	0.0001	<3X10^{-5}	0.00008	0.0008	0.02
AH2	0.16	0.0034	0.0021	0.0023	0.005	< 4*10^{-6}	0.007	0.12	0.02	0.002	0.0002	<3X10^{-5}	0.00024	0.0002	0.01
AH3	2.61	0.0266	0.0172	0.0147	0.015	0.0010	0.045	1.56	0.25	0.024	0.0010	<3X10^{-5}	0.00239	0.0034	0.12
AH4	0.67	0.0022	0.0089	0.0012	0.010	0.0003	0.012	0.52	0.03	0.010	0.0002	<3X10^{-5}	0.00017	0.0011	0.02
AH5	0.91	0.0020	0.0067	0.0011	0.009	0.0004	0.020	0.60	0.05	0.010	0.0002	<3X10^{-5}	0.00017	0.0016	0.03
AH6	0.54	0.0002	0.0039	0.0001	0.005	0.0001	0.002	0.30	0.00	0.004	0.0001	<3X10^{-5}	0.00002	0.0007	< 4*10^{-5}
AH7	0.65	0.0002	0.0040	0.0001	0.009	0.0002	0.003	0.38	0.01	0.006	0.0004	<3X10^{-5}	0.00002	0.0009	0.01
AH8	0.73	0.0011	0.0051	0.0002	0.007	0.0002	0.017	0.42	0.01	0.006	0.0001	<3X10^{-5}	0.00003	0.0010	0.02
AH9	0.41	0.0005	0.0026	0.0002	0.005	0.0001	0.003	0.23	0.01	0.003	0.0002	<3X10^{-5}	0.00004	0.0006	0.00
AH10	0.72	0.0011	0.0060	0.0007	0.005	0.0003	0.012	0.46	0.03	0.009	0.0001	<3X10^{-5}	0.00009	0.0010	0.02
AH11	0.30	0.0012	0.0031	0.0005	0.007	0.0002	0.010	0.25	0.02	0.004	0.0003	<3X10^{-5}	0.00009	0.0006	0.04
AH12	0.81	0.0166	0.0139	0.0111	0.005	0.0007	0.060	0.58	0.21	0.010	0.0007	<3X10^{-5}	0.00204	0.0012	0.14

Table A4- 41: Total concentration of metals and metalloids (µg/m^3) of Outdoor air particulates sampled Mount Isa city in 2010

ID	Aluminium	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Vanadium	Zinc
	µg/m^3													
AH13	0.18	0.0131	0.0034	0.014	< 10^{-5}	0.02	0.14	0.08	0.003	0.0010	0.00218	0.00039	0.0006	0.03
AH17	0.15	0.0007	0.0002	0.016	< 10^{-5}	0.01	0.12	0.01	0.002	0.0008	0.00208	0.00003	0.0008	0.02
AH18	0.16	0.0026	0.0004	0.010	< 10^{-5}	0.01	0.20	0.02	0.003	0.0003	0.00215	0.00013	0.0004	0.05
AH19	0.40	0.0041	0.0009	0.015	< 10^{-5}	0.04	0.38	0.05	0.007	0.0008	0.00249	0.00027	0.0009	0.03
AH22	0.32	0.0058	0.0031	0.015	0.00034	0.04	0.33	0.11	0.007	0.0007	0.00235	0.00057	0.0008	0.06
AH23	0.23	0.0058	0.0023	0.026	< 10^{-5}	0.02	0.21	0.06	0.004	0.0006	0.00308	0.00046	0.0017	0.07
AH24	0.17	0.0035	0.0010	0.018	< 10^{-5}	0.02	0.19	0.04	0.004	0.0004	0.00244	0.00022	0.0010	0.03
AH25	0.16	0.0124	0.0023	0.014	0.00043	0.05	0.22	0.10	0.004	0.0009	0.00229	0.00079	0.0007	0.05
AH26	0.11	0.0022	0.0008	0.014	< 10^{-5}	0.01	0.12	0.02	0.002	0.0003	0.00801	0.00013	0.0005	0.02
AH27	0.18	0.0143	0.0043	0.014	< 10^{-5}	0.04	0.21	0.11	0.004	0.0007	0.00223	0.00058	0.0005	0.07
AH28	0.19	0.0084	0.0007	0.014	< 10^{-5}	0.02	0.18	0.03	0.004	0.0005	0.00246	0.00028	0.0004	0.02

Table A4- 42: Total concentration of metals and metalloids (µg/m^3) of Outdoor air particulates sampled Mount Isa city in 2011

Sample ID	Aluminium	Antimony	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Vanadium	Zinc
	µg/m^3															
AH31	0.61	0.00025	0.0016	0.00688	0.00028	0.058	0.00026	0.009	0.51	0.015	0.011	0.0004	0.00157	0.00007	0.0063	0.144
AH33	0.25	0.00019	0.0016	0.00351	0.00028	0.028	0.00110	0.012	0.23	0.015	0.004	0.0002	0.00063	0.00007	0.0048	0.065
AH34	0.45	0.00047	0.0087	0.00657	0.00125	0.013	0.00073	0.038	0.42	0.066	0.008	0.0006	$< 10^{-5}$	0.00053	0.0020	0.047
AH35	0.25	0.00016	0.0018	0.00330	0.00028	0.041	0.00025	0.010	0.22	0.015	0.004	0.0002	0.00080	0.00005	0.0070	0.019
AH36	0.28	0.00035	0.0093	0.00416	0.00150	0.009	0.00040	0.038	0.30	0.074	0.004	0.0007	0.00060	0.00051	0.0009	0.057
AH38	2.94	0.00169	< DL	0.03558	0.00064	0.067	0.00142	0.086	2.25	0.060	0.044	0.0015	0.01081	0.00014	0.0072	0.135
AH39	0.25	0.00005	0.0010	0.00643	0.00007	0.029	$< 10^{-6}$	0.003	0.27	0.003	0.004	0.0001	0.00053	0.00003	0.0064	0.007
AH41	0.21	0.00010	0.0007	0.00353	0.00006	0.010	0.00009	0.005	0.20	0.004	0.004	0.0001	0.00034	0.00001	0.0016	0.010

Table A4- 43: Total concentration of metals and metalloids in fallout samples collected at Mount Isa city

Sample ID	Aluminium	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Thallium	Vanadium	Zinc
	mg/kg														
FMB	5107	615	132	41	-	154	67425	44326	11802	396	34	67	14	-	4180
FMK	8452	296	383	20	-	71	29081	31142	6105	358	13	23	6	12	3070
FMR	10603	298	166	113	-	77	17694	44279	17975	634	28	41	20	18	30783
FMRC	8655	63	121	6	-	14	2424	15969	1200	272	3	17	2	15	1662
FMS	6343	929	144	99	-	217	96246	71673	20989	395	53	56	20	12	9939
FM21	10190	135	181	11	-	28	4796	26680	3673	400	6	33	4	17	2520
FM22	4142	415	208	20	-	68	14876	35790	10388	485	8	14	5	-	6960
FM22-C	7500	337	315	25	-	46	9611	28808	6753	426	14	16	8	-	5304
FM23	10558	441	323	28	-	68	18312	45775	9776	584	16	21	8	19	6428
FM24	10908	311	266	31	-	48	11835	31574	7222	501	19	28	9	19	6032
FM25	13861	70	232	11	-	29	4687	27386	2459	378	10	42	4	27	2698
FM26	8869	24	134	4	57	10	2840	13801	1203	172	7	51	3	15	1290
FM27	7212	319	223	18	-	57	13210	35509	8354	472	10	27	5	10	6845
FM28	7975	78	138	6	-	30	7851	23839	3076	359	6	14	2	-	1478
FM29	10528	34	93	4	-	33	4452	21423	1693	357	3	14	1	18	754

A4 – 2 Lead isotope for samples from Mount Isa City

Table A4- 44: Summary lead isotope results of air particulate samples collected at copper smelter using thimbles

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
ATC1	35.8626	0.0032	15.4651	0.0013	16.3276	0.0013	2.196455	4.32E-05	0.947195	1.29E-05
ATC2	35.9076	0.0026	15.4807	0.0011	16.3531	0.0010	2.195790	3.84E-05	0.946663	1.16E-05
ATC3	35.9716	0.0025	15.5252	0.0010	16.8400	0.0012	2.136116	4.08E-05	0.921936	1.36E-05
ATC4	35.8644	0.0027	15.4782	0.0011	16.5207	0.0010	2.170750	5.82E-05	0.936864	1.37E-05
ATC5	35.9428	0.0022	15.5112	0.0008	16.7397	0.0007	2.147202	5.30E-05	0.926620	1.32E-05
ATC6	35.9485	0.0027	15.5147	0.0010	16.7751	0.0011	2.142935	4.58E-05	0.924868	1.31E-05
ATC7	35.9278	0.0019	15.5007	0.0008	16.6101	0.0008	2.162967	3.66E-05	0.933180	1.13E-05
ATC10	35.9514	0.0023	15.4862	0.0009	16.5367	0.0010	2.174063	4.64E-05	0.936455	1.42E-05
ATC11	35.8822	0.0052	15.4734	0.0017	16: .4263	0.0012	2.184344	4.32E-05	0.941989	1.27E-05
ATC14	35.9377	0.0032	15.5123	0.0016	16.7956	0.0016	2.139752	4.58E-05	0.923590	1.54E-05
LEPSP01	35.9906	0.0054	15.5233	0.0013	16.8365	0.0014	2.137716	3.46E-05	0.922021	1.03E-05

Table A4- 45: Summary lead isotope results of air particulate samples collected at lead smelter using thimbles

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
ATP1	35.8590	0.0022	15.4659	0.0008	16.1250	0.0008	2.223871	3.78E-05	0.959125	1.19E-05
ATP3	35.9236	0.0027	15.4650	0.0011	16.1841	0.0012	2.219678	4.38E-05	0.955564	1.27E-05
ATP4	35.8491	0.0025	15.4624	0.0010	16.1213	0.0009	2.223780	4.82E-05	0.959152	1.54E-05
ATP5	35.8712	0.0023	15.4689	0.0009	16.1280	0.0009	2.224167	4.90E-05	0.959141	1.56E-05
ATP6	35.8532	0.0024	15.4633	0.0010	16.1233	0.0010	2.223708	4.78E-05	0.959076	1.59E-05
ATP7	35.8274	0.0026	15.4549	0.0011	16.1170	0.0015	2.223019	4.66E-05	0.958938	1.67E-05
ATP8	35.8537	0.0028	15.4631	0.0011	16.1236	0.0011	2.223682	4.14E-05	0.959043	1.15E-05
HMA	35.8461	0.0048	15.4610	0.0017	16.1218	0.0017	2.223483	6.22E-05	0.959037	1.67E-05

Table A4- 46: Summary lead isotope results of outcrop samples from geological units across Mount Isa city

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
BGR1	36.1944	0.0024	15.5052	0.0009	16.5322	0.0010	2.189340	0.000047	0.937882	0.000013
BGR2	36.0923	0.0017	15.4802	0.0007	16.3856	0.0008	2.202685	0.000024	0.944748	0.000007
BGR3	36.0722	0.0018	15.4747	0.0010	16.3721	0.0007	2.203285	0.000021	0.945235	0.000006
BGR4	36.2227	0.0017	15.4901	0.0007	16.4674	0.0007	2.199672	0.000018	0.940642	0.000006
BGR5	40.0108	0.0066	15.7249	0.0024	19.2280	0.0028	2.080821	0.000086	0.817821	0.000014
BGR6	36.3432	0.0015	15.4927	0.0006	16.5339	0.0007	2.198088	0.000020	0.937030	0.000007
BGR7	38.1342	0.0044	15.6066	0.0015	17.8818	0.0016	2.132445	0.000044	0.872697	0.000013
BGR8	36.8706	0.0025	15.5795	0.0010	17.3873	0.0011	2.120529	0.000029	0.896021	0.000013
BGR9	37.3330	0.0088	15.5997	0.0036	17.7269	0.0036	2.105968	0.000082	0.879978	0.000022
BGR10	36.4332	0.0024	15.5520	0.0009	17.0951	0.0008	2.131297	0.000014	0.909725	0.000007
BGR11	39.4037	0.0089	15.7436	0.0028	19.2862	0.0035	2.043404	0.000054	0.816374	0.000013
BGR12	35.8615	0.0017	15.4599	0.0006	16.1526	0.0008	2.220236	0.000021	0.957165	0.000009
BGR13	45.4760	0.0090	16.2945	0.0026	24.2478	0.0043	1.875477	0.000035	0.671992	0.000016
BGR14	37.3263	0.0035	15.6299	0.0015	17.9013	0.0017	2.085142	0.000036	0.873117	0.000011

Table A4- 47: Summary lead isotope results of garden soil from the city residential area

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
CS composite	36.4069	0.0048	15.5008	0.0018	16.6880	0.0023	2.1816	3.40E-05	0.9289	1.17E-05
CS7	36.0466	0.0028	15.4747	0.0012	16.3304	0.0013	2.2073	2.68E-05	0.9476	1.32E-05
CS12	37.0145	0.0049	15.5652	0.0019	17.2905	0.0017	2.1407	4.06E-05	0.9002	1.29E-05
CS14	36.9825	0.0020	15.5510	0.0006	17.3188	0.0007	2.1353	2.52E-05	0.8979	7.43E-06
CS15	37.0950	0.0029	15.5411	0.0012	17.2849	0.0013	2.1461	3.20E-05	0.8991	1.09E-05
CS16	36.6236	0.0031	15.5103	0.0019	16.8622	0.0033	2.1717	2.60E-05	0.9197	1.47E-05
CS20	37.1014	0.0024	15.5434	0.0019	17.2879	0.0009	2.1461	4.00E-05	0.8991	2.00E-05
CS25	36.9544	0.0028	15.5320	0.0016	17.1453	0.0015	2.1553	4.26E-05	0.9059	1.16E-05
CS26	36.3663	0.0032	15.4897	0.0016	16.6215	0.0016	2.1879	3.54E-05	0.9319	9.36E-06
CS28	36.9089	0.0034	15.5316	0.0013	17.1089	0.0013	2.1573	3.52E-05	0.9078	1.12E-05
CS29	35.9700	0.0045	15.4654	0.0016	16.2542	0.0012	2.2130	3.00E-05	0.9515	9.38E-06
CS30	37.0516	0.0026	15.5438	0.0009	17.2321	0.0010	2.1502	3.12E-05	0.9020	8.42E-06
CS31	36.7297	0.0023	15.5125	0.0009	16.9584	0.0013	2.1659	3.82E-05	0.9147	1.23E-05
CS32	36.7694	0.0020	15.5235	0.0012	16.9783	0.0009	2.1656	2.52E-05	0.9143	9.10E-06
CS35	36.8400	0.0019	15.5253	0.0008	17.0660	0.0007	2.1587	3.20E-05	0.9097	9.54E-06
CS38	36.3155	0.0034	15.4927	0.0017	16.5780	0.0014	2.1905	2.56E-05	0.9345	1.00E-05
CS41	36.2648	0.0019	15.4869	0.0012	16.5191	0.0009	2.1953	3.26E-05	0.9376	7.28E-06
CS42	36.0999	0.0020	15.4740	0.0008	16.3792	0.0008	2.2040	2.80E-05	0.9447	1.13E-05
CS43	37.9162	0.0082	15.6329	0.0045	18.0235	0.0052	2.1038	3.60E-05	0.8674	1.76E-05
CS44	36.4891	0.0025	15.5063	0.0010	16.6579	0.0015	2.1906	3.10E-05	0.9309	1.30E-05
CS45	36.3522	0.0013	15.4915	0.0006	16.5830	0.0006	2.1921	3.12E-05	0.9342	8.96E-06
CS46	36.2972	0.0019	15.4810	0.0007	16.5540	0.0008	2.1927	3.40E-05	0.9352	1.17E-05
CS47	36.3668	0.0047	15.5041	0.0018	16.6068	0.0020	2.1898	3.38E-05	0.9336	1.19E-05
CS48	36.7627	0.0055	15.5278	0.0023	16.8572	0.0023	2.1806	3.74E-05	0.9211	1.83E-05
CS49	36.3726	0.0031	15.4931	0.0018	16.5987	0.0017	2.1912	4.94E-05	0.9333	1.63E-05
CS50	35.9952	0.0214	15.4528	0.0108	16.2703	0.0102	2.2127	8.52E-05	0.9499	2.32E-05
CS51	36.0088	0.0084	15.4731	0.0032	16.2823	0.0037	2.2115	3.76E-05	0.9502	1.57E-05
CS52	36.0466	0.0050	15.4720	0.0020	16.3032	0.0022	2.2110	3.60E-05	0.9490	9.46E-06

Table A4- 48: Summary lead isotope results of fallout dust samples

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
FM11	36.0118	0.0031	15.4615	0.0013	16.2785	0.0013	2.2122	6.18E-05	0.9498	1.37E-05
FM13	36.0378	0.0037	15.4636	0.0016	16.3435	0.0018	2.2051	4.02E-05	0.9462	1.26E-05
FM15	35.9408	0.0035	15.4644	0.0013	16.2094	0.0014	2.2173	4.34E-05	0.9540	1.48E-05
FM17	36.2942	0.0028	15.4945	0.0010	16.4877	0.0011	2.2013	3.44E-05	0.9397	9.78E-06
FM19	36.1401	0.0033	15.5012	0.0013	16.2928	0.0015	2.2183	7.72E-05	0.9515	2.22E-05
FM21	35.8447	0.0058	15.4531	0.0022	16.1426	0.0026	2.2205	3.24E-05	0.9572	1.37E-05
FM22	35.8450	0.0069	15.4572	0.0032	16.1354	0.0032	2.2214	4.32E-05	0.9579	2.04E-05
FM22-C	35.8376	0.0033	15.4539	0.0014	16.1342	0.0014	2.2212	2.42E-05	0.9578	8.14E-06
FM23	35.8733	0.0039	15.4570	0.0015	16.1661	0.0017	2.2191	4.70E-05	0.9562	1.29E-05
FM24	35.8466	0.0042	15.4546	0.0017	16.1392	0.0016	2.2211	3.94E-05	0.9576	1.24E-05
FM25	35.8598	0.0070	15.4548	0.0030	16.1547	0.0034	2.2198	4.20E-05	0.9568	1.48E-05
FM26	35.8530	0.0051	15.4549	0.0018	16.1531	0.0019	2.2194	3.72E-05	0.9567	1.40E-05
FM27	35.8292	0.0058	15.4498	0.0026	16.1290	0.0026	2.2214	4.22E-05	0.9579	1.31E-05
FM28	35.8477	0.0046	15.4555	0.0019	16.1517	0.0021	2.2196	3.30E-05	0.9569	1.49E-05
FM29	35.8618	0.0038	15.4553	0.0015	16.1705	0.0012	2.2179	2.44E-05	0.9558	1.07E-05
FMB	35.8604	0.0086	15.4611	0.0037	16.1705	0.0039	2.2175	3.40E-05	0.9561	1.75E-05
FMK	35.8670	0.0147	15.4619	0.0062	16.1618	0.0065	2.2192	6.96E-05	0.9567	2.36E-05
FMR	35.8593	0.0049	15.4542	0.0018	16.1463	0.0018	2.2209	3.66E-05	0.9571	1.01E-05
FMRC	35.8600	0.0045	15.4535	0.0019	16.1555	0.0017	2.2196	5.14E-05	0.9566	1.52E-05
FMS	35.8266	0.0043	15.4507	0.0017	16.1272	0.0018	2.2215	2.64E-05	0.9580	9.86E-06

Table A4- 49: Summary lead isotope results of haul road dust samples from mine site

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
HR1	35.8781	0.0022	15.4600	0.0008	16.1507	0.0010	2.2214	3.82E-05	0.9572	1.08E-05
HR2	35.9430	0.0023	15.4541	0.0008	16.2143	0.0009	2.2168	3.62E-05	0.9531	1.46E-05
HR3	35.8643	0.0023	15.4506	0.0009	16.1527	0.0011	2.2204	4.86E-05	0.9566	1.15E-05
HR4	35.8697	0.0022	15.4614	0.0008	16.1497	0.0008	2.2211	3.58E-05	0.9574	1.46E-05
HR5	35.8762	0.0018	15.4634	0.0007	16.1689	0.0009	2.2189	2.84E-05	0.9564	8.30E-06
HR6	35.8636	0.0023	15.4624	0.0010	16.1397	0.0010	2.2221	3.26E-05	0.9580	1.02E-05
HR7	35.8661	0.0028	15.4637	0.0012	16.1373	0.0011	2.2226	3.30E-05	0.9583	1.15E-05
HR8	35.8848	0.0024	15.4628	0.0011	16.1608	0.0010	2.2205	3.22E-05	0.9568	1.06E-05
HR9	35.8560	0.0040	15.4621	0.0017	16.1310	0.0017	2.2228	2.74E-05	0.9585	1.11E-05

Table A4- 50: Summary lead isotope results of house wipe samples

Samples ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
HW1F1	35.9578	0.0024	15.4637	0.0010	16.2421	0.0011	2.2138	3.10E-05	0.9521	6.83E-06
HW1F2	35.9093	0.0022	15.4596	0.0008	16.1975	0.0007	2.2170	4.22E-05	0.9544	5.44E-06
HW1S1	35.9255	0.0025	15.4575	0.0010	16.2144	0.0011	2.2156	3.50E-05	0.9533	6.47E-06
HW1T1	35.9063	0.0026	15.4591	0.0011	16.1923	0.0012	2.2176	4.82E-05	0.9548	7.06E-06
HW1V1	35.9006	0.0026	15.4572	0.0011	16.1917	0.0010	2.2172	3.66E-05	0.9546	6.19E-06
HW2F1	35.8507	0.0026	15.4543	0.0011	16.1454	0.0011	2.2205	3.24E-05	0.9572	7.02E-06
HW2F2	35.9235	0.0023	15.4569	0.0011	16.2086	0.0010	2.2163	4.04E-05	0.9536	6.80E-06
HW2S1	35.9220	0.0077	15.4605	0.0019	16.2075	0.0013	2.2164	4.32E-05	0.9539	8.55E-06
HW2T1	35.8334	0.0020	15.4539	0.0008	16.1258	0.0009	2.2221	3.44E-05	0.9583	7.40E-06
HW2V1	35.9534	0.0021	15.4625	0.0009	16.2329	0.0008	2.2148	3.62E-05	0.9526	6.05E-06
HW3F1	35.9951	0.0030	15.4642	0.0011	16.2756	0.0012	2.2116	4.32E-05	0.9502	5.91E-06
HW3S1	35.9154	0.0022	15.4599	0.0009	16.2051	0.0011	2.2163	3.78E-05	0.9540	6.08E-06
HW3T1	35.9071	0.0030	15.4594	0.0011	16.1973	0.0012	2.2168	3.20E-05	0.9545	6.26E-06
HW3V1	36.0213	0.0027	15.4634	0.0012	16.3026	0.0012	2.2095	4.70E-05	0.9485	9.10E-06
HW3C1	38.8201	0.0042	15.7134	0.0015	19.4503	0.0017	1.9959	3.44E-05	0.8079	7.05E-06

Table A4- 51: Summary lead isotope results of outcrop samples from Urquhart shale

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
H1	36.1430	0.0015	15.4822	0.0007	16.4783	0.0007	2.1934	2.01E-05	0.9396	6.91E-06
H2	35.8790	0.0018	15.4539	0.0007	16.1693	0.0009	2.2189	2.12E-05	0.9558	6.30E-06
MIN8	35.8816	0.0023	15.4661	0.0007	16.1479	0.0009	2.2221	3.37E-05	0.9578	1.02E-05
MIN9	35.8570	0.0033	15.4543	0.0014	16.1384	0.0009	2.2217	3.68E-05	0.9577	1.28E-05
MIN10	35.8649	0.0026	15.4618	0.0009	16.1363	0.0011	2.2226	3.20E-05	0.9582	1.10E-05
MIN11	38.5114	0.0027	15.8554	0.0012	20.3621	0.0014	1.8912	3.99E-05	0.7786	1.19E-05
MIN12	35.8755	0.0033	15.4619	0.0009	16.1675	0.0008	2.2192	3.25E-05	0.9564	9.53E-06

Table A4- 52: Summary lead isotope results of soil PM10 fraction from the city residential area

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
PM10S1	36.1121	0.0022	15.4745	0.0009	16.3955	0.0013	2.2025	3.10E-05	0.9438	9.22E-06
PM10S2	36.1424	0.0039	15.4755	0.0018	16.4304	0.0017	2.1998	3.86E-05	0.9419	1.28E-05
PM10S3	35.9308	0.0021	15.4578	0.0010	16.2270	0.0009	2.2143	3.74E-05	0.9526	1.16E-05
PM10S4	35.9130	0.0021	15.4608	0.0008	16.2066	0.0009	2.2160	3.36E-05	0.9540	1.07E-05
PM10S5	35.9834	0.0038	15.4562	0.0009	16.2767	0.0009	2.2106	4.06E-05	0.9496	9.70E-06
PM10S6	36.0132	0.0026	15.4700	0.0013	16.3031	0.0014	2.2089	3.38E-05	0.9489	1.14E-05
PM10S7	36.1242	0.0021	15.4790	0.0009	16.4062	0.0008	2.2019	3.44E-05	0.9435	1.01E-05
PM10S8	36.9790	0.0044	15.5491	0.0016	17.1442	0.0016	2.1569	3.78E-05	0.9070	1.21E-05
PM10S9	36.1813	0.0039	15.4904	0.0015	16.5004	0.0016	2.1927	3.36E-05	0.9388	9.18E-06
PM10S10	36.4041	0.0030	15.5014	0.0011	16.6565	0.0010	2.1855	3.44E-05	0.9306	8.24E-06
PM10S11	35.9662	0.0052	15.4629	0.0021	16.2391	0.0020	2.2148	3.54E-05	0.9522	1.26E-05
PM10S13	35.9863	0.0044	15.4672	0.0009	16.2644	0.0008	2.2124	4.00E-05	0.9510	2.00E-05
PM10S14	36.1468	0.0106	15.4796	0.0043	16.4345	0.0045	2.1995	5.78E-05	0.9418	2.42E-05
PM10S15	35.9189	0.0029	15.4602	0.0012	16.2234	0.0012	2.2140	4.00E-05	0.9530	2.00E-05
PM10S16	36.1315	0.0020	15.4655	0.0008	16.4096	0.0008	2.2018	4.00E-05	0.9425	0.00E+00
PM10S17	36.0844	0.0019	15.4758	0.0008	16.3783	0.0009	2.2032	2.00E-05	0.9449	0.00E+00
PM10S18	36.1970	0.0027	15.4829	0.0011	16.4863	0.0012	2.1956	4.00E-05	0.9391	0.00E+00

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
PM10S19	36.1943	0.0029	15.4863	0.0011	16.4678	0.0011	2.1979	4.00E-05	0.9404	2.00E-05
PM10S20	36.0233	0.0024	15.4726	0.0010	16.3116	0.0015	2.2084	4.00E-05	0.9485	2.00E-05
PM10S21	36.1226	0.0036	15.4751	0.0014	16.3922	0.0013	2.2037	4.00E-05	0.9441	2.00E-05
PM10S22	36.1506	0.0022	15.4794	0.0009	16.4358	0.0008	2.1995	4.00E-05	0.9418	0.00E+00

Table A4- 53: Summary lead isotope results of source samples from mine site

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
SS1	35.8564	0.0045	15.4532	0.0016	16.1407	0.0010	2.2217	4.98E-05	0.9575	1.76E-05
SS2	35.8555	0.0057	15.4654	0.0025	16.1272	0.0034	2.2234	5.12E-05	0.9590	1.59E-05
SS5	35.8850	0.0062	15.4755	0.0026	16.1358	0.0022	2.2241	4.76E-05	0.9591	1.67E-05
SS7	35.8673	0.0067	15.4680	0.0029	16.1281	0.0030	2.2239	4.26E-05	0.9591	2.04E-05
SS8	35.8639	0.0021	15.4633	0.0009	16.1363	0.0008	2.2226	3.76E-05	0.9583	6.68E-06
SS9	35.8695	0.0038	15.4619	0.0015	16.1356	0.0015	2.2229	4.20E-05	0.9582	1.49E-05
SS10	36.0778	0.0021	15.4746	0.0008	16.3167	0.0009	2.2111	4.20E-05	0.9484	7.21E-06
SS11	36.0953	0.0040	15.4791	0.0020	16.3218	0.0019	2.2116	5.10E-05	0.9484	1.18E-05
SS13	35.8634	0.0055	15.4651	0.0023	16.1318	0.0021	2.2230	5.50E-05	0.9586	2.40E-05
SS14	35.8510	0.0030	15.4633	0.0011	16.1503	0.0014	2.2198	3.80E-05	0.9575	5.88E-06
SS15	35.8557	0.0020	15.4656	0.0009	16.1243	0.0012	2.2238	3.36E-05	0.9592	6.89E-06
SS16	35.8762	0.0055	15.4728	0.0022	16.1302	0.0021	2.2241	4.64E-05	0.9592	1.49E-05
SS17	35.8715	0.0047	15.4708	0.0019	16.1293	0.0019	2.2240	2.86E-05	0.9592	1.29E-05
SS18	35.8775	0.0041	15.4732	0.0016	16.1312	0.0016	2.2240	3.80E-05	0.9592	1.52E-05
SS22	36.0001	0.0082	15.4738	0.0032	16.2460	0.0049	2.2155	5.94E-05	0.9524	2.12E-05
SS26	35.9349	0.0025	15.4659	0.0010	16.2660	0.0010	2.2092	3.54E-05	0.9508	7.39E-06
SS3	36.1038	0.0026	15.5053	0.0014	16.8799	0.0012	2.1389	4.38E-05	0.9186	8.73E-06
SS4R	35.8569	0.0020	15.4521	0.0008	16.1435	0.0007	2.2211	3.84E-05	0.9572	6.84E-06
SS12	35.9610	0.0036	15.4739	0.0015	16.2992	0.0016	2.2063	3.72E-05	0.9494	1.41E-05
SS23	36.6491	0.0056	15.5504	0.0021	16.9080	0.0024	2.1674	5.08E-05	0.9197	1.39E-05
SS24	35.7754	0.0075	15.4341	0.0045	16.1279	0.0041	2.2184	5.70E-05	0.9569	3.08E-05
SS27	36.4617	0.0035	15.5046	0.0014	16.8551	0.0014	2.1633	5.16E-05	0.9199	1.51E-05

Table A4- 54: Summary lead isotope results of tailing samples

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
TD5S3-1	35.8713	0.0110	15.4659	0.0046	16.1504	0.0047	2.22072	7.02E-05	0.95754	2.54E-05
TD5S6-1	35.8563	0.0088	15.4668	0.0046	16.1543	0.0047	2.21985	6.38E-05	0.95741	2.42E-05
TD7S2-1	35.8712	0.0109	15.4670	0.0055	16.1501	0.0050	2.22092	5.52E-05	0.95782	2.74E-05
TD7S5-1	35.8590	0.0060	15.4673	0.0023	16.1334	0.0028	2.22281	4.18E-05	0.95872	1.66E-05
TD8S2-1	35.8662	0.0065	15.4690	0.0028	16.1515	0.0025	2.22038	4.14E-05	0.95759	1.98E-05
TD8S3-1	35.8636	0.0036	15.4670	0.0020	16.1345	0.0020	2.22264	5.54E-05	0.95856	1.16E-05
TD8S4-1	35.8660	0.0045	15.4677	0.0017	16.1416	0.0016	2.22195	3.70E-05	0.95827	1.47E-05

Table A4- 55: Summary lead isotope results of carpet dust from the city residential area

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
VD composite	36.0053	0.0047	15.4665	0.0016	16.2765	0.0017	2.2121	3.22E-05	0.9502	1.05E-05
VD4	36.1023	0.0049	15.4760	0.0019	16.3519	0.0022	2.2078	2.58E-05	0.9464	1.26E-05
VD9	36.0475	0.0046	15.4701	0.0017	16.3044	0.0017	2.2108	3.70E-05	0.9488	1.44E-05
VD11	36.1904	0.0055	15.4774	0.0022	16.4356	0.0021	2.2019	3.82E-05	0.9417	1.29E-05
VD12	35.9755	0.0049	15.4638	0.0021	16.2440	0.0021	2.2146	4.22E-05	0.9520	1.18E-05
VD14	36.0845	0.0046	15.4705	0.0018	16.3405	0.0018	2.2083	3.78E-05	0.9468	1.19E-05
VD17	36.0869	0.0053	15.4701	0.0021	16.3529	0.0020	2.2067	3.56E-05	0.9460	8.84E-06
VD19	35.8820	0.0037	15.4439	0.0014	16.1838	0.0015	2.2170	3.64E-05	0.9542	1.37E-05

Table A4- 56: Summary lead isotope results of roof gutter dust from the city residential area

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
RG composite	35.8832	0.0048	15.4545	0.0019	16.1784	0.0019	2.2179	5.26E-05	0.9552	1.74E-05
RG1	35.9054	0.0048	15.4575	0.0017	16.2009	0.0015	2.2162	3.68E-05	0.9541	1.10E-05
RG2	35.9095	0.0037	15.4608	0.0012	16.2001	0.0014	2.2168	4.08E-05	0.9544	1.19E-05
RG3	35.8569	0.0034	15.4536	0.0018	16.1548	0.0017	2.2196	2.62E-05	0.9566	1.25E-05
RG4	35.8693	0.0038	15.4567	0.0018	16.1629	0.0016	2.2193	3.30E-05	0.9563	1.40E-05
RG5	35.9567	0.0035	15.4590	0.0014	16.2318	0.0015	2.2152	4.06E-05	0.9524	1.12E-05

Table A4- 57: Summary lead isotope results of air particulates from the city residential area and mine site

Sample ID	$^{208}Pb/^{204}Pb$	2δ	$^{207}Pb/^{204}Pb$	2δ	$^{206}Pb/^{204}Pb$	2δ	$^{208}Pb/^{206}Pb$	2δ	$^{207}Pb/^{206}Pb$	2δ
HVA	35.9604	0.0024	15.4619	0.0010	16.2366	0.0013	2.2147	3.64E-05	0.9523	6.71E-06
HVA1	35.9228	0.0226	15.4836	0.0093	16.1829	0.0101	2.2198	9.22E-05	0.9567	5.86E-05
AH1	36.6014	0.0172	15.5440	0.0065	16.9773	0.0071	2.1561	5.66E-05	0.9155	3.84E-05
AH2	35.9431	0.0077	15.4736	0.0031	16.2526	0.0033	2.2115	4.38E-05	0.9521	2.18E-05
AH3	35.8986	0.0051	15.4698	0.0019	16.1949	0.0019	2.2167	3.16E-05	0.9552	1.60E-05
AH4	36.1249	0.0074	15.4756	0.0033	16.3907	0.0036	2.2040	5.42E-05	0.9441	1.12E-05
AH4	35.9396	0.0066	15.4696	0.0028	16.2306	0.0030	2.2143	6.12E-05	0.9531	2.20E-05
AH5	35.9269	0.0042	15.4677	0.0019	16.2210	0.0019	2.2148	3.50E-05	0.9536	1.47E-05
AH6	36.0239	0.0218	15.4777	0.0085	16.2854	0.0084	2.2124	1.31E-04	0.9505	6.72E-05
AH7	36.0825	0.0292	15.4935	0.0131	16.3231	0.0137	2.2108	1.22E-04	0.9494	7.84E-05
AH8	35.9904	0.0210	15.4667	0.0075	16.2632	0.0074	2.2130	1.15E-04	0.9511	4.88E-05
AH9	35.9426	0.0185	15.4557	0.0073	16.2370	0.0070	2.2136	9.76E-05	0.9520	4.82E-05
AH10	35.9125	0.0056	15.4682	0.0024	16.2027	0.0025	2.2164	4.28E-05	0.9546	1.27E-05
AH11	35.9611	0.0079	15.4763	0.0029	16.2486	0.0033	2.2131	4.68E-05	0.9525	2.30E-05
AH12	35.9063	0.0023	15.4712	0.0009	16.2235	0.0014	2.2132	5.78E-05	0.9536	1.93E-05
AH40	35.9748	0.0032	15.4696	0.0012	16.2543	0.0013	2.2133	4.52E-05	0.9517	6.29E-06
AM2	35.8225	0.0206	15.4362	0.0021	16.1230	0.0022	2.2212	6.76E-05	0.9575	2.44E-05
AM3	35.8268	0.0042	15.4544	0.0018	16.1177	0.0019	2.2228	6.58E-05	0.9588	2.12E-05
AM4	35.8529	0.0057	15.4564	0.0018	16.1370	0.0016	2.2219	3.30E-05	0.9579	1.25E-05
AM5	35.8661	0.0041	15.4669	0.0014	16.1324	0.0014	2.2232	5.02E-05	0.9588	1.41E-05
AM6	35.8395	0.0026	15.4549	0.0011	16.1243	0.0009	2.2227	2.94E-05	0.9585	1.29E-05
AM7	35.8476	0.0054	15.4601	0.0023	16.1479	0.0020	2.2201	5.80E-05	0.9575	1.90E-05
AM11	36.0418	0.0214	15.4660	0.0081	16.3319	0.0085	2.2078	1.13E-04	0.9472	2.32E-05
AM12	35.8672	0.0097	15.4574	0.0052	16.1659	0.0054	2.2187	9.76E-05	0.9562	3.80E-05

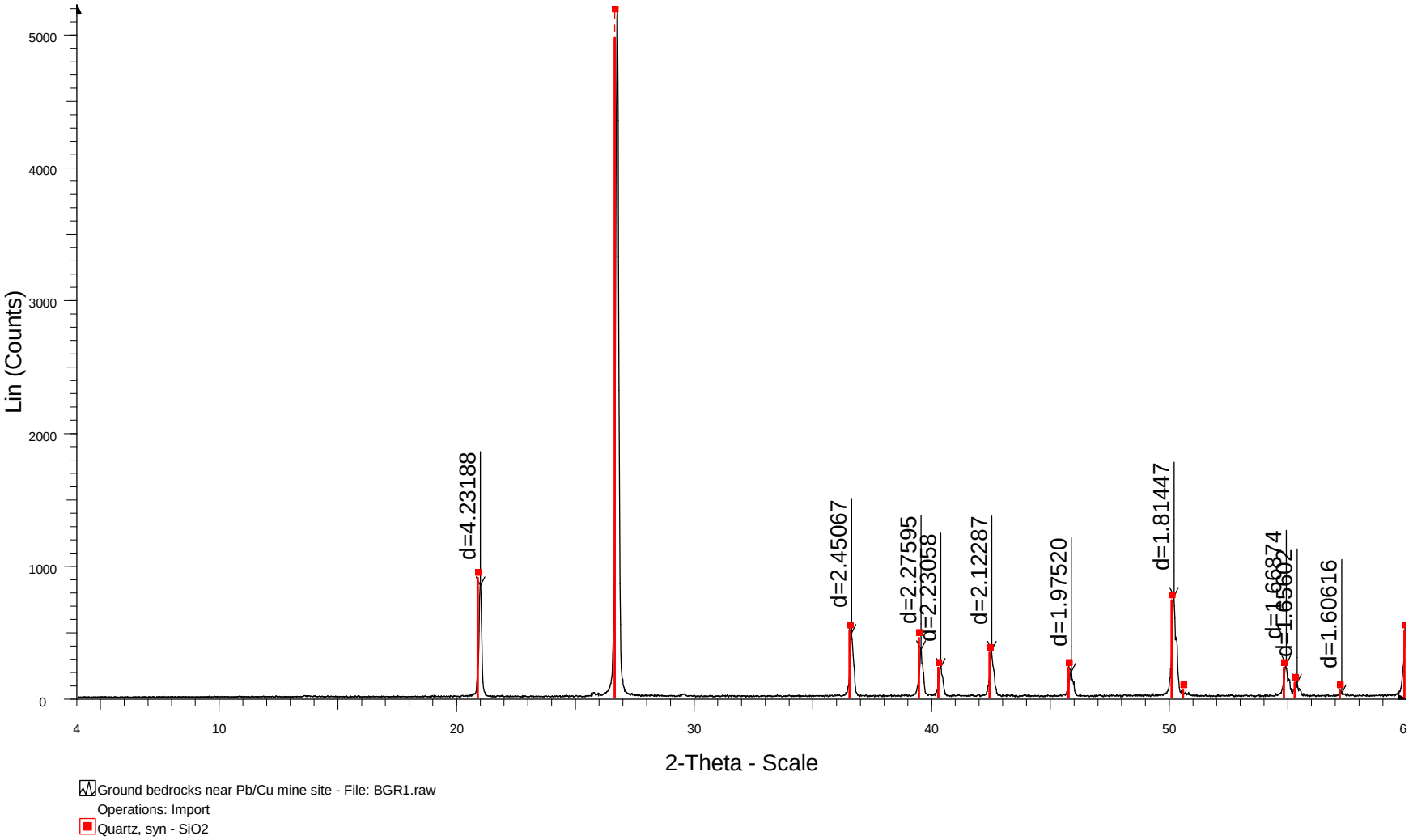
Note: Italic means the ^{208}Pb intensity was between 0.3-1 volts relatively lower than 1-9 volts for other samples.

A4 – 3 Summary XRD analysis of samples from mineralisation site, mine site and residential area

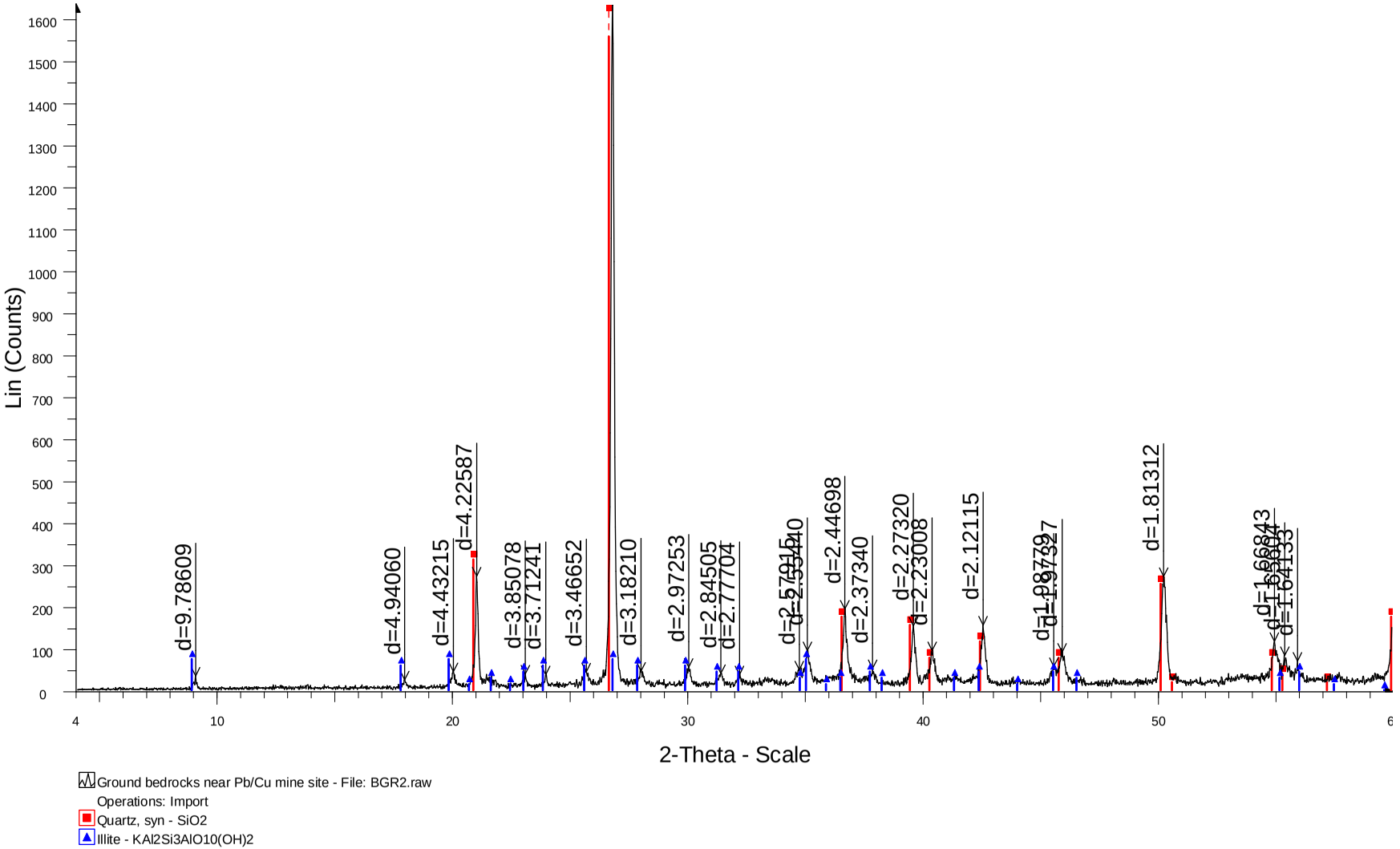
Sample ID	Site description
BGR1	Maydown site (Sybella granite?)
BGR2	Magzine shale
BGR3	Magzine shale
BGR4	Kennedy siltstone
BGR5	Spear siltstone
BGR6	Urquhart shale
BGR7	Kennedy siltstone
BGR8	Native bee siltstone
BGR9	Native bee siltstone
BGR10	Moondarra siltstone
BGR11	Cormwell member of ECV
BGR12	Judenan beds
BGR13	Amphibolite in ECV W MIF
BGR14	Breakaway shale
CS	Composite garden soil for rats
GF9	Handle bar Hill carbonate
L13	Historical tailings west embankment
LRV10	River sediment for verification
MIN1	Cerrusite from Mt Isa
MIN2	Galena from Mt Isa
MIN3	Sphalerite from Mt Isa
MIN4	Galena from Mt Isa
MIN6	Pyromorphite
MIN7	U-Shale site1 Outcorp
MIN12	Outcorp U-Shale site 2
MIN13	Anglesite
MIN14	Mineral from BSOC
NM1	ANZAC Hill ore deposit halo
NM2	Outcrop from RSL Gate adjacent Barkly highway
NM3	Outcorp from U-Shale site 1
NM4	Outcorp from RSL
NM5	Outcorp from ANZAC Hills
NM6	Outcorp from Transmission St

Sample ID	Site description
RG	Composite roof gutter dust for rats
RG4	Roof gutter dust from community
SS2	Mt Haney Pb slag old ground
SS3	CuSm slag old site
SS4	CuSm slag - RHF Cu Smelter
SS8	Pb stack
SS13	Tailing dam 5
SS22	Pb smelter dust
SS26	Pb smelter concentrator dust
SS27	Dust from Cu smelter
VD	Composite vacuum dust for rats

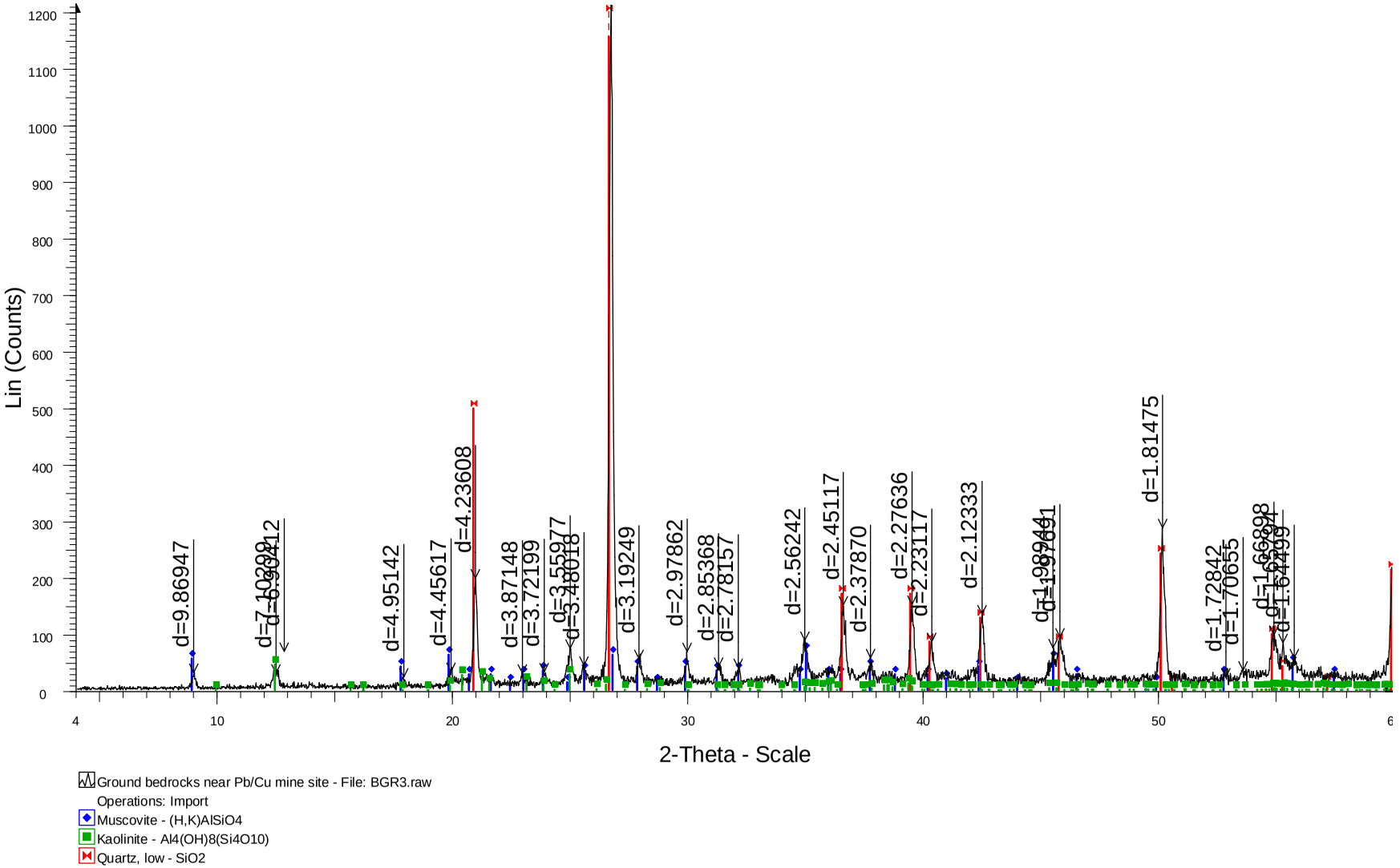
BGR1


Lin (Counts)
5000
4000
3000
2000
1000
0
4
10
20
30
40
50
6
2-Theta - Scale
d=4.23188
d=2.45067
d=2.27595
d=2.23058
d=2.12287
d=1.97520
d=1.81447
d=1.66874
d=1.60616
Ground bedrocks near Pb/Cu mine site - File: BGR1.raw
Operations: Import
Quartz, syn - SiO2

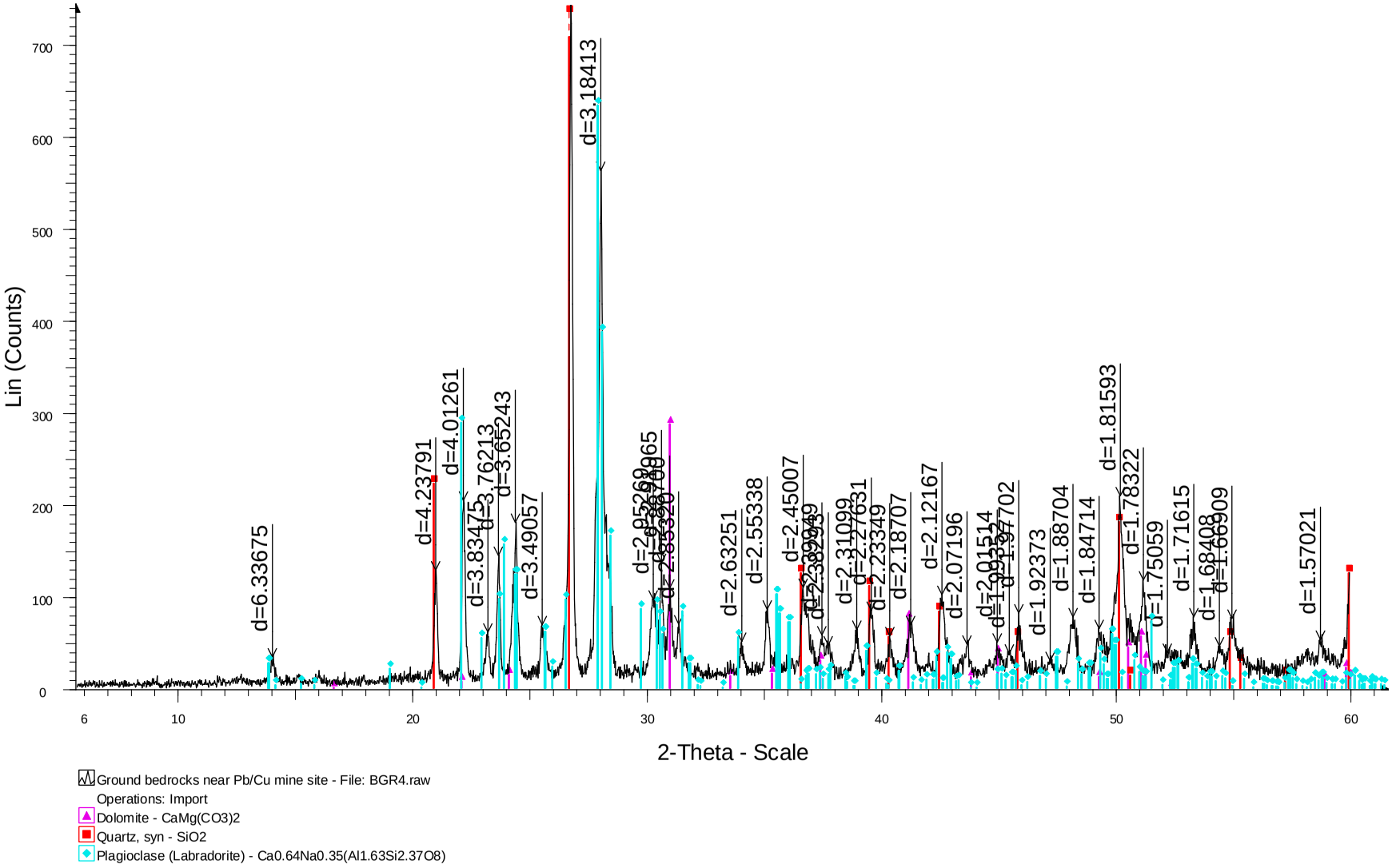
BGR2


Lin (Counts)
2-Theta - Scale
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d=4.94060
d=4.43215
d=4.22587
d=3.85078
d=3.71241
d=3.46652
d=3.18210
d=2.97253
d=2.84505
d=2.77704
d=2.44698
d=2.37340
d=2.27320
d=2.23008
d=2.12115
d=1.81312
Ground bedrocks near Pb/Cu mine site - File: BGR2.raw
Operations: Import
Quartz, syn - SiO2
Illite - KAl2Si3AlO10(OH)2

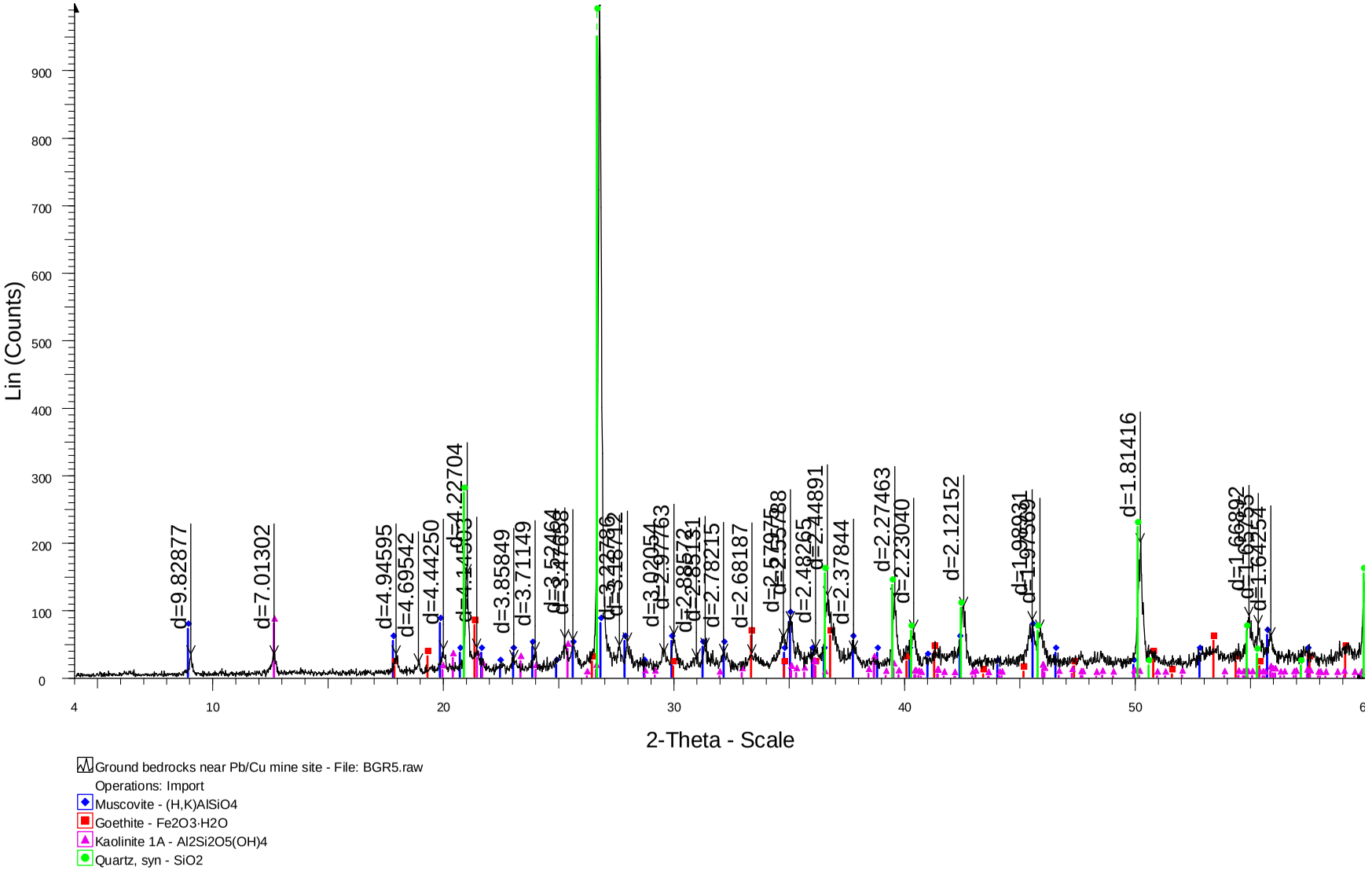
BGR3


Lin (Counts)
2-Theta - Scale
d=9.86947
d=7.10209
d=6.90412
d=4.95142
d=4.45617
d=4.23608
d=3.87148
d=3.72199
d=3.55977
d=3.48018
d=3.19249
d=2.97862
d=2.85368
d=2.78157
d=2.56242
d=2.45117
d=2.37870
d=2.27636
d=2.23117
d=2.12333
d=1.98944
d=1.97691
d=1.81475
d=1.72842
d=1.70655
d=1.66898
d=1.64499
Ground bedrocks near Pb/Cu mine site - File: BGR3.raw
Operations: Import
Muscovite - (H,K)AlSiO4
Kaolinite - Al4(OH)8(Si4O10)
Quartz, low - SiO2

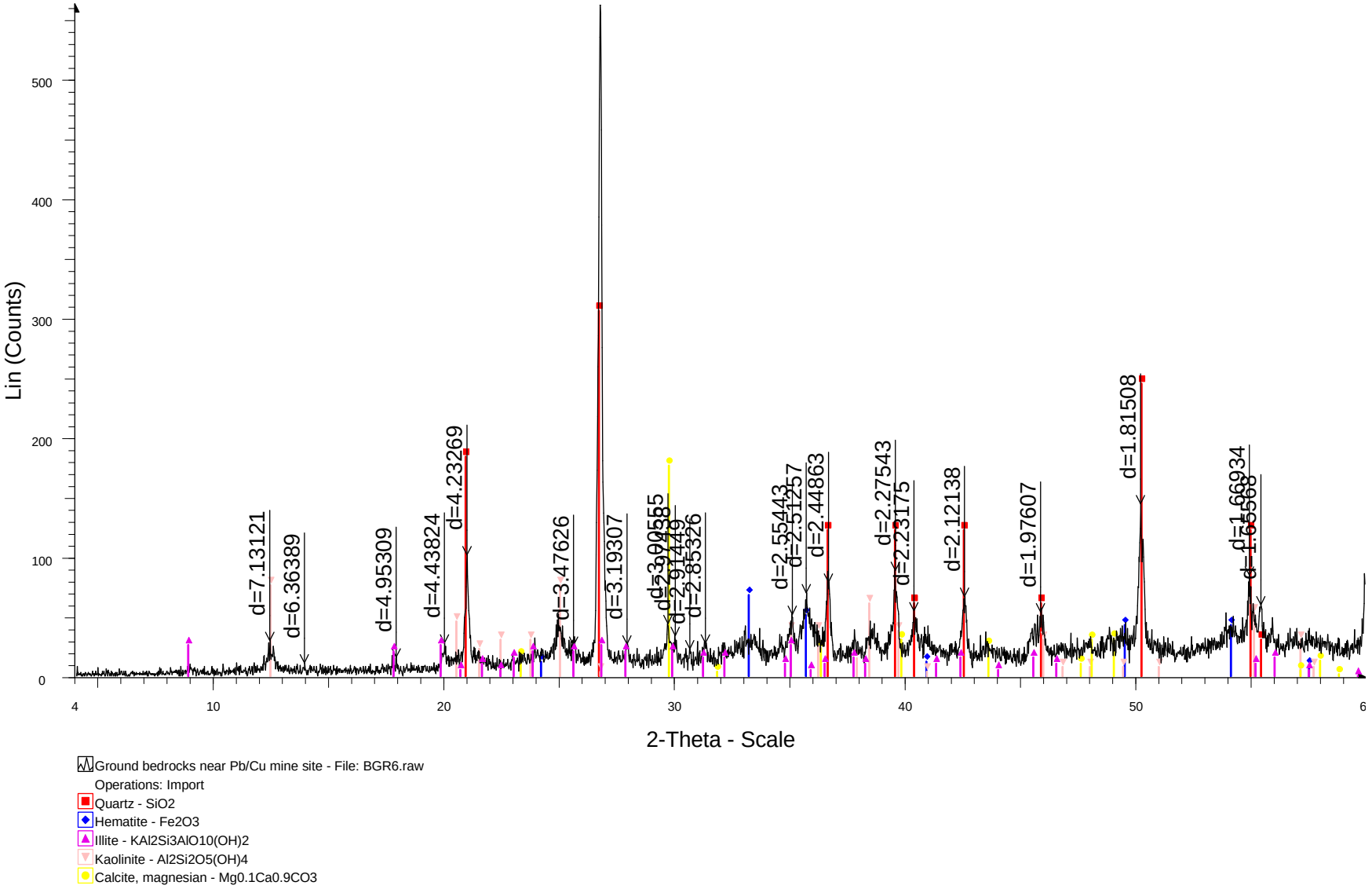
BGR4


Lin (Counts)
2-Theta - Scale
d=6.33675
d=4.23791
d=4.01261
d=3.83475
d=3.76213
d=3.65243
d=3.49057
d=3.18413
d=2.63251
d=2.55338
d=2.45007
d=2.31099
d=2.27631
d=2.23349
d=2.18707
d=2.12167
d=2.07196
d=1.92373
d=1.88704
d=1.84714
d=1.81593
d=1.78322
d=1.75059
d=1.71615
d=1.57021
Ground bedrocks near Pb/Cu mine site - File: BGR4.raw
Operations: Import
Dolomite - CaMg(CO3)2
Quartz, syn - SiO2
Plagioclase (Labradorite) - Ca0.64Na0.35(Al1.63Si2.37O8)

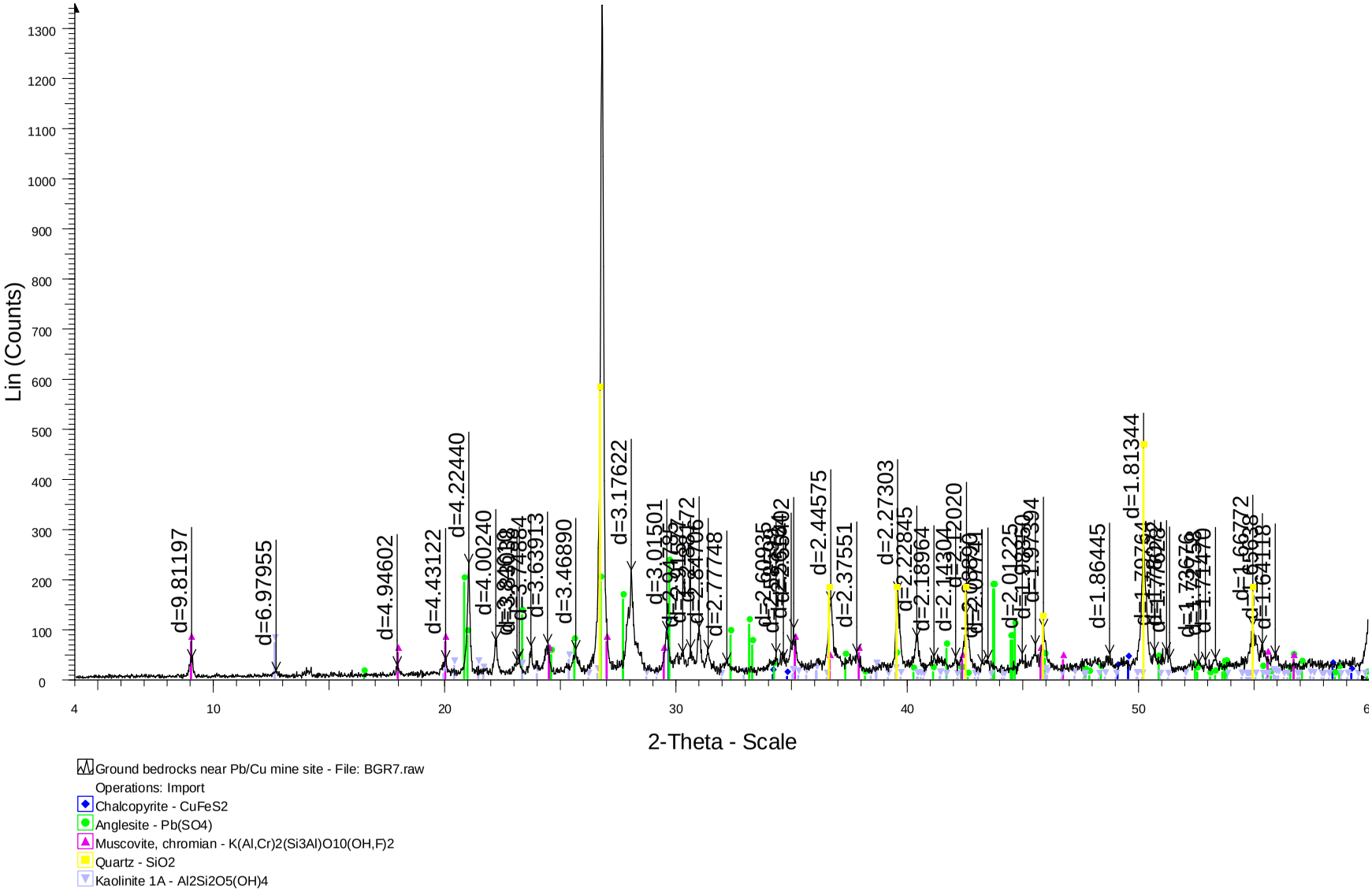
BGR5


Lin (Counts)
2-Theta - Scale
d=9.82877
d=7.01302
d=4.94595
d=4.69542
d=4.44250
d=4.22704
d=3.85849
d=3.71149
d=2.44891
d=2.37844
d=2.27463
d=2.23040
d=2.12152
d=1.81416
d=1.64254
Ground bedrocks near Pb/Cu mine site - File: BGR5.raw
Operations: Import
Muscovite - (H,K)AlSiO4
Goethite - Fe2O3·H2O
Kaolinite 1A - Al2Si2O5(OH)4
Quartz, syn - SiO2

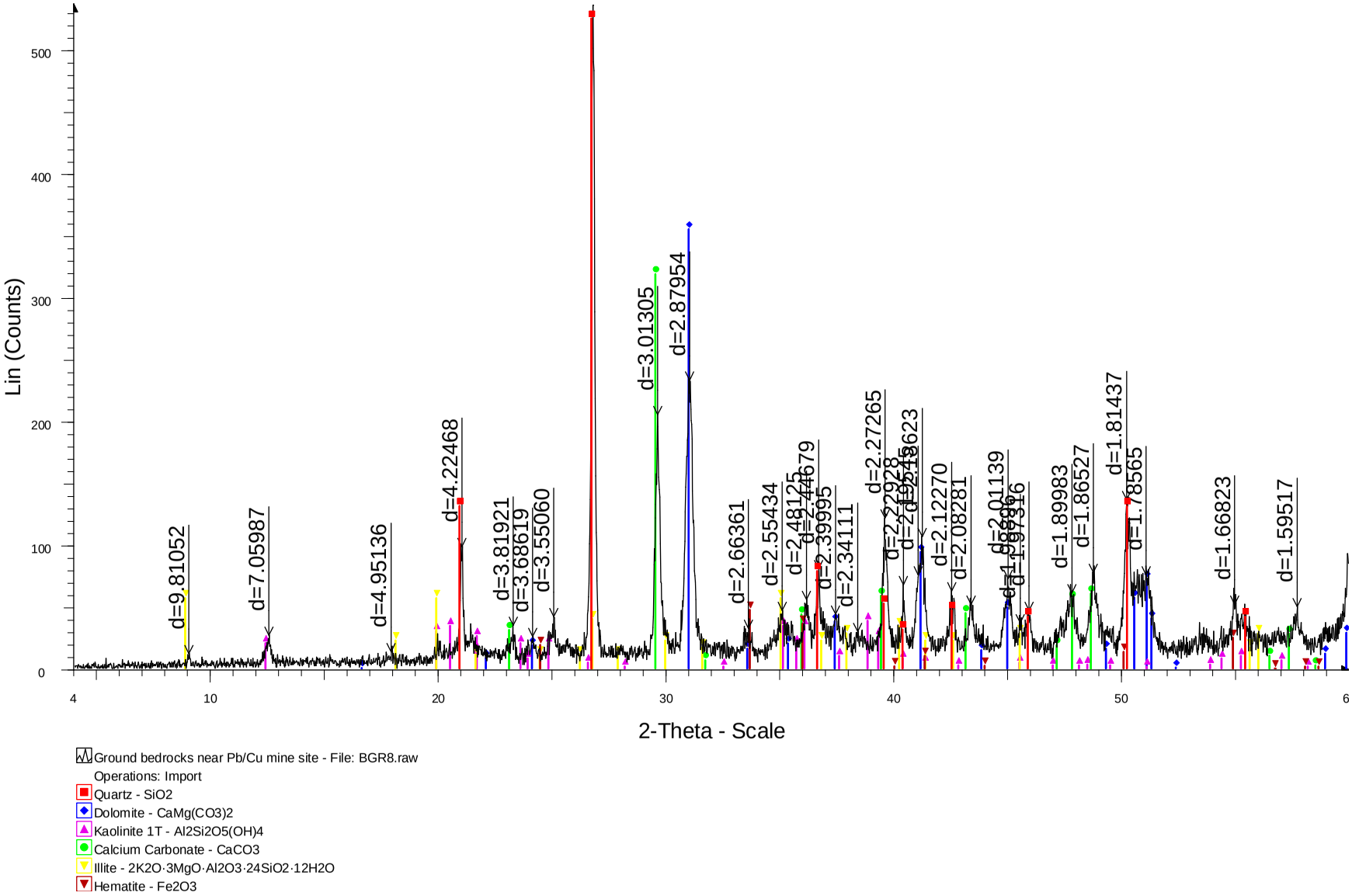
BGR6

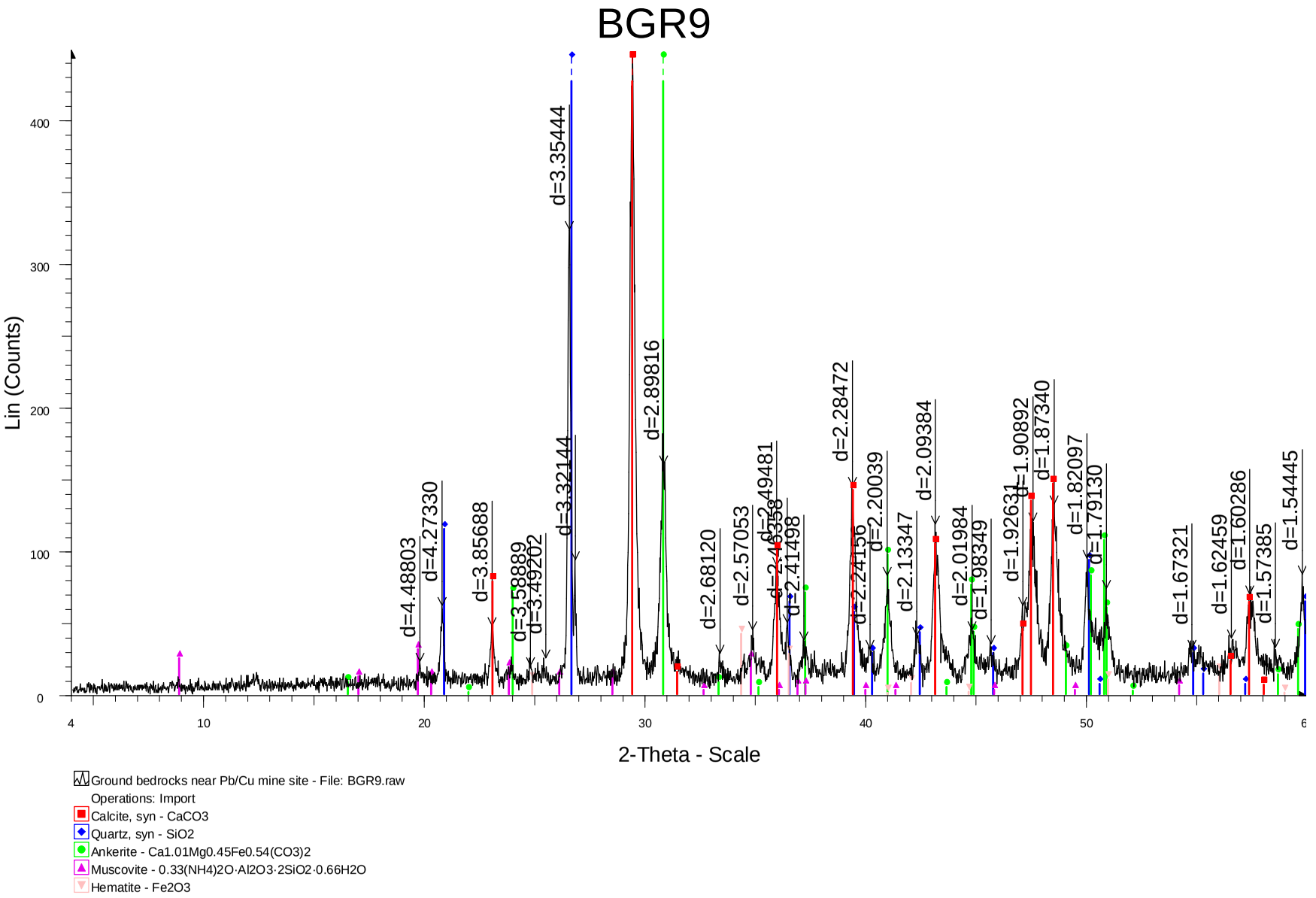

Lin (Counts)
0
100
200
300
400
500
4
10
20
30
40
50
6
2-Theta - Scale
d=7.13121
d=6.36389
d=4.95309
d=4.43824
d=4.23269
d=3.47626
d=3.19307
d=3.00555
d=2.91449
d=2.85326
d=2.55443
d=2.51257
d=2.44863
d=2.27543
d=2.23175
d=2.12138
d=1.97607
d=1.81508
d=1.66934
d=1.65568
Ground bedrocks near Pb/Cu mine site - File: BGR6.raw
Operations: Import
Quartz - SiO2
Hematite - Fe2O3
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Calcite, magnesian - Mg0.1Ca0.9CO3

BGR7

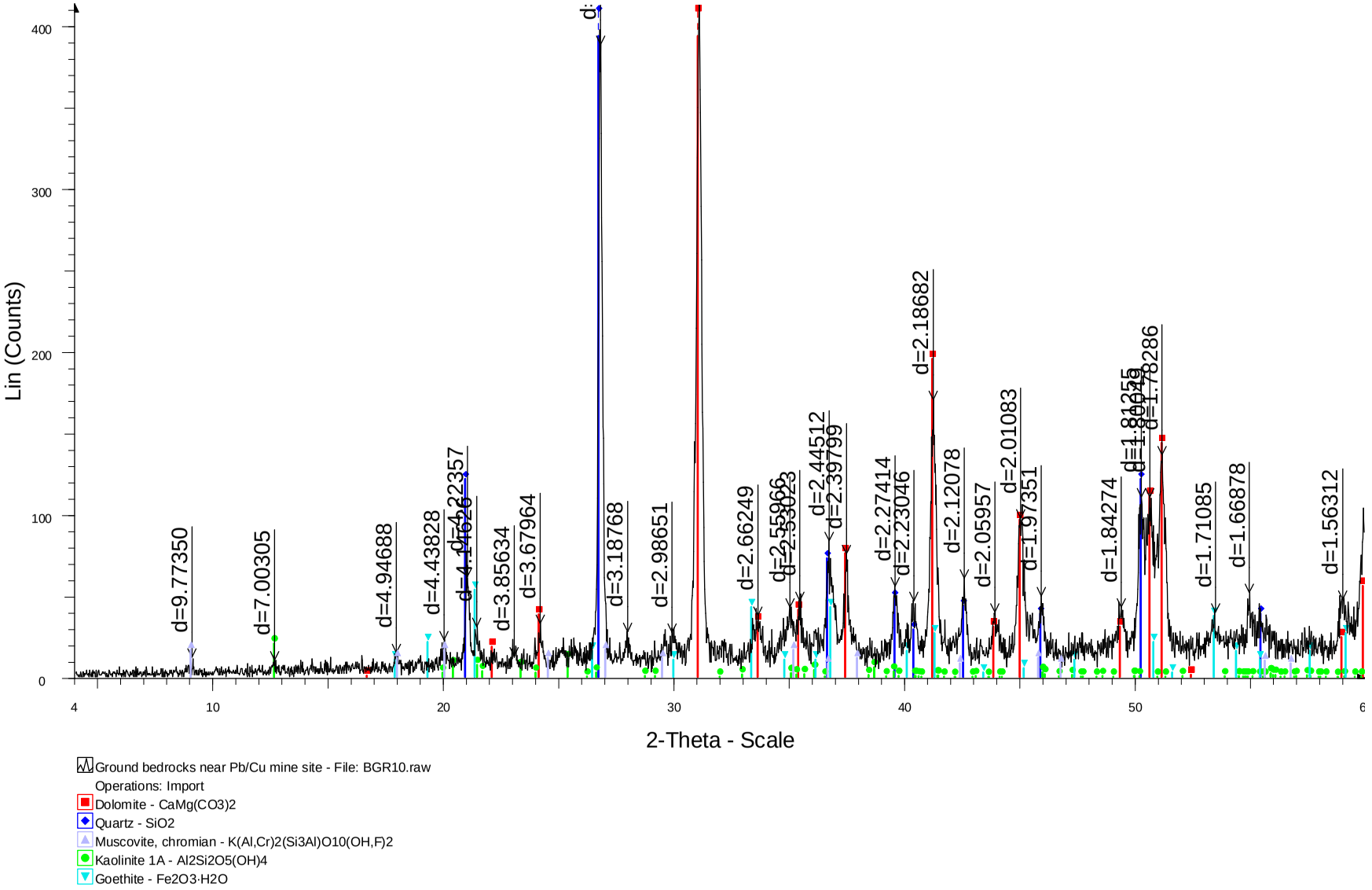

Lin (Counts)
2-Theta - Scale
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d=4.94602
d=4.43122
d=4.22440
d=4.00240
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d=3.46890
d=3.17622
d=3.01501
d=2.77748
d=2.44575
d=2.37551
d=2.27303
d=2.22845
d=2.18964
d=2.14304
d=2.01225
d=1.86445
d=1.81344
d=1.66772
Ground bedrocks near Pb/Cu mine site - File: BGR7.raw
Operations: Import
Chalcopyrite - CuFeS2
Anglesite - Pb(SO4)
Muscovite, chromian - K(Al,Cr)2(Si3Al)O10(OH,F)2
Quartz - SiO2
Kaolinite 1A - Al2Si2O5(OH)4

BGR8

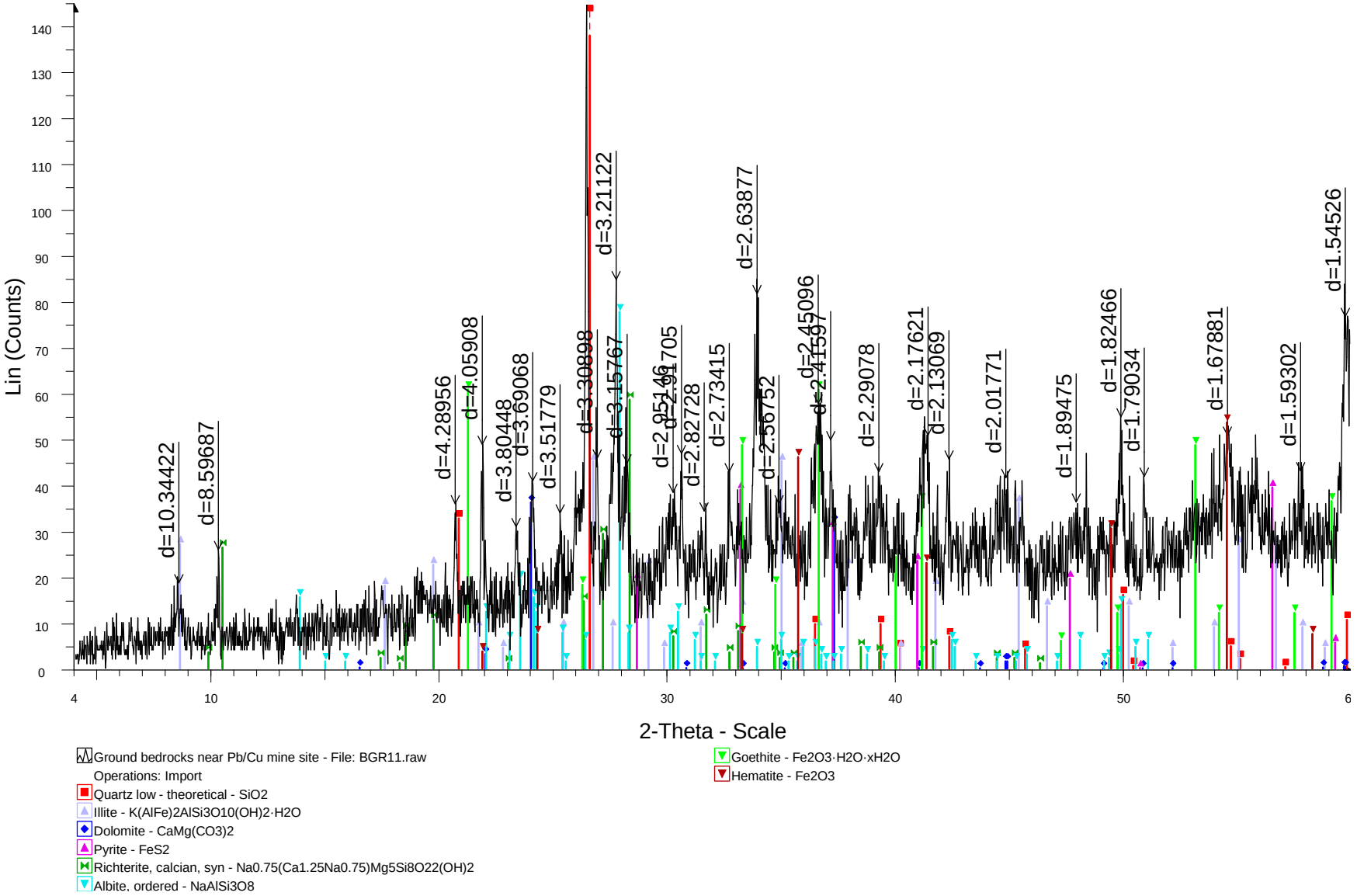

Lin (Counts)
0
100
200
300
400
500
4
10
20
30
40
50
6
2-Theta - Scale
d=9.81052
d=7.05987
d=4.95136
d=4.22468
d=3.81921
d=3.68619
d=3.55060
d=3.01305
d=2.87954
d=2.66361
d=2.55434
d=2.48125
d=2.44679
d=2.39995
d=2.34111
d=2.27265
d=2.22928
d=2.19548
d=2.16623
d=2.12270
d=2.08281
d=2.01139
d=1.89983
d=1.86527
d=1.81437
d=1.78565
d=1.66823
d=1.59517
Ground bedrocks near Pb/Cu mine site - File: BGR8.raw
Operations: Import
Quartz - SiO2
Dolomite - CaMg(CO3)2
Kaolinite 1T - Al2Si2O5(OH)4
Calcium Carbonate - CaCO3
Illite - 2K2O·3MgO·Al2O3·24SiO2·12H2O
Hematite - Fe2O3


BGR9
Lin (Counts)
2-Theta - Scale
d=4.48803
d=4.27330
d=3.85688
d=3.58889
d=3.49202
d=3.35444
d=3.32144
d=2.89816
d=2.68120
d=2.57053
d=2.49481
d=2.46358
d=2.41498
d=2.28472
d=2.24156
d=2.20039
d=2.13347
d=2.09384
d=2.01984
d=1.98349
d=1.92631
d=1.90892
d=1.87340
d=1.82097
d=1.79130
d=1.67321
d=1.62459
d=1.60286
d=1.57385
d=1.54445
Ground bedrocks near Pb/Cu mine site - File: BGR9.raw
Operations: Import
Calcite, syn - CaCO3
Quartz, syn - SiO2
Ankerite - Ca1.01Mg0.45Fe0.54(CO3)2
Muscovite - 0.33(NH4)2O·Al2O3·2SiO2·0.66H2O
Hematite - Fe2O3

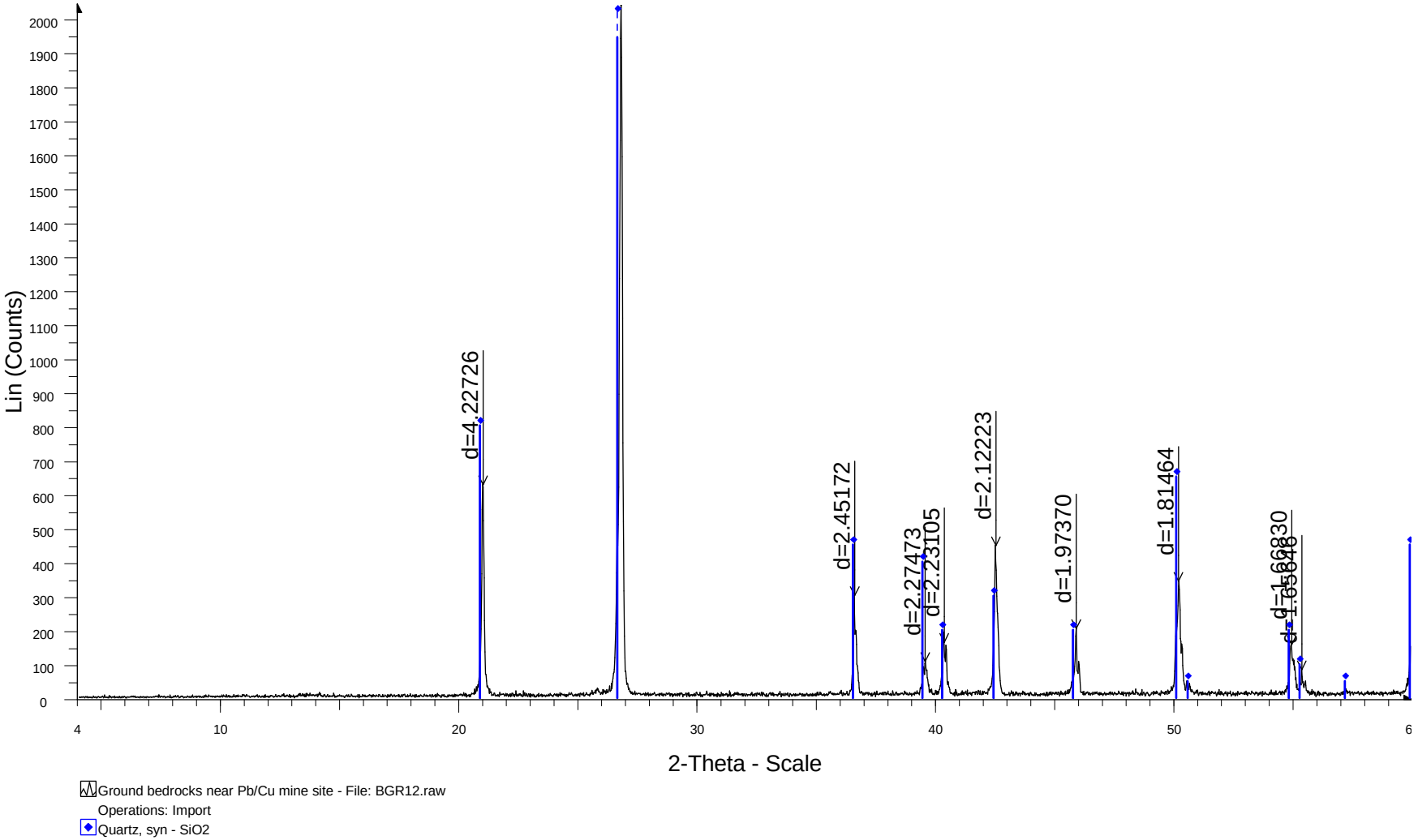
BGR10


Lin (Counts)
2-Theta - Scale
d=9.77350
d=7.00305
d=4.94688
d=4.43828
d=4.22357
d=4.14620
d=3.85634
d=3.67964
d=3.18768
d=2.98651
d=2.66249
d=2.55966
d=2.53023
d=2.44512
d=2.39799
d=2.27414
d=2.23046
d=2.18682
d=2.12078
d=2.05957
d=2.01083
d=1.97351
d=1.84274
d=1.81255
d=1.80049
d=1.78286
d=1.71085
d=1.66878
d=1.56312
Ground bedrocks near Pb/Cu mine site - File: BGR10.raw
Operations: Import
Dolomite - CaMg(CO3)2
Quartz - SiO2
Muscovite, chromian - K(Al,Cr)2(Si3Al)O10(OH,F)2
Kaolinite 1A - Al2Si2O5(OH)4
Goethite - Fe2O3·H2O

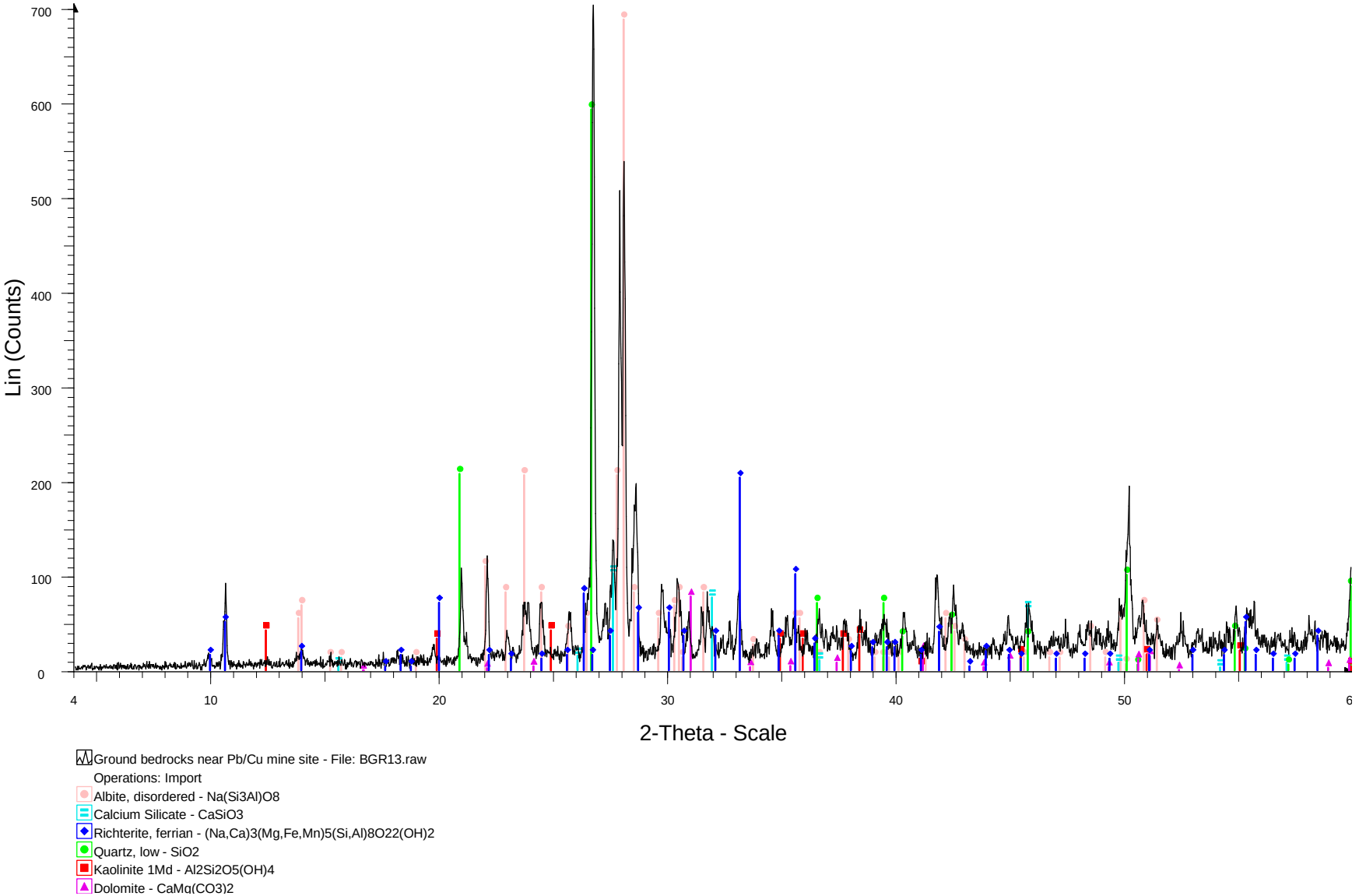
BGR11


Lin (Counts)
2-Theta - Scale
d=10.34422
d=8.59687
d=4.28956
d=4.05908
d=3.80448
d=3.69068
d=3.51779
d=3.30898
d=3.21122
d=3.15767
d=2.85146
d=2.81705
d=2.82728
d=2.73415
d=2.63877
d=2.56752
d=2.45096
d=2.41597
d=2.29078
d=2.17621
d=2.13069
d=2.01771
d=1.89475
d=1.82466
d=1.79034
d=1.67881
d=1.59302
d=1.54526
Ground bedrocks near Pb/Cu mine site - File: BGR11.raw
Operations: Import
Quartz low - theoretical - SiO2
Illite - K(AlFe)2AlSi3O10(OH)2·H2O
Dolomite - CaMg(CO3)2
Pyrite - FeS2
Richterite, calcian, syn - Na0.75(Ca1.25Na0.75)Mg5Si8O22(OH)2
Albite, ordered - NaAlSi3O8
Goethite - Fe2O3·H2O·xH2O
Hematite - Fe2O3

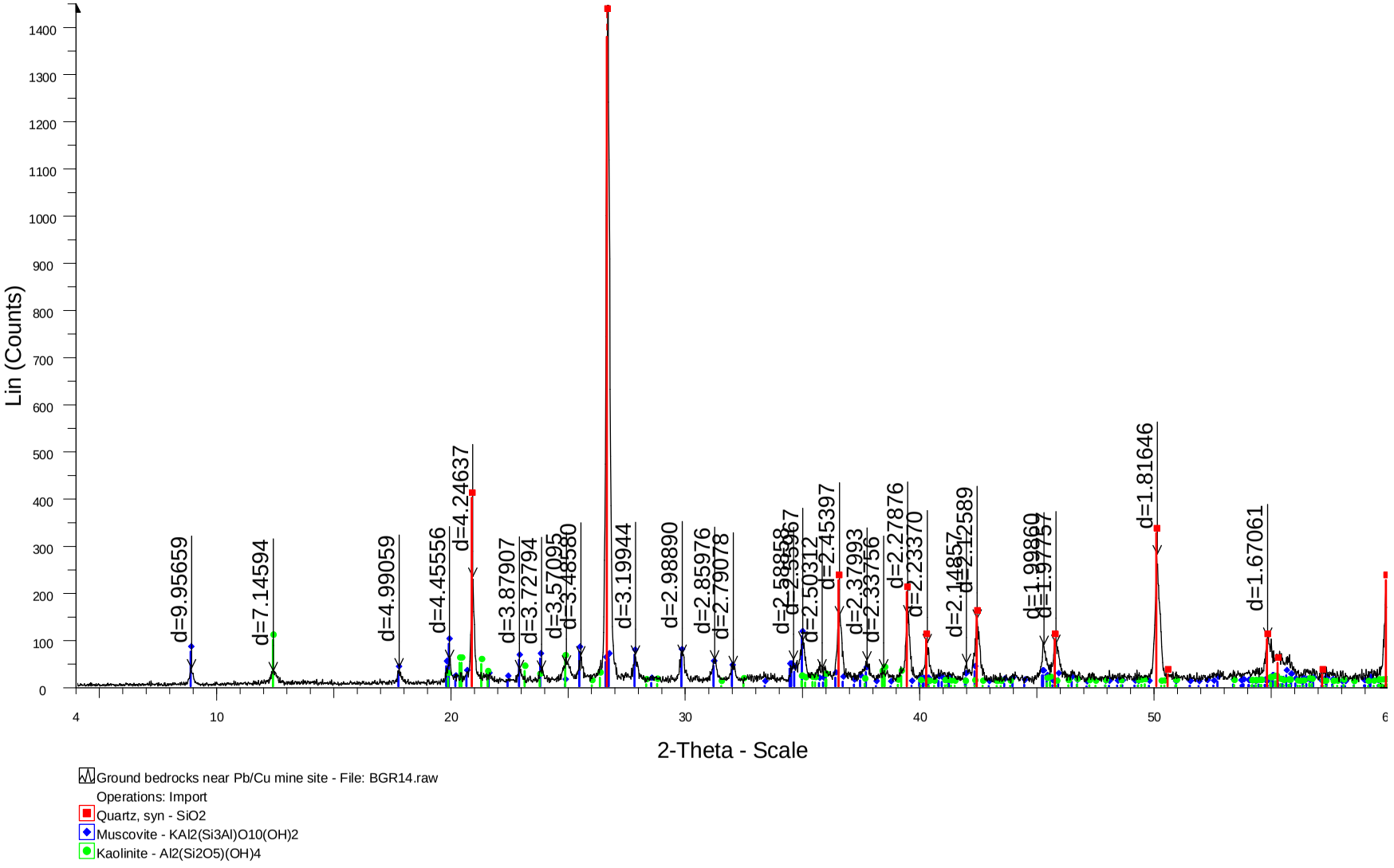
BGR12


Lin (Counts)
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
d=4.22726
d=2.45172
d=2.27473
d=2.23105
d=2.12223
d=1.97370
d=1.81464
d=1.66830
4
10
20
30
40
50
6
2-Theta - Scale
Ground bedrocks near Pb/Cu mine site - File: BGR12.raw
Operations: Import
Quartz, syn - SiO2

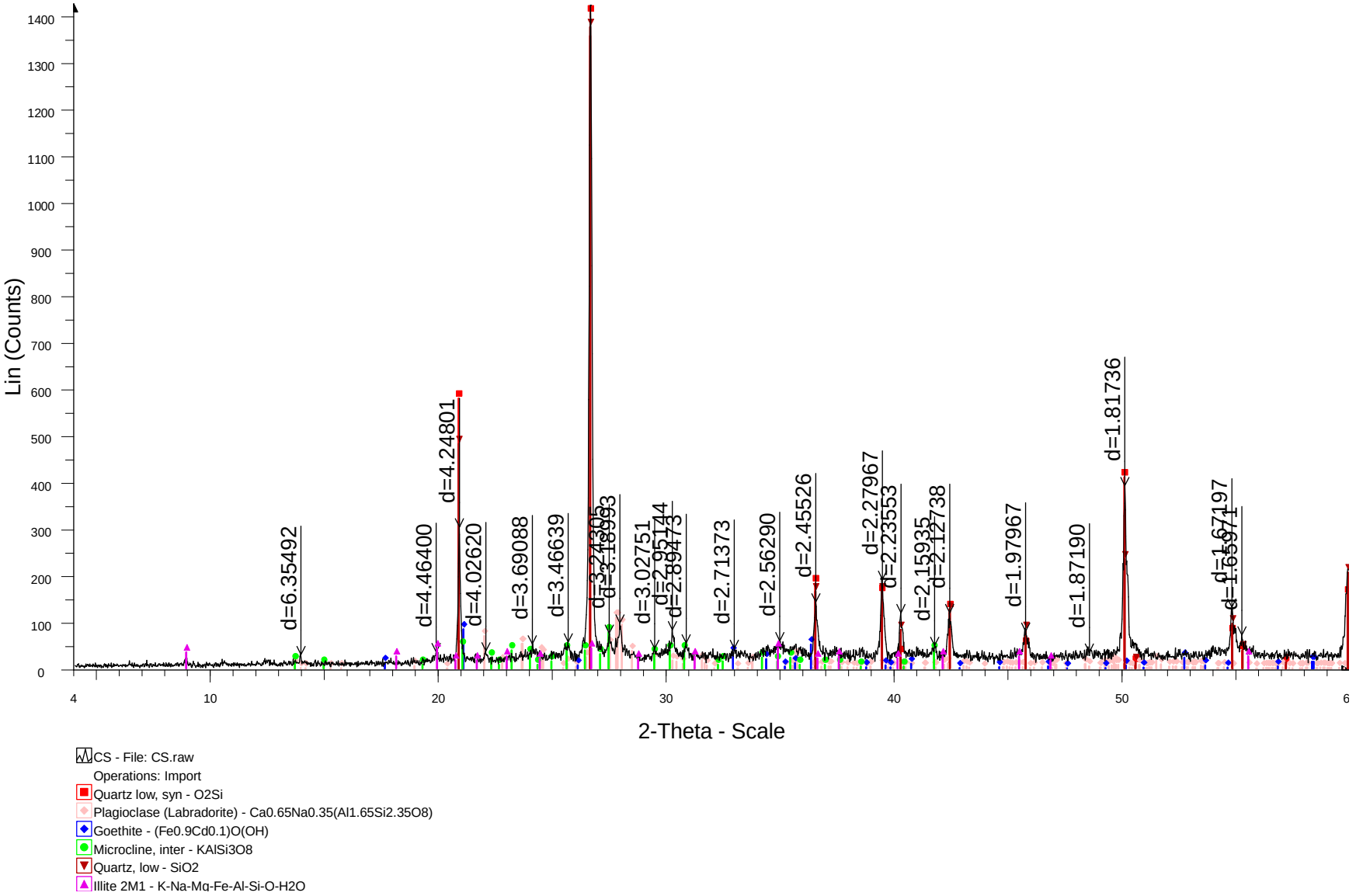
BGR13


Lin (Counts)
700
600
500
400
300
200
100
0
4
10
20
30
40
50
6
2-Theta - Scale
Ground bedrocks near Pb/Cu mine site - File: BGR13.raw
Operations: Import
Albite, disordered - Na(Si3Al)O8
Calcium Silicate - CaSiO3
Richterite, ferrian - (Na,Ca)3(Mg,Fe,Mn)5(Si,Al)8O22(OH)2
Quartz, low - SiO2
Kaolinite 1Md - Al2Si2O5(OH)4
Dolomite - CaMg(CO3)2

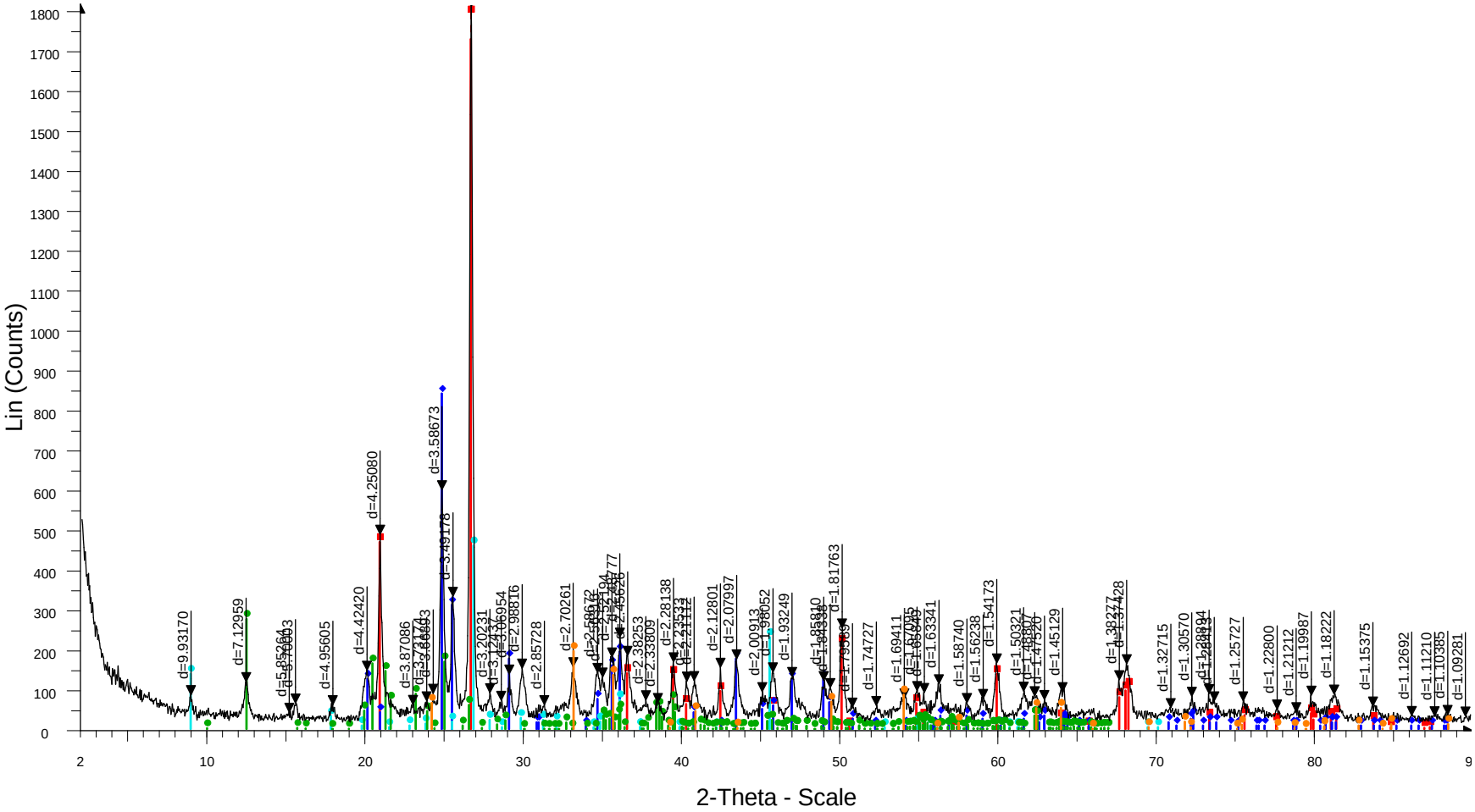
BGR14


Lin (Counts)
2-Theta - Scale
d=9.95659
d=7.14594
d=4.99059
d=4.45556
d=4.24637
d=3.87907
d=3.72794
d=3.57095
d=3.48580
d=3.19944
d=2.98890
d=2.85976
d=2.79078
d=2.50312
d=2.45397
d=2.37993
d=2.33756
d=2.27876
d=2.23370
d=2.14857
d=2.12589
d=1.81646
d=1.67061
Ground bedrocks near Pb/Cu mine site - File: BGR14.raw
Operations: Import
Quartz, syn - SiO2
Muscovite - KAl2(Si3Al)O10(OH)2
Kaolinite - Al2(Si2O5)(OH)4

CS


Lin (Counts)
2-Theta - Scale
d=6.35492
d=4.46400
d=4.24801
d=4.02620
d=3.69088
d=3.46639
d=3.27430
d=3.18993
d=3.02751
d=2.95174
d=2.89473
d=2.71373
d=2.56290
d=2.45526
d=2.27967
d=2.23553
d=2.15935
d=2.12738
d=1.97967
d=1.87190
d=1.81736
d=1.67197
d=1.65971
CS - File: CS.raw
Operations: Import
Quartz low, syn - O2Si
Plagioclase (Labradorite) - Ca0.65Na0.35(Al1.65Si2.35O8)
Goethite - (Fe0.9Cd0.1)O(OH)
Microcline, inter - KAlSi3O8
Quartz, low - SiO2
Illite 2M1 - K-Na-Mg-Fe-Al-Si-O-H2O

GF9



GF9 - File: GF9_4h24.raw - Type: 2Th/Th locked - Start: 2.000 ° - End: 90.000 ° - Step: 0.040 ° - Step time: 7.2 s - Temp.: 25 °C (Room) - Time Started: 11 s - 2-Theta: 2.000 ° - Theta: 1.000 ° - Chi: 0.00 ° - Phi: 0.0

Operations: Import

01-070-3755 (*) - Quartz - SiO2 - Y: 118.51 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.91580 - b 4.91580 - c 5.40910 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3121 (152) - 3 - 113.199 - I/Ic P

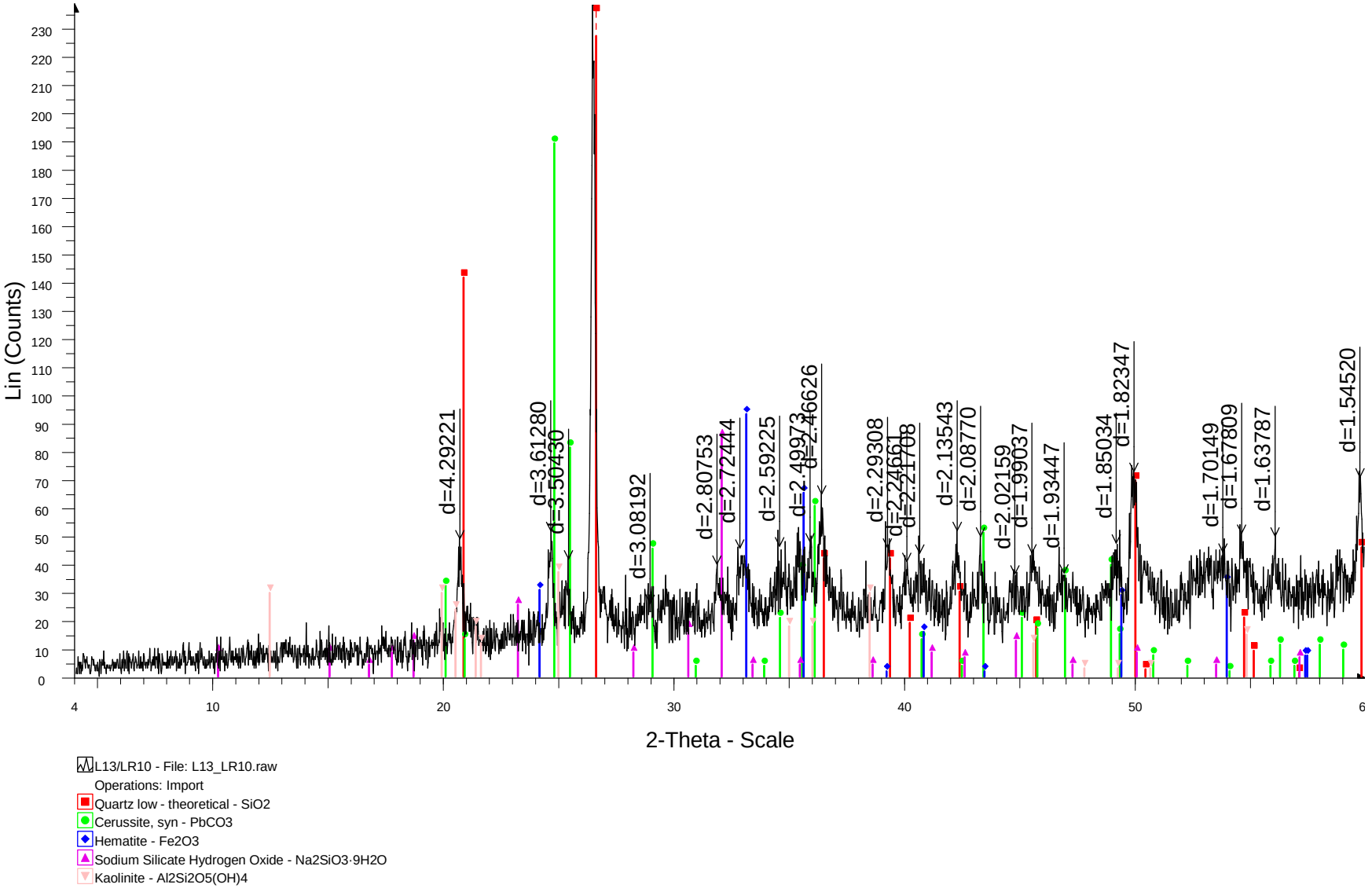
00-047-1734 (*) - Cerussite, syn - PbCO3 - Y: 46.38 % - d x by: 1. - WL: 1.5406 - Orthorhombic - a 5.17800 - b 8.51500 - c 6.14600 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - Pmcn (62) - 4 - 270.981

00-046-1409 (I) - Muscovite-2M1, vanadian barian - (K,Ba,Na)0.75(Al,Mg,Cr,V)2(Si,Al,V)4O10(OH,O)2 - Y: 25.42 % - d x by: 1. - WL: 1.5406 - Monoclinic - a 5.20990 - b 9.07290 - c 20.06390 - alpha 90.000 - beta 9

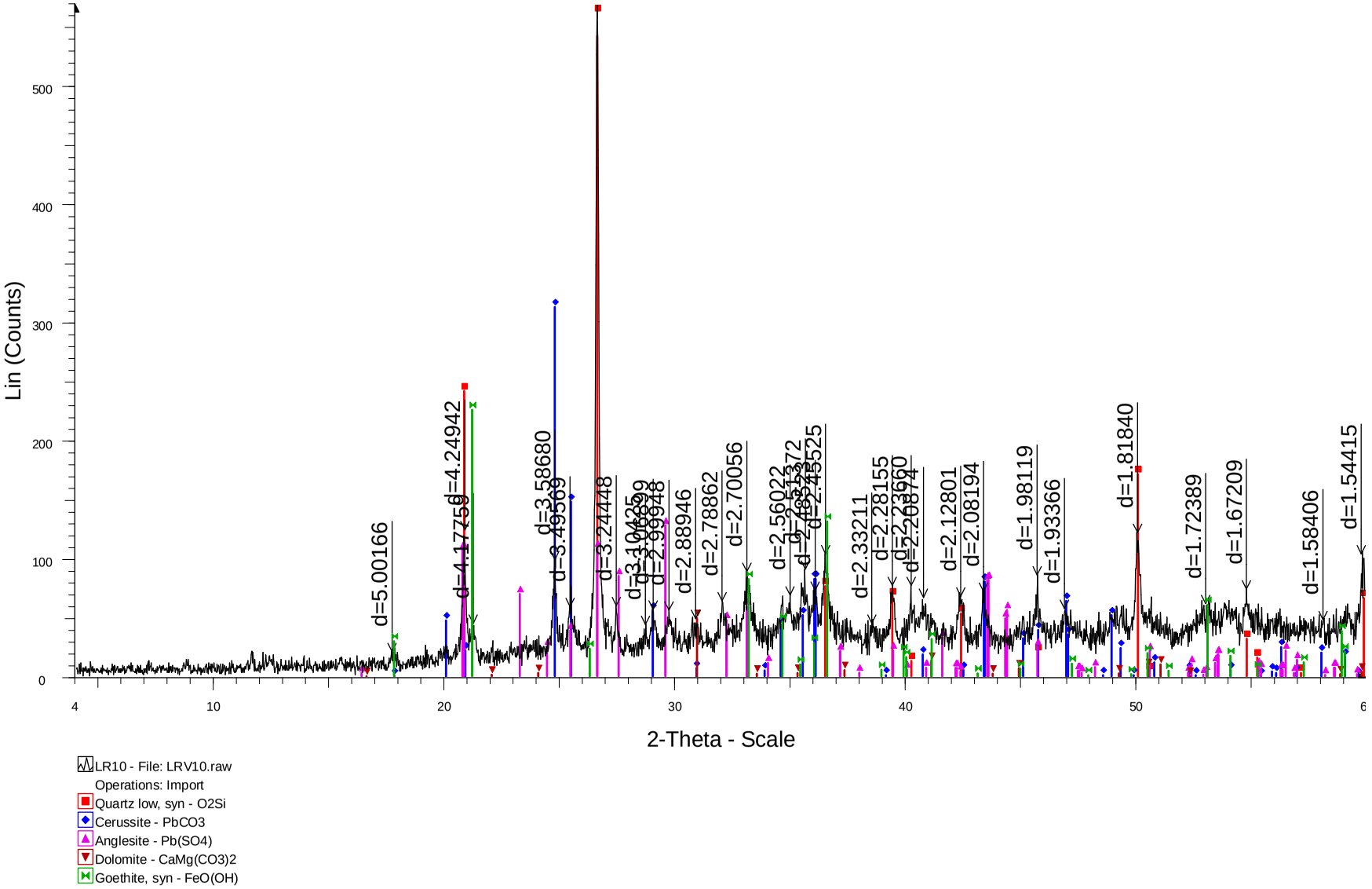
01-073-8433 (*) - Hematite - Fe1.85H0.45O3 - Y: 10.78 % - d x by: 1. - WL: 1.5406 - Rhombo.H.axes - a 5.03450 - b 5.03450 - c 13.76500 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - R-3c (167) - 6 -

01-078-2110 (*) - Kaolinite - Al4(OH)8(Si4O10) - Y: 15.24 % - d x by: 1. - WL: 1.5406 - Triclinic - a 5.14971 - b 8.93507 - c 7.38549 - alpha 91.928 - beta 105.044 - gamma 89.792 - Primitive - P1 (1) - 1 - 327.991 - I/I

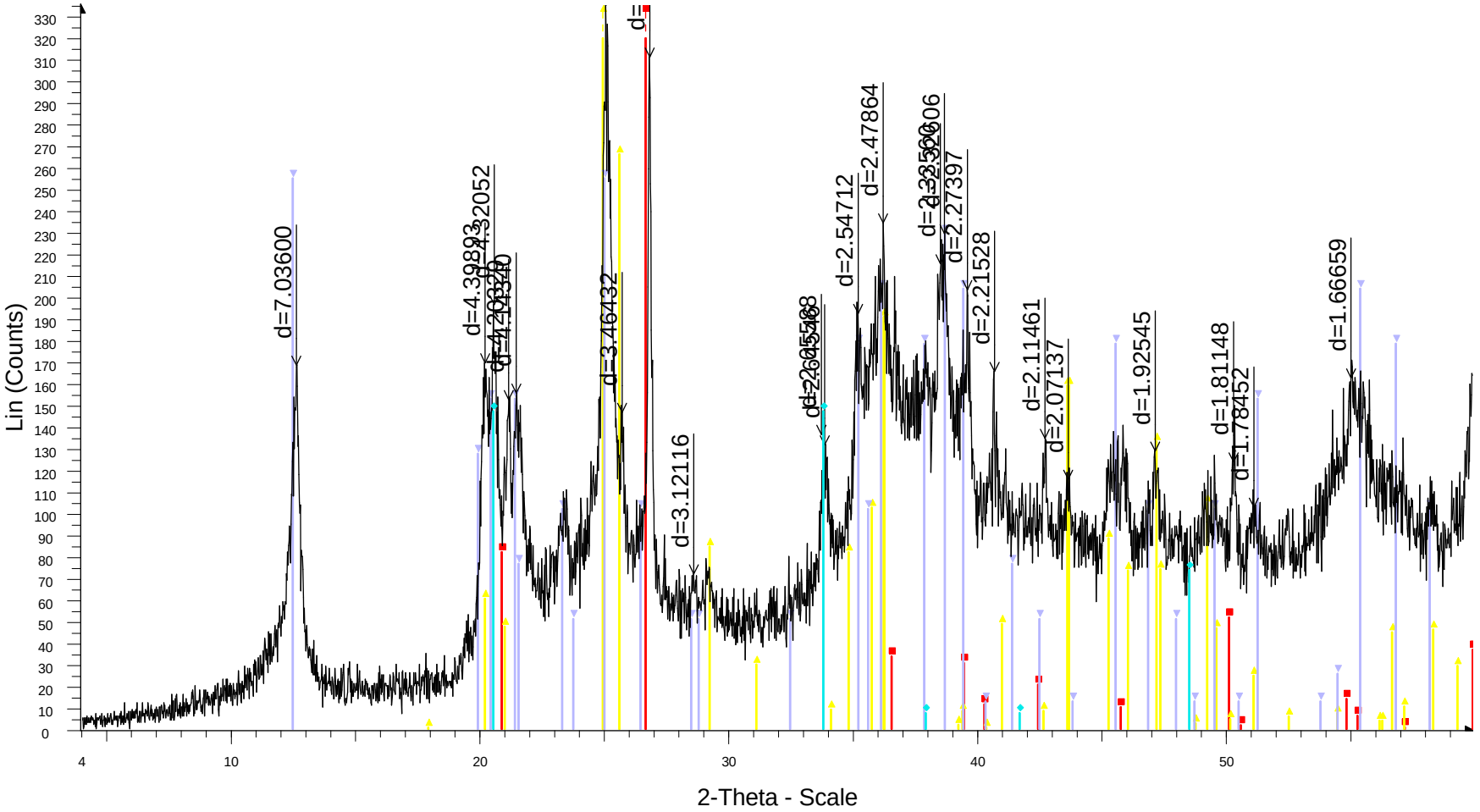
L13


Lin (Counts)
2-Theta - Scale
d=4.29221
d=3.61280
d=3.50430
d=3.08192
d=2.80753
d=2.72444
d=2.59225
d=2.49973
d=2.46626
d=2.29308
d=2.24661
d=2.21708
d=2.13543
d=2.08770
d=2.02159
d=1.99037
d=1.93447
d=1.85034
d=1.82347
d=1.70149
d=1.67809
d=1.63787
d=1.54520
L13/LR10 - File: L13_LR10.raw
Operations: Import
Quartz low - theoretical - SiO2
Cerussite, syn - PbCO3
Hematite - Fe2O3
Sodium Silicate Hydrogen Oxide - Na2SiO3·9H2O
Kaolinite - Al2Si2O5(OH)4

LRV10


Lin (Counts)
0
100
200
300
400
500
4
10
20
30
40
50
2-Theta - Scale
d=5.00166
d=4.24942
d=4.17750
d=3.58680
d=3.49569
d=3.24448
d=3.10425
d=3.06899
d=2.99948
d=2.88946
d=2.78862
d=2.70056
d=2.56022
d=2.51372
d=2.45525
d=2.33211
d=2.28155
d=2.23660
d=2.20874
d=2.12801
d=2.08194
d=1.98119
d=1.93366
d=1.81840
d=1.72389
d=1.67209
d=1.58406
d=1.54415
LR10 - File: LRV10.raw
Operations: Import
Quartz low, syn - O2Si
Cerussite - PbCO3
Anglesite - Pb(SO4)
Dolomite - CaMg(CO3)2
Goethite, syn - FeO(OH)

MlN1



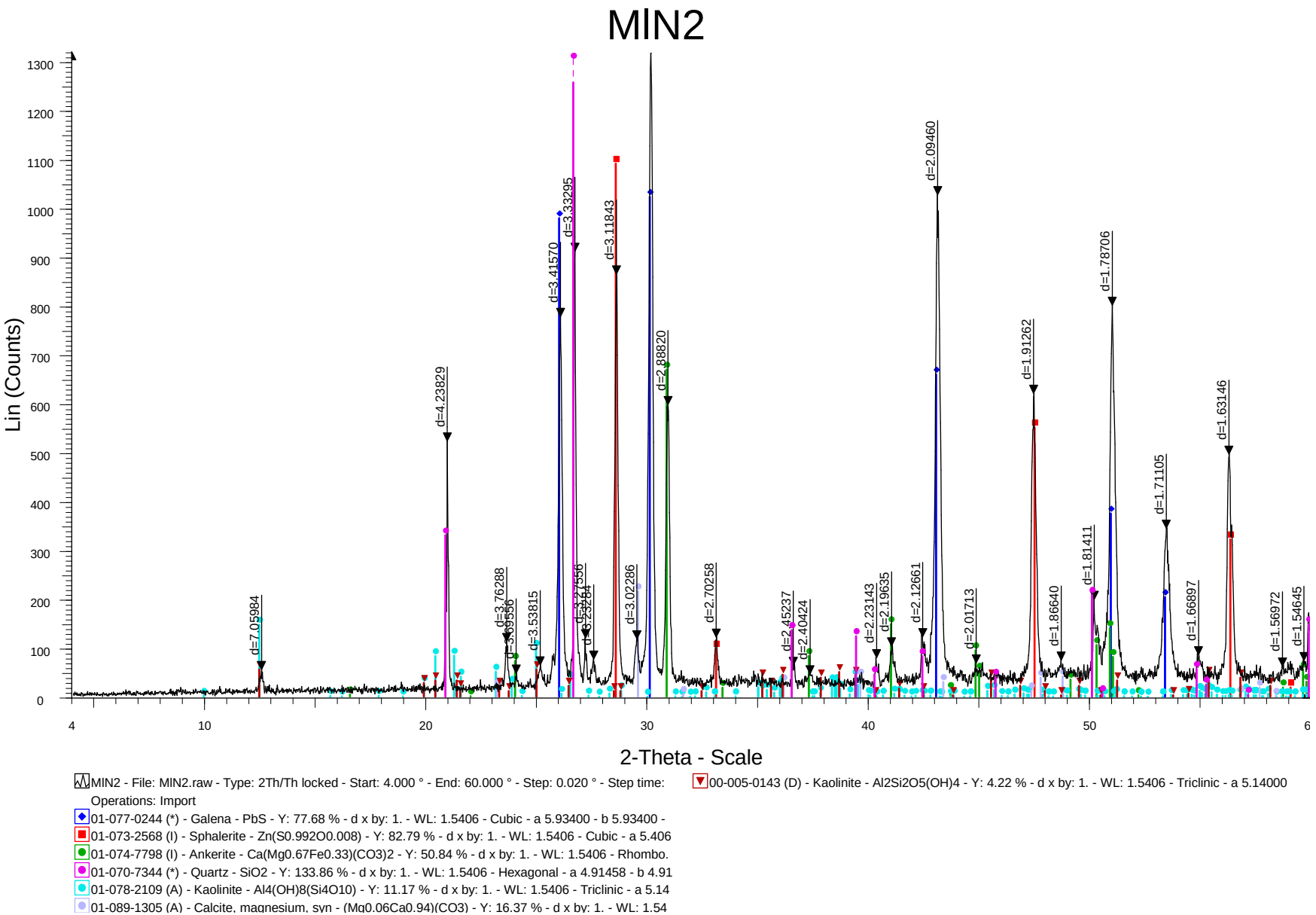
MlN1 - File: MlN1.raw - Type: 2Th/Th locked - Start: 4.000 ° - End: 60.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 9 s - 2-Theta: 4.000 ° - Theta: 2.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - X Operations: X Offset -0.049 | X Offset -0.042 | Import

01-070-7344 (*) - Quartz - SiO2 - Y: 130.50 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.91458 - b 4.91458 - c 5.40649 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3221 (154) - 3 - 113.089 - I/Ic P

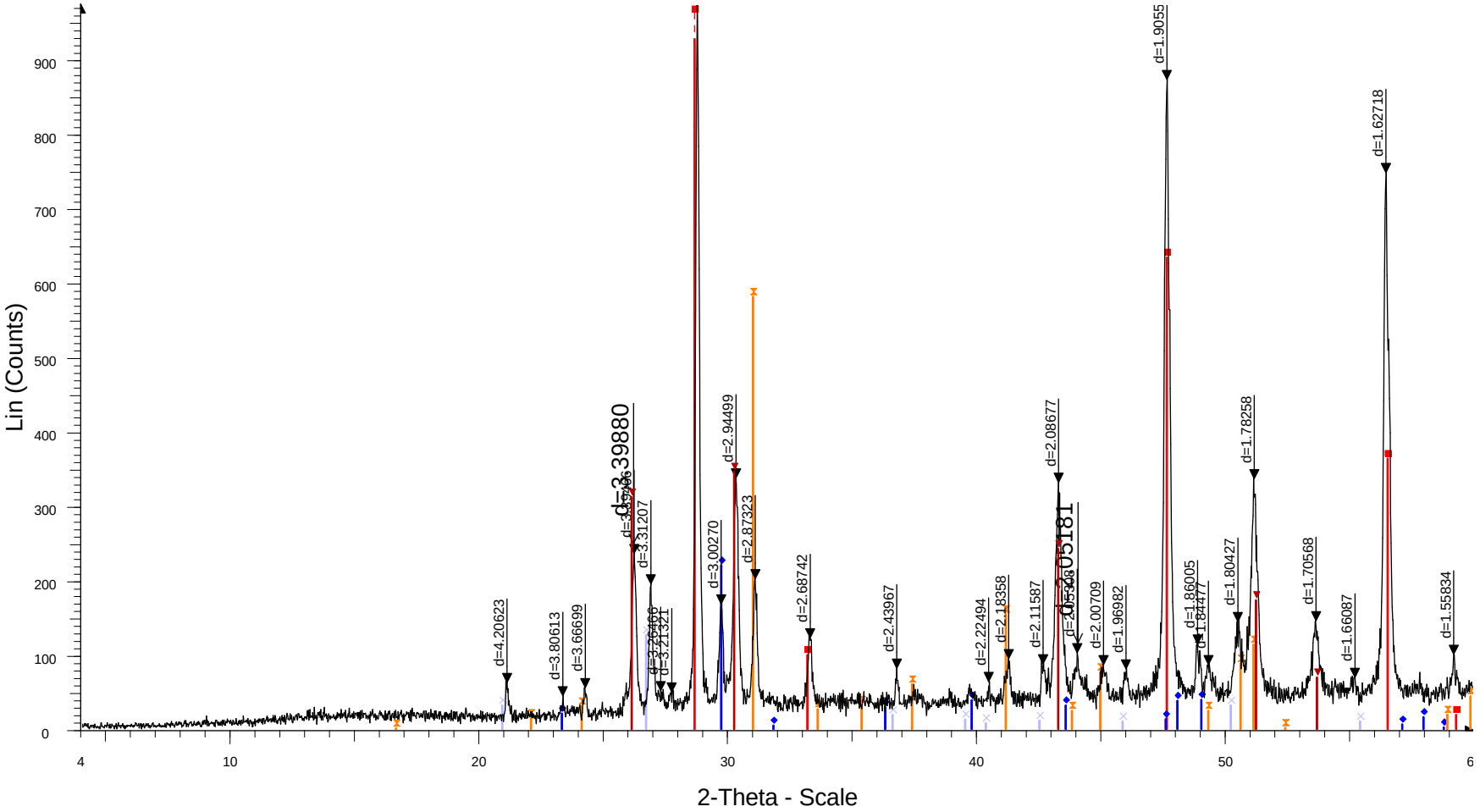
01-071-4901 (I) - Cerussite - Ba(CO3) - Y: 193.48 % - d x by: 1. - WL: 1.5406 - Orthorhombic - a 5.15000 - b 8.47000 - c 6.11000 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - Pmcn (62) - 4 - 266.521 -

00-005-0143 (D) - Kaolinite - Al2Si2O5(OH)4 - Y: 76.05 % - d x by: 1. - WL: 1.5406 - Triclinic - a 5.14000 - b 8.93000 - c 7.37000 - alpha 91.130 - beta 104.800 - gamma 90.000 - 326.993 - F30= 4(0.0609,133)

00-001-1067 (D) - Sodium Calcium Silicate - Na2CaSiO4 - Y: 43.92 % - d x by: 1. - WL: 1.5406 - Cubic - a 7.49700 - b 7.49700 - c 7.49700 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - P213 (198) - 4 -


MIN2
Lin (Counts)
2-Theta - Scale
d=7.05984
d=4.23829
d=3.76288
d=3.69556
d=3.53815
d=3.41570
d=3.33295
d=3.27656
d=3.23284
d=3.11843
d=3.02286
d=2.88820
d=2.70258
d=2.45237
d=2.40424
d=2.23143
d=2.19635
d=2.12661
d=2.09460
d=2.01713
d=1.91262
d=1.86640
d=1.81411
d=1.78706
d=1.71105
d=1.66897
d=1.63146
d=1.56972
d=1.54645
MIN2 - File: MIN2.raw - Type: 2Th/Th locked - Start: 4.000 ° - End: 60.000 ° - Step: 0.020 ° - Step time:
Operations: Import
01-077-0244 (*) - Galena - PbS - Y: 77.68 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.93400 - b 5.93400 -
01-073-2568 (I) - Sphalerite - Zn(S0.992O0.008) - Y: 82.79 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.406
01-074-7798 (I) - Ankerite - Ca(Mg0.67Fe0.33)(CO3)2 - Y: 50.84 % - d x by: 1. - WL: 1.5406 - Rhombo.
01-070-7344 (*) - Quartz - SiO2 - Y: 133.86 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.91458 - b 4.91
01-078-2109 (A) - Kaolinite - Al4(OH)8(Si4O10) - Y: 11.17 % - d x by: 1. - WL: 1.5406 - Triclinic - a 5.14
01-089-1305 (A) - Calcite, magnesium, syn - (Mg0.06Ca0.94)(CO3) - Y: 16.37 % - d x by: 1. - WL: 1.54
00-005-0143 (D) - Kaolinite - Al2Si2O5(OH)4 - Y: 4.22 % - d x by: 1. - WL: 1.5406 - Triclinic - a 5.14000

MIN3



MIN3 - File: MIN3.raw - Type: 2Th/Th locked - Start: 4.000 ° - End: 60.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 13 s - 2-Theta: 4.000 ° - Theta: 2.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - Operations: Import

01-089-2874 (I) - Sphalerite, cobaltian, syn - Zn0.7544Co0.2456S - Y: 129.25 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.39180 - b 5.39180 - c 5.39180 - alpha 90.000 - beta 90.000 - gamma 90.000 - Face-centered -

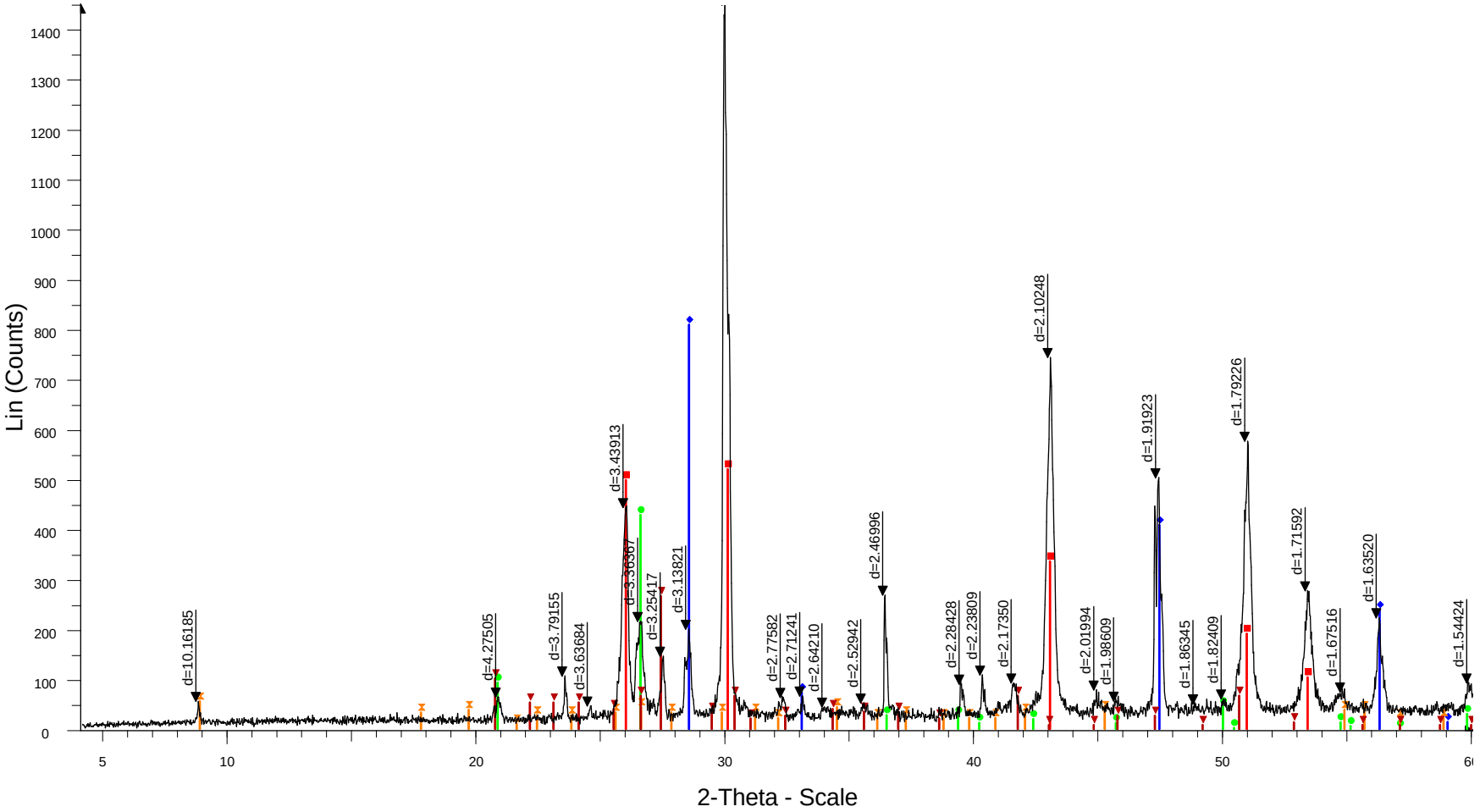
01-071-1663 (*) - Calcite, magnesian - Mg0.1Ca0.9CO3 - Y: 22.63 % - d x by: 1. - WL: 1.5406 - Rhombo.H.axes - a 4.94100 - b 4.94100 - c 16.85400 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - R-3c

00-022-0652 (D) - Galena, bismuthian, syn - Bi0.22Pb0.89S1.22 - Y: 35.62 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.90500 - b 5.90500 - c 5.90500 - alpha 90.000 - beta 90.000 - gamma 90.000 - Face-centered - Fm

01-071-1662 (A) - Dolomite - CaMg(CO3)2 - Y: 59.78 % - d x by: 1. - WL: 1.5406 - Rhombo.H.axes - a 4.80330 - b 4.80330 - c 15.98400 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - R-3 (148) - 3 - 31

00-001-0649 (D) - Quartz - SiO2 - Y: 12.97 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.90300 - b 4.90300 - c 5.39300 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3221 (154) - 3 - 112.275 - F22=

MlN4



MlN4 - File: MlN4.raw - Type: 2Th/Th locked - Start: 4.000 ° - End: 60.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 8 s - 2-Theta: 4.000 ° - Theta: 2.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - X Operations: X Offset 0.117 | Import

01-077-0244 (*) - Galena - PbS - Y: 35.92 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.93400 - b 5.93400 - c 5.93400 - alpha 90.000 - beta 90.000 - gamma 90.000 - Face-centered - Fm-3m (225) - 4 - 208.950 - I/Ic PD

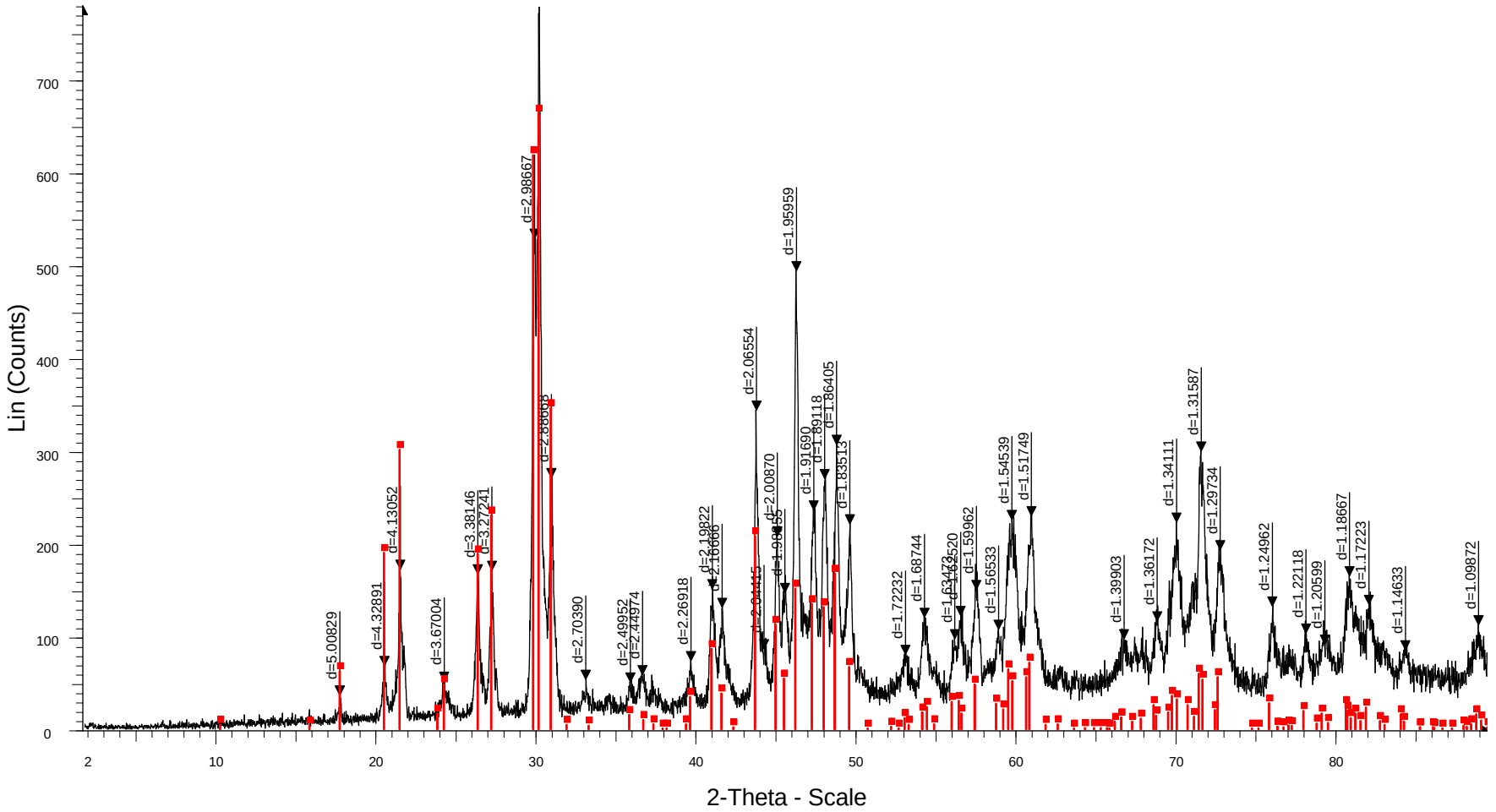
01-071-6544 (N) - Sphalerite ferrous - (Zn0.984Fe0.026)S - Y: 55.84 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.41200 - b 5.41200 - c 5.41200 - alpha 90.000 - beta 90.000 - gamma 90.000 - Face-centered - F-43m (2

01-070-2517 (C) - Quartz low - theoretical - SiO2 - Y: 29.56 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.92000 - b 4.92000 - c 5.42000 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3221 (154) - 3 -

00-002-0055 (D) - Muscovite - H2KAl3Si3O12 - Y: 3.78 % - d x by: 1. - WL: 1.5406 - Monoclinic - a 5.18000 - b 9.02000 - c 20.06000 - alpha 90.000 - beta 95.500 - gamma 90.000 - Base-centered - C2/c (15) - 4 - 9

00-001-0705 (D) - Microcline - KAlSi3O8 - Y: 18.39 % - d x by: 1. - WL: 1.5406 -

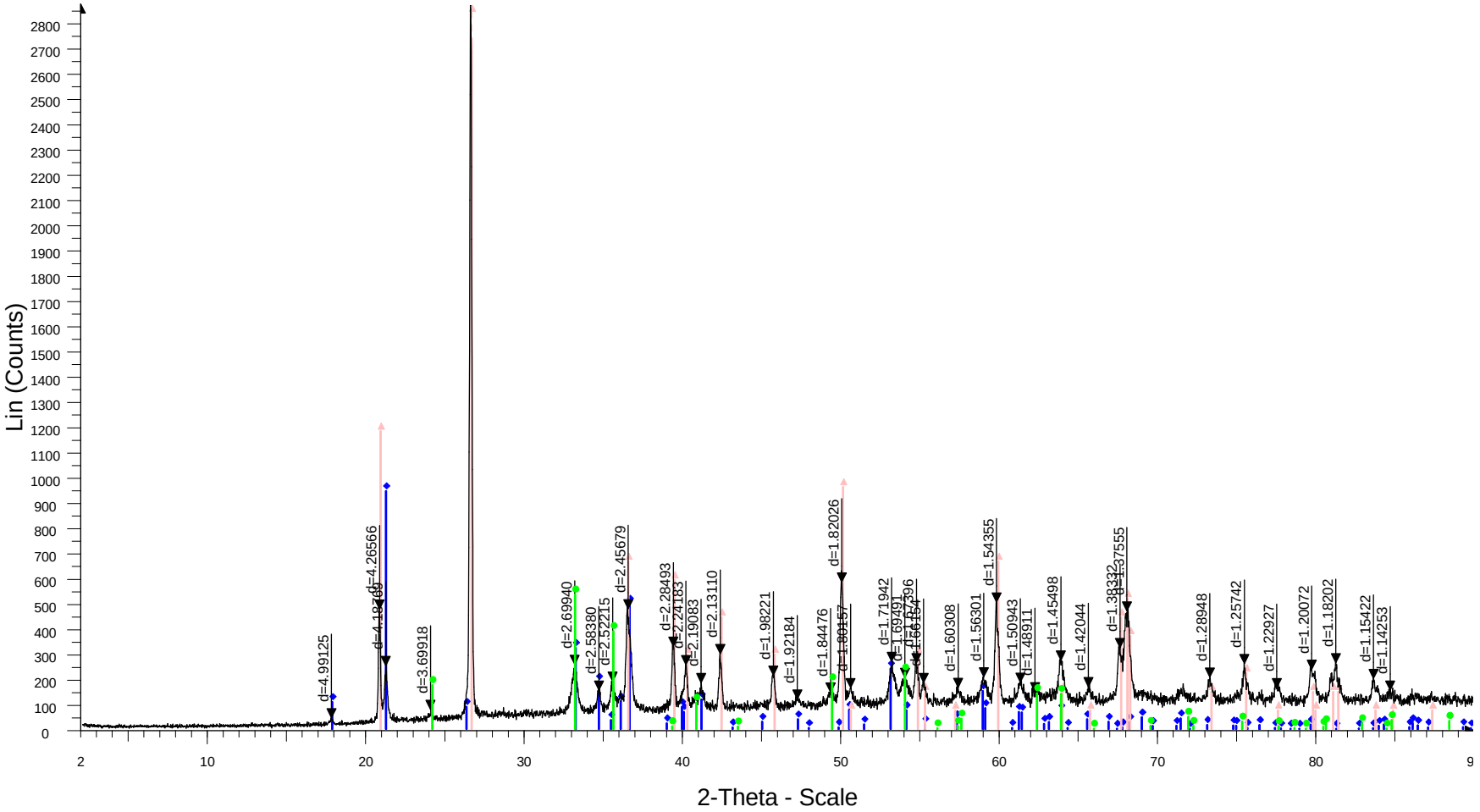
MIN6



MIN6 - File: MIN6.raw - Type: 2Th/Th locked - Start: 2.000 ° - End: 90.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 10 s - 2-Theta: 2.000 ° - Theta: 1.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - X: Operations: X Offset -0.325 | X Offset -0.325 | Import

01-089-4337 (*) - Pyromorphite - (Pb.944Ca.012Zn.008Si.012Al.008)5(PO4)3(Cl.99F.01) - Y: 85.27 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 10.02200 - b 10.02200 - c 7.34800 - alpha 90.000 - beta 90.000 - gamma

MIN7



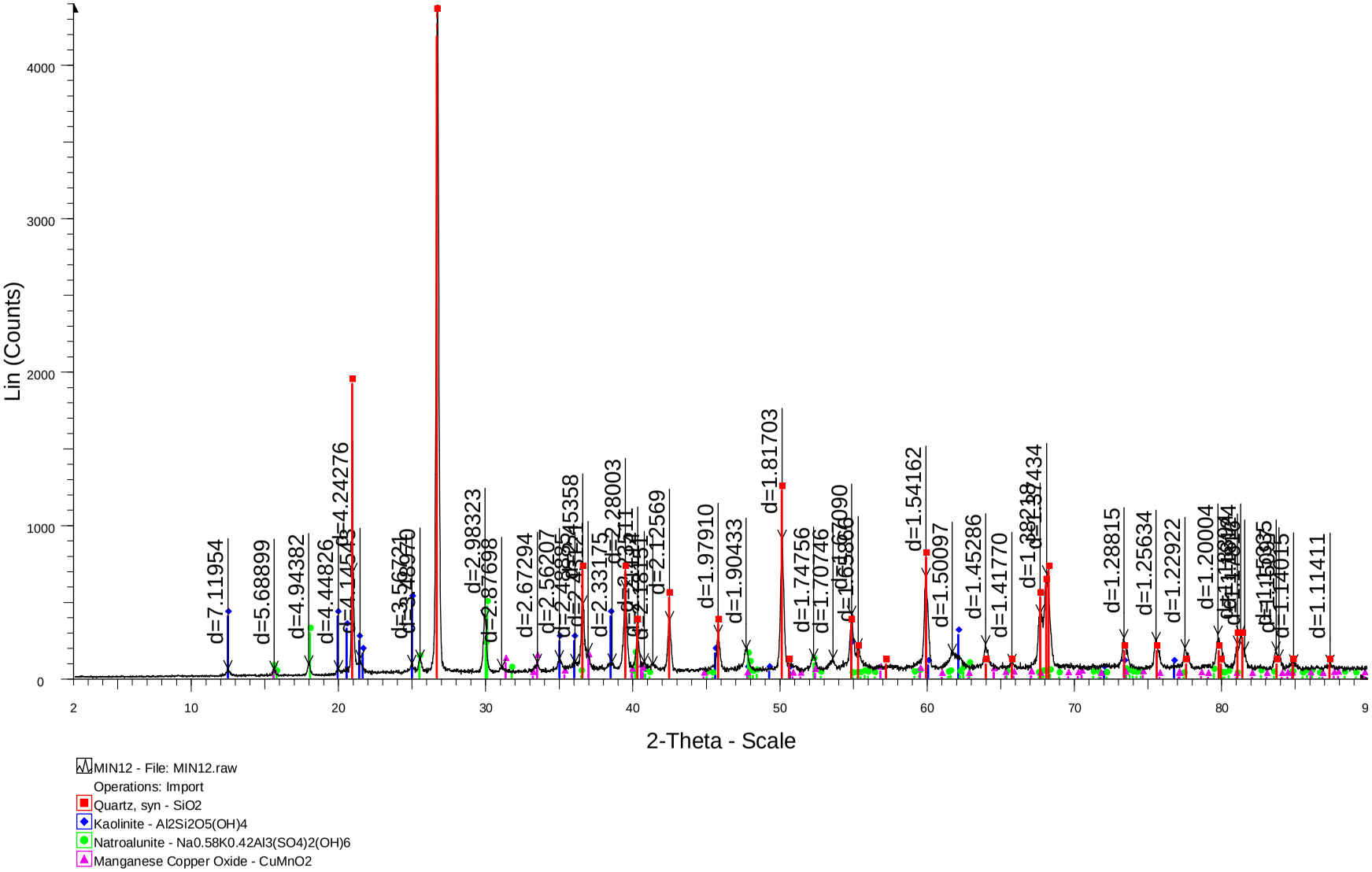
MIN7 - File: MIN7.raw - Type: 2Th/Th locked - Start: 2.000 ° - End: 90.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 12 s - 2-Theta: 2.000 ° - Theta: 1.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - Operations: Import

01-081-0462 (I) - Goethite, syn - FeO(OH) - Y: 32.88 % - d x by: 1. - WL: 1.5406 - Orthorhombic - a 4.61880 - b 9.95280 - c 3.02360 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - Pbnm (62) - 4 - 138.99

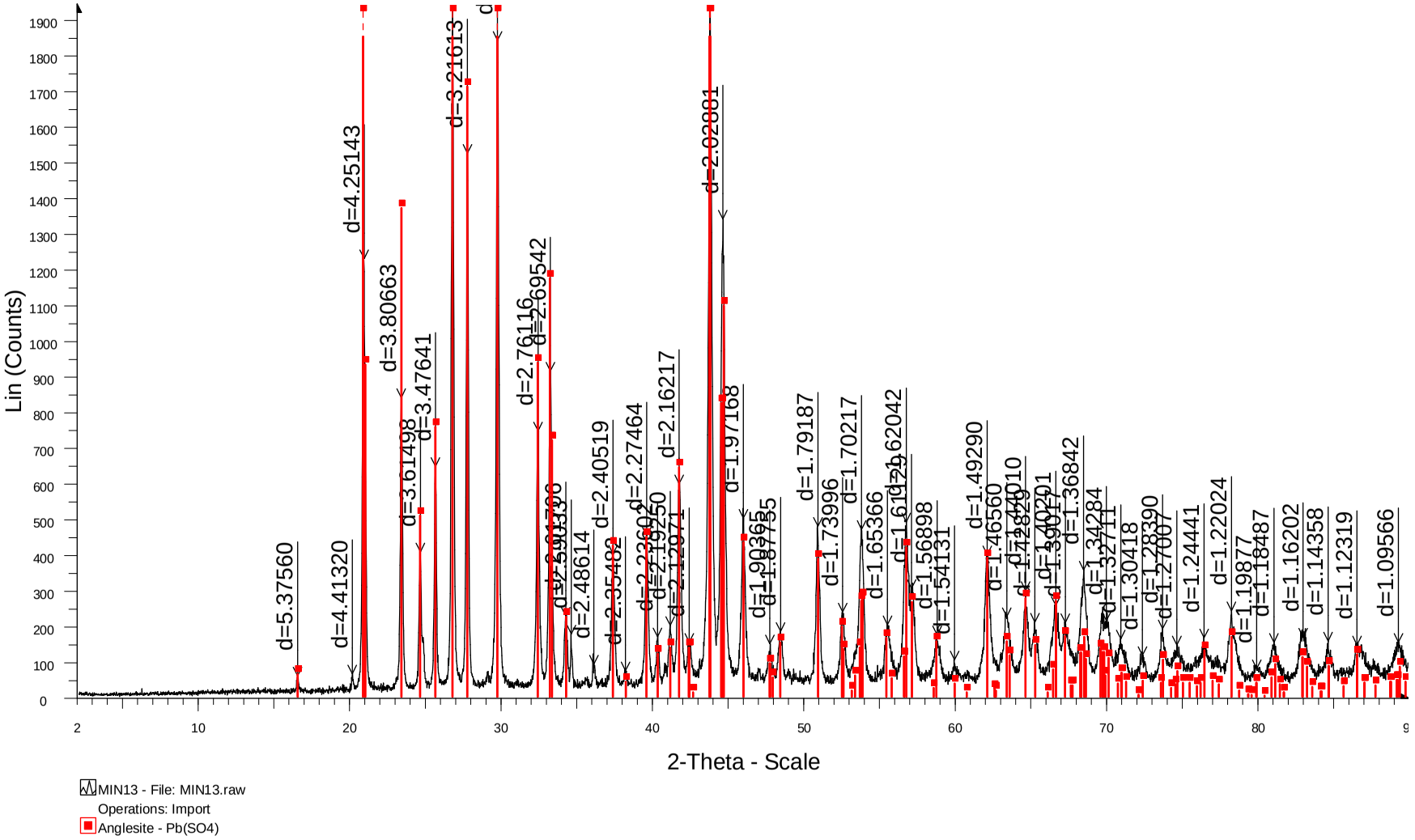
01-071-5088 (*) - Hematite, syn - Fe2O3 - Y: 18.55 % - d x by: 1. - WL: 1.5406 - Rhombo.H.axes - a 5.03850 - b 5.03850 - c 13.74000 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - R-3c (167) - 6 - 302

00-046-1045 (*) - Quartz, syn - SiO2 - Y: 257.14 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.91344 - b 4.91344 - c 5.40524 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3221 (154) - 3 - 113.010 - I/I

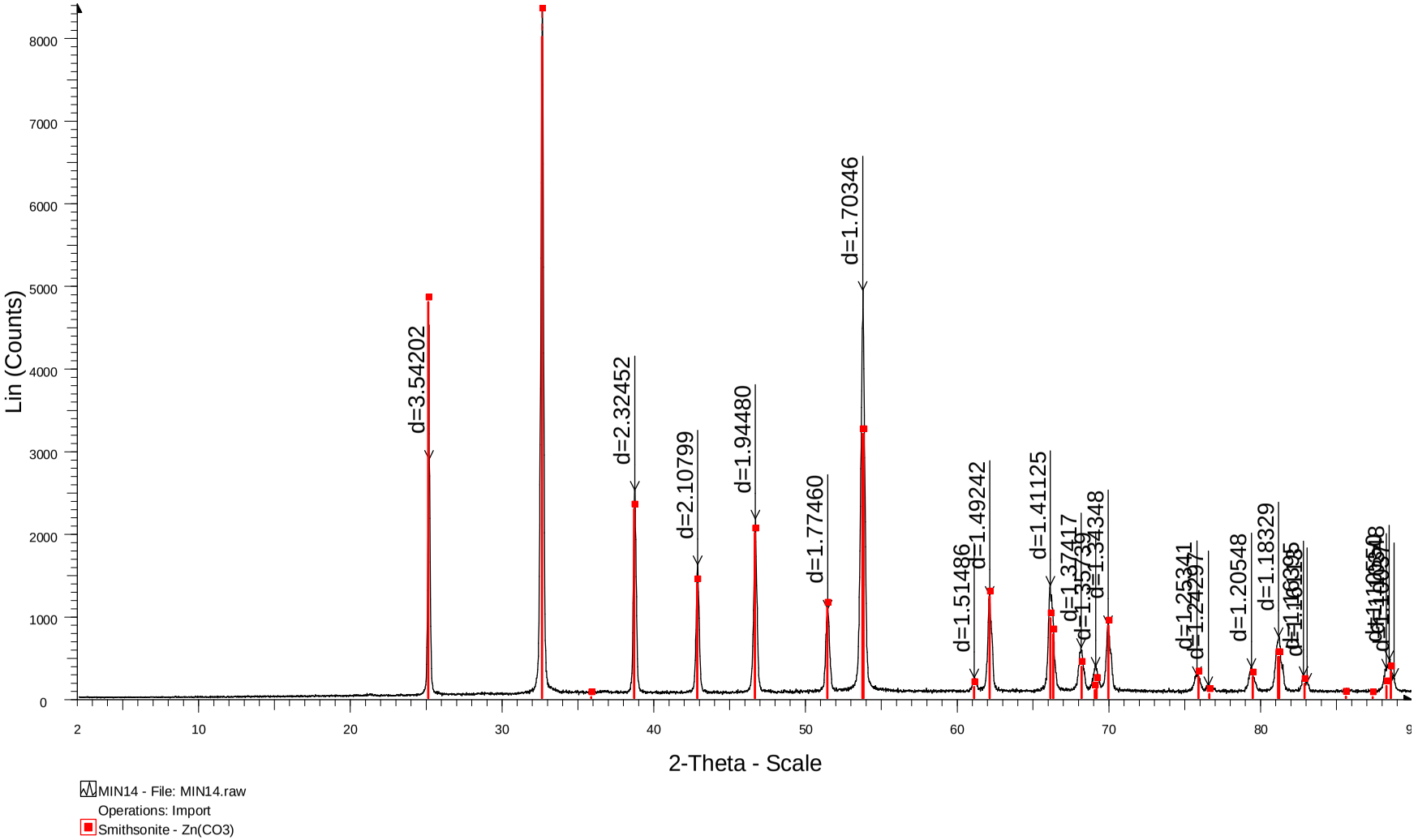
MIN12


Lin (Counts)
2-Theta - Scale
d=7.11954
d=5.68899
d=4.94382
d=4.44826
d=4.24276
d=4.14543
d=3.56721
d=3.48970
d=2.98323
d=2.87698
d=2.67294
d=2.56207
d=2.45358
d=2.33175
d=2.28003
d=2.12569
d=1.97910
d=1.90433
d=1.81703
d=1.74756
d=1.70746
d=1.54162
d=1.50097
d=1.45286
d=1.41770
d=1.28815
d=1.25634
d=1.22922
d=1.20004
d=1.14015
d=1.11411
MIN12 - File: MIN12.raw
Operations: Import
Quartz, syn - SiO2
Kaolinite - Al2Si2O5(OH)4
Natroalunite - Na0.58K0.42Al3(SO4)2(OH)6
Manganese Copper Oxide - CuMnO2

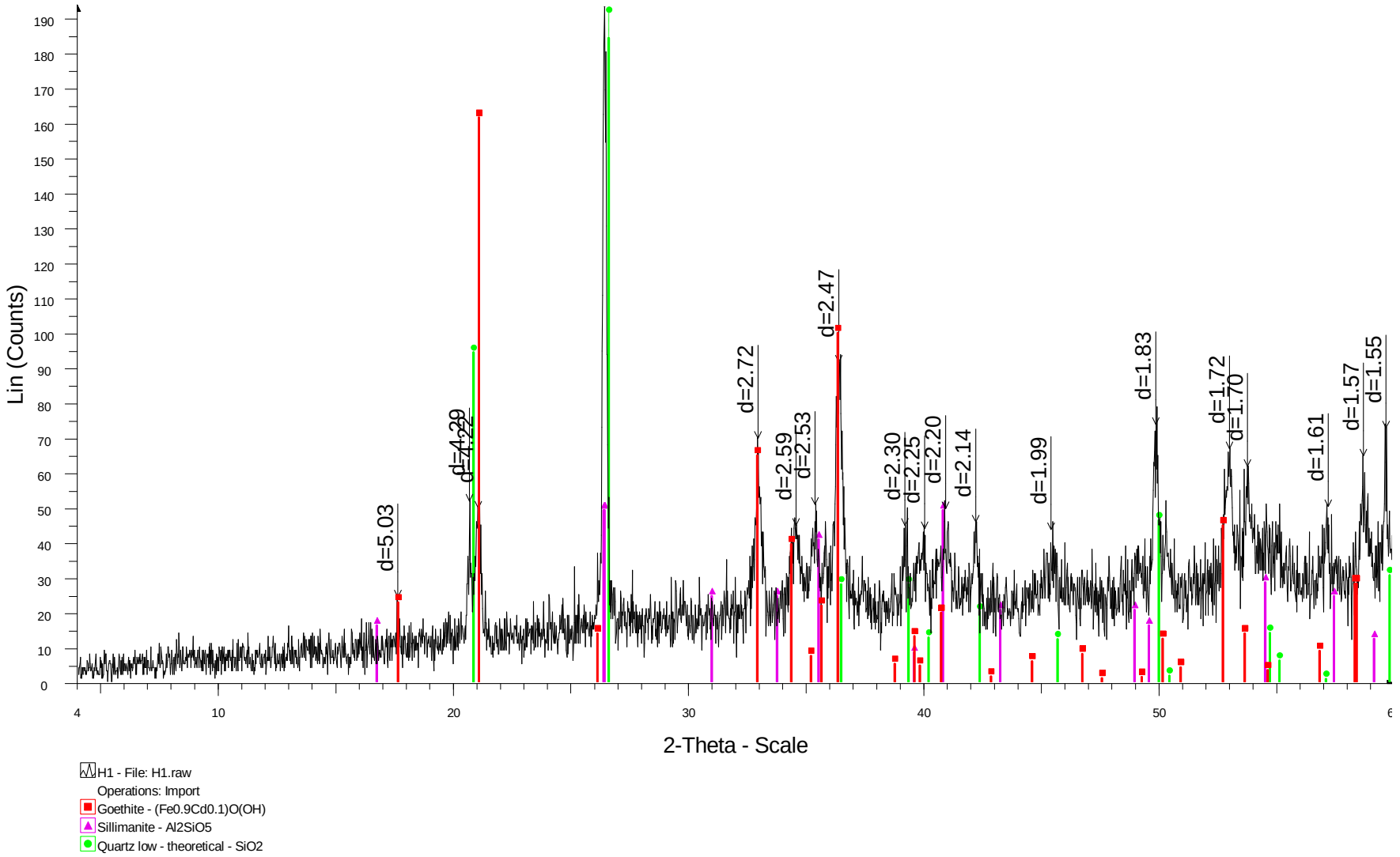
MIN13


Lin (Counts)
2-Theta - Scale
d=5.37560
d=4.41320
d=4.25143
d=3.80663
d=3.61498
d=3.47641
d=3.21613
d=2.76116
d=2.69542
d=2.48614
d=2.40519
d=2.27464
d=2.16217
d=2.02881
d=1.97168
d=1.79187
d=1.73996
d=1.70217
d=1.65366
d=1.62042
d=1.56898
d=1.54131
d=1.49290
d=1.46560
d=1.36842
d=1.34284
d=1.30418
d=1.28390
d=1.27007
d=1.24441
d=1.22024
d=1.19877
d=1.18487
d=1.16202
d=1.14358
d=1.12319
d=1.09566
MIN13 - File: MIN13.raw
Operations: Import
Anglesite - Pb(SO4)

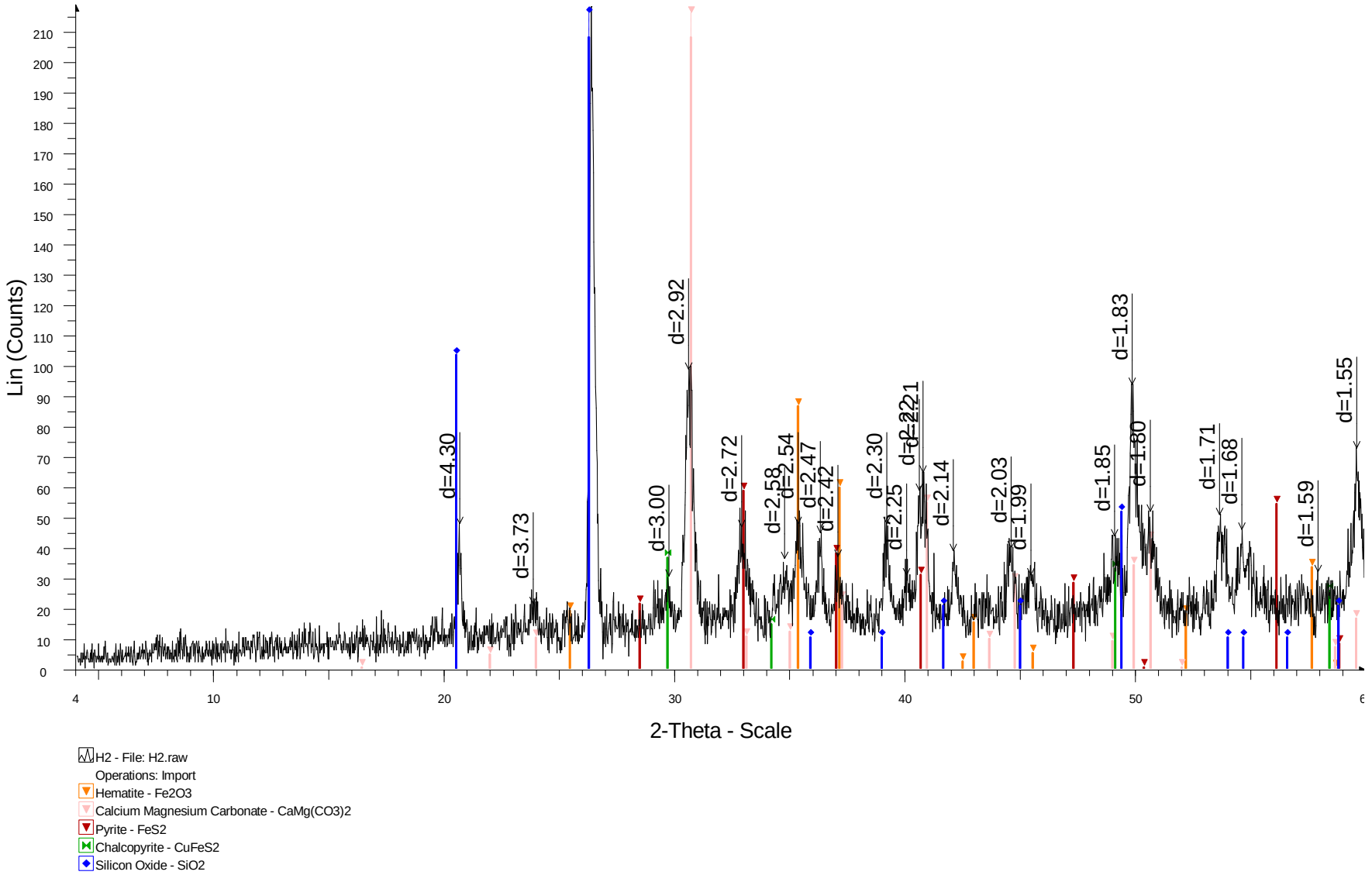
MIN14


Lin (Counts)
2-Theta - Scale
d=3.54202
d=2.32452
d=2.10799
d=1.94480
d=1.77460
d=1.70346
d=1.51486
d=1.49242
d=1.41125
d=1.37417
d=1.35739
d=1.34348
d=1.25341
d=1.24297
d=1.20548
d=1.18329
MIN14 - File: MIN14.raw
Operations: Import
Smithsonite - Zn(CO3)

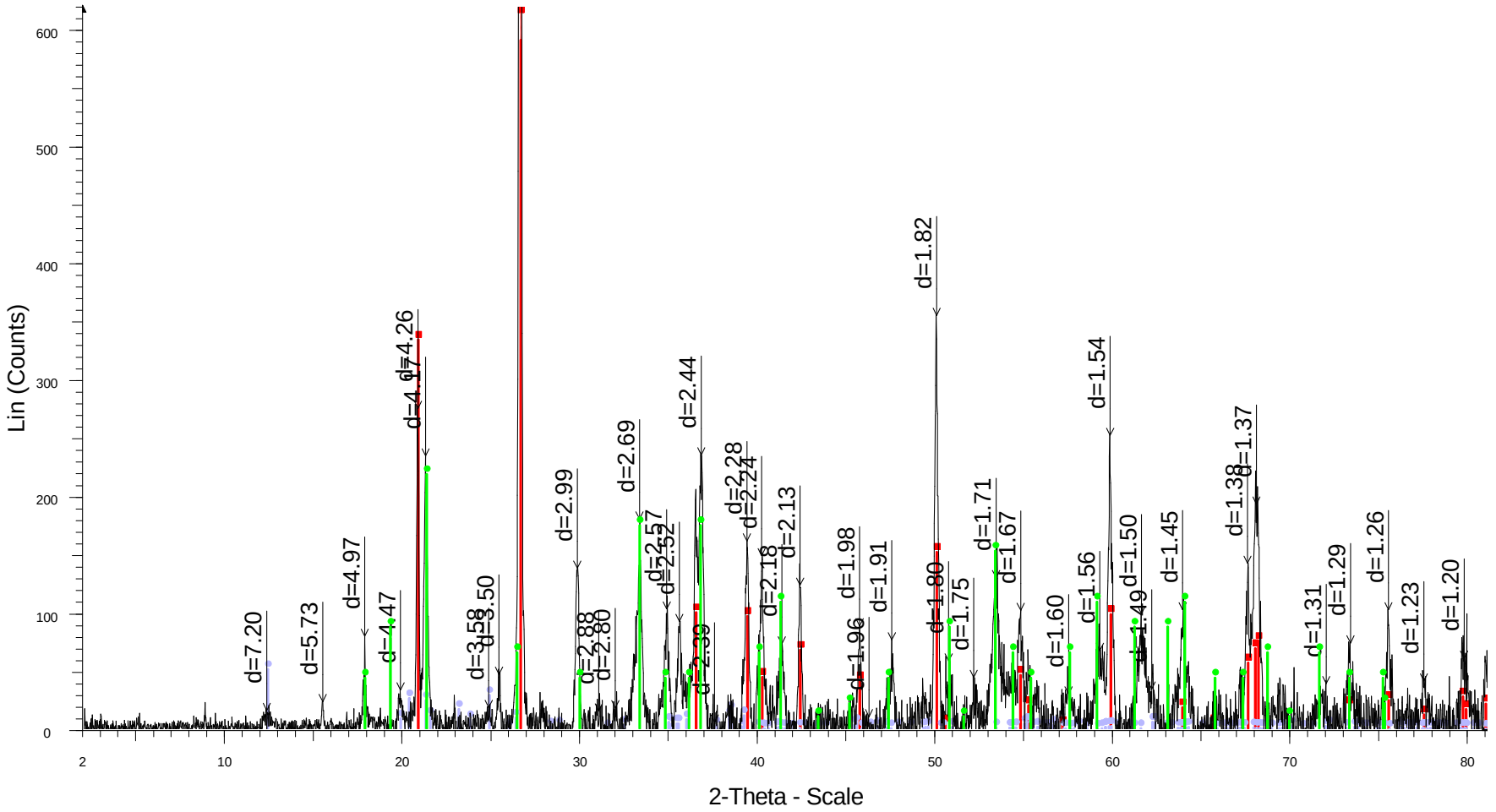
NM1


Lin (Counts)
2-Theta - Scale
d=5.03
d=4.29
d=4.22
d=2.72
d=2.59
d=2.53
d=2.47
d=2.30
d=2.25
d=2.20
d=2.14
d=1.99
d=1.83
d=1.72
d=1.70
d=1.61
d=1.57
d=1.55
H1 - File: H1.raw
Operations: Import
Goethite - (Fe0.9Cd0.1)O(OH)
Sillimanite - Al2SiO5
Quartz low - theoretical - SiO2

NM2


Lin (Counts)
2-Theta - Scale
d=4.30
d=3.73
d=3.00
d=2.92
d=2.72
d=2.58
d=2.54
d=2.47
d=2.42
d=2.30
d=2.25
d=2.21
d=2.14
d=2.03
d=1.99
d=1.85
d=1.83
d=1.80
d=1.71
d=1.68
d=1.59
d=1.55
H2 - File: H2.raw
Operations: Import
Hematite - Fe2O3
Calcium Magnesium Carbonate - CaMg(CO3)2
Pyrite - FeS2
Chalcopyrite - CuFeS2
Silicon Oxide - SiO2

NM3



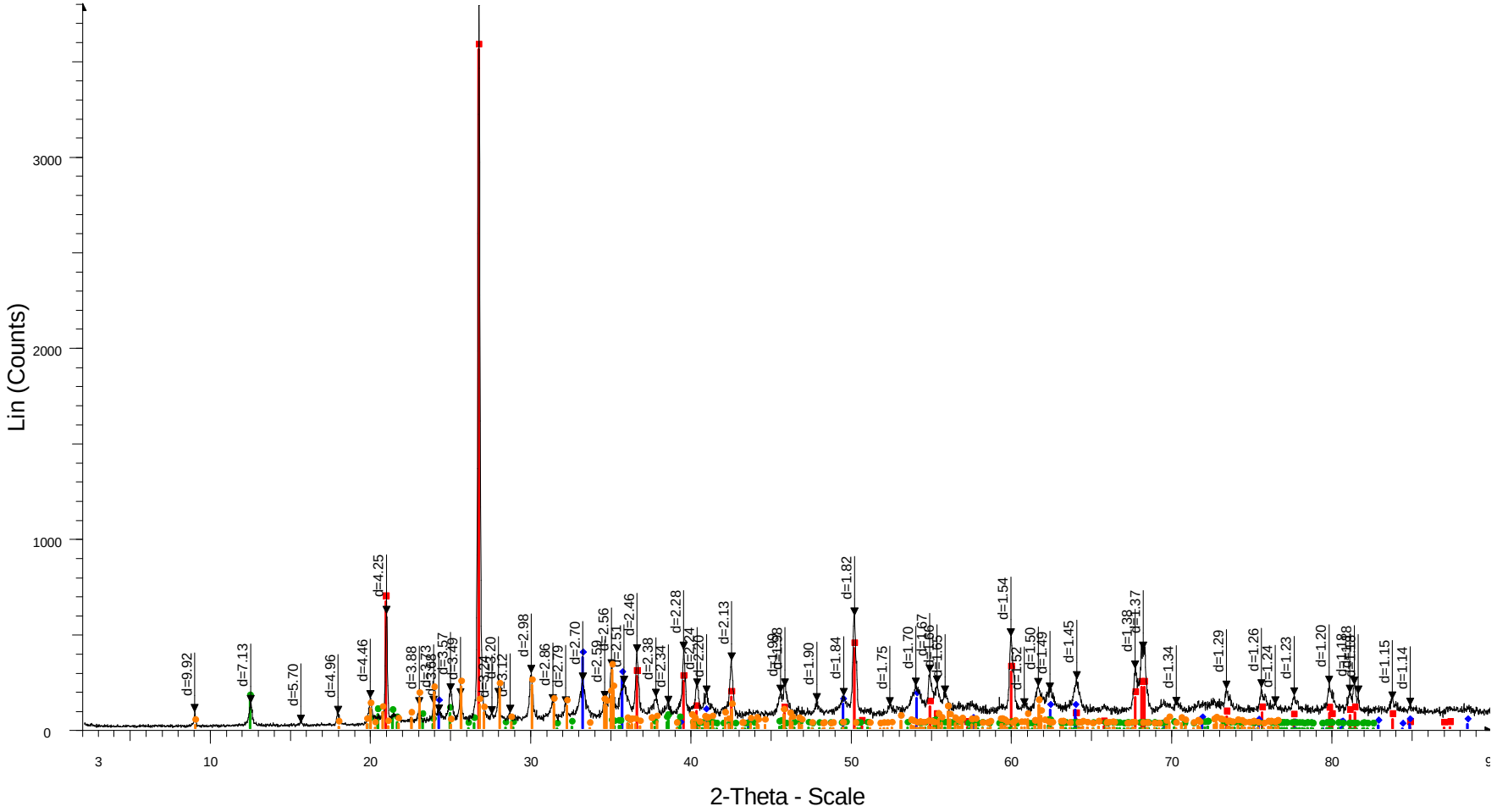
MIN8 - File: MIN8.raw - Type: 2Th/Th locked - Start: 2.000 ° - End: 90.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 11 s - 2-Theta: 2.000 ° - Theta: 1.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - X: 0.0 mm - Y: 0.
Operations: Background 0.977,1.000 | Import

01-070-3755 (*) - Quartz - SiO2 - Y: 85.17 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.91580 - b 4.91580 - c 5.40910 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3121 (152) - 3 - 113.199 - I/Ic PDF 2.9 - F30=100

01-089-6538 (A) - Kaolinite - Al2(Si2O5)(OH)4 - Y: 2.85 % - d x by: 1. - WL: 1.5406 - Triclinic - a 5.15400 - b 8.94200 - c 7.40100 - alpha 91.690 - beta 104.610 - gamma 89.820 - Base-centered - C1 (1) - 2 - 329.914 - I/Ic PDF 1. -

00-002-0272 (D) - Goethite - Fe2O3·H2O - Y: 12.15 % - d x by: 1. - WL: 1.5406 - Orthorhombic - a 4.58700 - b 9.93700 - c 3.01500 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - Pbnm (62) - 4 - 137.427 - F30= 12(0.05

NM4



MIN9 - File: MIN9.raw - Type: 2Th/Th locked - Start: 2.000 ° - End: 90.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 11 s - 2-Theta: 2.000 ° - Theta: 1.000 ° - Chi: 0.00 ° - Phi: 0.00 ° - X: 0.0 mm - Y: 0.
Operations: Import

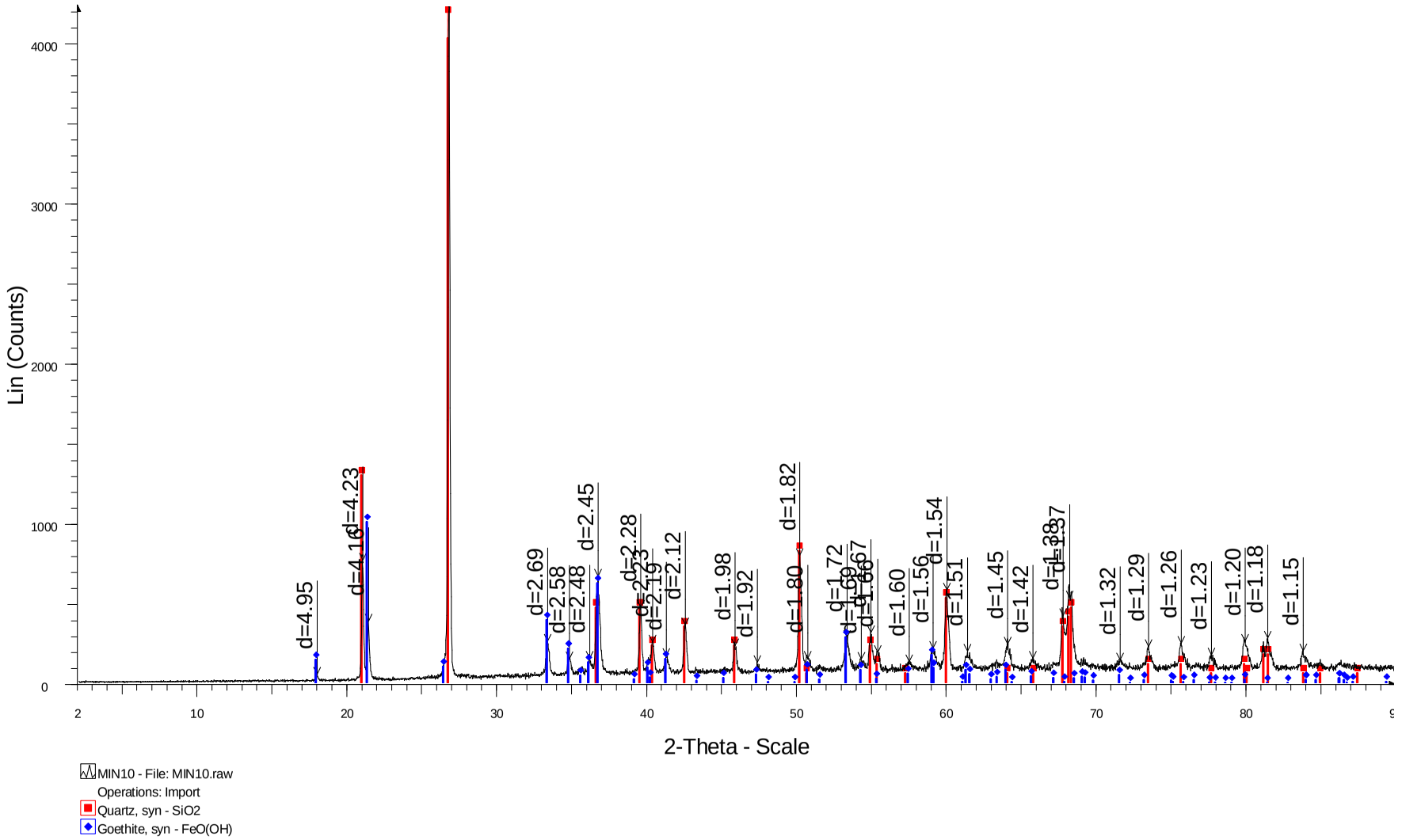
01-070-7344 (*) - Quartz - SiO2 - Y: 93.99 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.91458 - b 4.91458 - c 5.40649 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P3221 (154) - 3 - 113.089 - I/Ic PDF 3. - S-Q 56.7

01-073-8434 (*) - Hematite - Fe1.98H0.06O3 - Y: 9.88 % - d x by: 1. - WL: 1.5406 - Rhombo.H.axes - a 5.03700 - b 5.03700 - c 13.75500 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - R-3c (167) - 6 - 302.228 - I/Ic PD

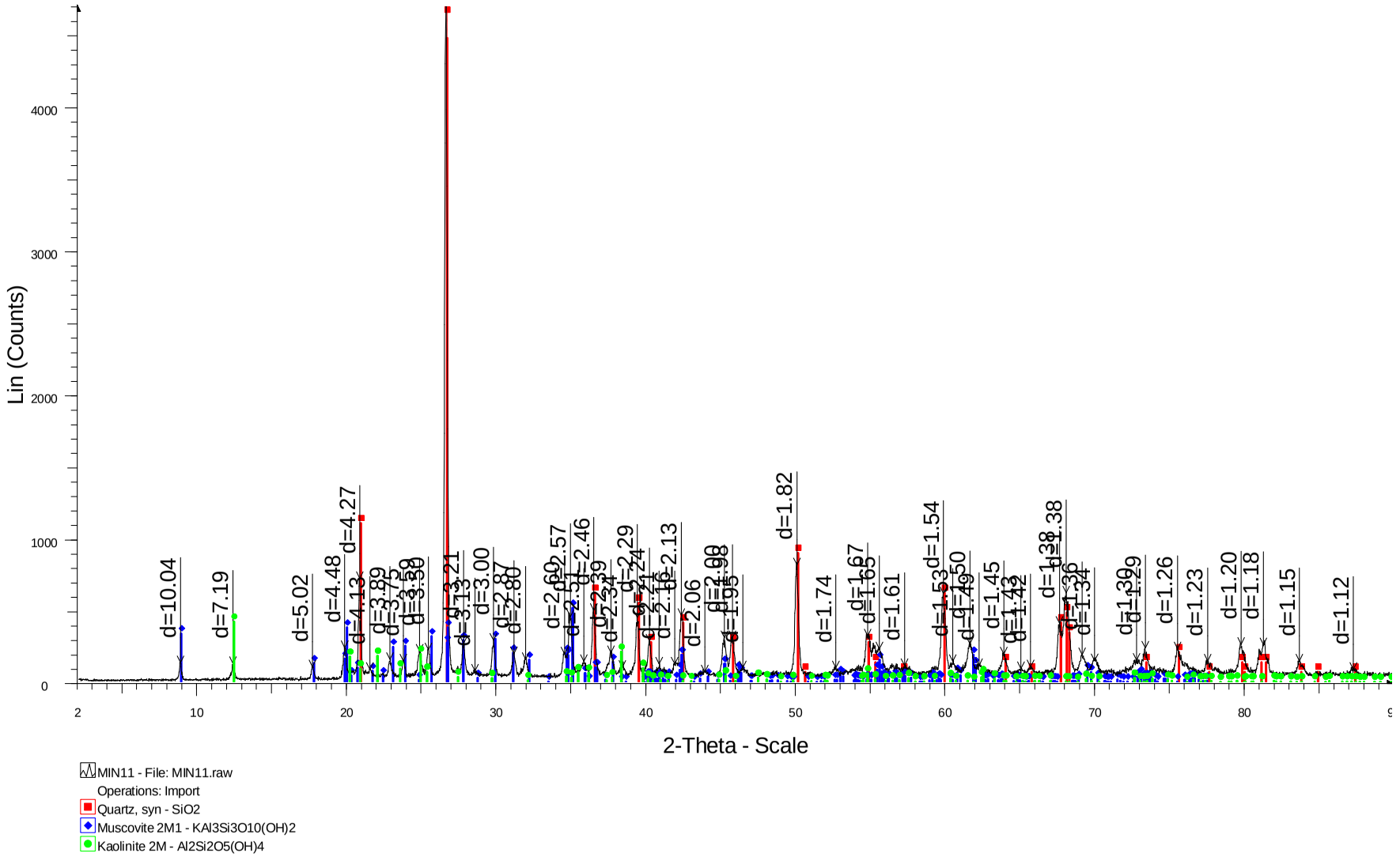
01-072-8169 (I) - Muscovite-2M1, barian - (K0.55Ba0.32Na0.13)(Al1.97Fe0.03)(Si2.87Al1.13O10)(OH)2 - Y: 8.12 % - d x by: 1. - WL: 1.5406 - Monoclinic - a 5.20200 - b 9.02500 - c 19.92500 - alpha 90.000 - beta 95.810 - gamma

01-089-6538 (A) - Kaolinite - Al2(Si2O5)(OH)4 - Y: 3.89 % - d x by: 1. - WL: 1.5406 - Triclinic - a 5.15400 - b 8.94200 - c 7.40100 - alpha 91.690 - beta 104.610 - gamma 89.820 - Base-centered - C1 (1) - 2 - 329.914 - I/Ic PDF 1. -

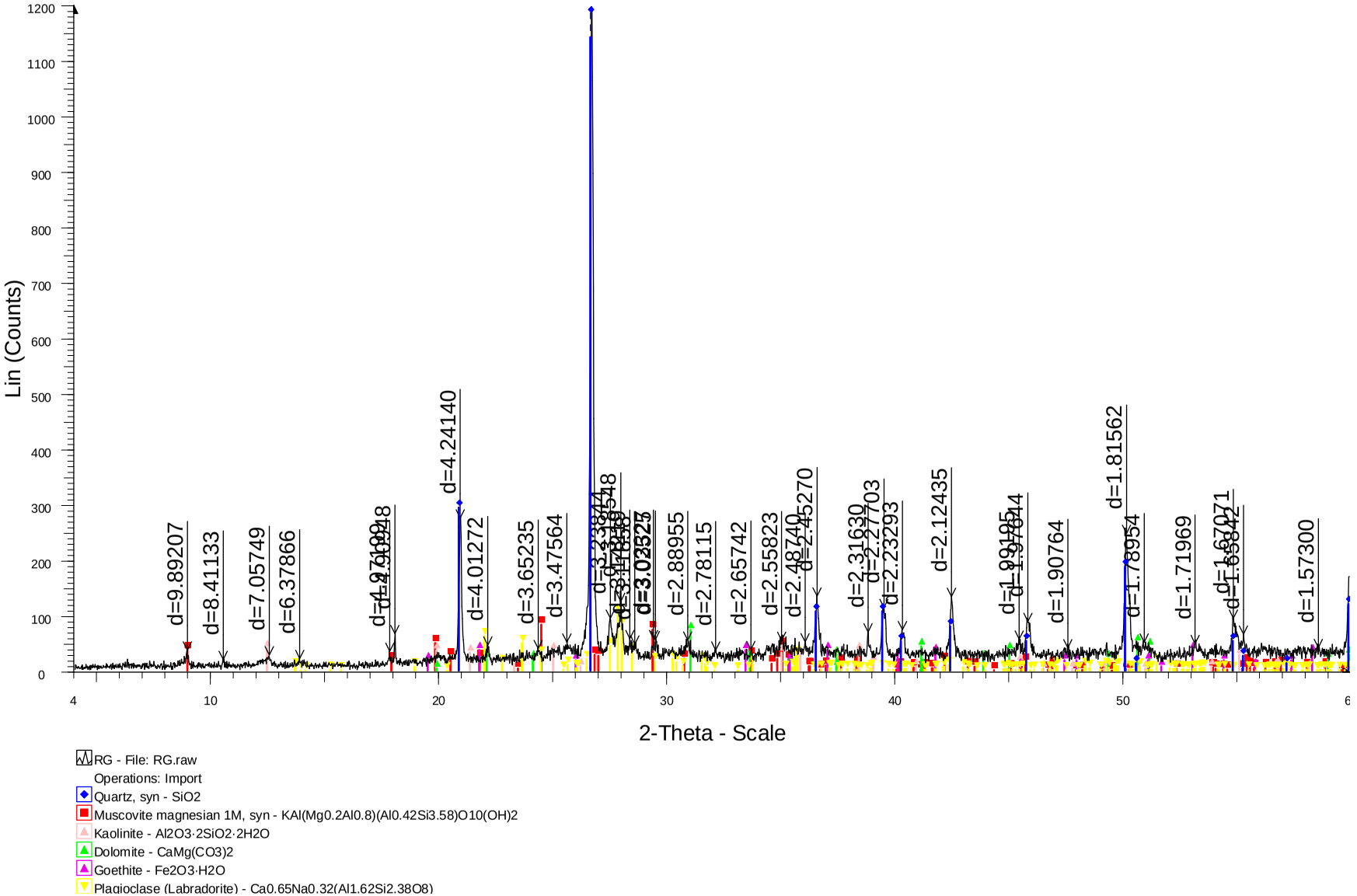
NM5


Lin (Counts)
4000
3000
2000
1000
0
2
10
20
30
40
50
60
70
80
2-Theta - Scale
d=4.95
d=4.16
d=4.23
d=2.69
d=2.58
d=2.48
d=2.45
d=2.28
d=2.19
d=2.12
d=1.98
d=1.92
d=1.82
d=1.80
d=1.72
d=1.69
d=1.67
d=1.66
d=1.60
d=1.56
d=1.54
d=1.51
d=1.45
d=1.42
d=1.38
d=1.37
d=1.32
d=1.29
d=1.26
d=1.23
d=1.20
d=1.18
d=1.15
MIN10 - File: MIN10.raw
Operations: Import
Quartz, syn - SiO2
Goethite, syn - FeO(OH)

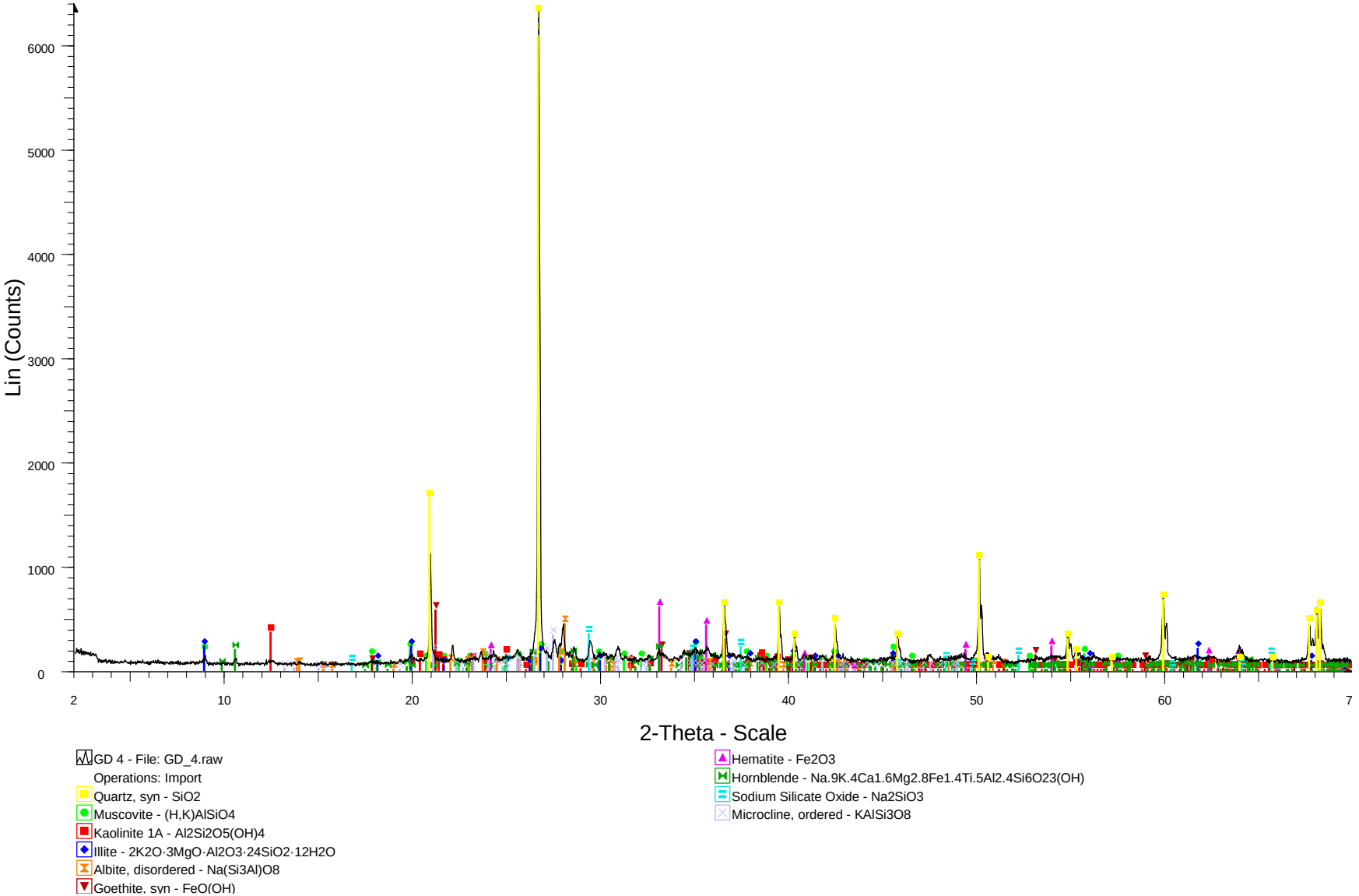
NM6


Lin (Counts)
4000
3000
2000
1000
0
2
10
20
30
40
50
60
70
80
2-Theta - Scale
d=10.04
d=7.19
d=5.02
d=4.48
d=4.27
d=4.13
d=3.89
d=3.75
d=3.59
d=3.30
d=3.21
d=3.13
d=3.00
d=2.87
d=2.80
d=2.60
d=2.57
d=2.51
d=2.46
d=2.39
d=2.34
d=2.29
d=2.24
d=2.16
d=2.13
d=2.06
d=2.00
d=1.98
d=1.95
d=1.82
d=1.74
d=1.67
d=1.65
d=1.61
d=1.54
d=1.53
d=1.50
d=1.49
d=1.45
d=1.43
d=1.38
d=1.36
d=1.34
d=1.30
d=1.29
d=1.26
d=1.23
d=1.20
d=1.18
d=1.15
d=1.12
MIN11 - File: MIN11.raw
Operations: Import
Quartz, syn - SiO2
Muscovite 2M1 - KAl3Si3O10(OH)2
Kaolinite 2M - Al2Si2O5(OH)4

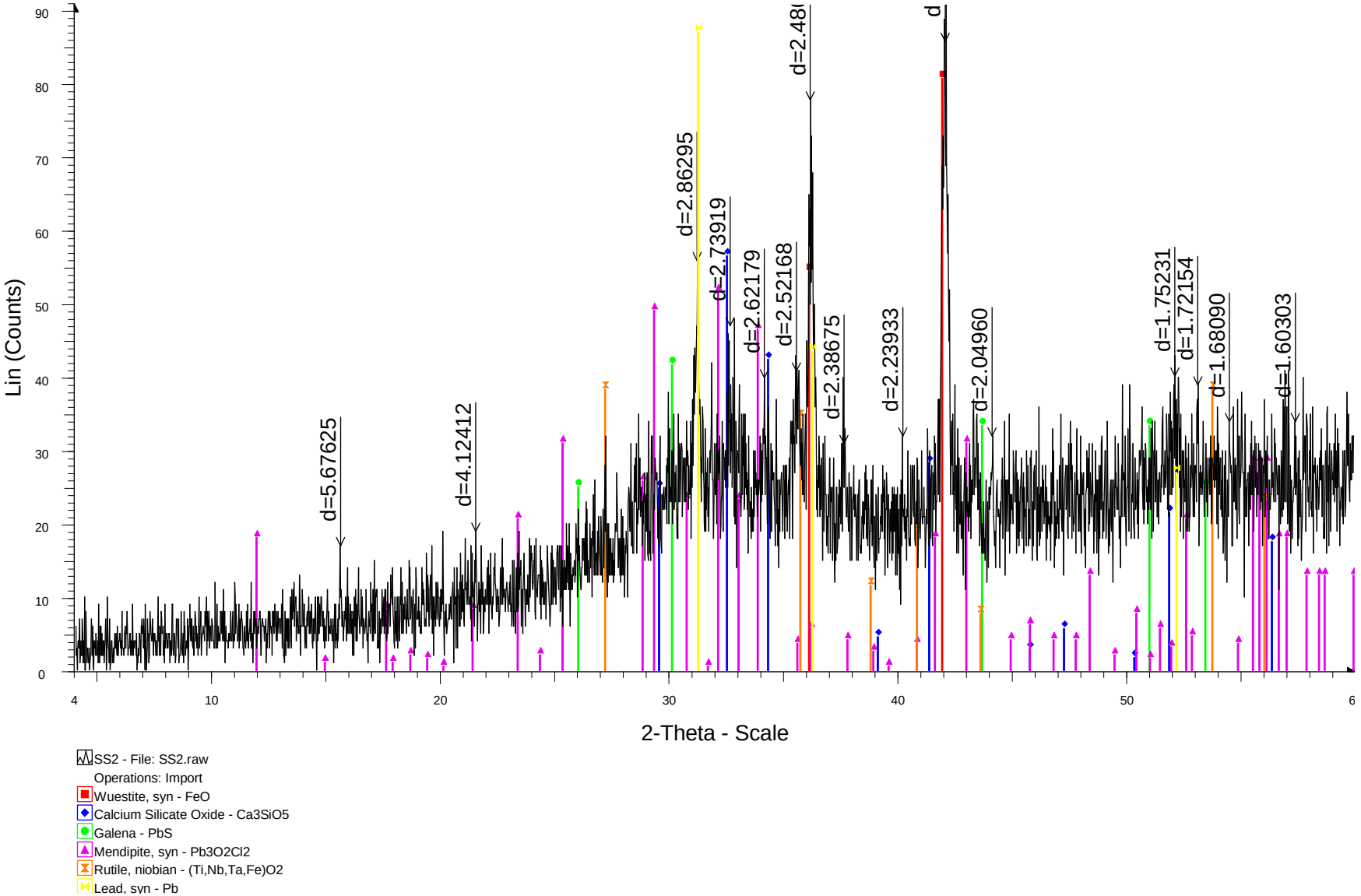
RG


Lin (Counts)
2-Theta - Scale
d=9.89207
d=8.41133
d=7.05749
d=6.37866
d=4.24140
d=4.01272
d=3.65235
d=3.47564
d=2.88955
d=2.78115
d=2.65742
d=2.55823
d=2.48740
d=2.45270
d=2.31630
d=2.27703
d=2.23293
d=2.12435
d=1.90764
d=1.81562
d=1.78954
d=1.71969
d=1.67071
d=1.65842
d=1.57300
RG - File: RG.raw
Operations: Import
Quartz, syn - SiO2
Muscovite magnesian 1M, syn - KAl(Mg0.2Al0.8)(Al0.42Si3.58)O10(OH)2
Kaolinite - Al2O3·2SiO2·2H2O
Dolomite - CaMg(CO3)2
Goethite - Fe2O3·H2O
Plagioclase (Labradorite) - Ca0.65Na0.32(Al1.62Si2.38O8)

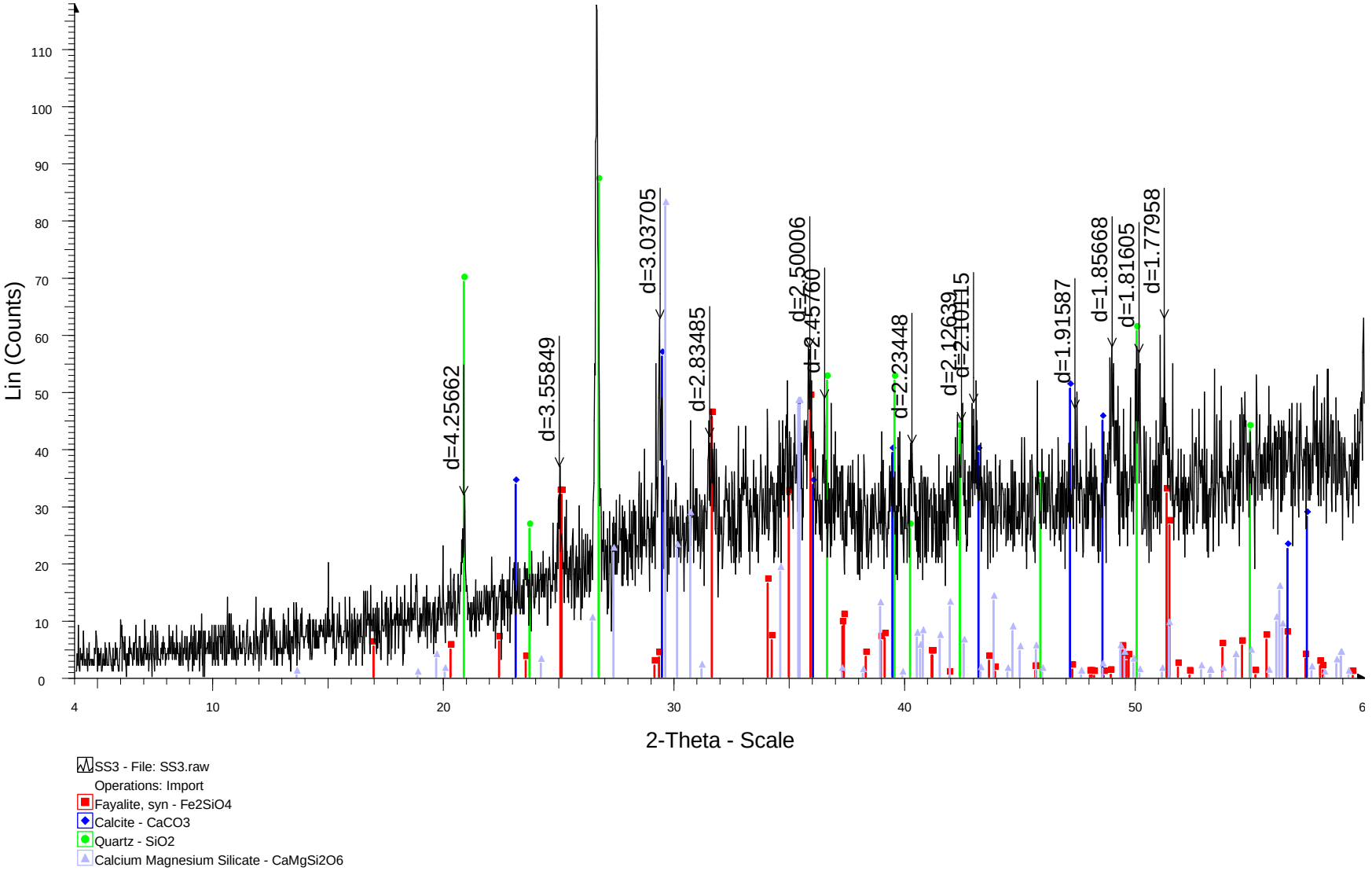
RG4


Lin (Counts)
6000
5000
4000
3000
2000
1000
0
2
10
20
30
40
50
60
7
2-Theta - Scale
GD 4 - File: GD_4.raw
Operations: Import
Quartz, syn - SiO2
Muscovite - (H,K)AlSiO4
Kaolinite 1A - Al2Si2O5(OH)4
Illite - 2K2O·3MgO·Al2O3·24SiO2·12H2O
Albite, disordered - Na(Si3Al)O8
Goethite, syn - FeO(OH)
Hematite - Fe2O3
Hornblende - Na.9K.4Ca1.6Mg2.8Fe1.4Ti.5Al2.4Si6O23(OH)
Sodium Silicate Oxide - Na2SiO3
Microcline, ordered - KAlSi3O8

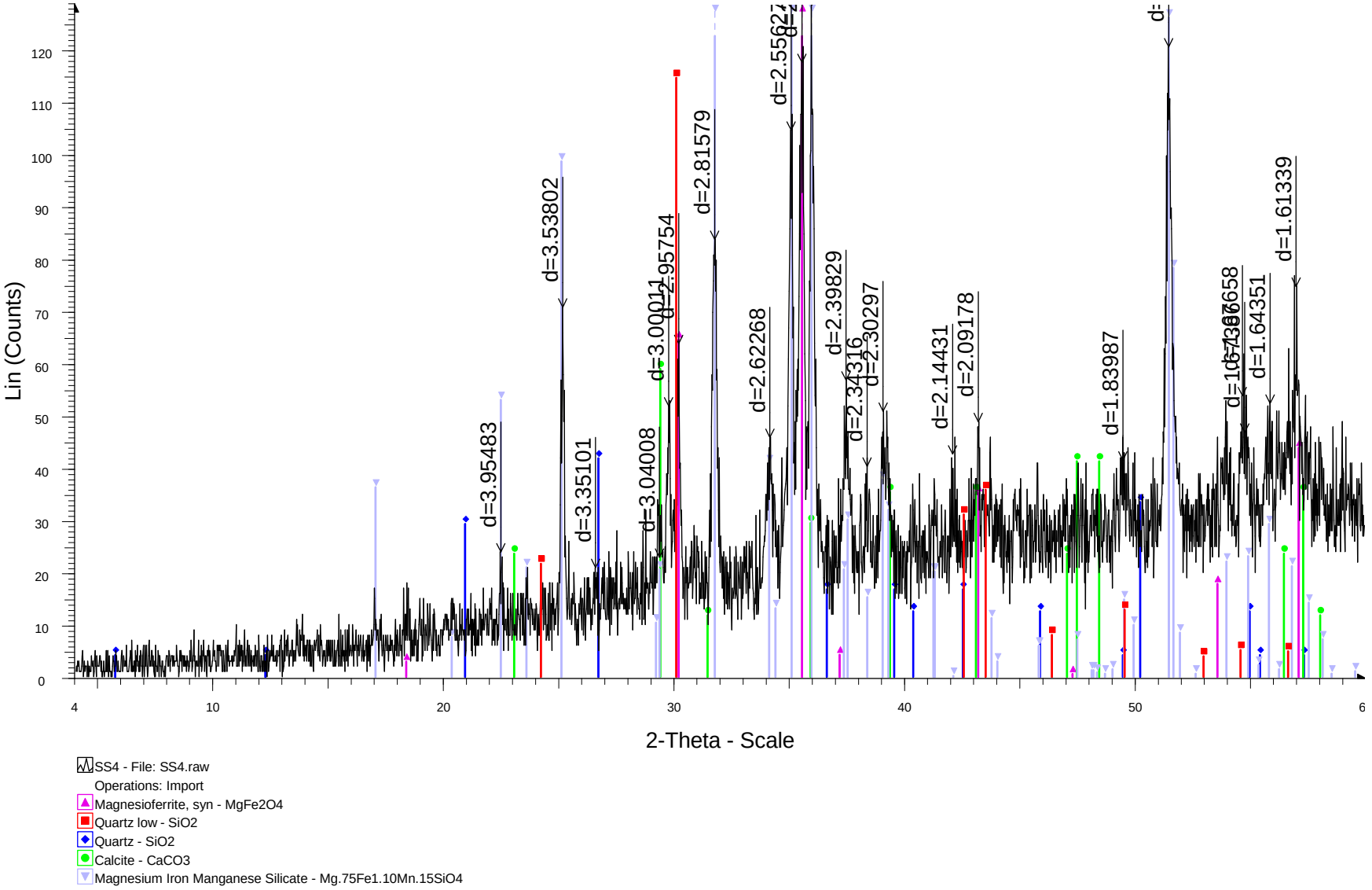
SS2


Lin (Counts)
2-Theta - Scale
d=5.67625
d=4.12412
d=2.86295
d=2.73919
d=2.62179
d=2.52168
d=2.48
d
d=2.38675
d=2.23933
d=2.04960
d=1.75231
d=1.72154
d=1.68090
d=1.60303
SS2 - File: SS2.raw
Operations: Import
Wuestite, syn - FeO
Calcium Silicate Oxide - Ca3SiO5
Galena - PbS
Mendipite, syn - Pb3O2Cl2
Rutile, niobian - (Ti,Nb,Ta,Fe)O2
Lead, syn - Pb

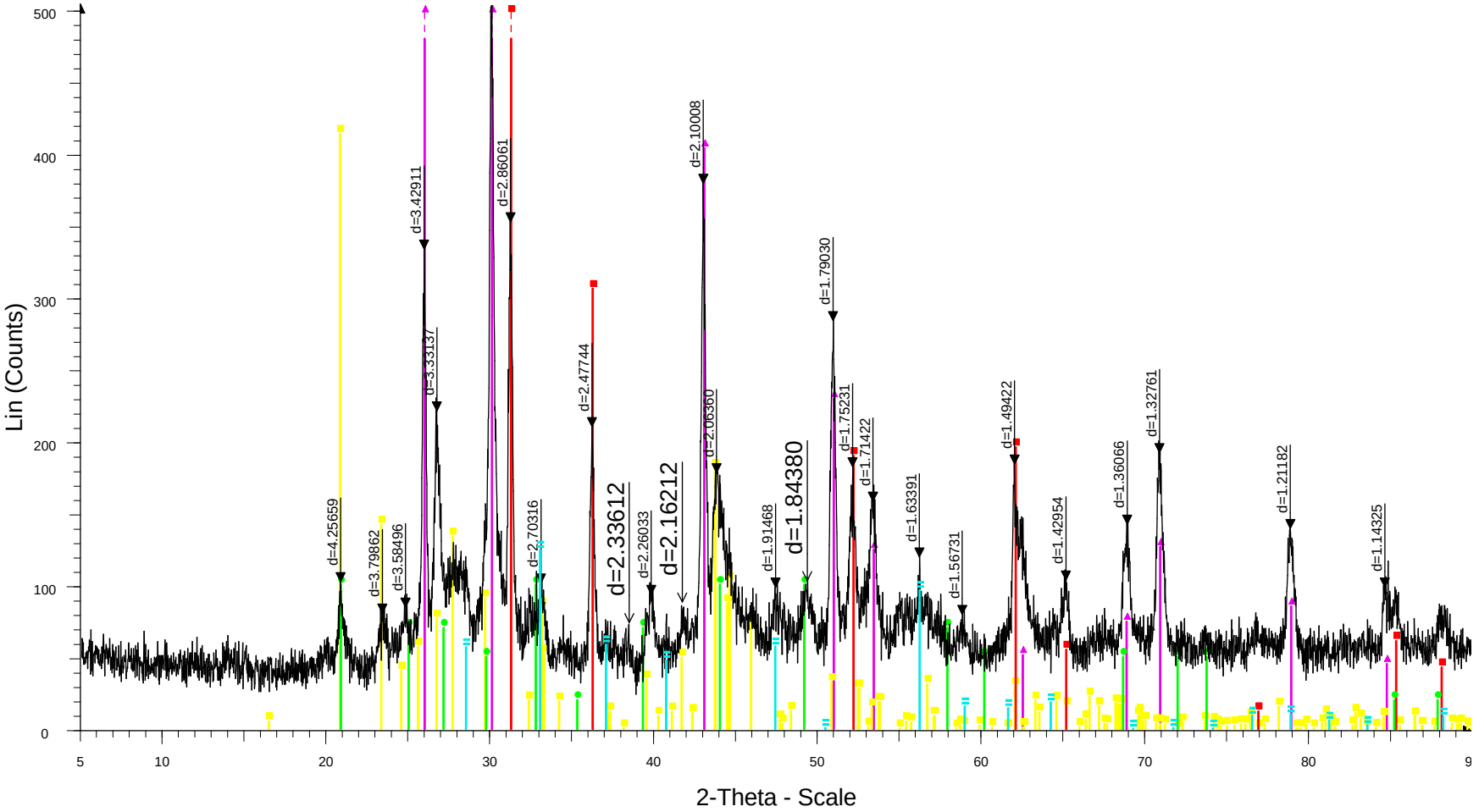
SS3


Lin (Counts)
2-Theta - Scale
d=4.25662
d=3.55849
d=3.03705
d=2.83485
d=2.50006
d=2.45760
d=2.23448
d=2.12639
d=2.10115
d=1.91587
d=1.85668
d=1.81605
d=1.77958
SS3 - File: SS3.raw
Operations: Import
Fayalite, syn - Fe2SiO4
Calcite - CaCO3
Quartz - SiO2
Calcium Magnesium Silicate - CaMgSi2O6

SS4


Lin (Counts)
2-Theta - Scale
d=3.95483
d=3.53802
d=3.35101
d=3.04008
d=3.00011
d=2.95754
d=2.81579
d=2.62268
d=2.55627
d=2.39829
d=2.34316
d=2.30297
d=2.14431
d=2.09178
d=1.83987
d=1.64351
d=1.61339
SS4 - File: SS4.raw
Operations: Import
Magnesioferrite, syn - MgFe2O4
Quartz low - SiO2
Quartz - SiO2
Calcite - CaCO3
Magnesium Iron Manganese Silicate - Mg.75Fe1.10Mn.15SiO4

SS8



Pb-stock - File: Pb_stock.raw - Type: 2Th/Th locked - Start: 5.000 ° - End: 90.000 ° - Step: 0.020 ° - Step time: 2.4 s - Temp.: 25 °C (Room) - Time Started: 11 s - 2-Theta: 5.000 ° - Theta: 2.500 ° - Chi: 0.00 ° - Phi:
Operations: Import

01-077-0244 (*) - Galena - PbS - Y: 124.59 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.93400 - b 5.93400 - c 5.93400 - alpha 90.000 - beta 90.000 - gamma 90.000 - Face-centered - Fm-3m (225) - 4 - 208.950 - I/Ic P

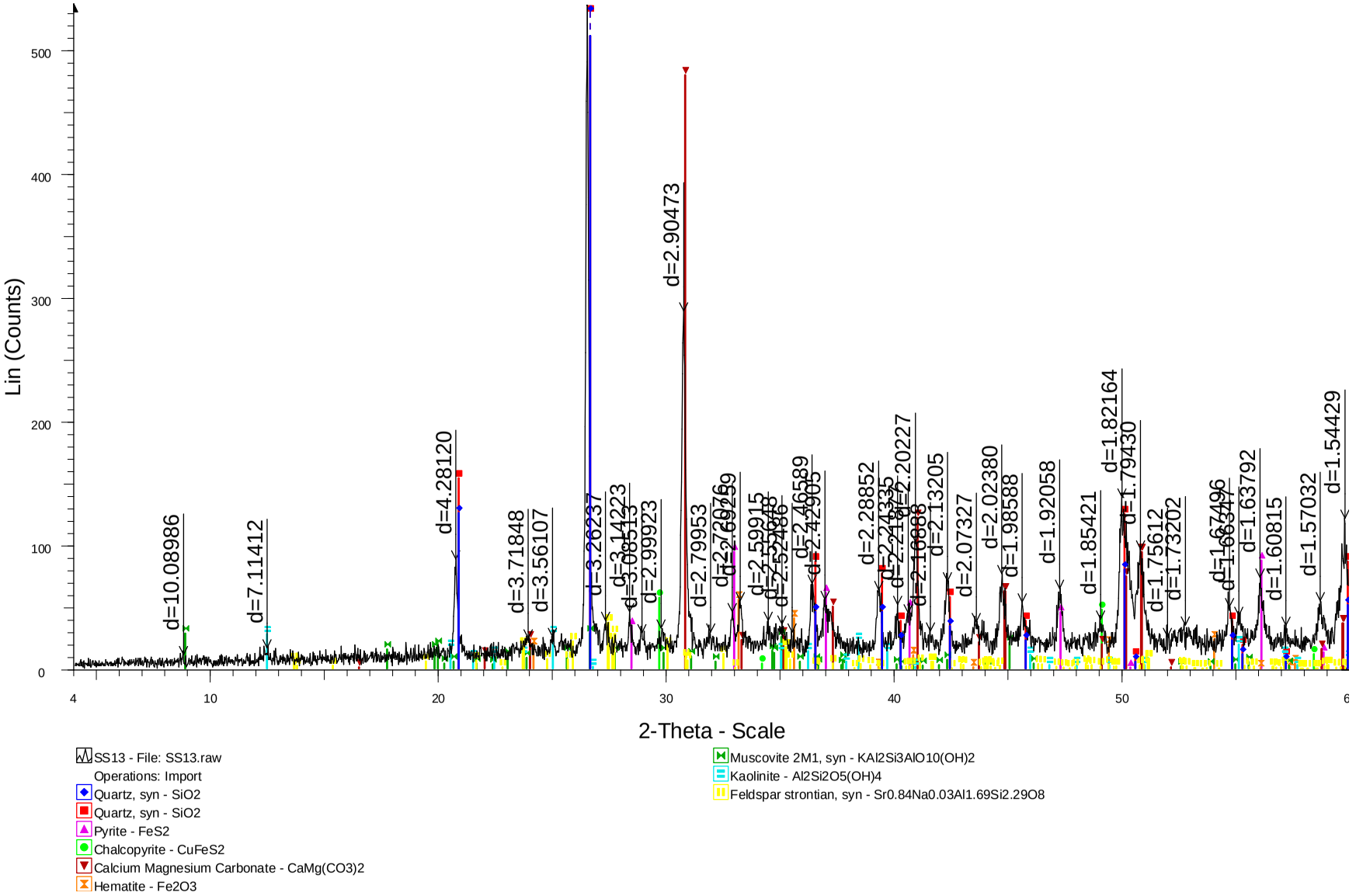
01-071-5208 (N) - Pyrite S-deficient - FeS1.74 - Y: 24.79 % - d x by: 1. - WL: 1.5406 - Cubic - a 5.41836 - b 5.41836 - c 5.41836 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - Pa-3 (205) - 4 - 159.076 - I/

01-083-1720 (A) - Anglesite - Pb(SO4) - Y: 82.31 % - d x by: 1. - WL: 1.5406 - Orthorhombic - a 6.95900 - b 8.48200 - c 5.39800 - alpha 90.000 - beta 90.000 - gamma 90.000 - Primitive - Pbnm (62) - 4 - 318.624 - I

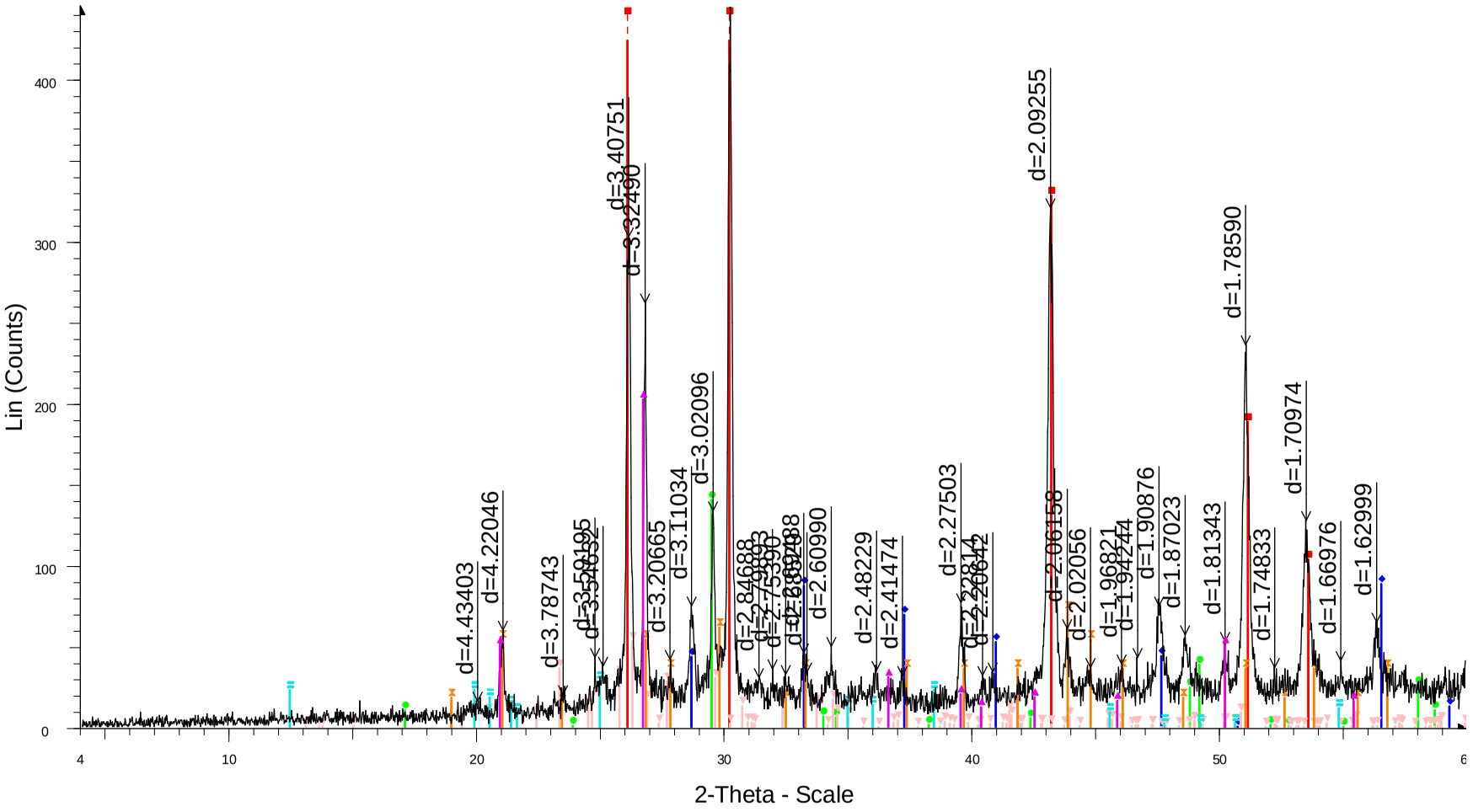
00-004-0686 (*) - Lead, syn - Pb - Y: 121.74 % - d x by: 1. - WL: 1.5406 - Cubic - a 4.95060 - b 4.95060 - c 4.95060 - alpha 90.000 - beta 90.000 - gamma 90.000 - Face-centered - Fm-3m (225) - 4 - 121.331 - F13=

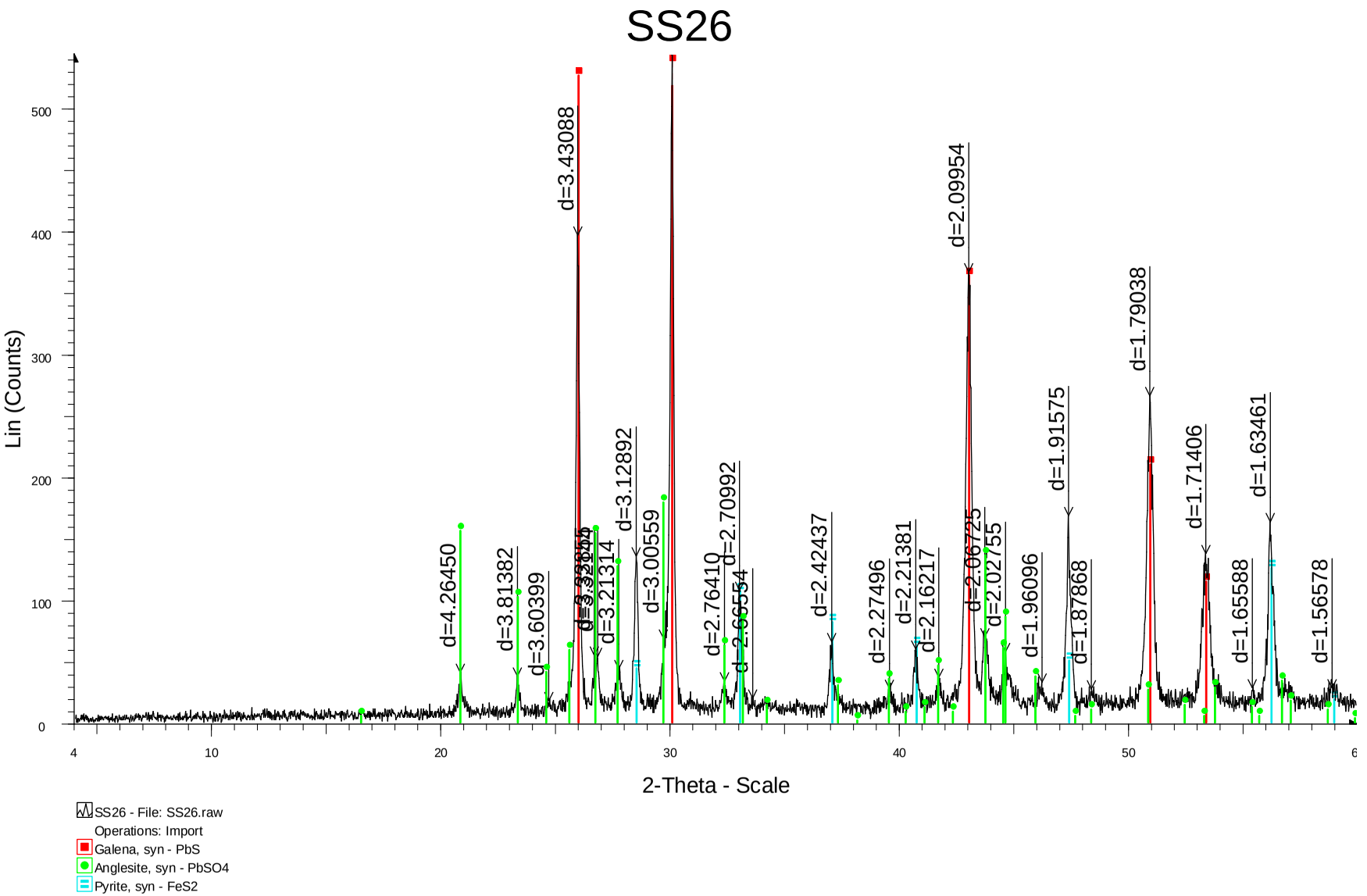
00-002-0261 (D) - Vaterite - CaCO3 - Y: 19.94 % - d x by: 1. - WL: 1.5406 - Hexagonal - a 4.11000 - b 4.11000 - c 8.51300 - alpha 90.000 - beta 90.000 - gamma 120.000 - Primitive - P63/mmc (194) - 2 - 124.537 -

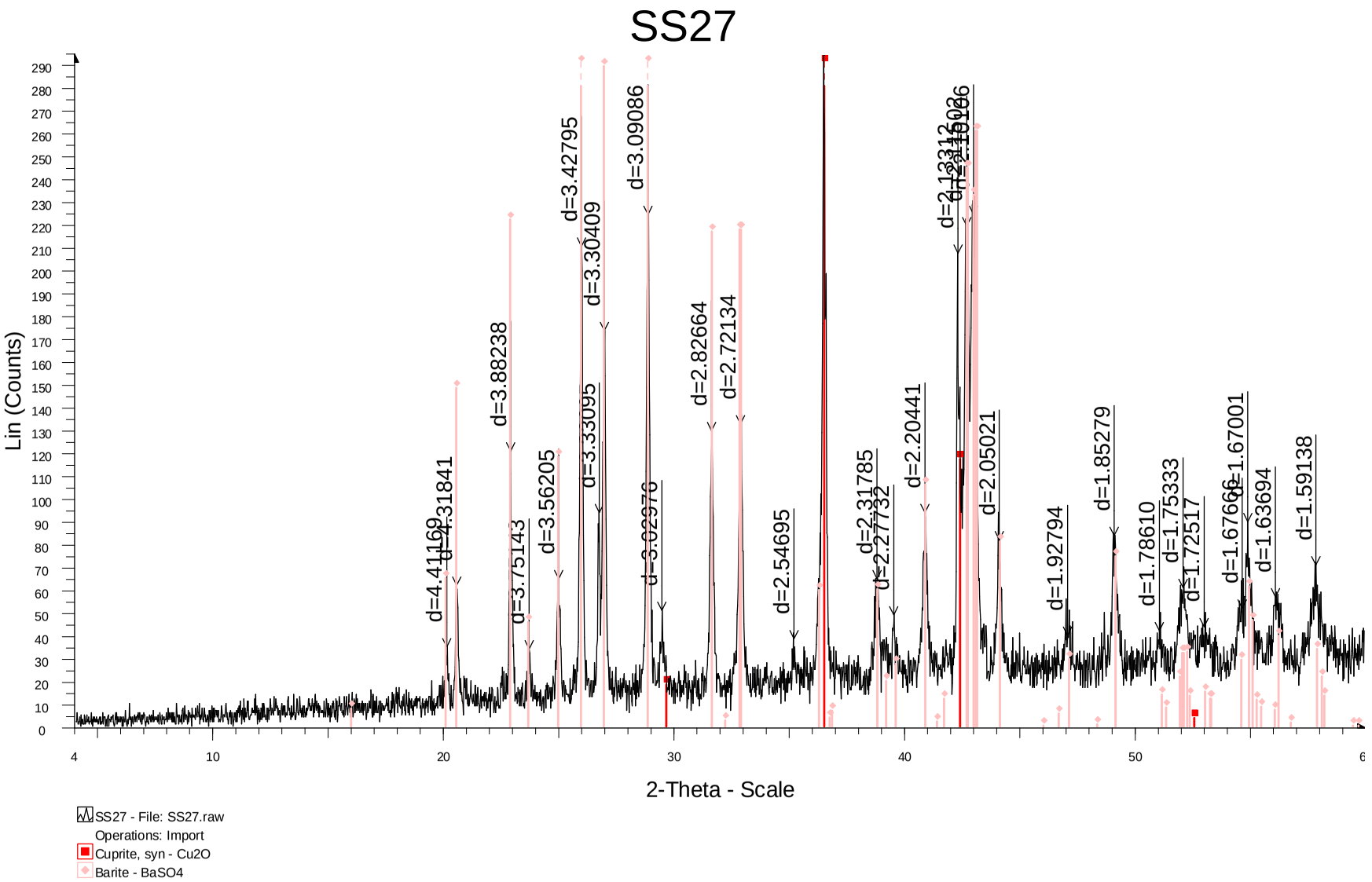
SS13

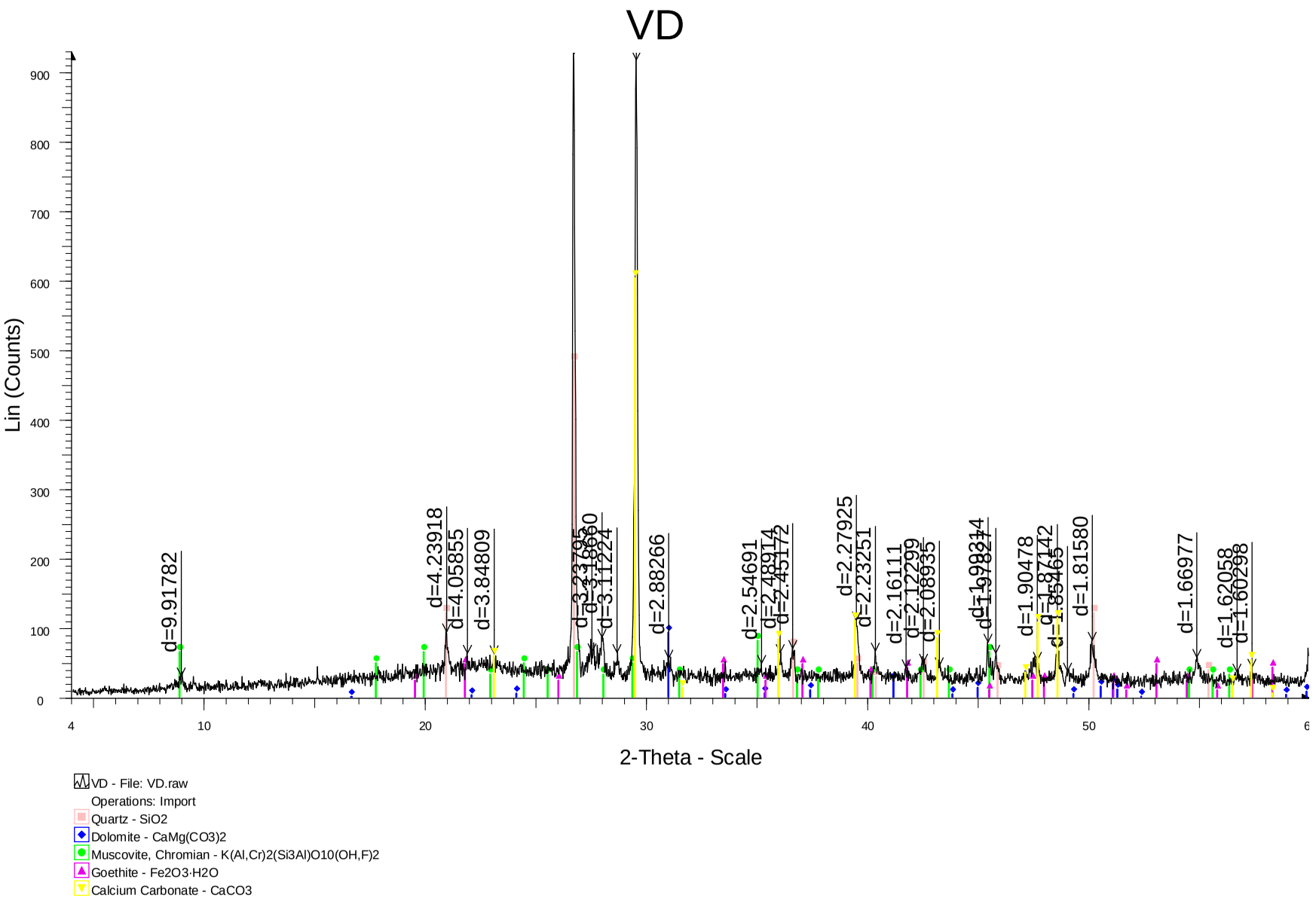

Lin (Counts)
2-Theta - Scale
d=10.08986
d=7.11412
d=4.28120
d=3.71848
d=3.56107
d=3.26237
d=3.14223
d=3.08513
d=2.99923
d=2.90473
d=2.79953
d=2.76076
d=2.69239
d=2.59915
d=2.52486
d=2.46589
d=2.42905
d=2.28852
d=2.24335
d=2.21677
d=2.20227
d=2.10688
d=2.13205
d=2.07327
d=2.02380
d=1.98588
d=1.92058
d=1.85421
d=1.82164
d=1.79430
d=1.75612
d=1.73202
d=1.67496
d=1.63792
d=1.60815
d=1.57032
d=1.54429
SS13 - File: SS13.raw
Operations: Import
Quartz, syn - SiO2
Quartz, syn - SiO2
Pyrite - FeS2
Chalcopyrite - CuFeS2
Calcium Magnesium Carbonate - CaMg(CO3)2
Hematite - Fe2O3
Muscovite 2M1, syn - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Feldspar strontian, syn - Sr0.84Na0.03Al1.69Si2.29O8

SS22


Lin (Counts)
2-Theta - Scale
d=4.43403
d=4.22046
d=3.78743
d=3.59195
d=3.54032
d=3.40751
d=3.32490
d=3.20665
d=3.11034
d=3.02096
d=2.84688
d=2.75390
d=2.60990
d=2.48229
d=2.41474
d=2.27503
d=2.20842
d=2.09255
d=2.06158
d=2.02056
d=1.96821
d=1.94244
d=1.90876
d=1.87023
d=1.81343
d=1.78590
d=1.74833
d=1.70974
d=1.66976
d=1.62999
SS22 - File: SS22.raw
Operations: Import
Lead Sulfide - PbS
Pyrite - FeS2
Chalcopyrite - CuFeS2
Feldspar, syn - (Rb0.811Al0.062)(Al0.997Si3.003O8)
Quartz - SiO2
Anglesite - PbSO4
Kaolinite - Al2Si2O5(OH)4


SS26
Lin (Counts)
2-Theta - Scale
d=4.26450
d=3.81382
d=3.60399
d=3.43088
d=3.21314
d=3.12892
d=3.00559
d=2.76410
d=2.70992
d=2.66554
d=2.42437
d=2.27496
d=2.21381
d=2.16217
d=2.09954
d=2.06725
d=2.02755
d=1.96096
d=1.91575
d=1.87868
d=1.79038
d=1.71406
d=1.65588
d=1.63461
d=1.56578
SS26 - File: SS26.raw
Operations: Import
Galena, syn - PbS
Anglesite, syn - PbSO4
Pyrite, syn - FeS2


SS27
Lin (Counts)
2-Theta - Scale
d=4.41169
d=4.31841
d=3.88238
d=3.75143
d=3.56205
d=3.42795
d=3.30409
d=3.33095
d=3.09086
d=3.02976
d=2.82664
d=2.72134
d=2.54695
d=2.31785
d=2.27732
d=2.20441
d=2.13312
d=2.11016
d=2.05021
d=1.92794
d=1.85279
d=1.78610
d=1.75333
d=1.72517
d=1.67666
d=1.67001
d=1.63694
d=1.59138
SS27 - File: SS27.raw
Operations: Import
Cuprite, syn - Cu2O
Barite - BaSO4


VD
Lin (Counts)
2-Theta - Scale
d=9.91782
d=4.23918
d=4.05855
d=3.84809
d=3.23705
d=3.18660
d=3.11224
d=2.88266
d=2.54691
d=2.48914
d=2.45172
d=2.27925
d=2.23251
d=2.16111
d=2.12299
d=2.08935
d=1.98314
d=1.97827
d=1.90478
d=1.87142
d=1.85465
d=1.81580
d=1.66977
d=1.62058
d=1.60298
VD - File: VD.raw
Operations: Import
Quartz - SiO2
Dolomite - CaMg(CO3)2
Muscovite, Chromian - K(Al,Cr)2(Si3Al)O10(OH,F)2
Goethite - Fe2O3·H2O
Calcium Carbonate - CaCO3

A4 – 4 Summary of morphology analysis

Five PM10 samples from Mt Isa community were analysed by SEM in CMM, UQ. Samples were collected by Xstrata Environment Department during 01-06, 2008. They are from K-Oval, Miles St, Racecourse, RSL, and BSD. More details for those sites are attached in the end of the report.

Kruttschnitt Oval

This site is located at the back of the caretaker's cottage inside the grounds of the sports field. The site at present is equipped with a dust deposition gauge, a TSP High Volume Air sampler and a PM10 High Volume Air sampler.





Miles Street

This site is located at the back of the Krause Health and Safety Complex. The site is accessible through the complex yard. The site is equipped with a TSP High Volume Air sampler and a PM10 High Volume Air sampler.





Racecourse

This site is located at the side of the caretaker's cottage across from the stables. The site at present is equipped with a dust deposition gauge, a TSP High Volume Air sampler and a PM10 High Volume Air sampler.





RSL

This site is located between the bowls green and the buffer zone near the RSL club house. The site is accessed from the buffer zone. The site has its own metered power supply from the street line. This is perhaps our best site. The site at present is equipped with a TEOM (Low Volume Air sampler), a dust deposition gauge, a TSP High Volume Air sampler and a PM10 High Volume Air sampler.





BSD

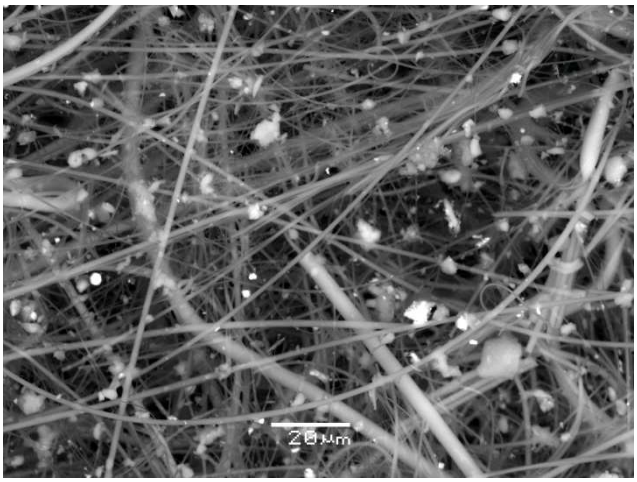
This site is located beside the Acid Plant car park. The site is accessed from the car park. Its power supply is fed from a sewerage pump station. This supply has caused a few failures over the years when the pumps have failed, flooding the bundied area and causing the power to trip in the pump station. The site at present is equipped with a TSP High Volume Air sampler and a PM10 High Volume Air sampler.



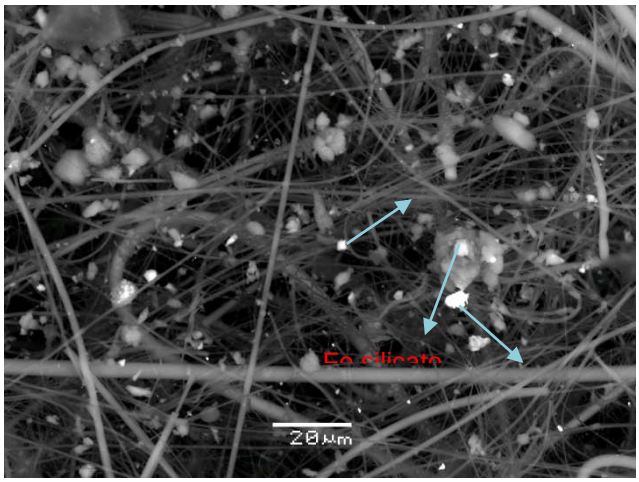


All of the sites are completed with concrete floors, chain link fences and have the generic environmental locks on all gates. All of the electrical installations inside the sites comply with the mine standards. All heads and units comply with Australian standards. All of the High Volume Air samplers are calibrated.

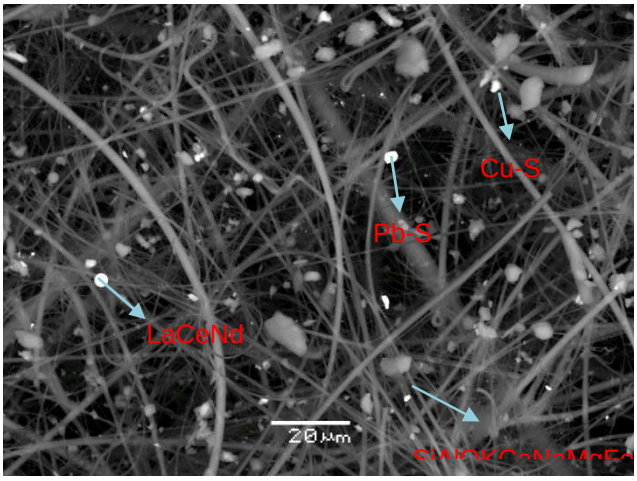
BSD-012008



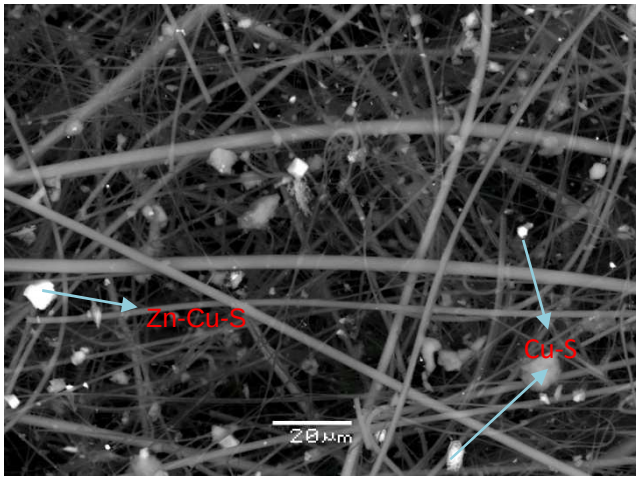
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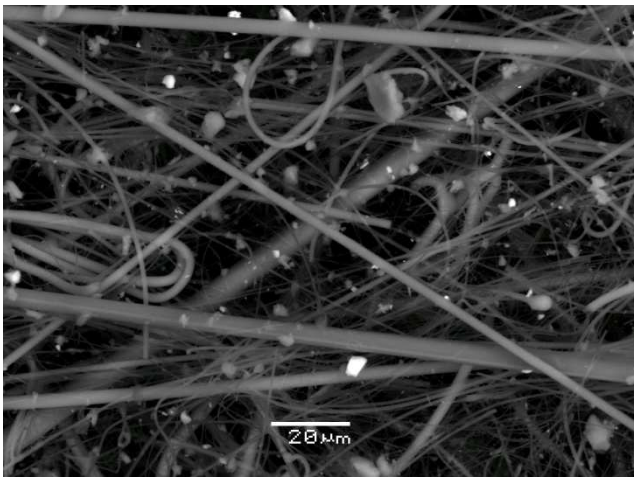
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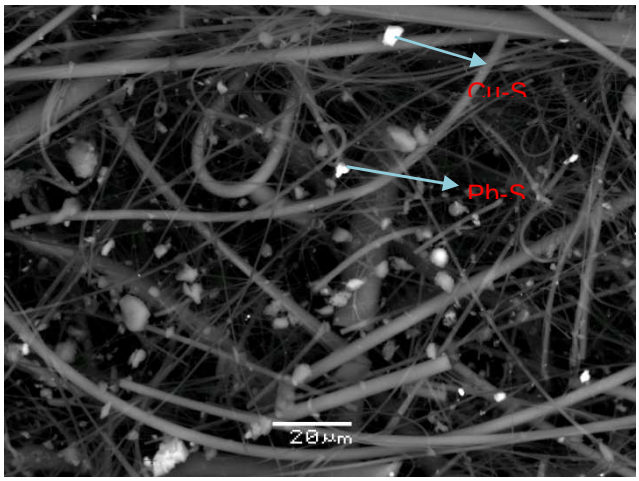
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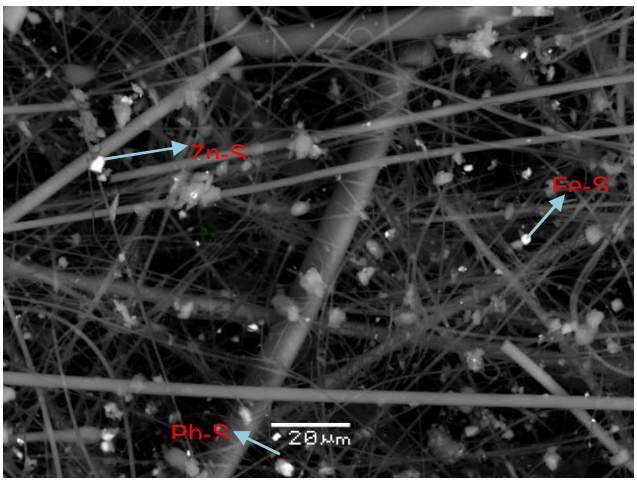
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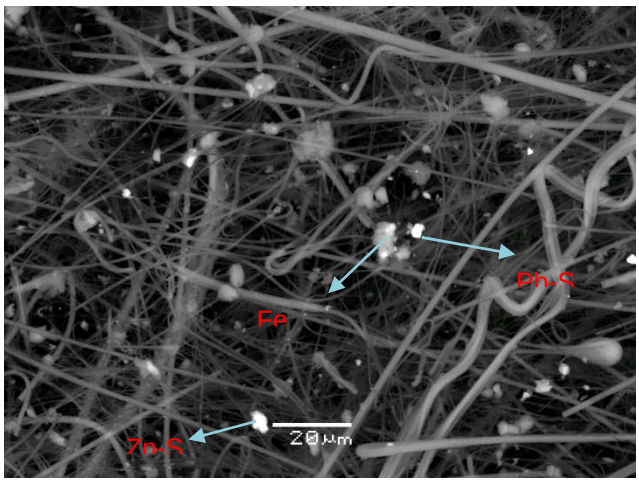
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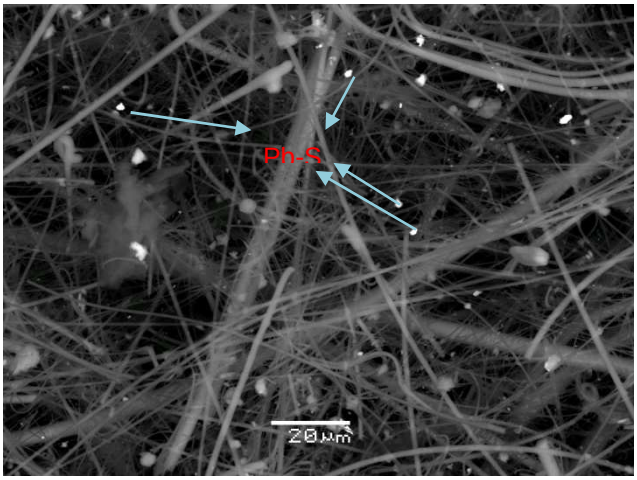
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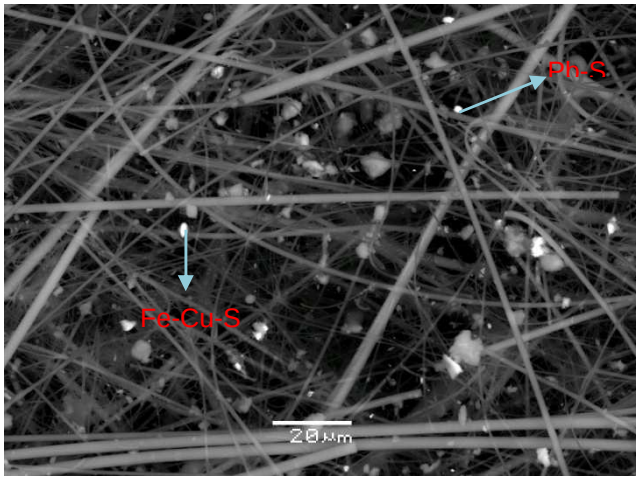
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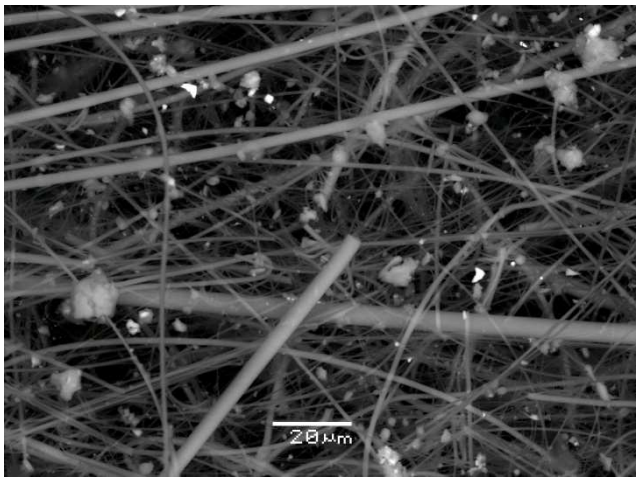
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BSD-012008-09

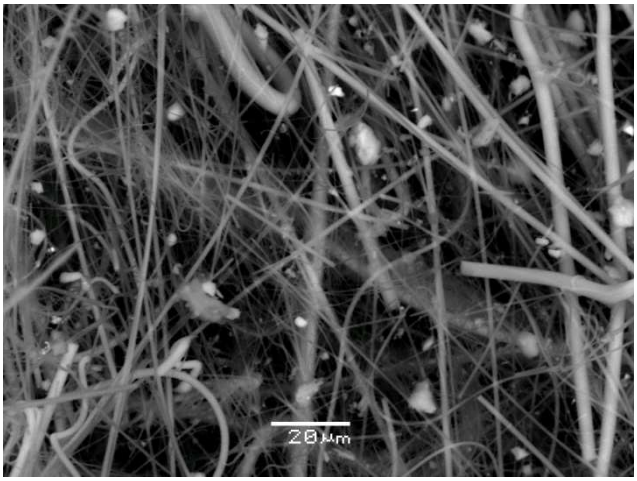


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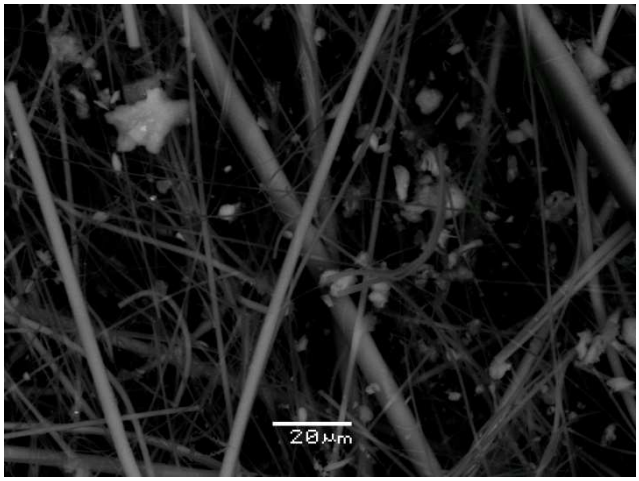


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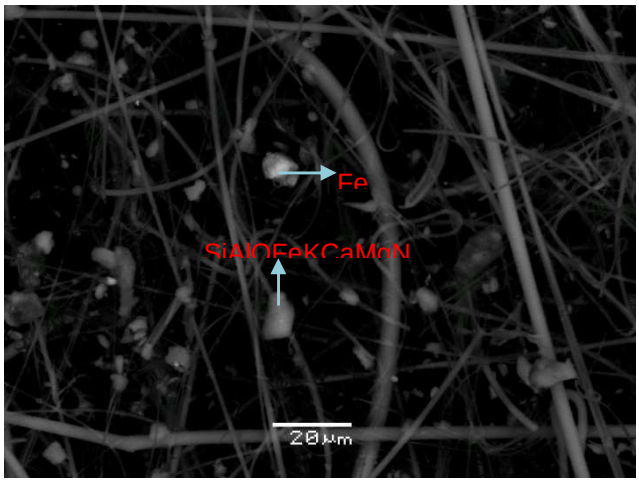
K-Oval-012008



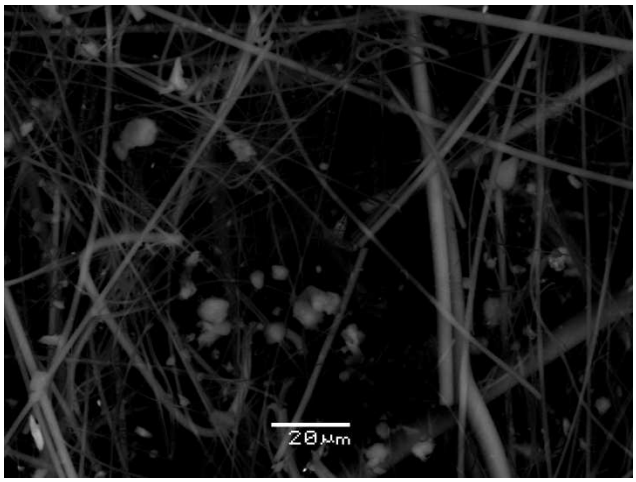
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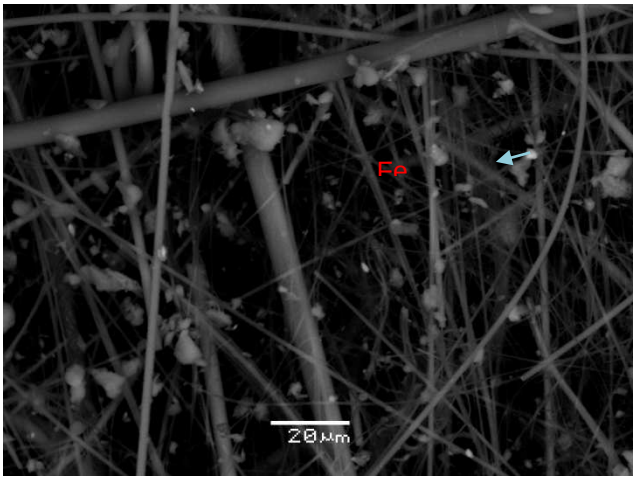
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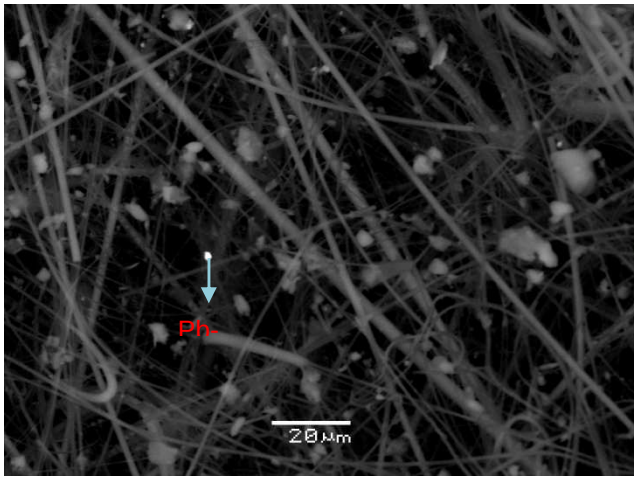
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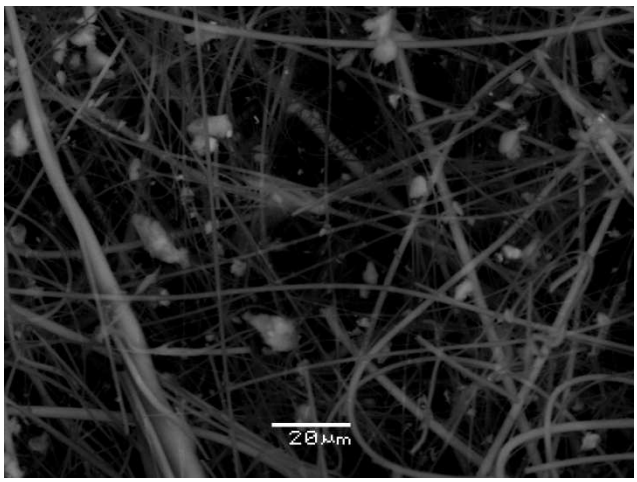
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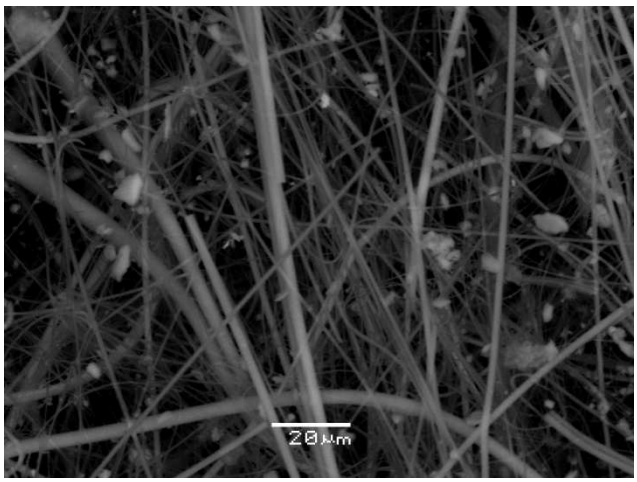
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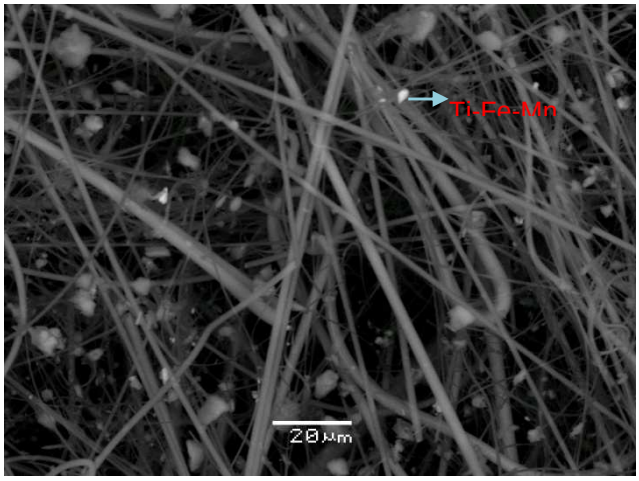
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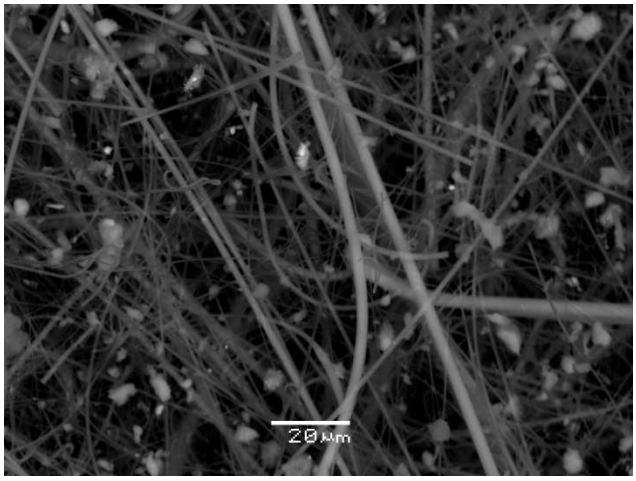
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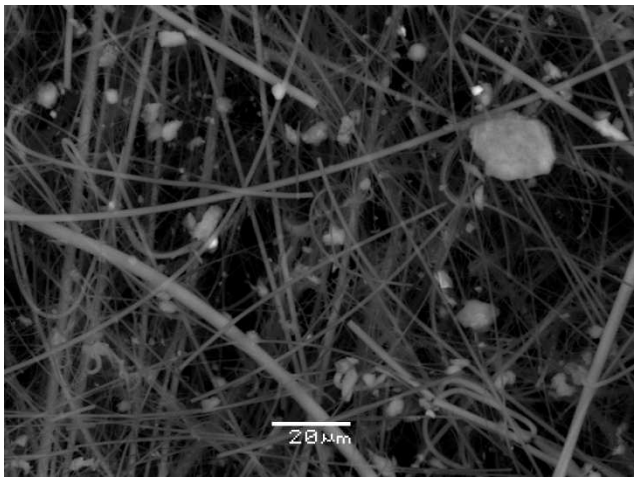
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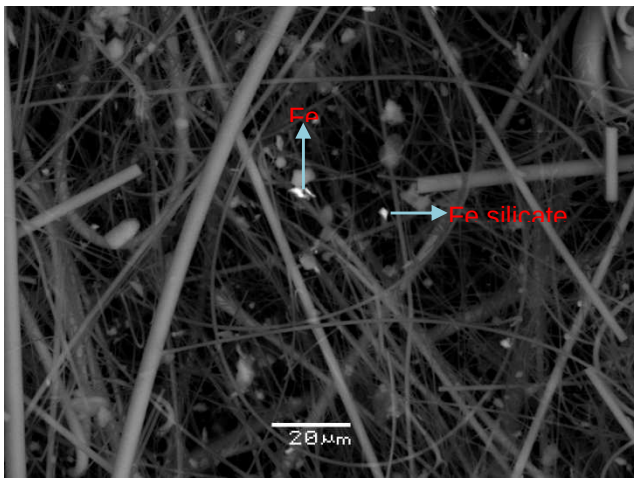
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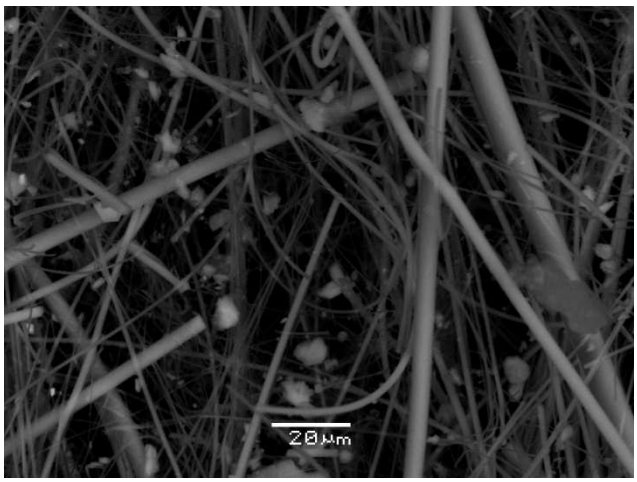
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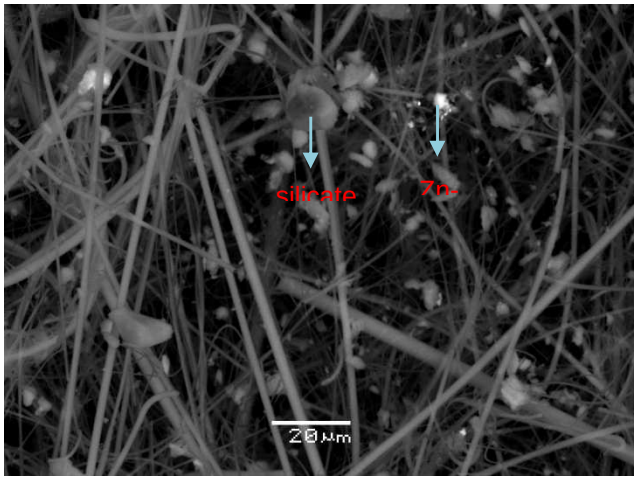
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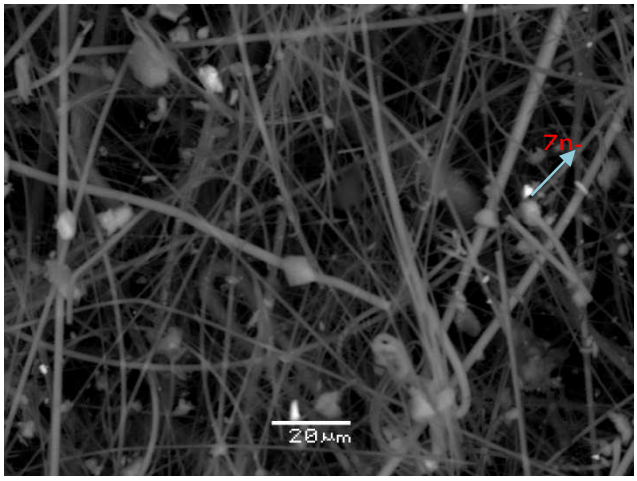
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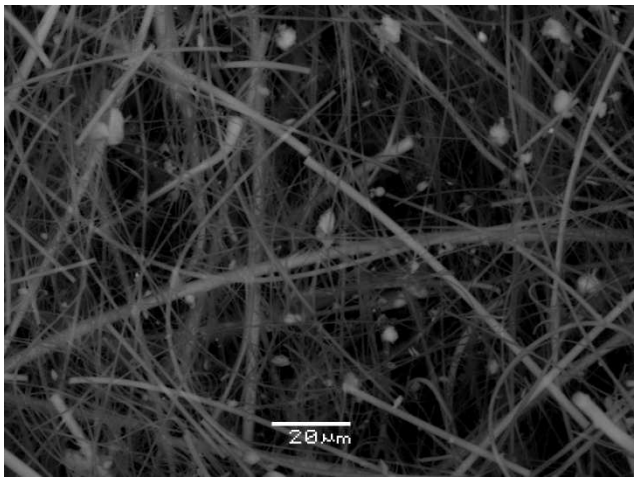
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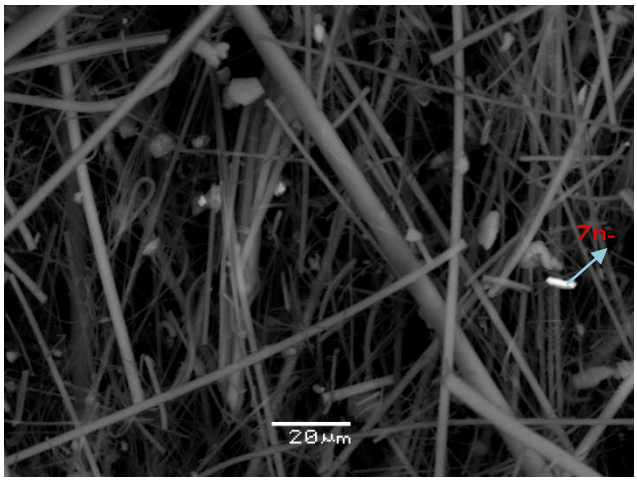
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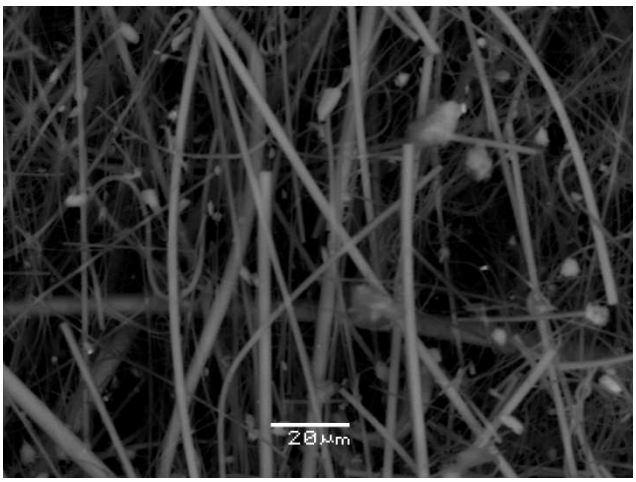
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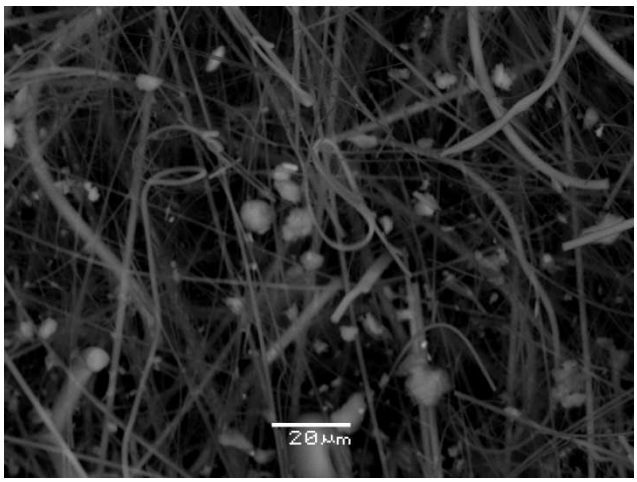
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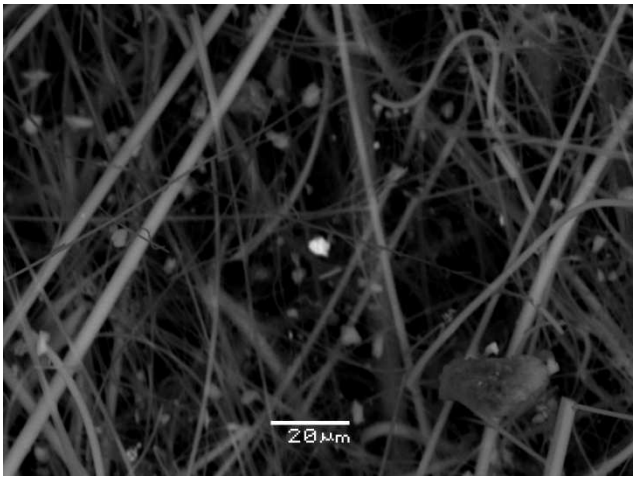
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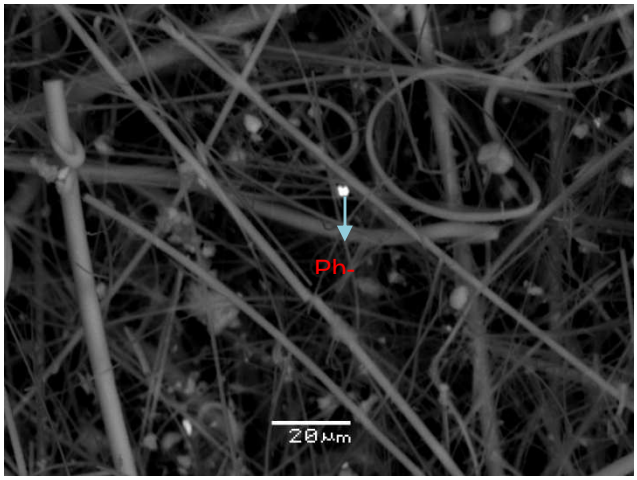
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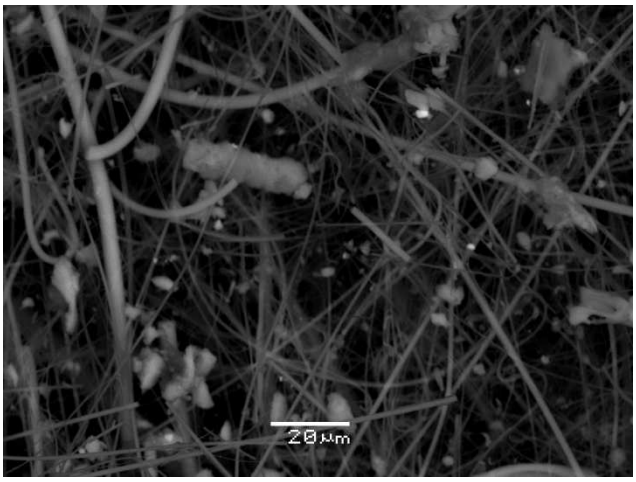
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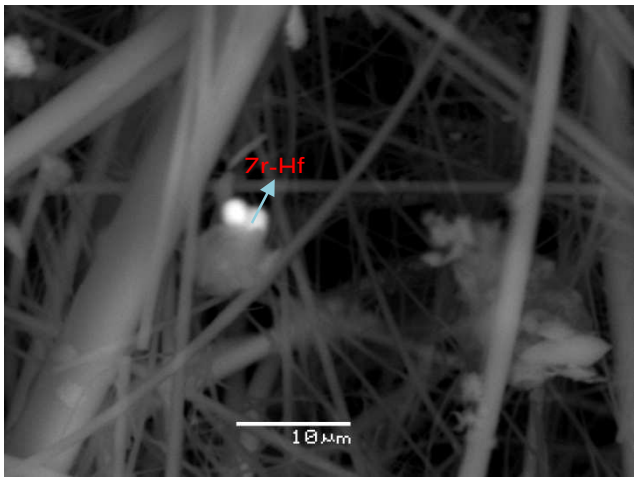
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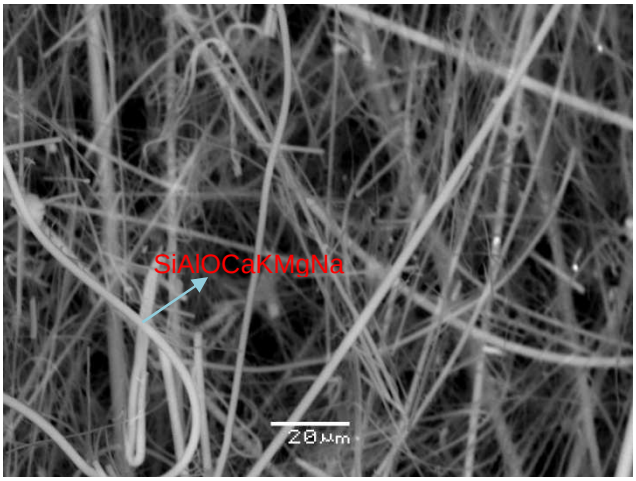


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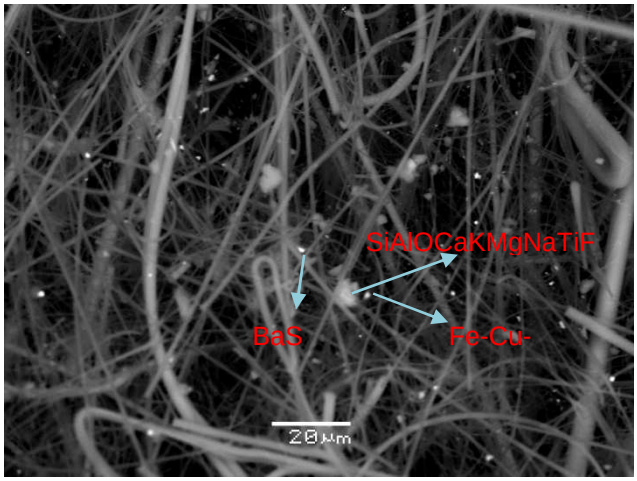


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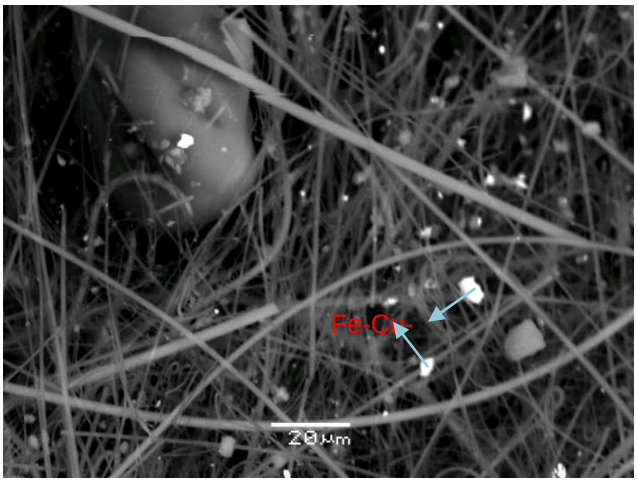
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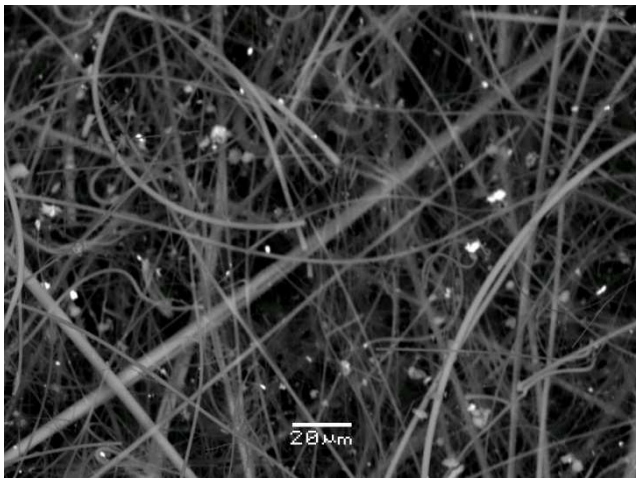
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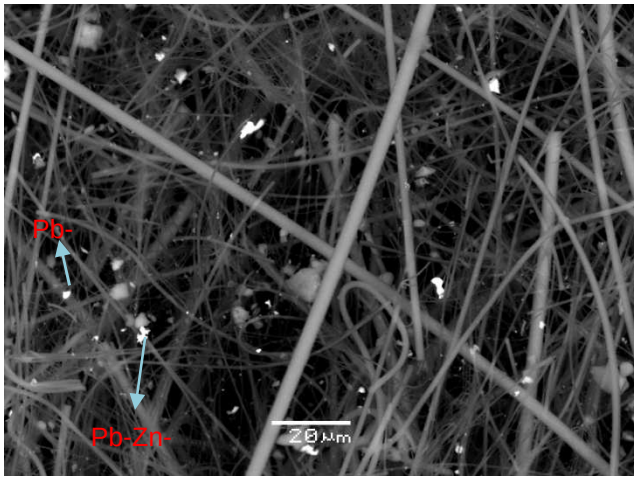
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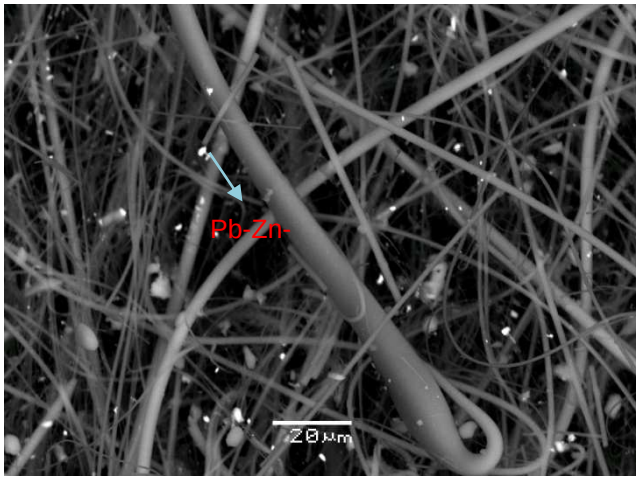
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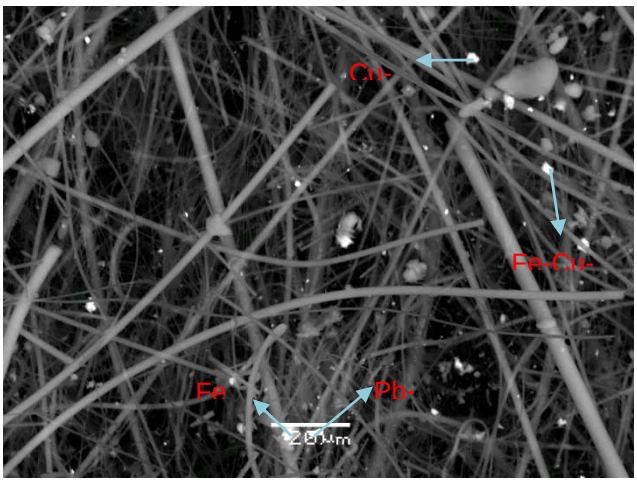
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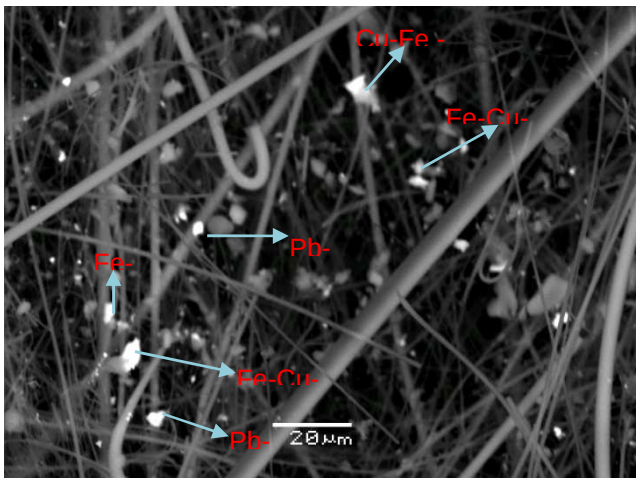
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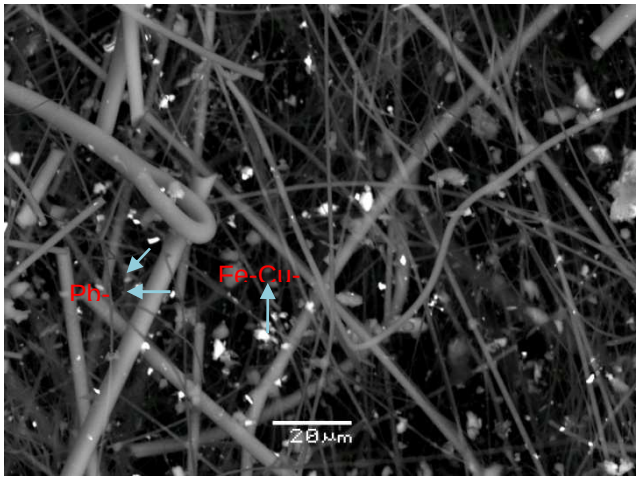
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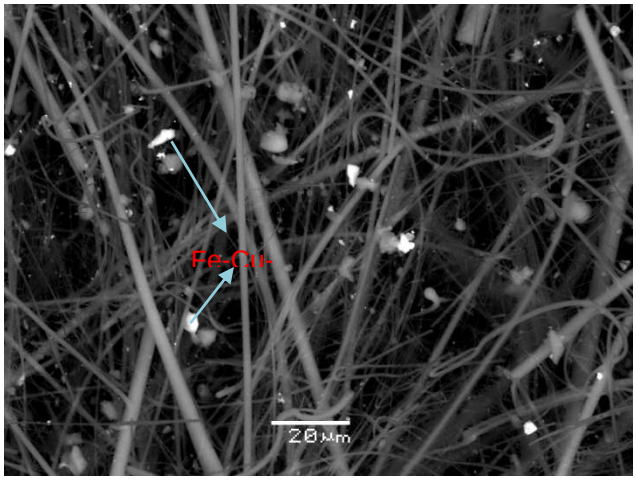
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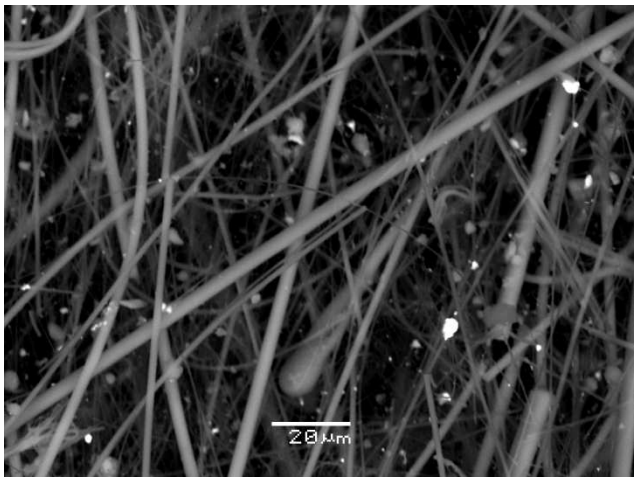
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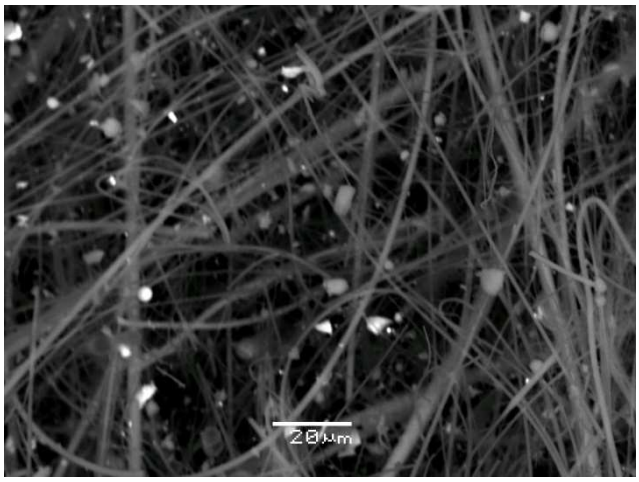
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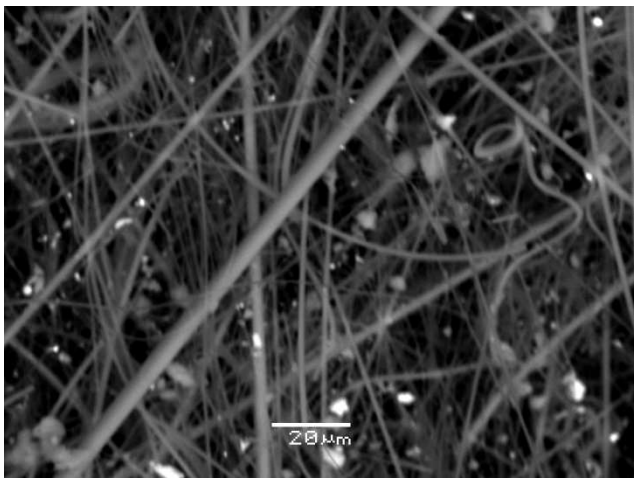
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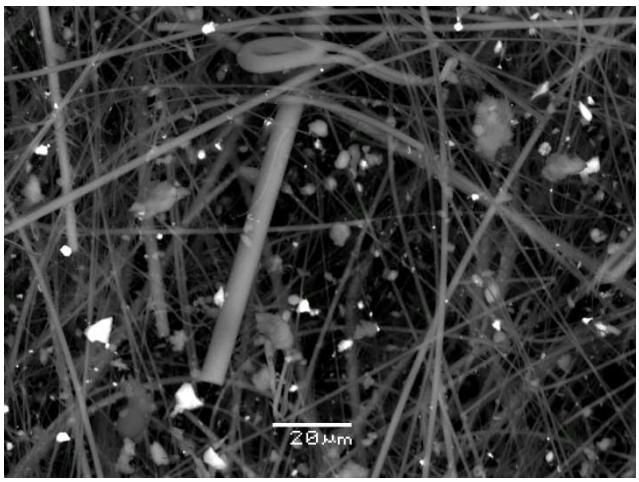
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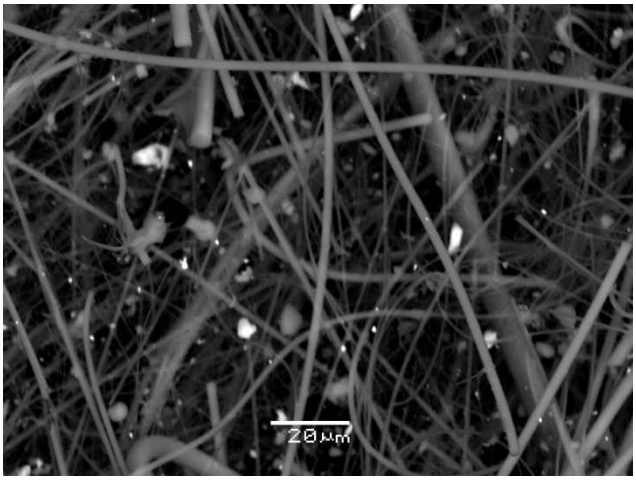
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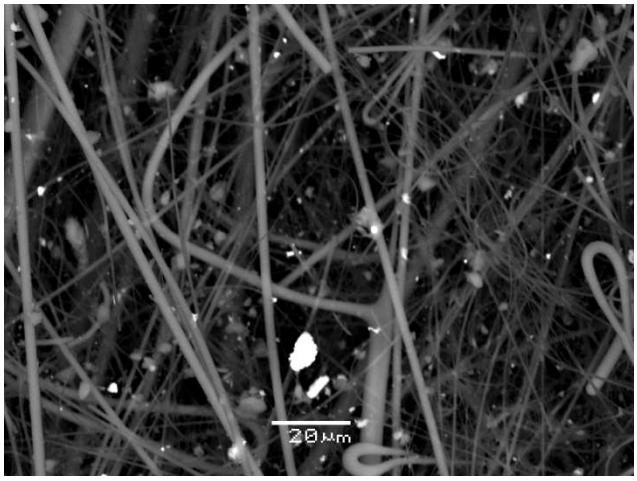
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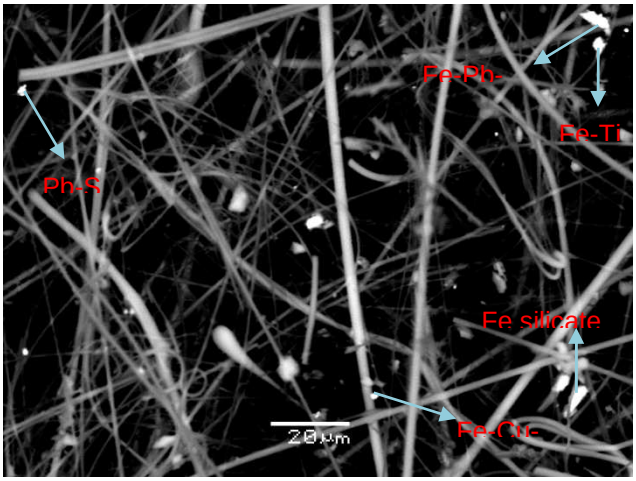


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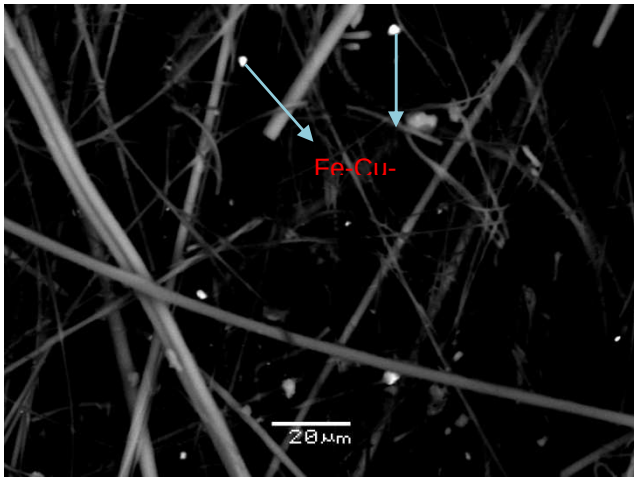


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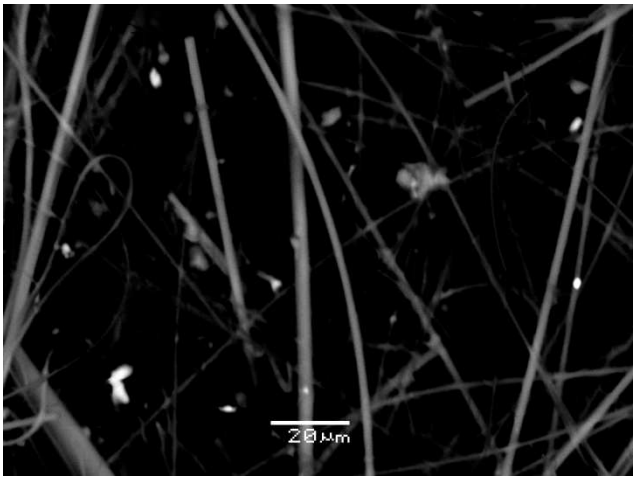
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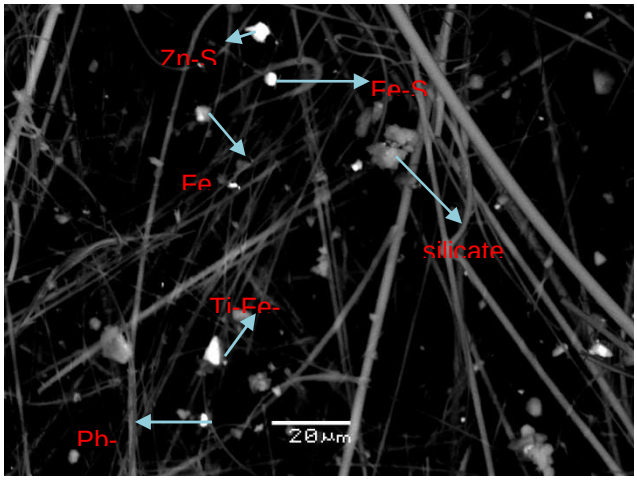
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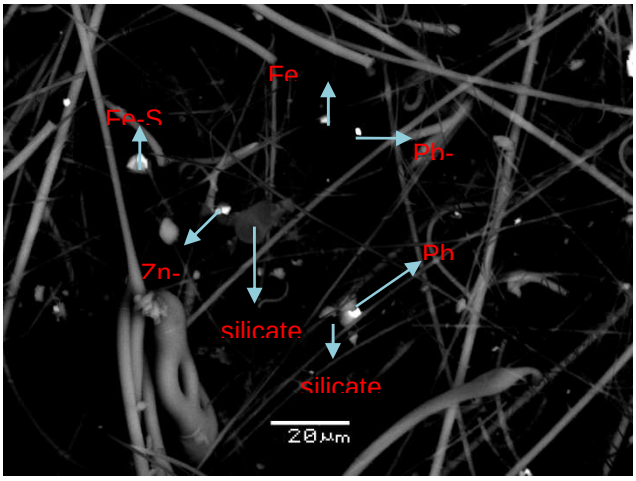
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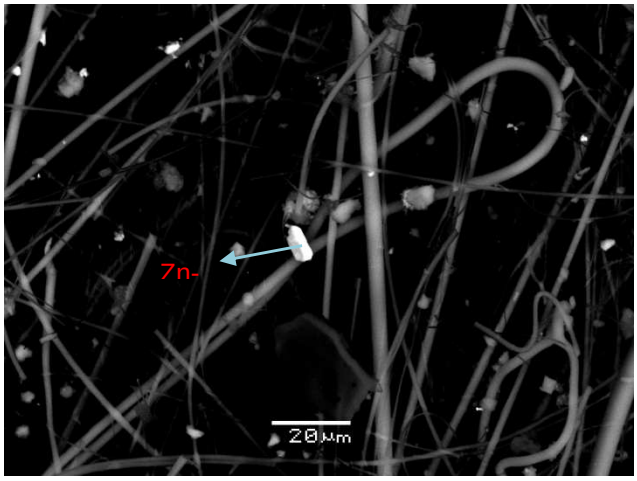
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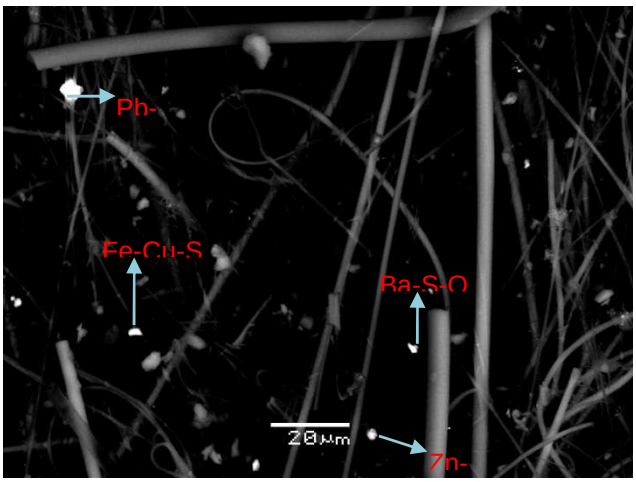
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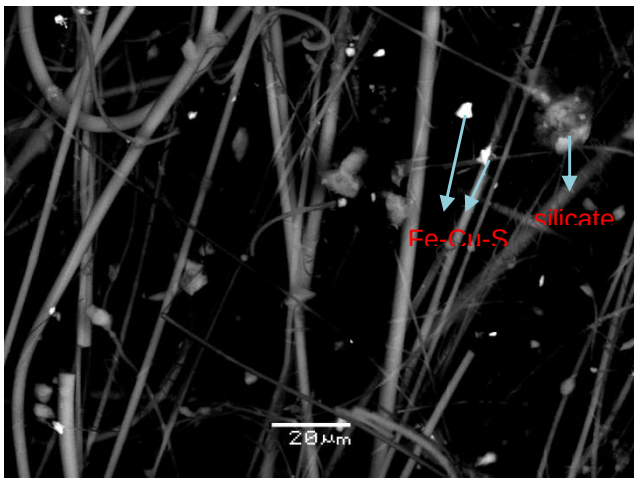
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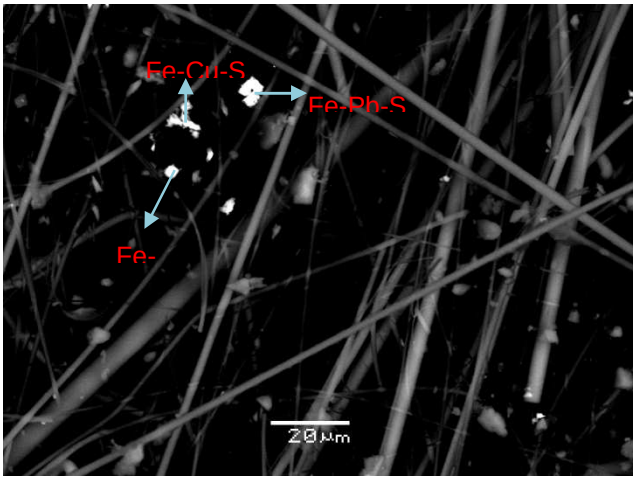
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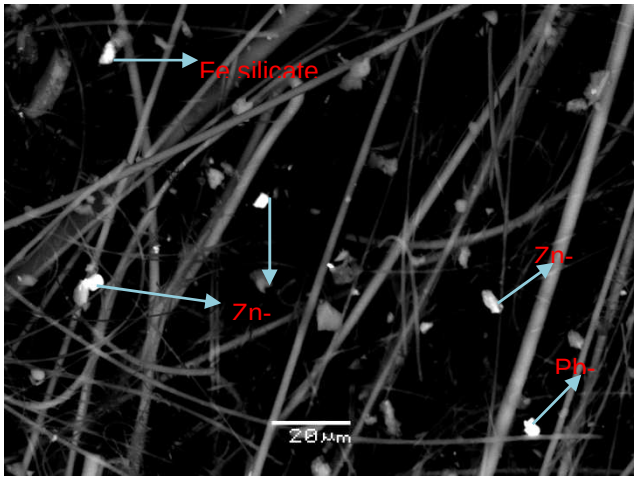
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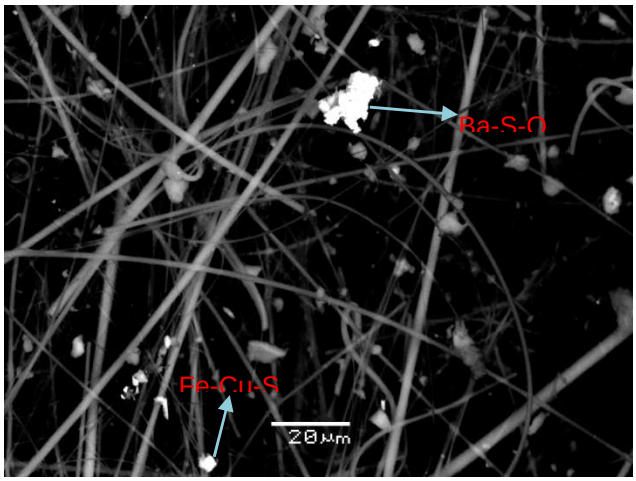
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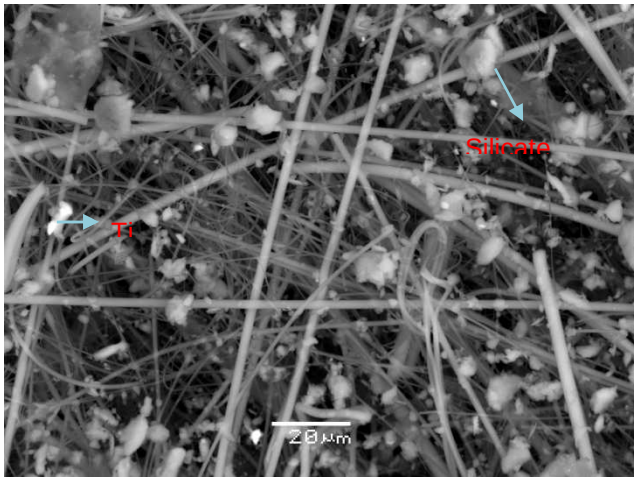


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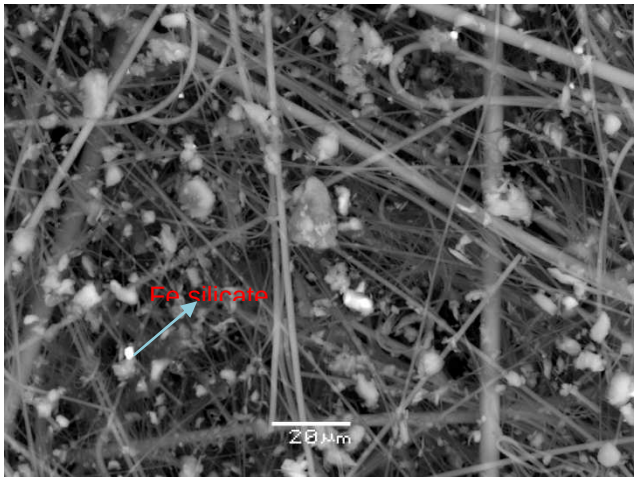


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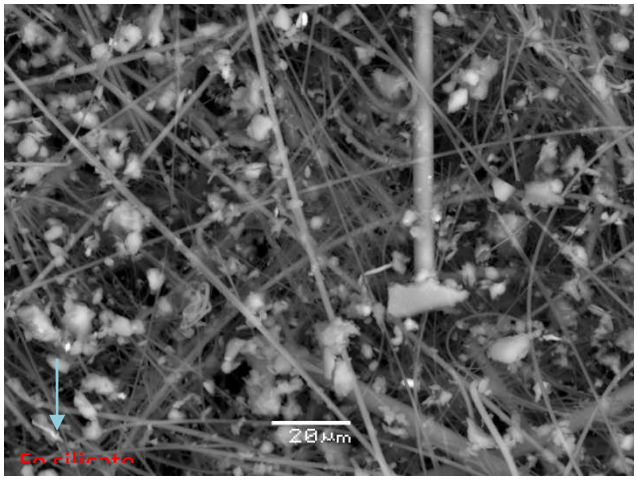
RC-012008



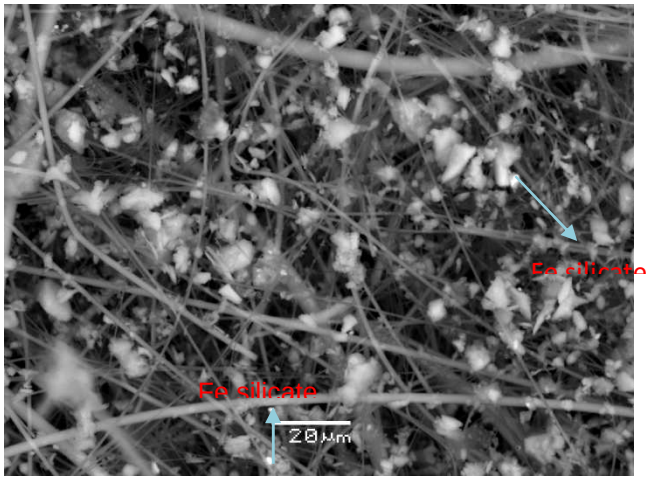
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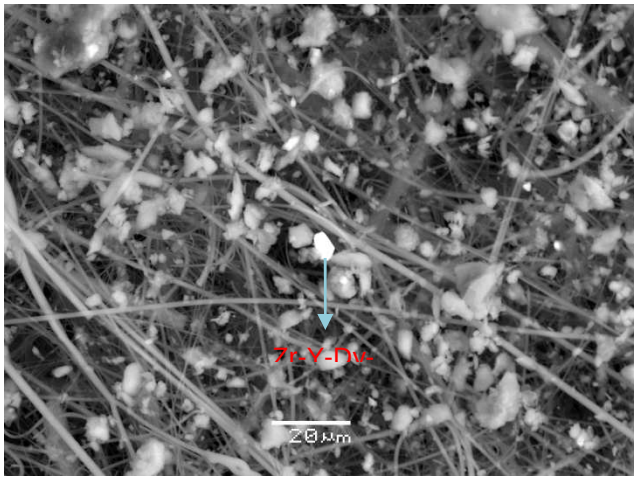
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RC-012008-10



RC-012008-11

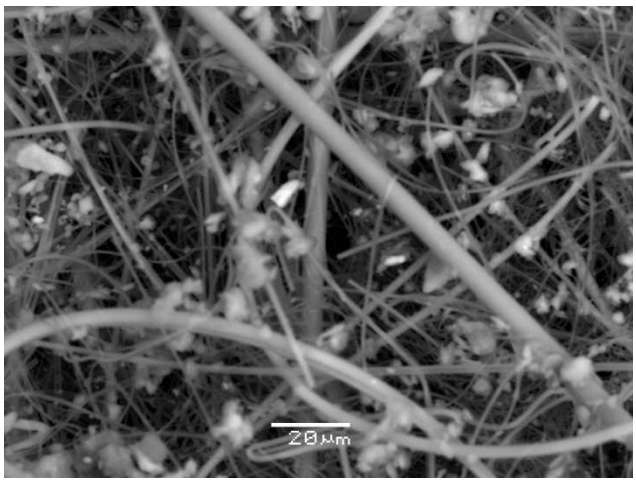


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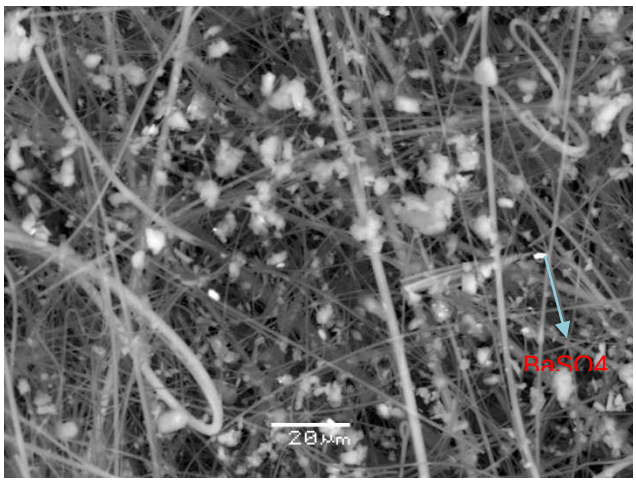


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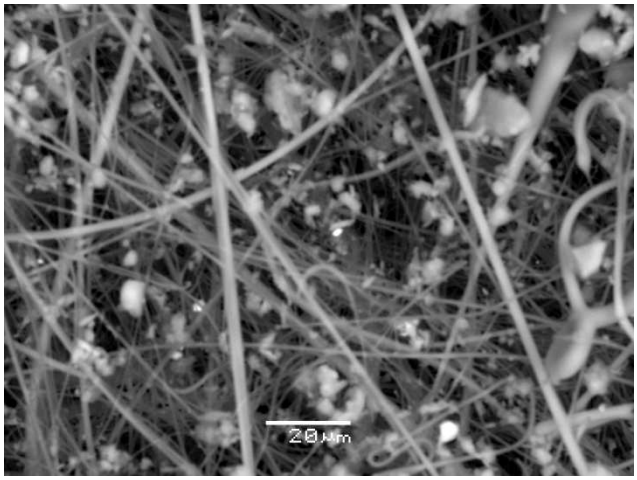
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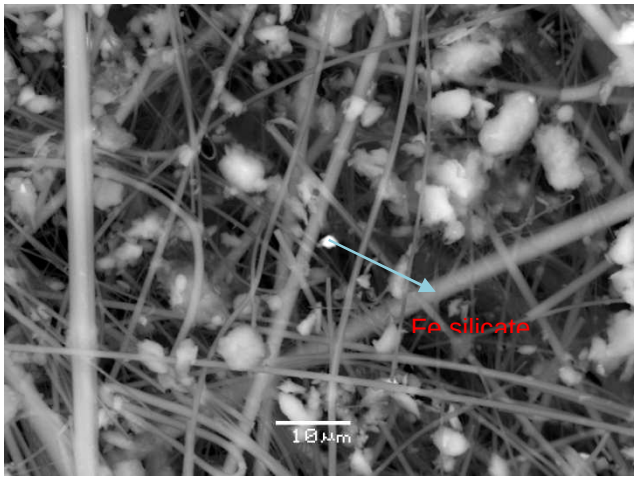
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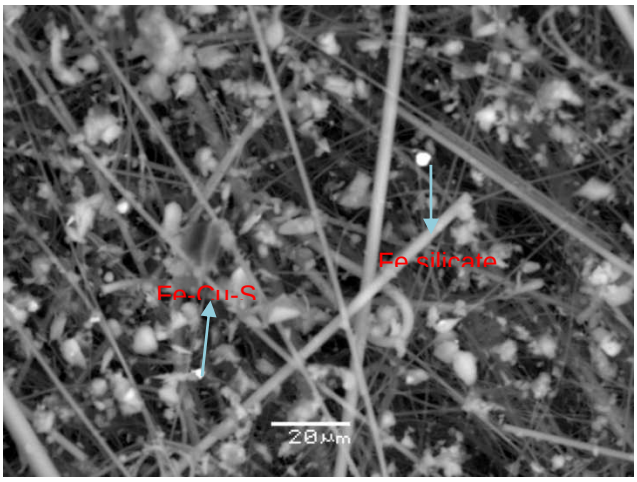
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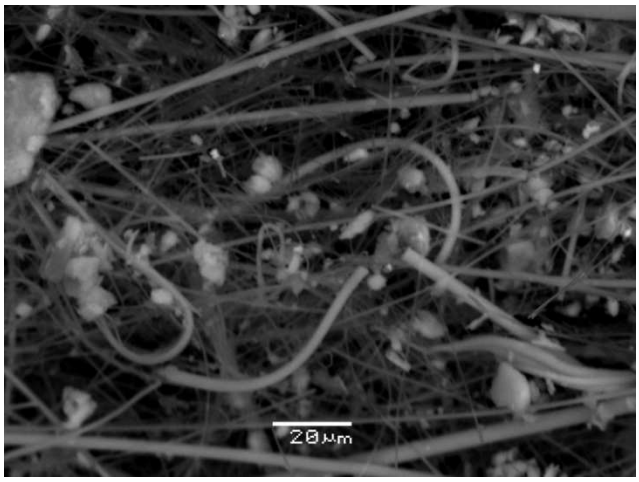
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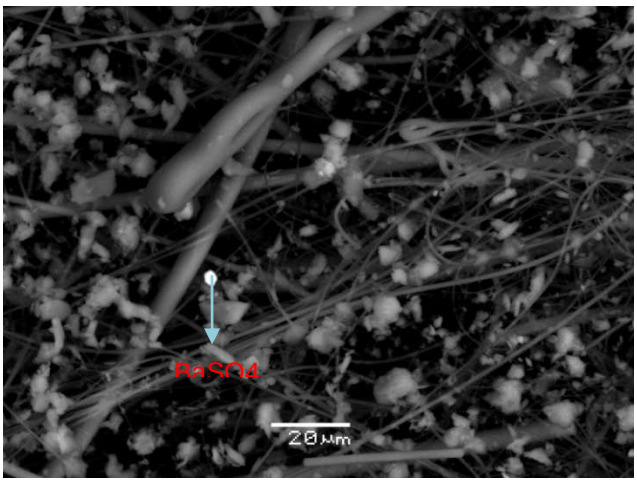
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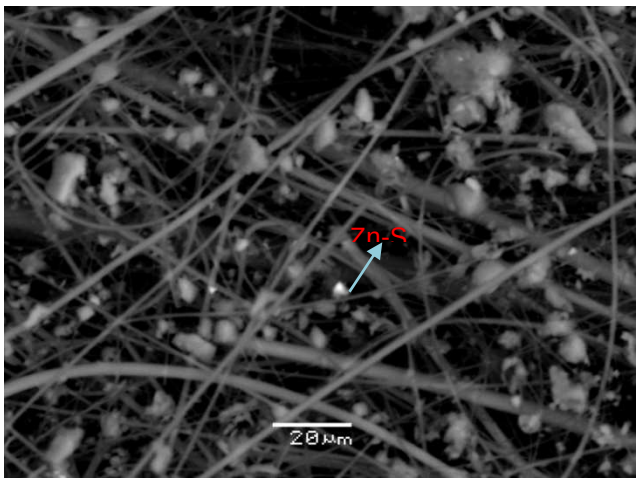
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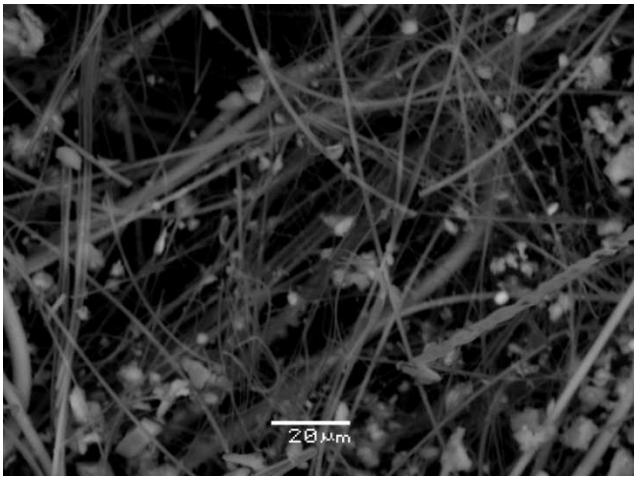
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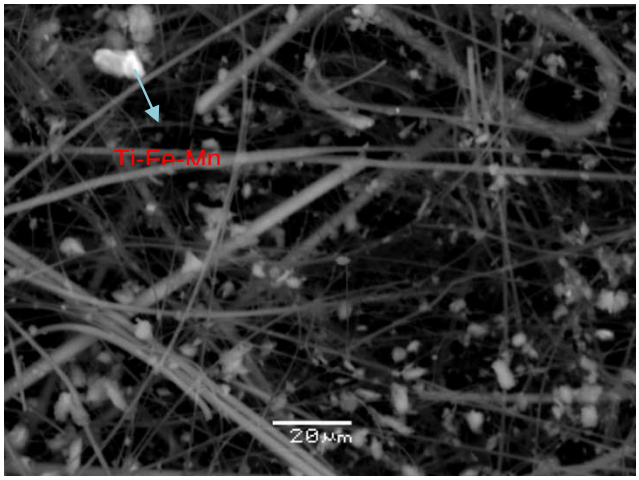
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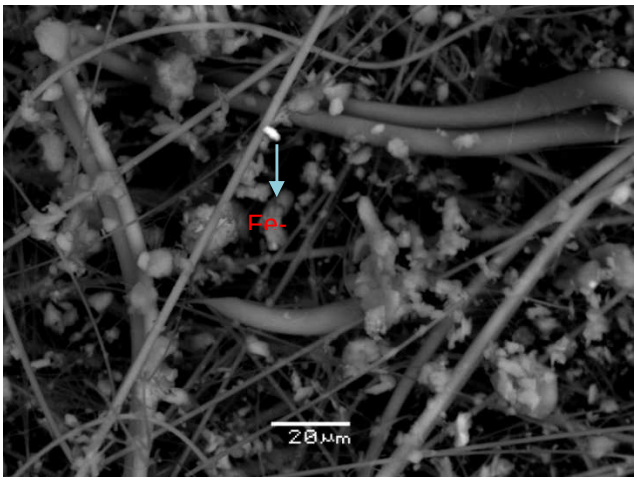
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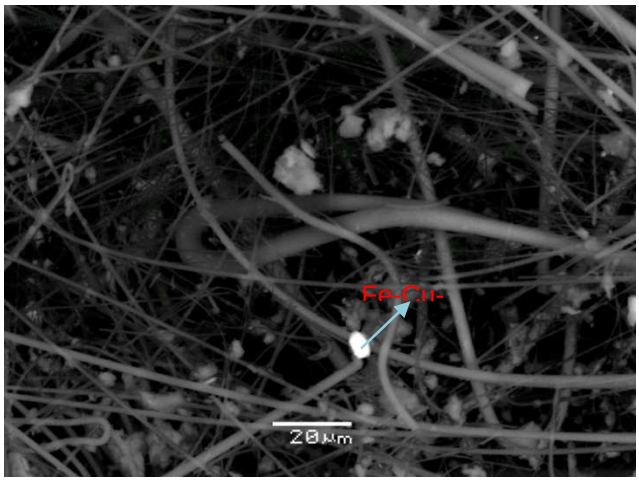
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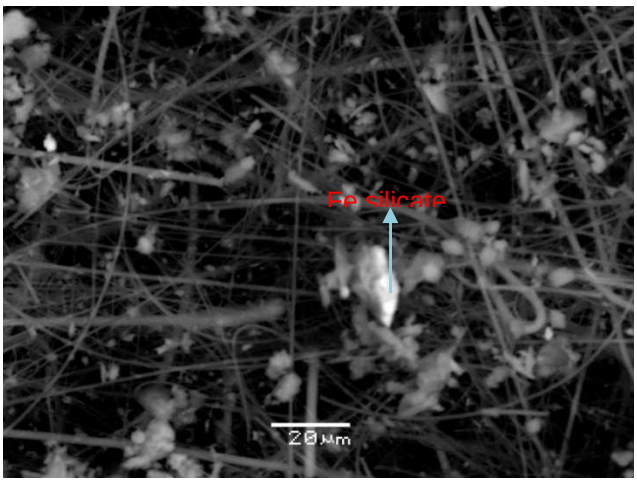
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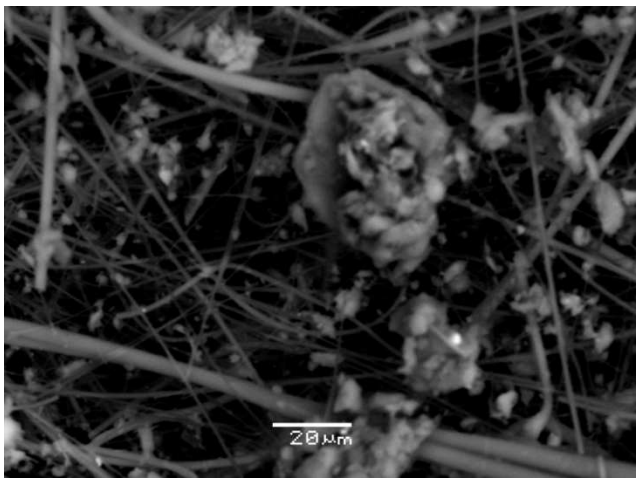
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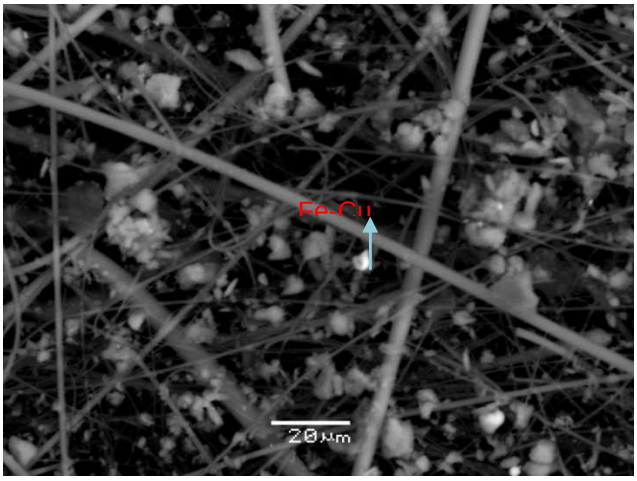
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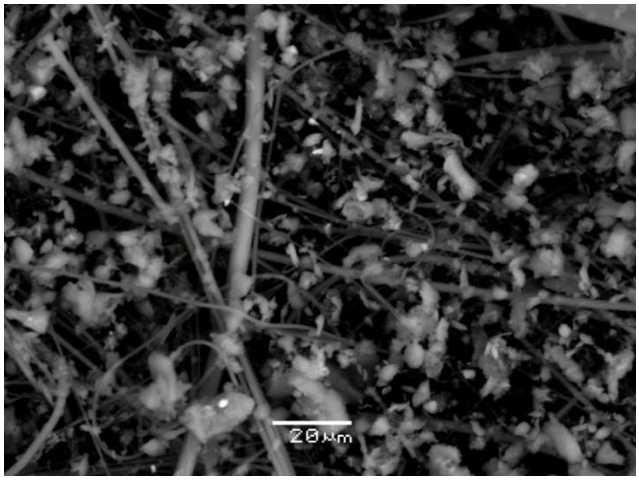
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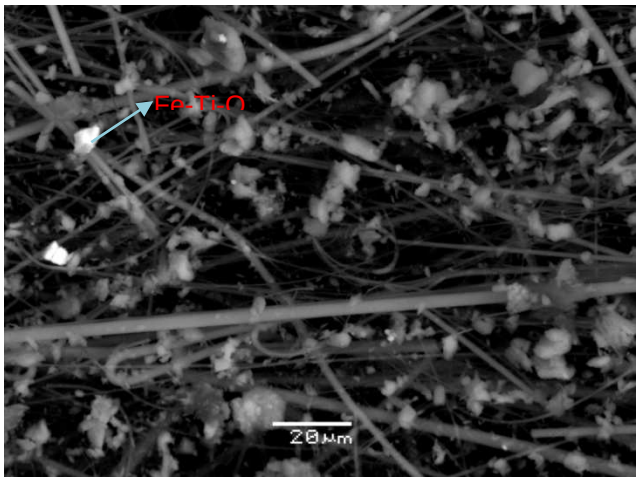
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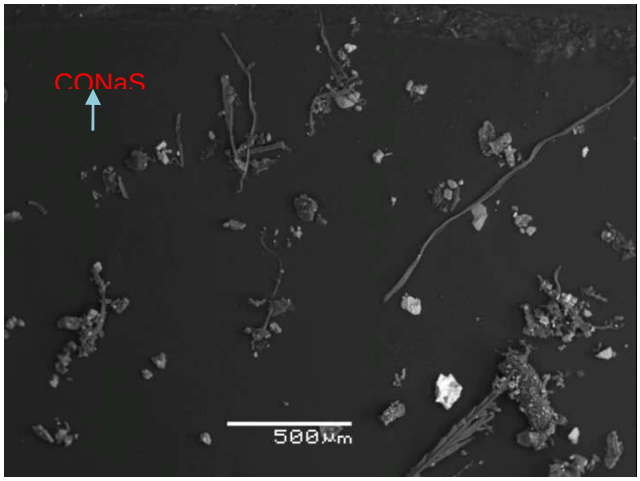


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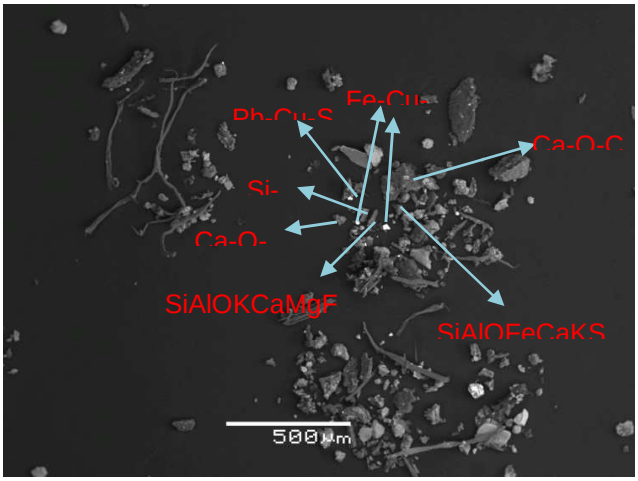


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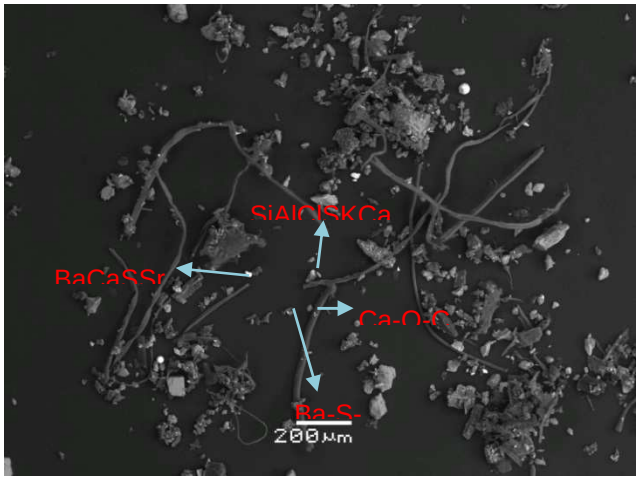
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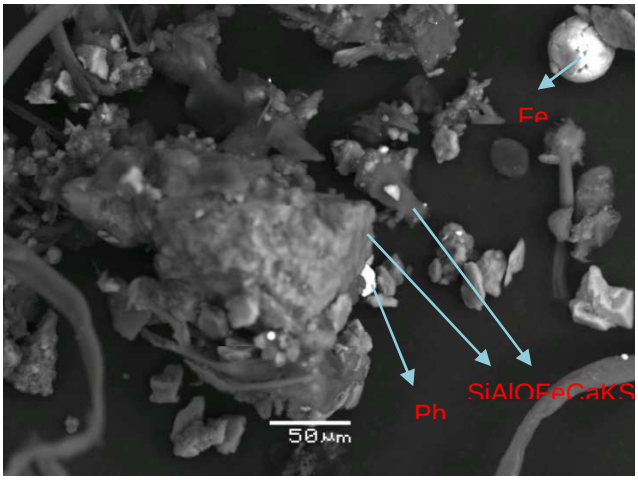
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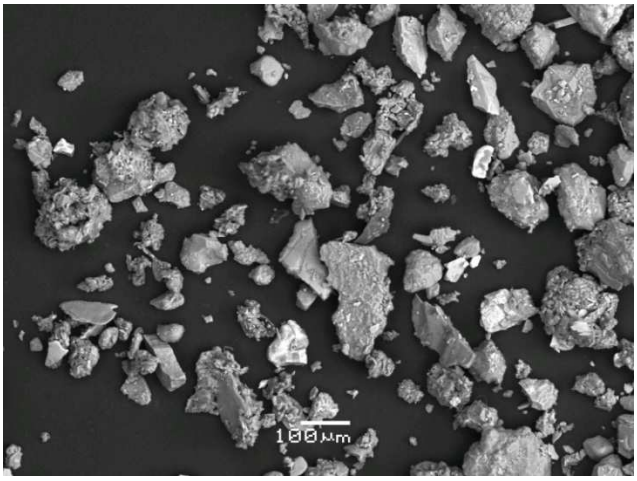
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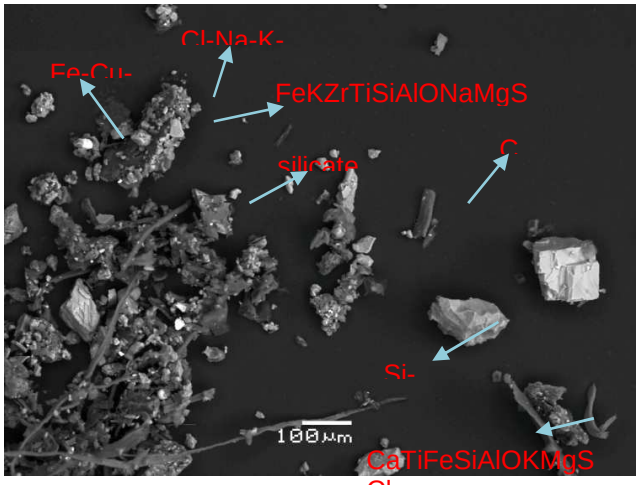
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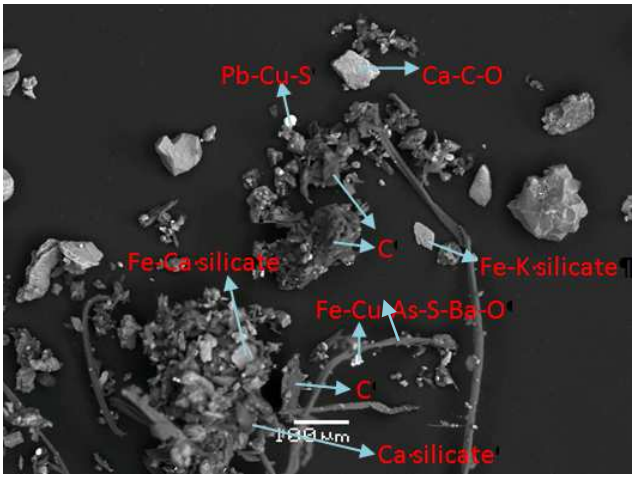
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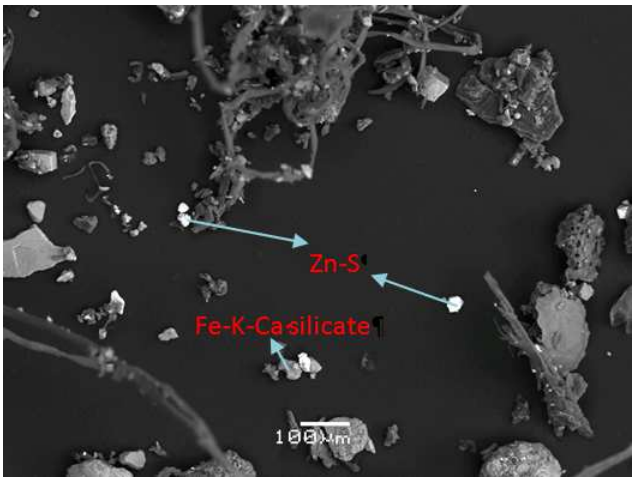
CS31-01



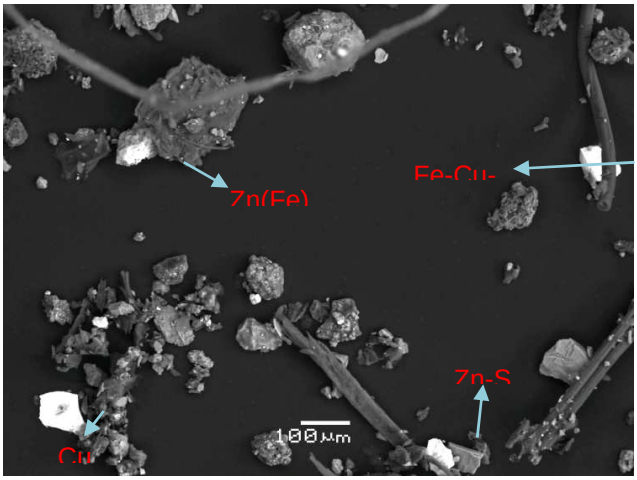
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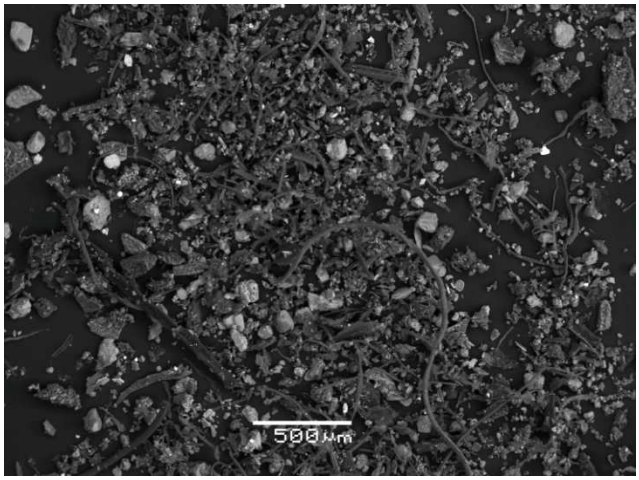
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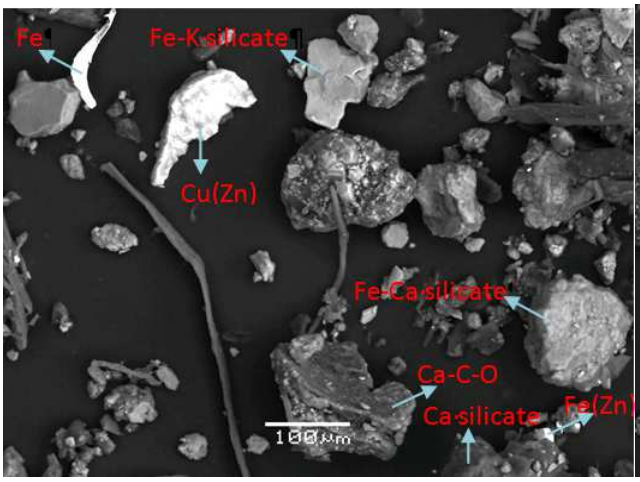
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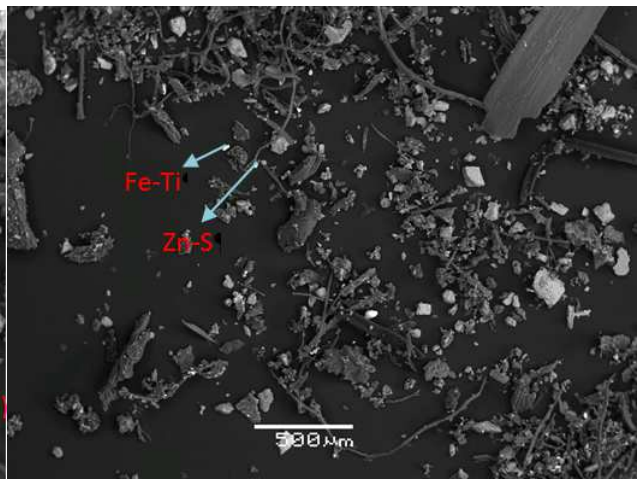
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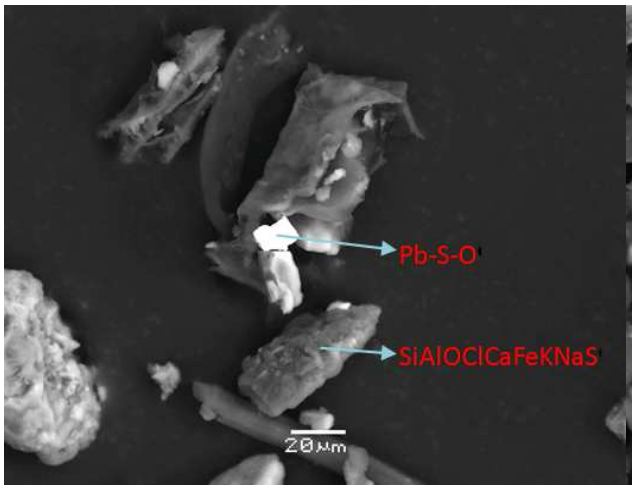
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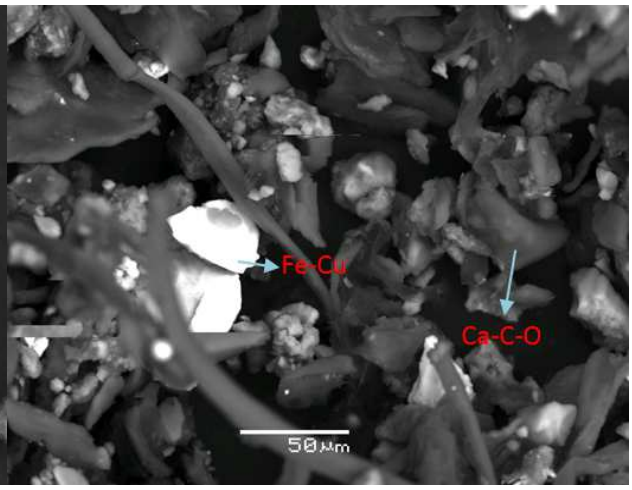
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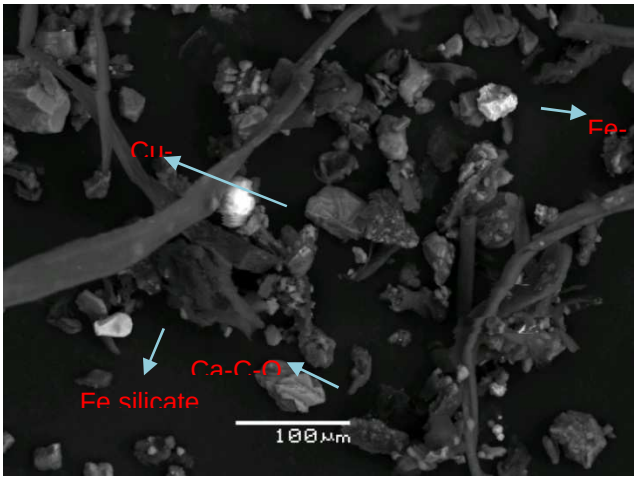
CS31-10



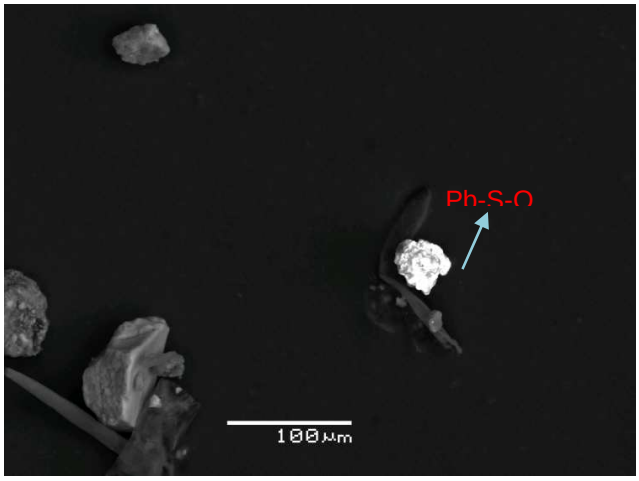
CS31-11



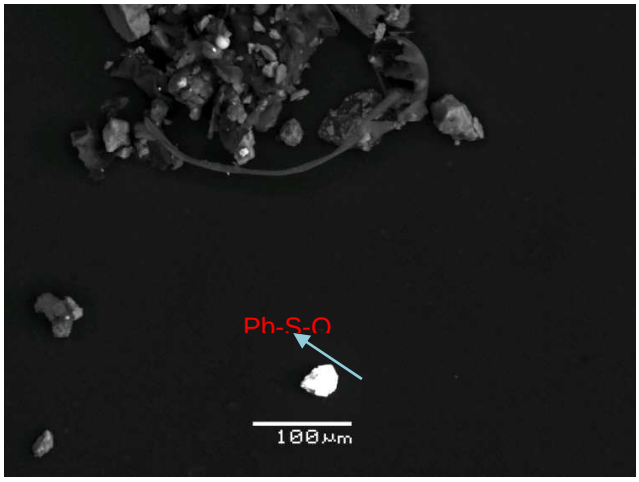
CS31-12



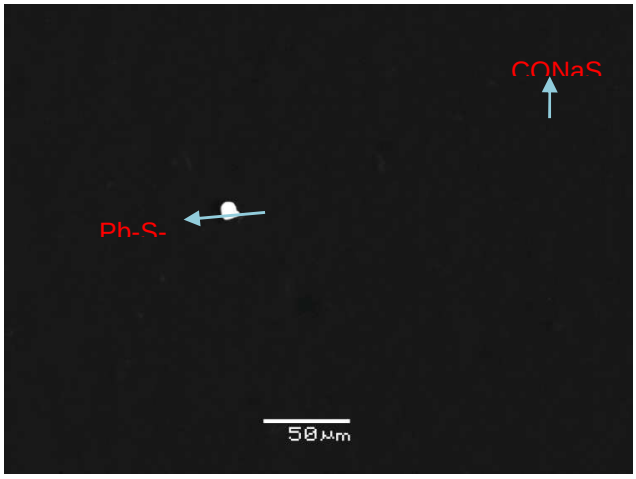
CS31-13



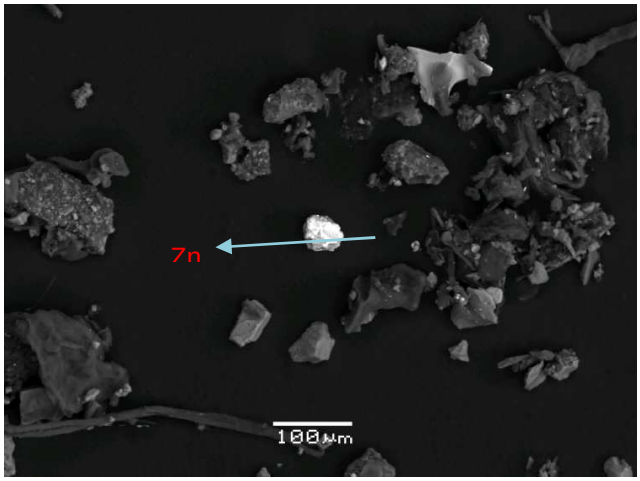
CS31-14



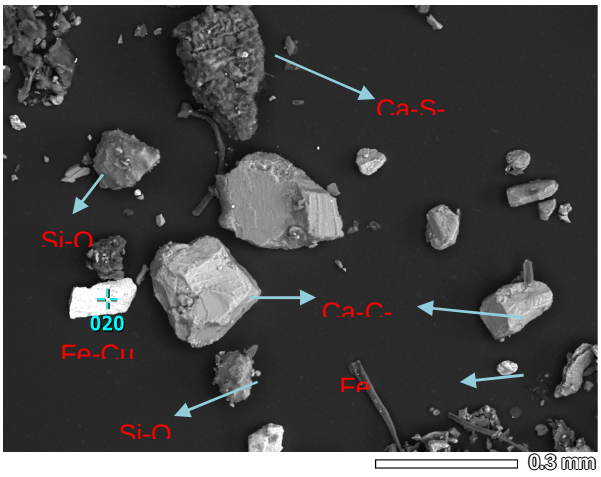
CS31-15



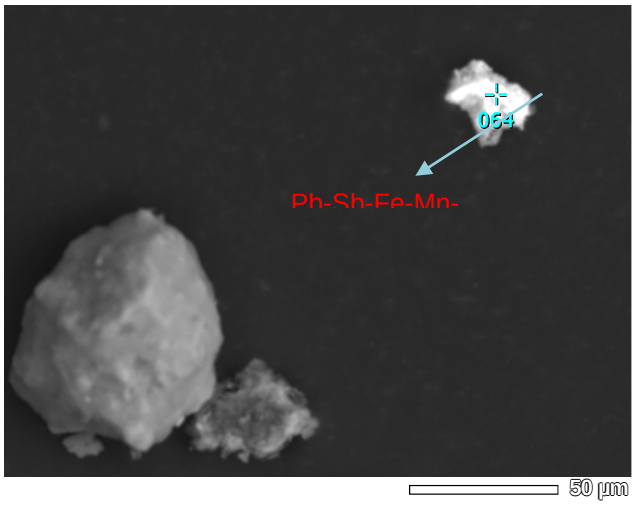
CS31-16



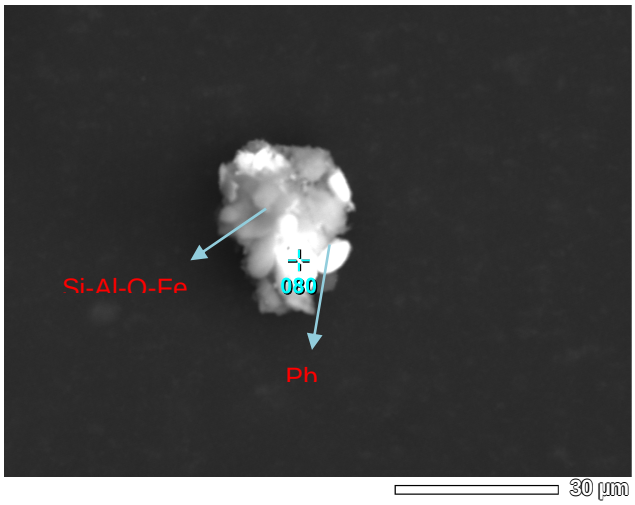
CS31-17



CS31-04



CS31-12-064



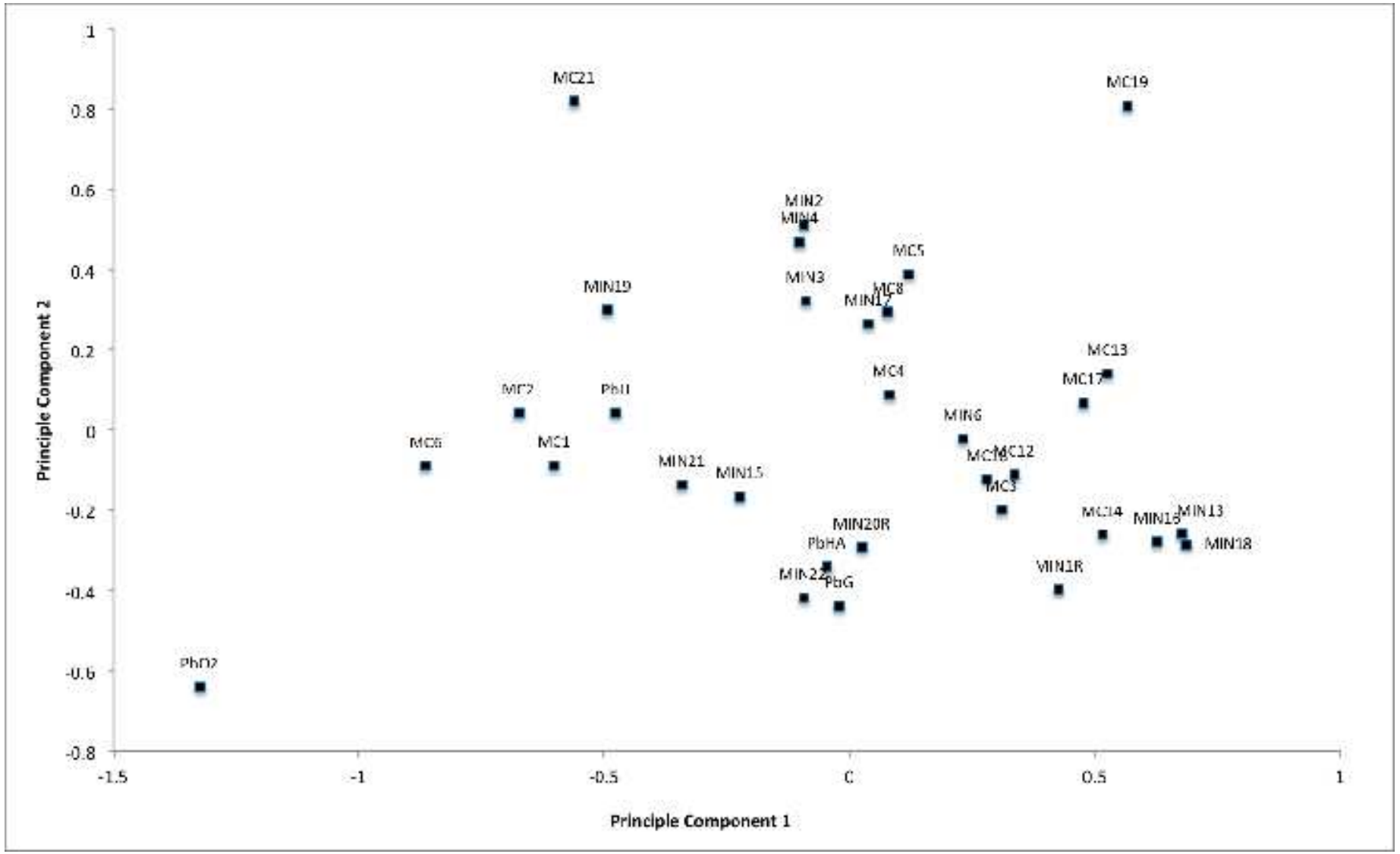
CS31-12-080

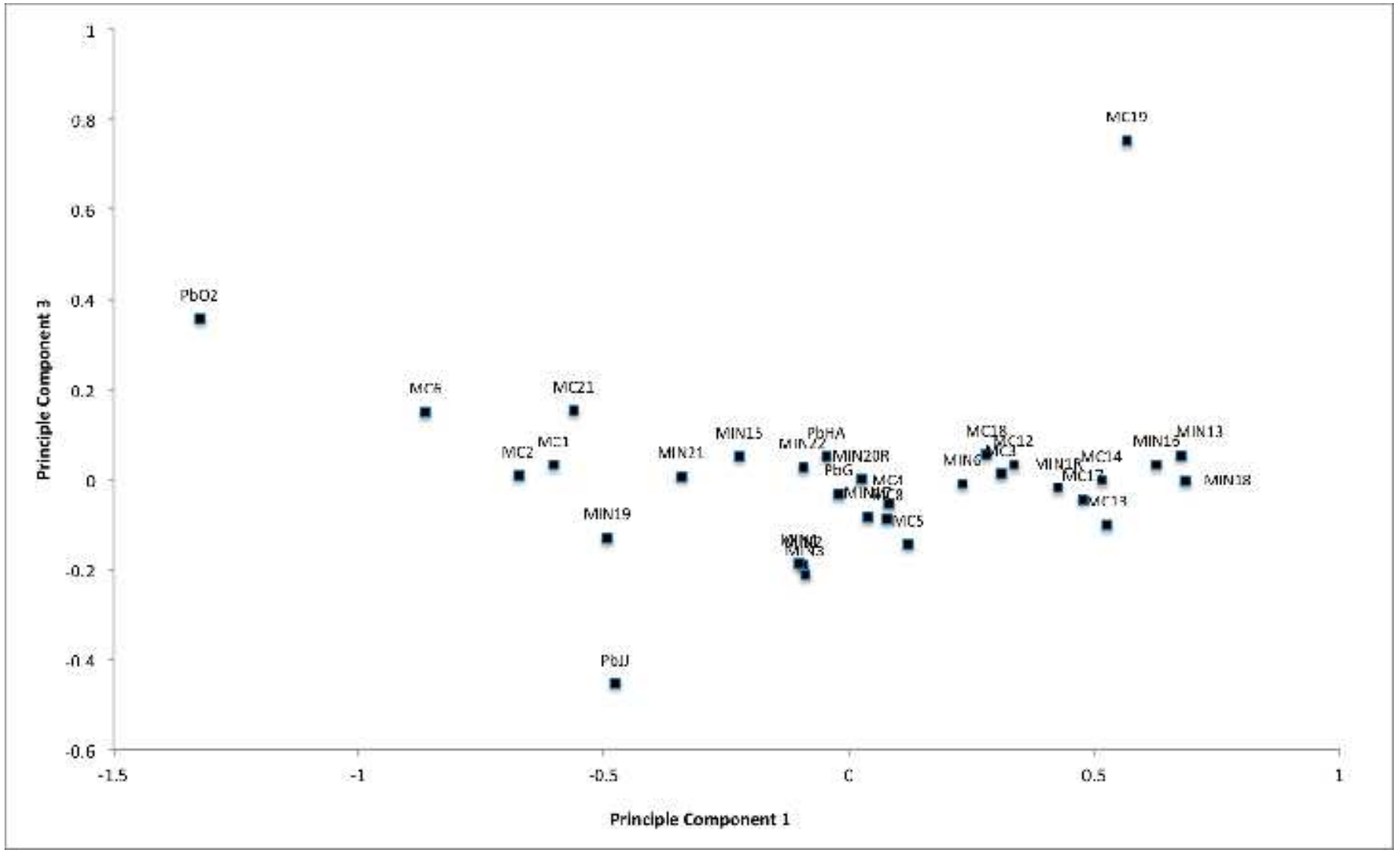
A4 - 5: Calculation for Stokes' Law

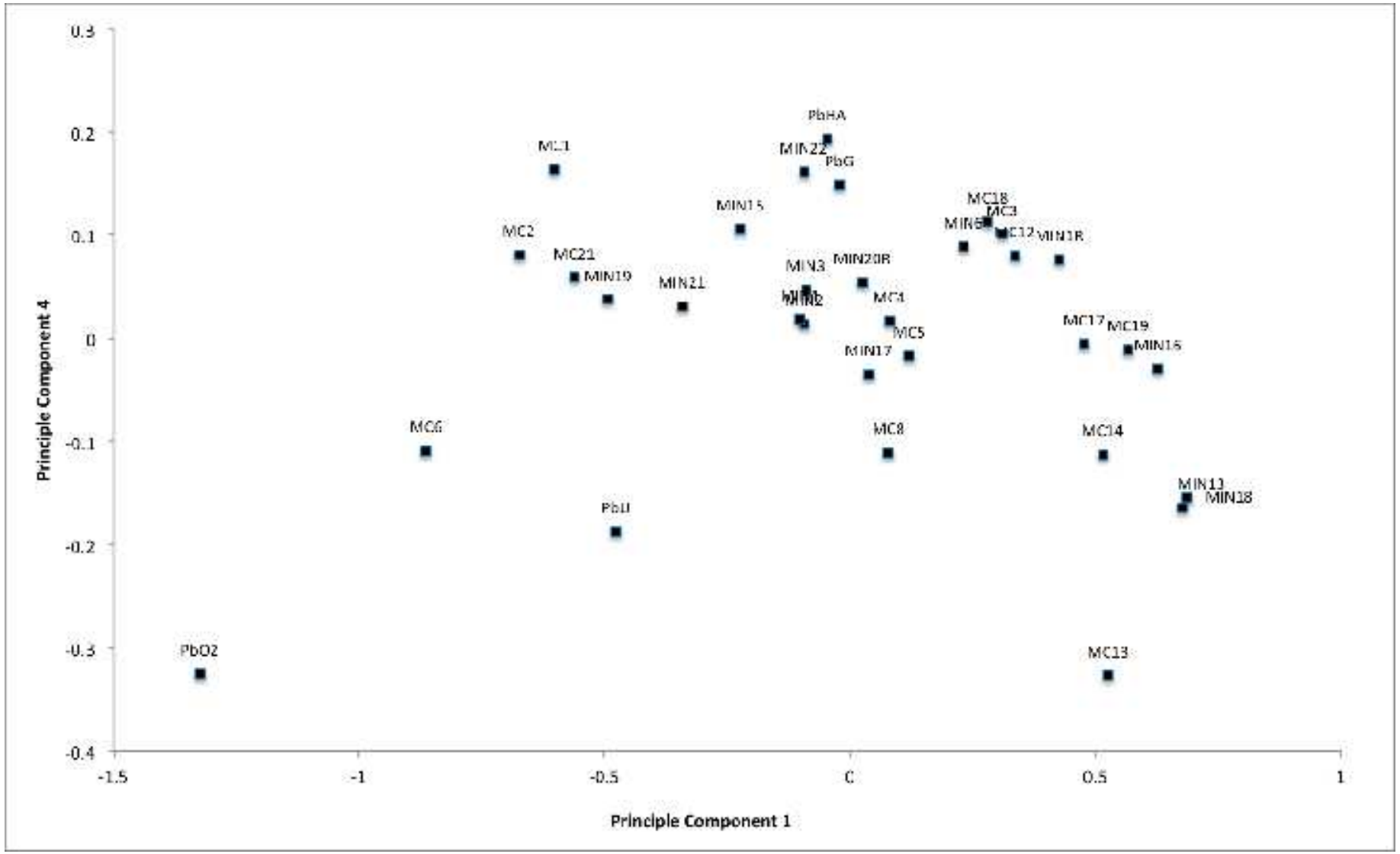
Samples	$g(m/s^2)$	$\rho_{p(kg/m3)}$	$\rho_{f(kg/m3)}$	$\mu(Pa\ s)$	D(m)	$Vs(m/s)$	H(m)	t(s)	V_{wind} (m/s)	Travel distance (m)
Silt loam PM2.5	9.8	1280	1.18	0.00001837	0.0000025	2.368830E-04	270	1.1E+06	11	12537836
Pb PM 2.5	9.8	11360	1.18	0.00001837	0.0000025	2.104058E-03	270	1.3E+05	11	1411558
PbS PM 2.5	9.8	7600	1.18	0.00001837	0.0000025	1.407572E-03	270	1.9E+05	11	2110017
Silt loam PM10	9.8	1280	1.18	0.00001837	0.00001	3.790128E-03	270	7.1E+04	11	783615
Pb PM10	9.8	11360	1.18	0.00001837	0.00001	3.366492E-02	270	8.0E+03	11	88222
PbS PM10	9.8	7600	1.18	0.00001837	0.00001	2.252115E-02	270	1.2E+04	11	131876
PbO PM10	9.8	9640	1.18	0.00001837	0.00001	2.856724E-02	270	9.5E+03	11	103965
PbSO4 PM10	9.8	6290	1.18	0.00001837	0.00001	1.863861E-02	270	1.4E+04	11	159347
Pb PM250	9.8	11360	1.18	0.00001837	0.00025	2.104058E+01	270	1.3E+01	11	141
PbS PM250	9.8	7600	1.18	0.00001837	0.00025	1.407572E+01	270	1.9E+01	11	211
Silt loam PM2.5	9.8	1280	1.18	0.00001837	0.0000025	2.368830E-04	15	6.3E+04	11	696546
Pb PM 2.5	9.8	11360	1.18	0.00001837	0.0000025	2.104058E-03	15	7.1E+03	11	78420
PbS PM 2.5	9.8	7600	1.18	0.00001837	0.0000025	1.407572E-03	15	1.1E+04	11	117223
Silt loam PM10	9.8	1280	1.18	0.00001837	0.00001	3.790128E-03	15	4.0E+03	11	43534
Pb PM10	9.8	11360	1.18	0.00001837	0.00001	3.366492E-02	15	4.5E+02	11	4901
PbS PM10	9.8	7600	1.18	0.00001837	0.00001	2.252115E-02	15	6.7E+02	11	7326
PbO PM10	9.8	9640	1.18	0.00001837	0.00001	2.856724E-02	15	5.3E+02	11	5776
PbSO4 PM10	9.8	6290	1.18	0.00001837	0.00001	1.863861E-02	15	8.0E+02	11	8853
Pb PM250	9.8	11360	1.18	0.00001837	0.00025	2.104058E+01	15	7.1E-01	11	8
PbS PM250	9.8	7600	1.18	0.00001837	0.00025	1.407572E+01	15	1.1E+00	11	12

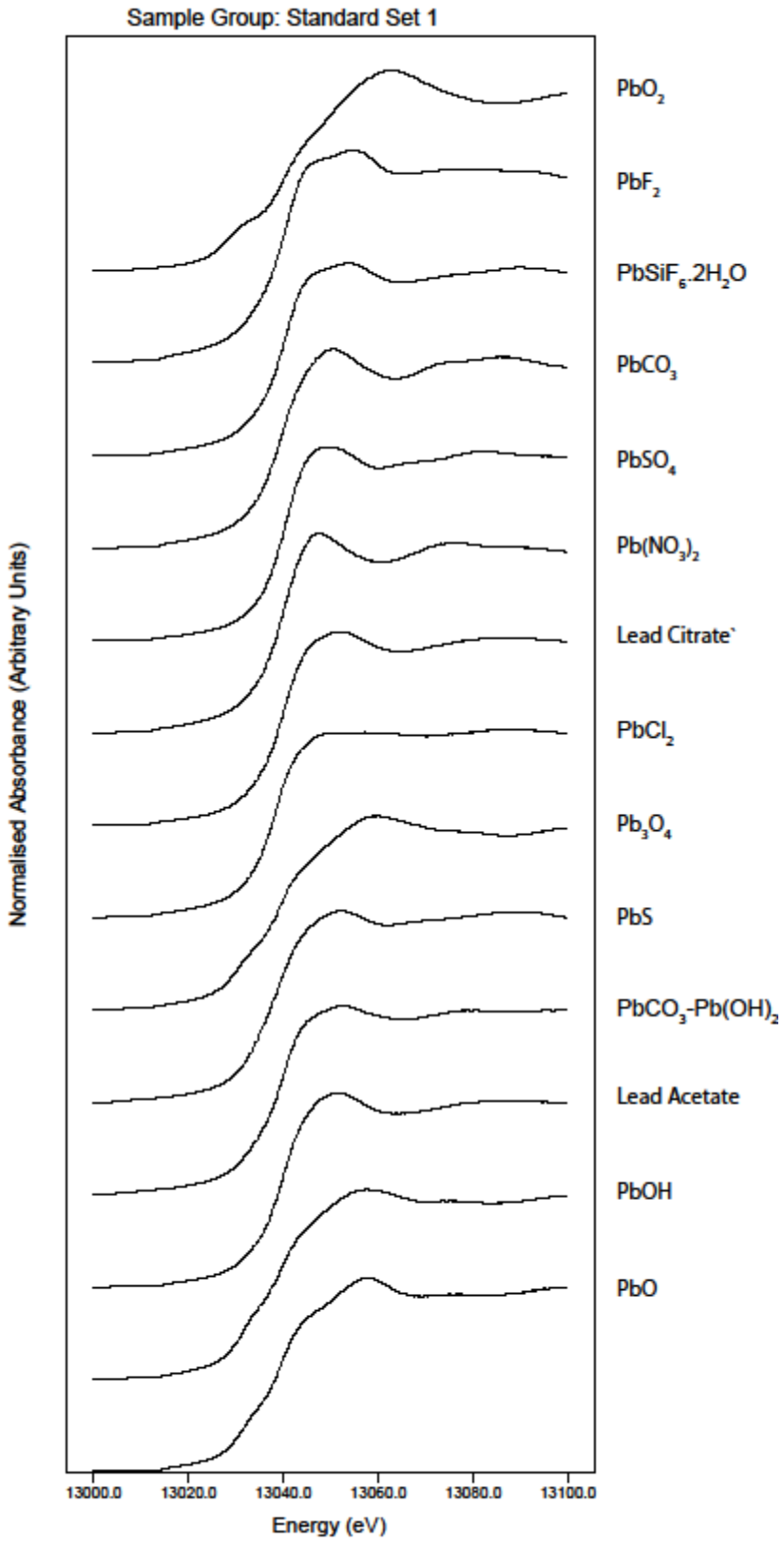
Note: Weather condition (25°, 1 atm)

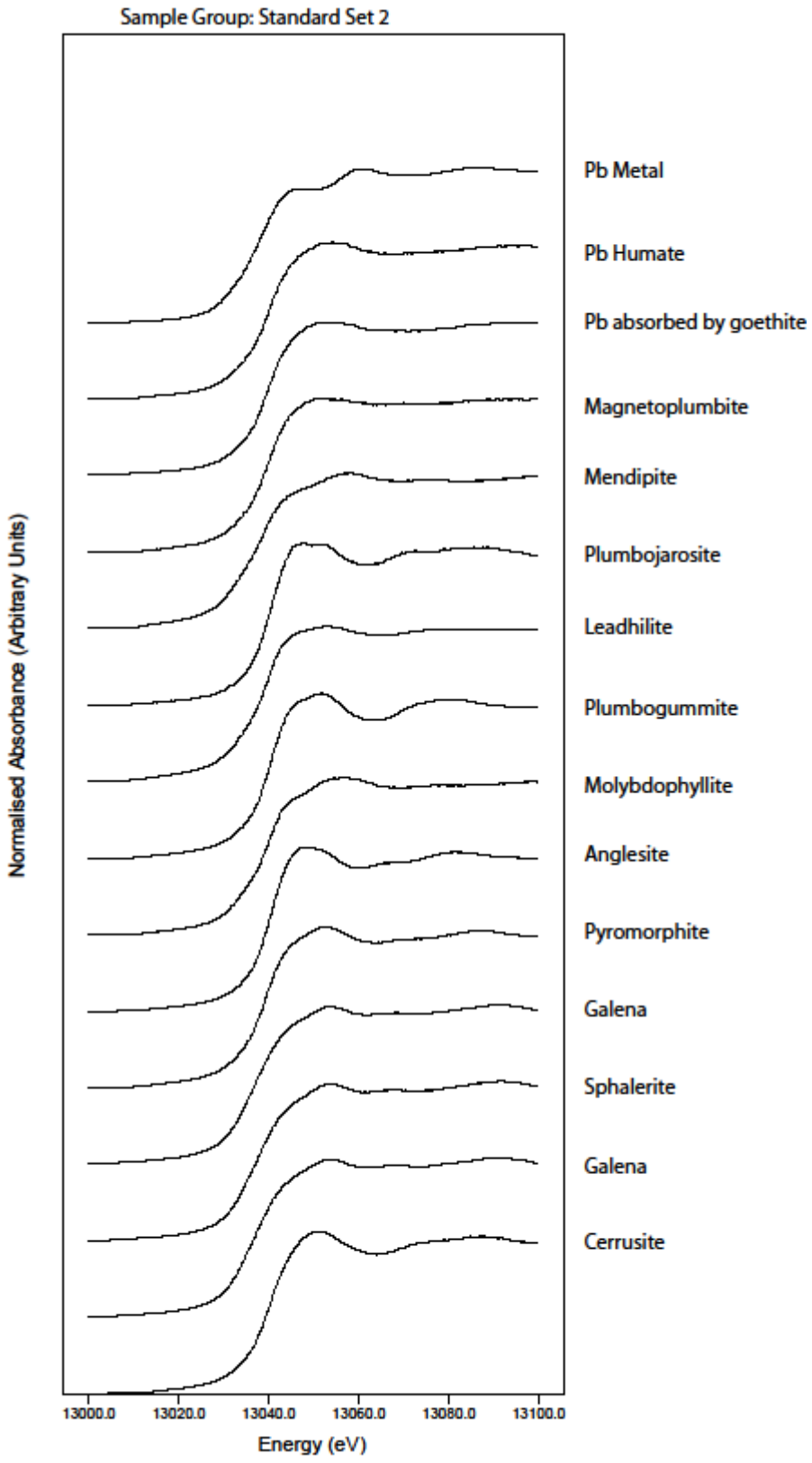
A4 - 6: XANES scans and LCF with models compounds

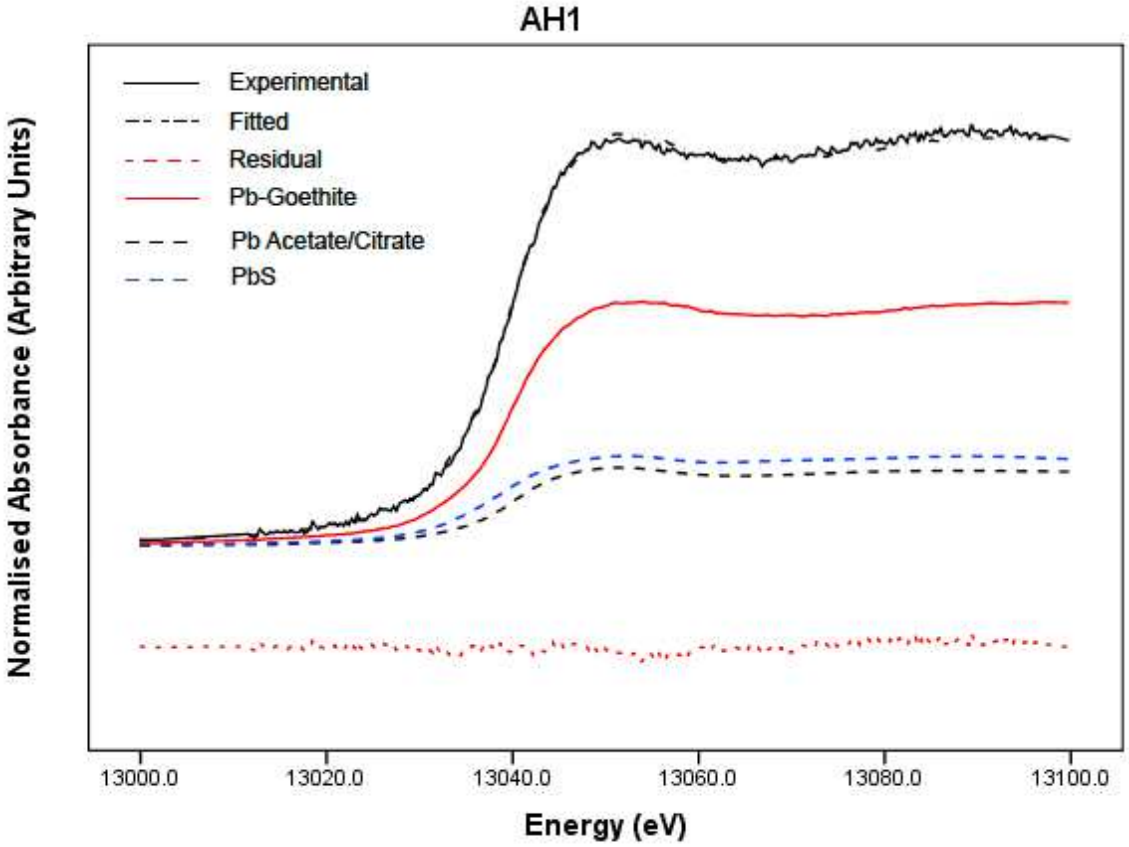

Principle Component 2
Principle Component 1
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1.5
-1
-0.5
0
0.5
1
MC21
MC19
MIN2
MIN4
MC5
MIN3
MIN19
MC8
MIN17
MC13
MC4
MC17
MC2
PbII
MIN6
MC6
MC1
MC12
MIN21
MIN15
MC3
MC14
MIN13
MIN20R
PbHA
MIN18
MIN1R
MIN22
PbG
PbD2

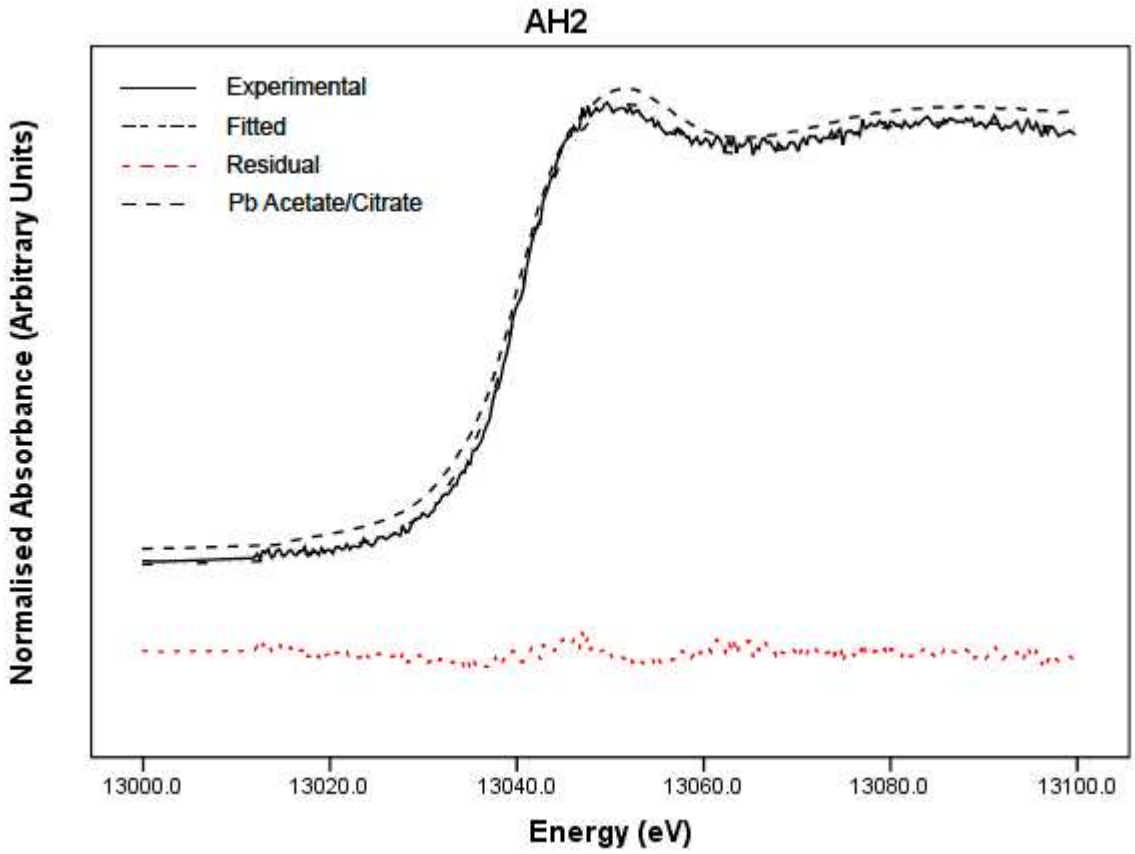

Principle Component 3
Principle Component 1
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-1.5
-1
-0.5
0
0.5
1
PbO2
MC6
MC21
MC2
MC1
MIN21
MIN15
PbHA
MIN20R
PbG
MC4
MC5
MIN19
PbIJ
MC19
MC18
MC12
MC3
MC14
MC17
MIN16
MIN13
MIN18

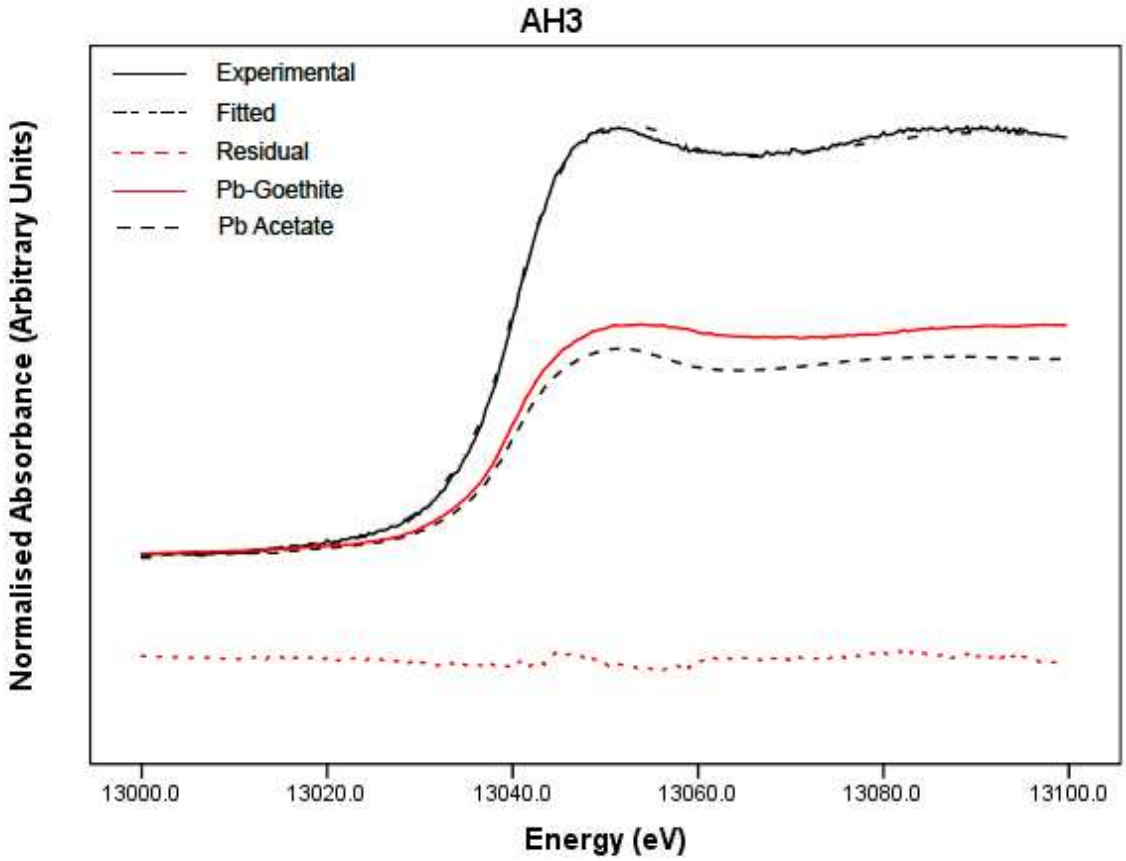

0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-1.5
-1
-0.5
0
0.5
1
Principle Component 4
Principle Component 1
PbHA
MC1
MIN22
PbG
MIN15
MC18
MC3
MIN6
MC12
MIN1R
MC2
MC21
MIN19
MIN21
MIN3
MIN20R
MC1
MC5
MC17
MC19
MIN16
MIN17
MC6
MC8
MC14
MIN11
MIN18
PbII
PbO2
MC13

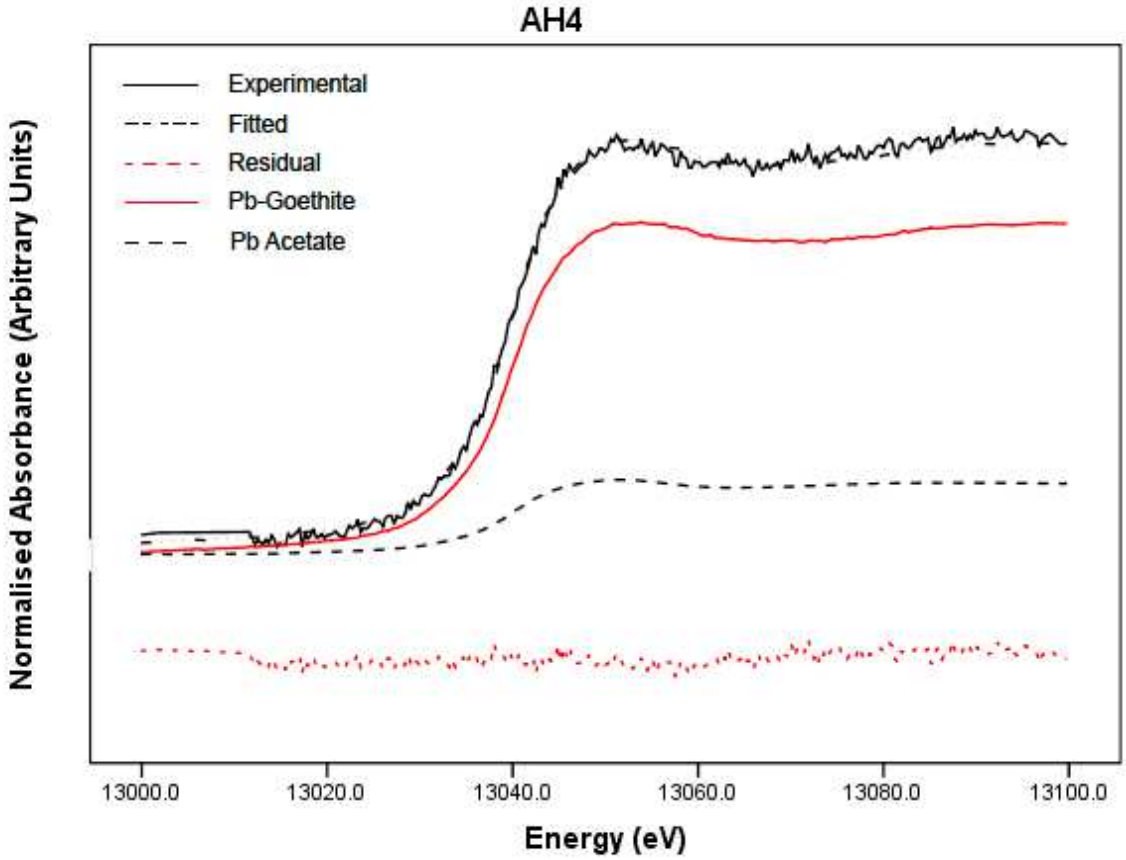

Sample Group: Standard Set 1
PbO2
PbF2
PbSiF6.2H2O
PbCO3
PbSO4
Pb(NO3)2
Lead Citrate`
PbCl2
Pb3O4
PbS
PbCO3-Pb(OH)2
Lead Acetate
PbOH
PbO
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

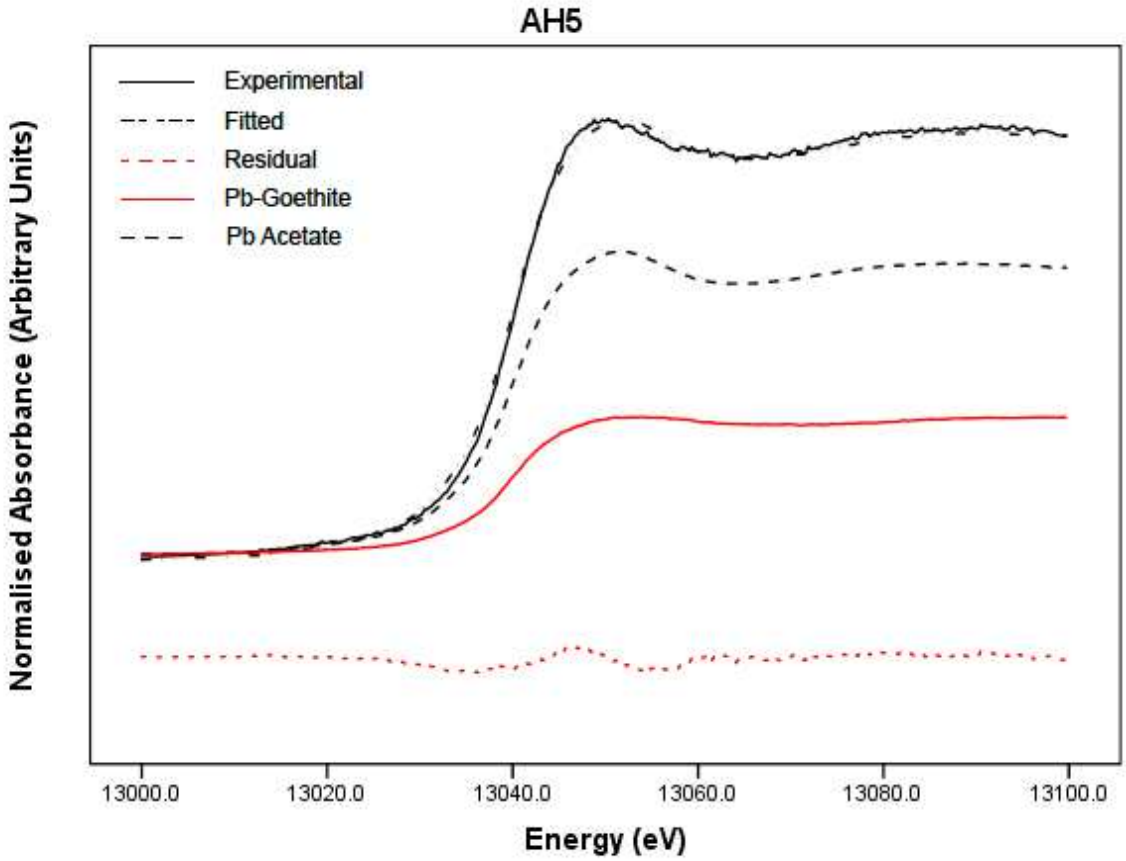

Sample Group: Standard Set 2
Normalised Absorbance (Arbitrary Units)
Pb Metal
Pb Humate
Pb absorbed by goethite
Magnetoplumbite
Mendipite
Plumbojarosite
Leadhilite
Plumbogummite
Molybdophyllite
Anglesite
Pyromorphite
Galena
Sphalerite
Galena
Cerrusite
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

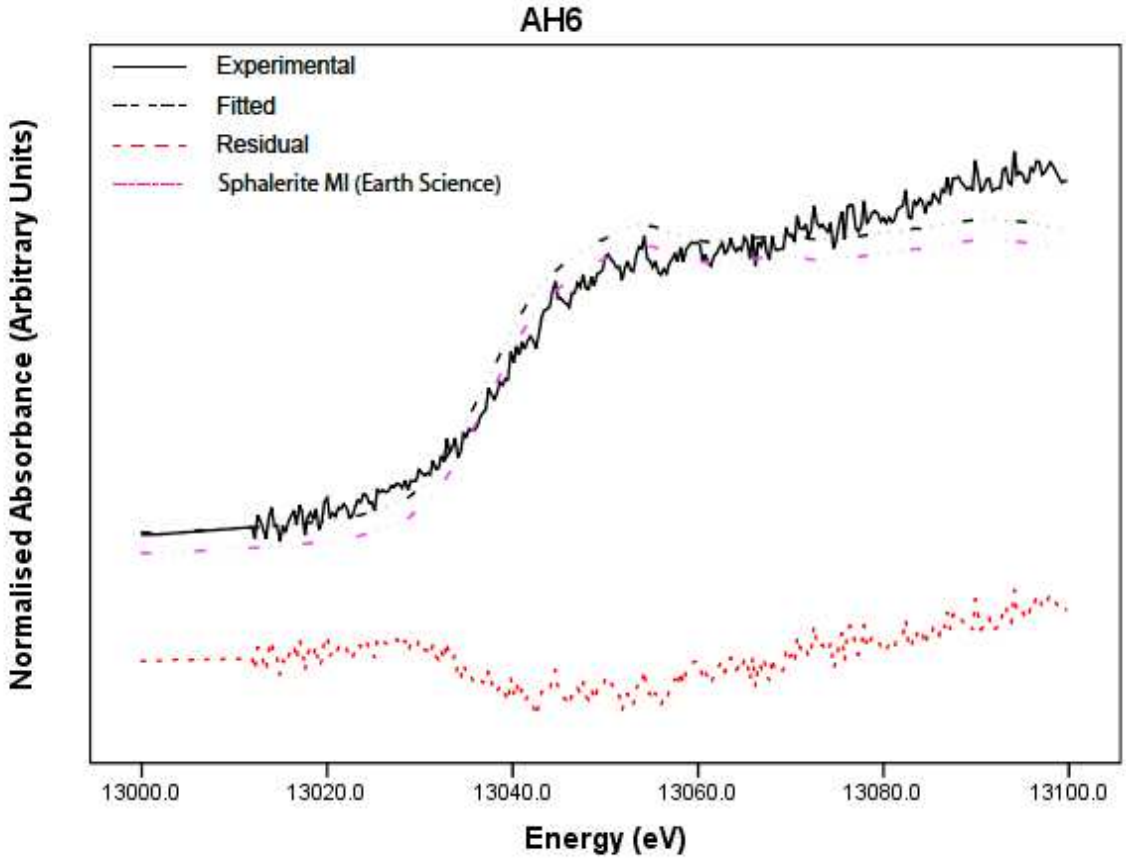

AH1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

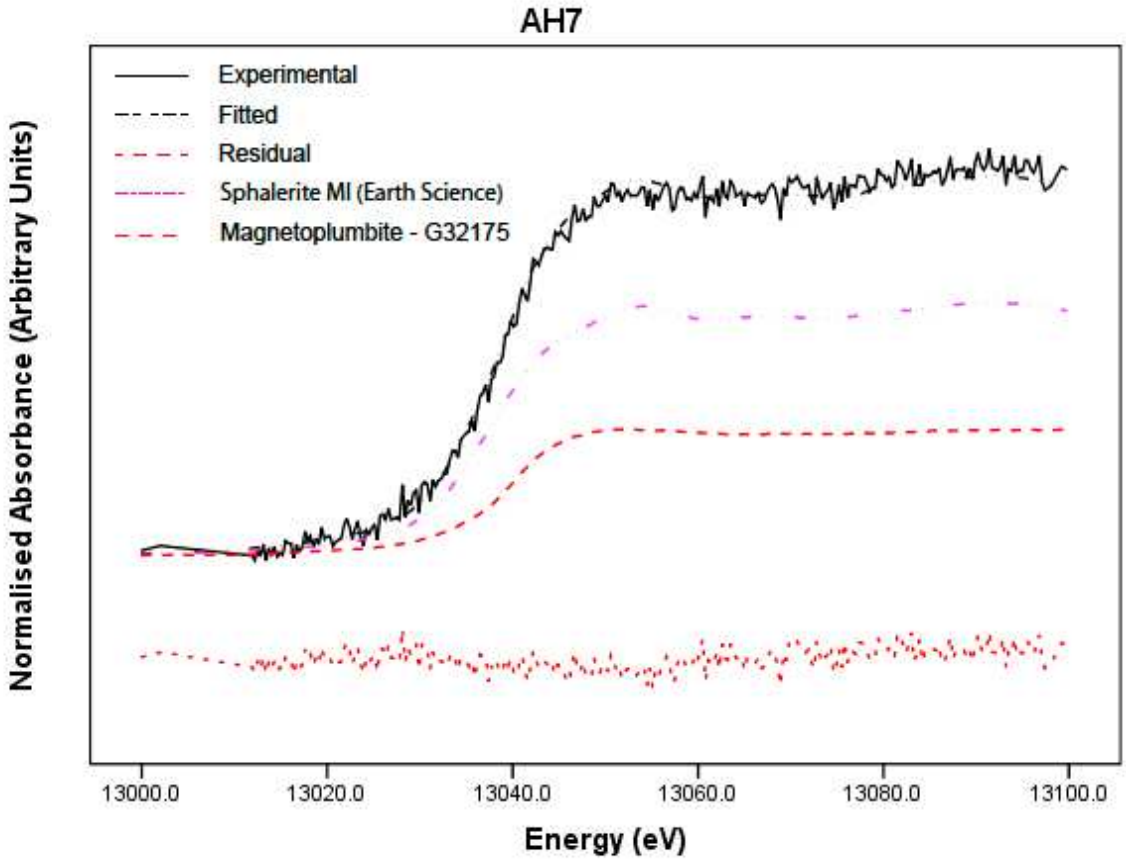

AH2
Experimental
Fitted
Residual
Pb Acetate/Citrate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

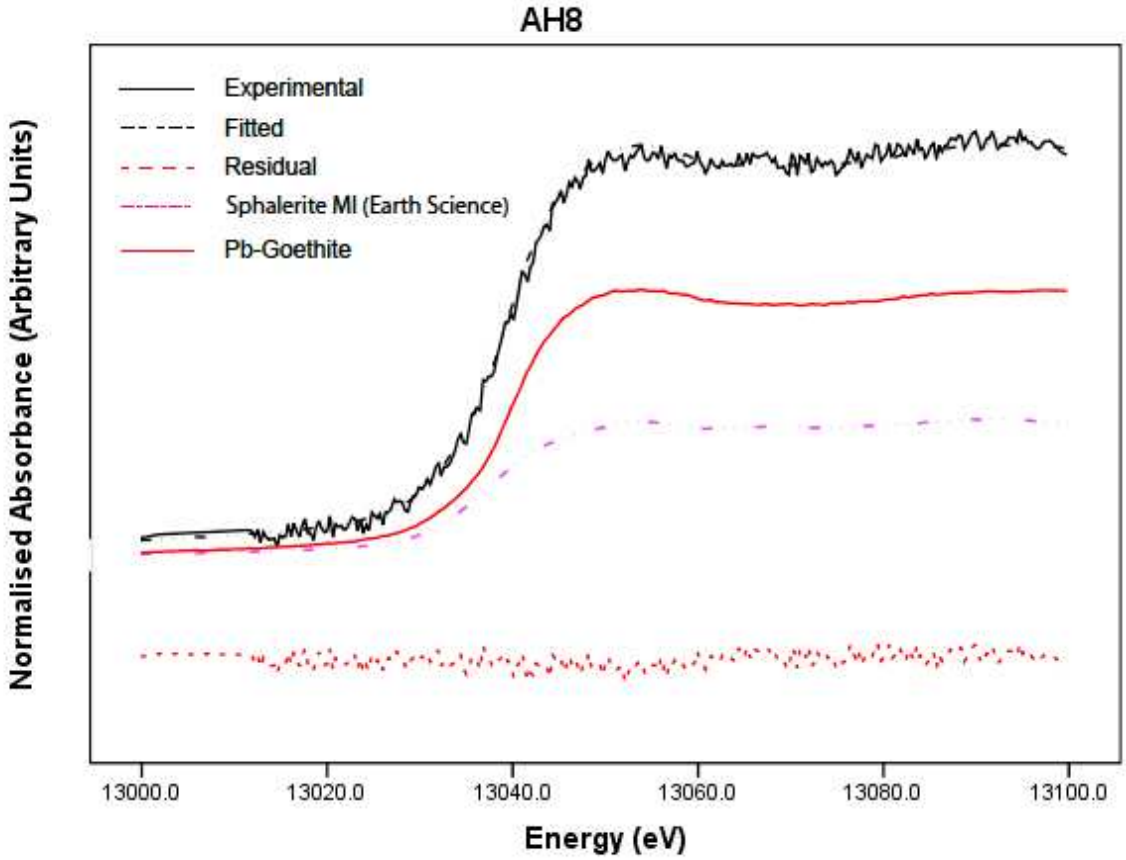

AH3
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

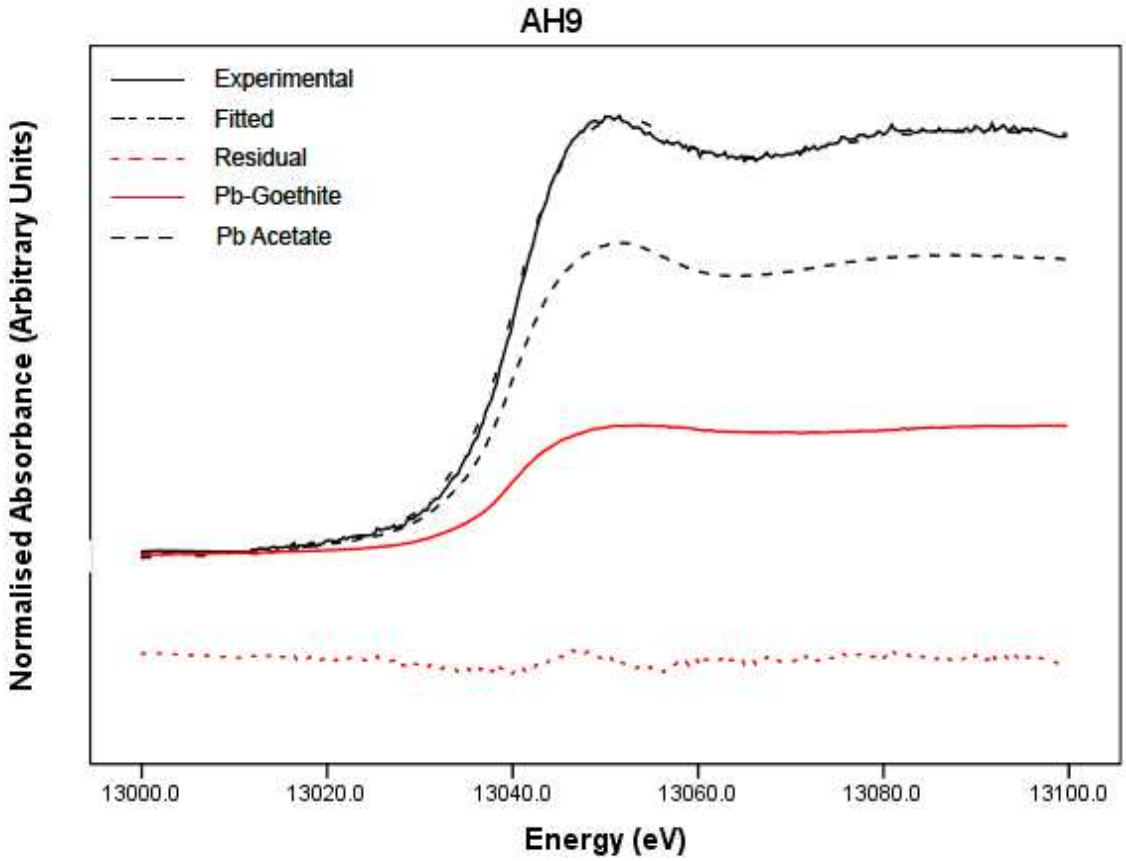

AH4
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

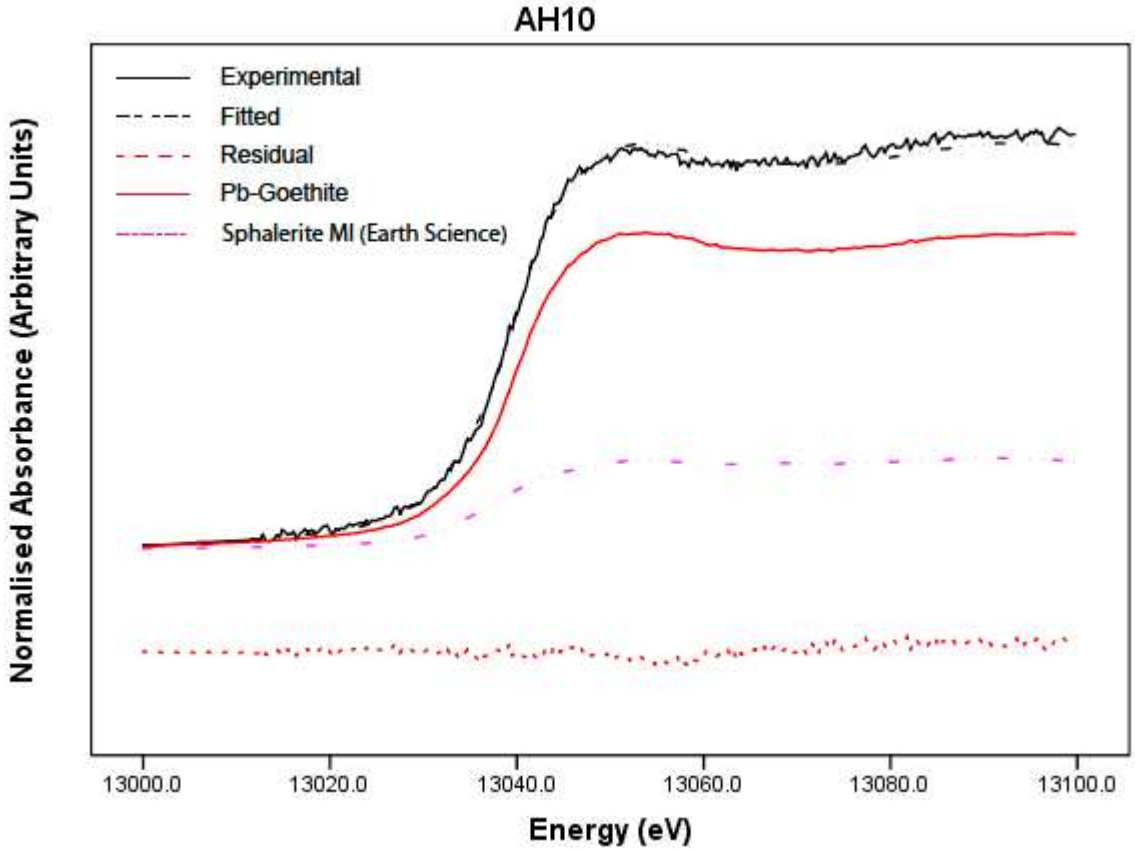

AH5
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

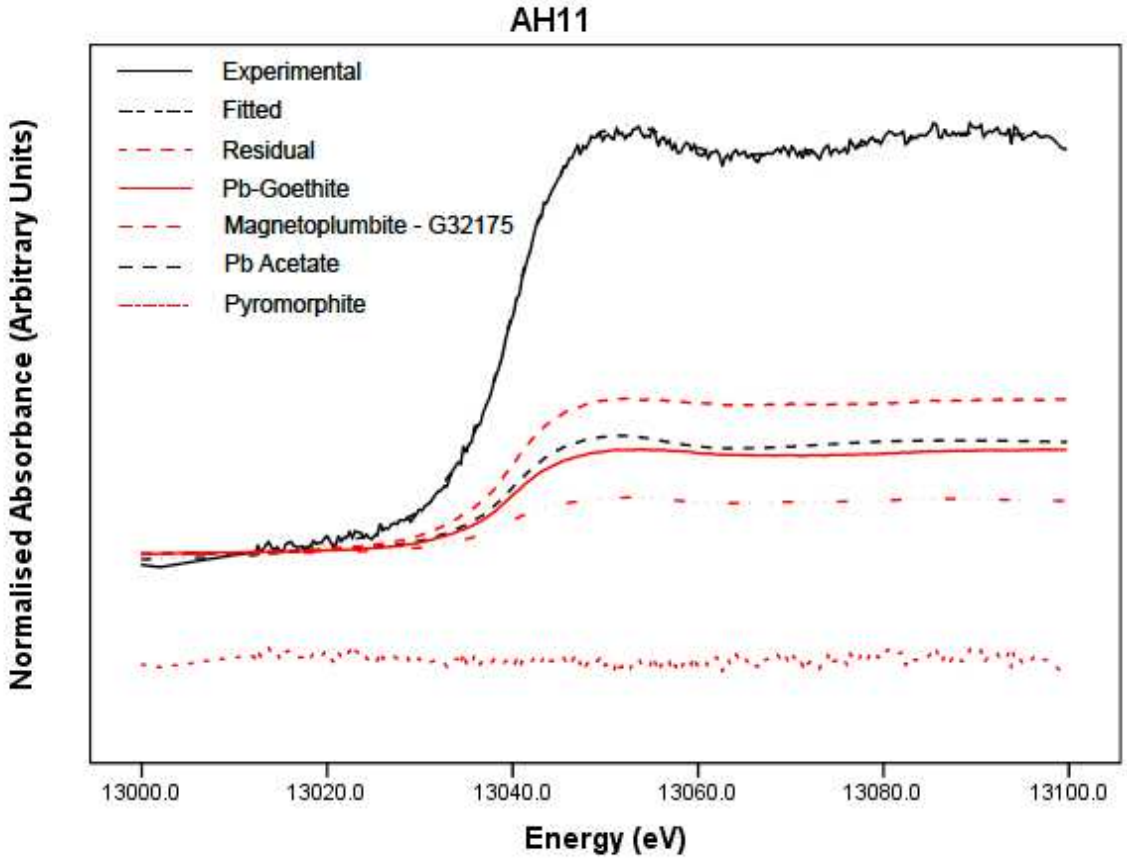

AH6
Experimental
Fitted
Residual
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

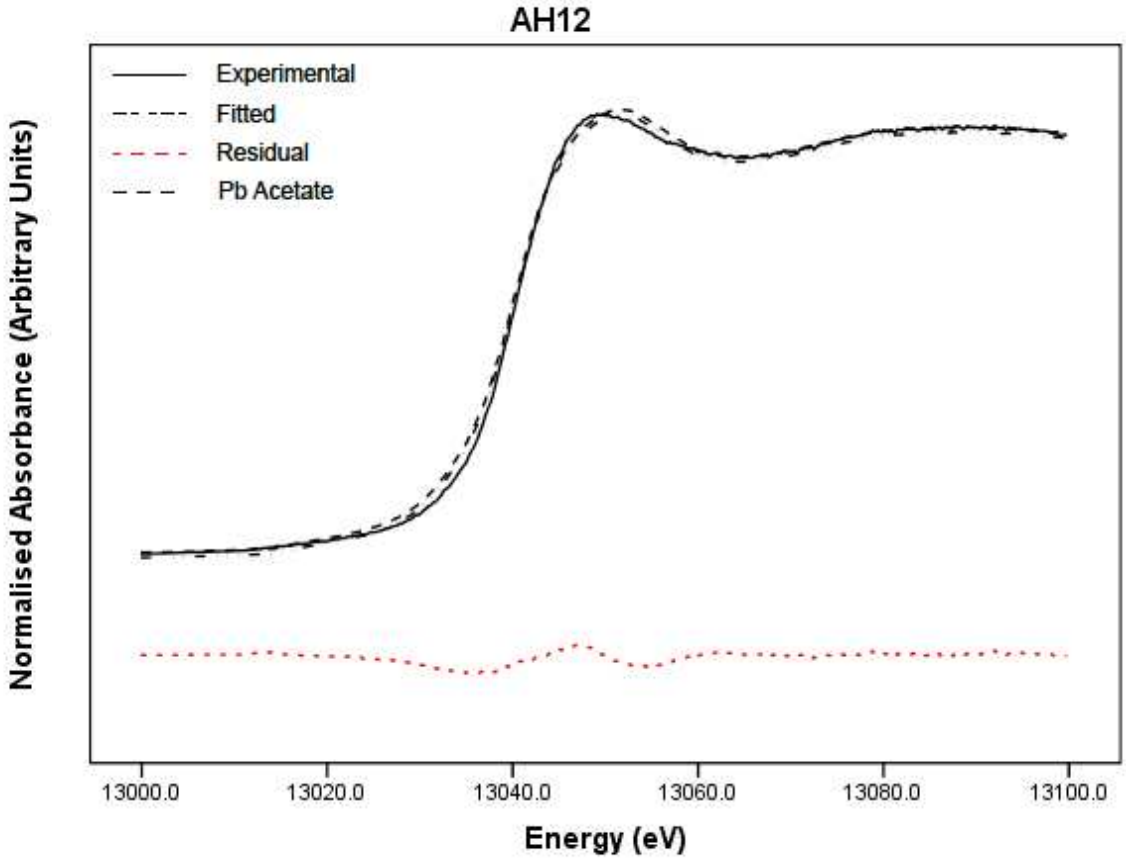

AH7
Experimental
Fitted
Residual
Sphalerite MI (Earth Science)
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

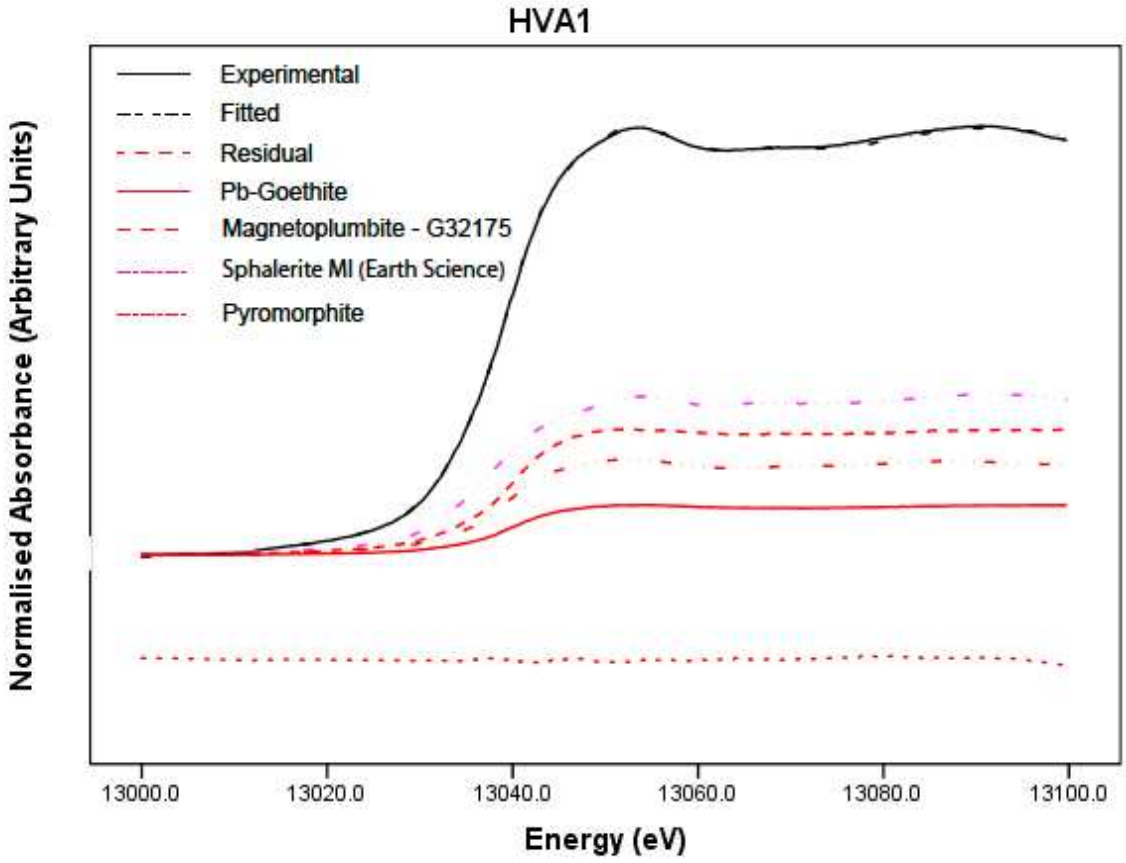

AH8
Experimental
Fitted
Residual
Sphalerite Ml (Earth Science)
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

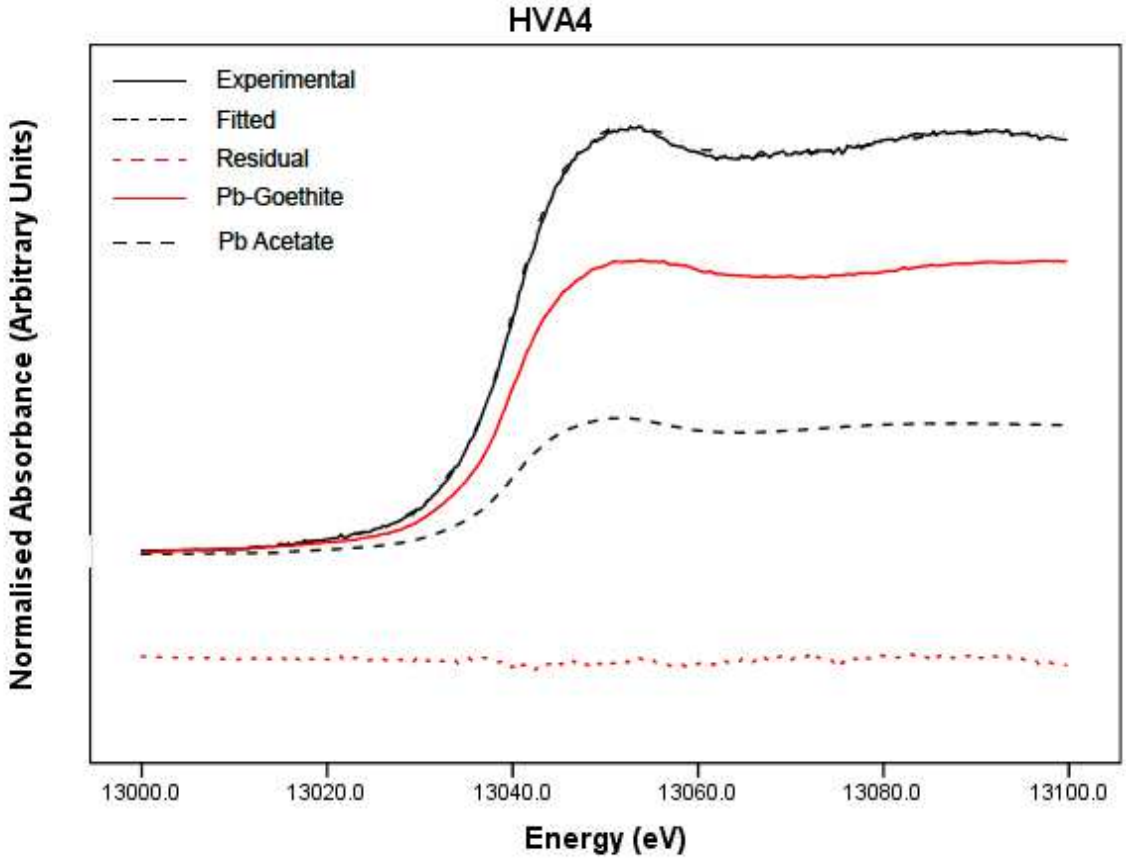

AH9
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

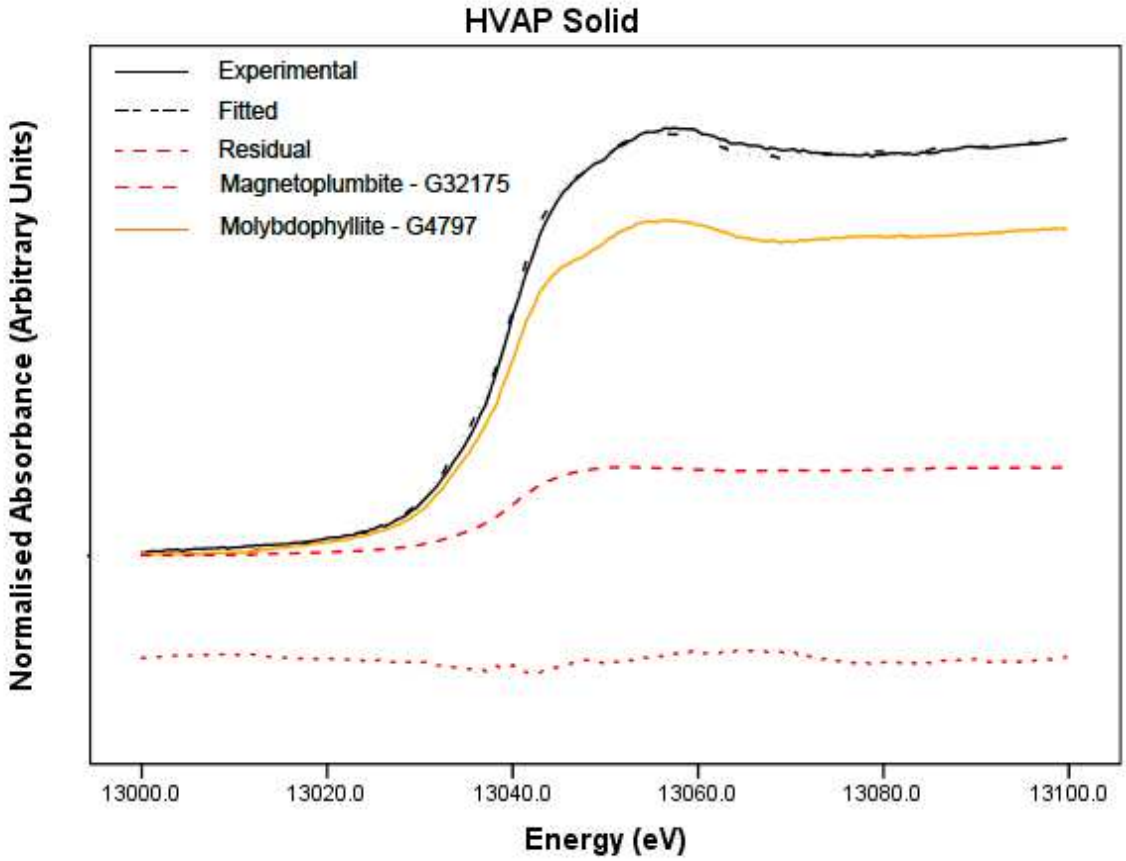

AH10
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

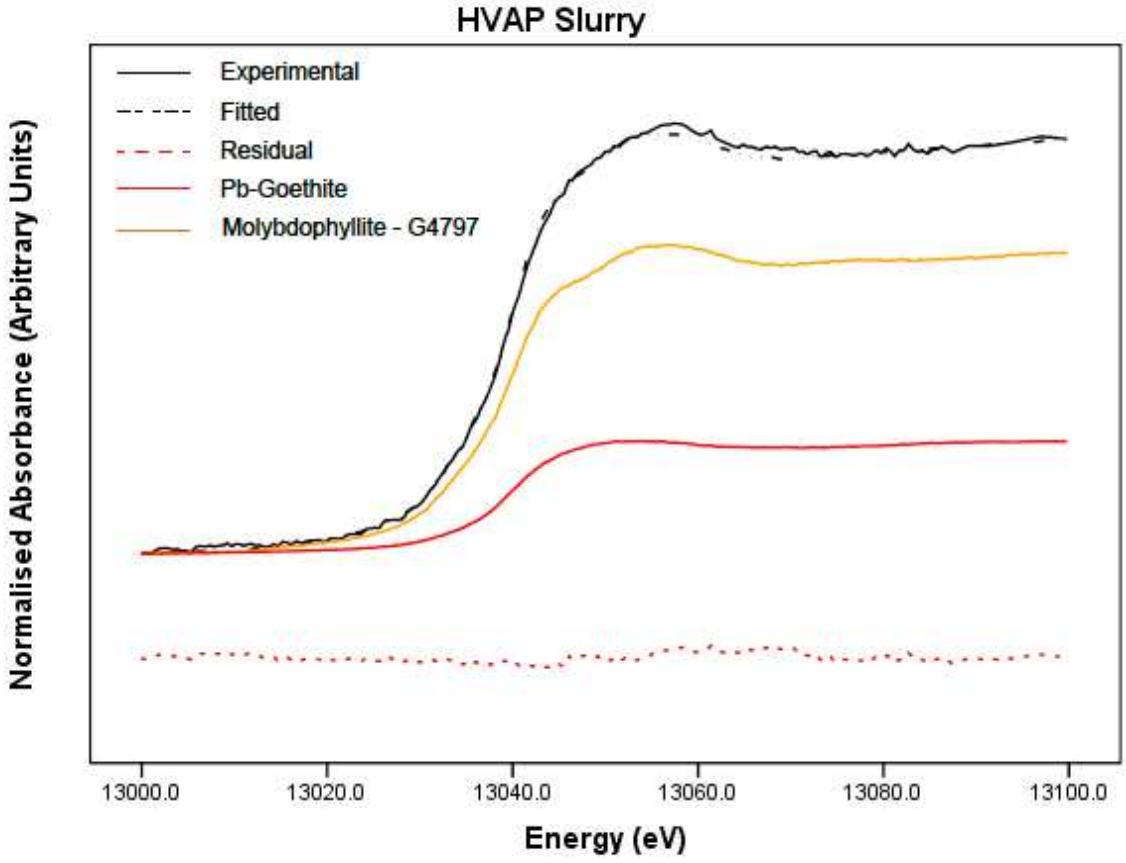

AH11
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Pb Acetate
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

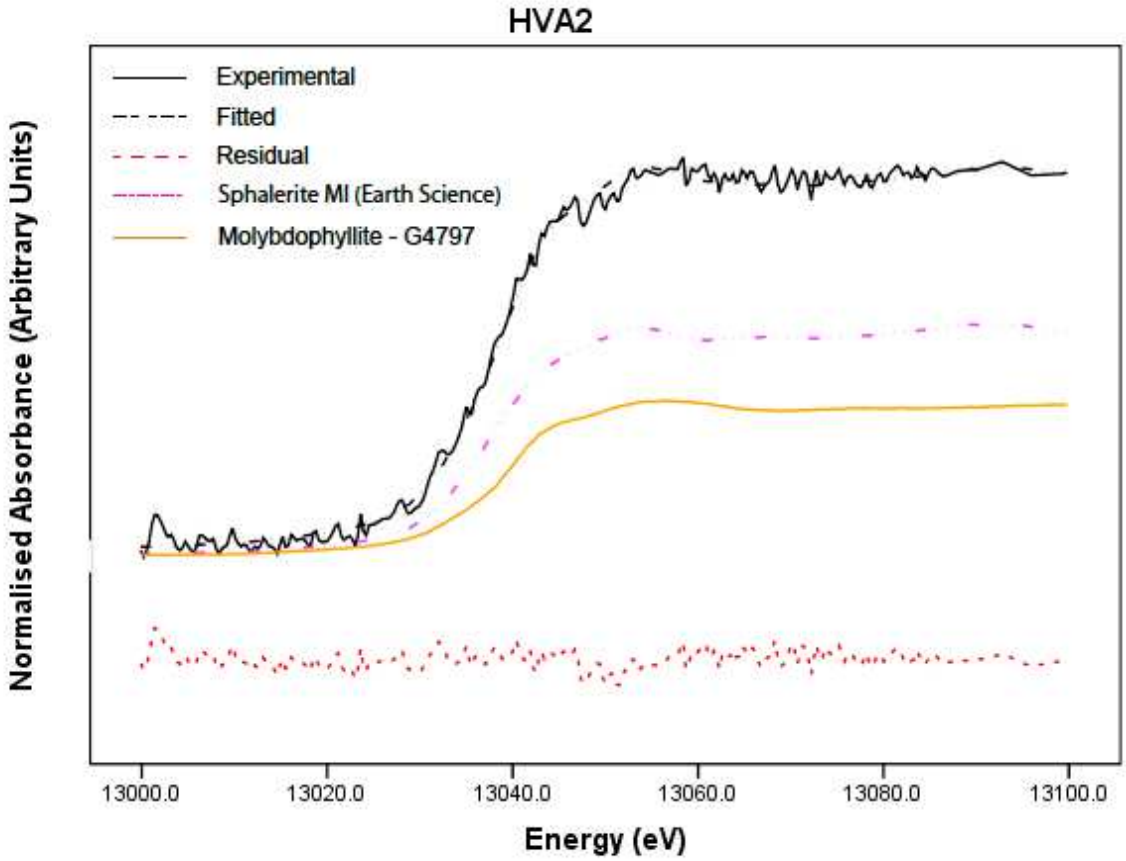

AH12
Experimental
Fitted
Residual
Pb Acetate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

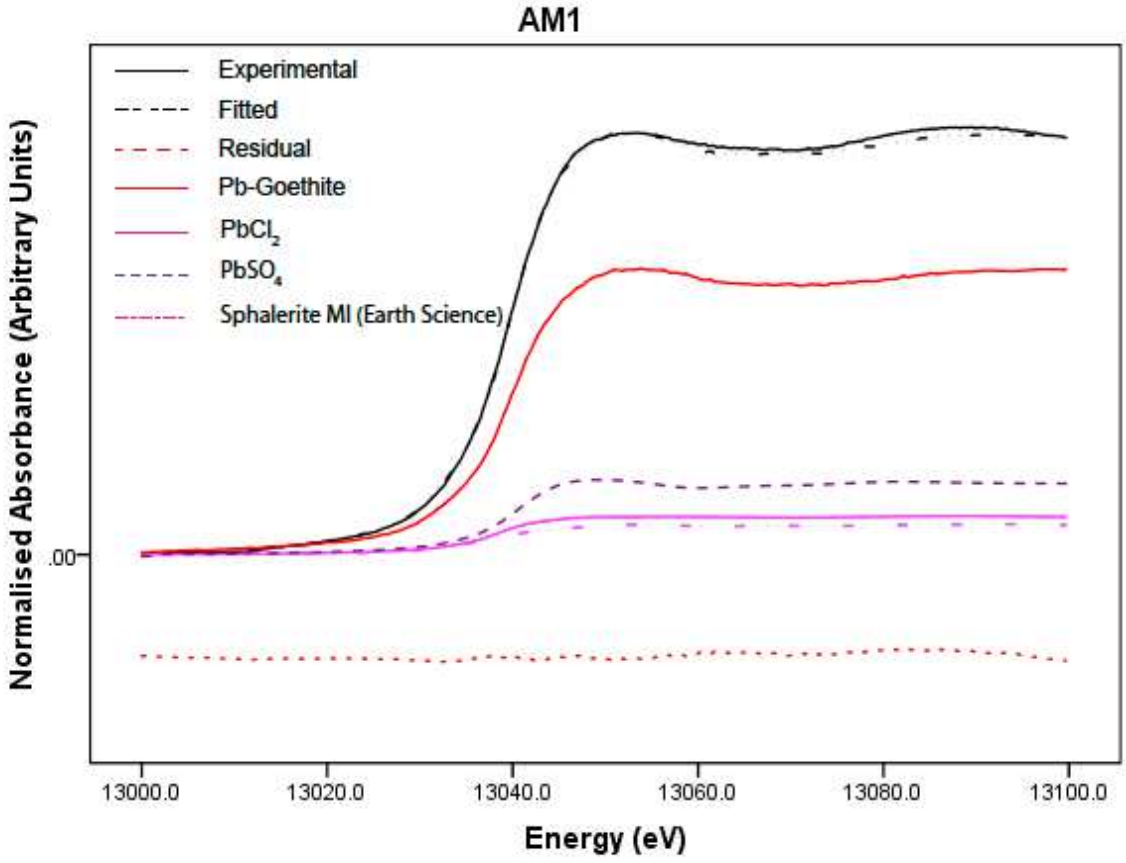

HVA1
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

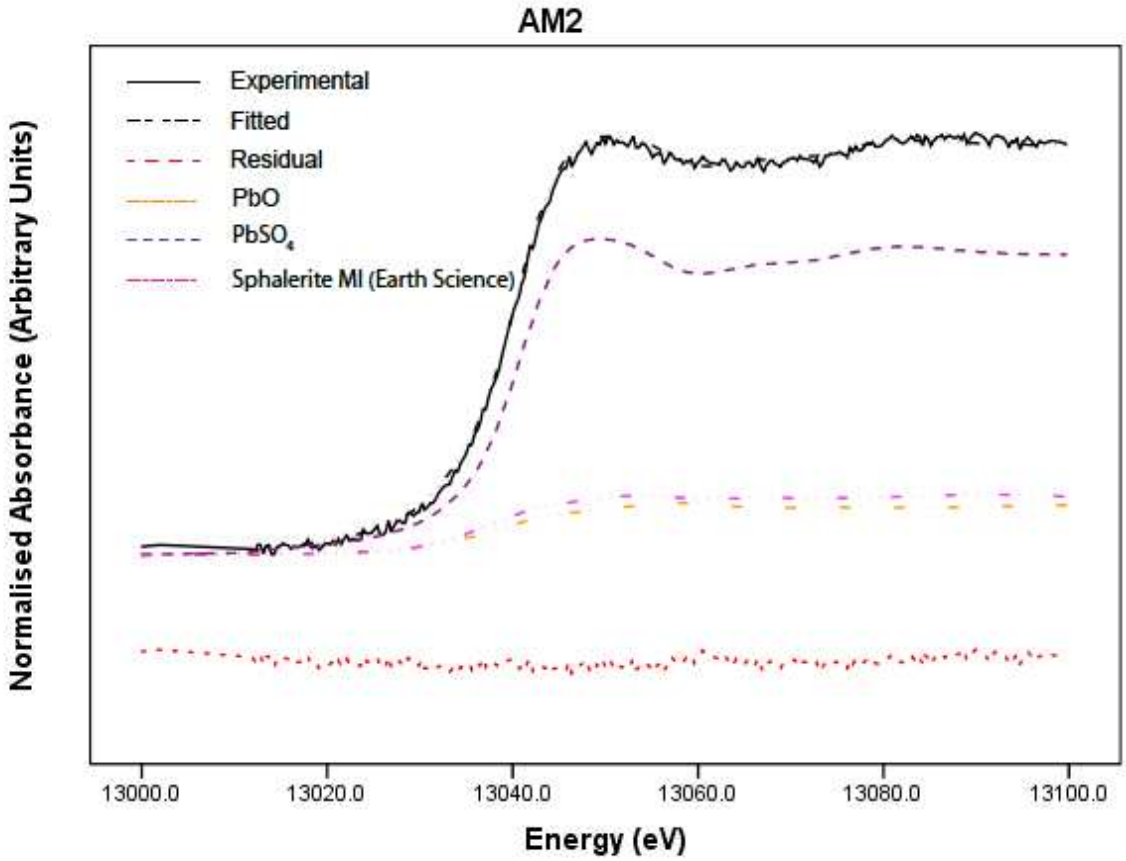

HVA4
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

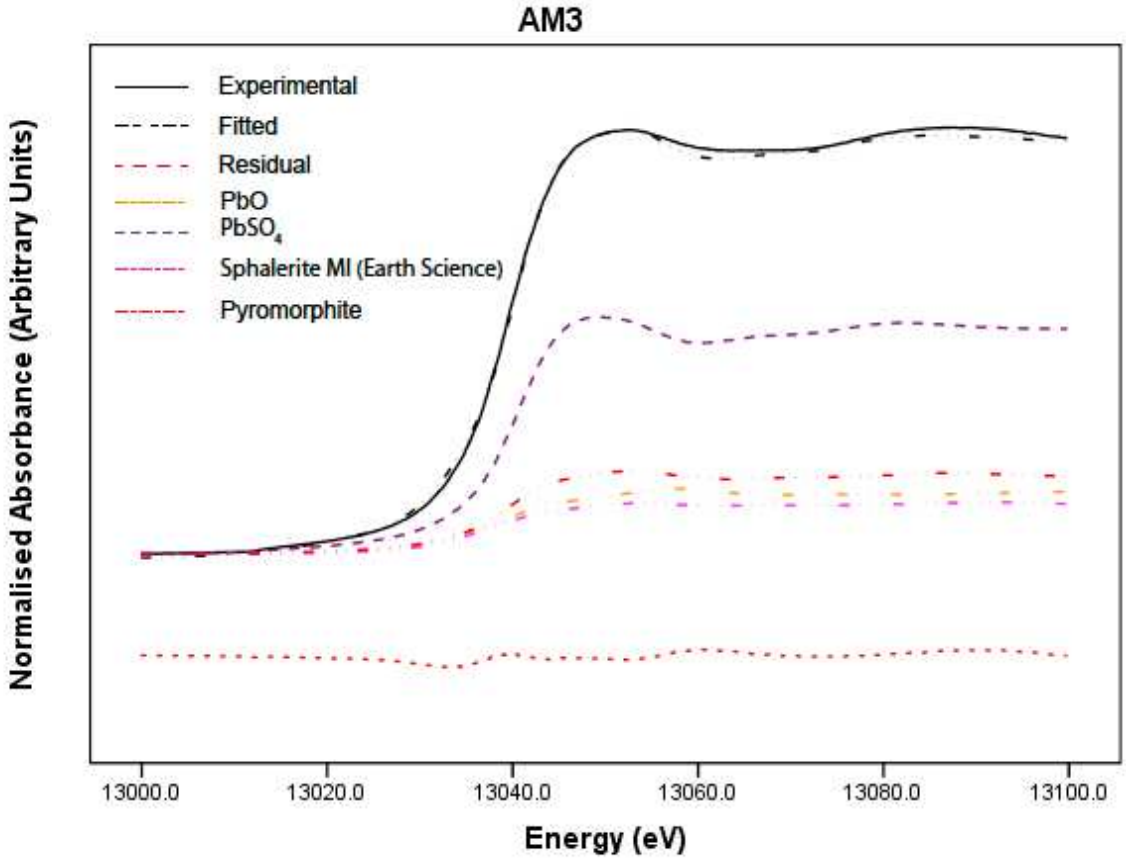

HVAP Solid
Experimental
Fitted
Residual
Magnetoplumbite - G32175
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

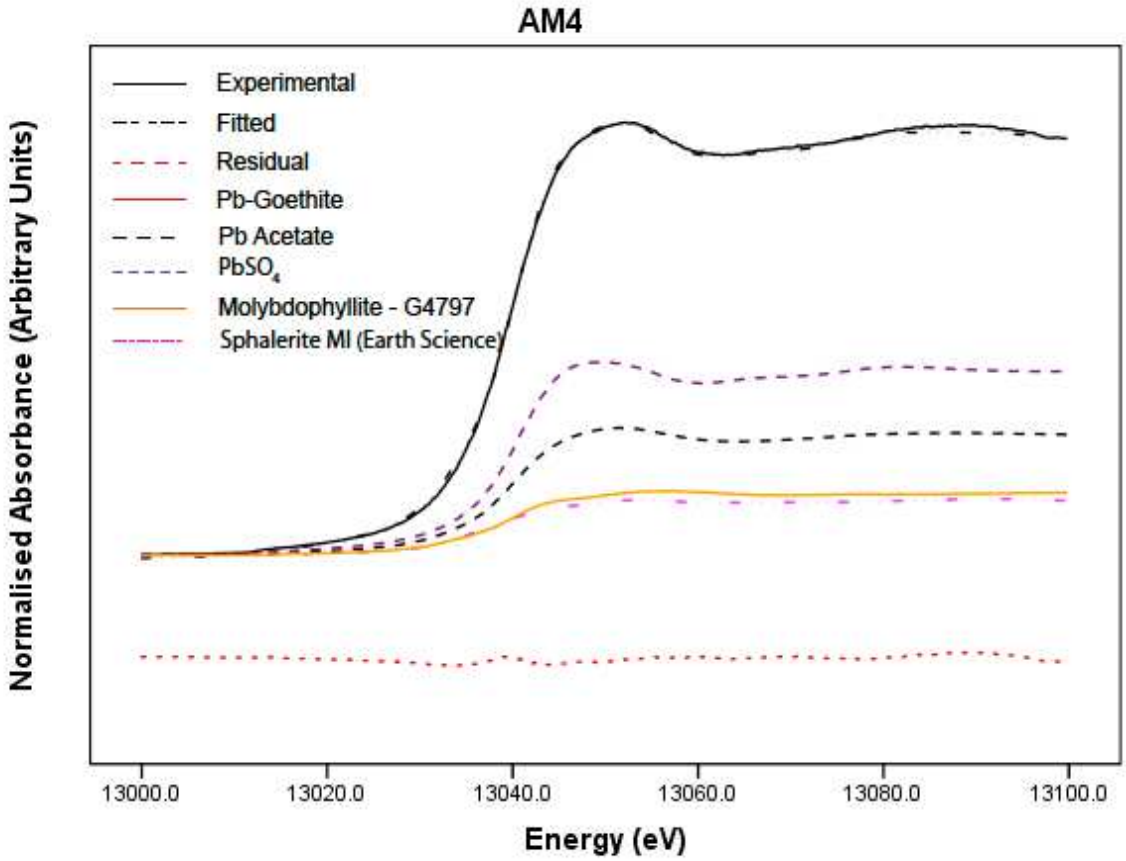

HVAP Slurry
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

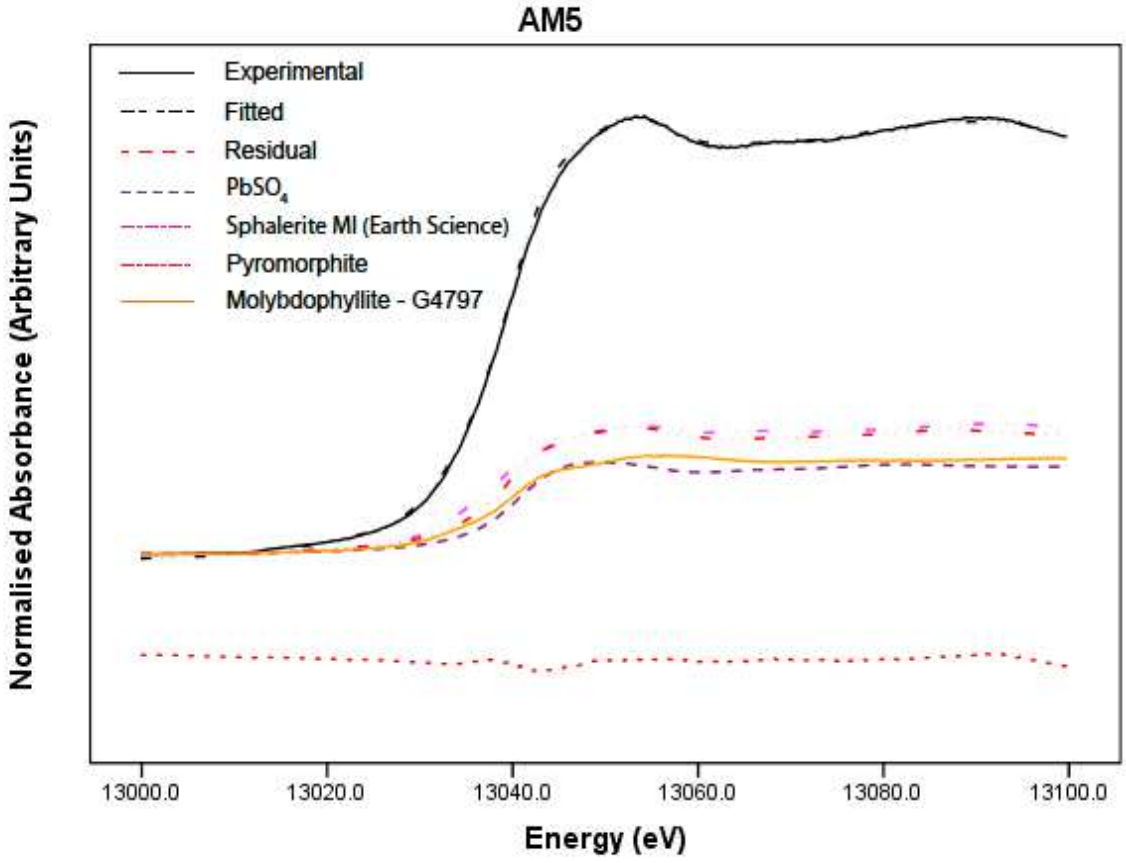

HVA2
Experimental
Fitted
Residual
Sphalerite MI (Earth Science)
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

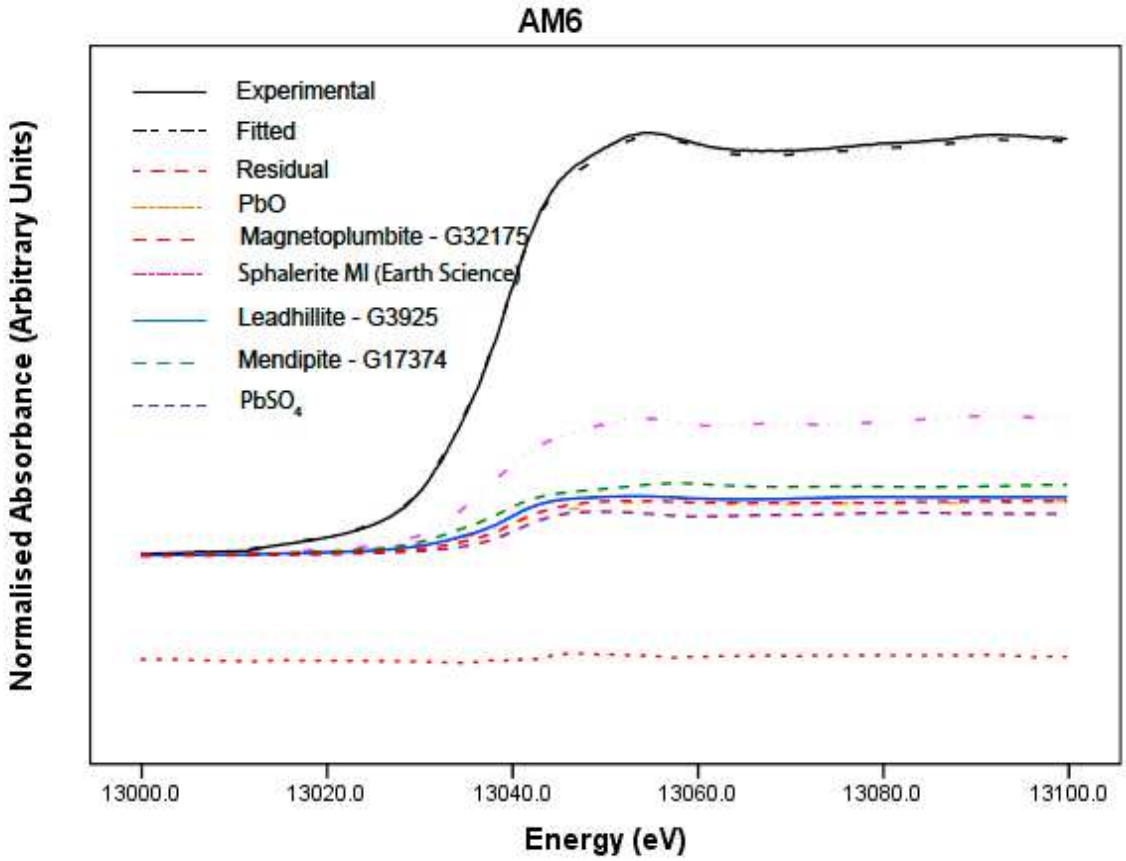

AM1
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
.00
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

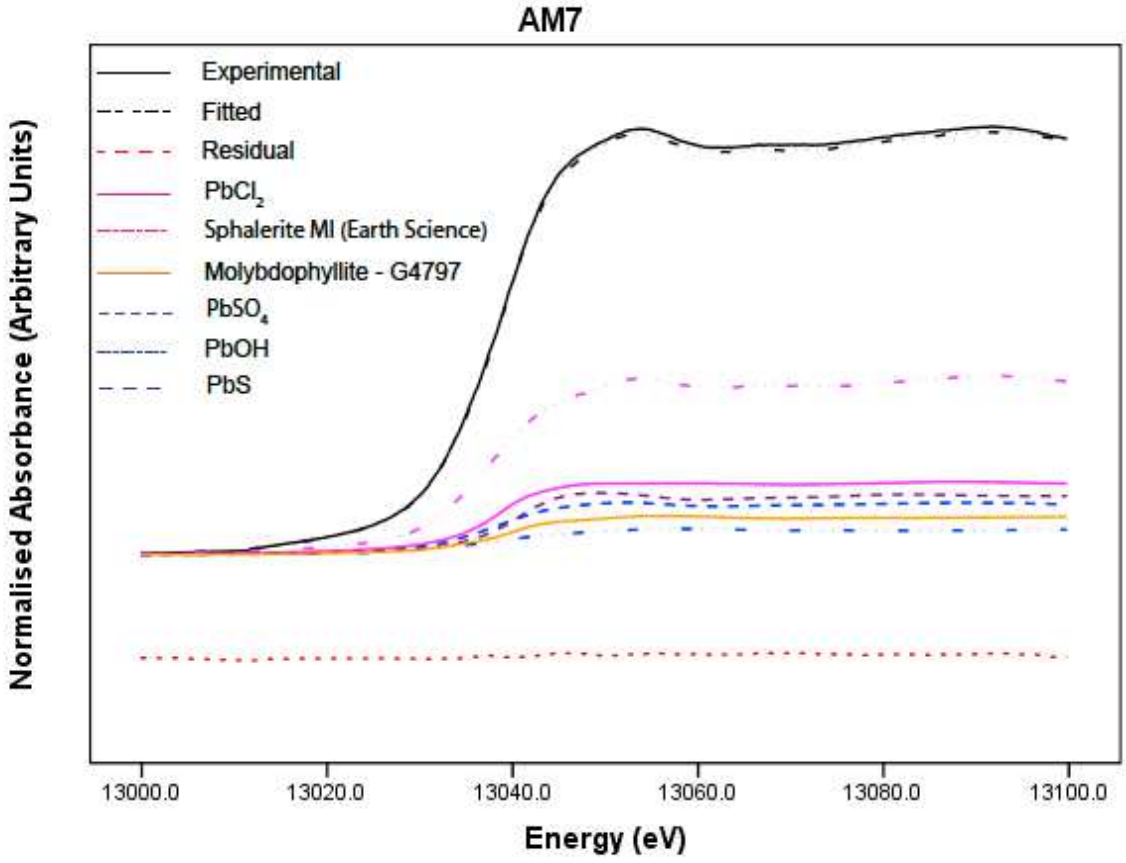

AM2
Experimental
Fitted
Residual
PbO
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

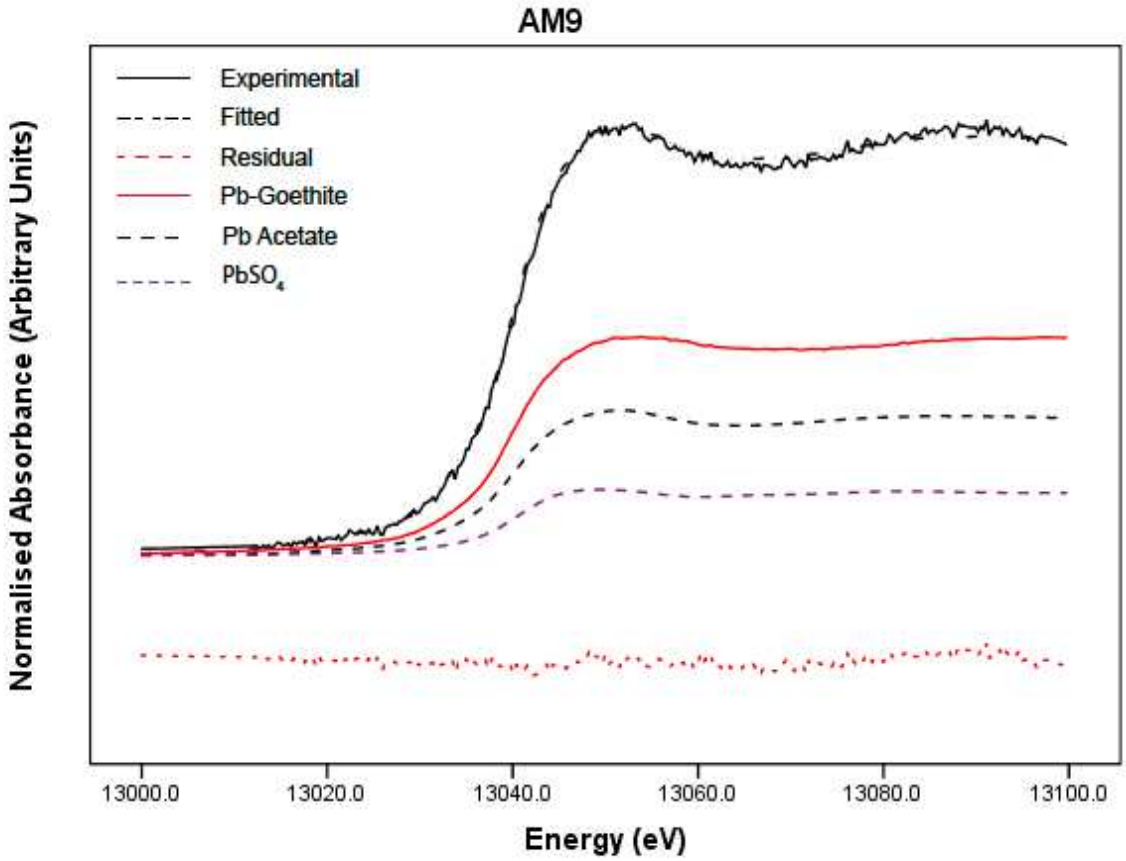

AM3
Experimental
Fitted
Residual
PbO
PbSO4
Sphalerite MI (Earth Science)
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

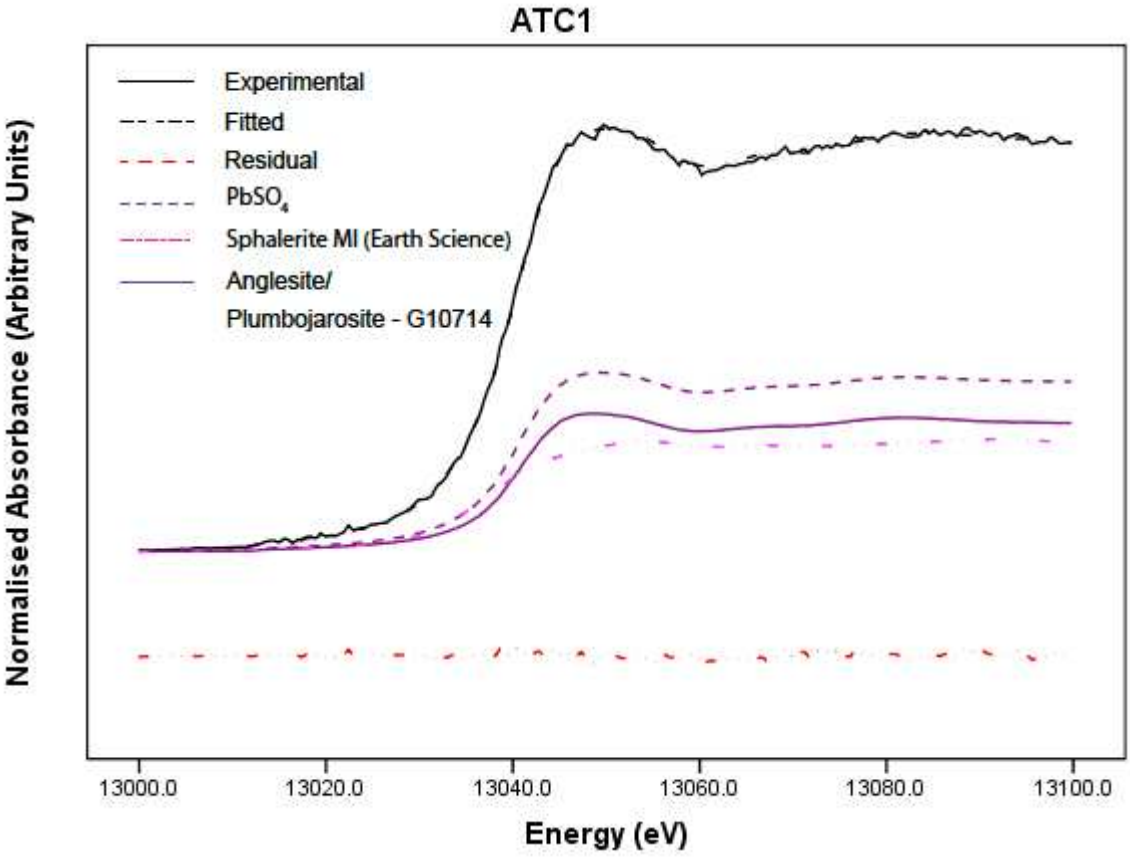

AM4
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
PbSO4
Molybdophyllite - G4797
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

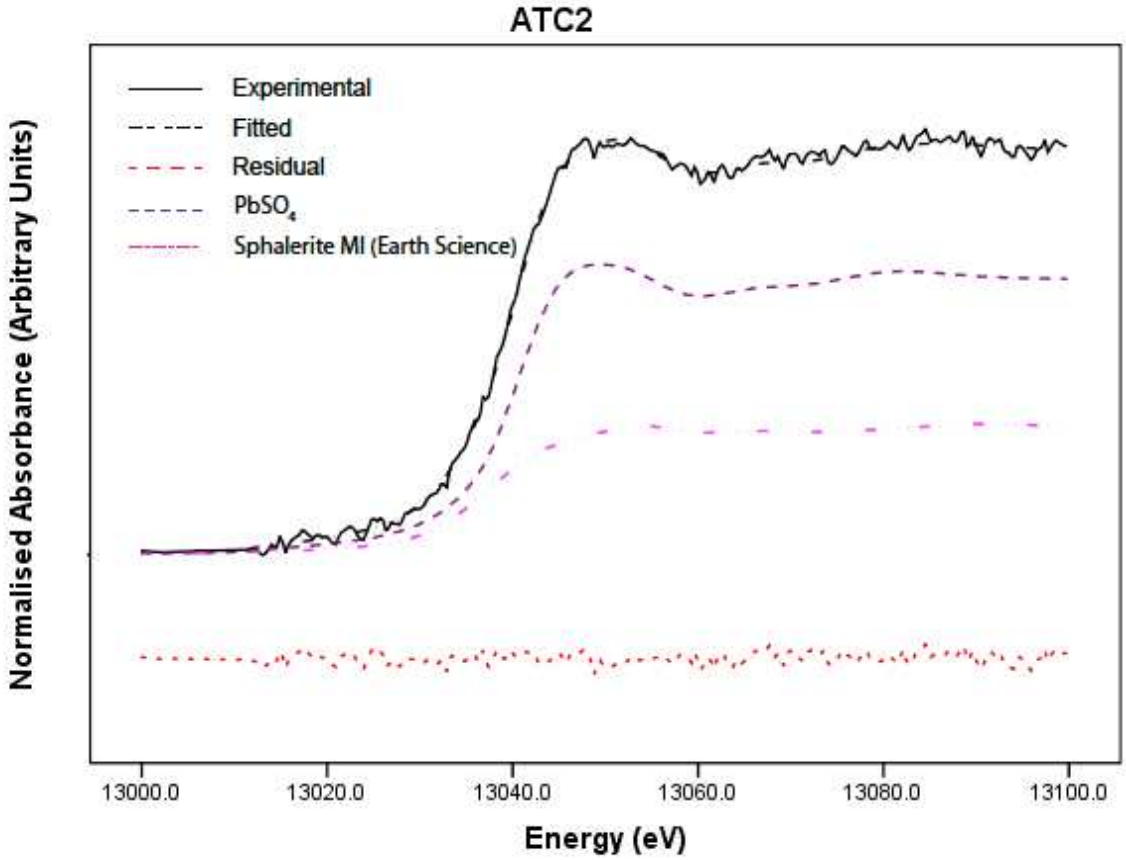

AM5
Experimental
Fitted
Residual
PbSO4
Sphalerite MI (Earth Science)
Pyromorphite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

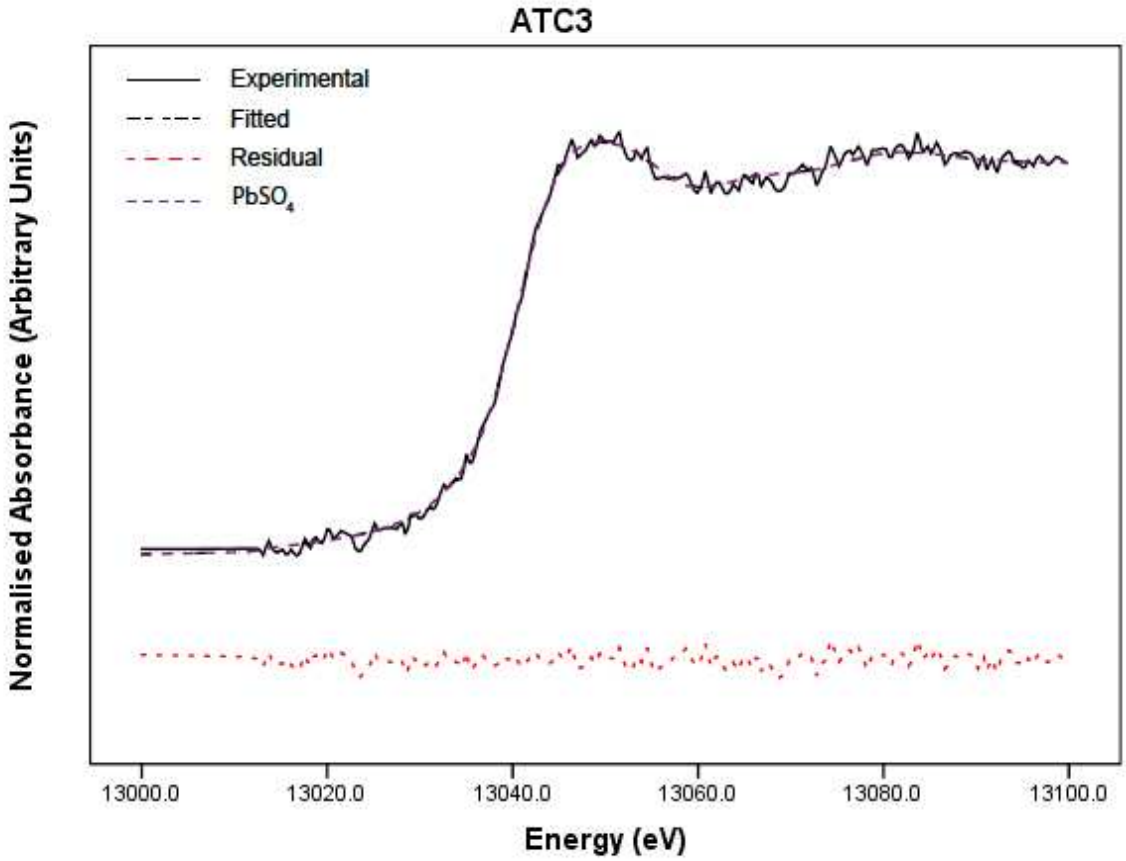

AM6
Experimental
Fitted
Residual
PbO
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Leadhillite - G3925
Mendipite - G17374
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

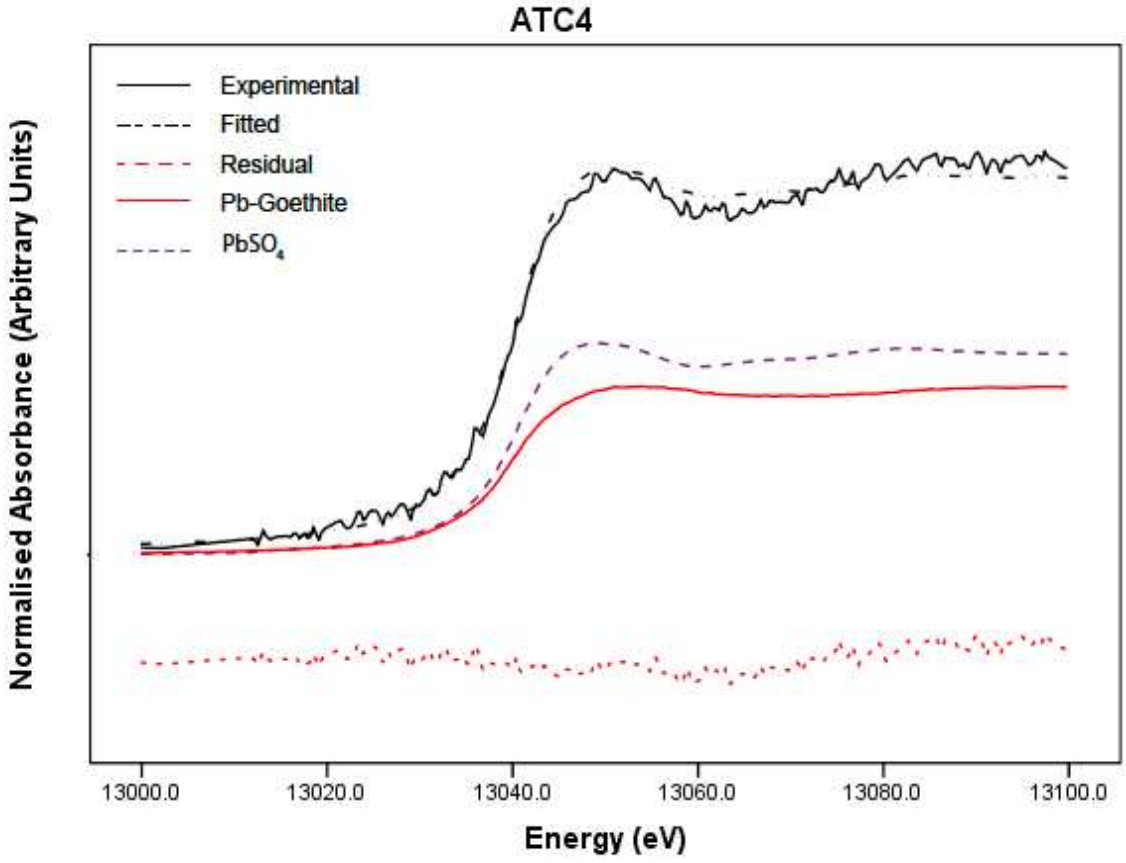

AM7
Experimental
Fitted
Residual
PbCl2
Sphalerite MI (Earth Science)
Molybdophyllite - G4797
PbSO4
PbOH
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

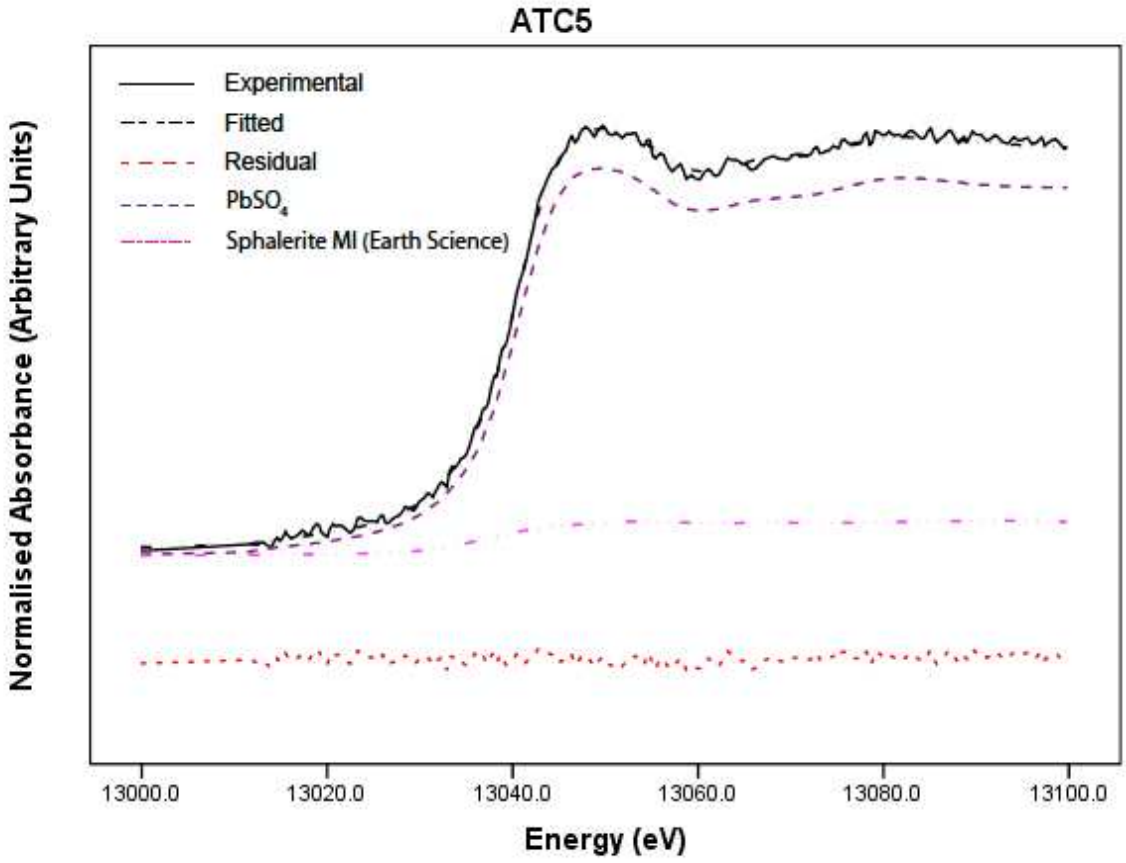

AM9
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

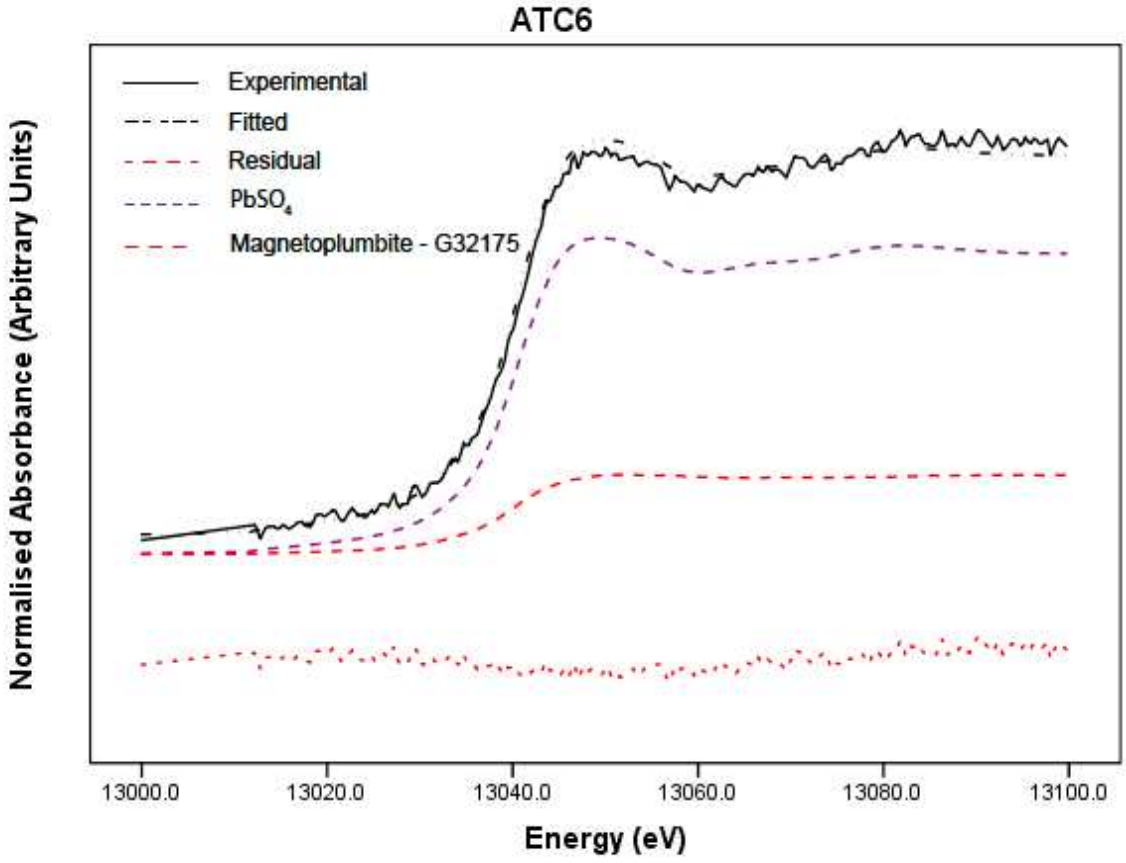

ATC1
Experimental
Fitted
Residual
PbSO4
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

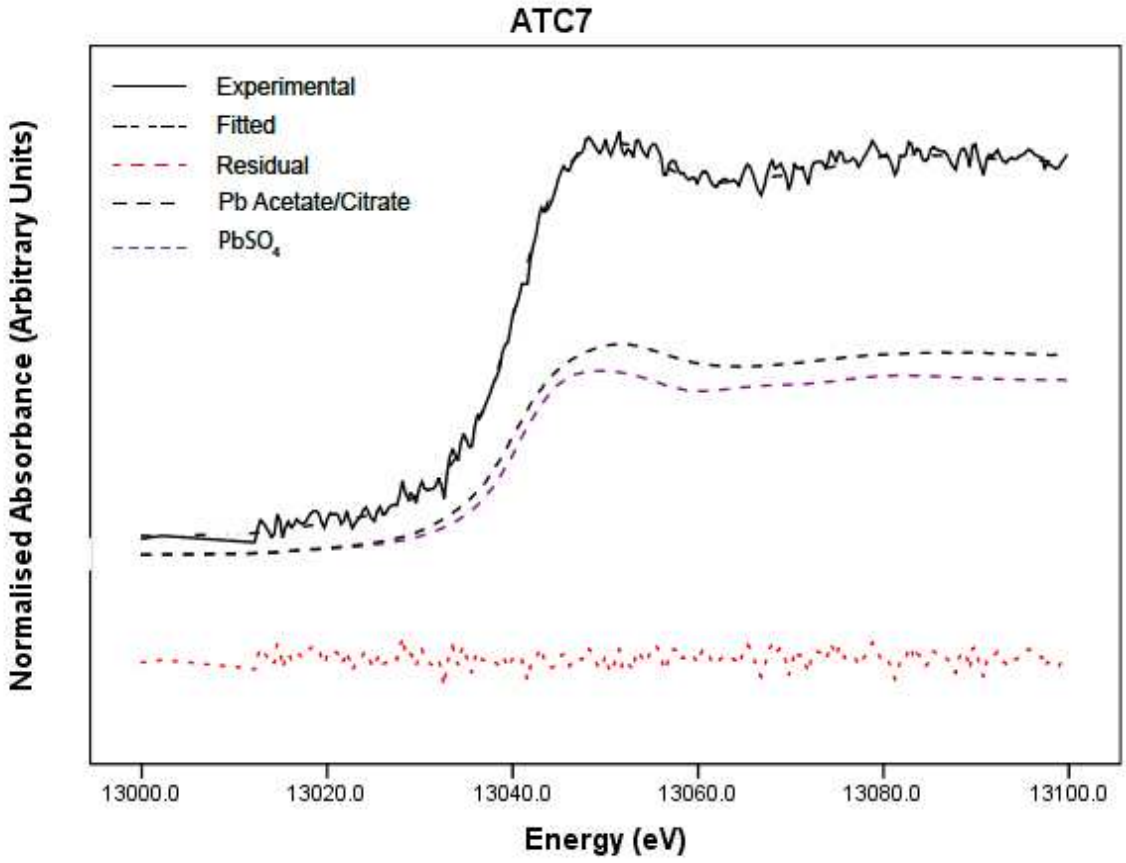

ATC2
Experimental
Fitted
Residual
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

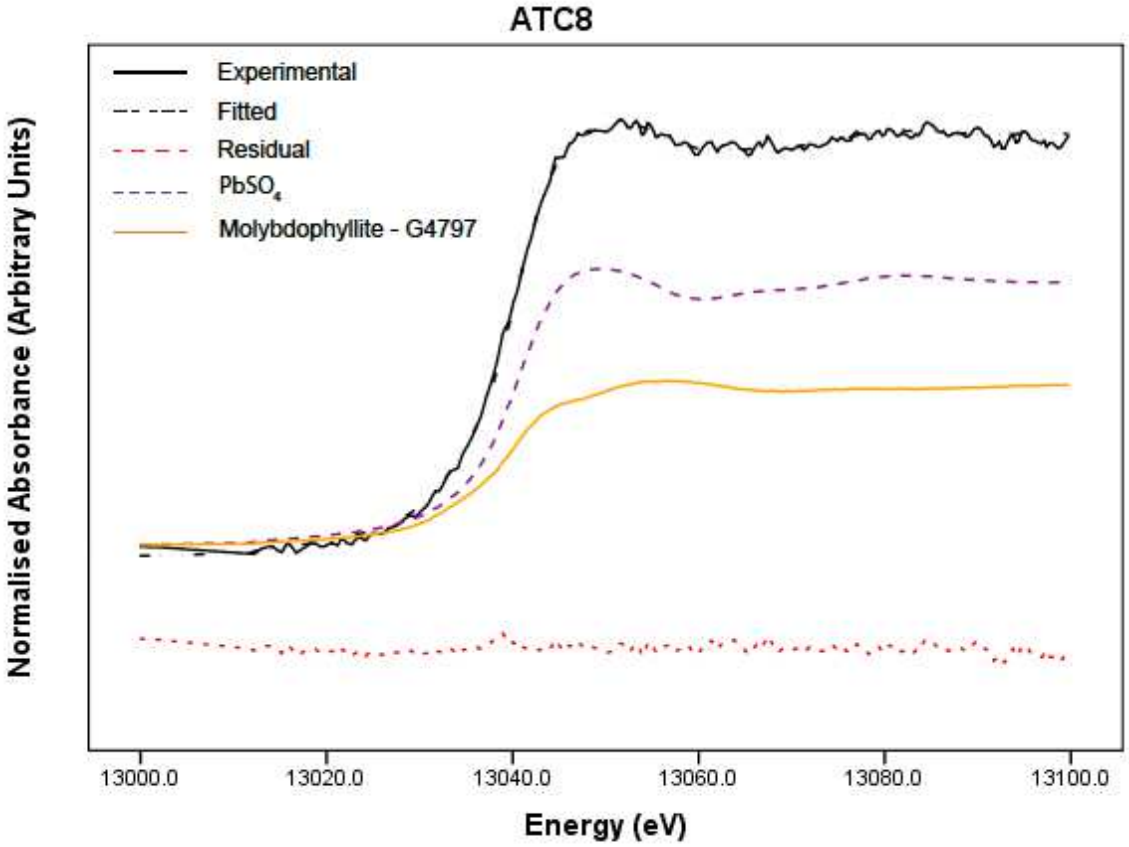

ATC3
Experimental
Fitted
Residual
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

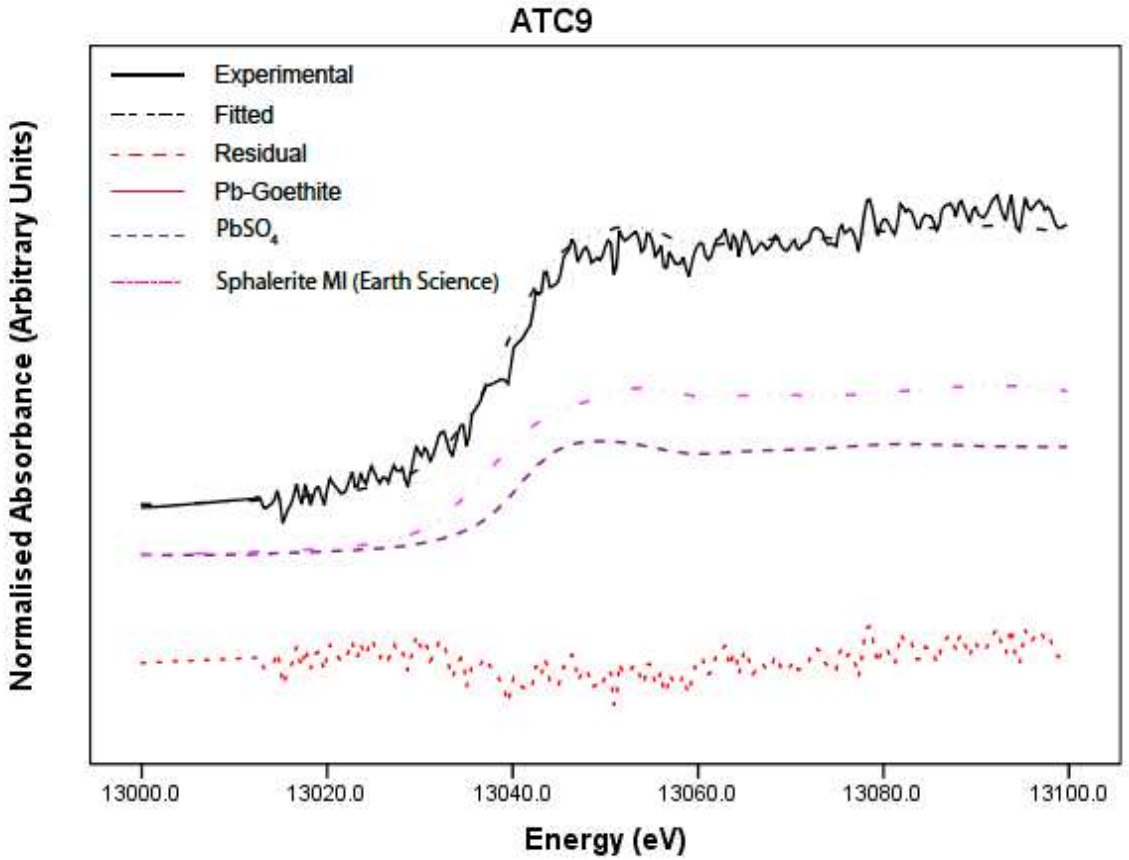

ATC4
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

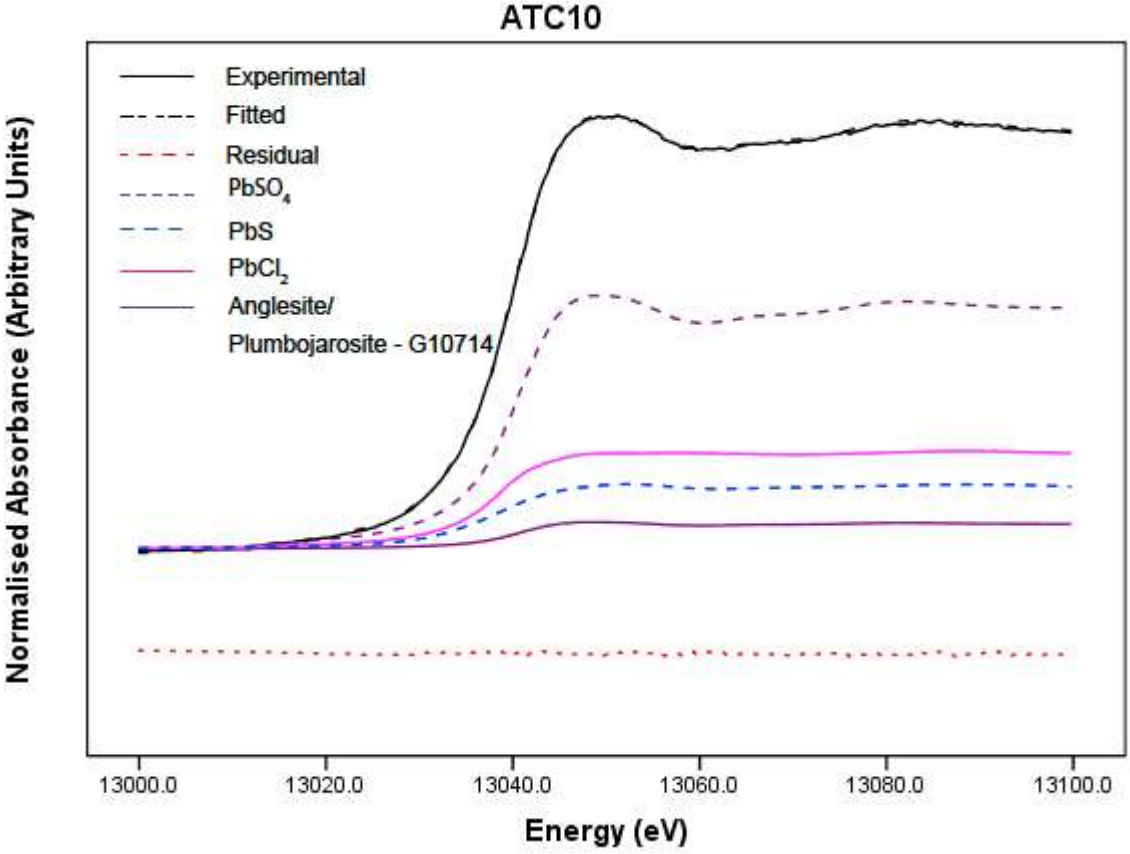

ATC5
Experimental
Fitted
Residual
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

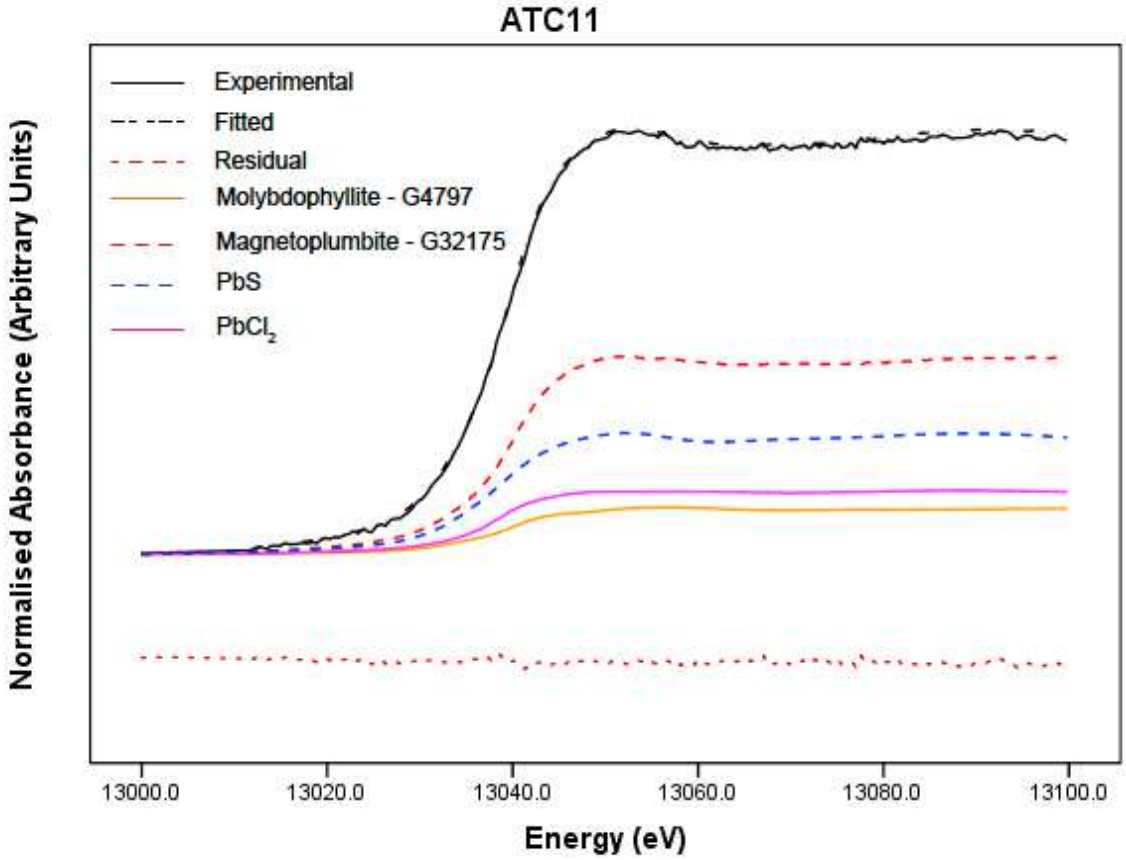

ATC6
Experimental
Fitted
Residual
PbSO4
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

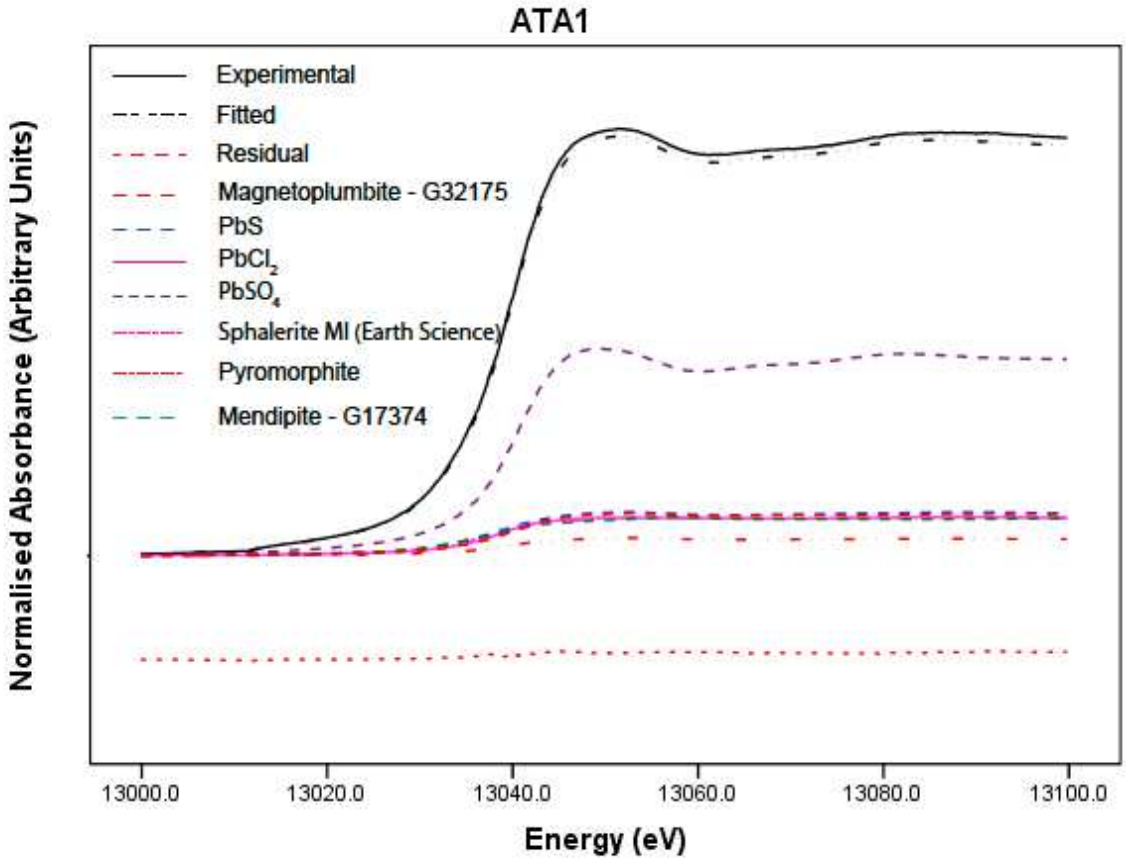

ATC7
Experimental
Fitted
Residual
Pb Acetate/Citrate
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

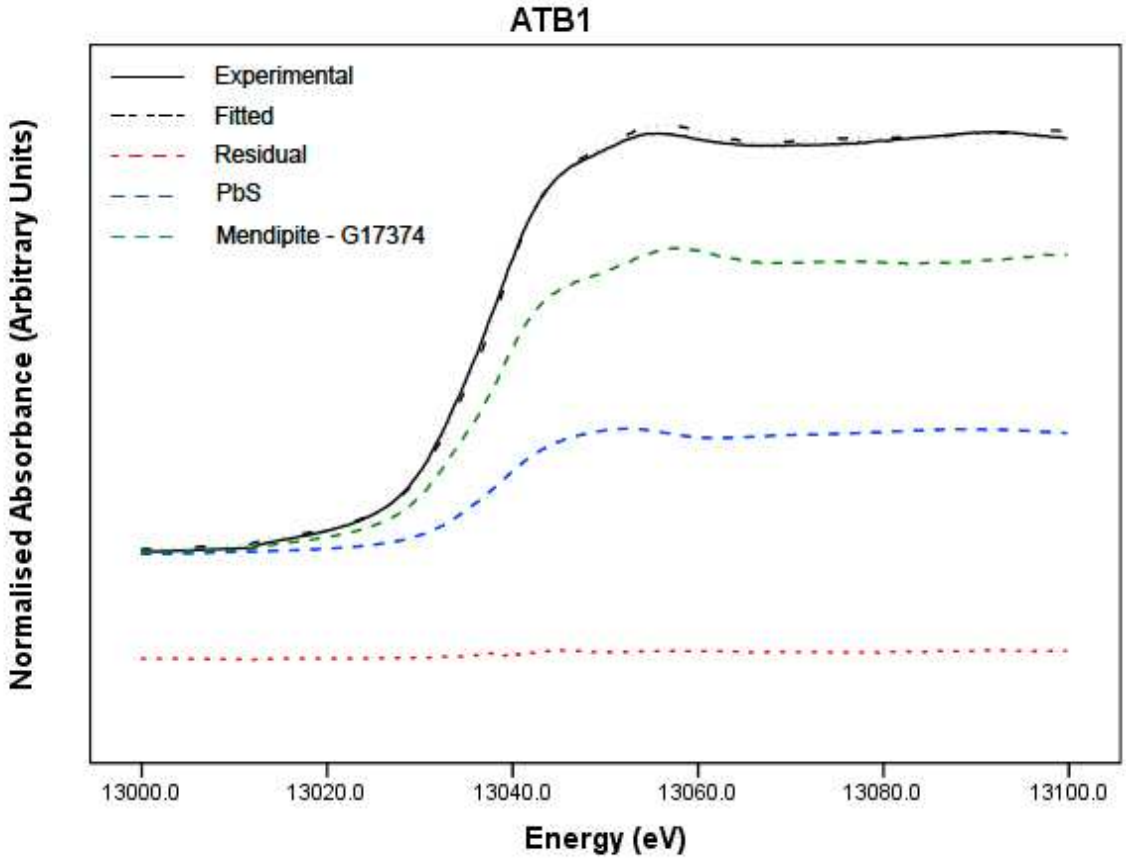

ATC8
Experimental
Fitted
Residual
PbSO4
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

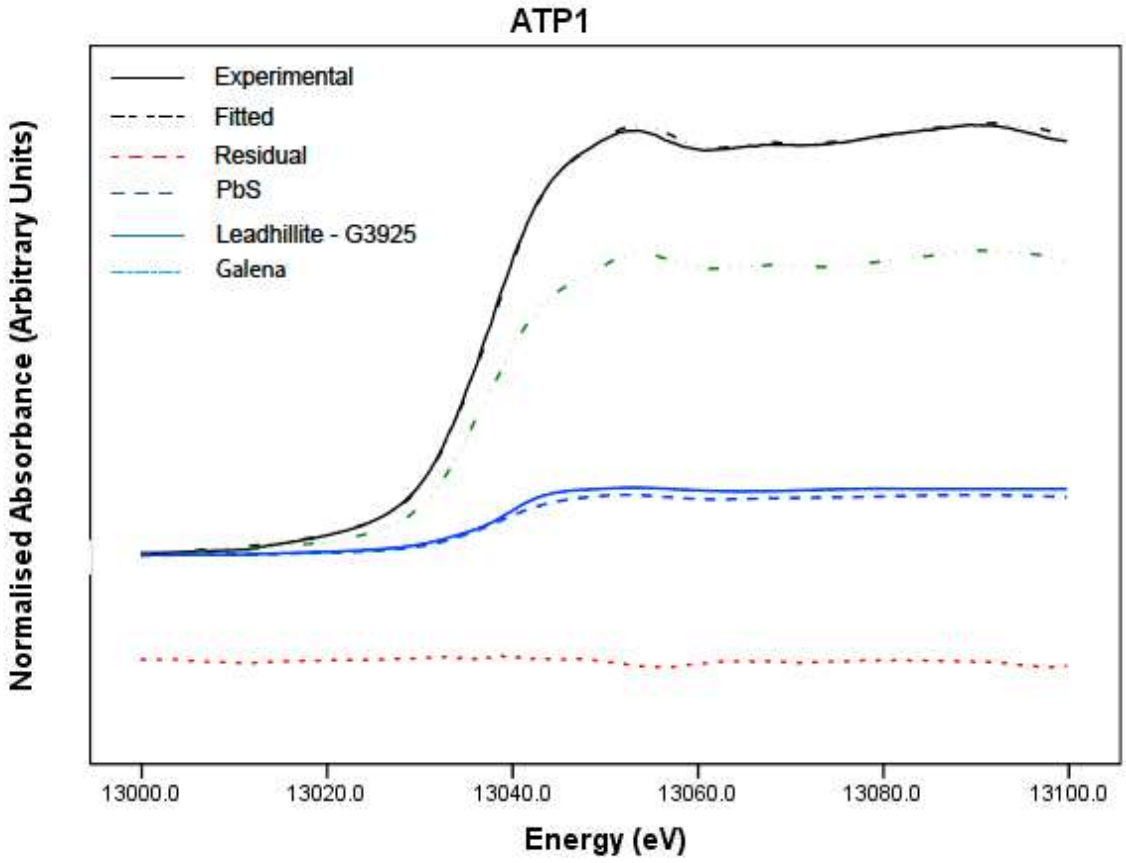

ATC9
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

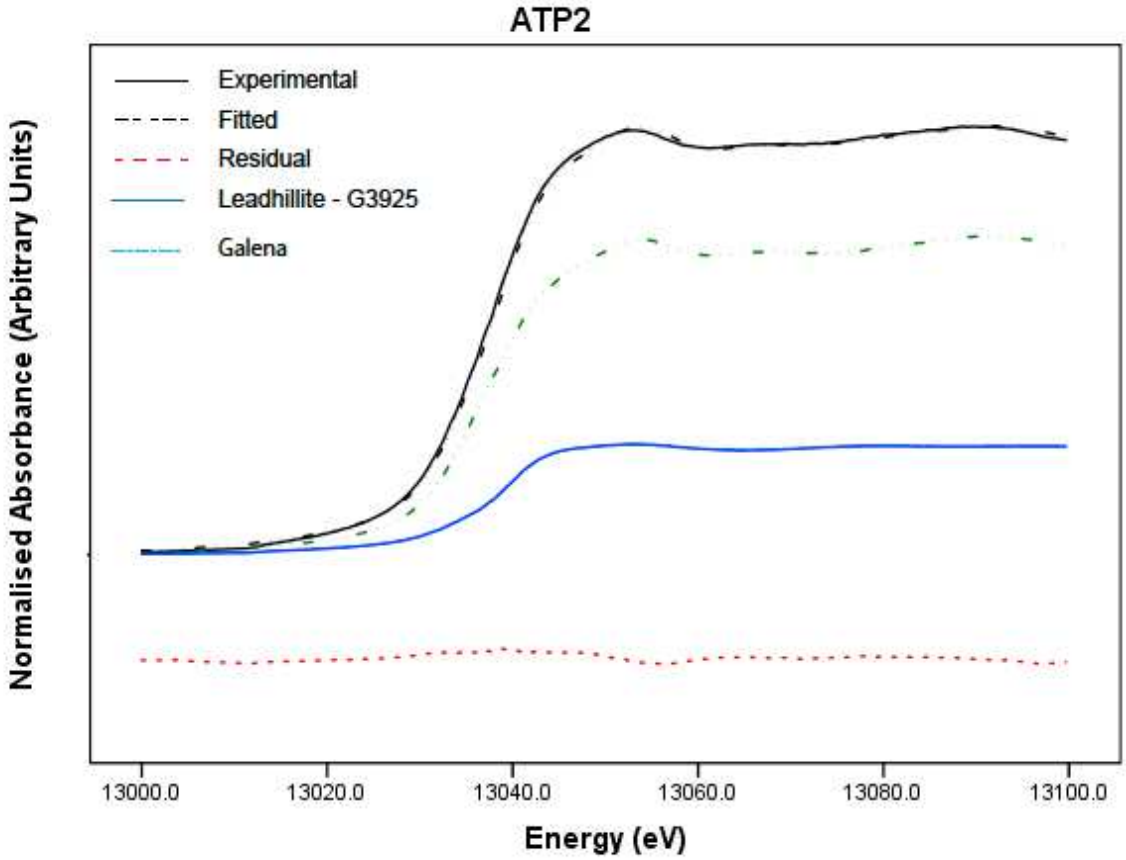

ATC10
Experimental
Fitted
Residual
PbSO4
PbS
PbCl2
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

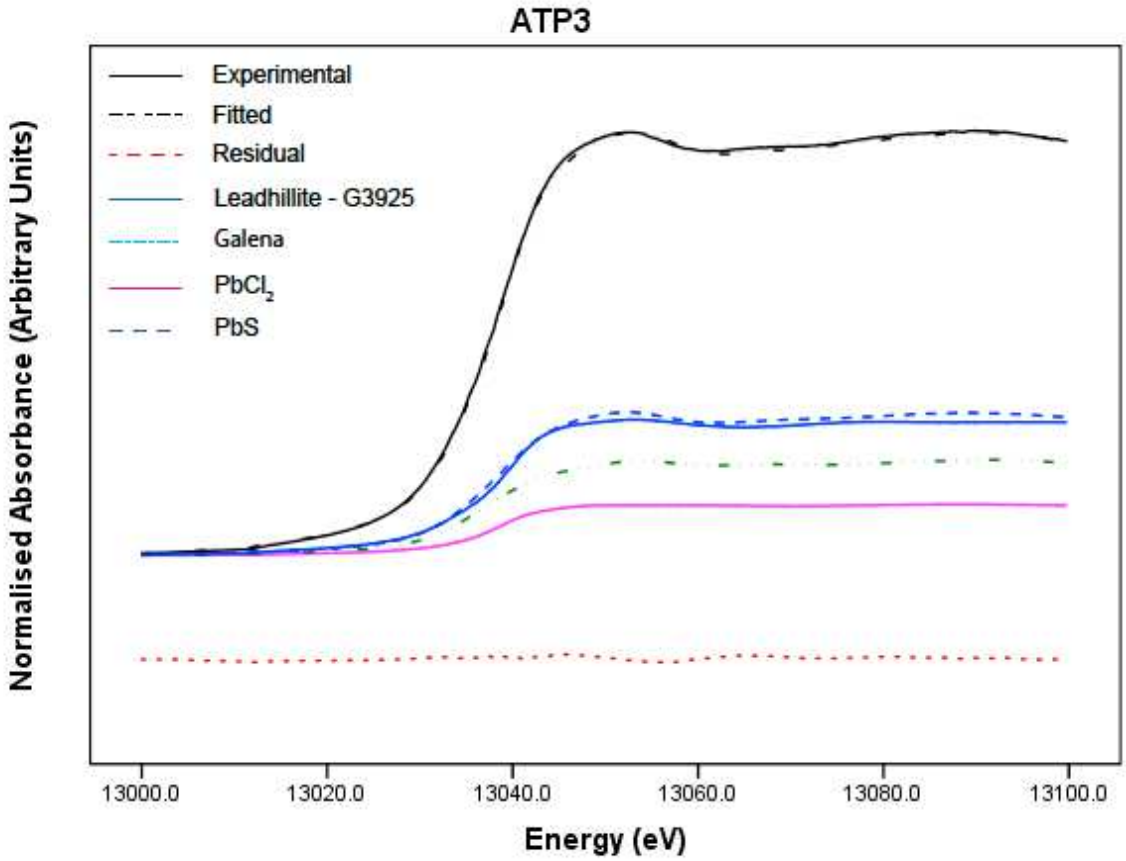

ATC11
Experimental
Fitted
Residual
Molybdophyllite - G4797
Magnetoplumbite - G32175
PbS
PbCl2
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

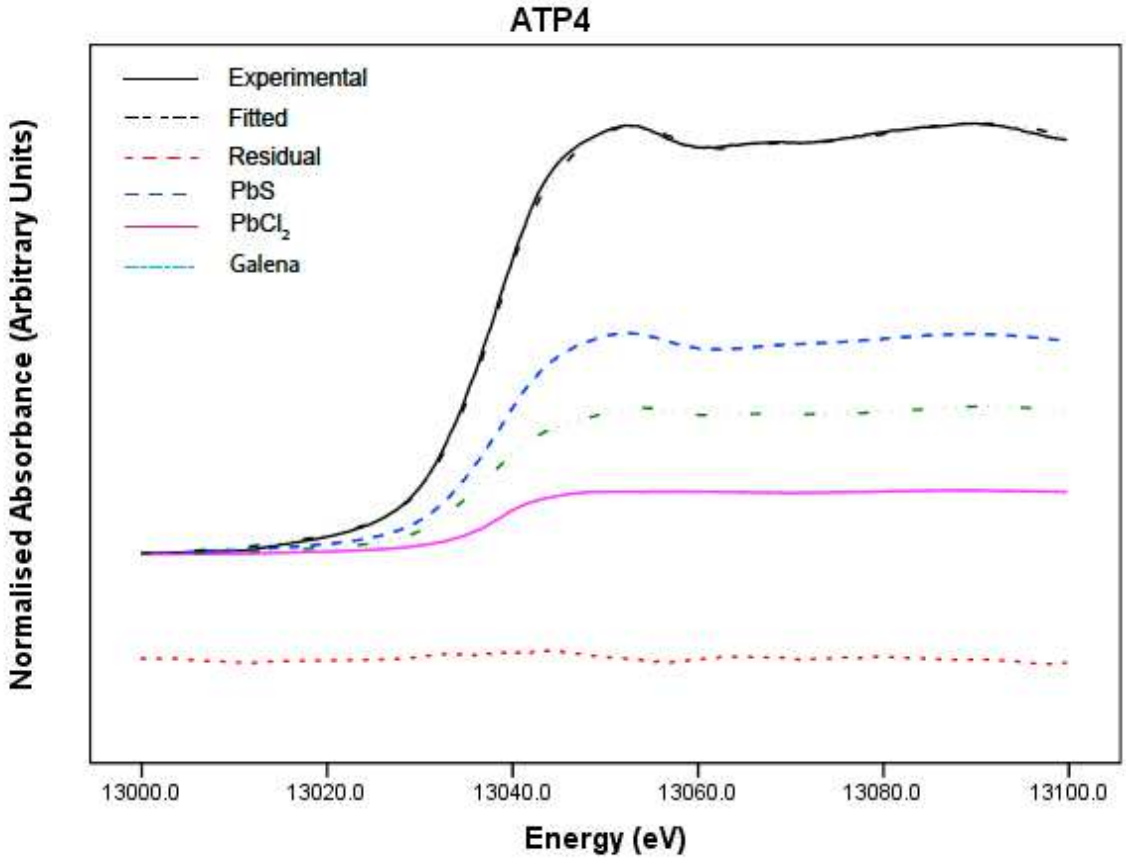

ATA1
Experimental
Fitted
Residual
Magnetoplumbite - G32175
PbS
PbCl2
PbSO4
Sphalerite MI (Earth Science)
Pyromorphite
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

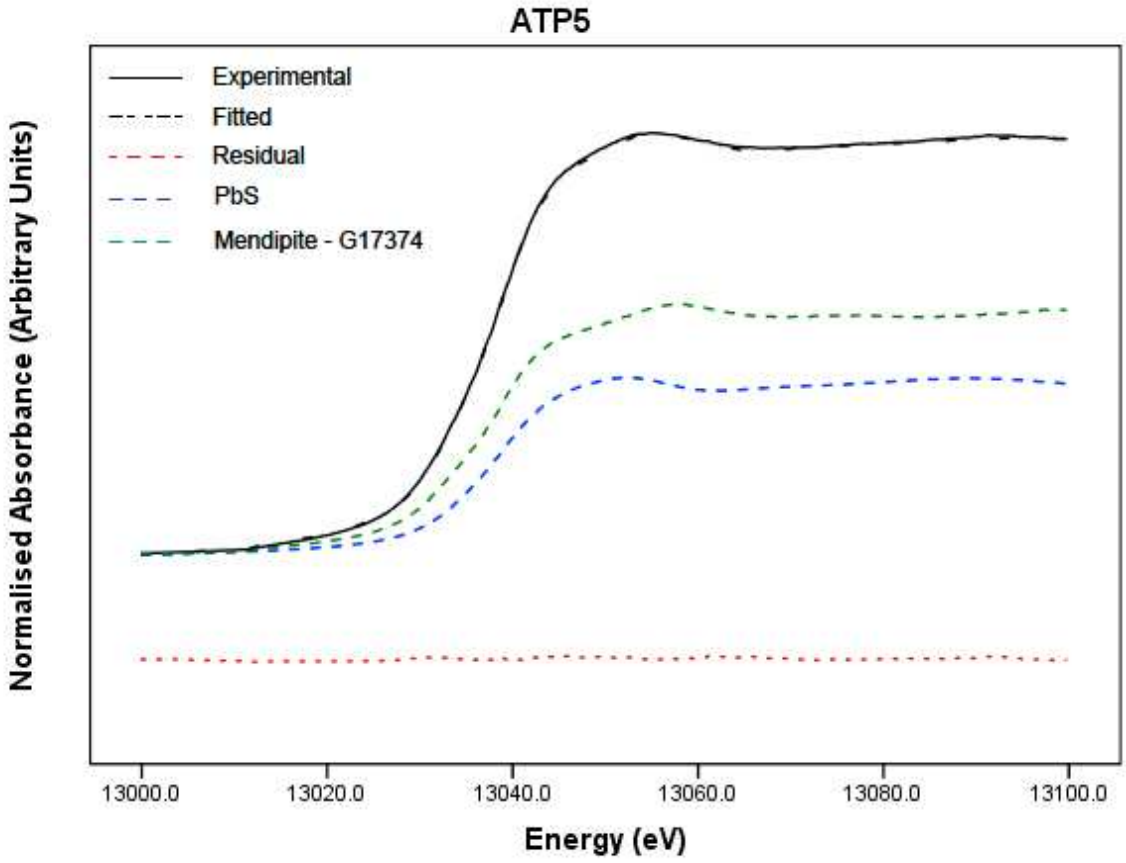

ATB1
Experimental
Fitted
Residual
PbS
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

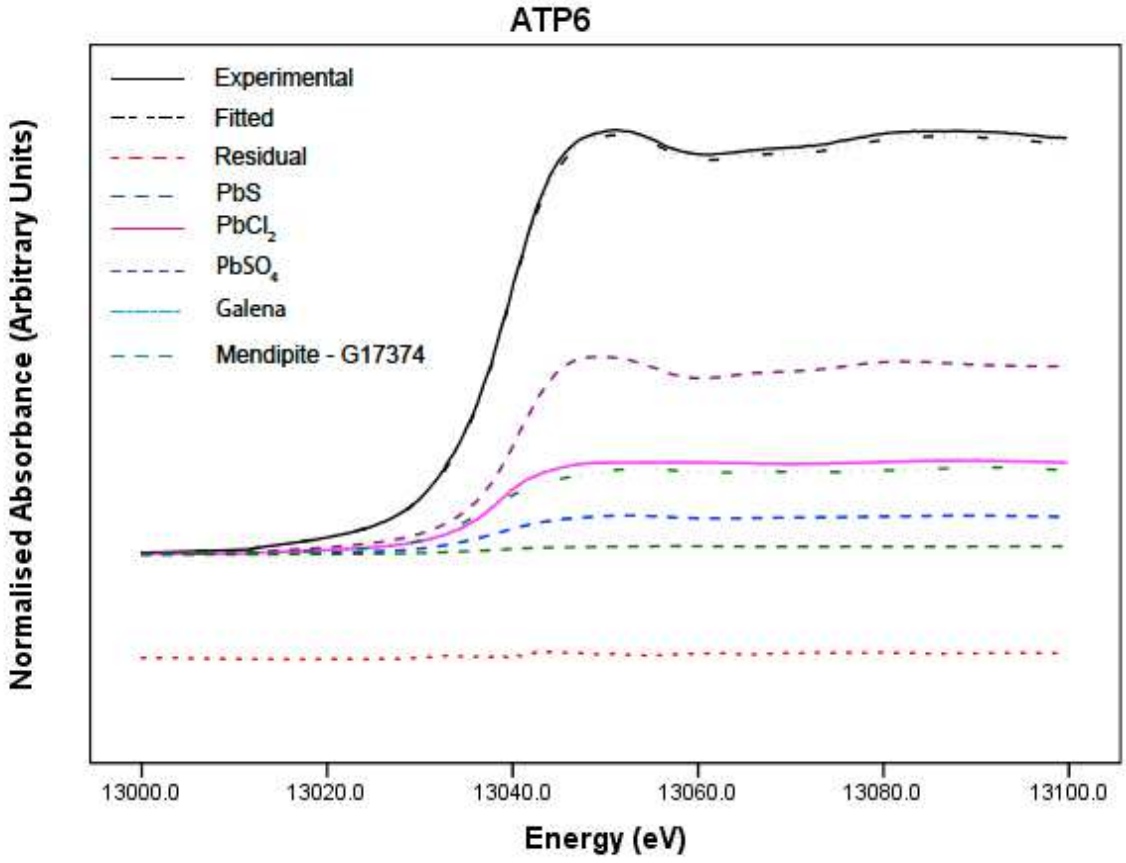

ATP1
Experimental
Fitted
Residual
PbS
Leadhillite - G3925
Galena
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

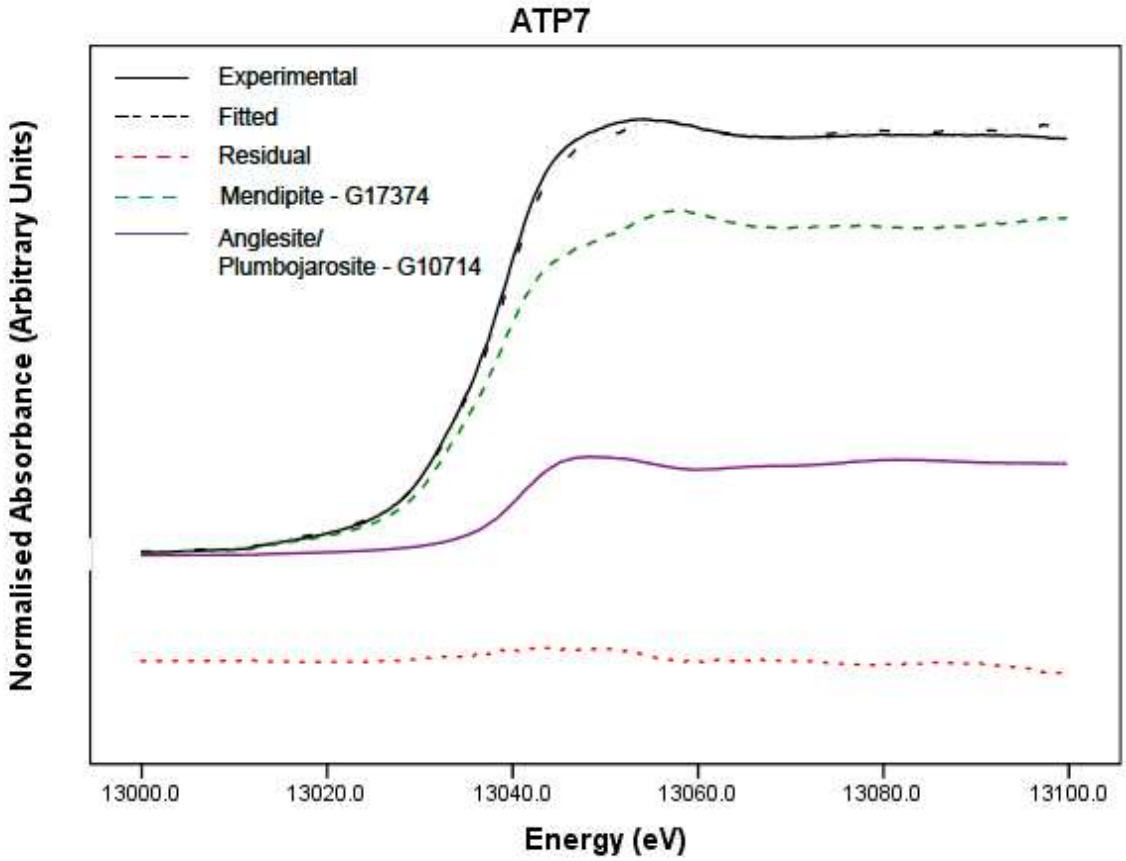

ATP2
Experimental
Fitted
Residual
Leadhillite - G3925
Galena
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

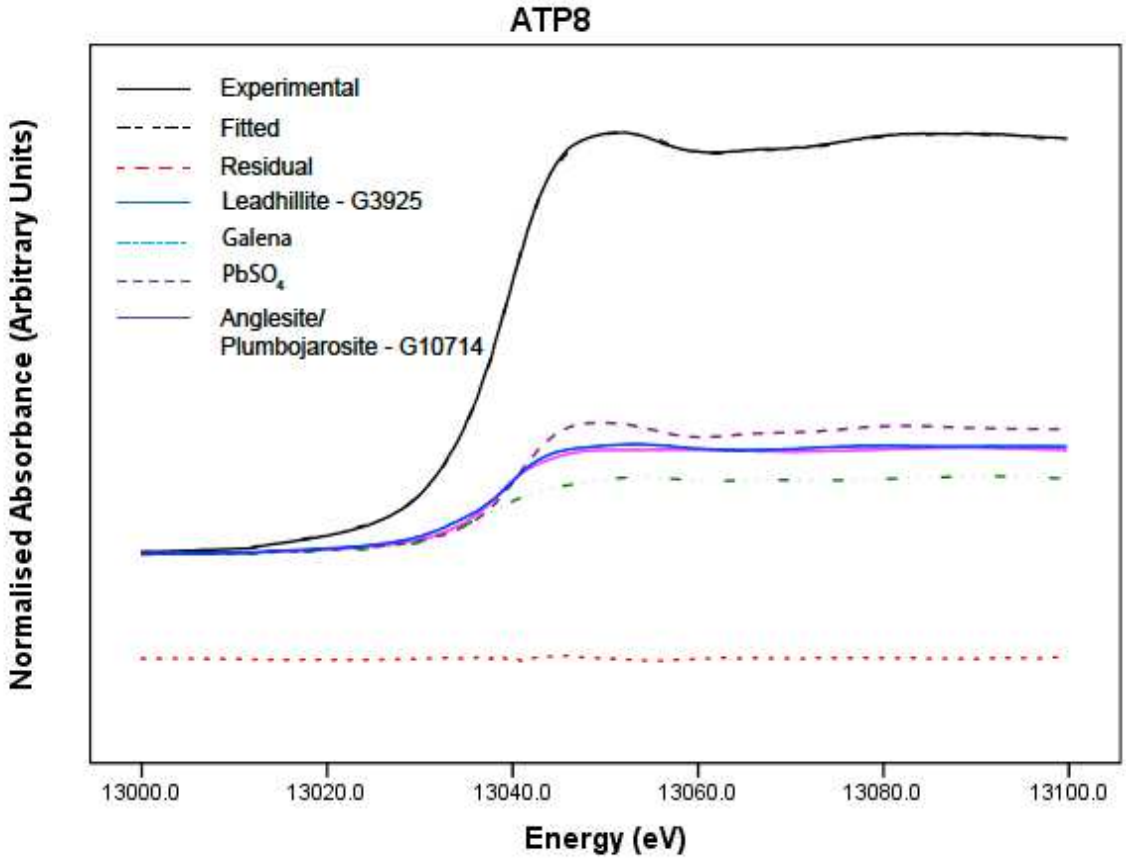

ATP3
Experimental
Fitted
Residual
Leadhillite - G3925
Galena
PbCl2
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

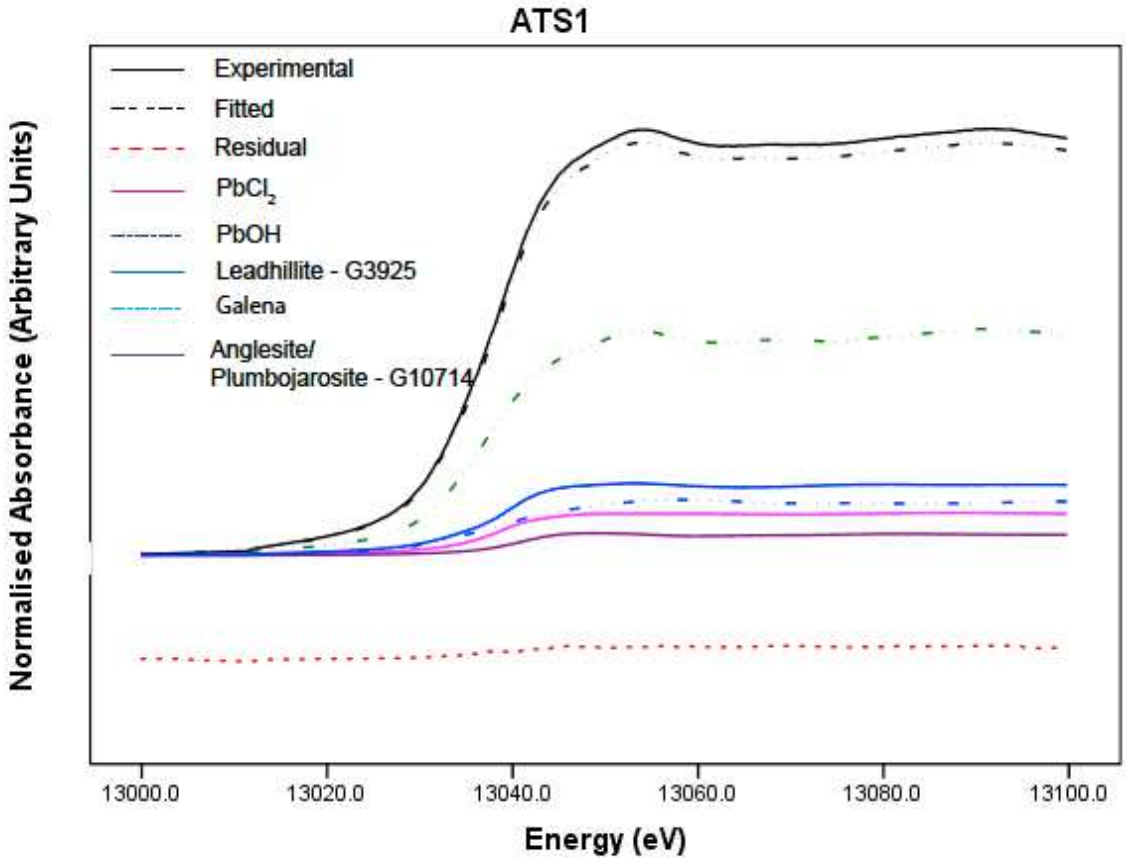

ATP4
Experimental
Fitted
Residual
PbS
PbCl2
Galena
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

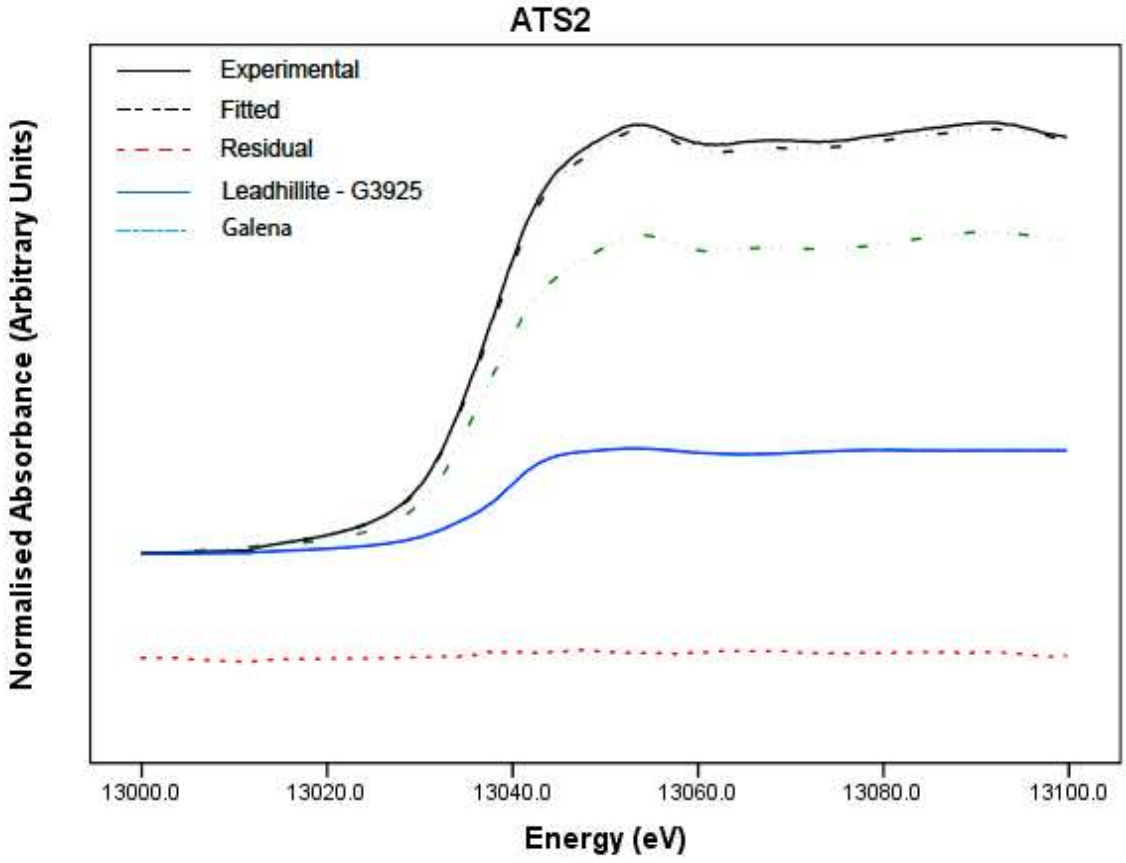

ATP5
Experimental
Fitted
Residual
PbS
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

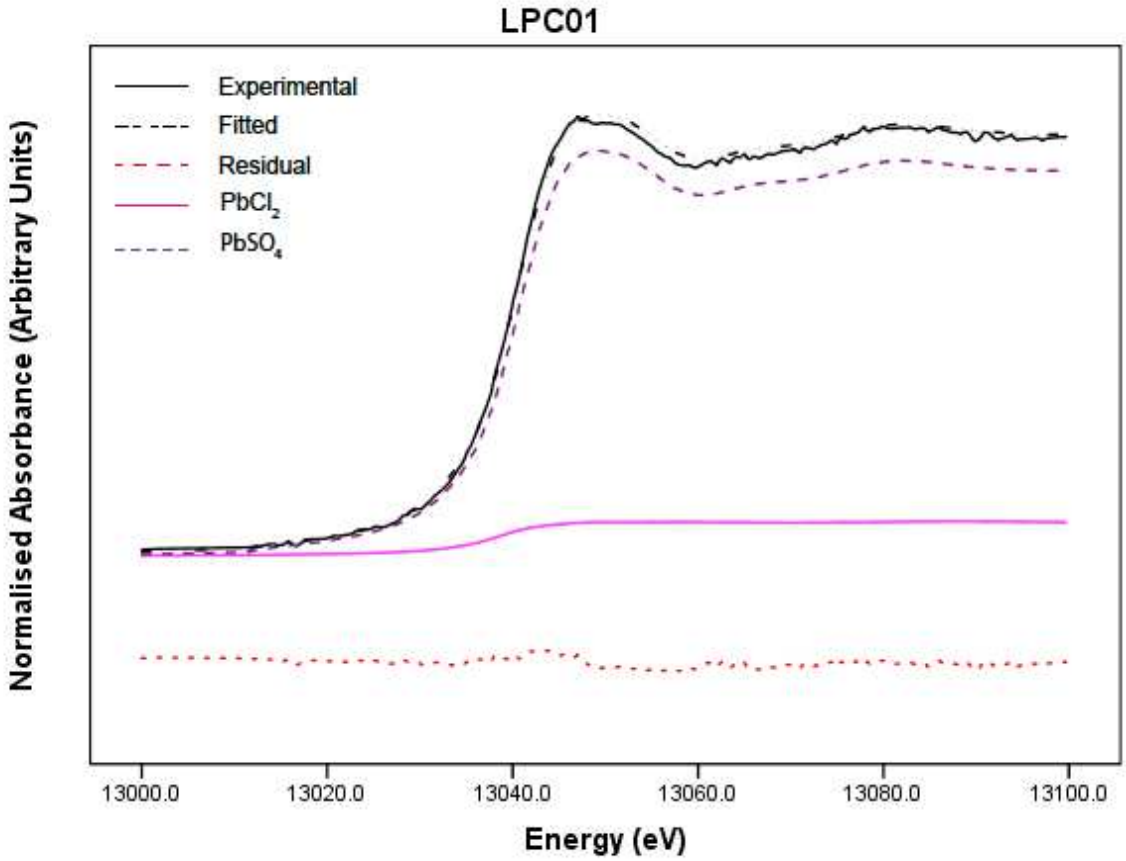

ATP6
Experimental
Fitted
Residual
PbS
PbCl2
PbSO4
Galena
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

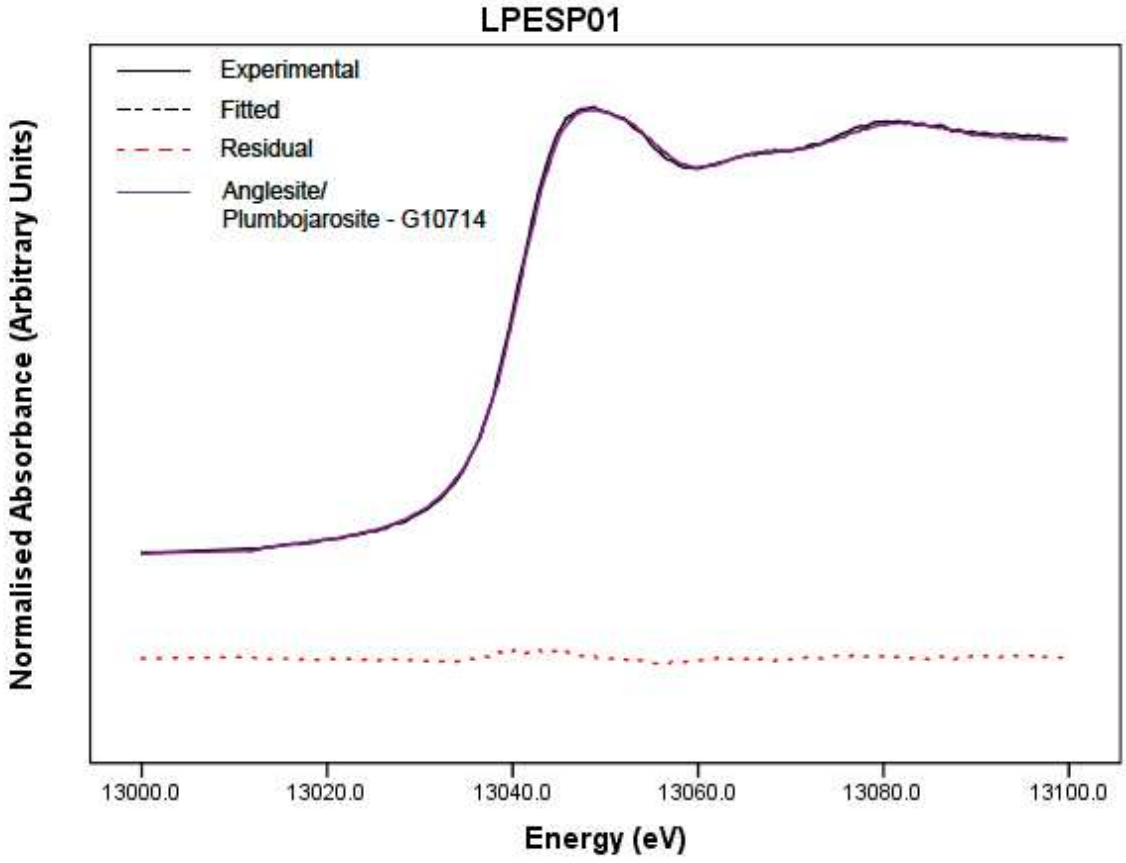

ATP7
Experimental
Fitted
Residual
Mendipite - G17374
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

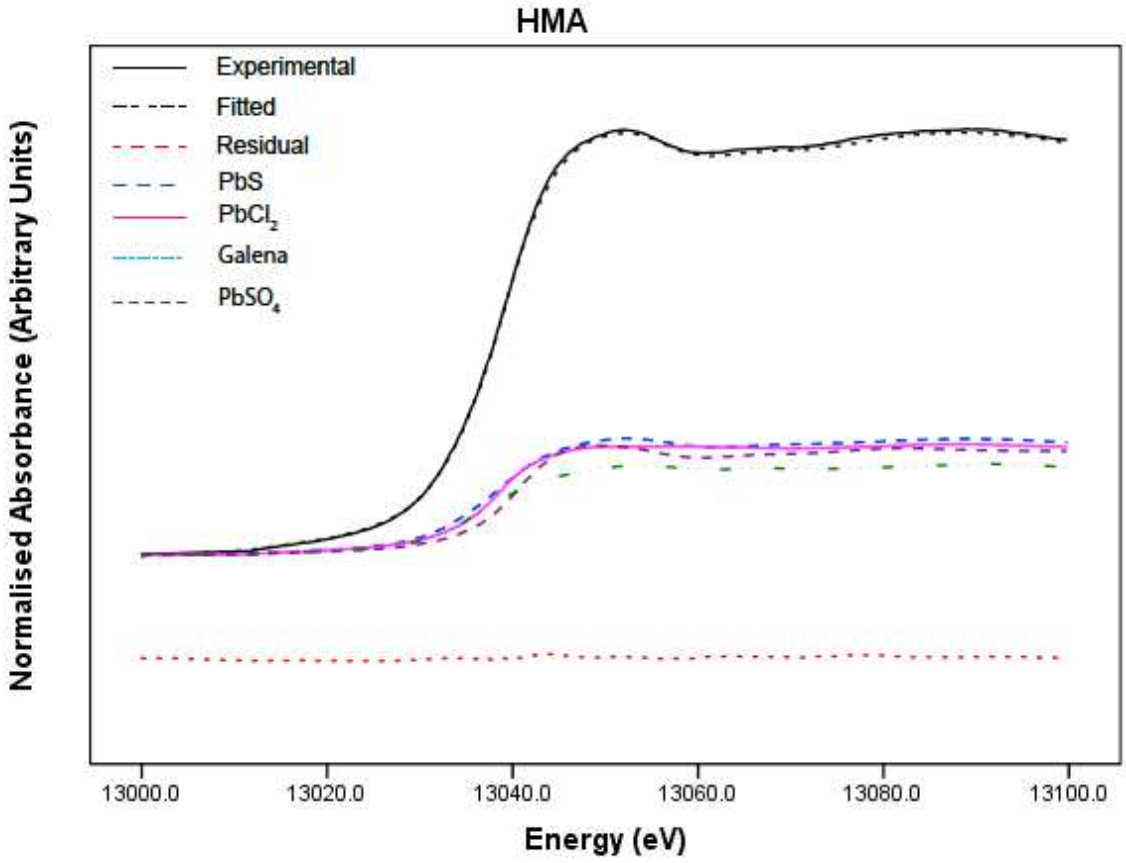

ATP8
Experimental
Fitted
Residual
Leadhillite - G3925
Galena
PbSO4
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

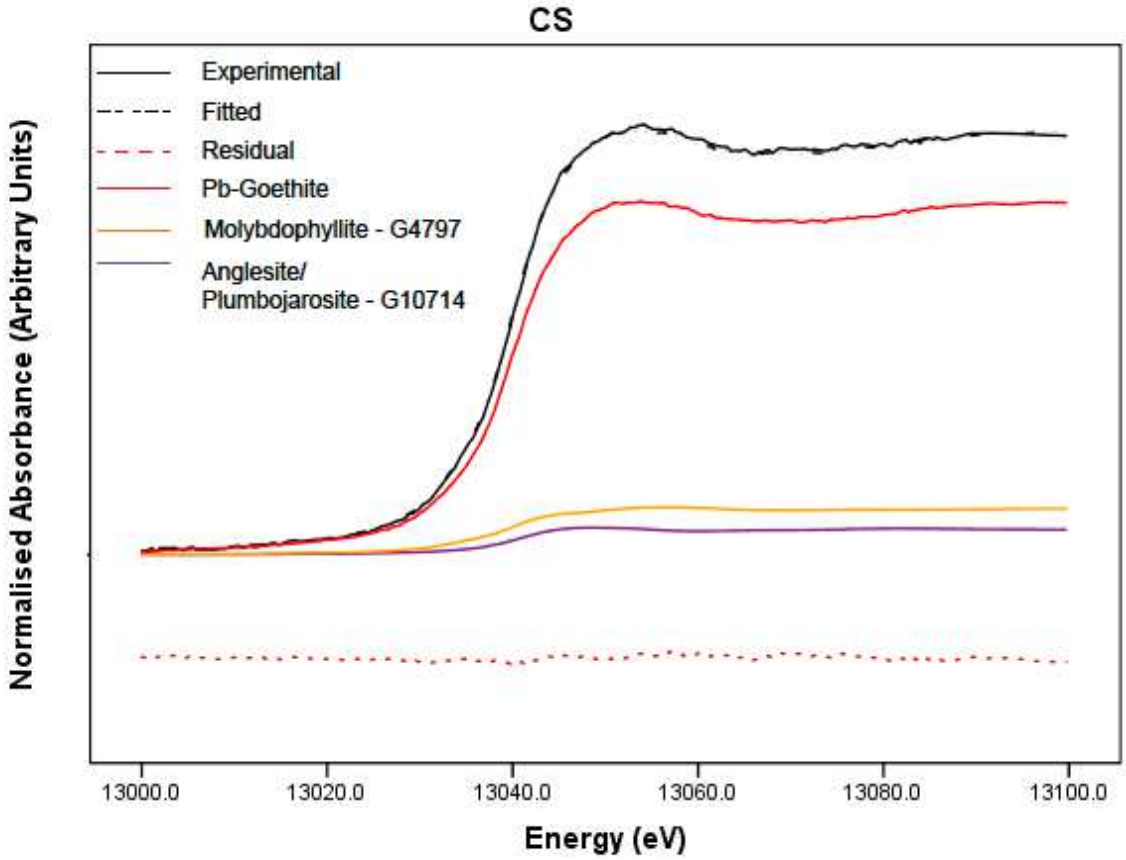

ATS1
Experimental
Fitted
Residual
PbCl2
PbOH
Leadhillite - G3925
Galena
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

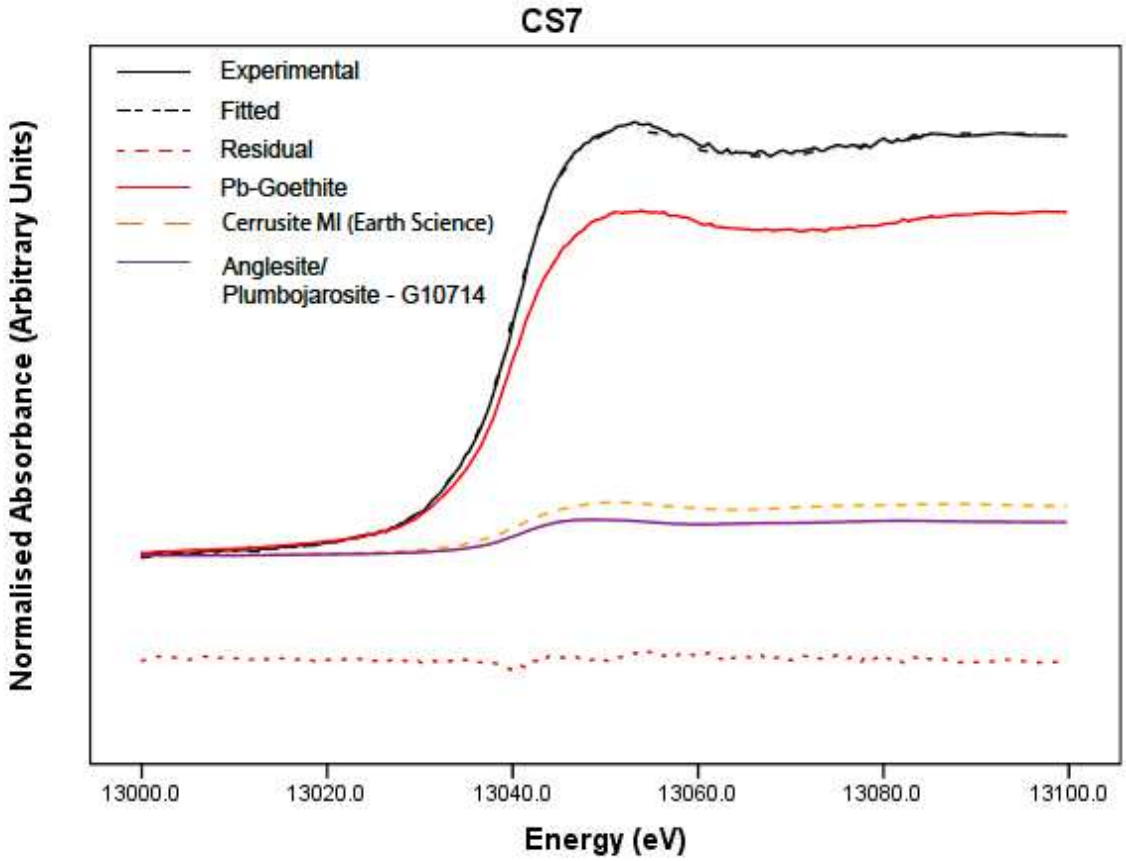

ATS2
Experimental
Fitted
Residual
Leadhillite - G3925
Galena
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

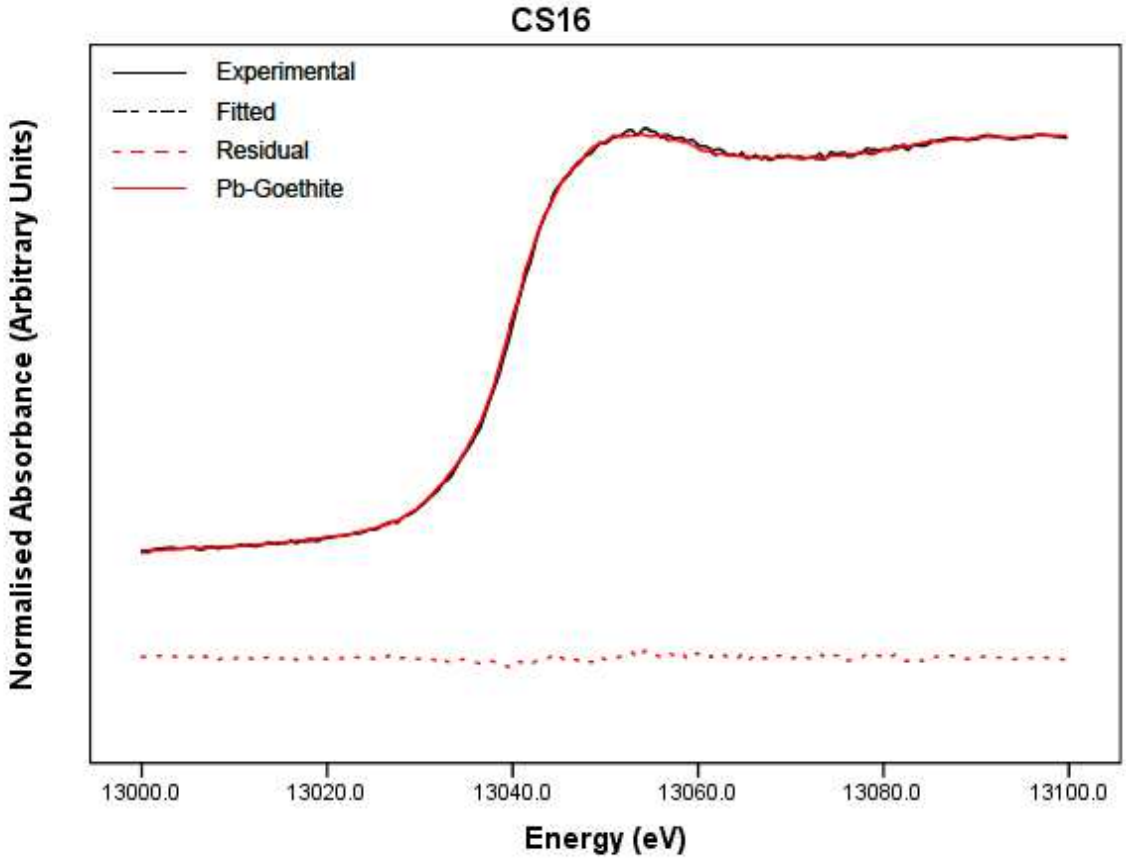

LPC01
Experimental
Fitted
Residual
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

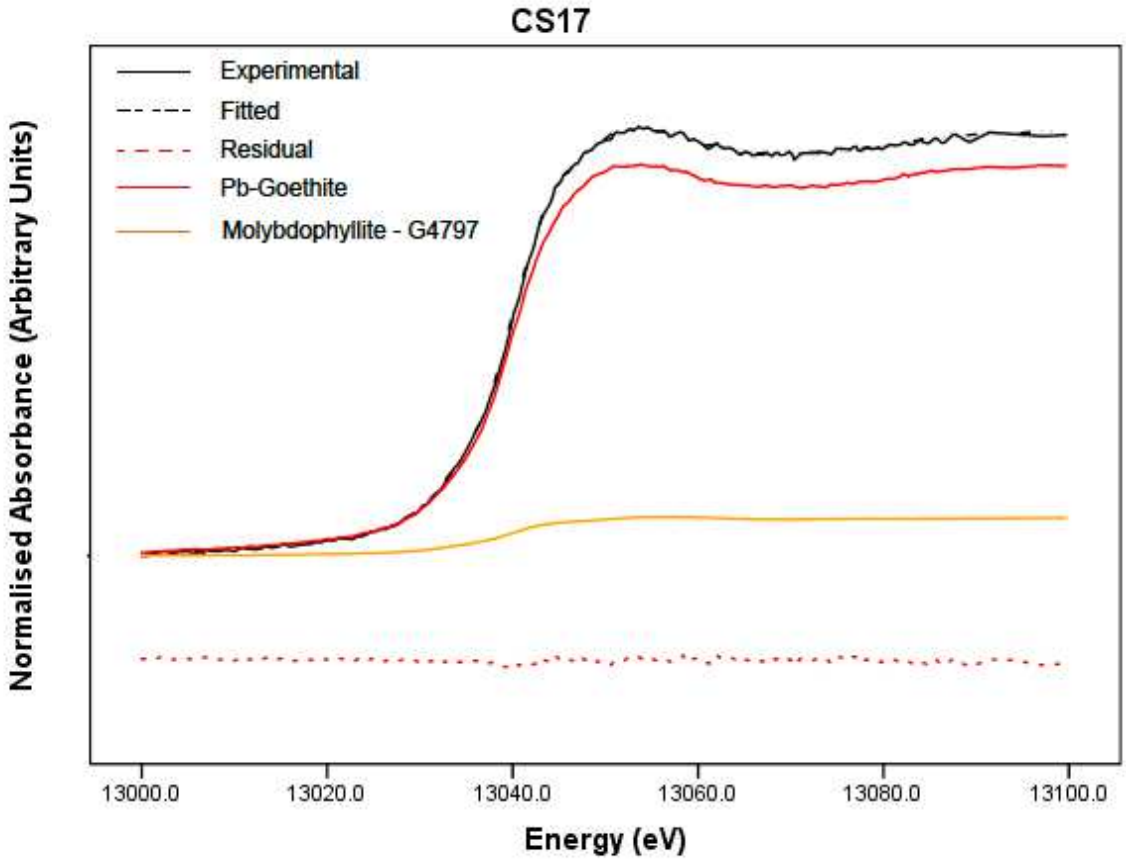

LPESP01
Experimental
Fitted
Residual
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

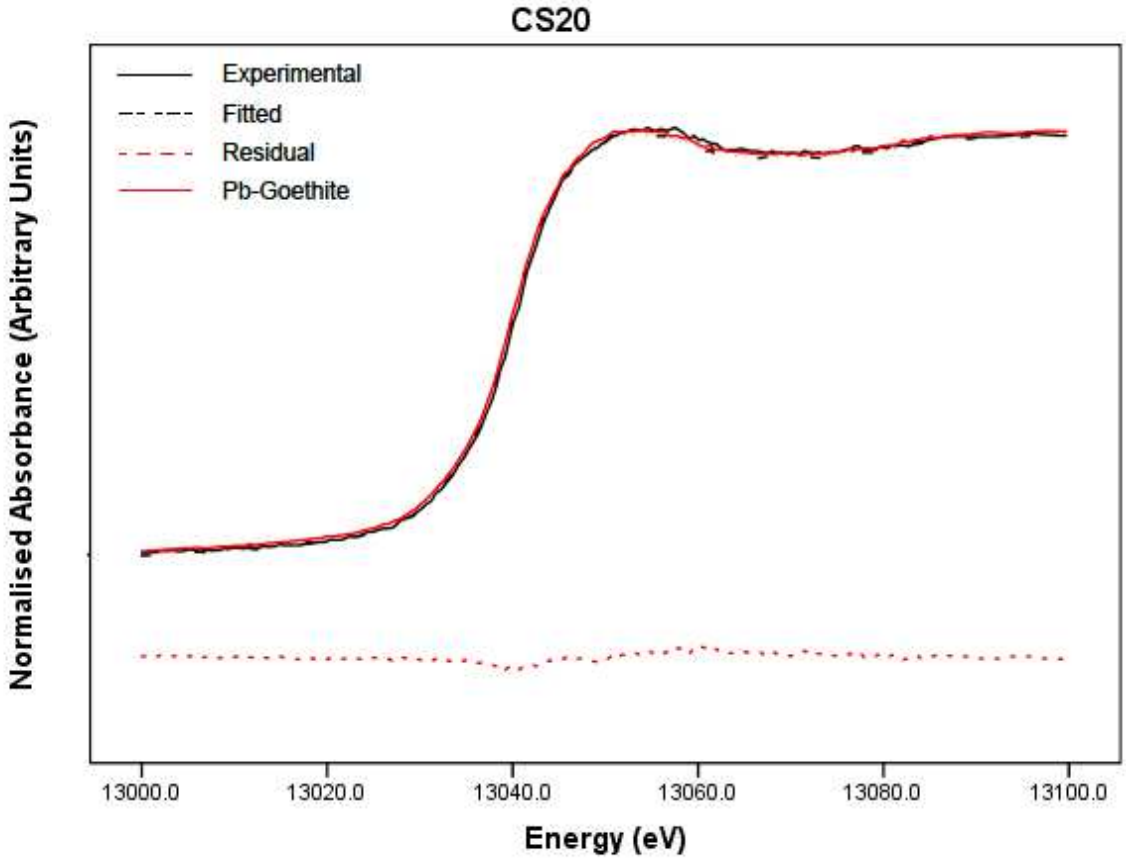

HMA
Experimental
Fitted
Residual
PbS
PbCl2
Galena
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

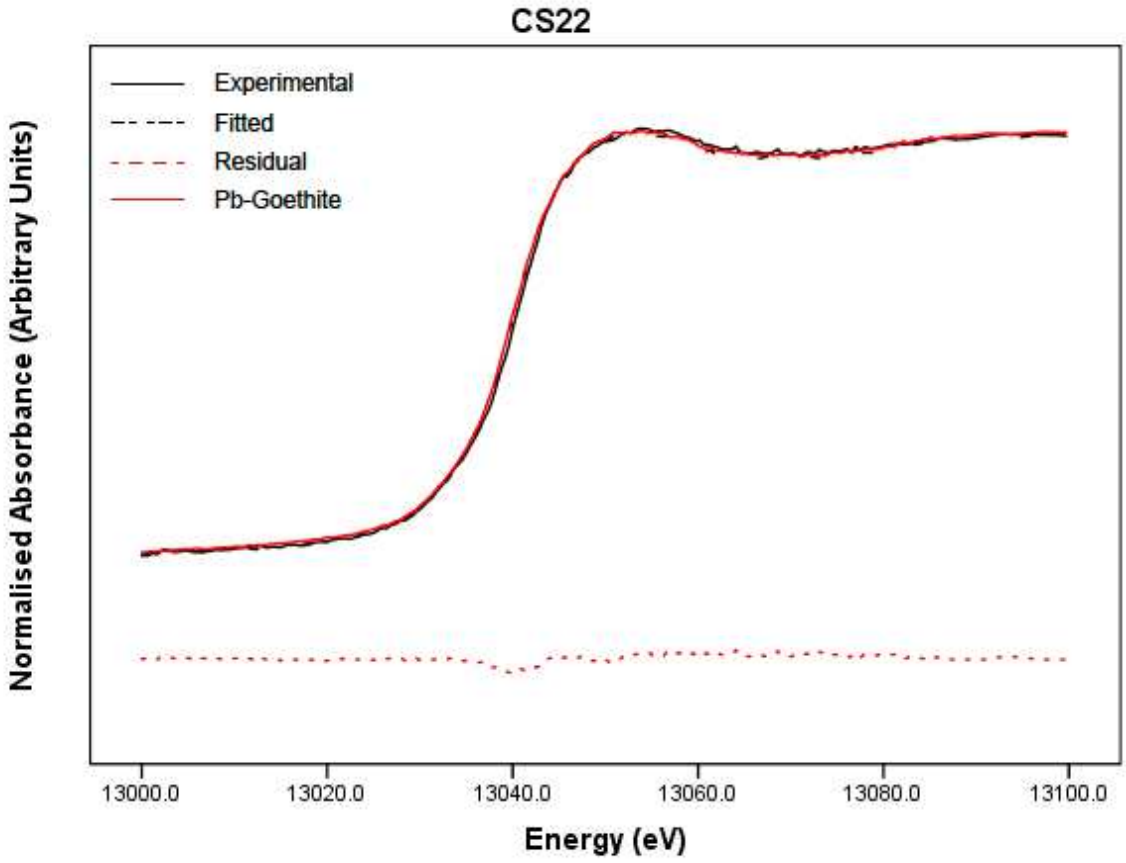

CS
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

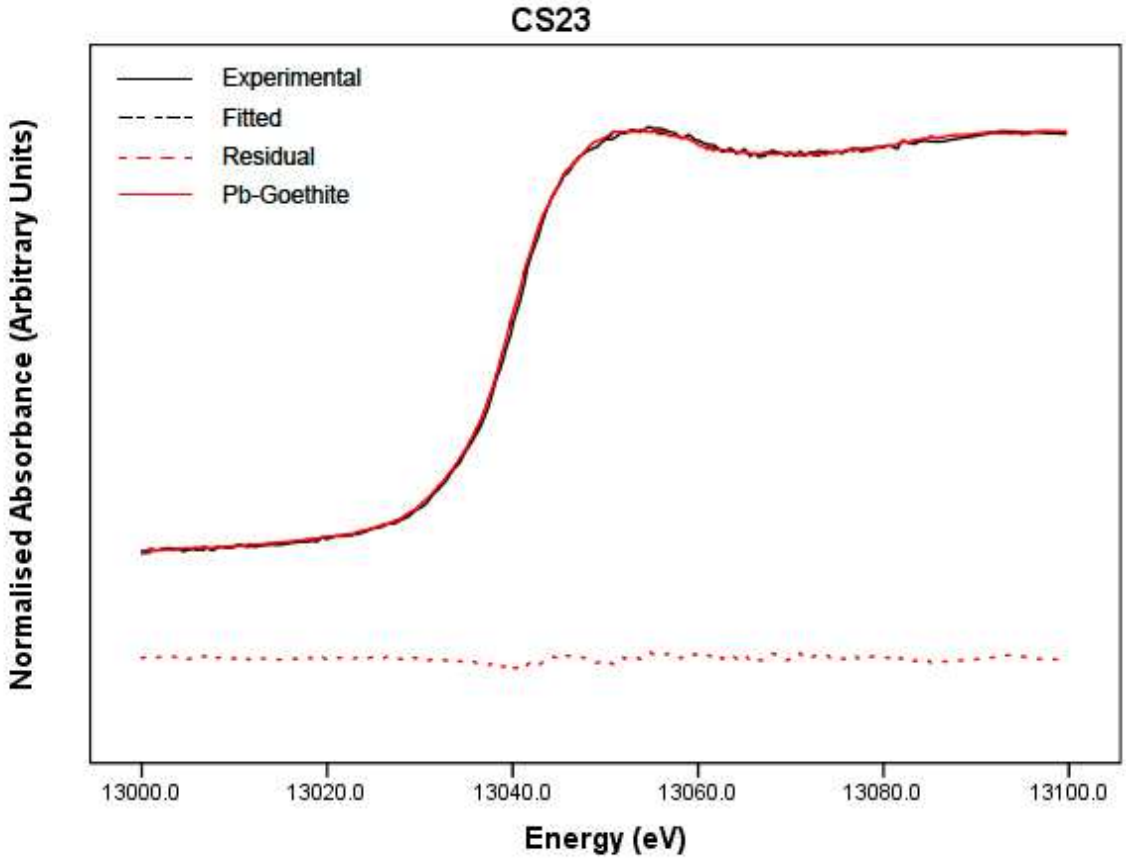

CS7
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

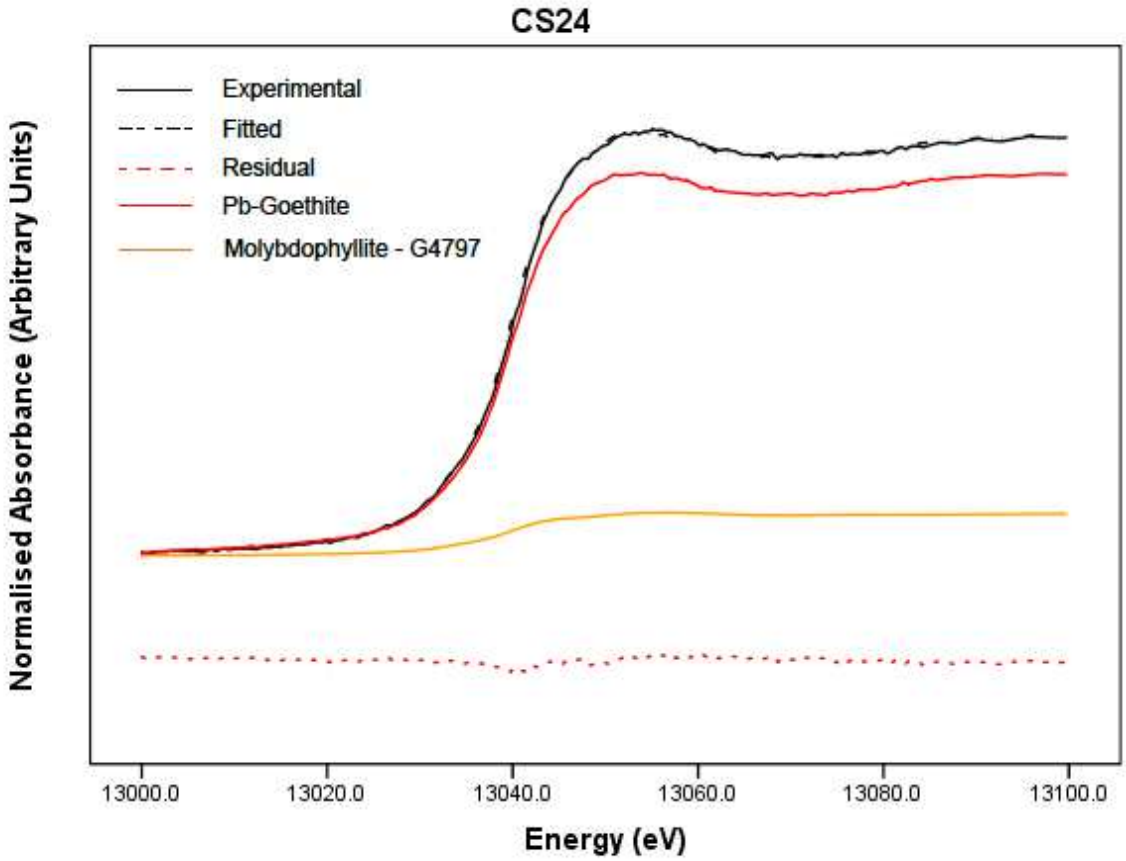

CS16
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

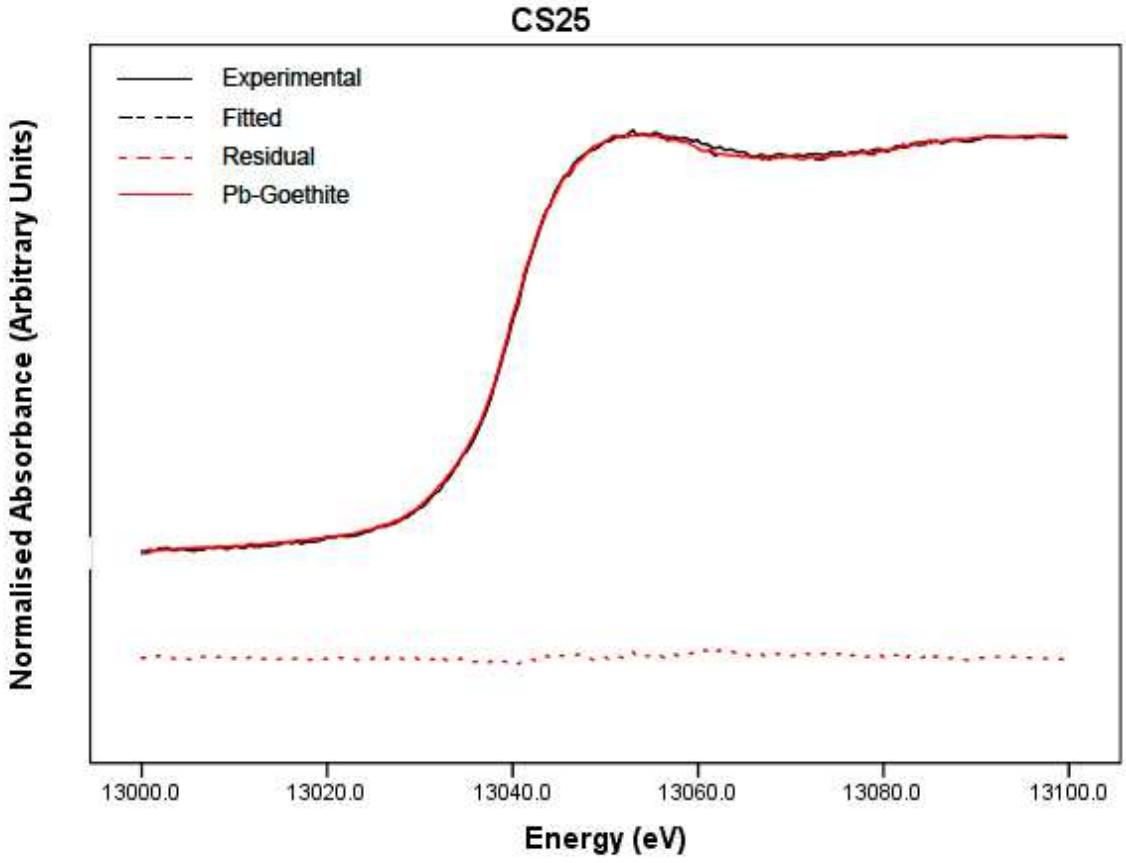

CS17
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

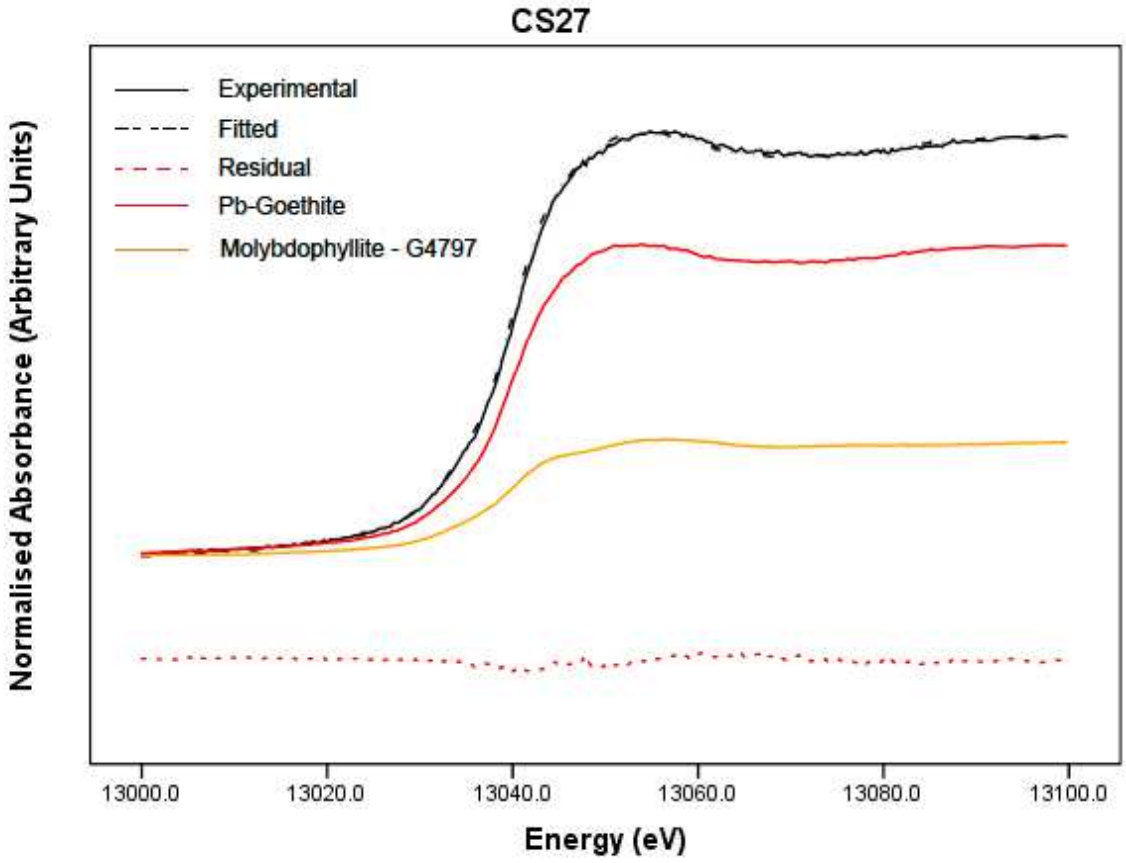

CS20
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

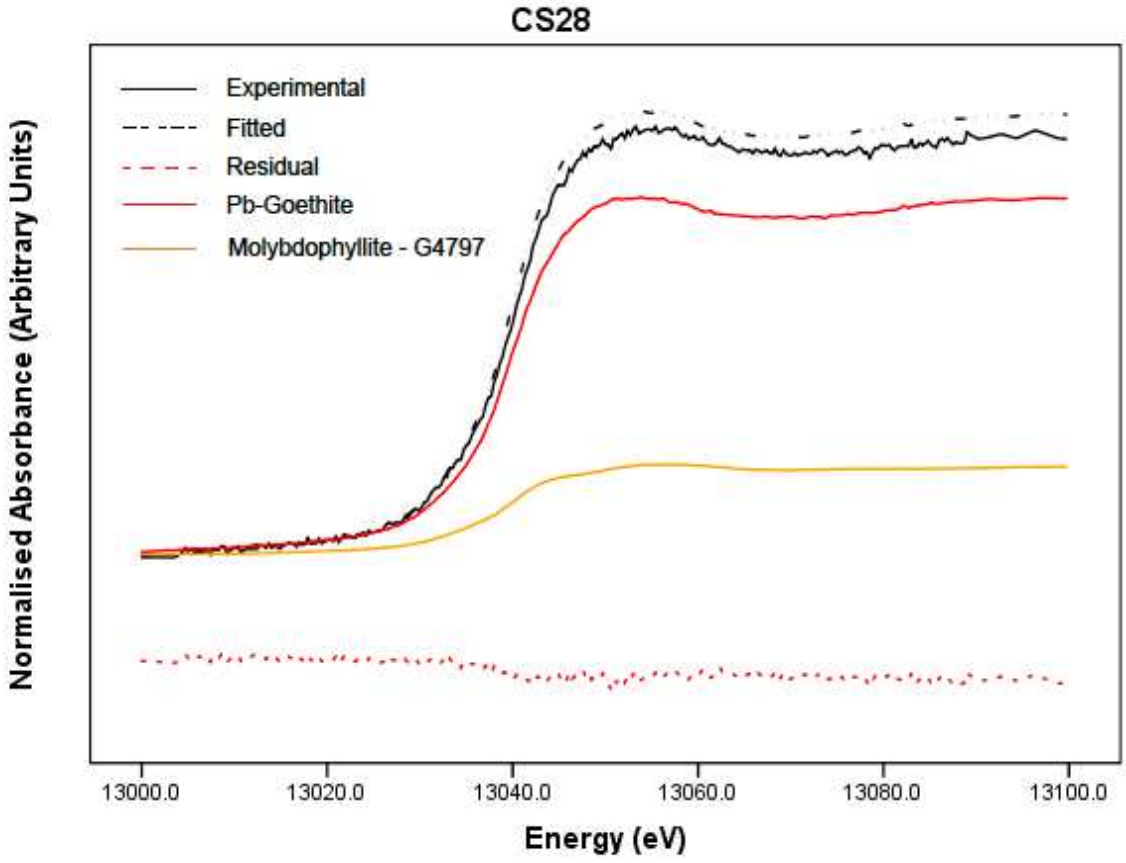

CS22
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

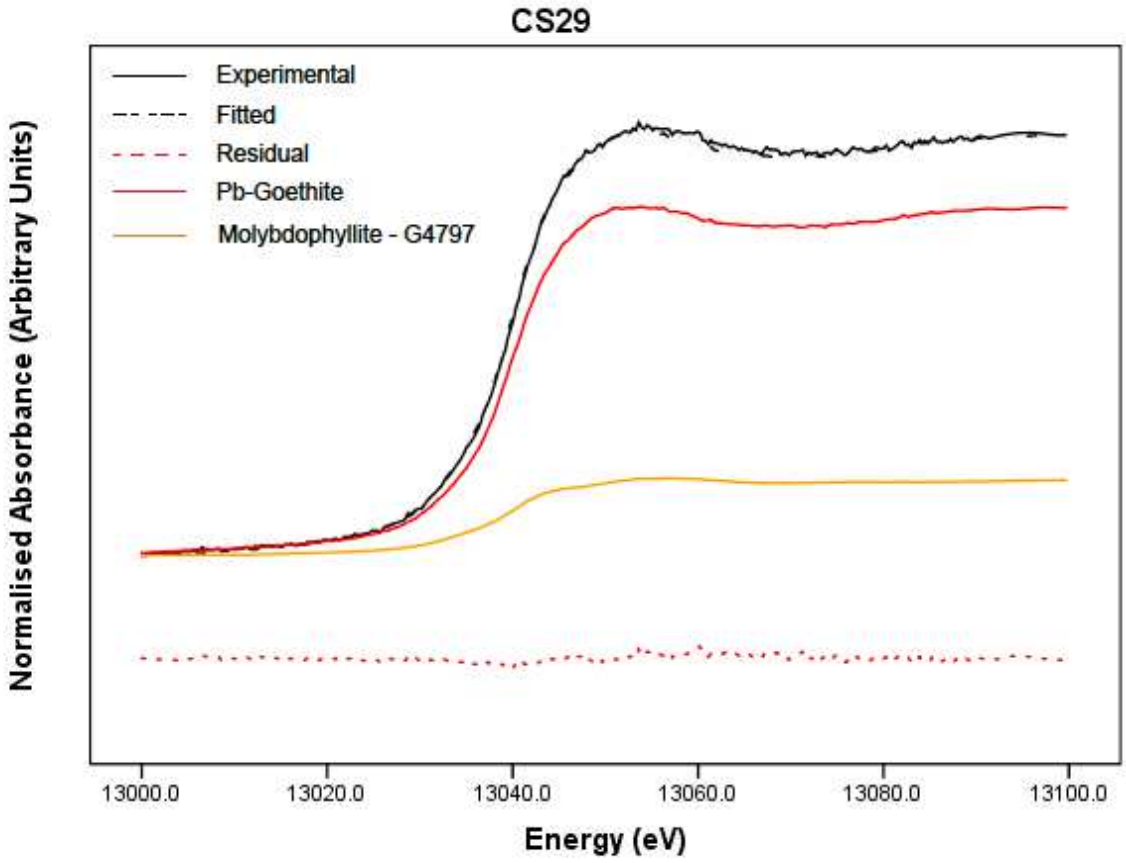

CS23
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

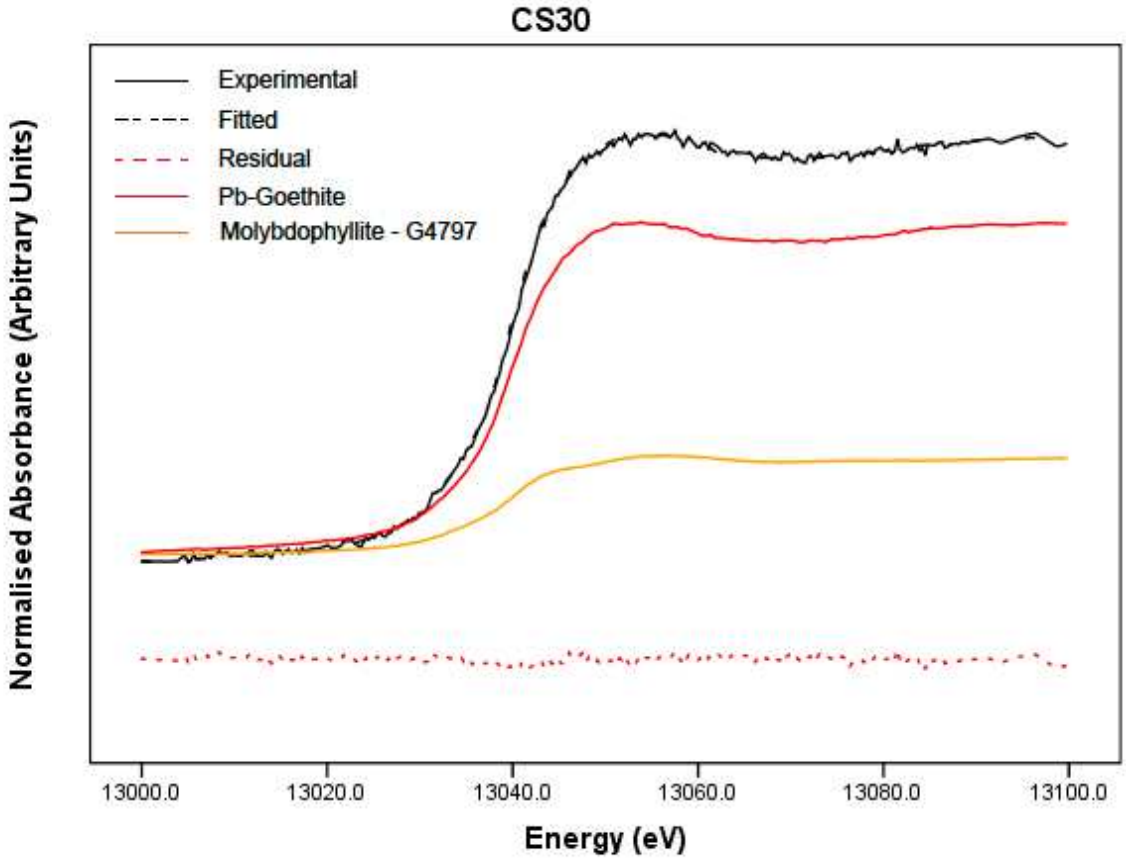

CS24
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

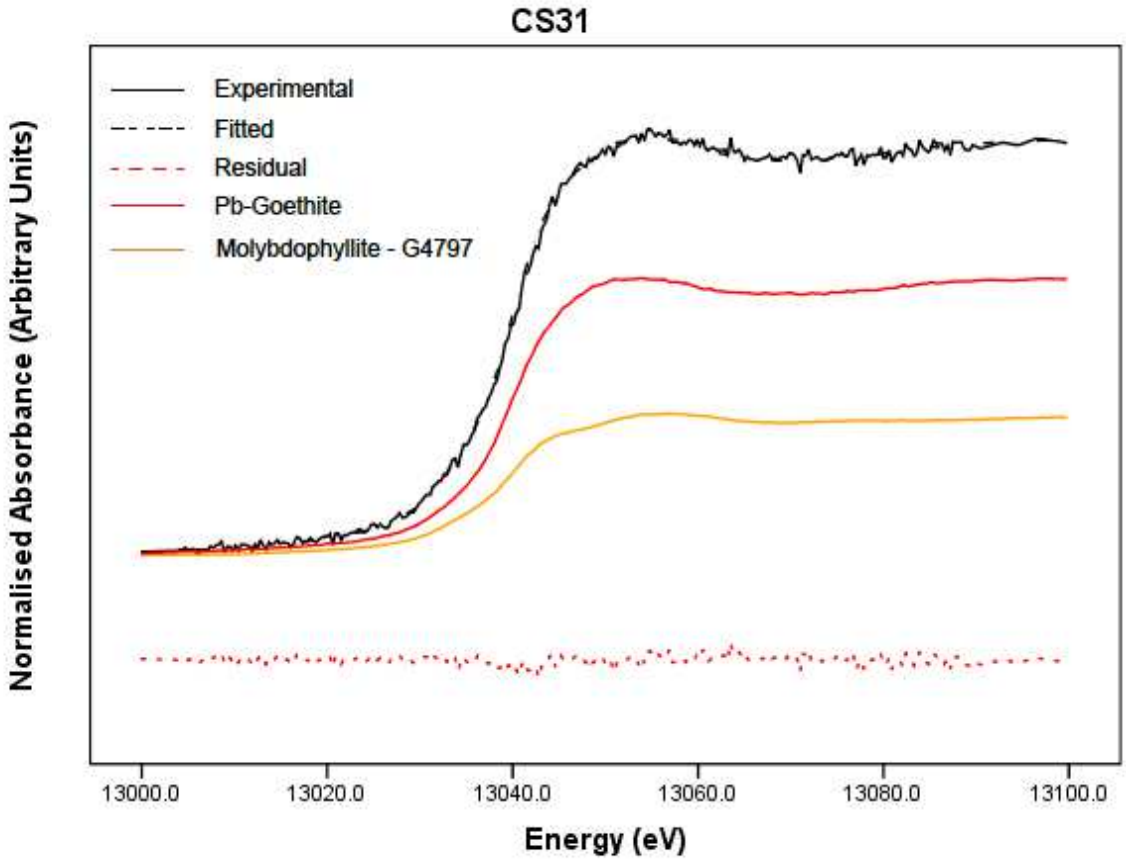

CS25
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

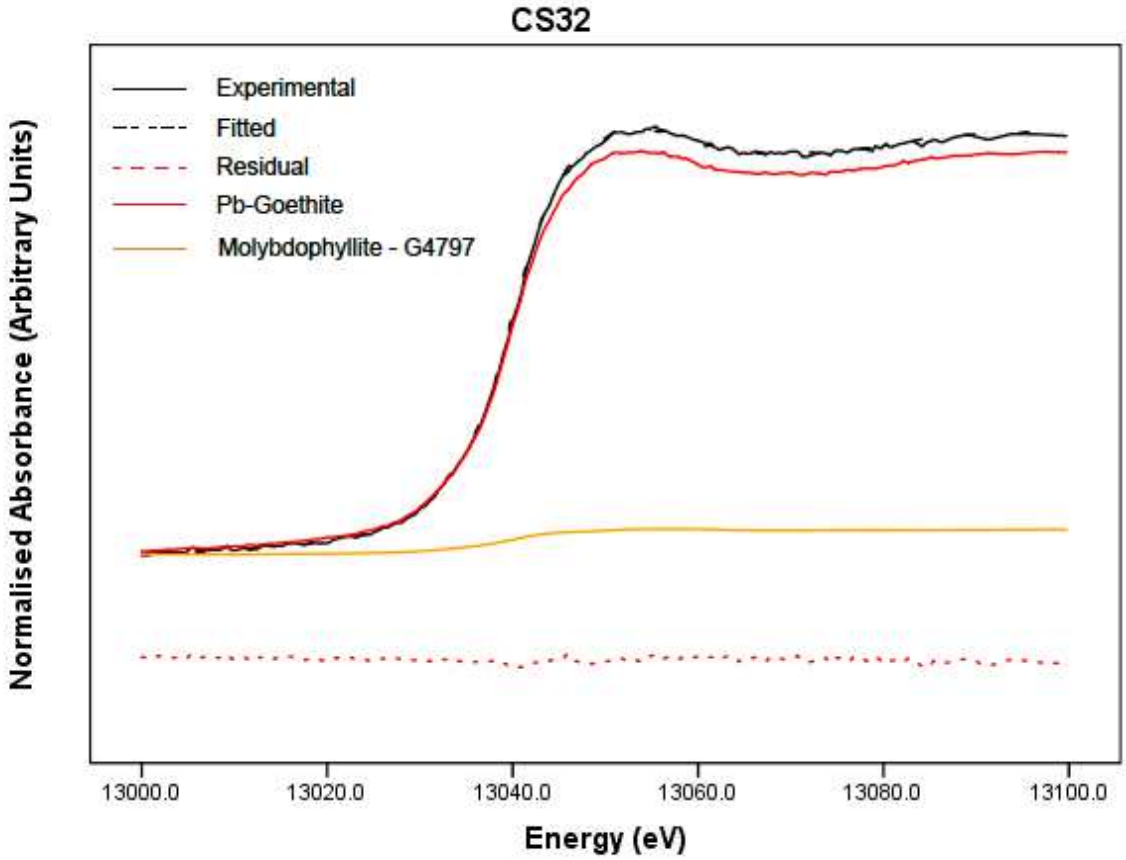

CS27
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

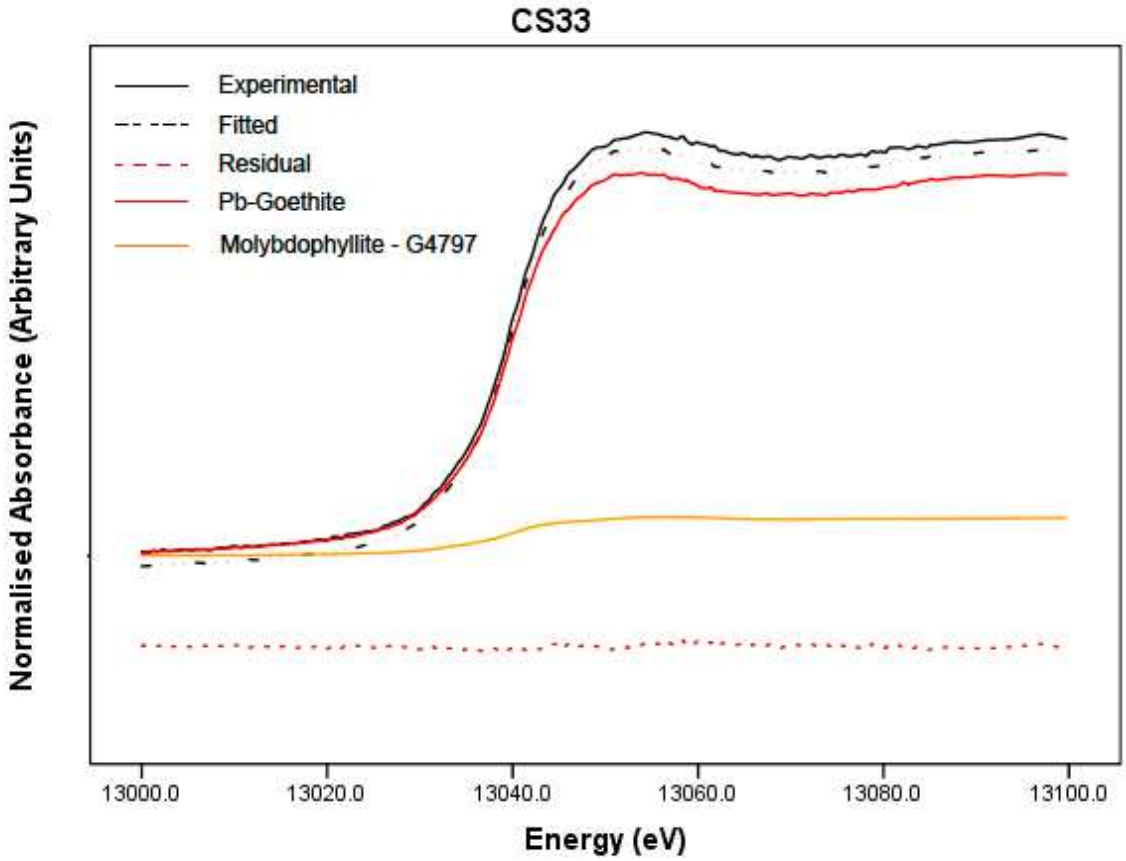

CS28
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

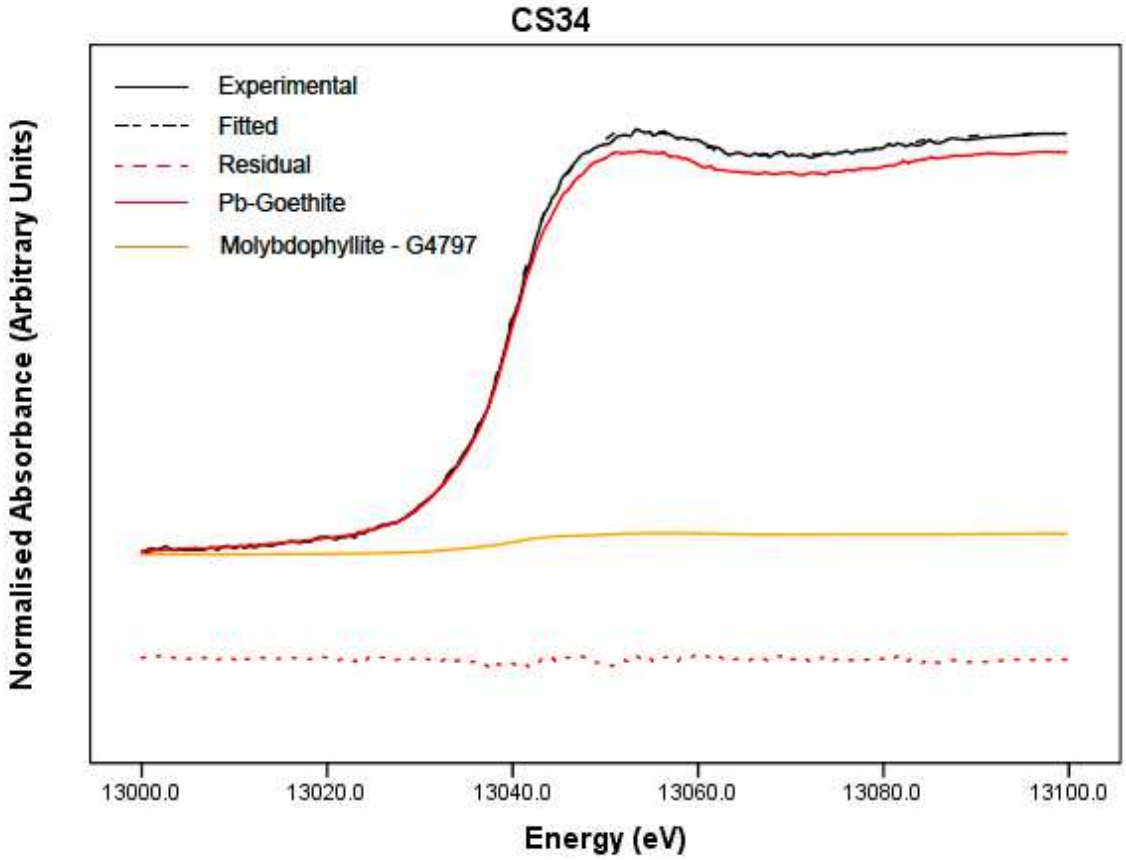

CS29
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

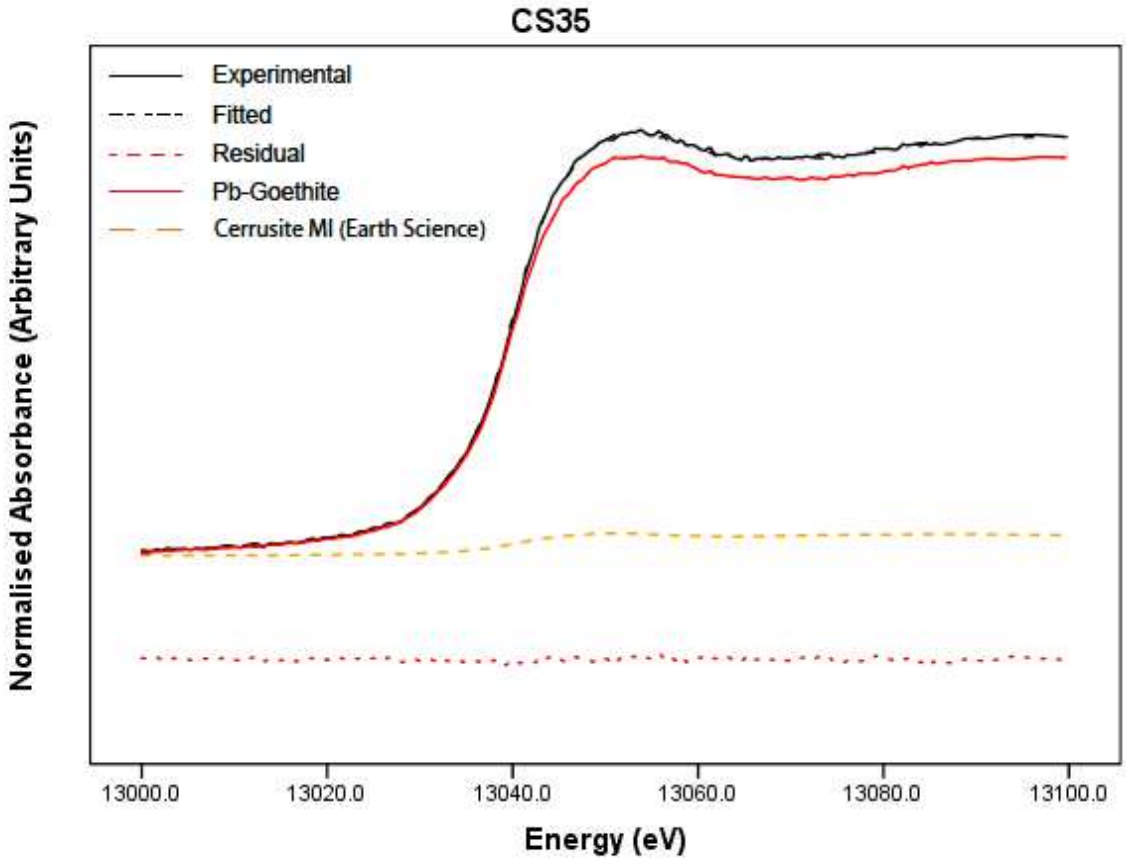

CS30
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

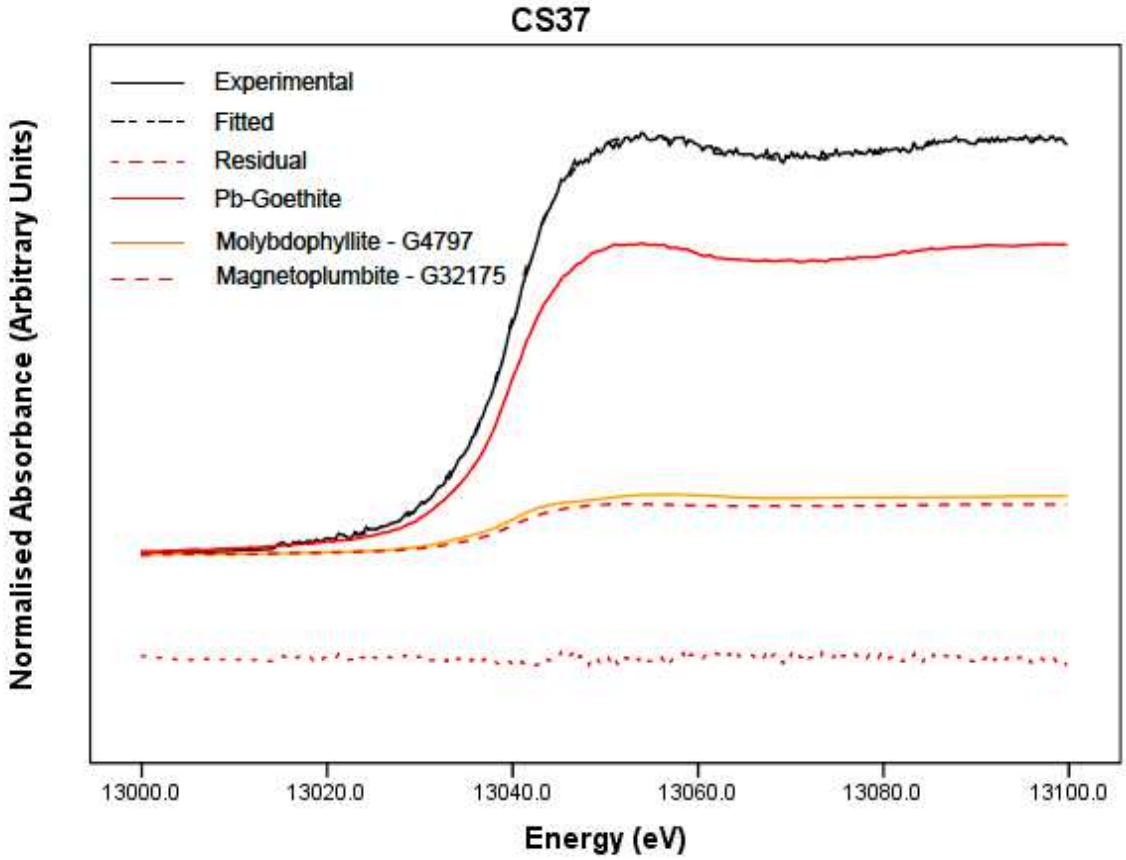

CS31
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

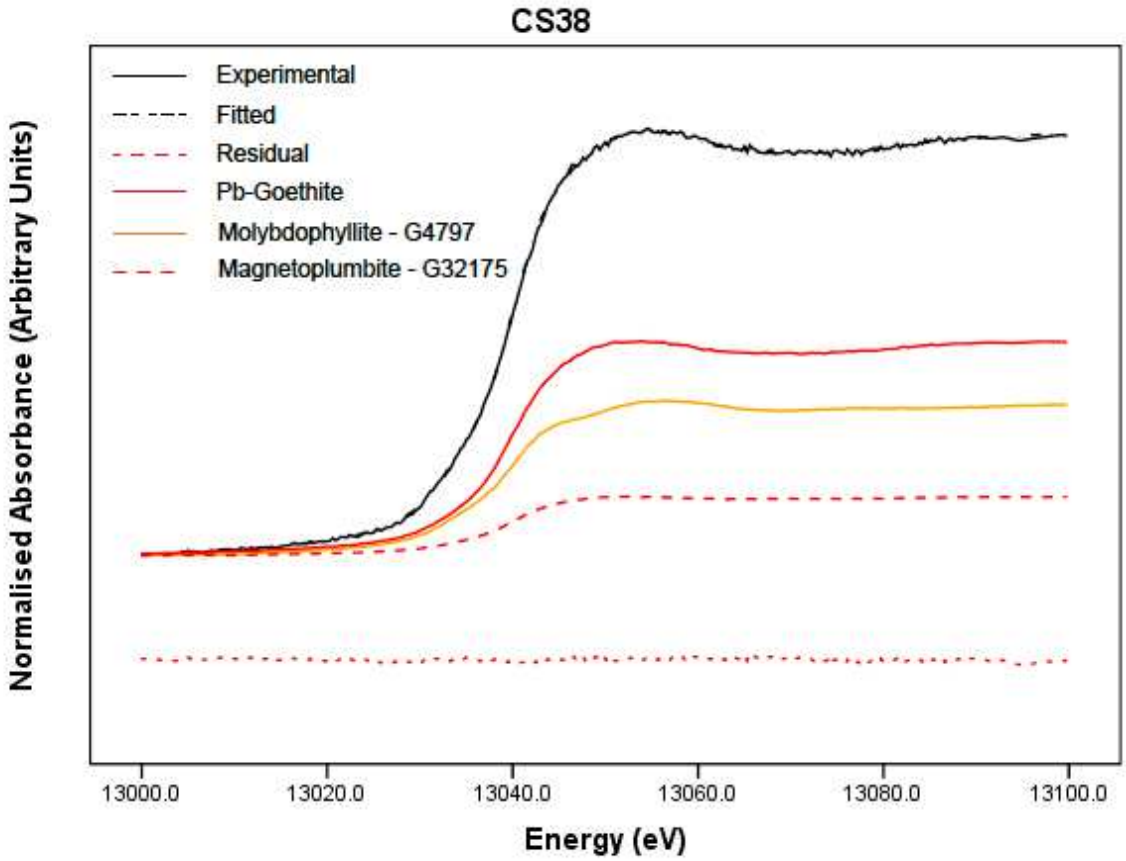

CS32
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

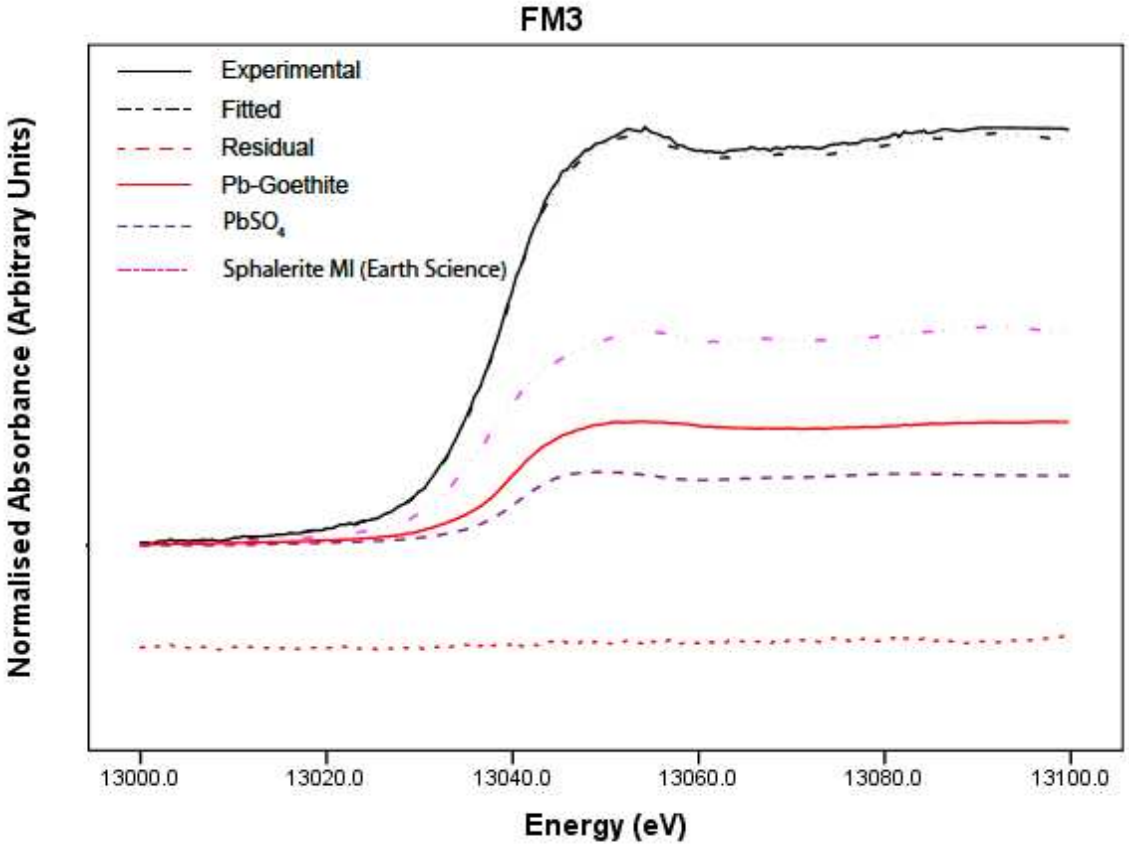

CS33
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

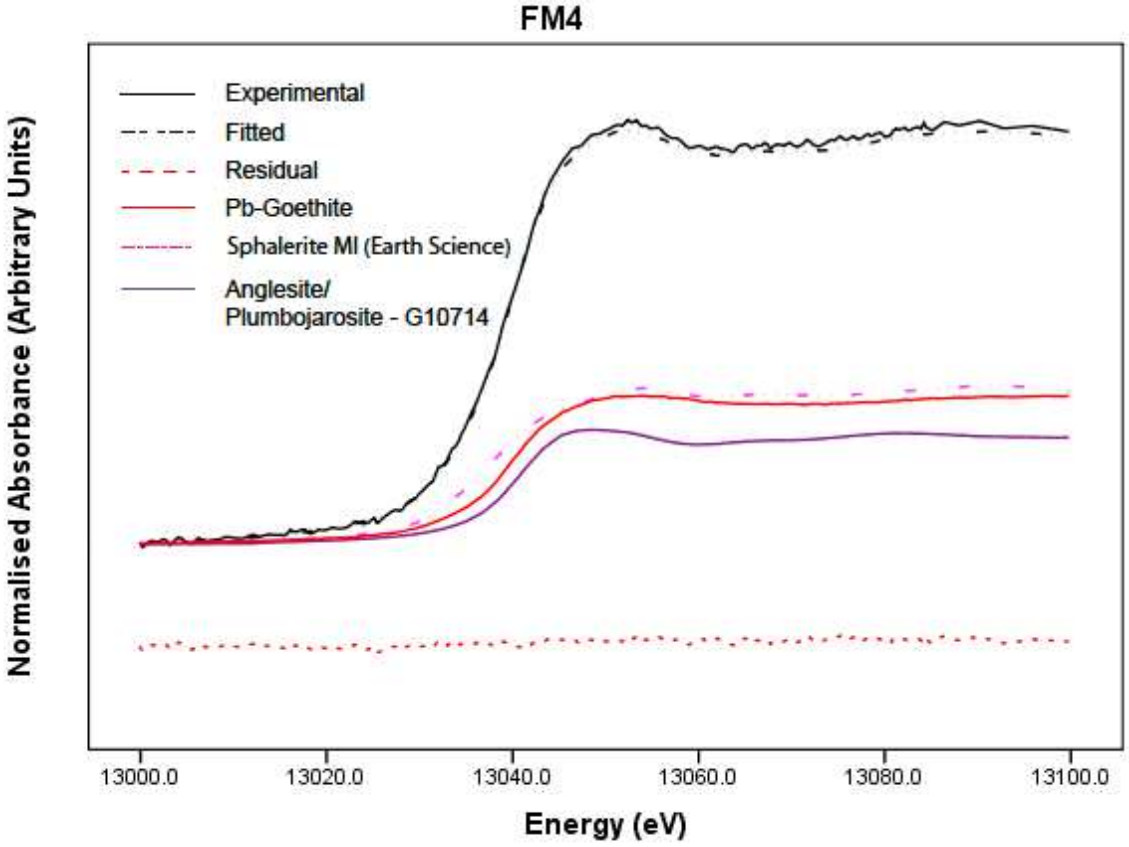

CS34
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

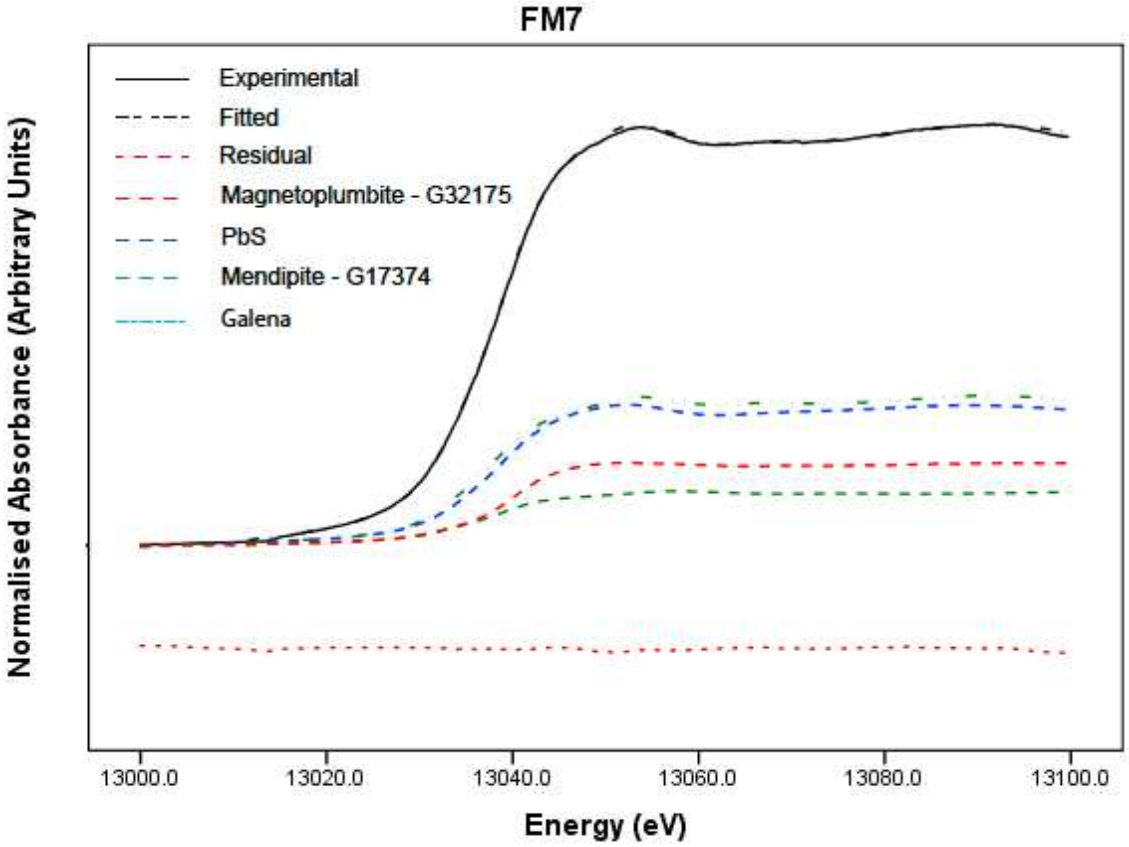

CS35
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

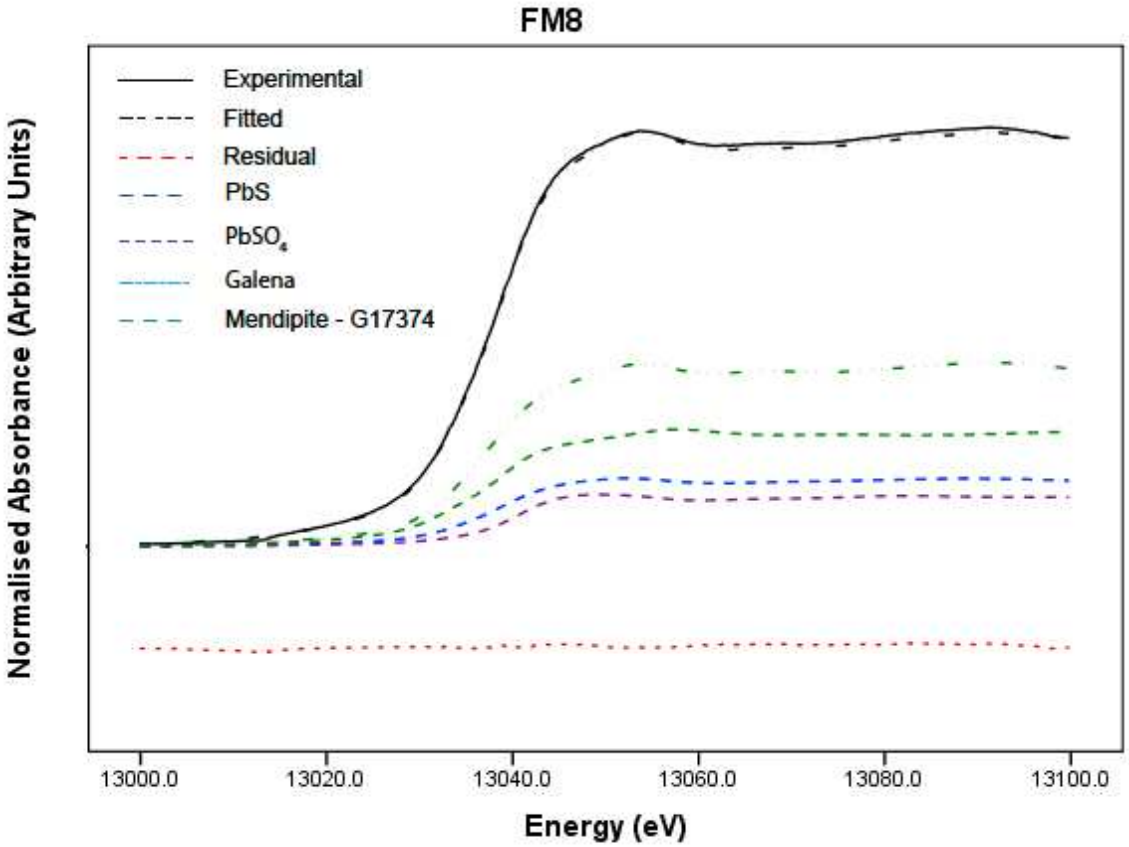

CS37
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

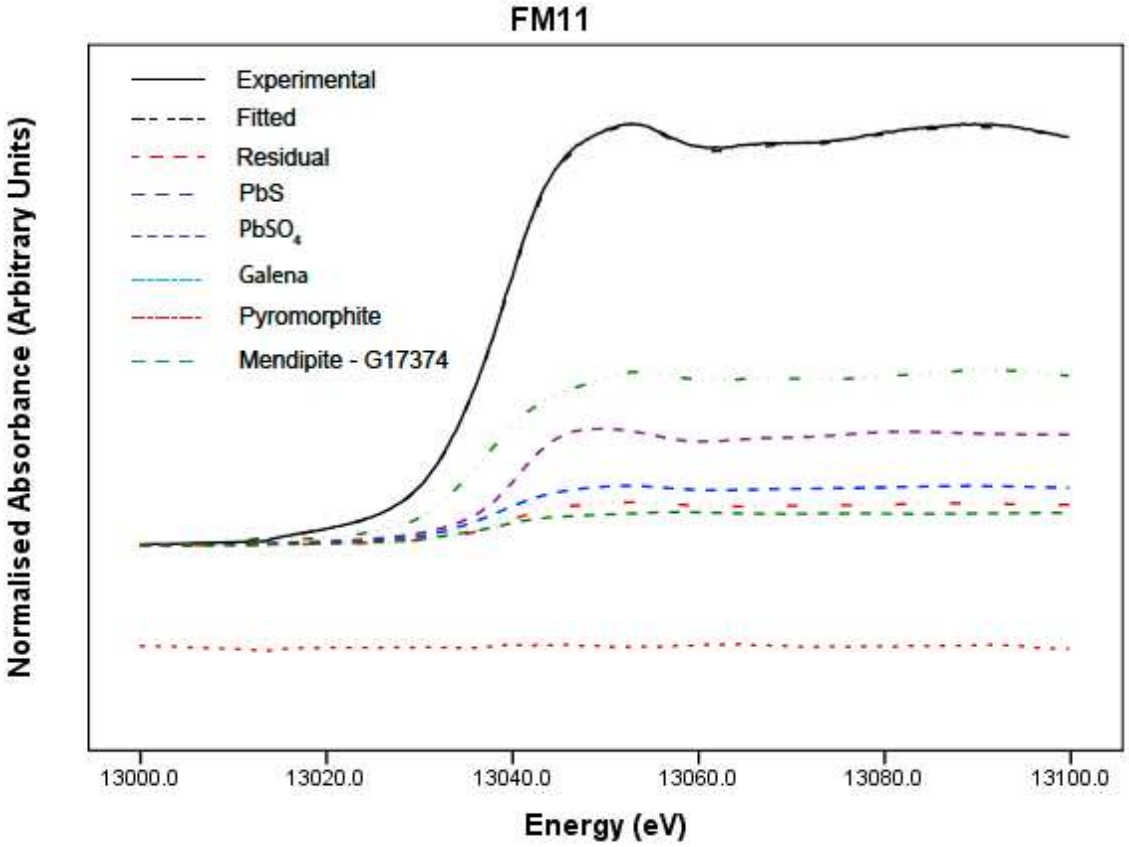

CS38
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

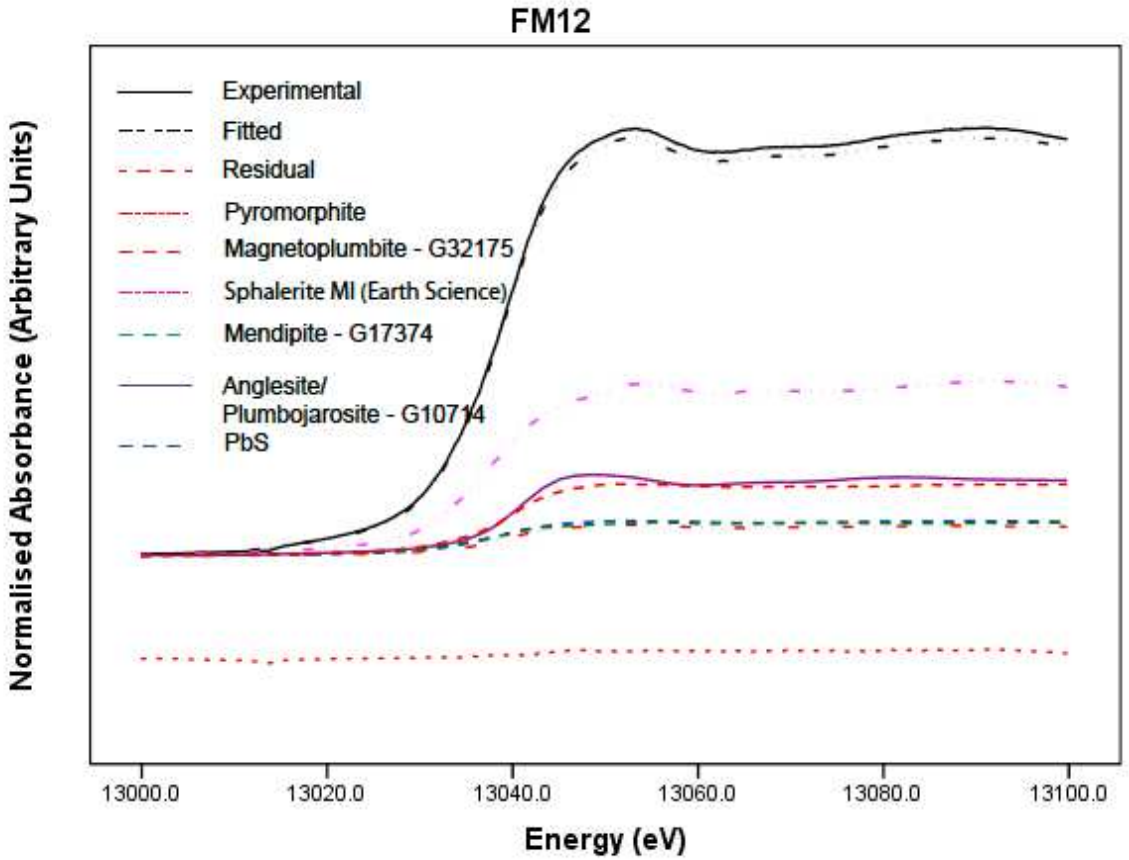

FM3
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

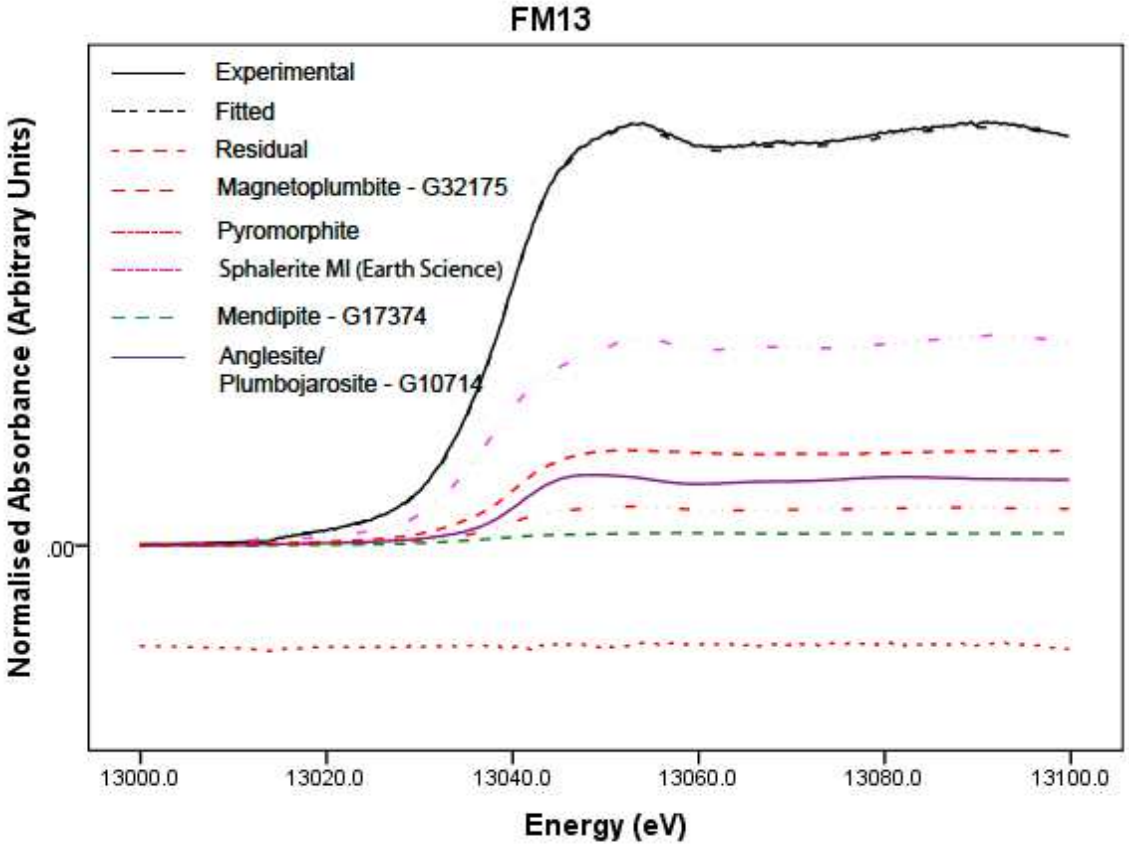

FM4
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

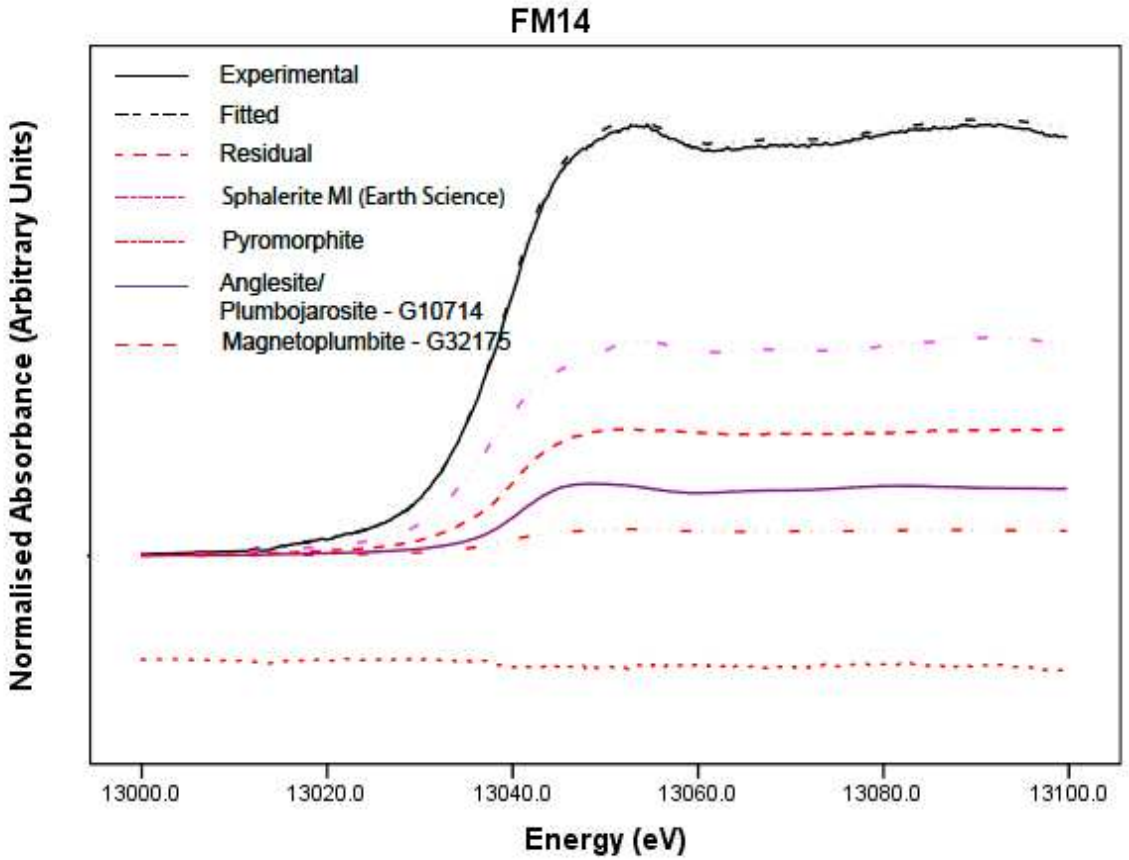

FM7
Experimental
Fitted
Residual
Magnetoplumbite - G32175
PbS
Mendipite - G17374
Galena
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

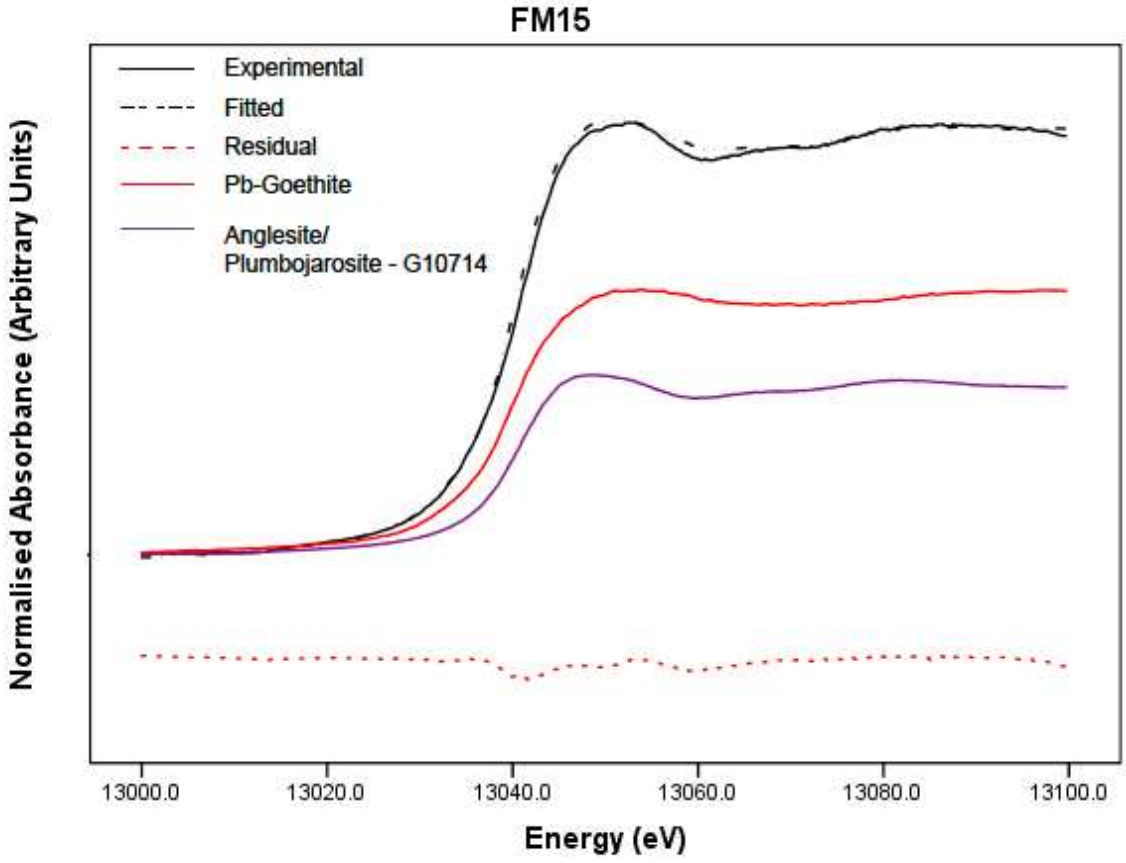

FM8
Experimental
Fitted
Residual
PbS
PbSO4
Galena
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

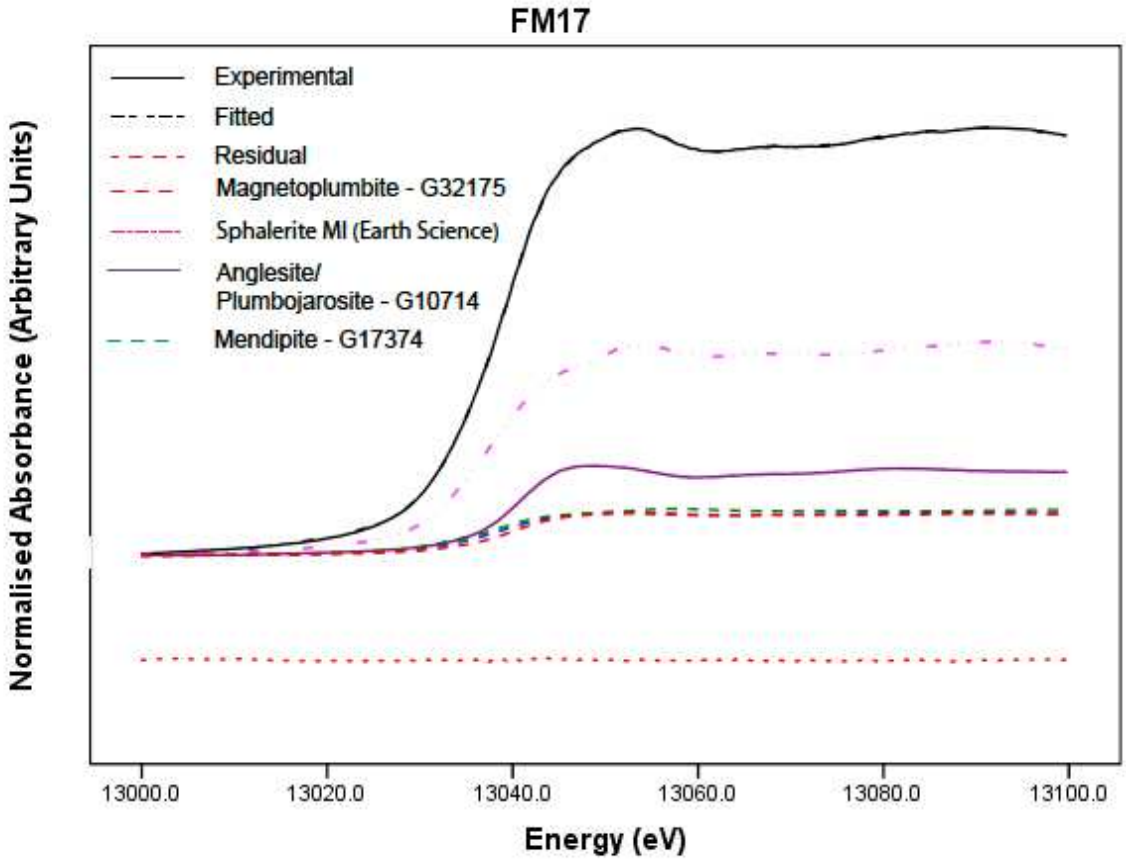

FM11
Experimental
Fitted
Residual
PbS
PbSO4
Galena
Pyromorphite
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

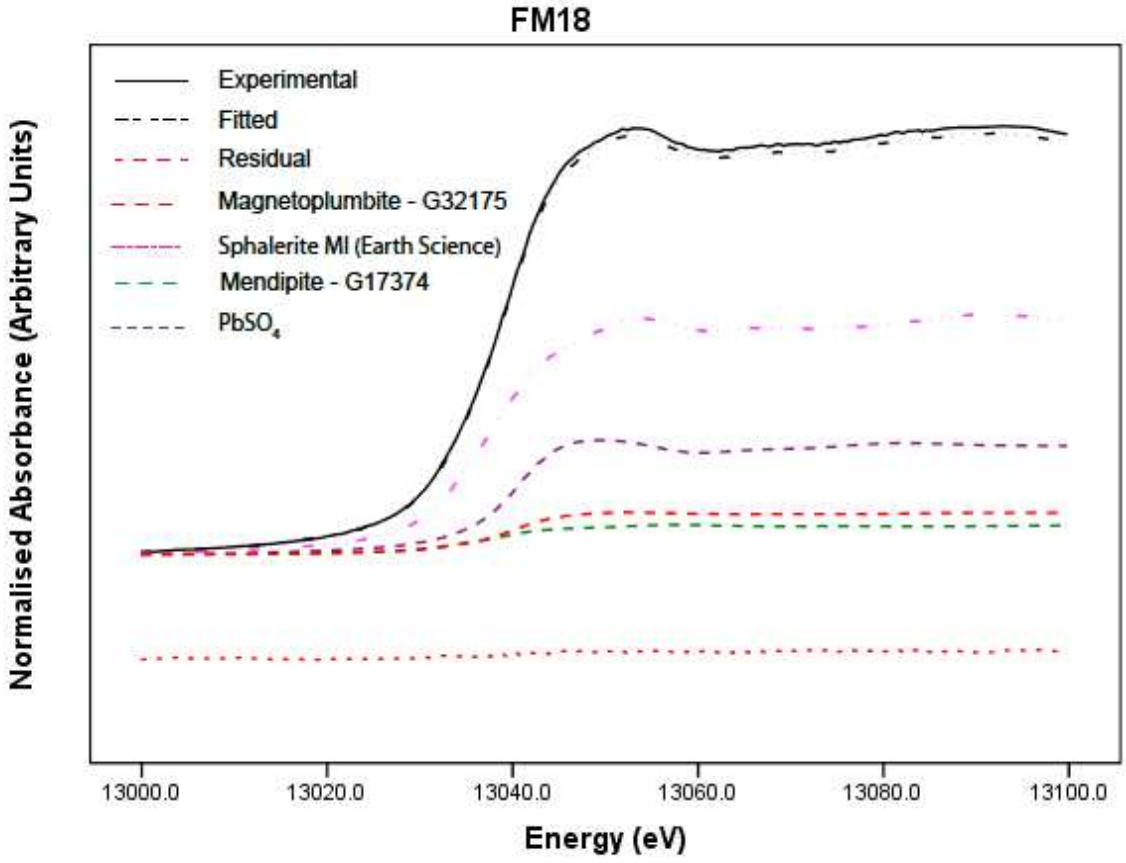

FM12
Experimental
Fitted
Residual
Pyromorphite
Magnetoplumbite - G32175
Sphalerite Ml (Earth Science)
Mendipite - G17374
Anglesite/
Plumbojarosite - G10714
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

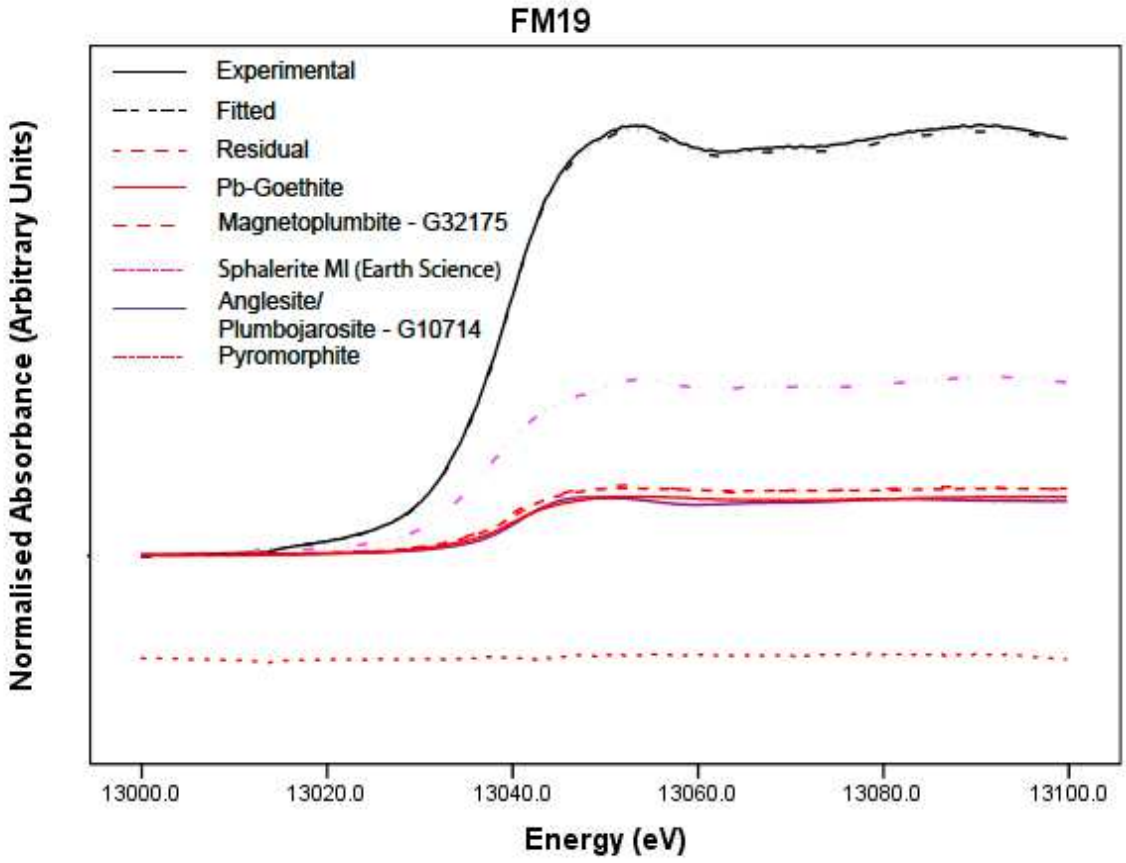

FM13
Experimental
Fitted
Residual
Magnetoplumbite - G32175
Pyromorphite
Sphalerite MI (Earth Science)
Mendipite - G17374
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
.00
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

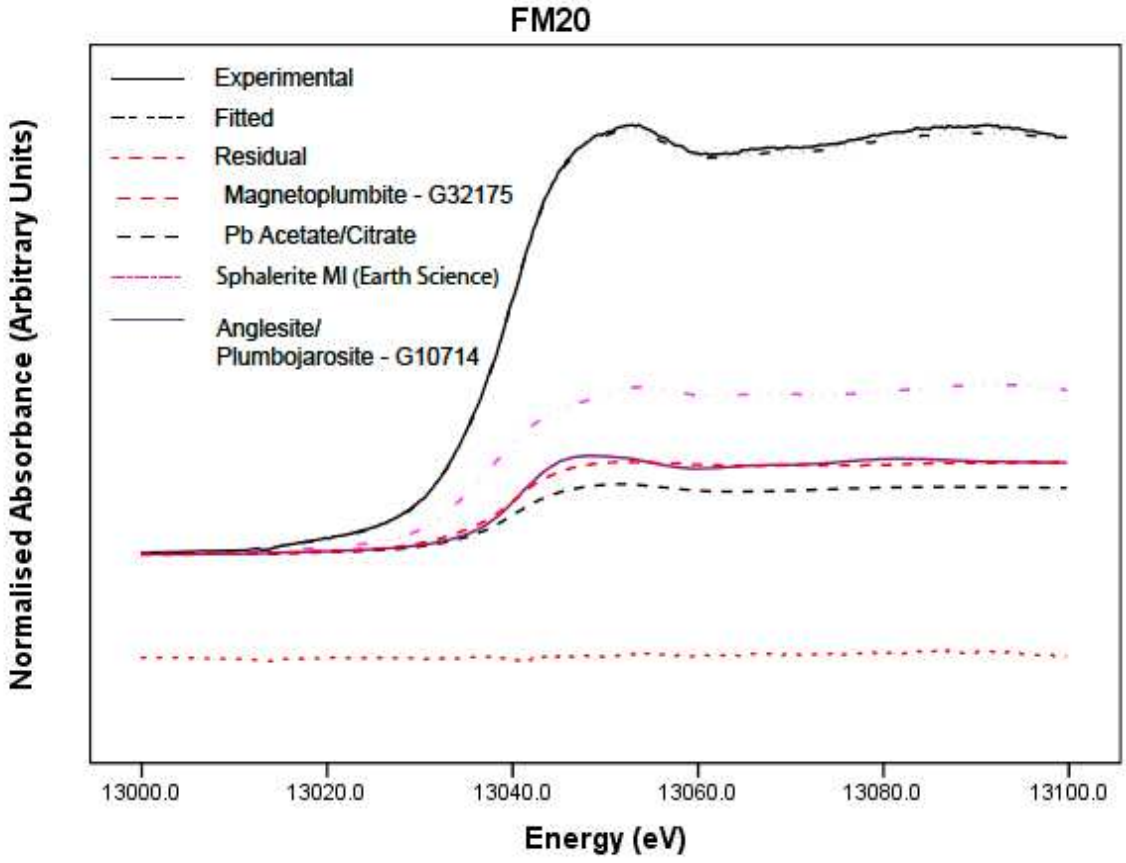

FM14
Experimental
Fitted
Residual
Sphalerite MI (Earth Science)
Pyromorphite
Anglesite/
Plumbojarosite - G10714
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

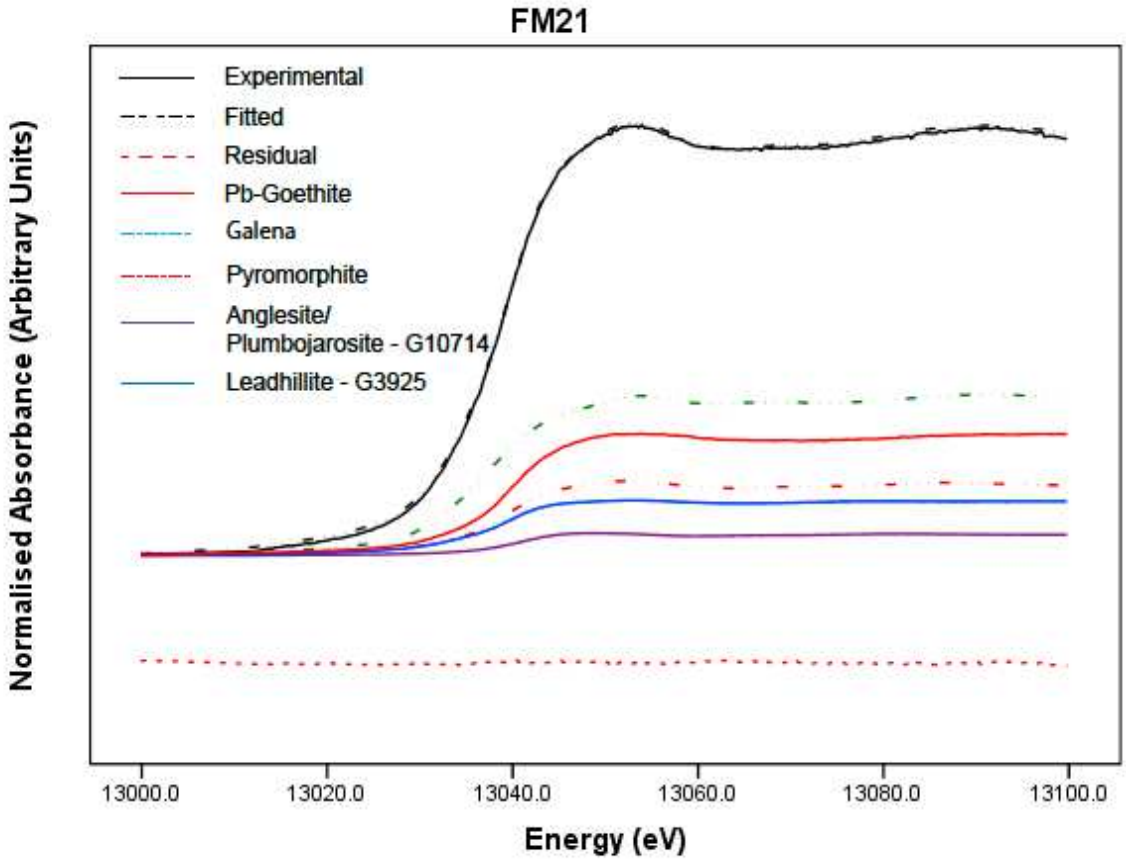

FM15
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

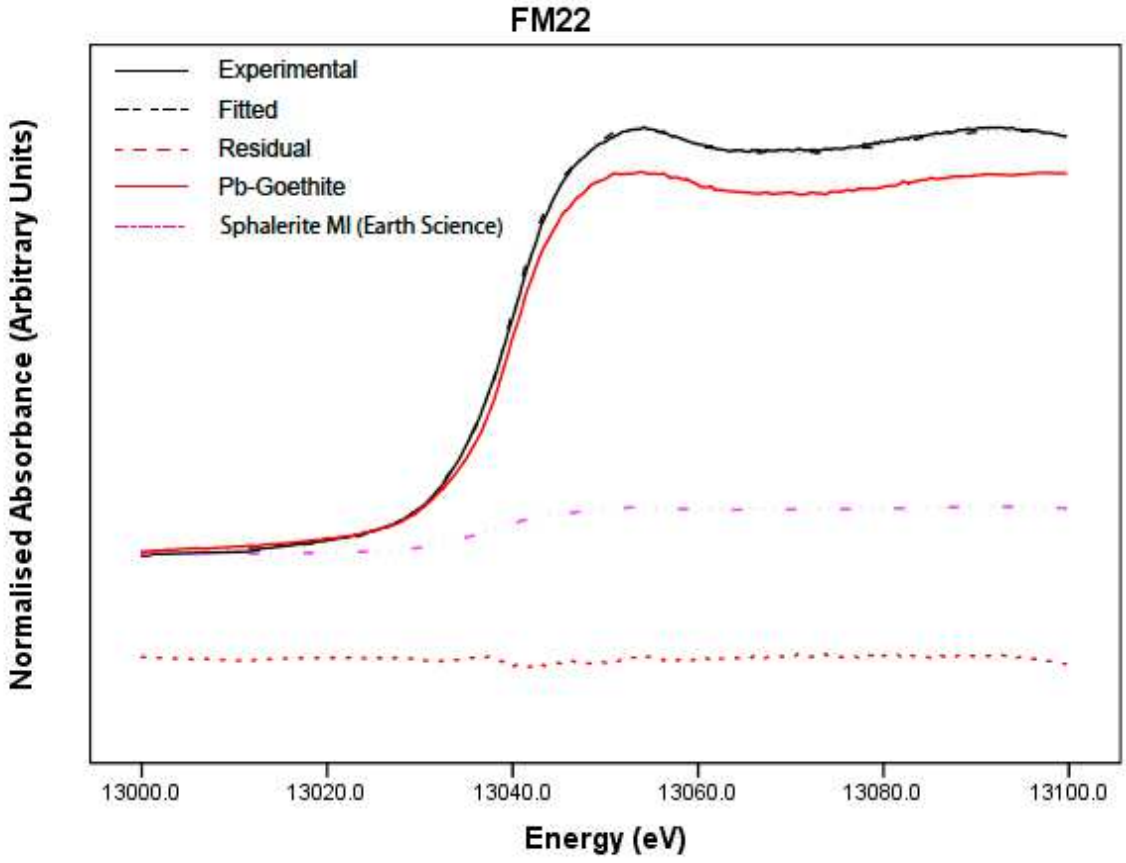

FM17
Experimental
Fitted
Residual
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

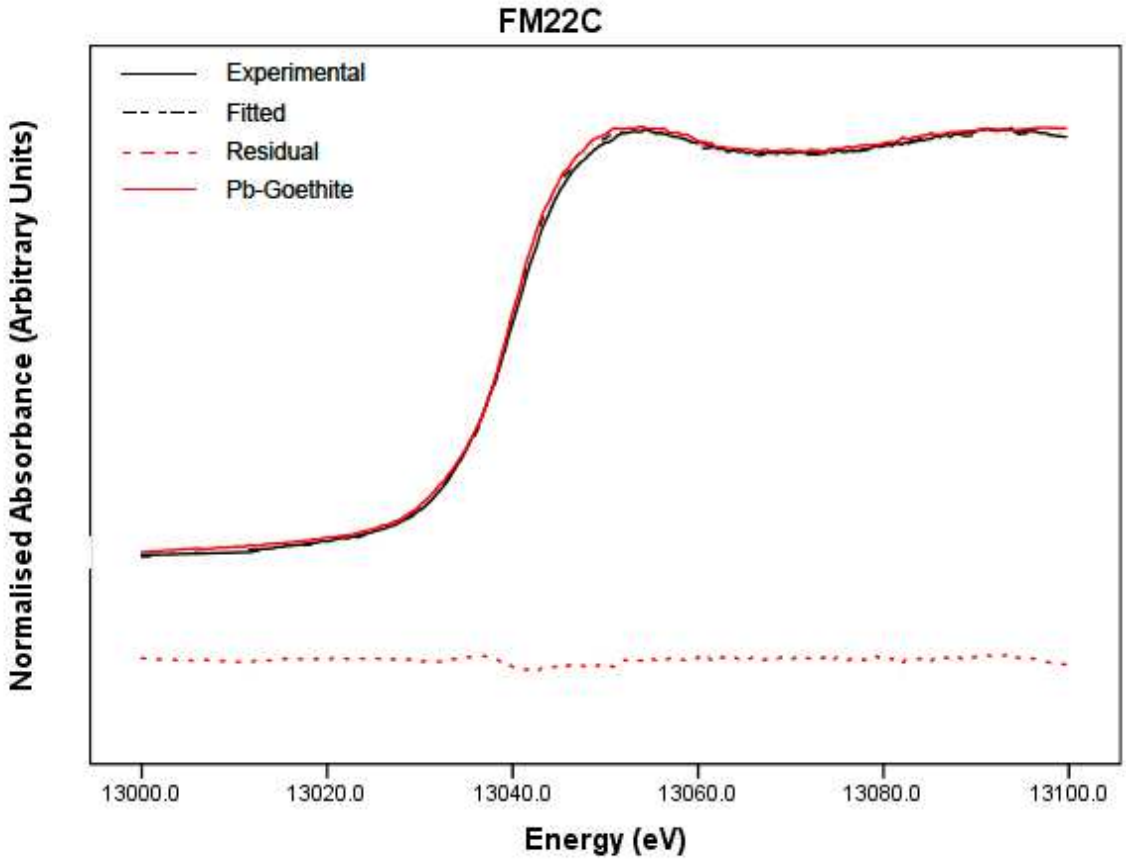

FM18
Experimental
Fitted
Residual
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Mendipite - G17374
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

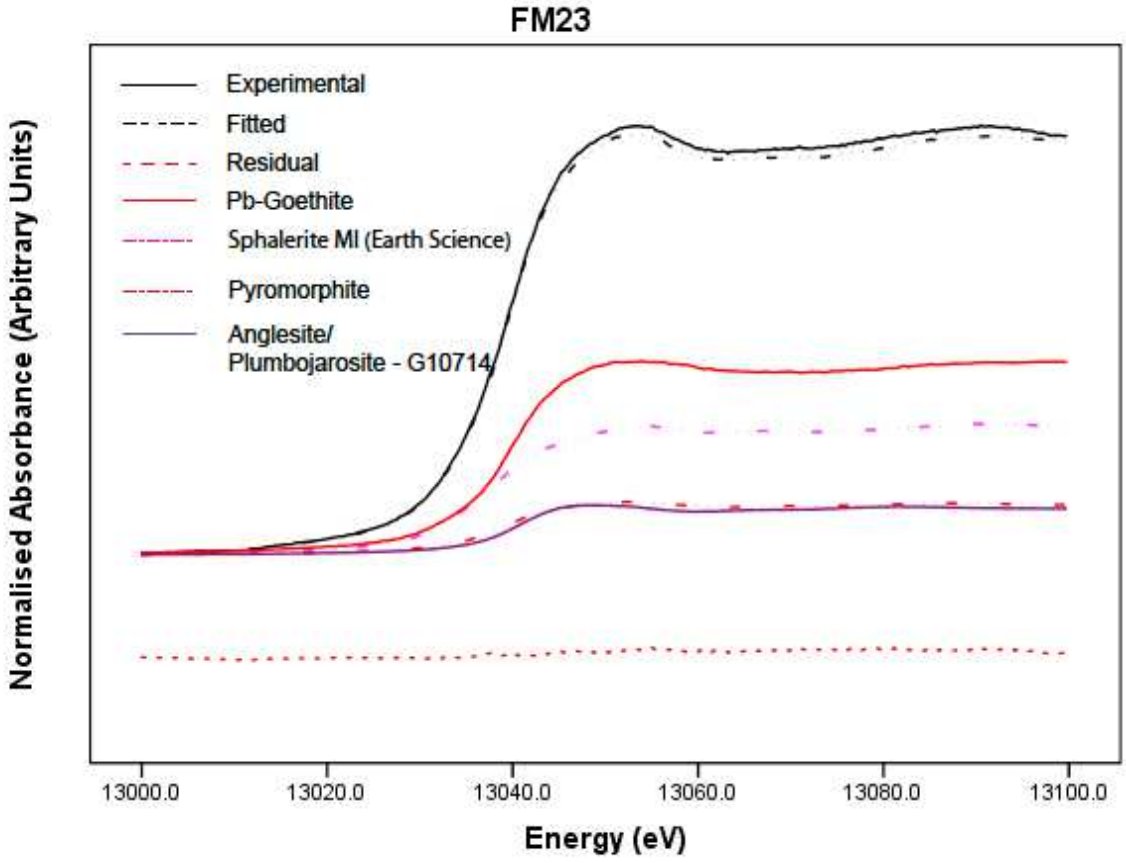

FM19
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

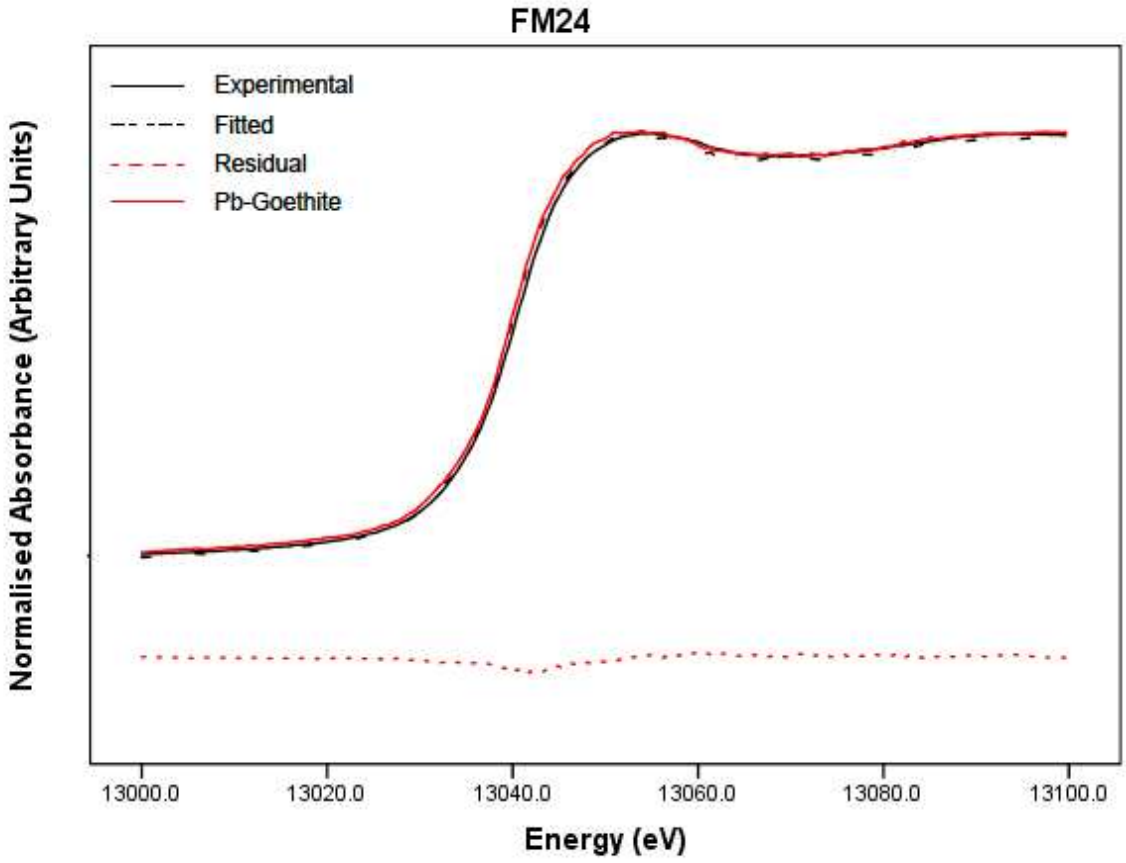

FM20
Experimental
Fitted
Residual
Magnetoplumbite - G32175
Pb Acetate/Citrate
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

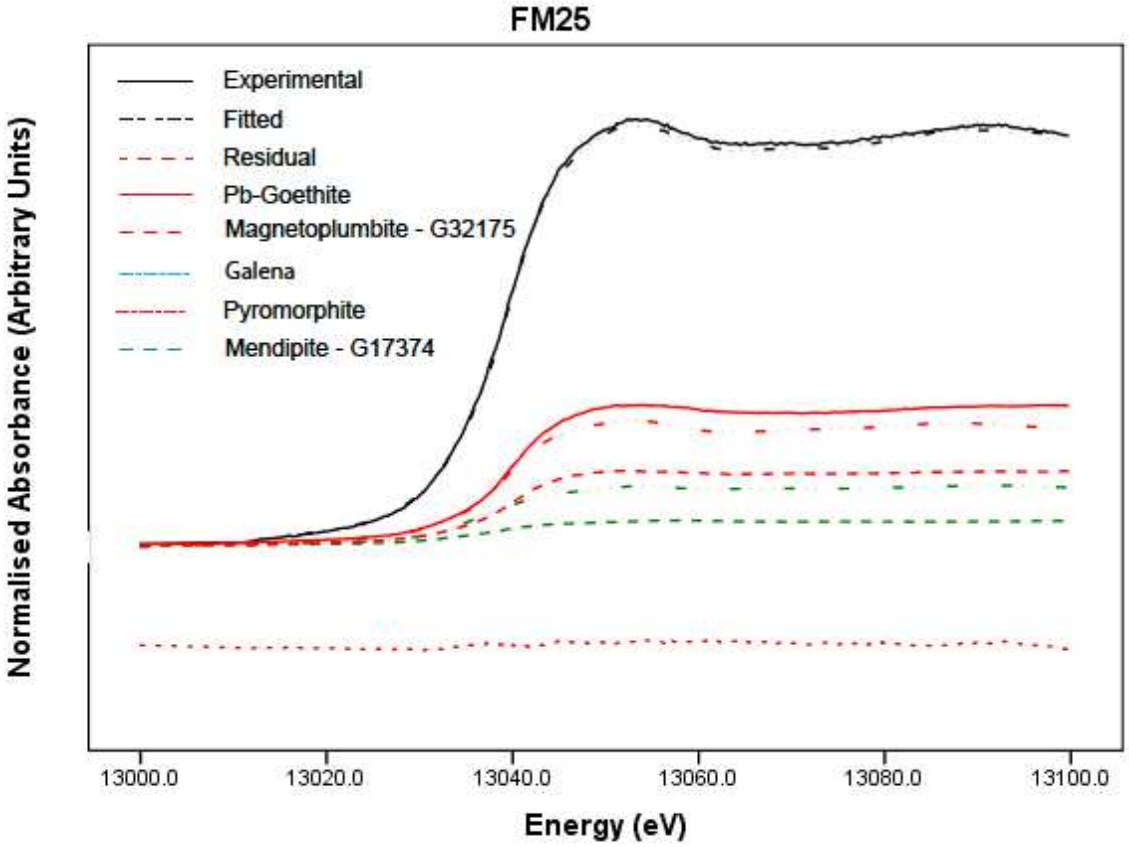

FM21
Experimental
Fitted
Residual
Pb-Goethite
Galena
Pyromorphite
Anglesite/
Plumbojarosite - G10714
Leadhillite - G3925
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

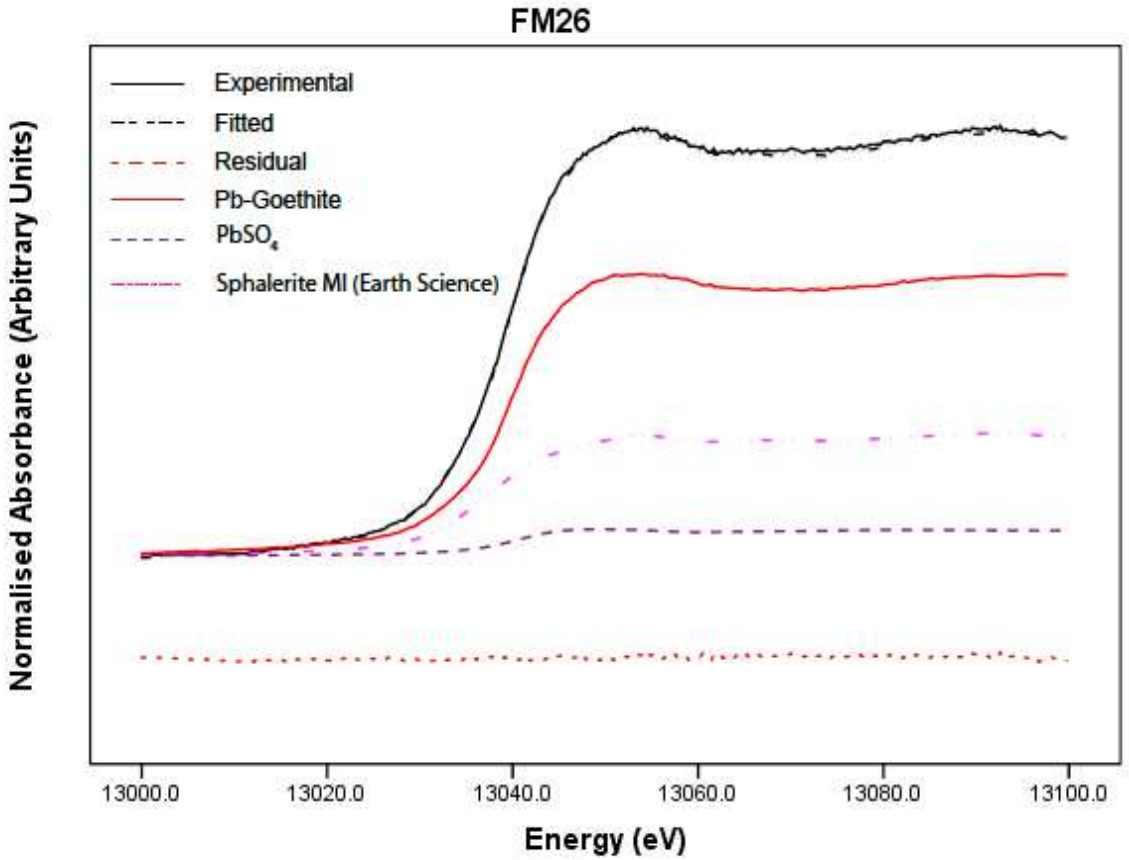

FM22
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

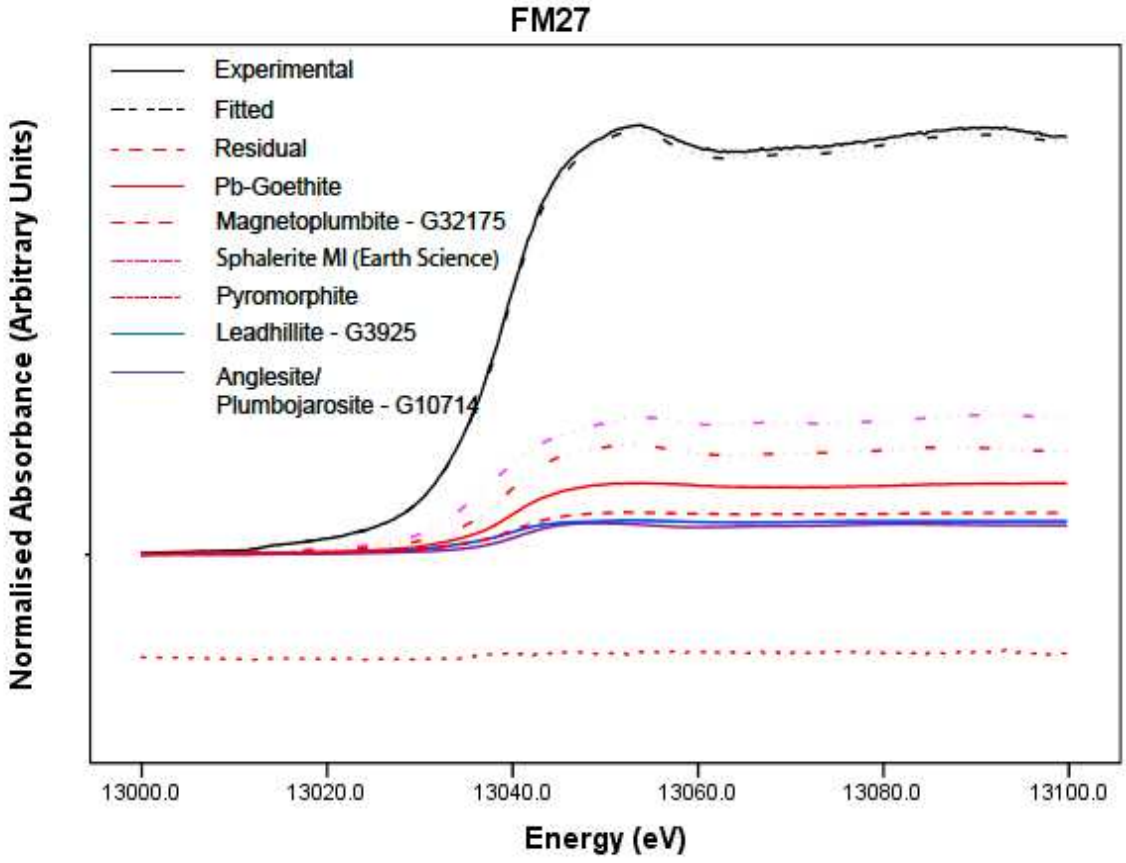

FM22C
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

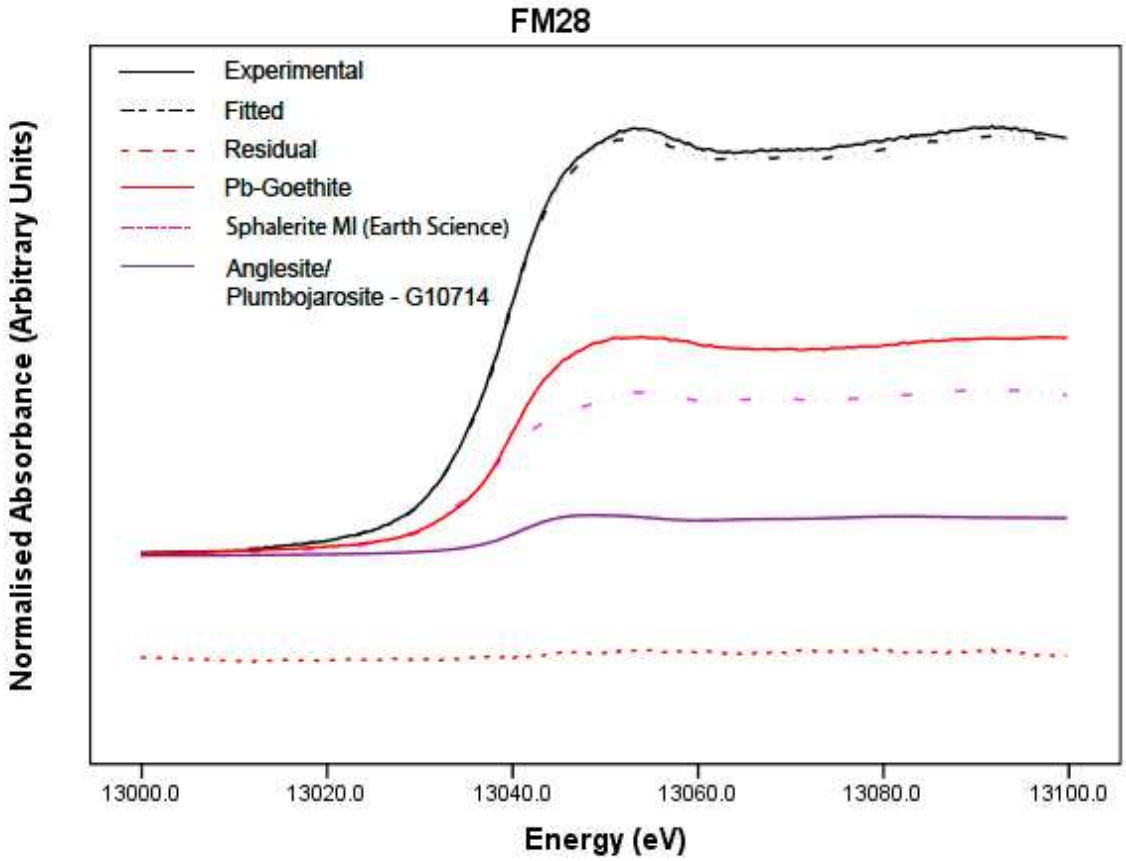

FM23
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Pyromorphite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

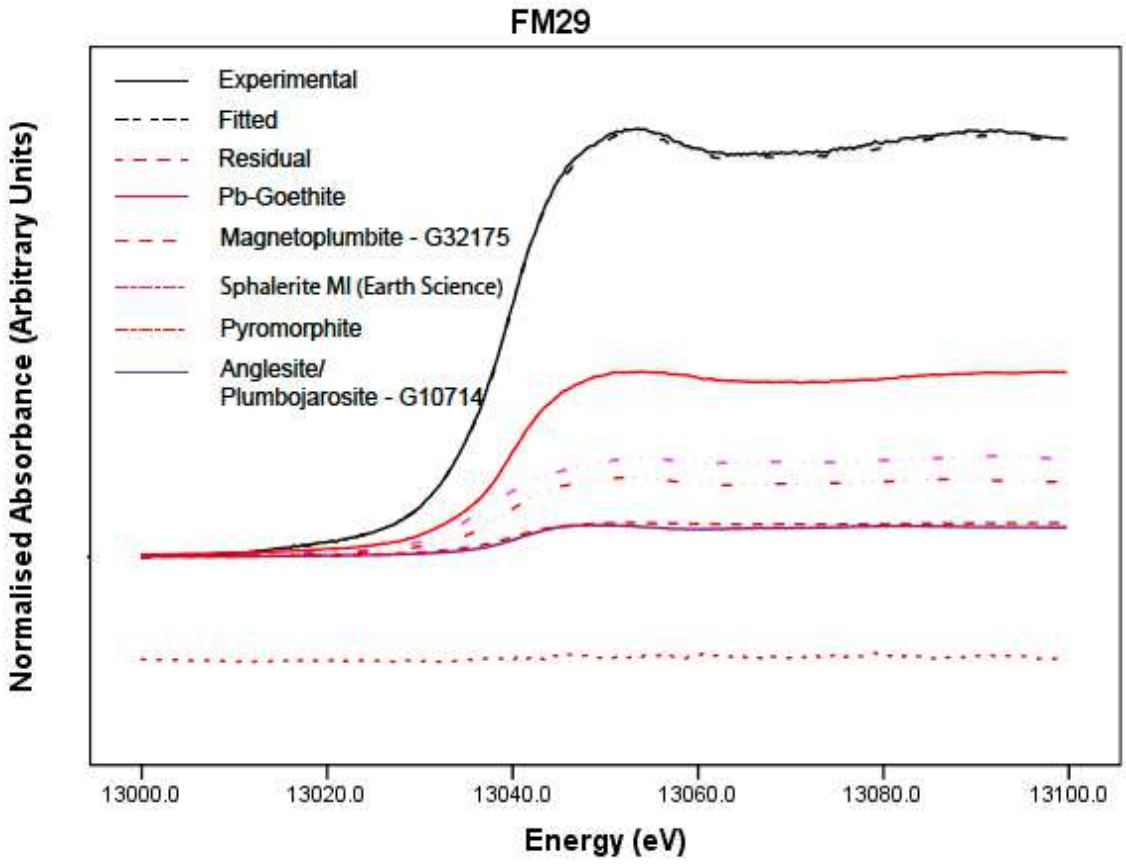

FM24
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

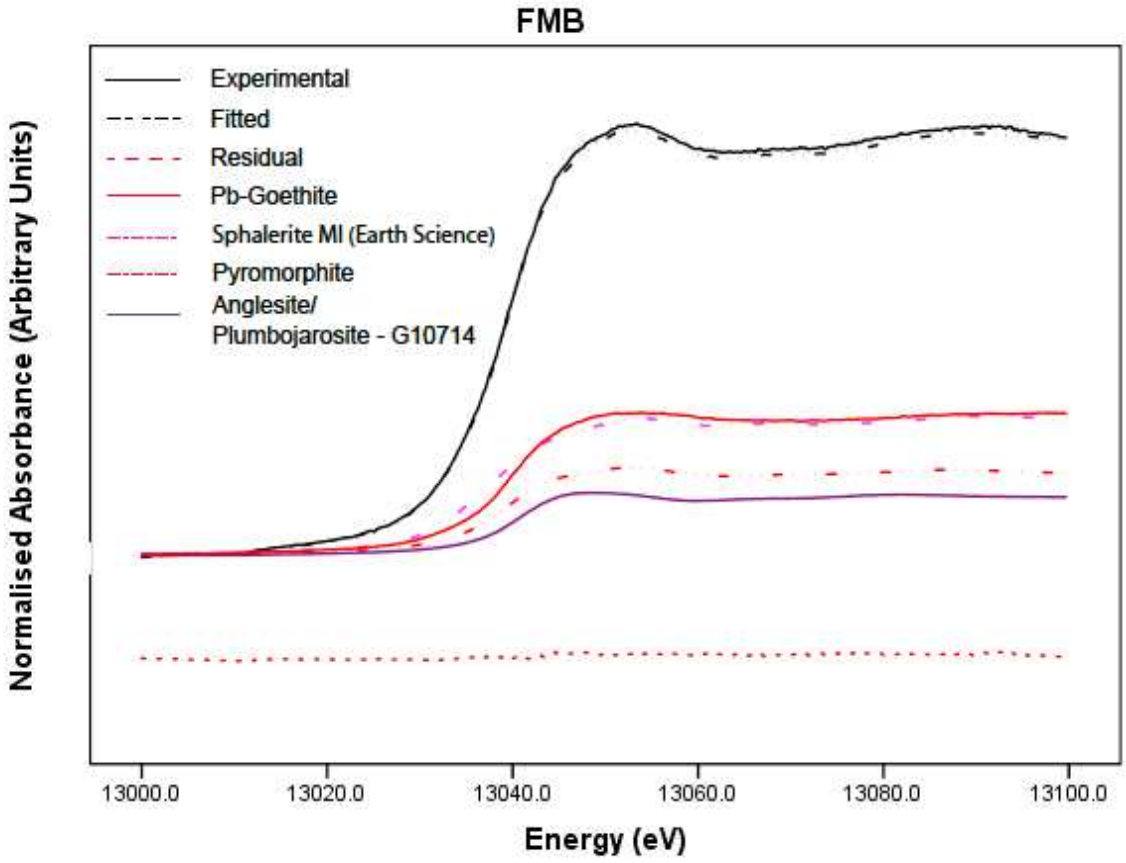

FM25
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Galena
Pyromorphite
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

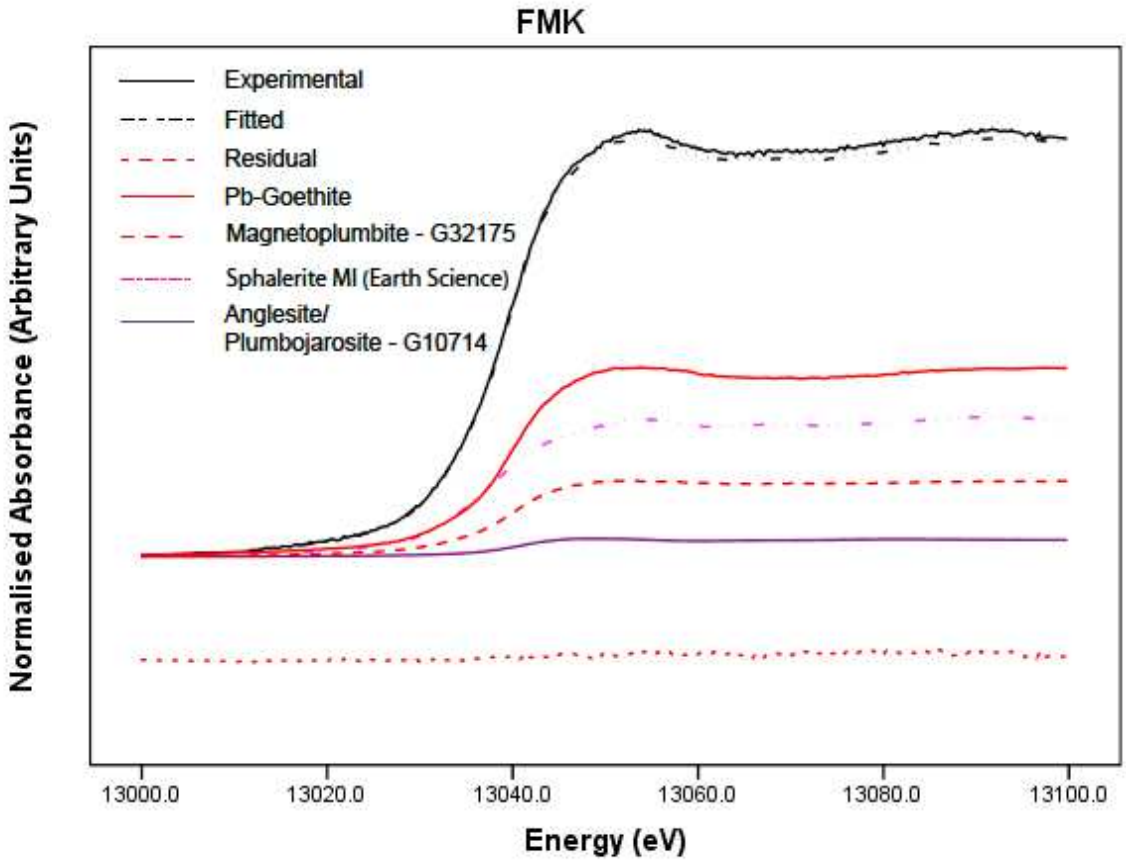

FM26
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

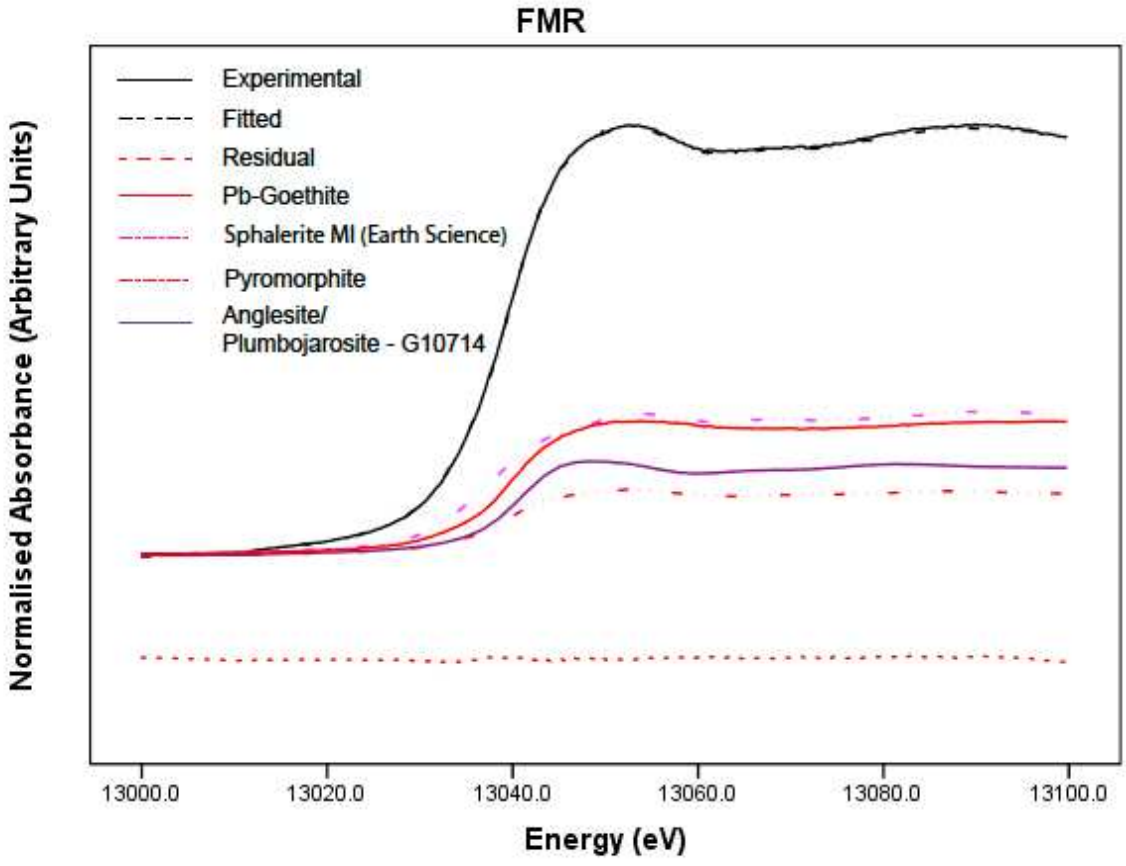

FM27
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Pyromorphite
Leadhillite - G3925
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

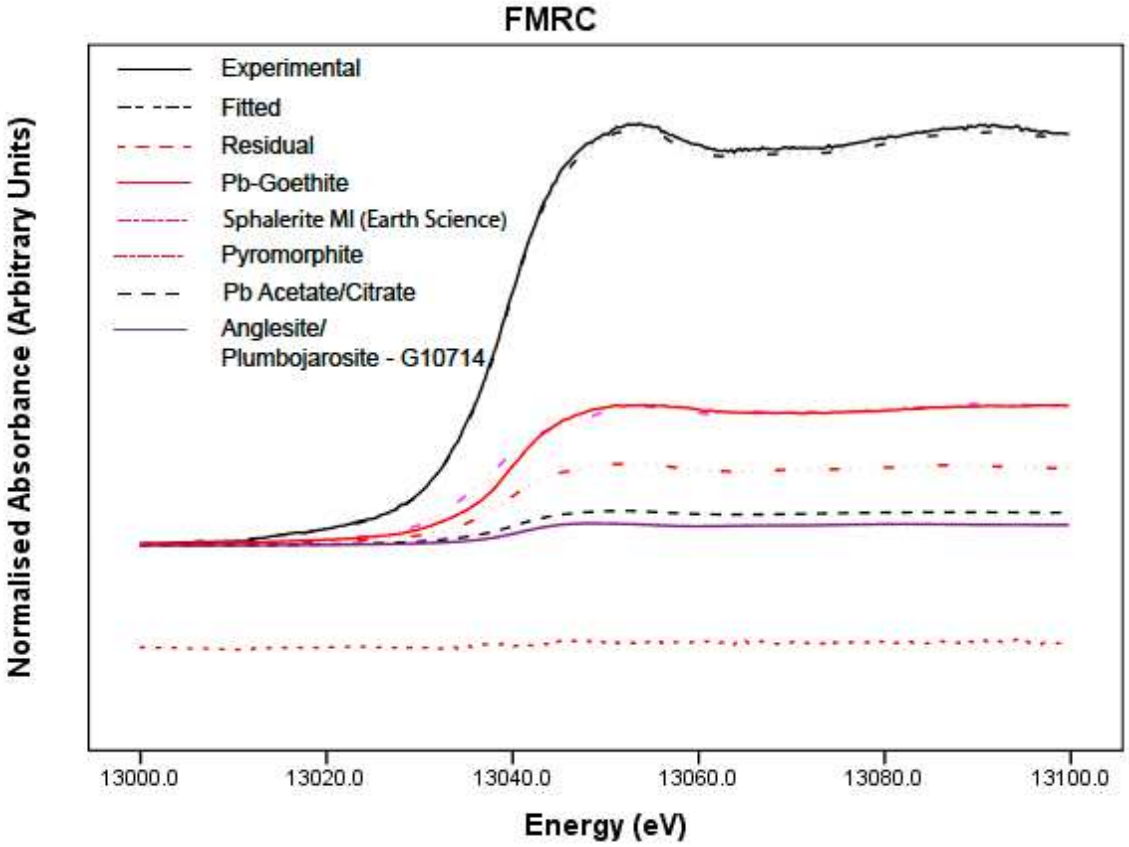

FM28
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

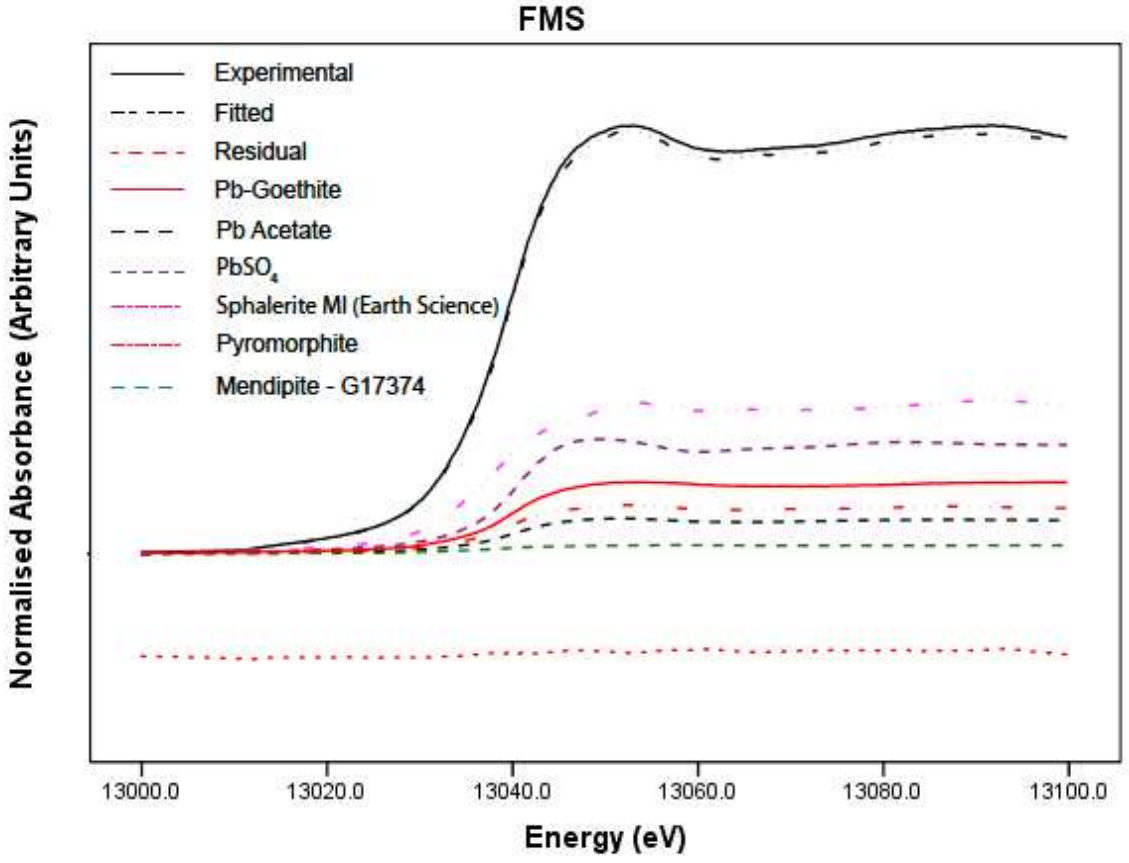

FM29
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Pyromorphite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

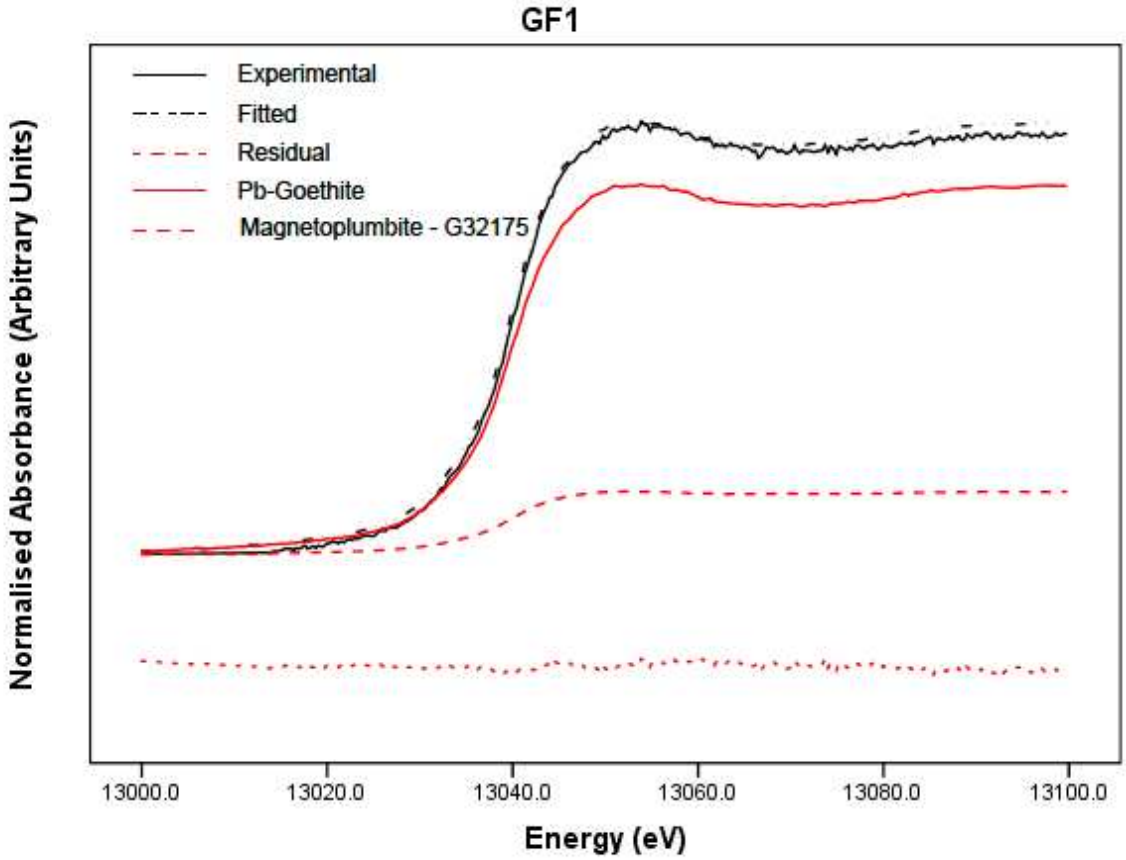

FMB
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Pyromorphite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

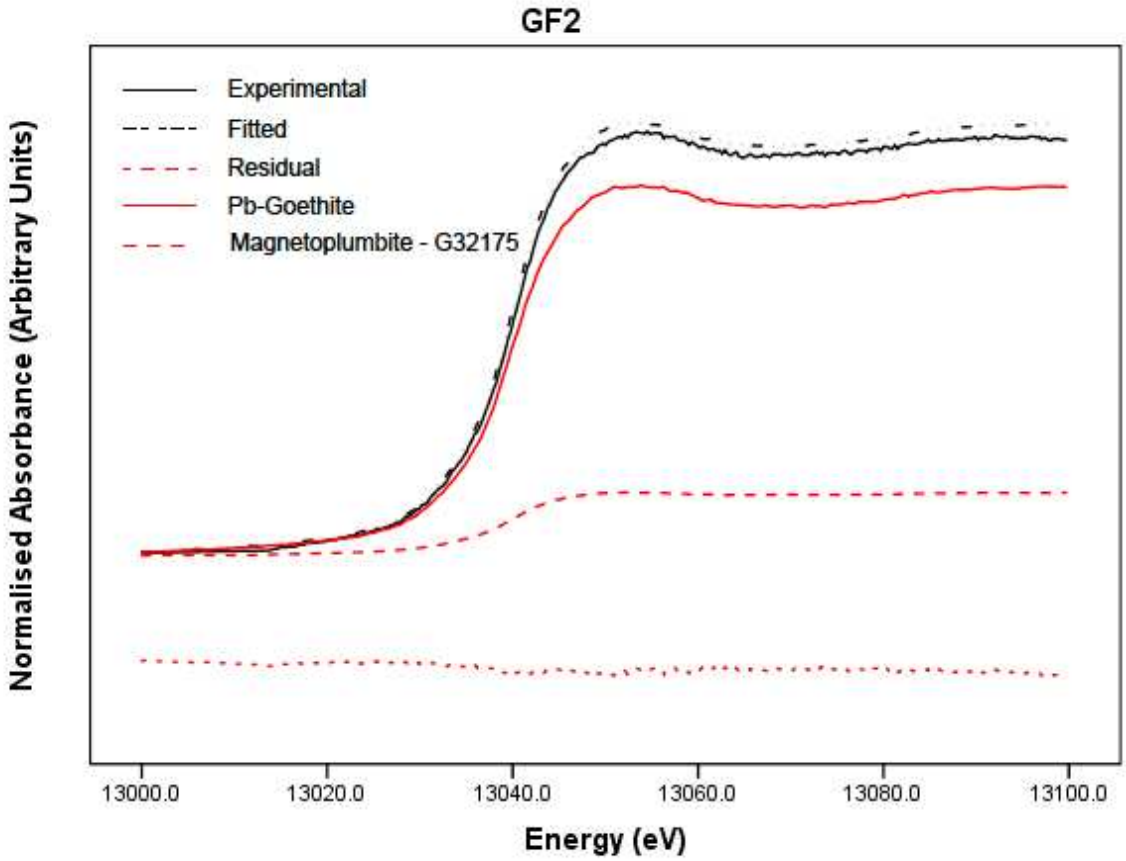

FMK
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Sphalerite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

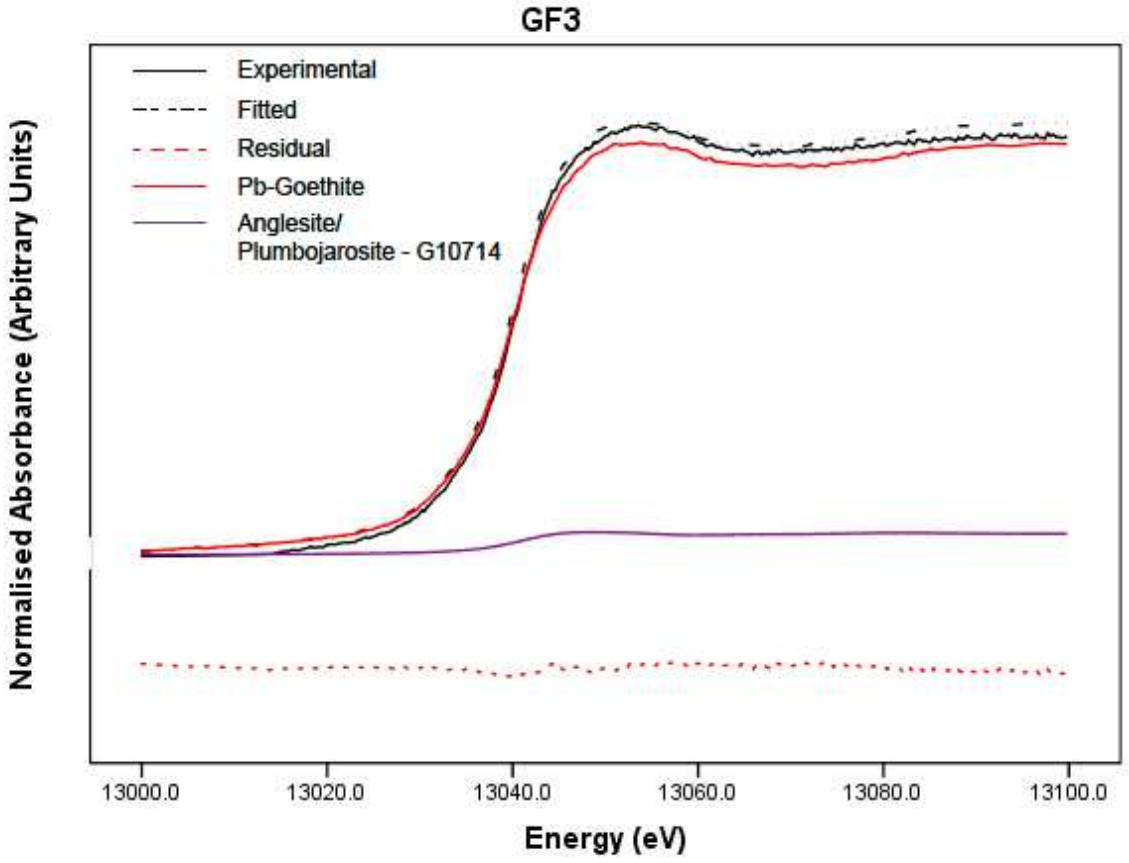

FMR
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Pyromorphite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

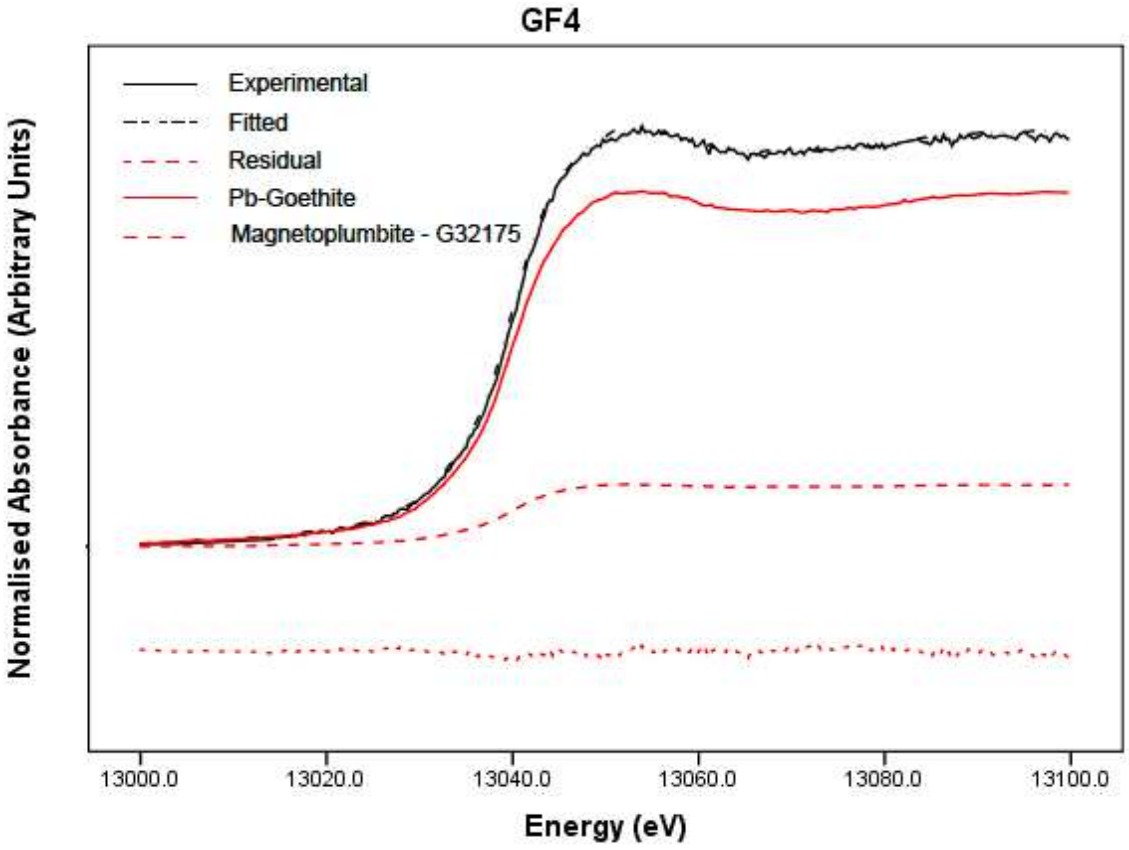

FMRC
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Pyromorphite
Pb Acetate/Citrate
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

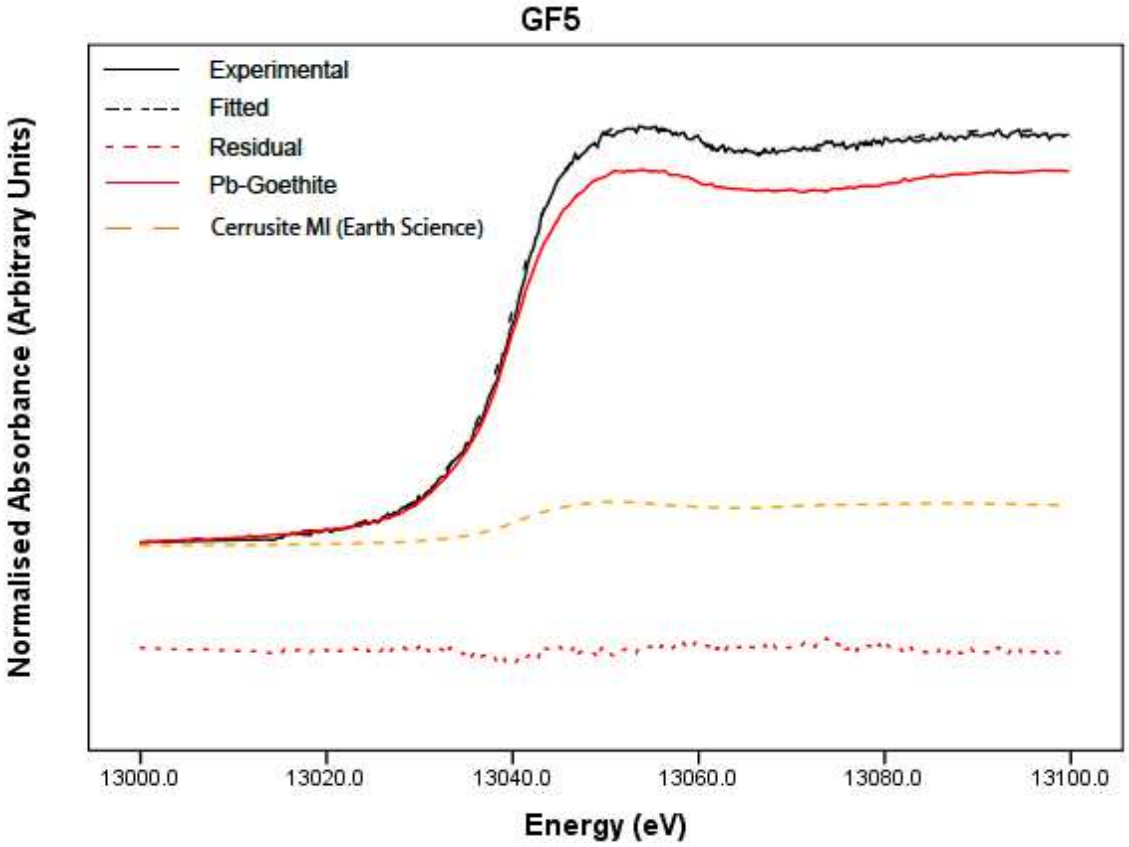

FMS
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate
PbSO4
Sphalerite MI (Earth Science)
Pyromorphite
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

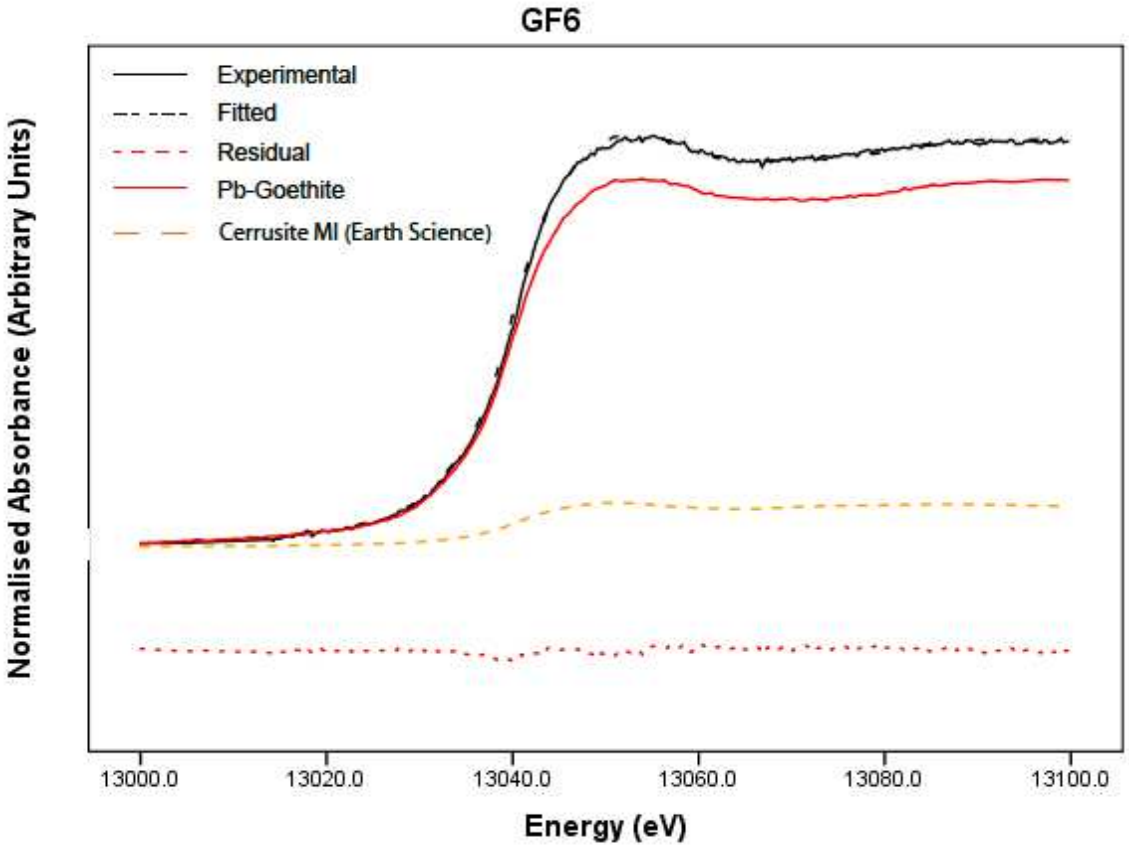

GF1
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

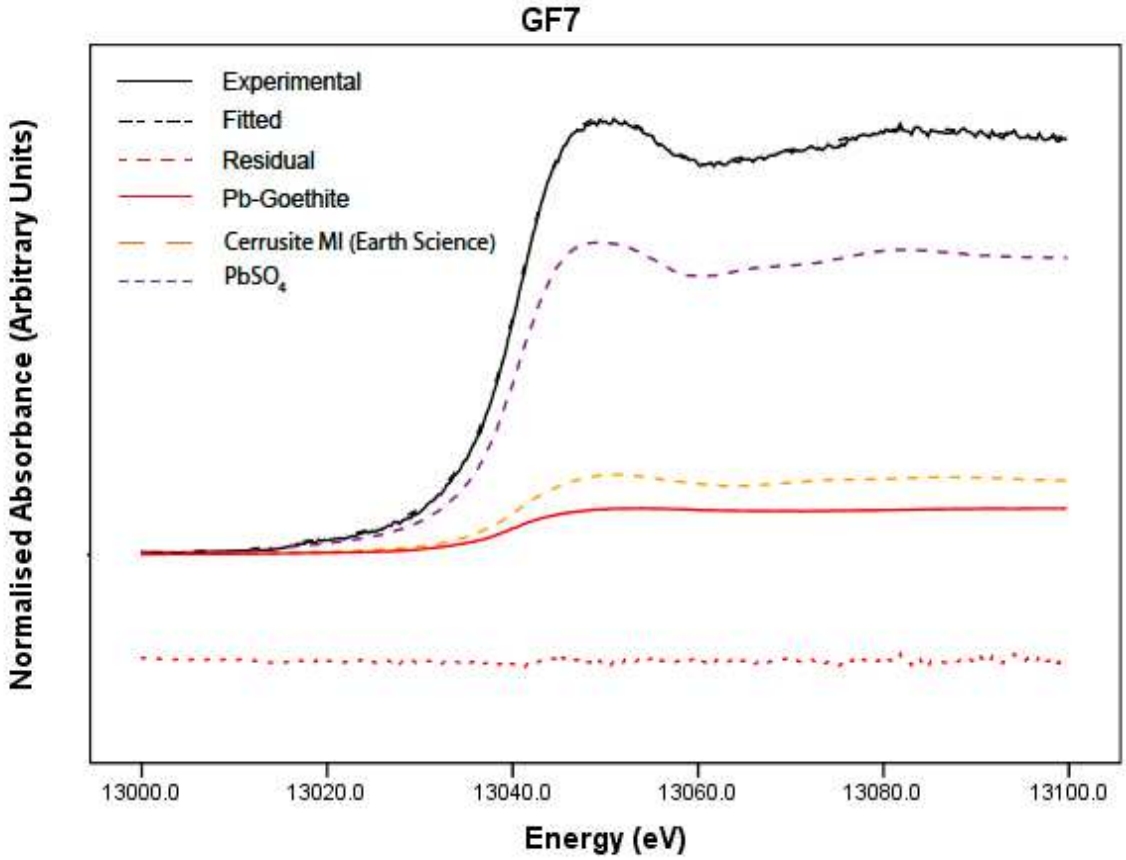

GF2
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

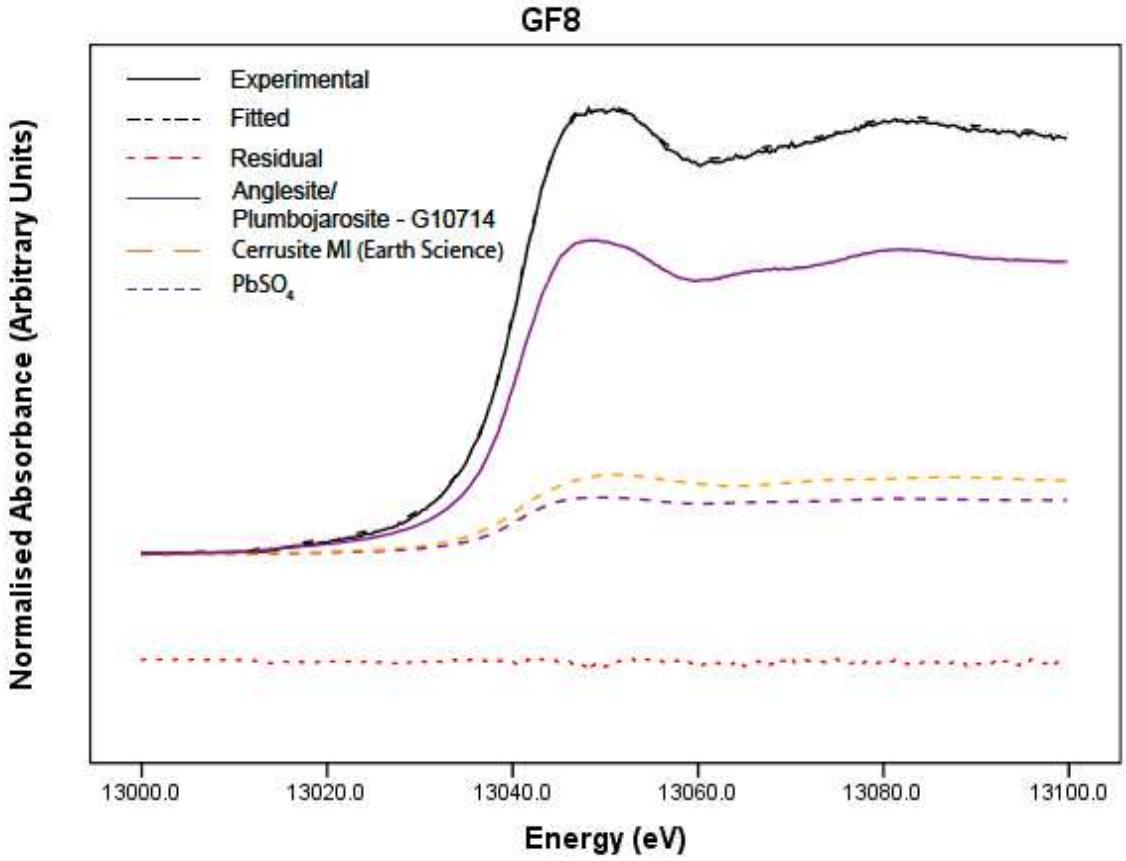

GF3
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

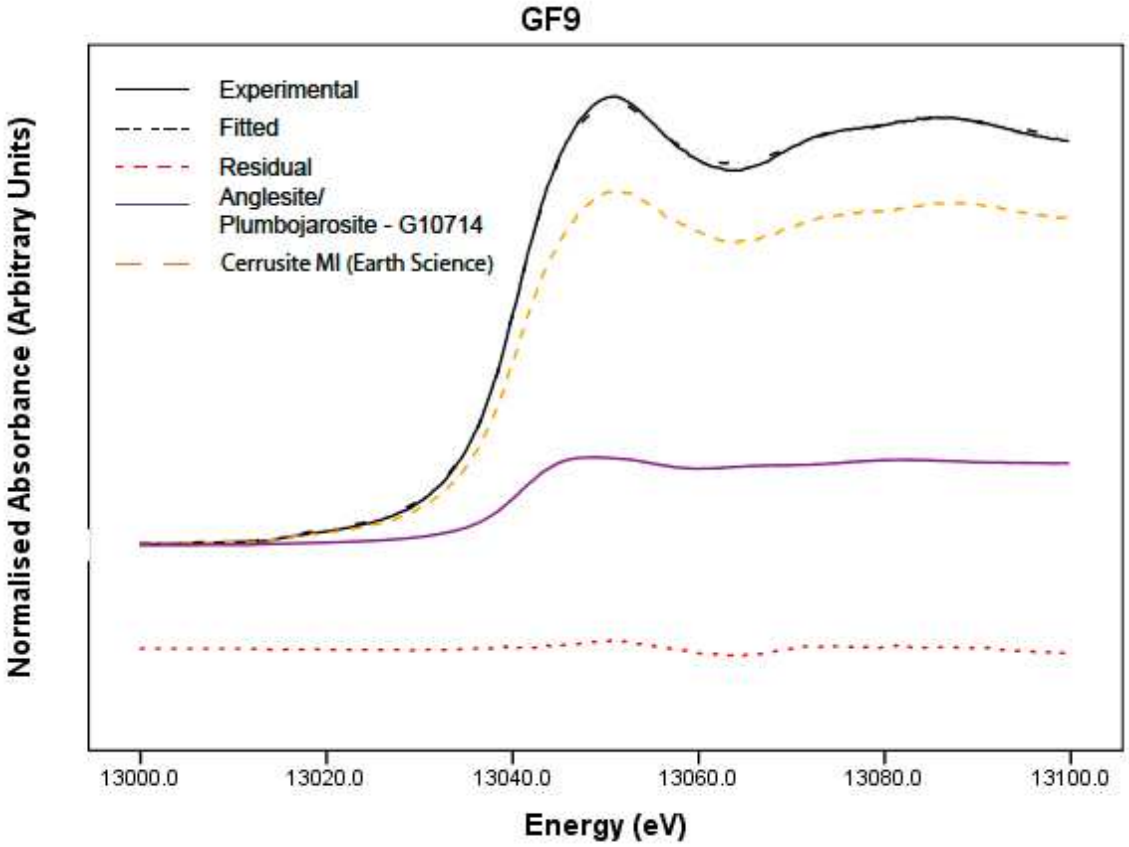

GF4
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

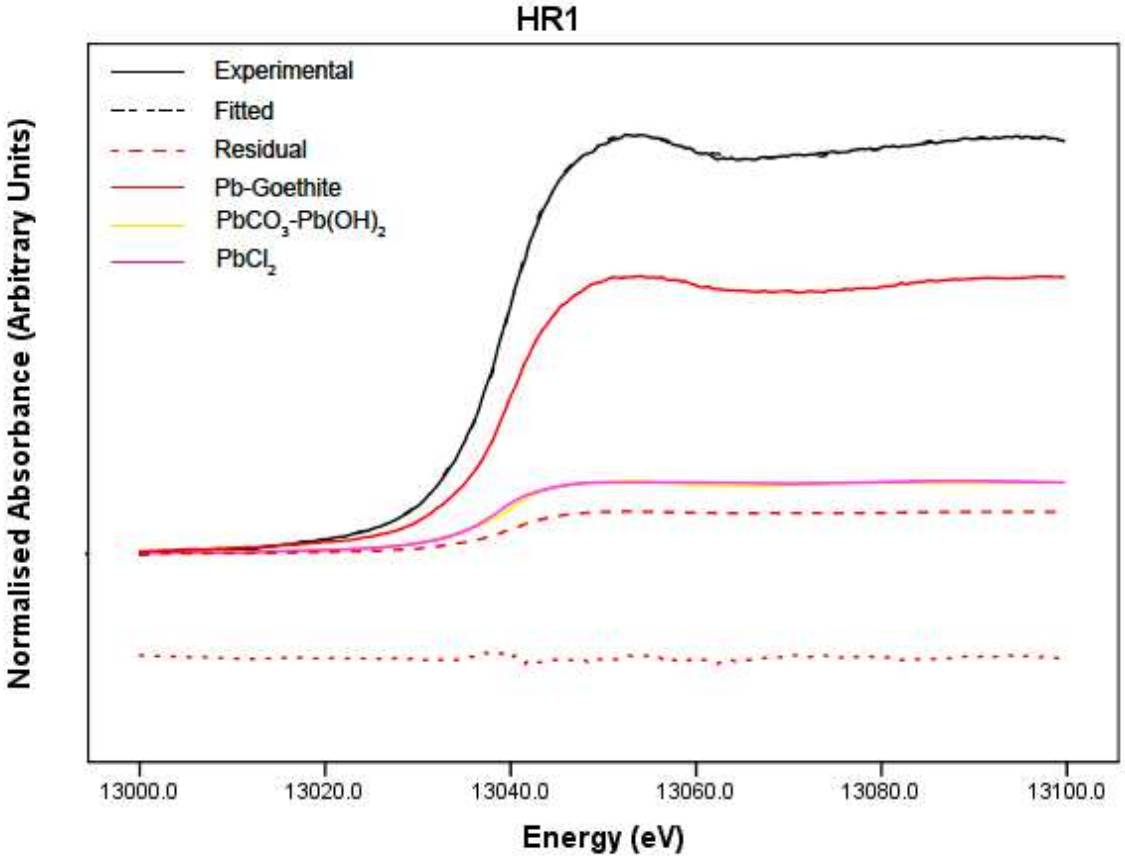

GF5
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

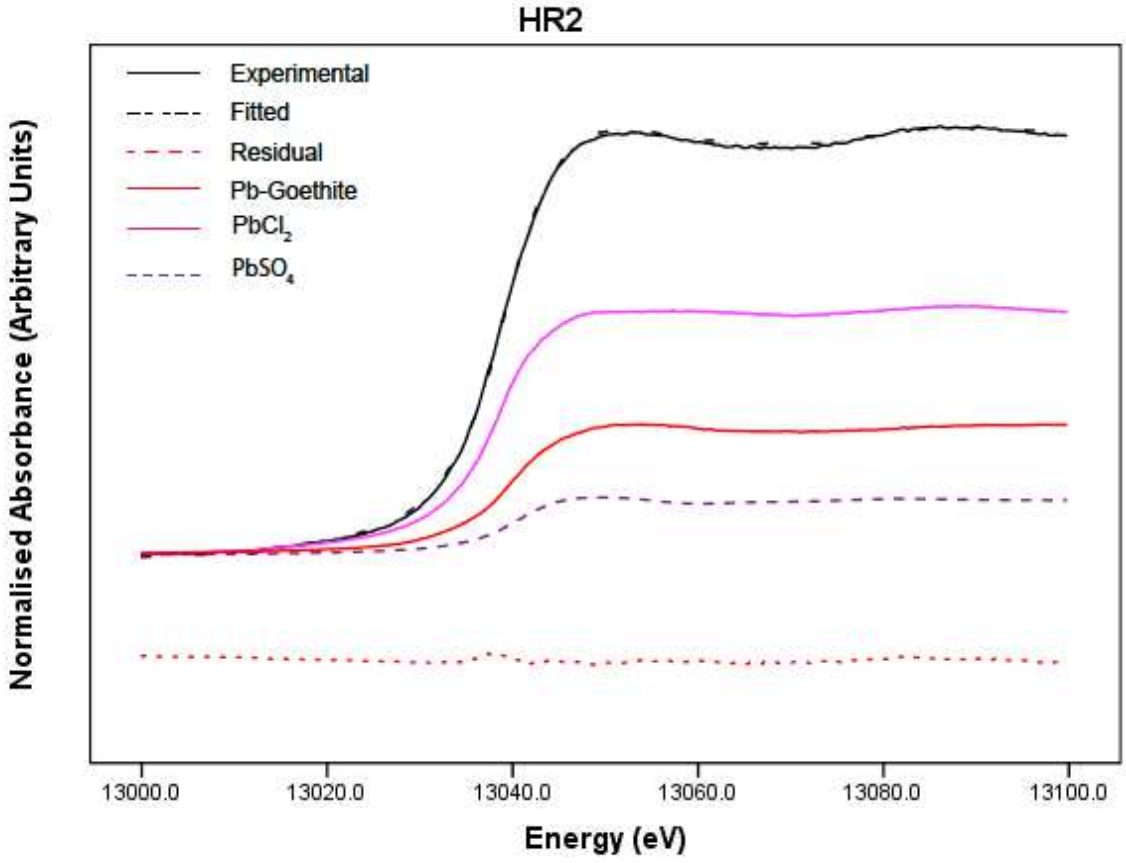

GF6
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

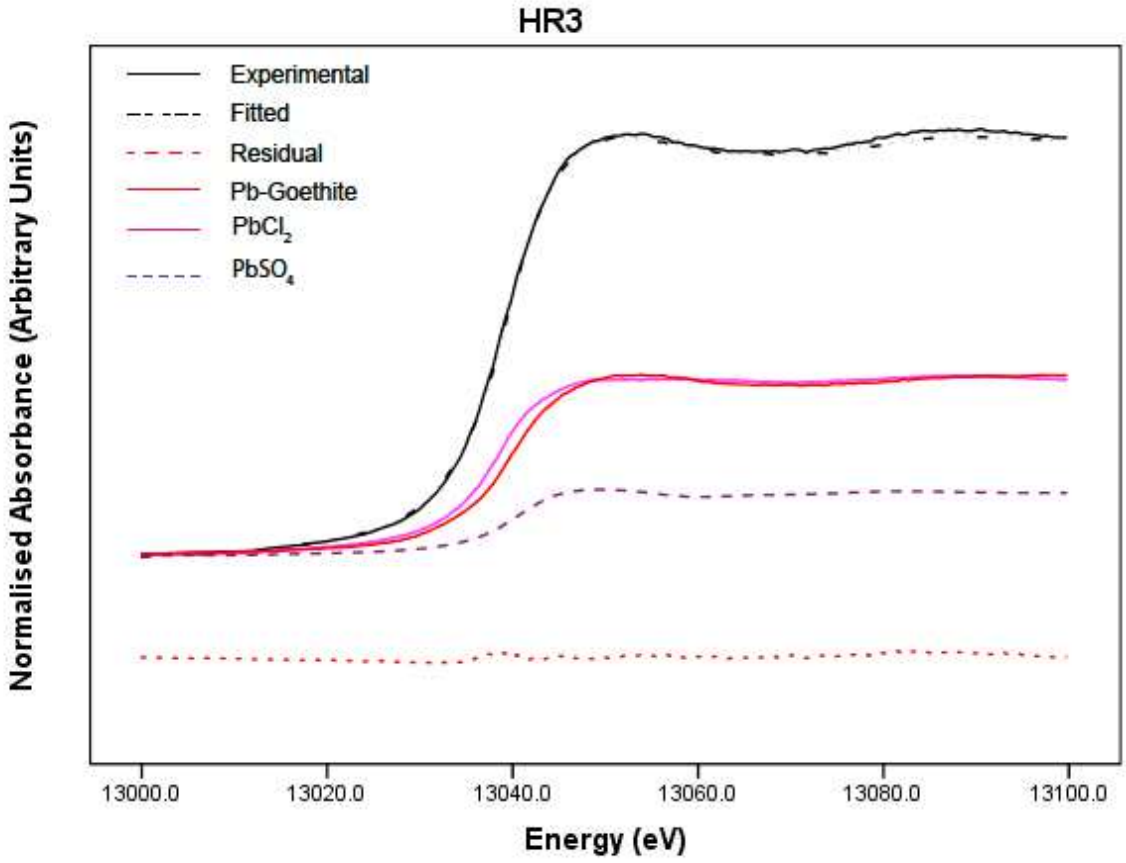

GF7
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

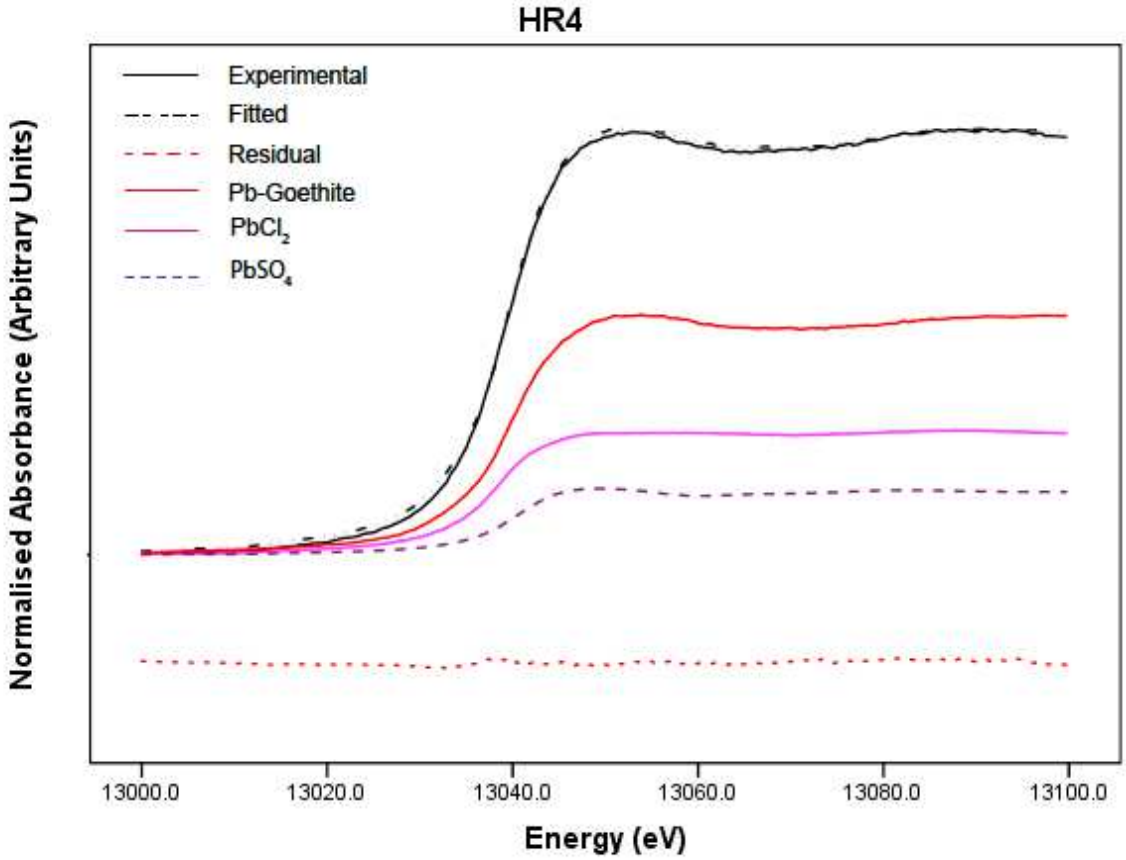

GF8
Experimental
Fitted
Residual
Anglesite/
Plumbojarosite - G10714
Cerrusite MI (Earth Science)
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

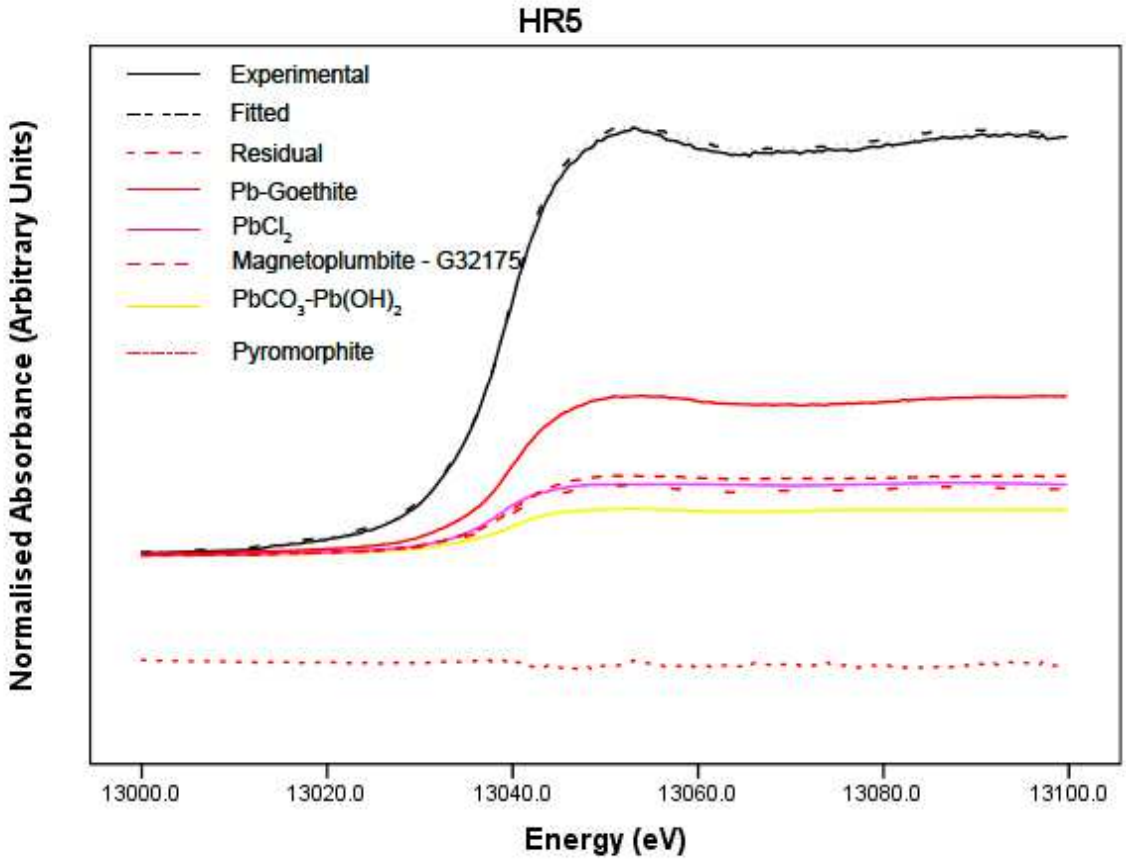

GF9
Experimental
Fitted
Residual
Anglesite/
Plumbojarosite - G10714
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

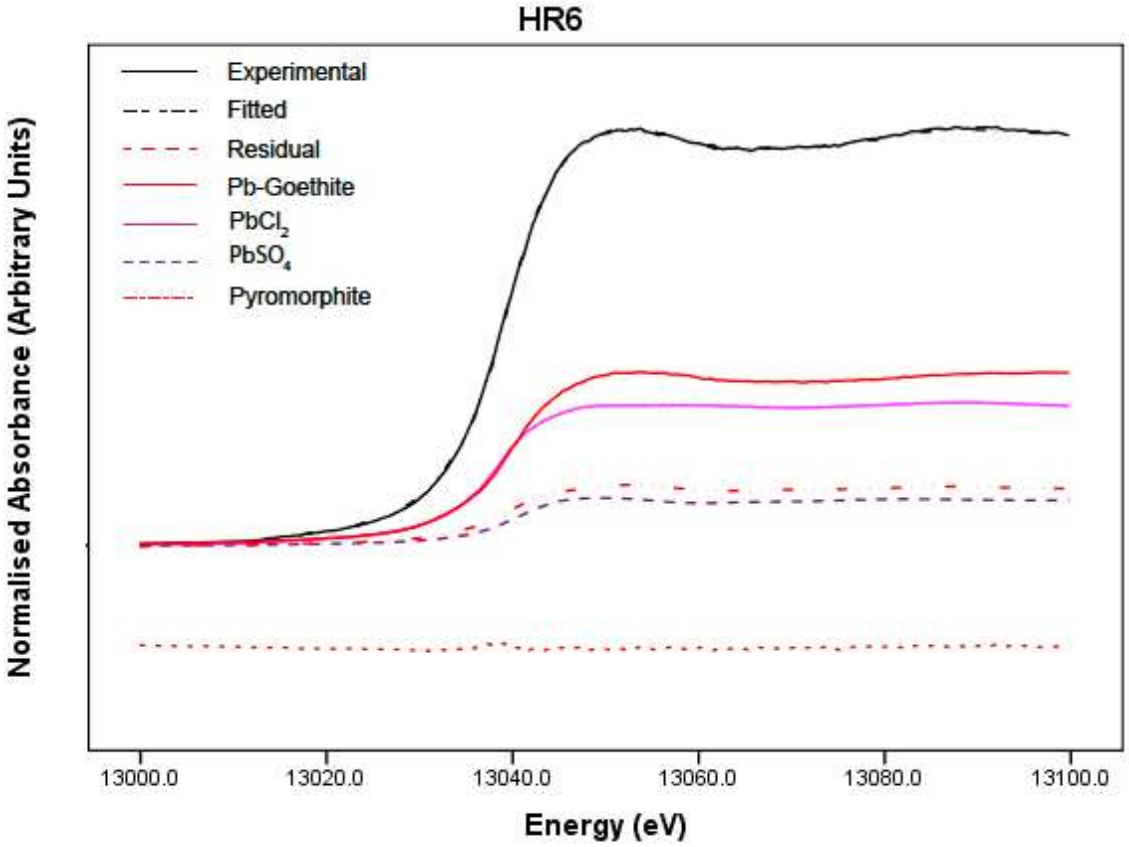

HR1
Experimental
Fitted
Residual
Pb-Goethite
PbCO3-Pb(OH)2
PbCl2
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

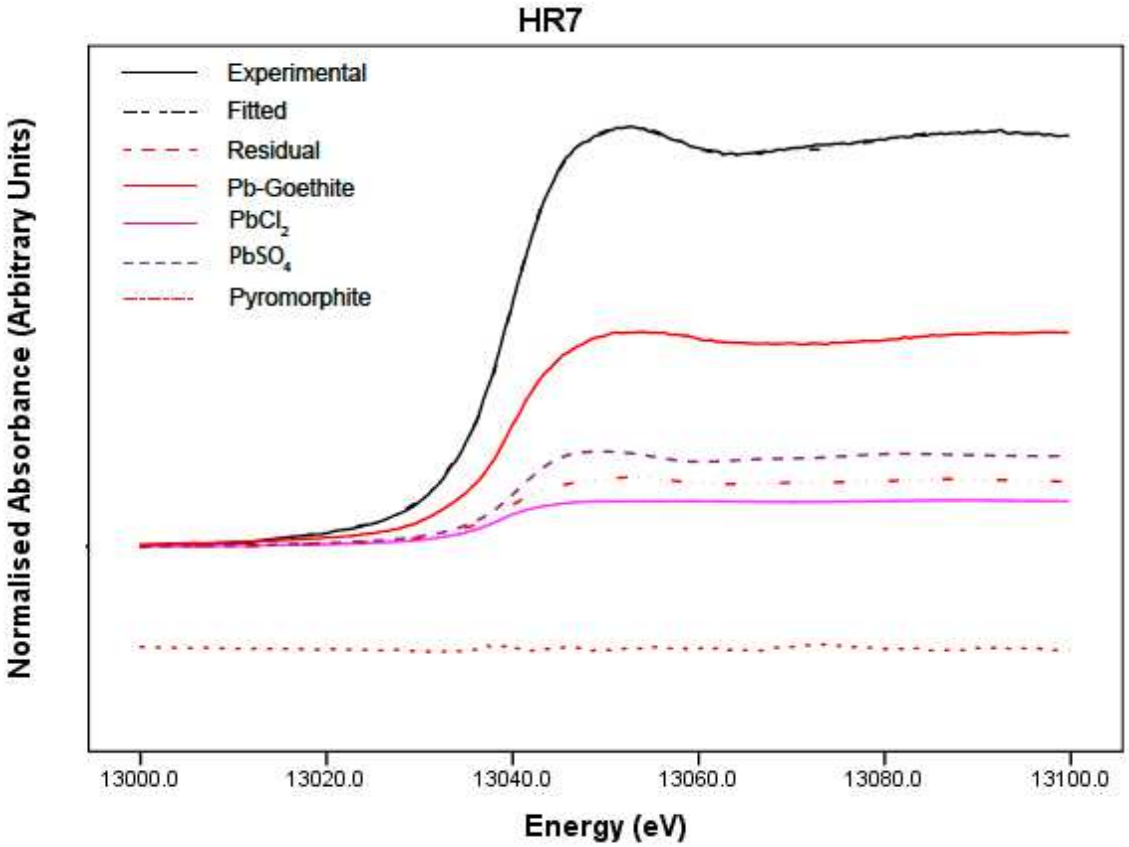

HR2
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

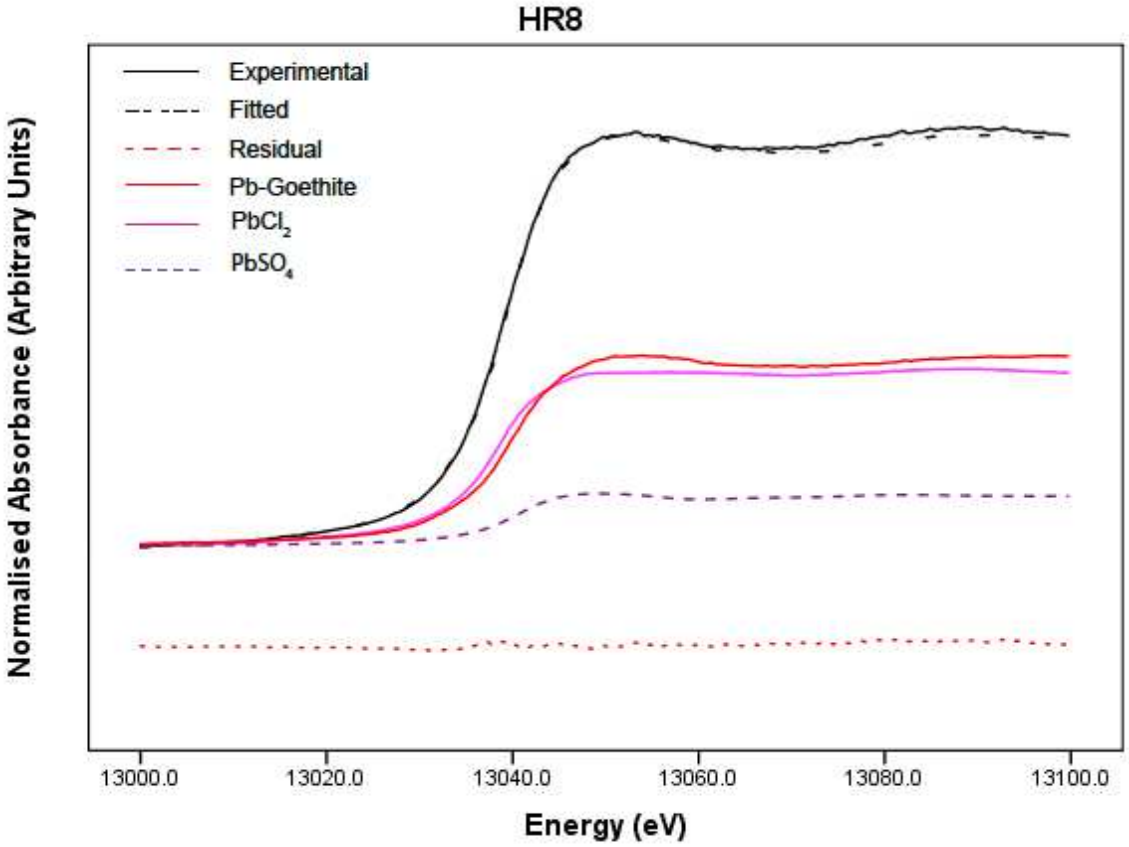

HR3
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

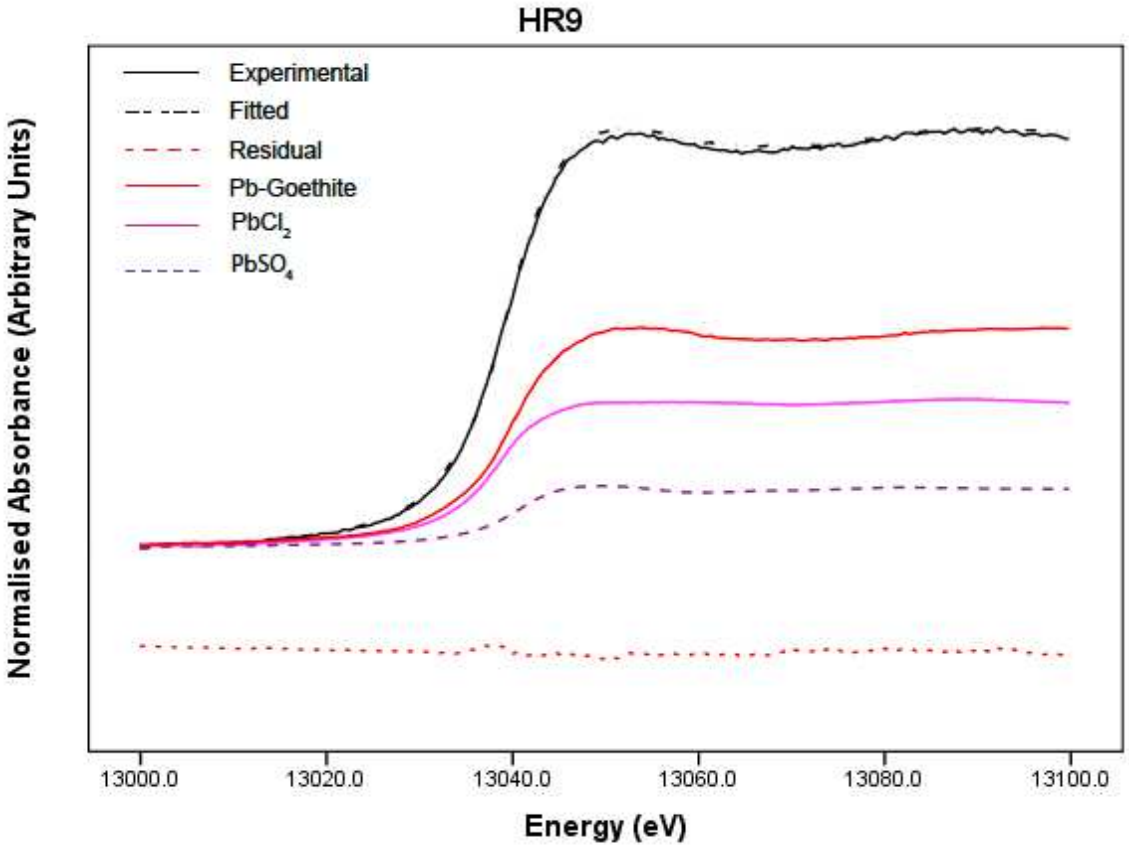

HR4
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

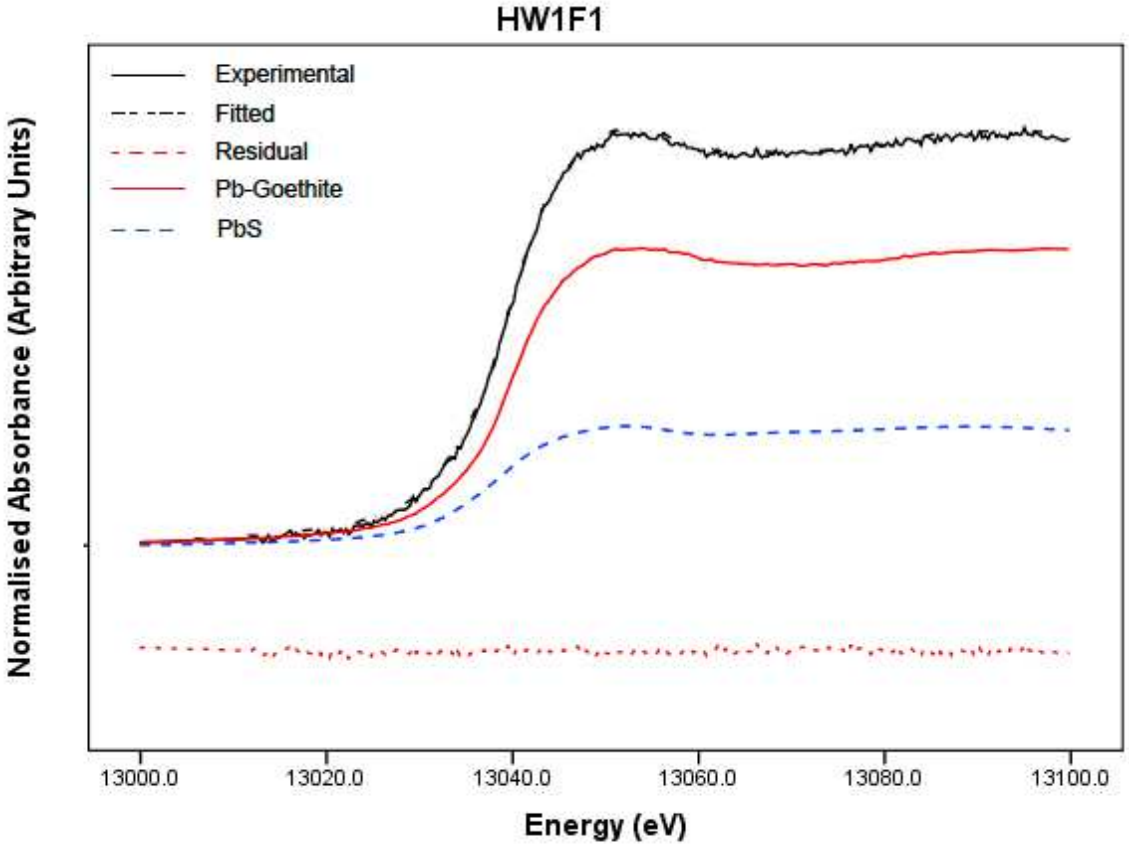

HR5
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
Magnetoplumbite - G32175
PbCO3-Pb(OH)2
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

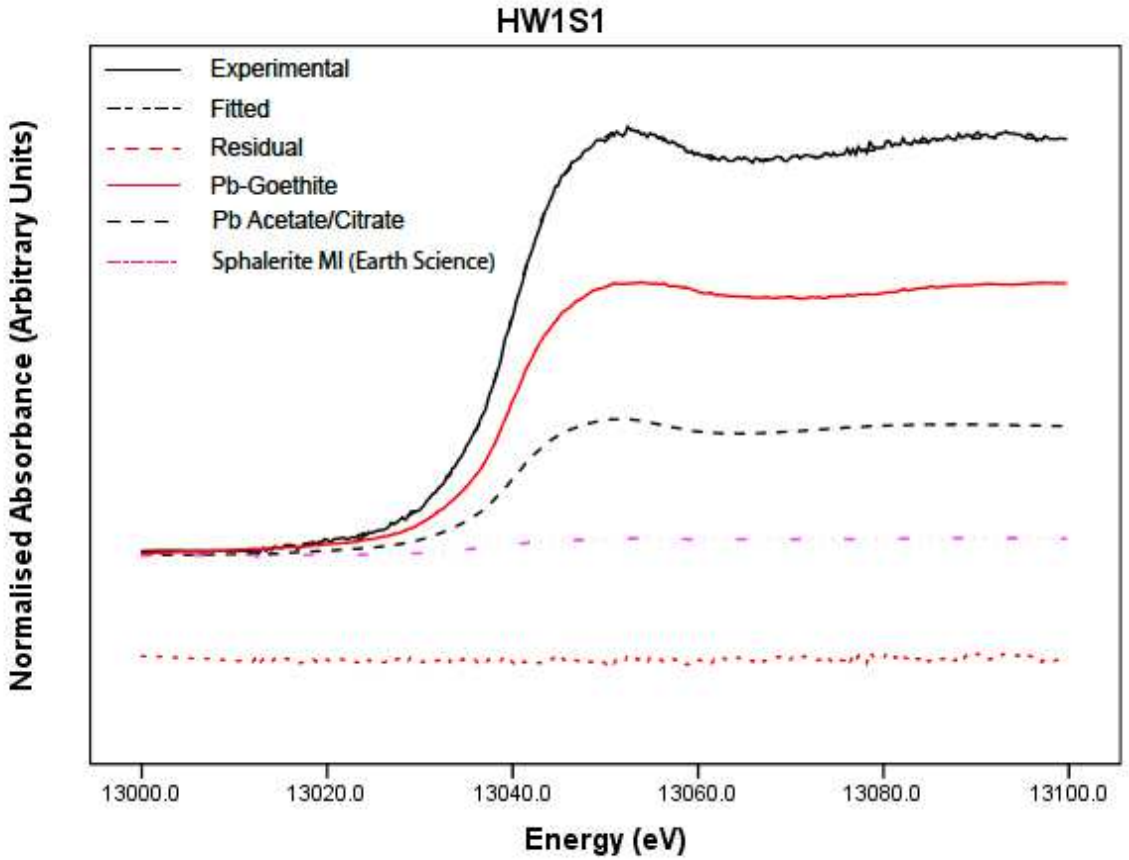

HR6
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

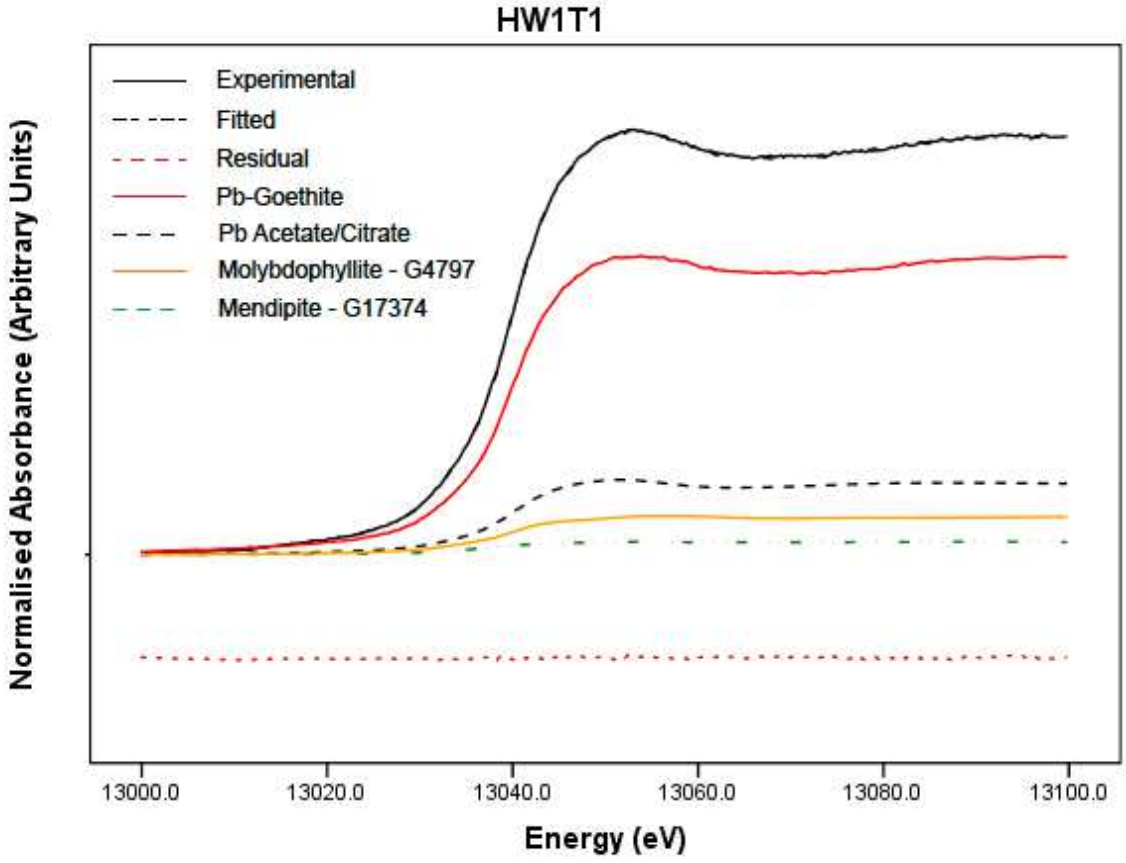

HR7
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

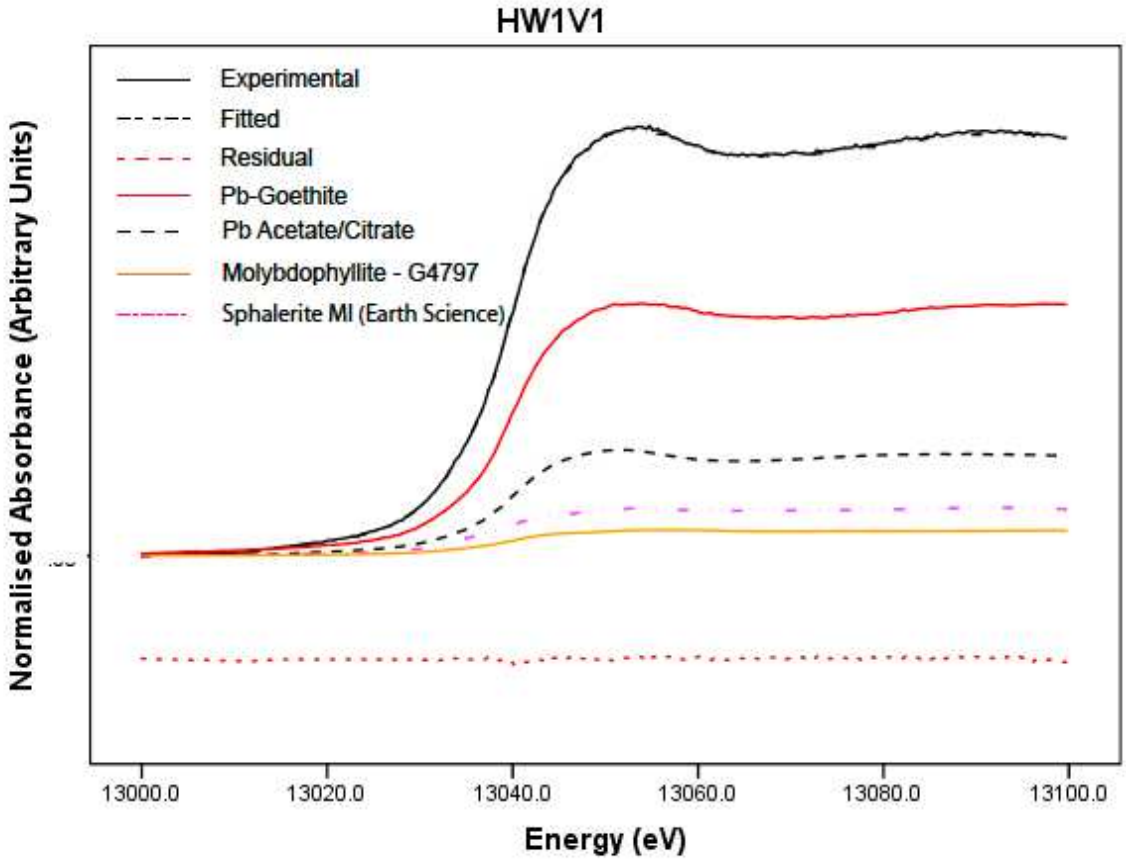

HR8
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

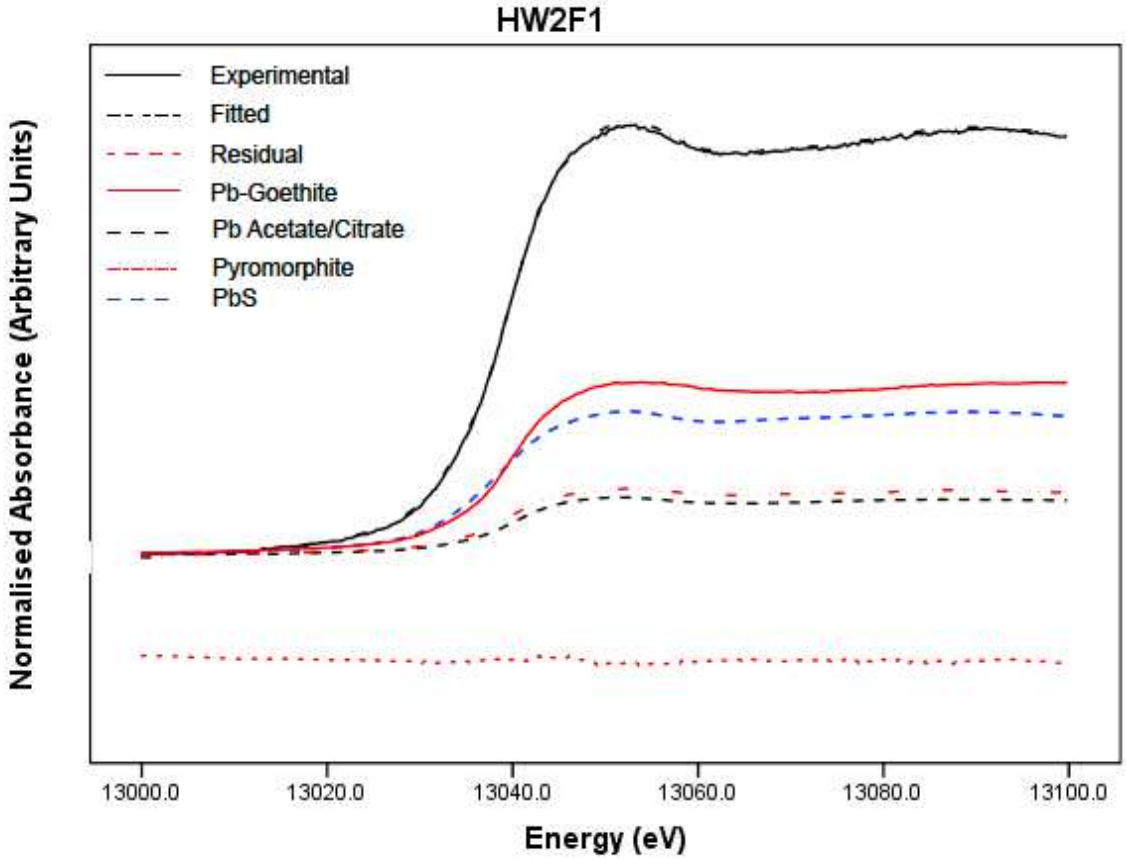

HR9
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

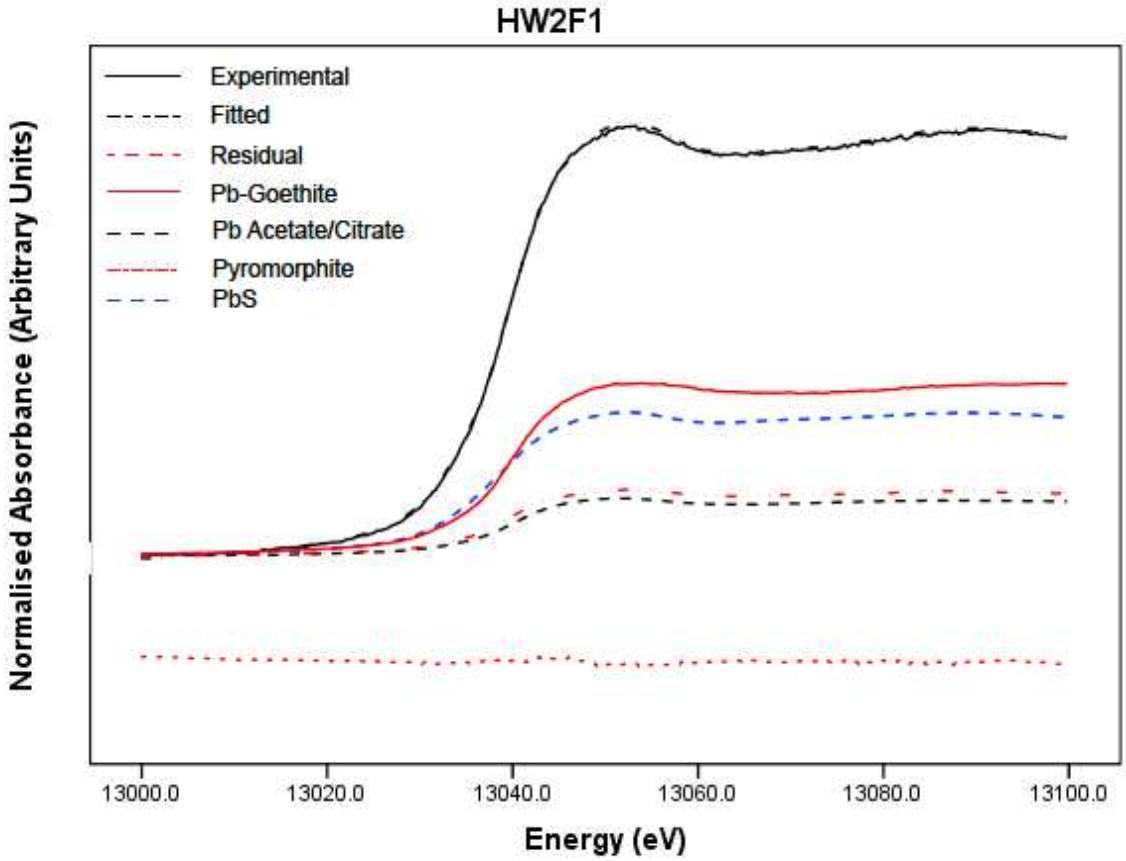

HW1F1
Experimental
Fitted
Residual
Pb-Goethite
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

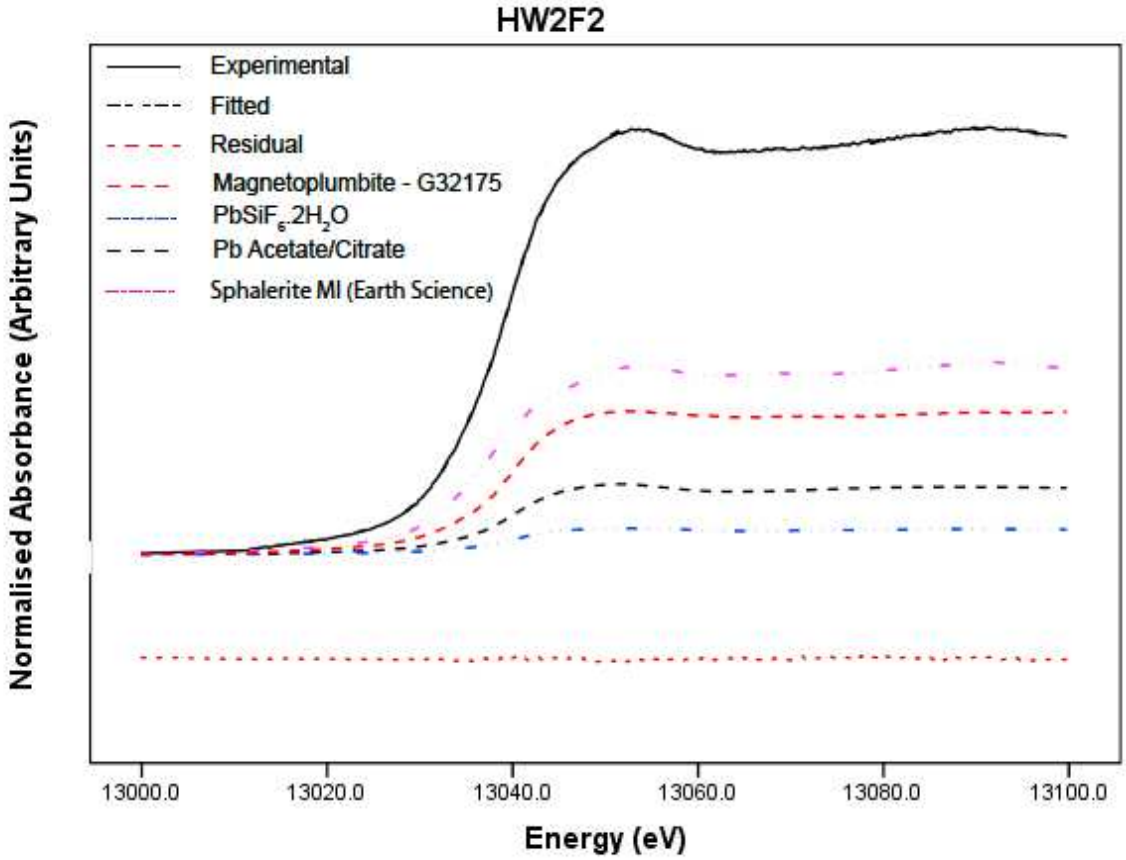

HW1S1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

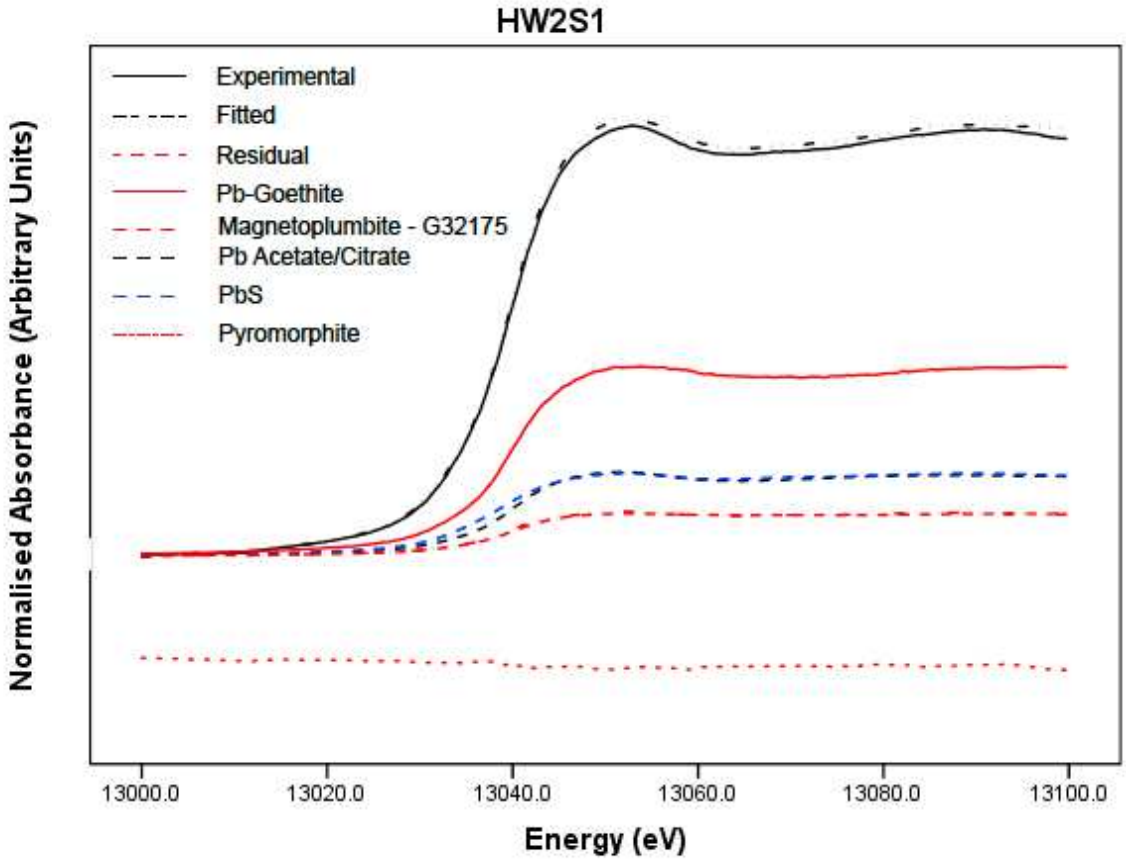

HW1T1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Molybdophyllite - G4797
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

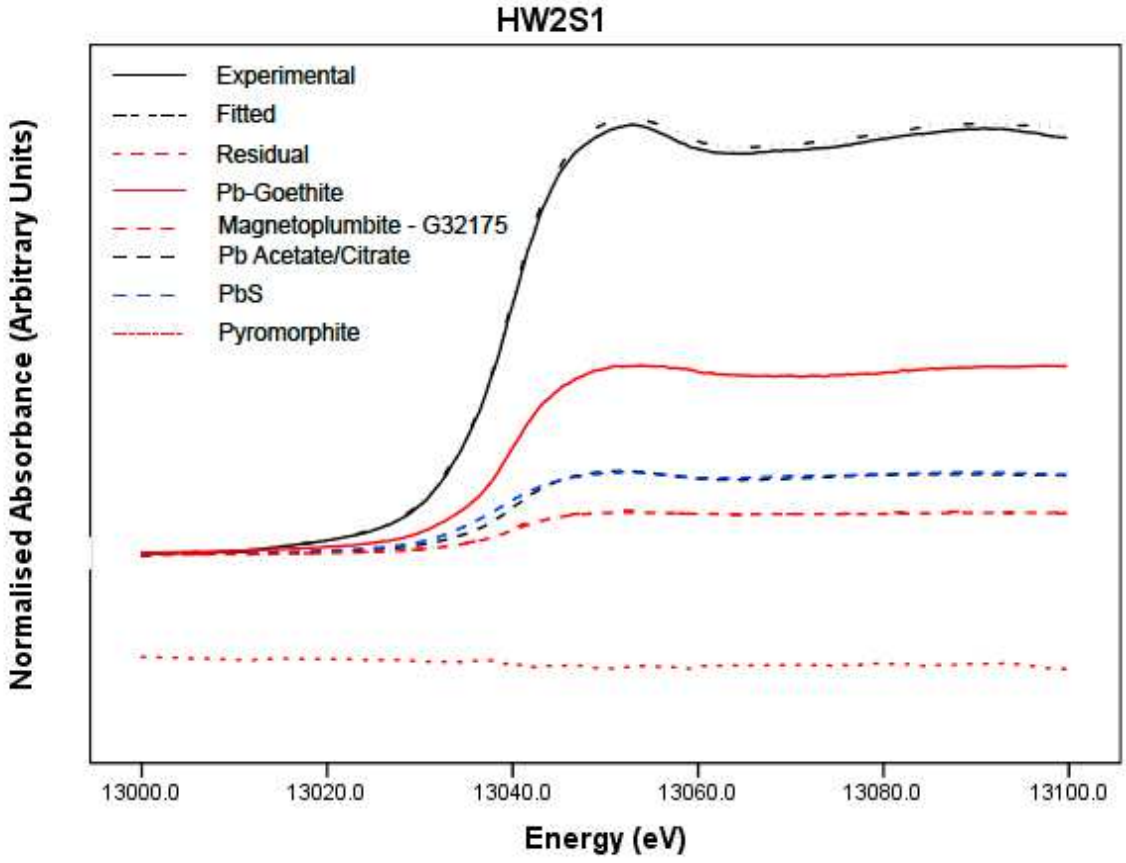

HW1V1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Molybdophyllite - G4797
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

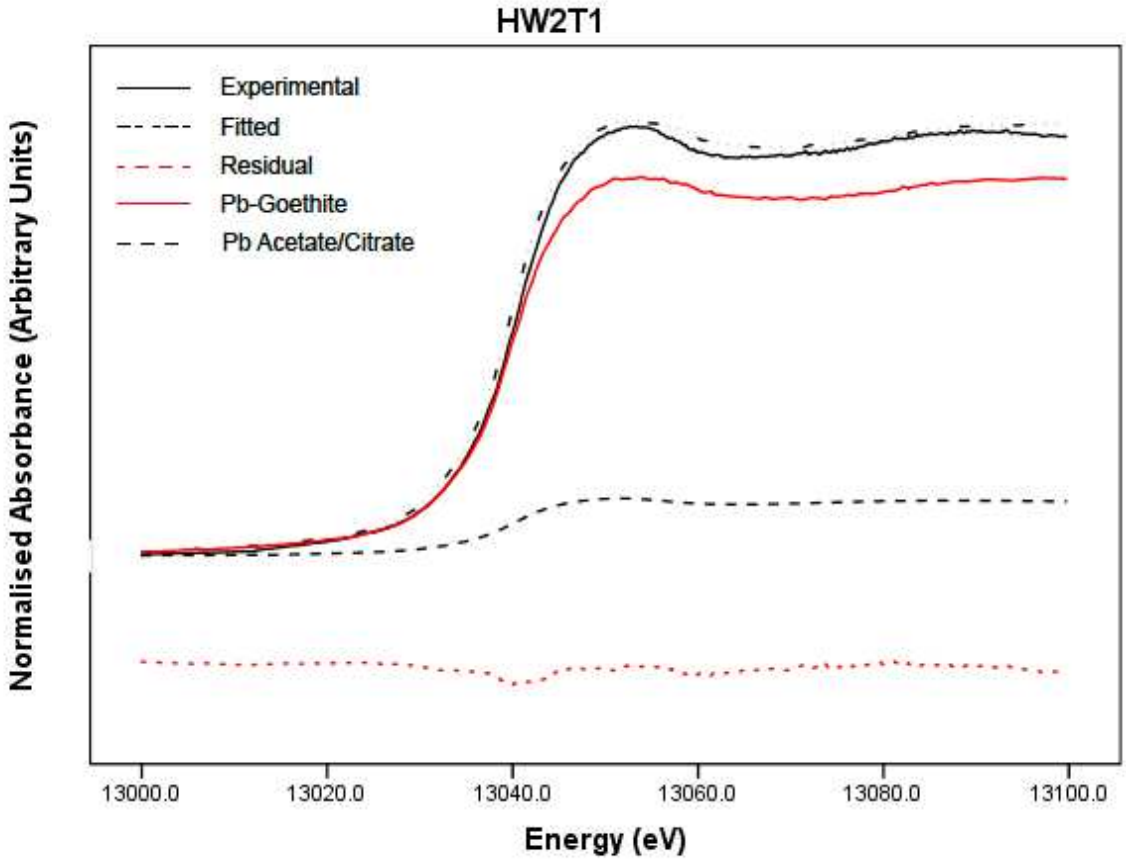

HW2F1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Pyromorphite
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

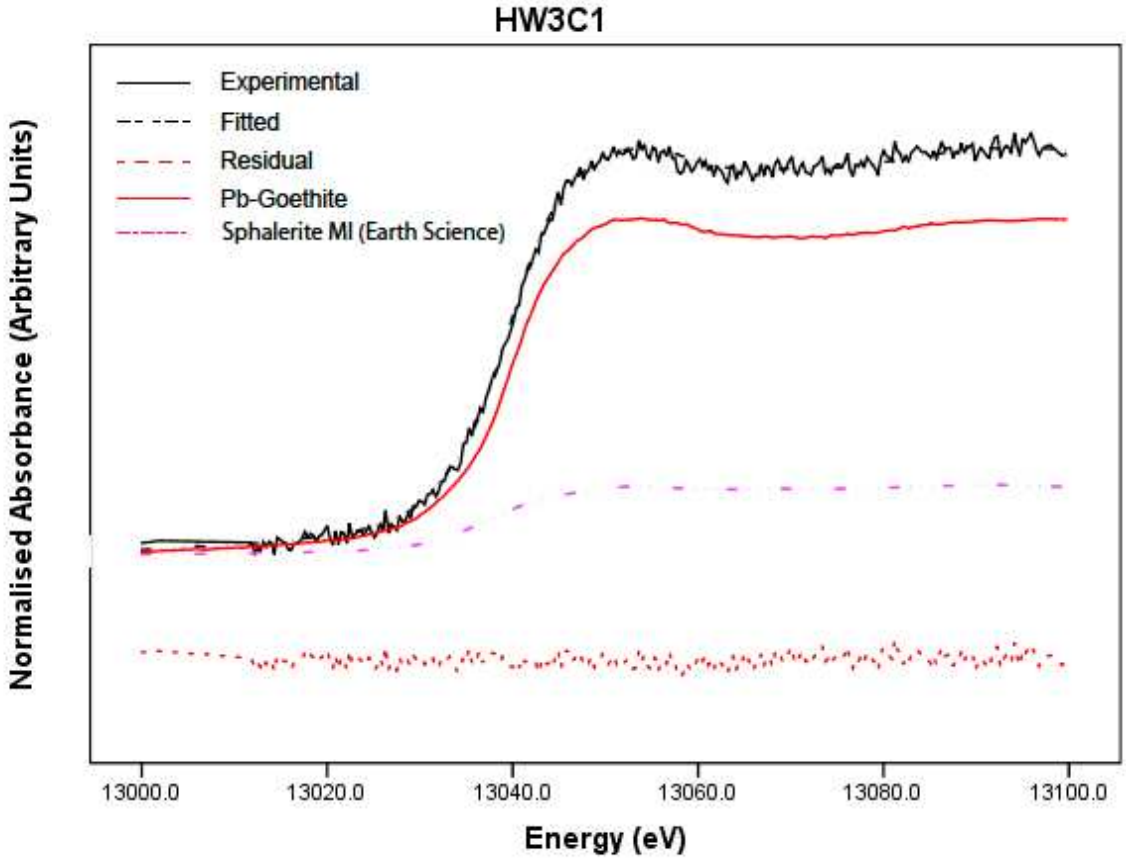

HW2F1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Pyromorphite
PbS
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

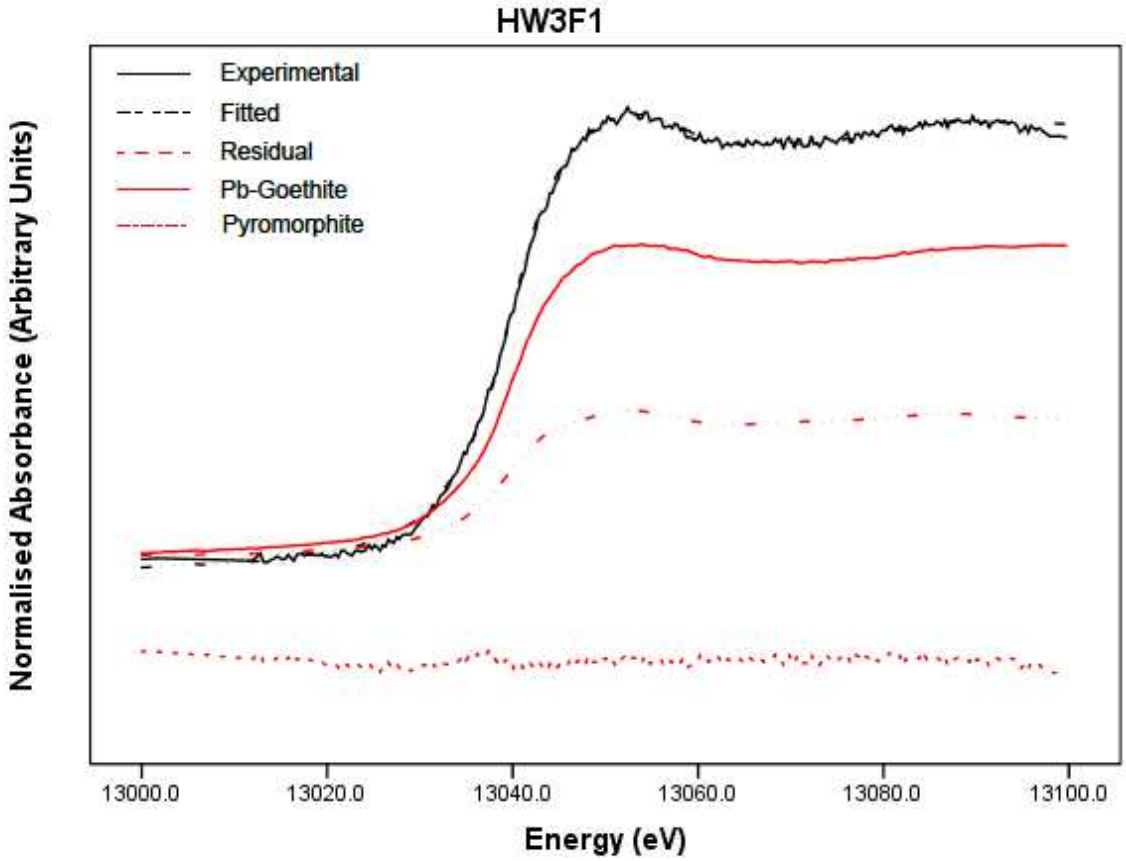

HW2F2
Experimental
Fitted
Residual
Magnetoplumbite - G32175
PbSiF6.2H2O
Pb Acetate/Citrate
Sphalerite Ml (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

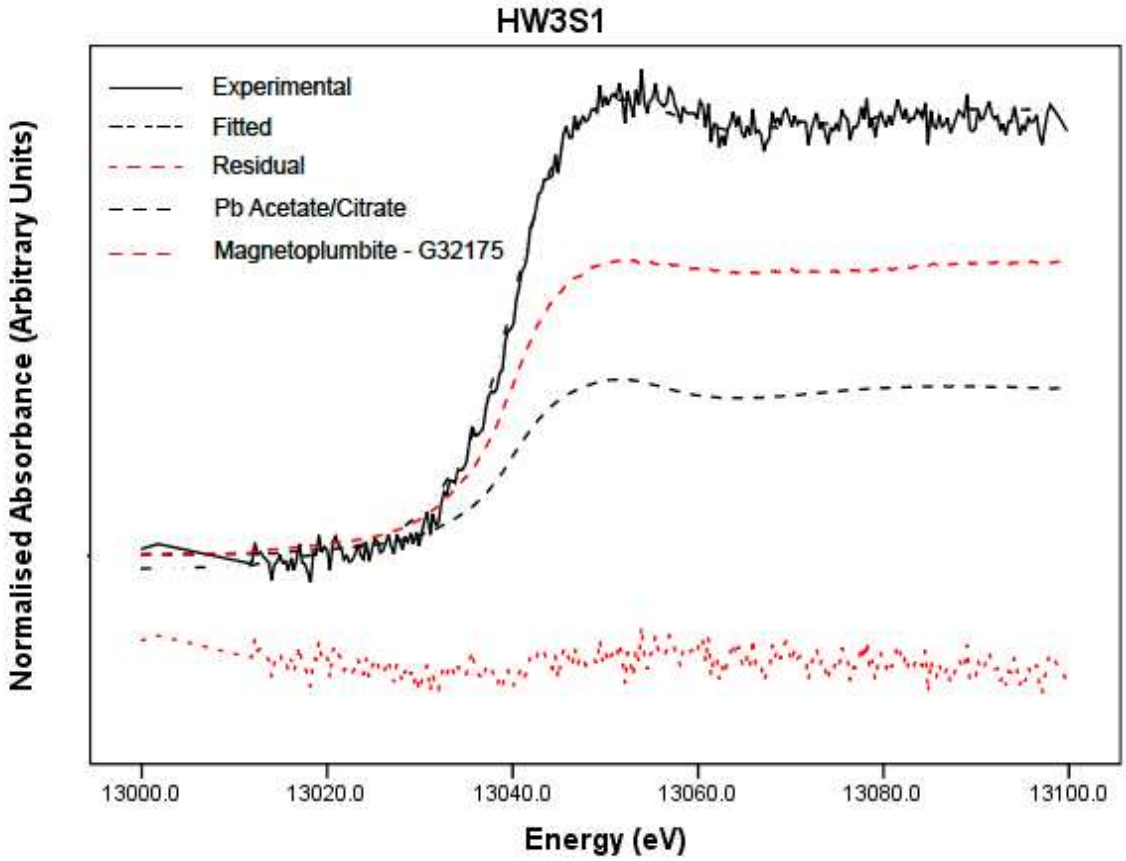

HW2S1
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Pb Acetate/Citrate
PbS
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

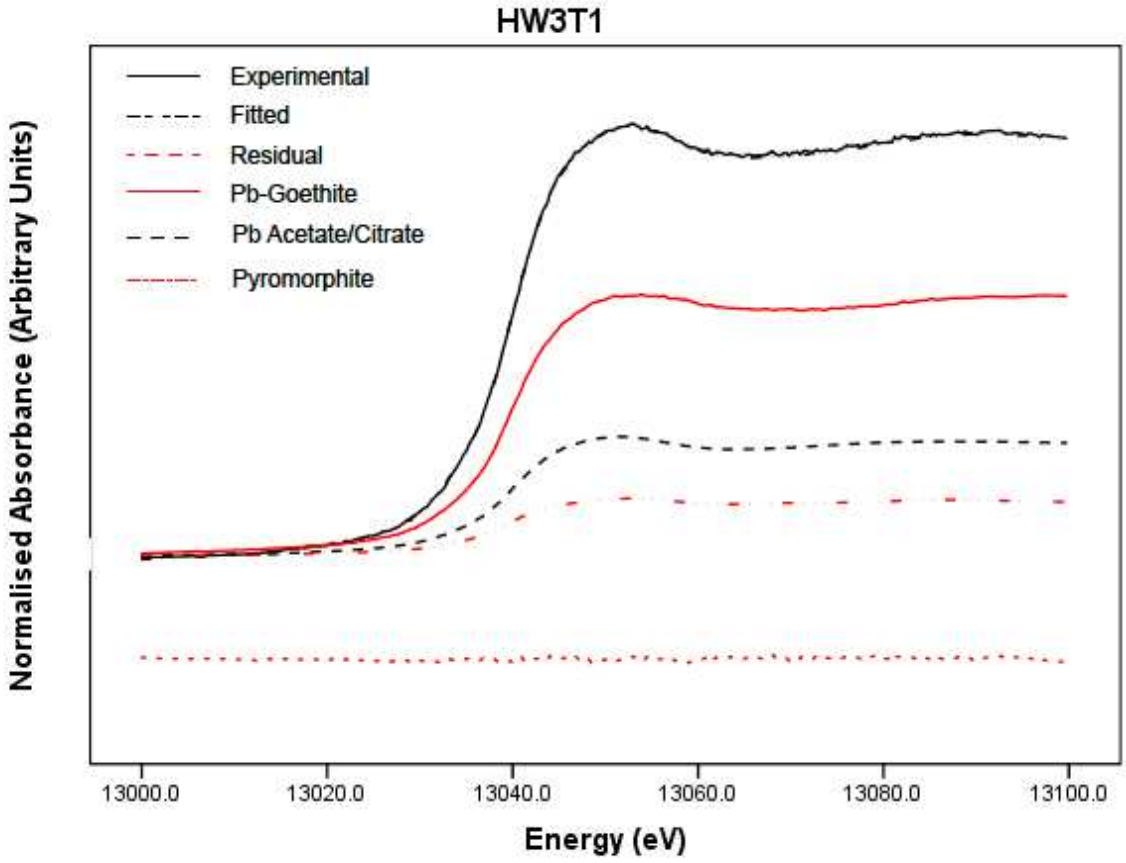

HW2S1
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Pb Acetate/Citrate
PbS
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

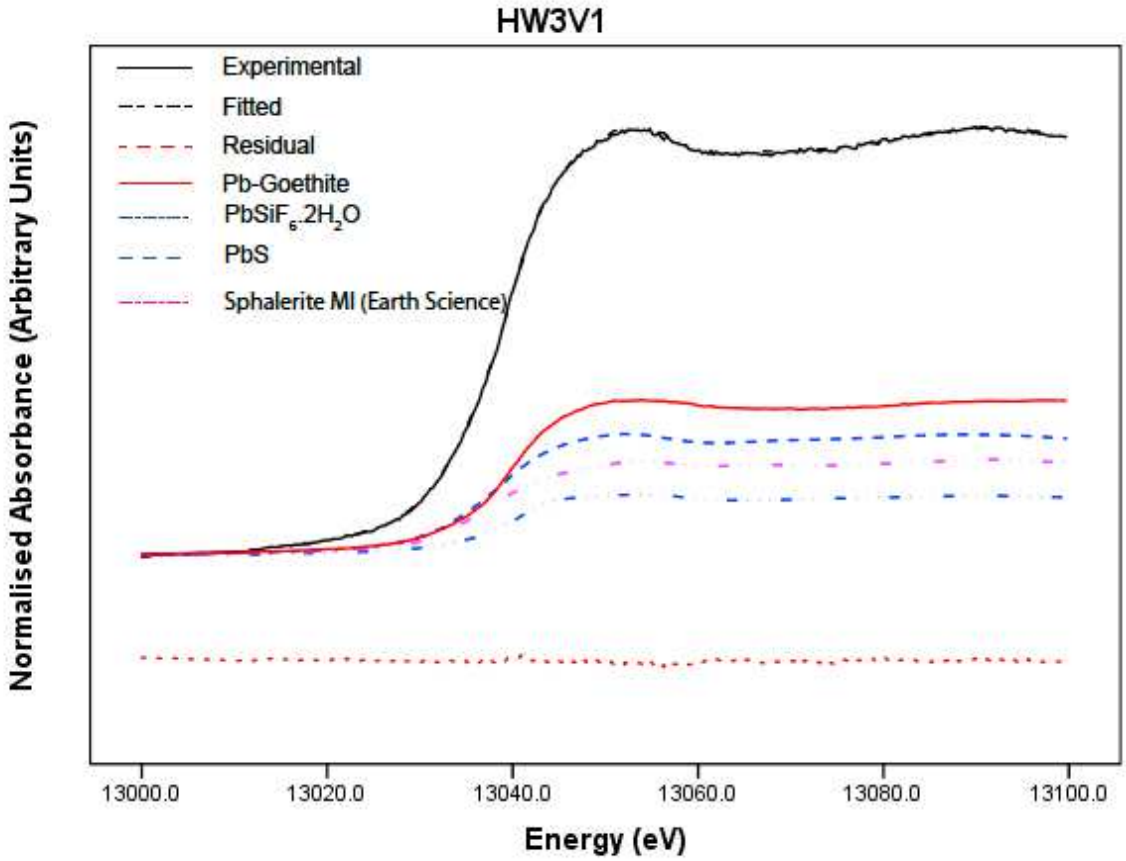

HW2T1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

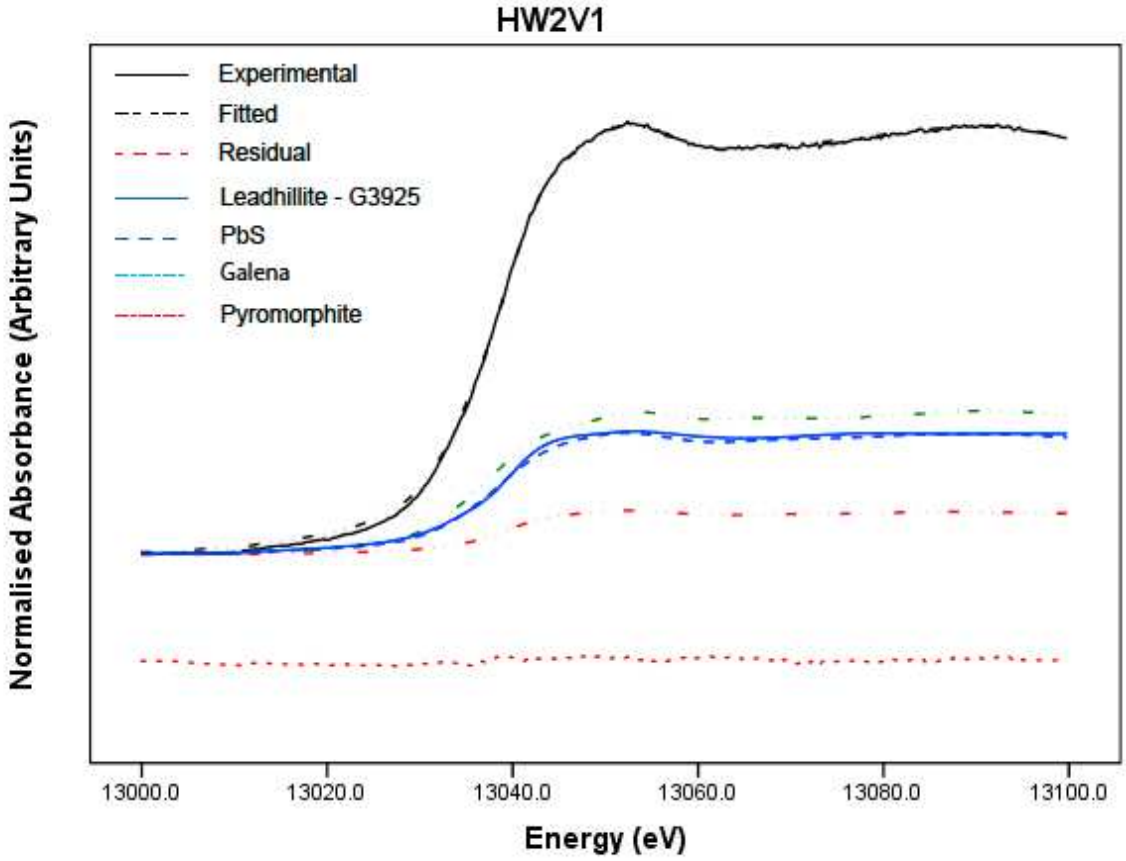

HW3C1
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

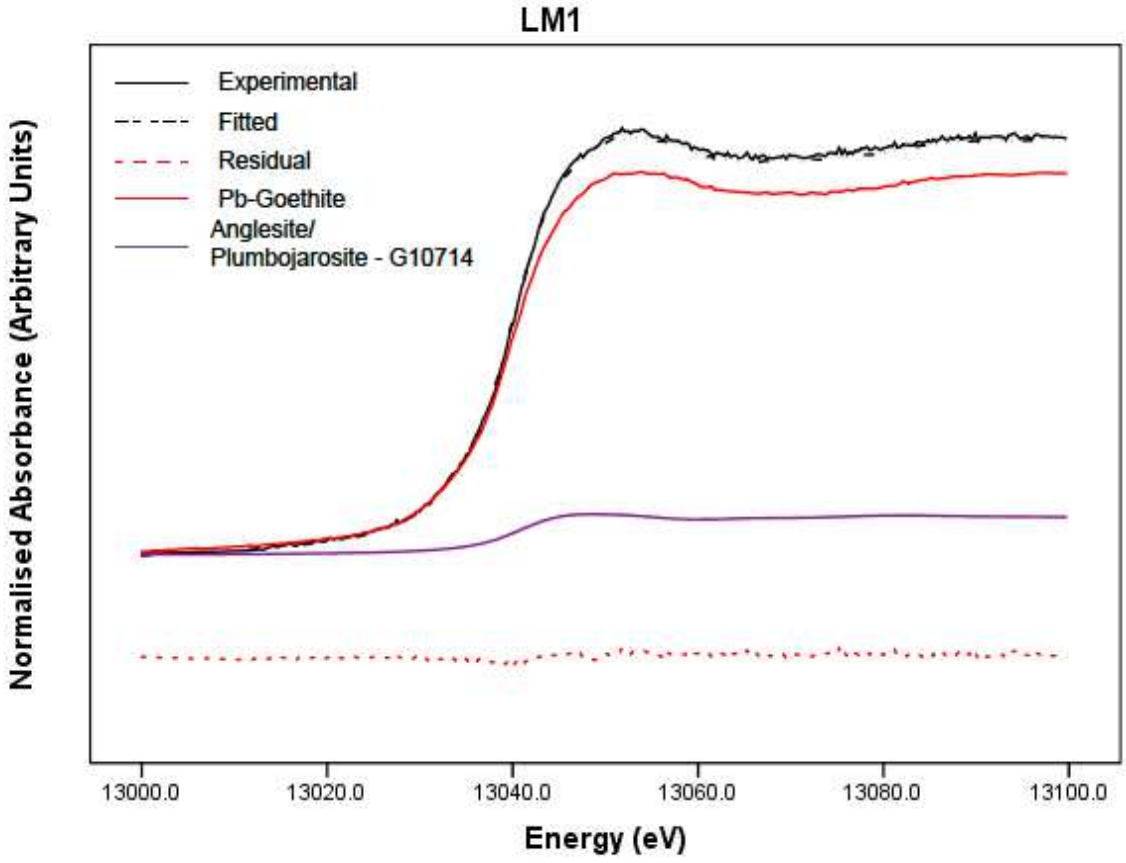

HW3F1
Experimental
Fitted
Residual
Pb-Goethite
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

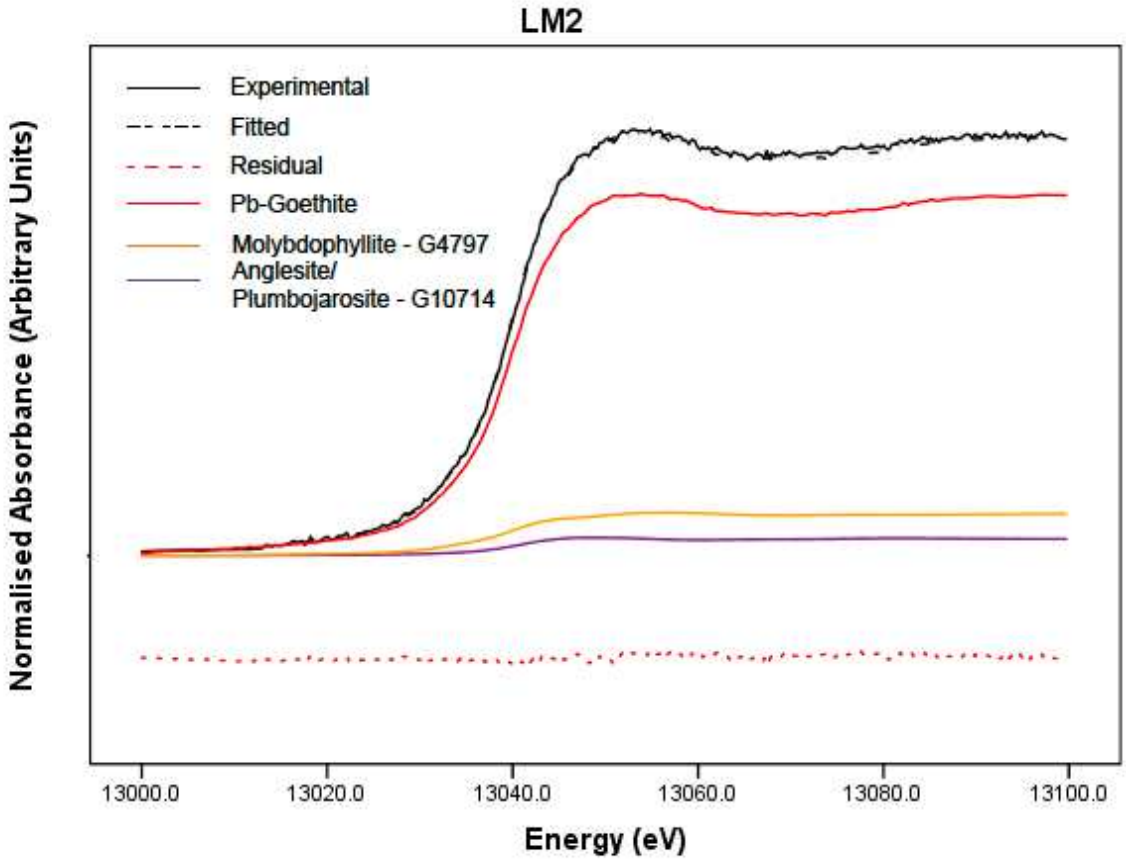

HW3S1
Experimental
Fitted
Residual
Pb Acetate/Citrate
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

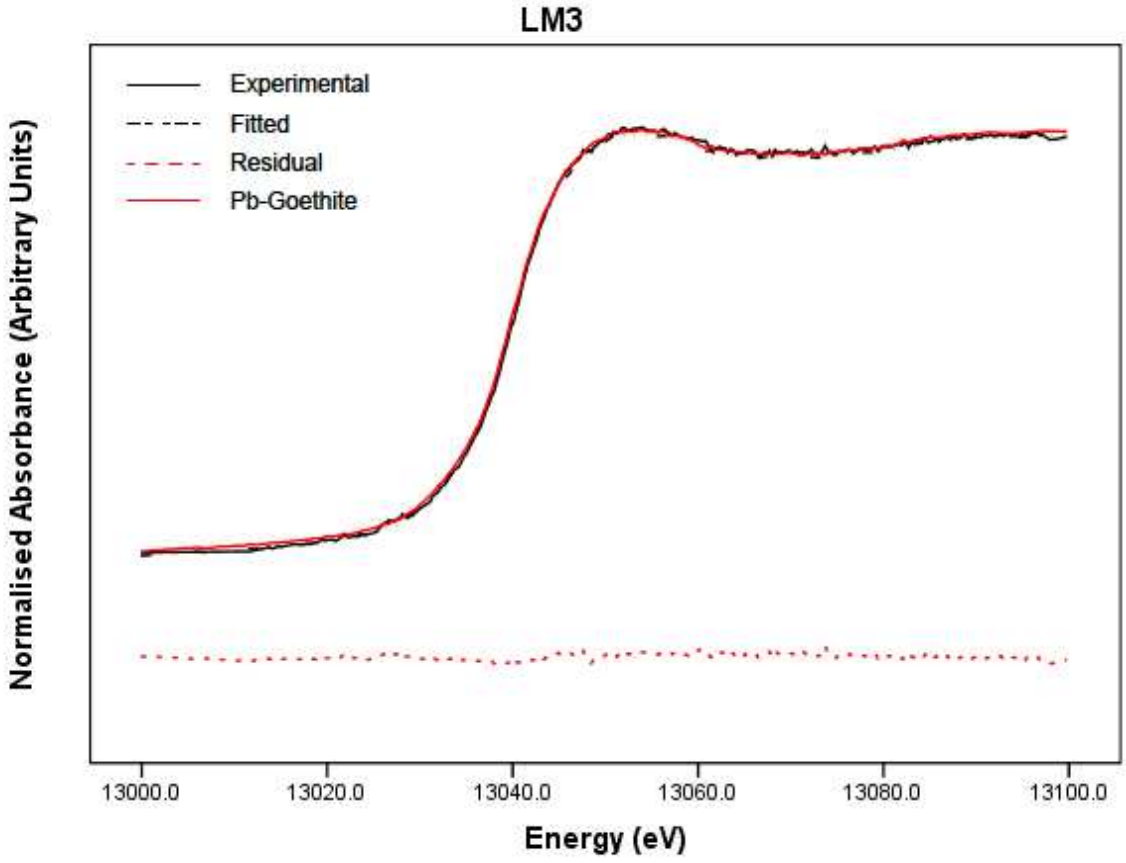

HW3T1
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

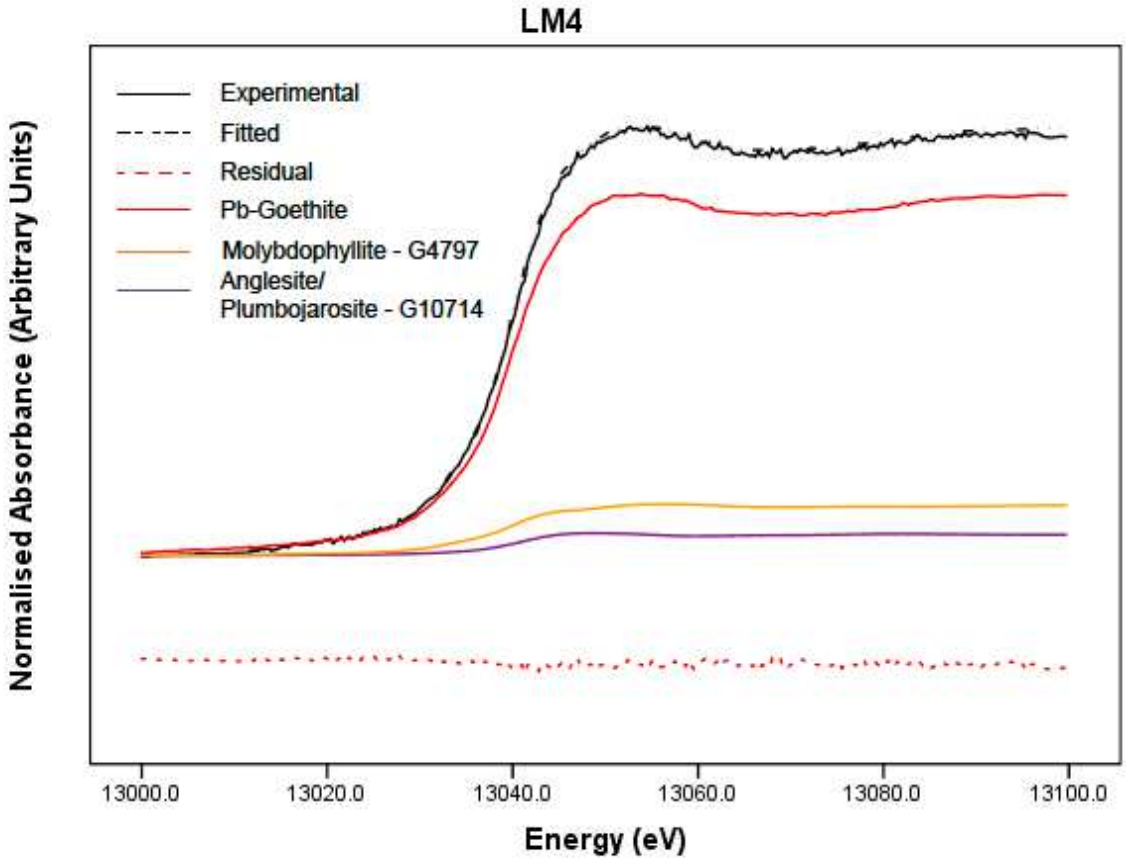

HW3V1
Experimental
Fitted
Residual
Pb-Goethite
PbSiF6.2H2O
PbS
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

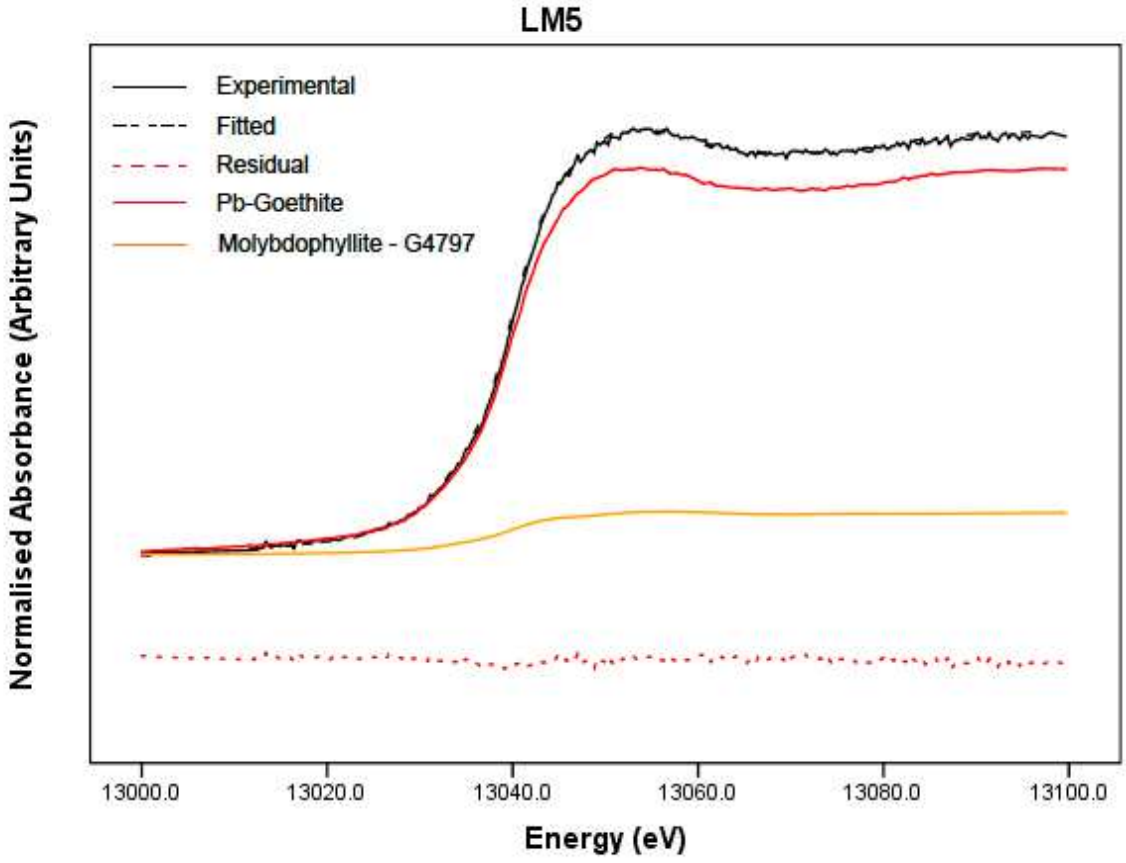

HW2V1
Experimental
Fitted
Residual
Leadhillite - G3925
PbS
Galena
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

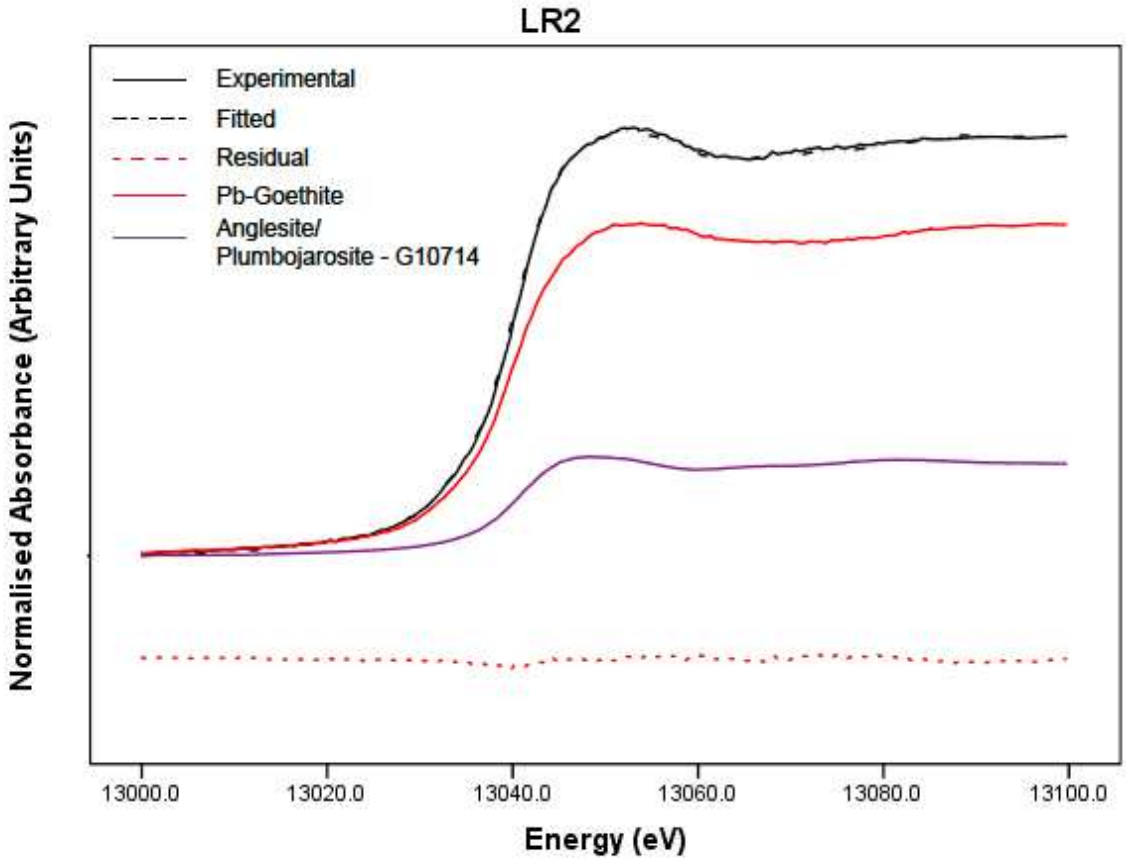

LM1
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

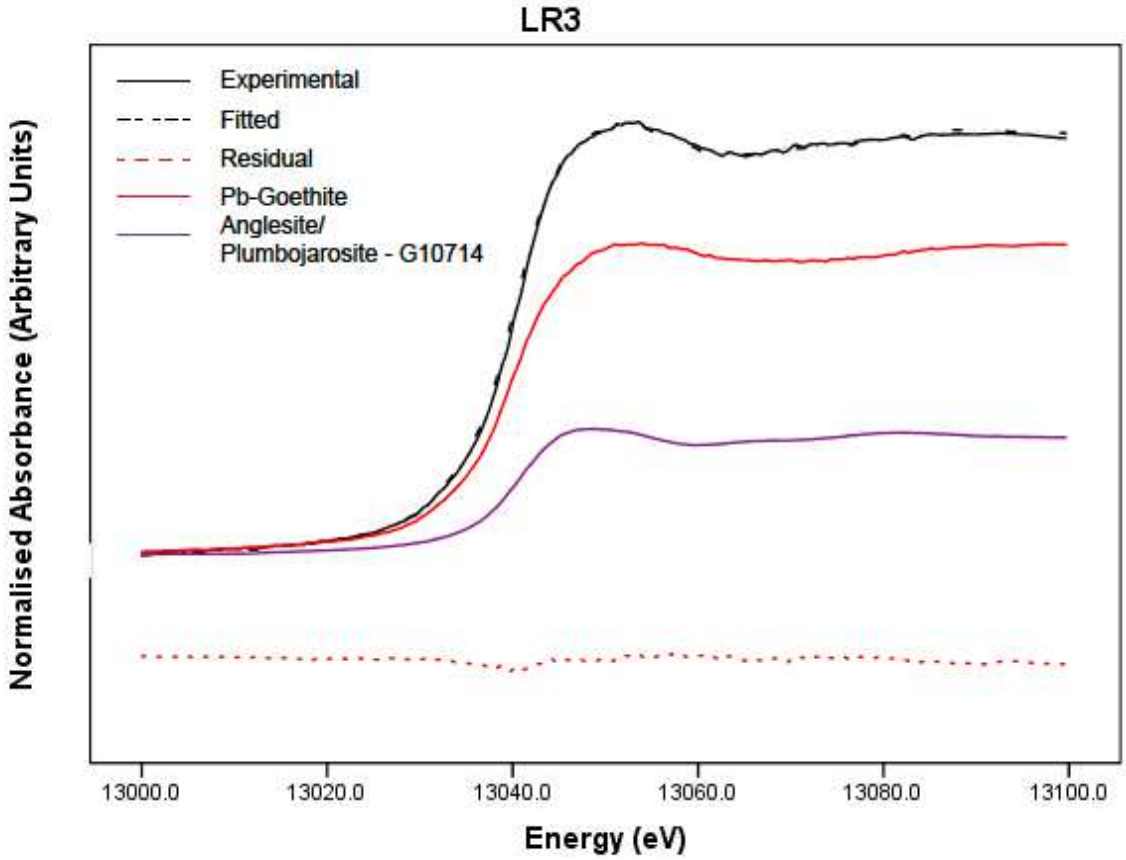

LM2
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

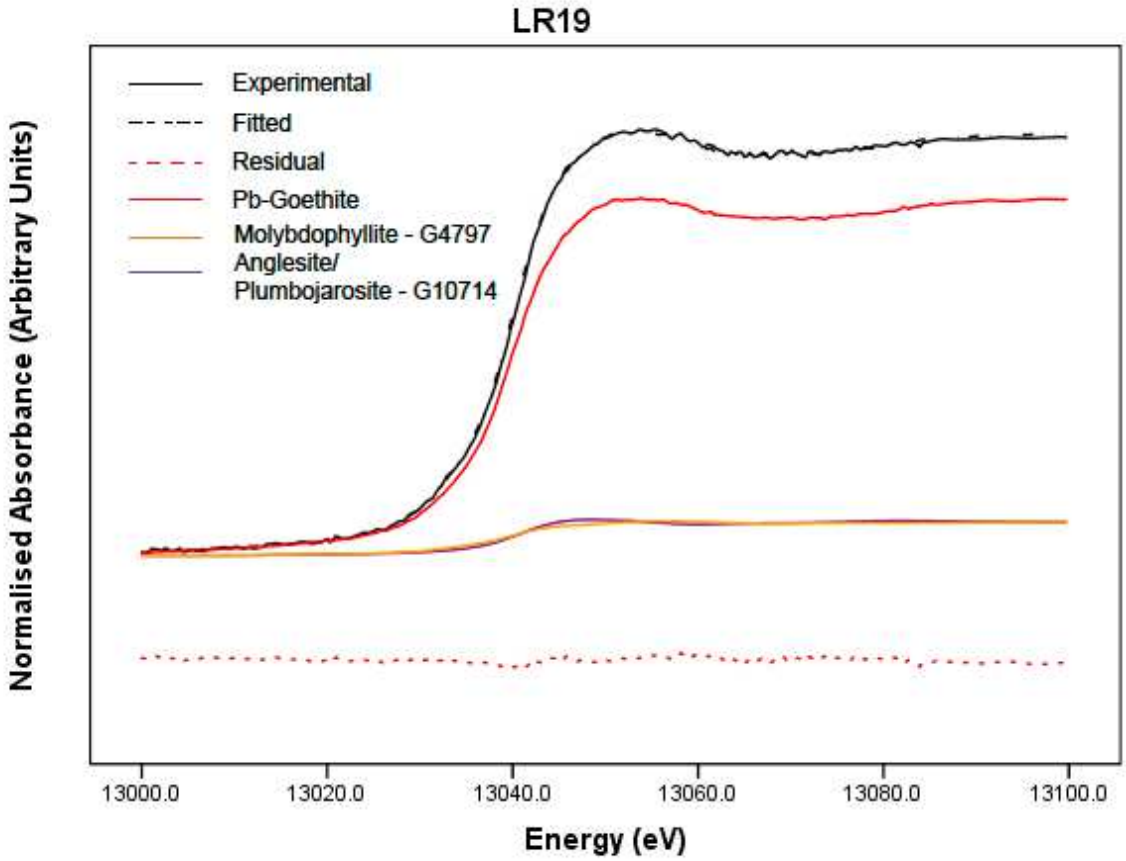

LM3
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

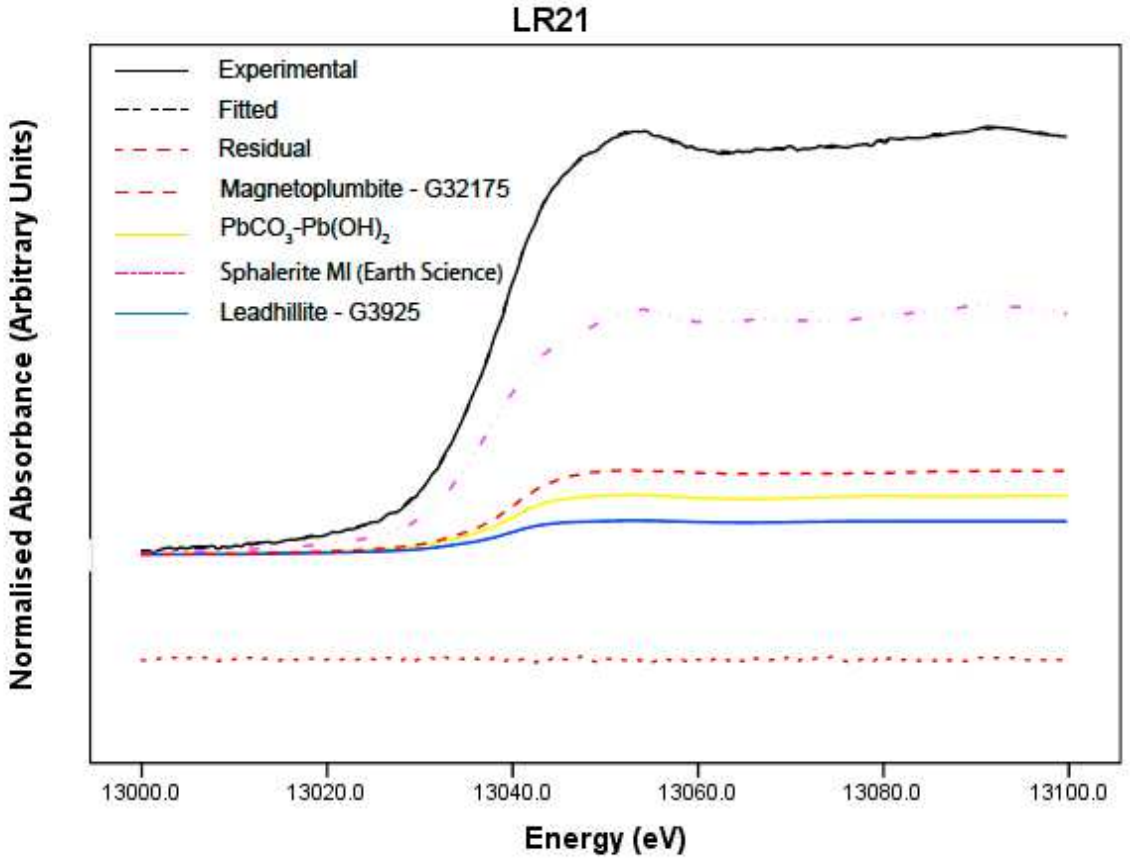

LM4
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

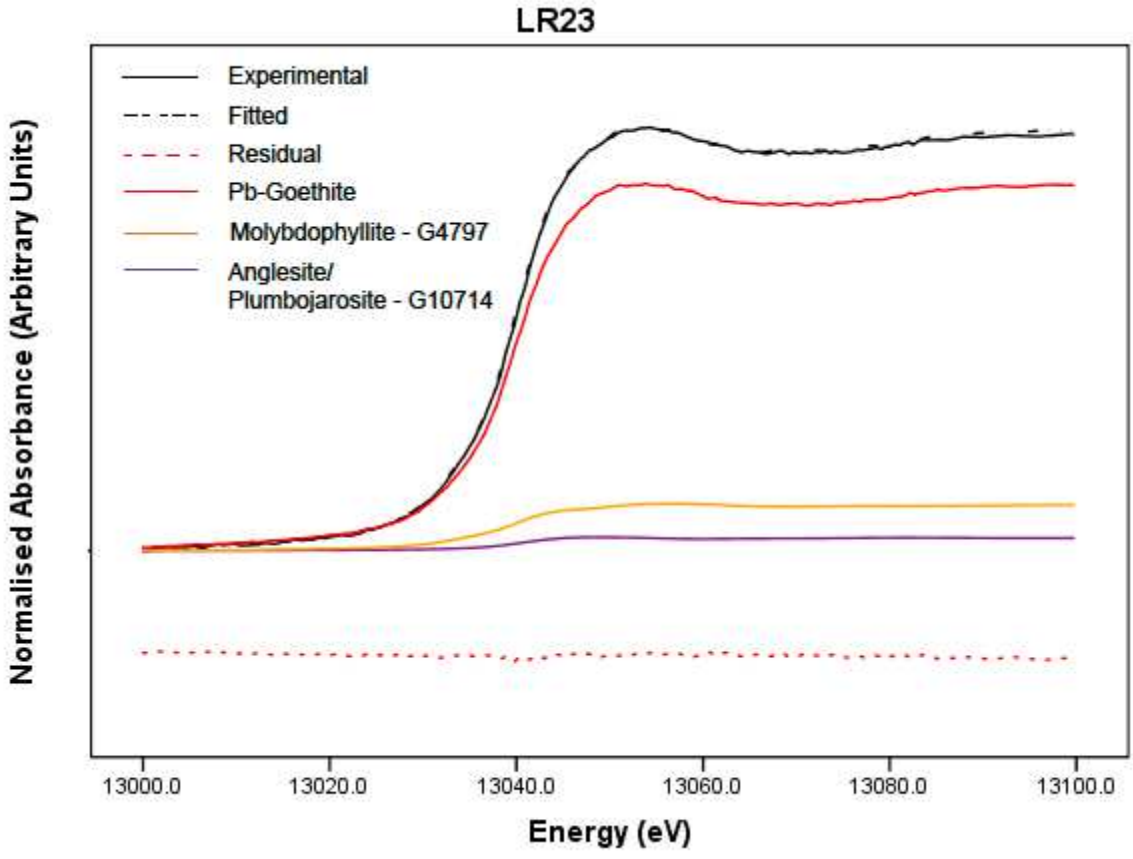

LM5
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

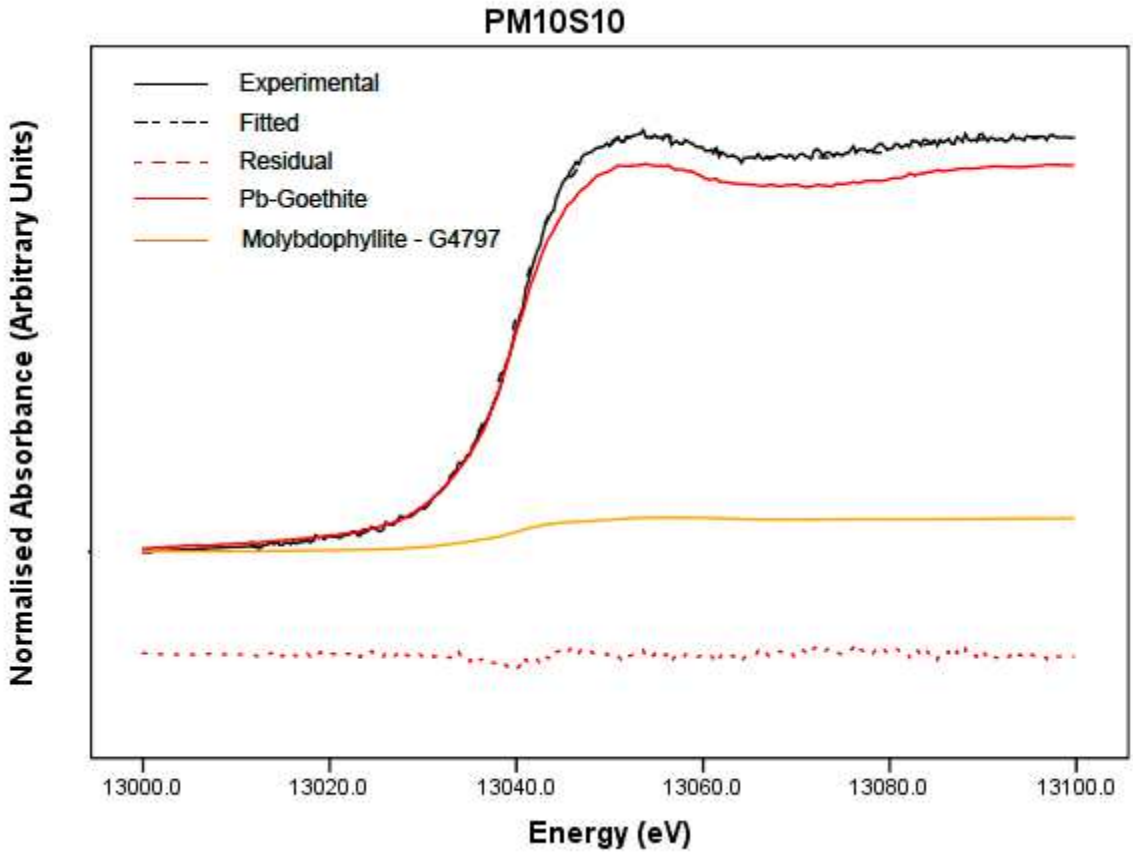

LR2
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

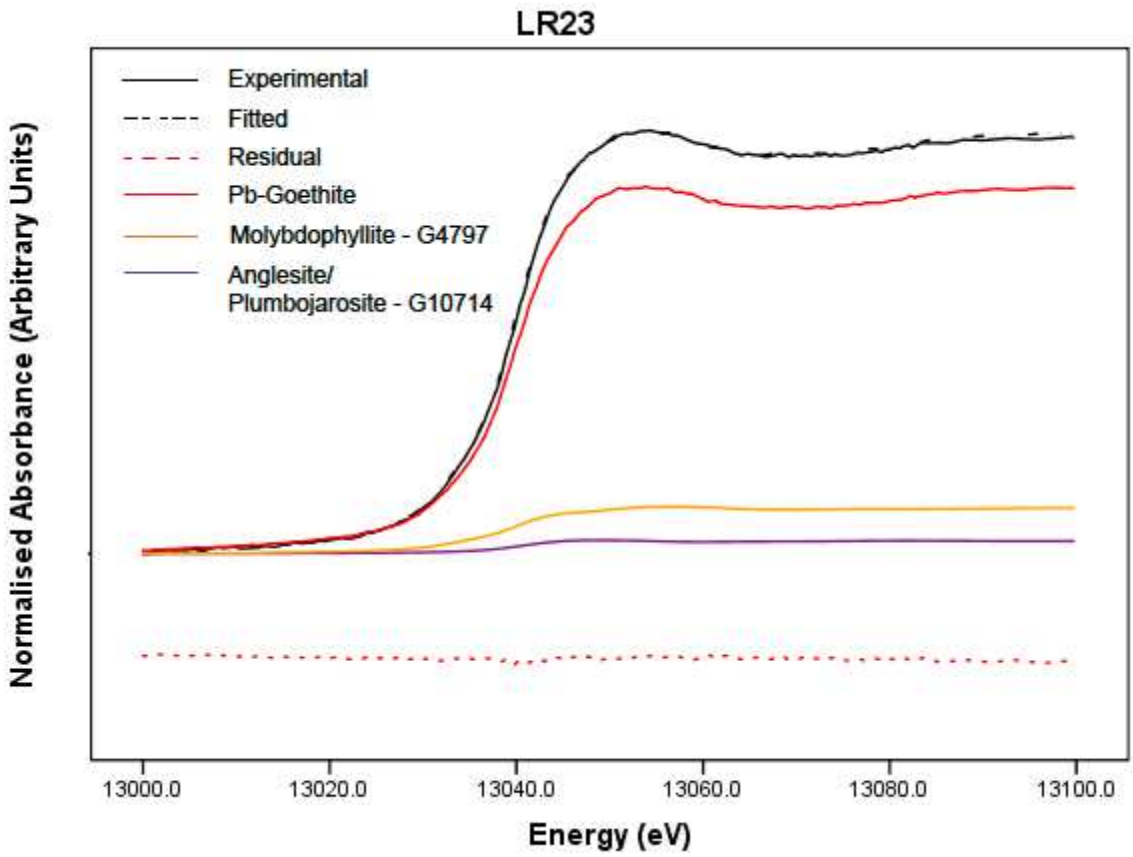

LR3
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

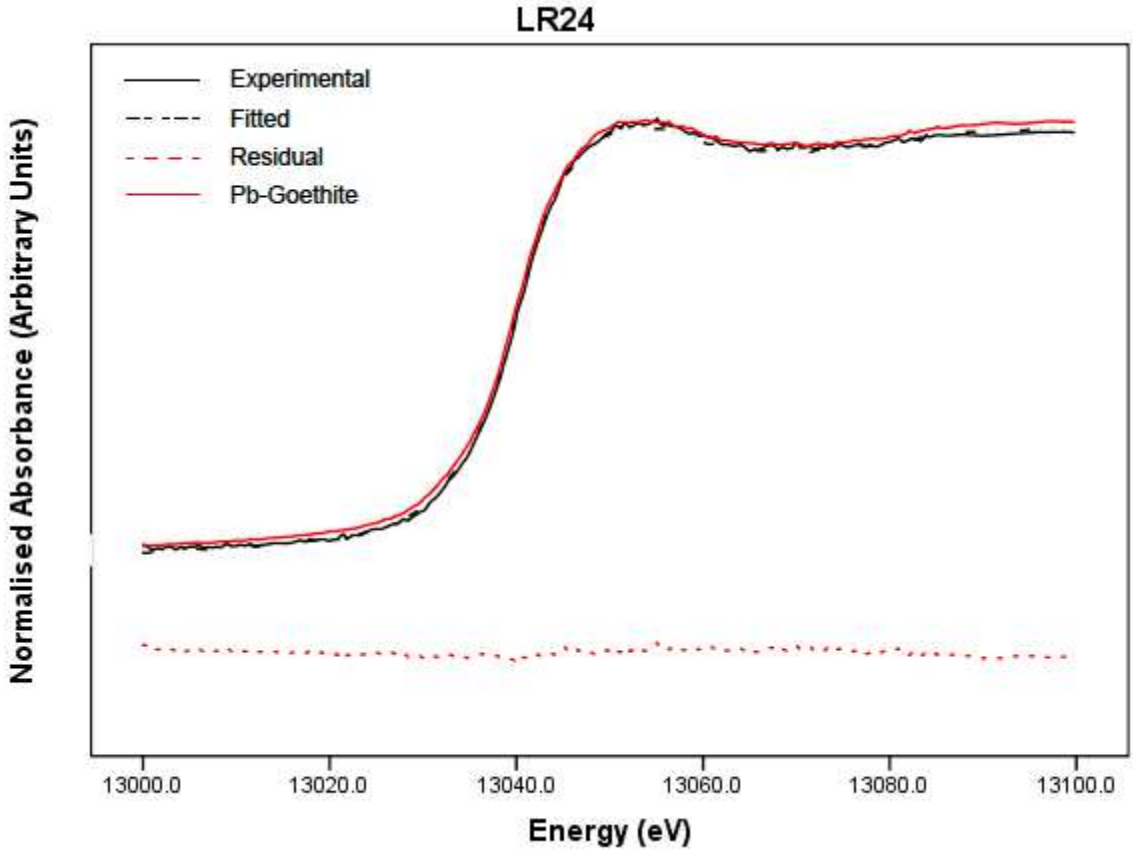

LR19
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

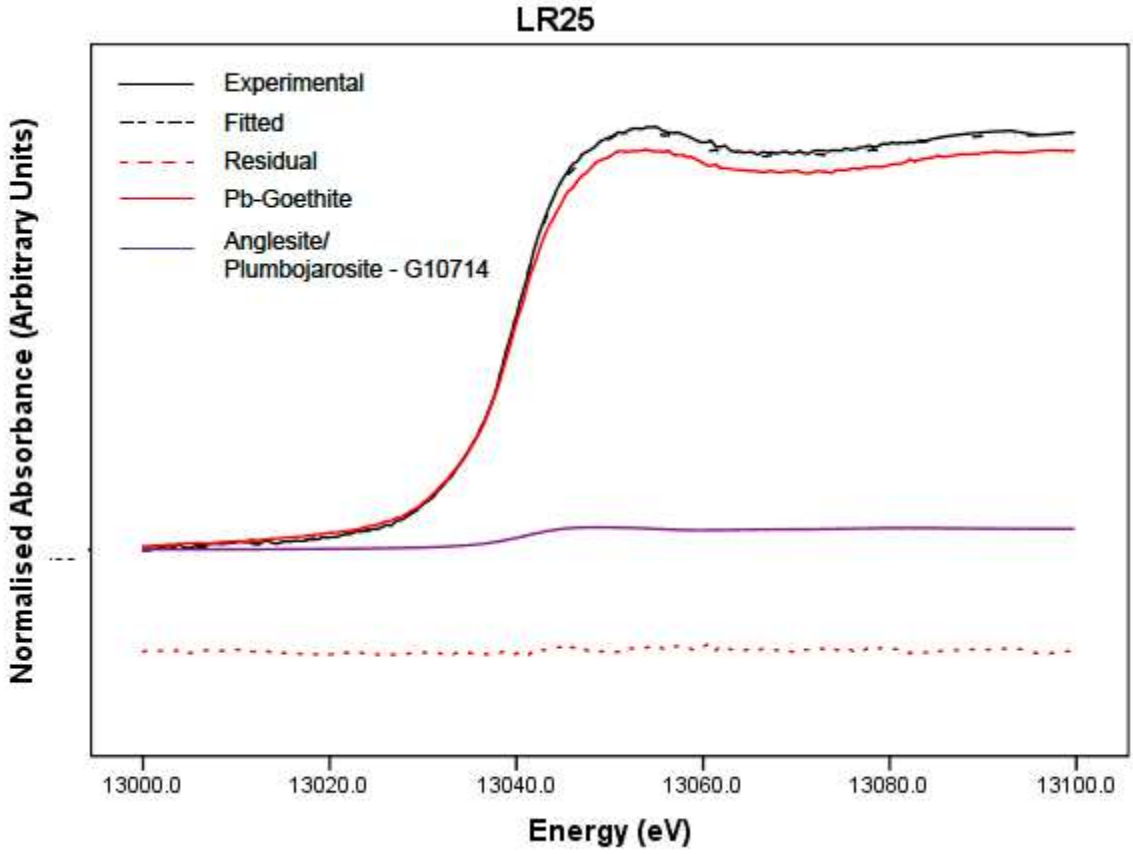

LR21
Experimental
Fitted
Residual
Magnetoplumbite - G32175
PbCO3-Pb(OH)2
Sphalerite MI (Earth Science)
Leadhillite - G3925
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

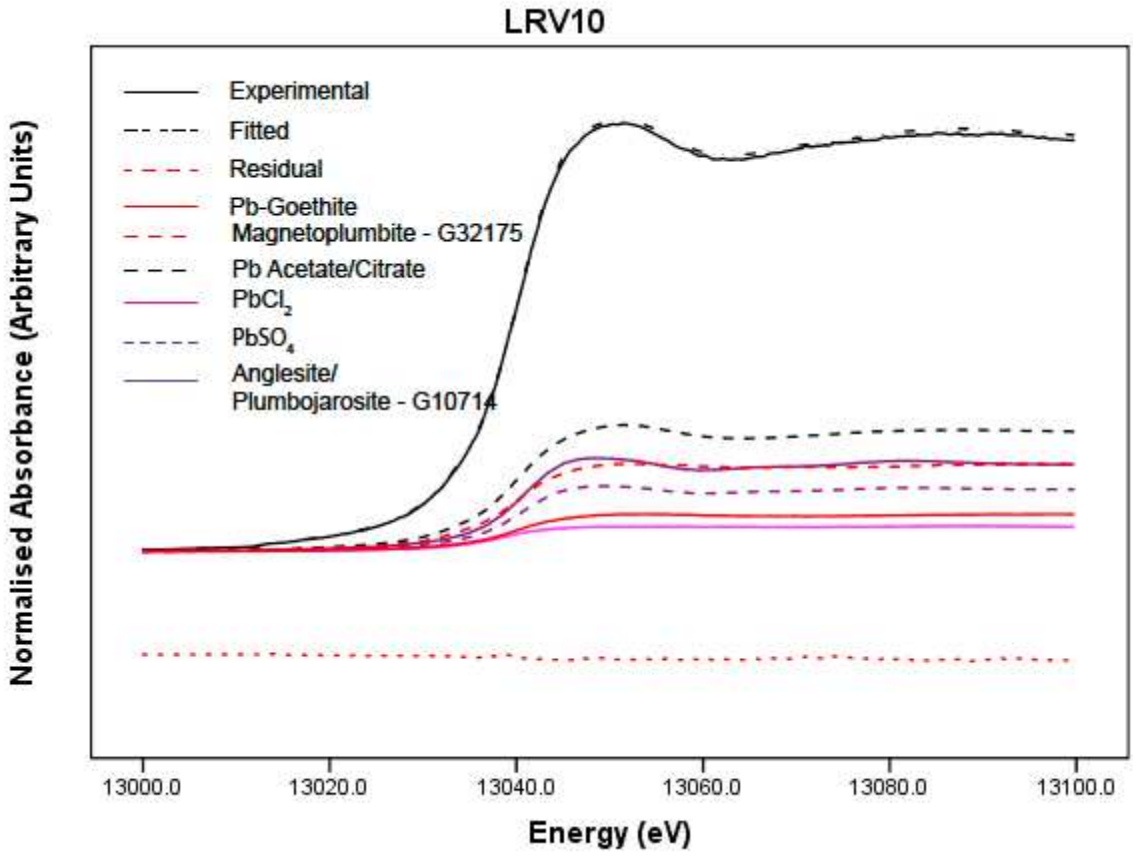

LR23
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

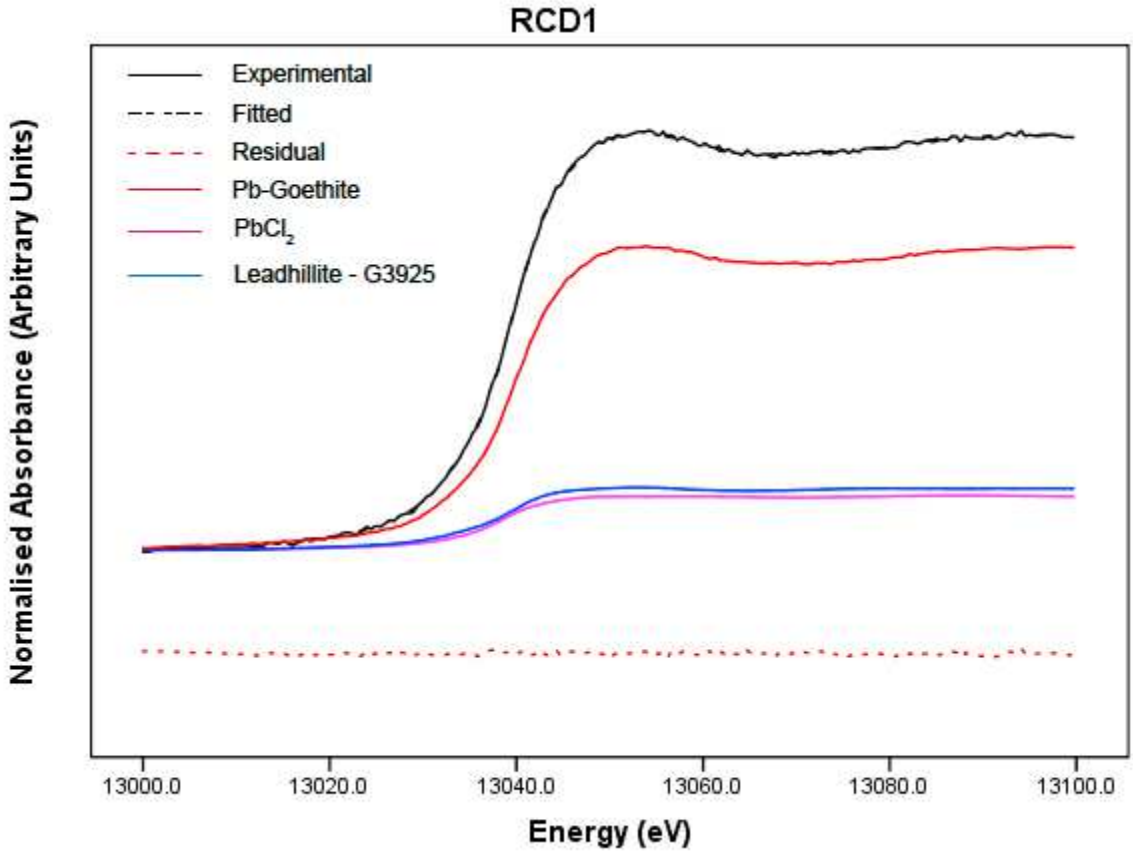

PM10S10
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

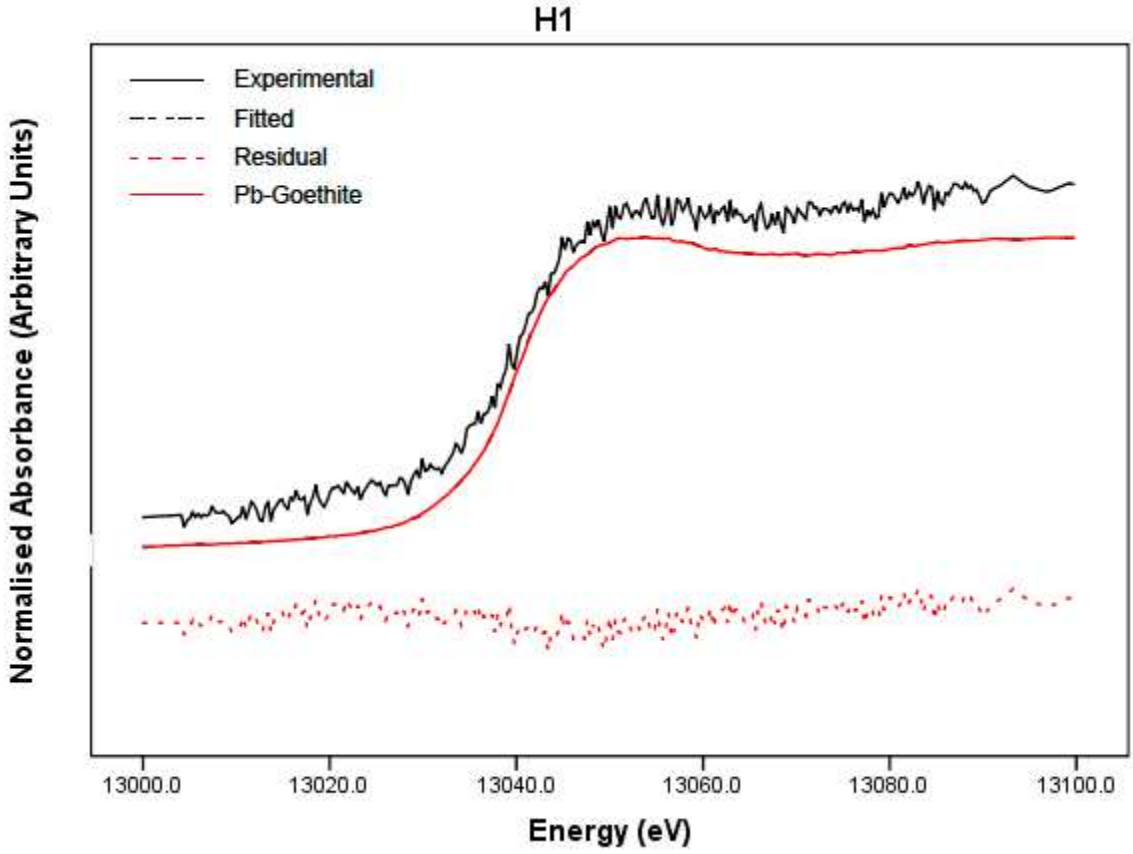

LR23
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

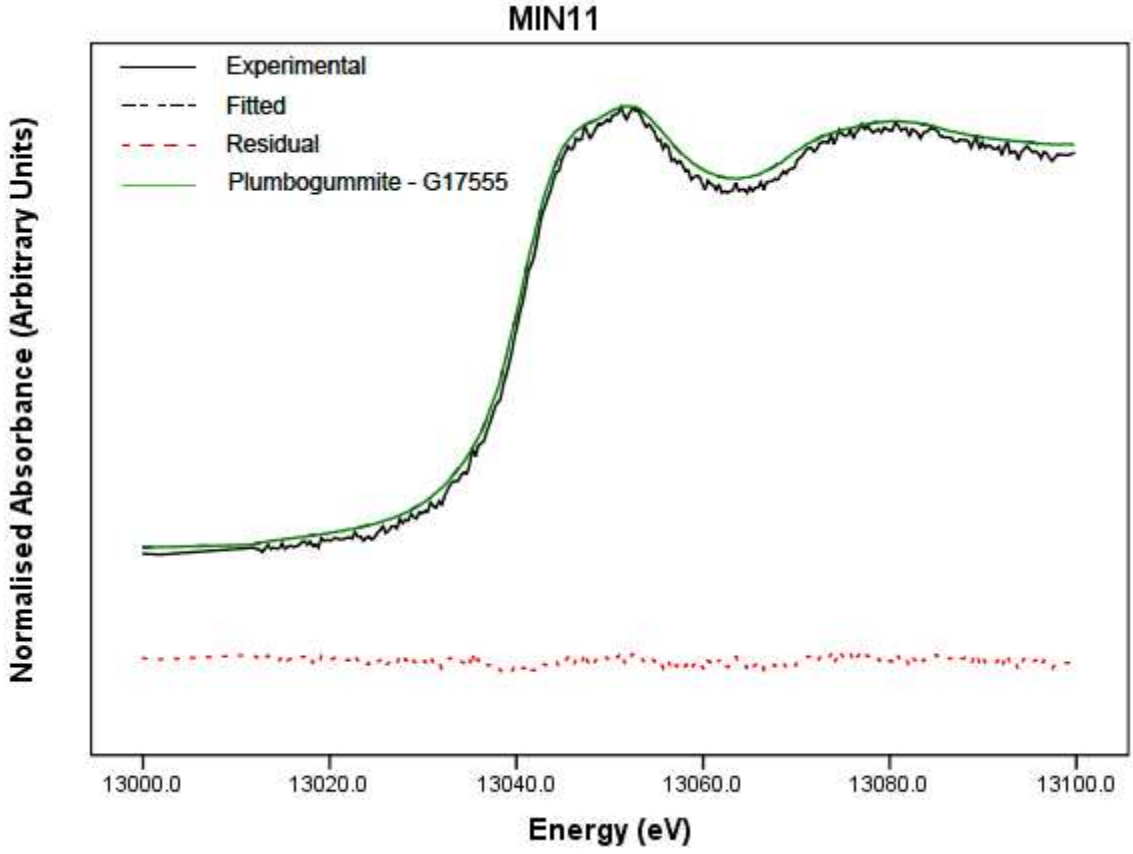

LR24
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

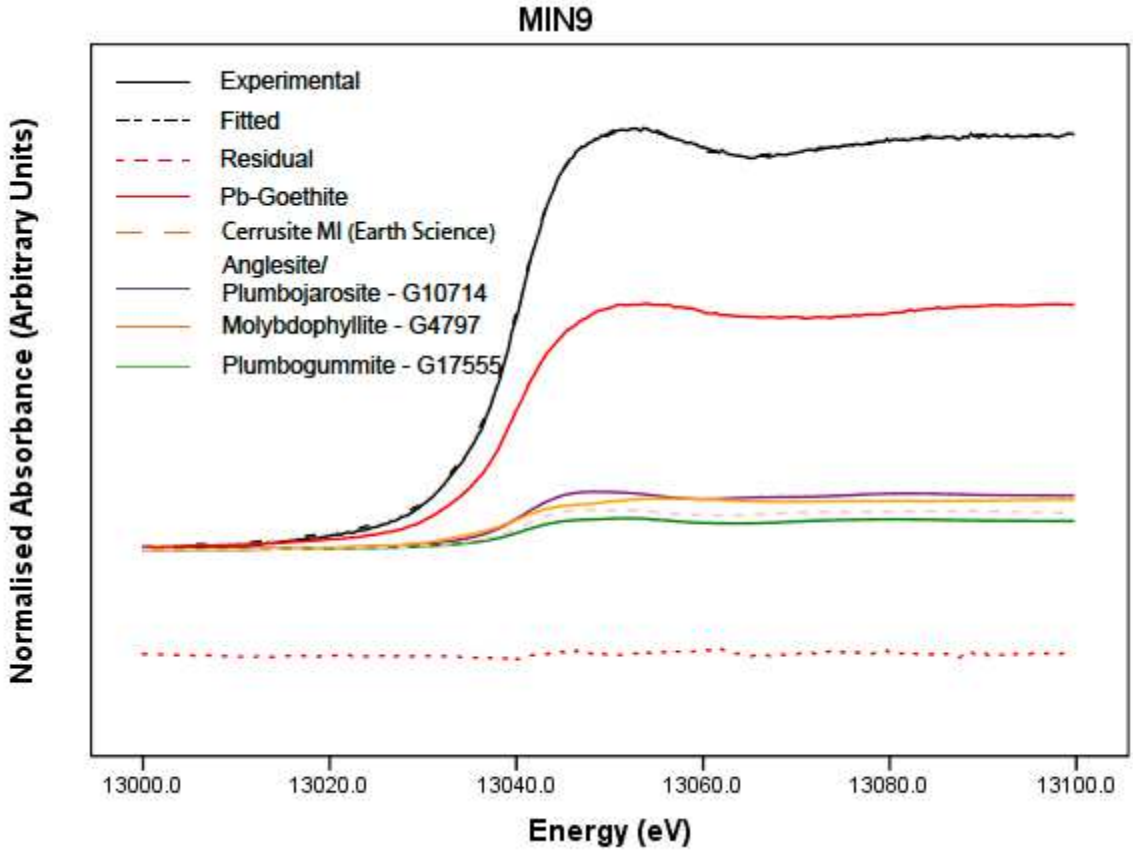

LR25
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

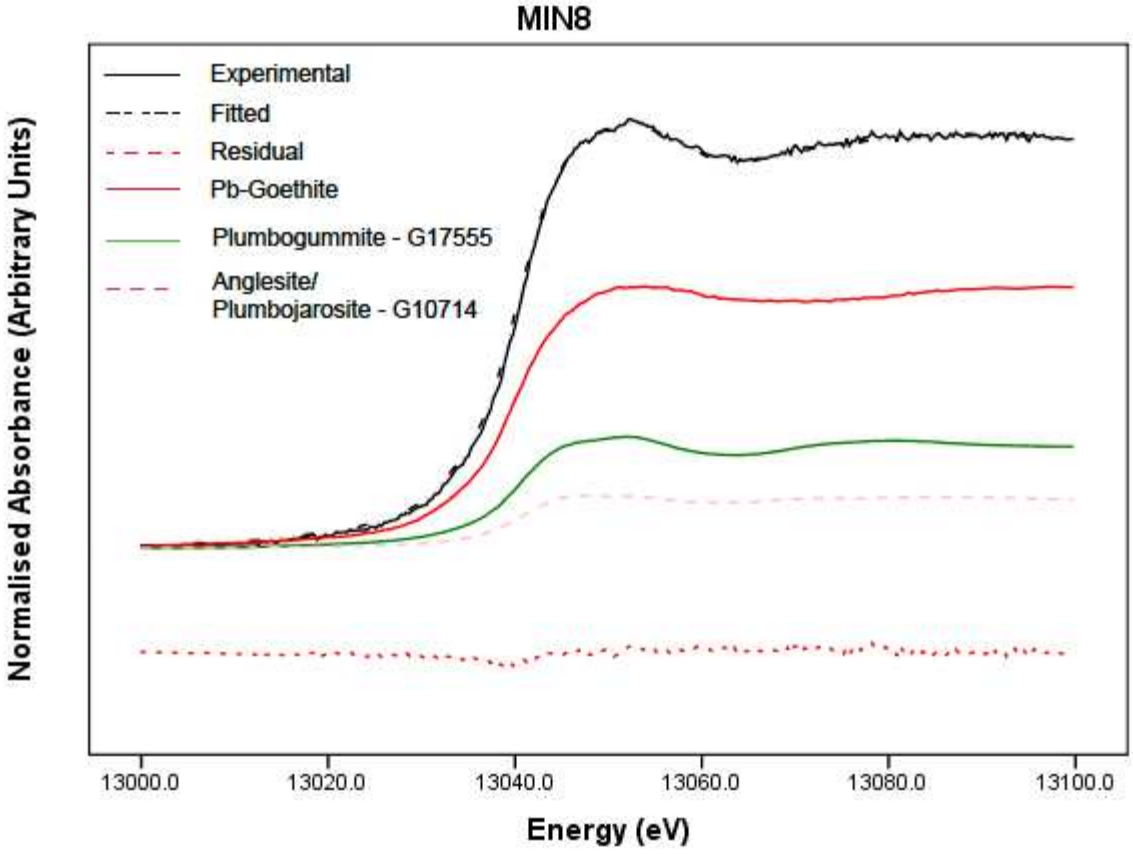

LRV10
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Pb Acetate/Citrate
PbCl2
PbSO4
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

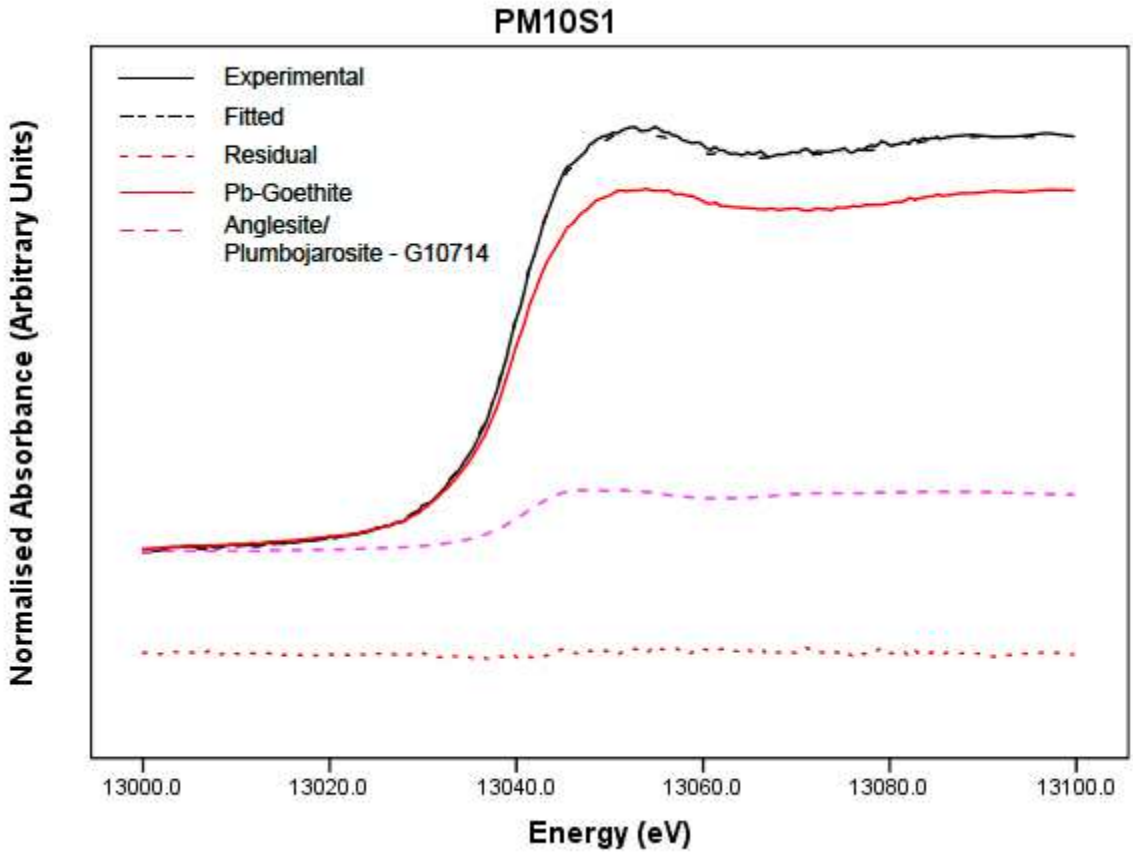

RCD1
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
Leadhillite - G3925
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

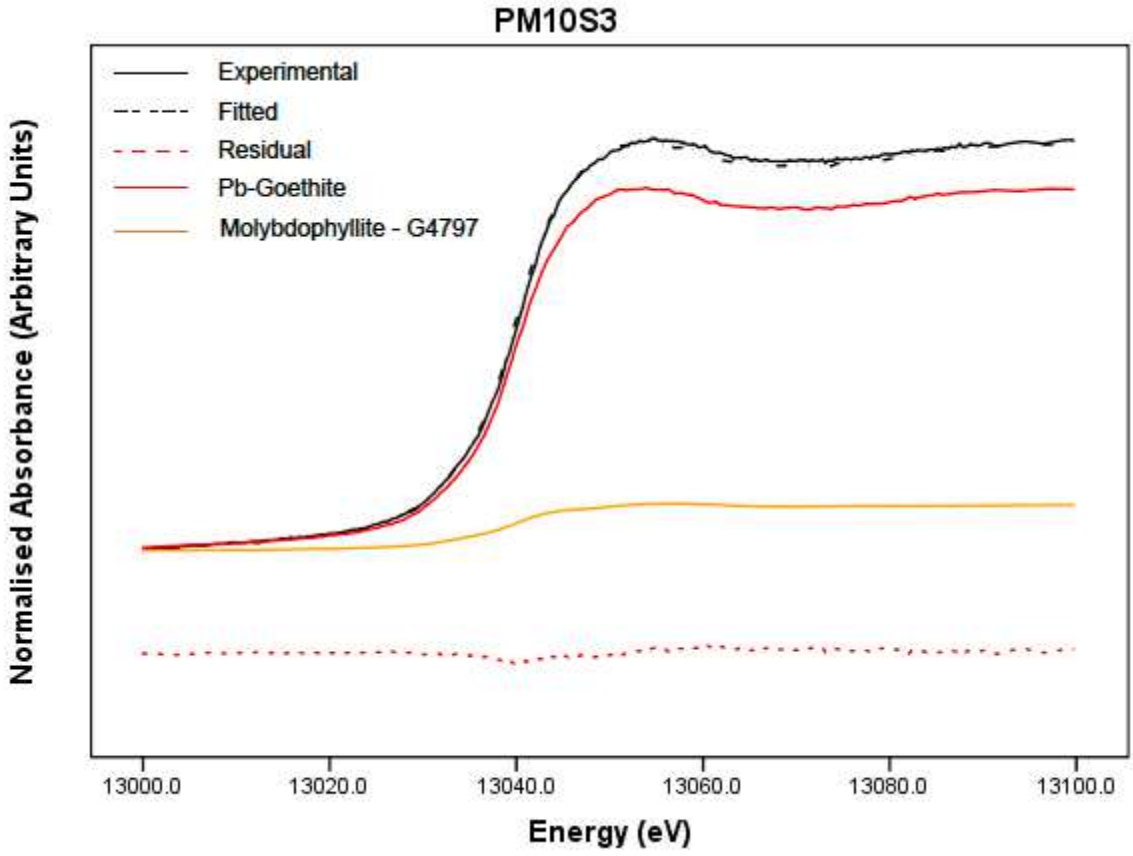

H1
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

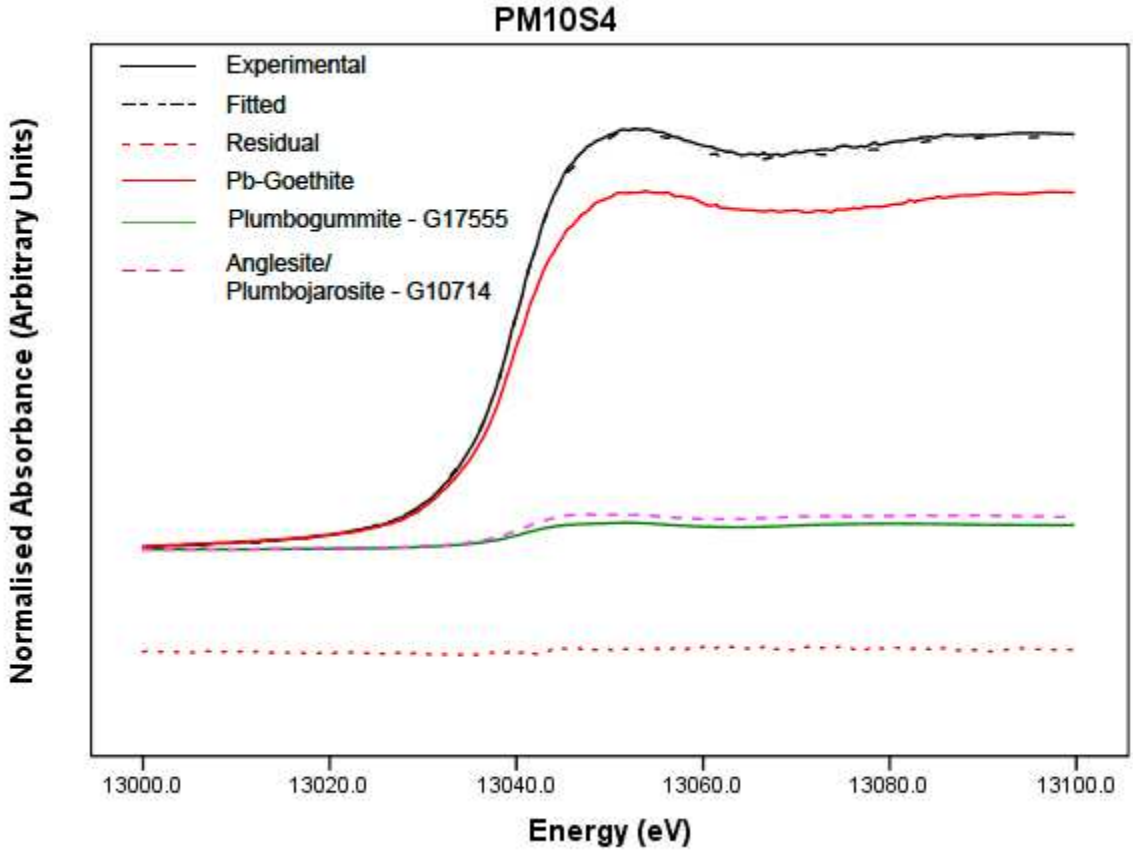

MIN11
Experimental
Fitted
Residual
Plumbogummite - G17555
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

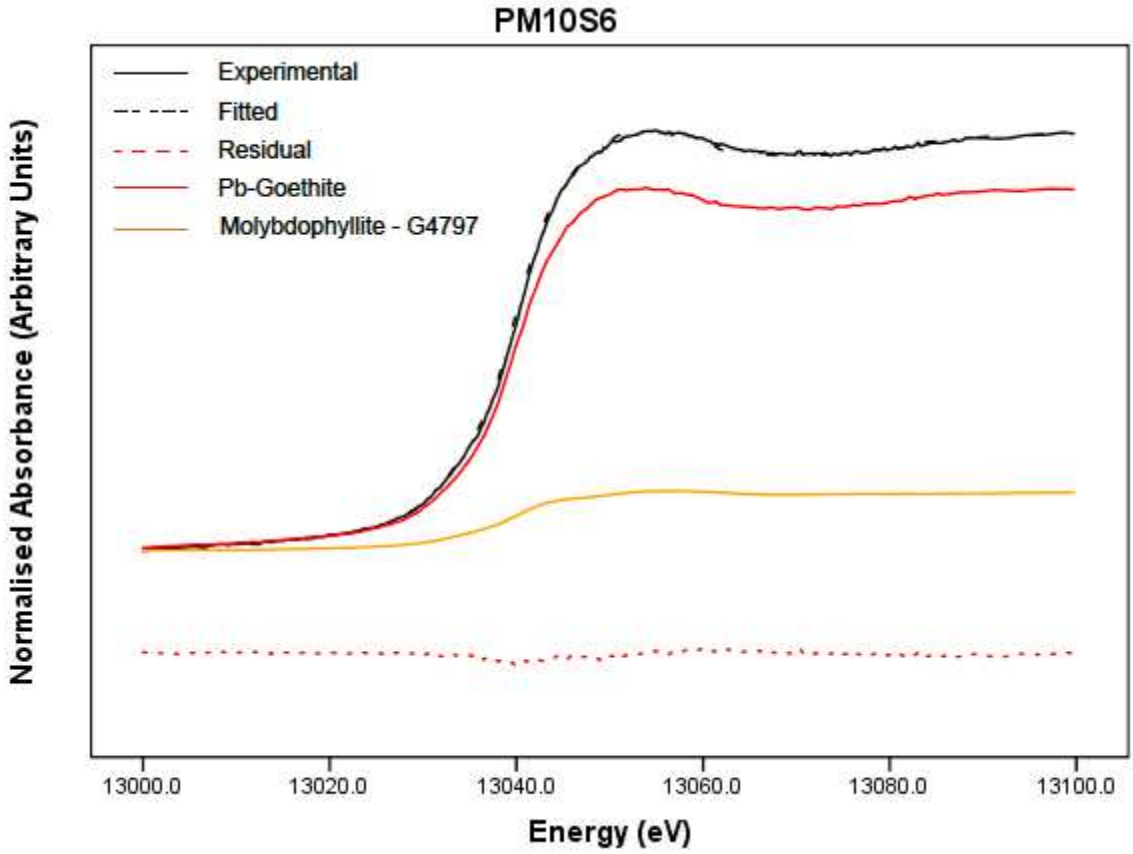

MIN9
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Anglesite/
Plumbojarosite - G10714
Molybdophyllite - G4797
Plumbogummite - G17555
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

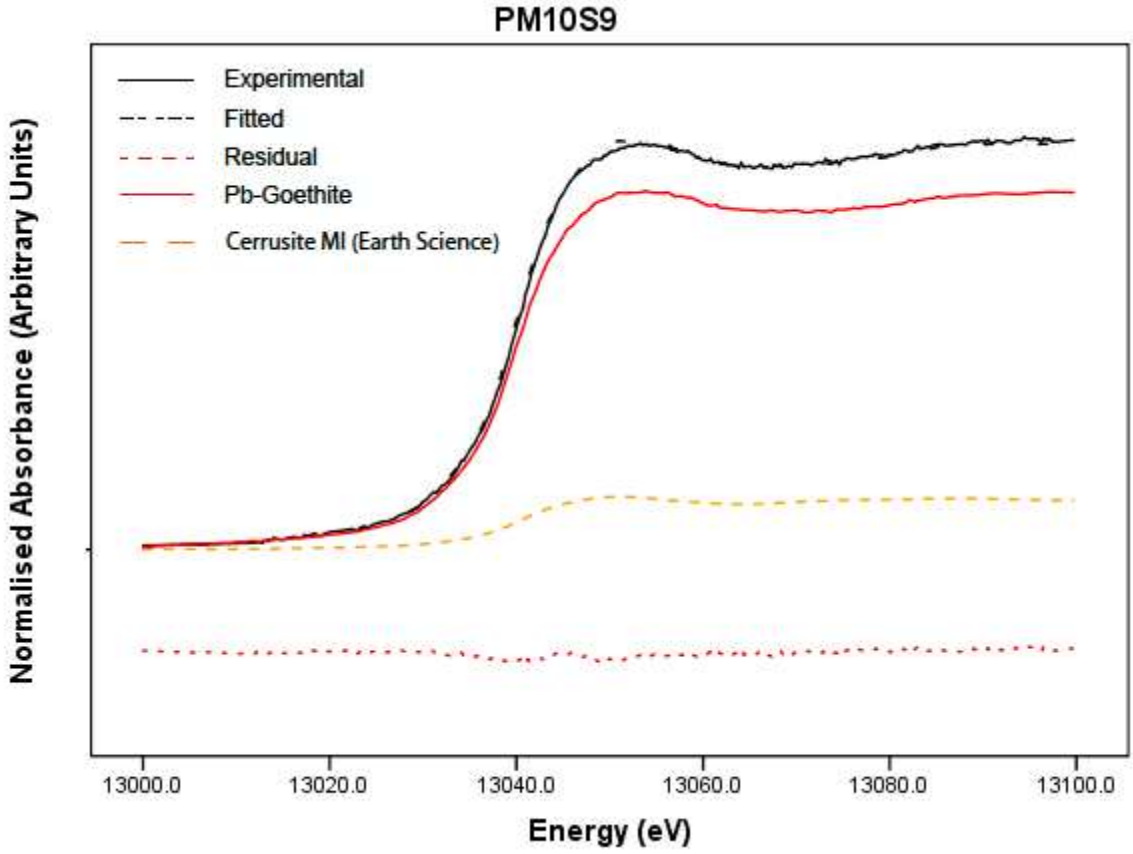

MIN8
Experimental
Fitted
Residual
Pb-Goethite
Plumbogummite - G17555
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

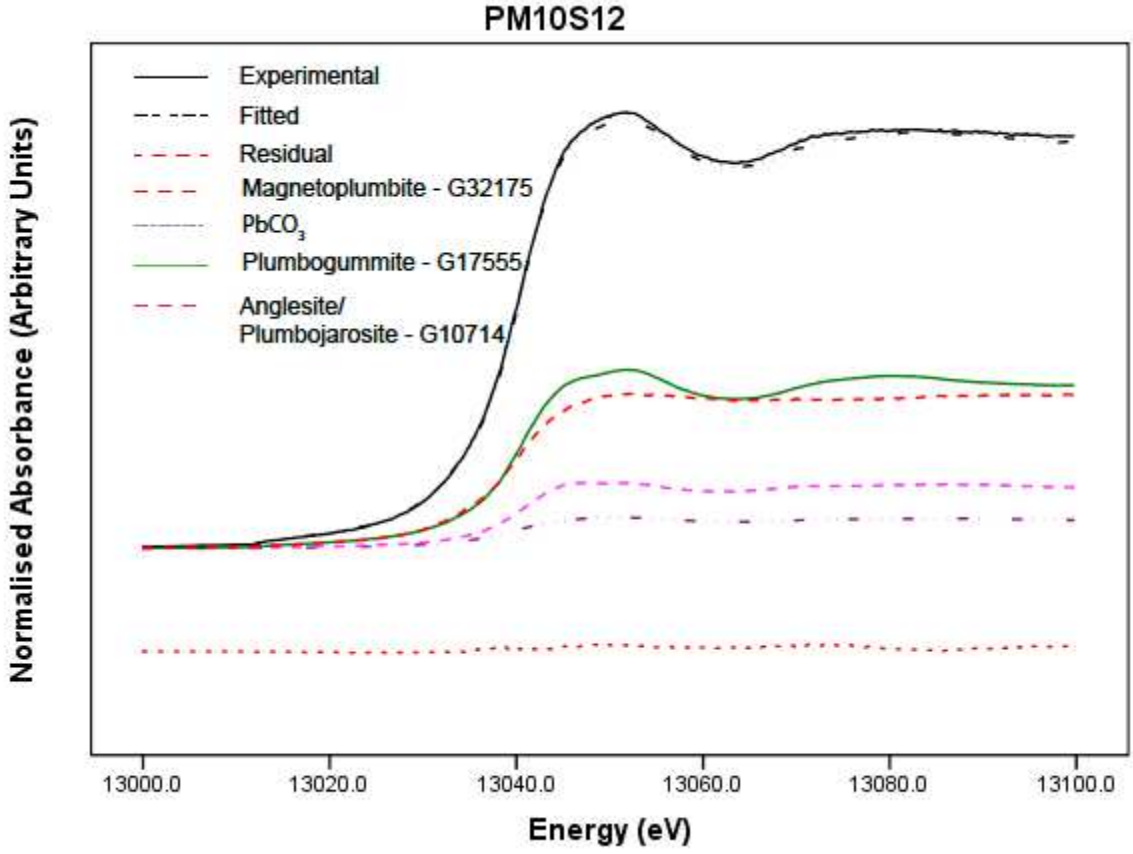

PM10S1
Experimental
Fitted
Residual
Pb-Goethite
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

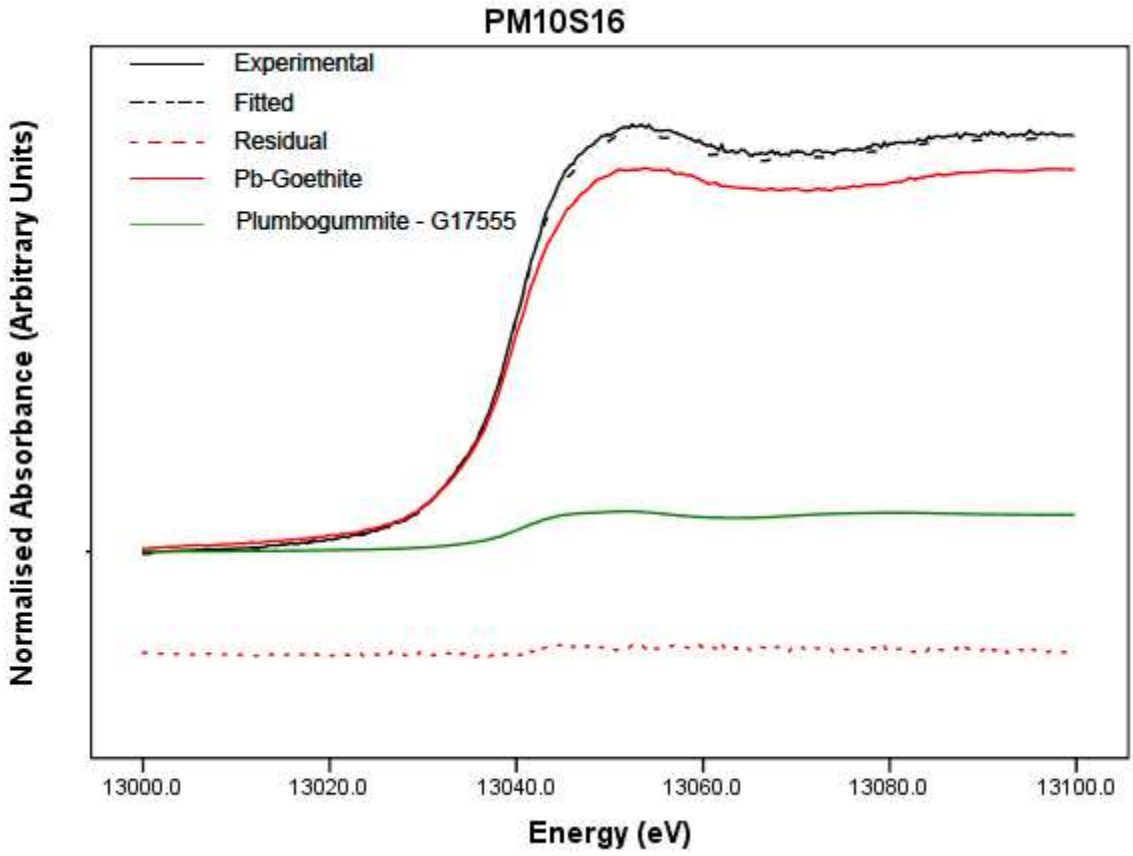

PM10S3
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

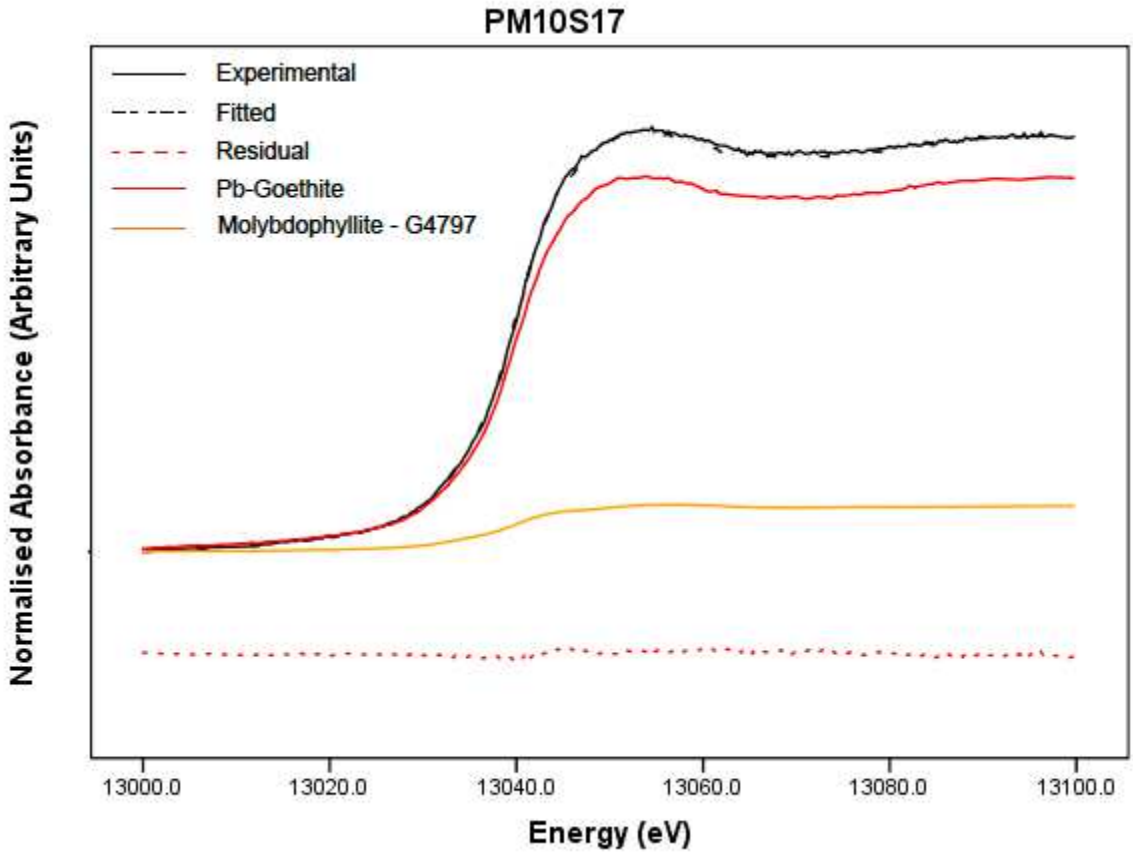

PM10S4
Experimental
Fitted
Residual
Pb-Goethite
Plumbogummite - G17555
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

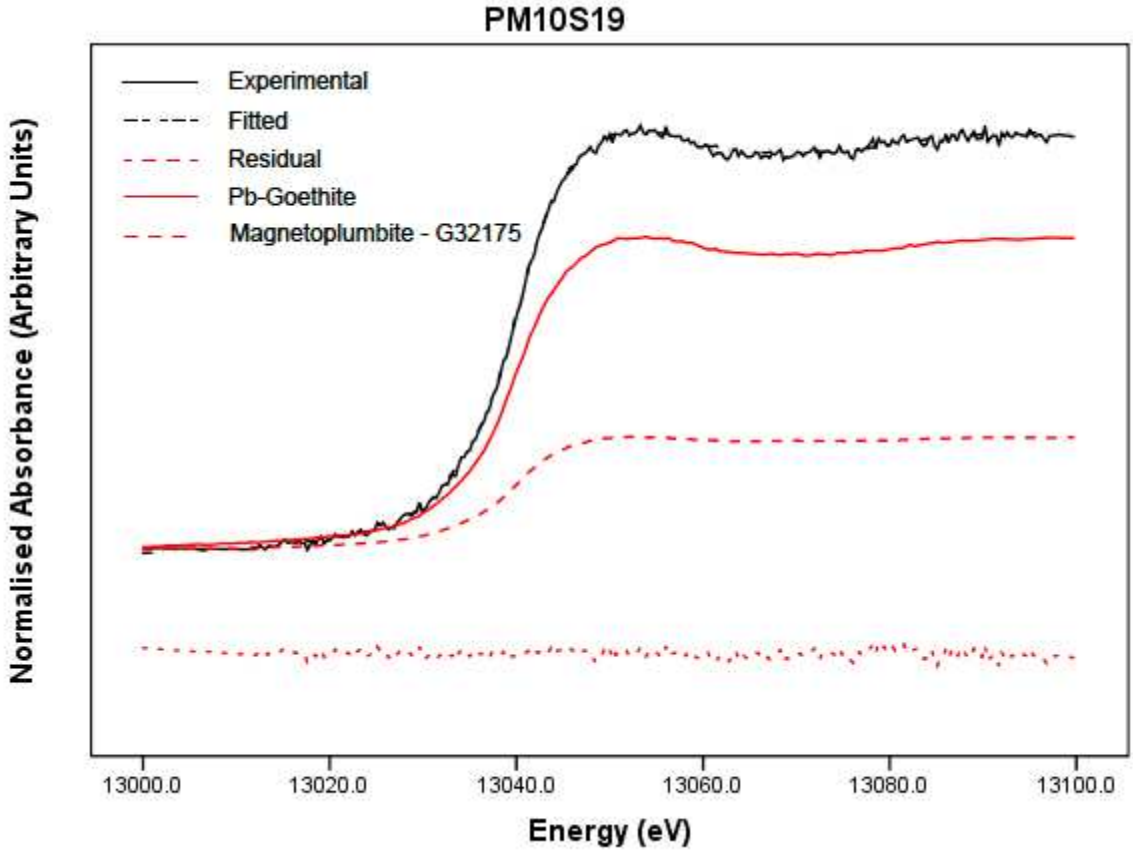

PM10S6
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

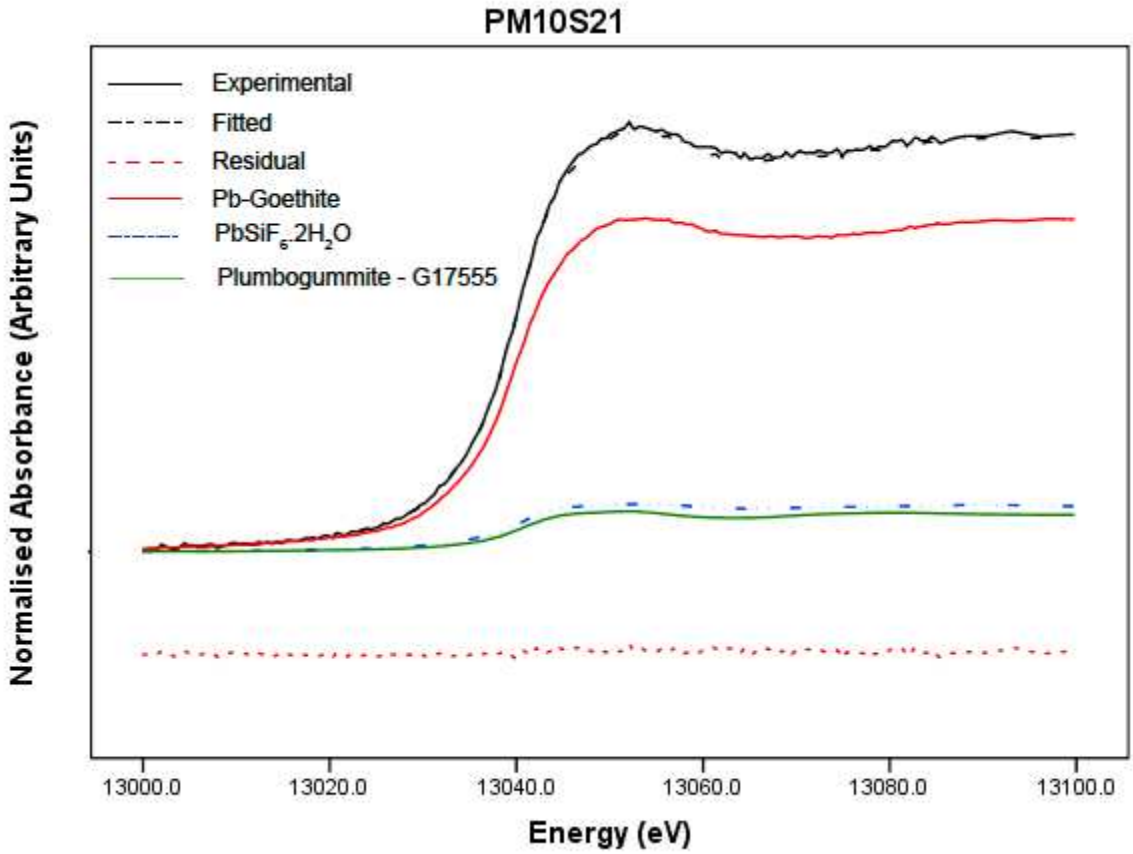

PM10S9
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

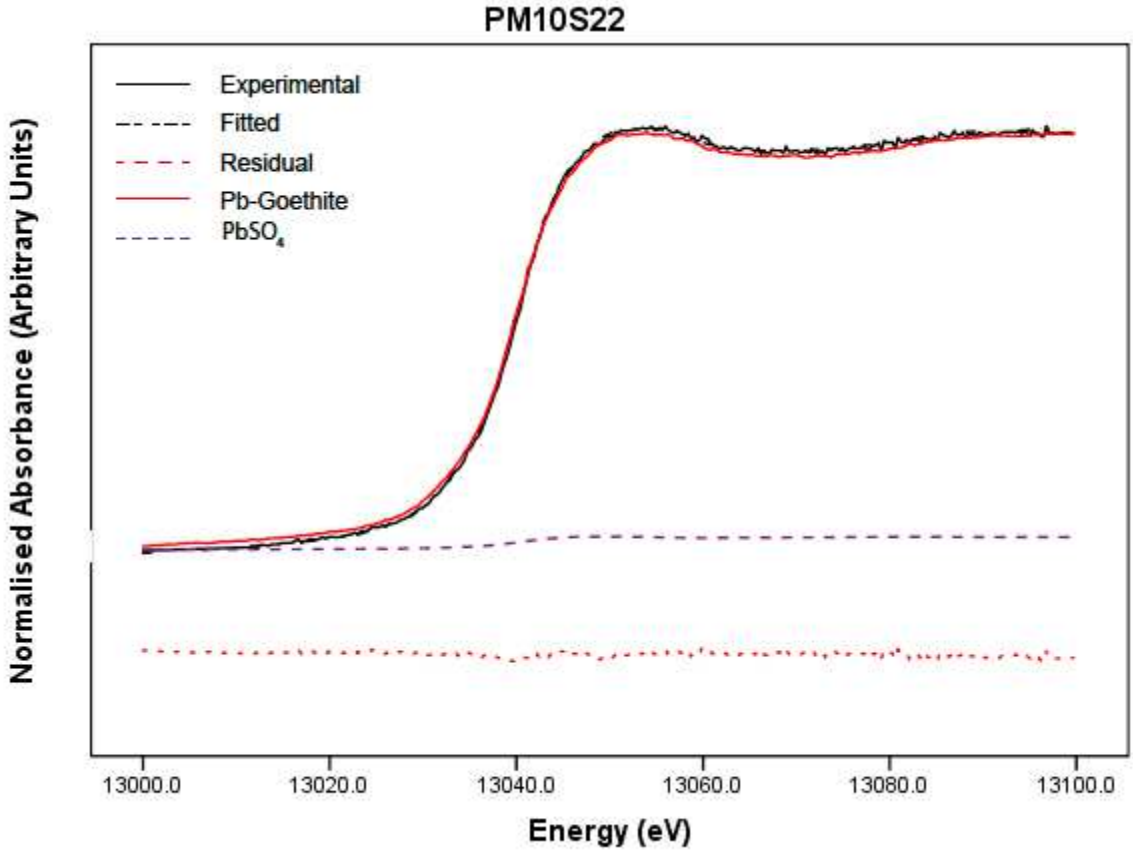

PM10S12
Experimental
Fitted
Residual
Magnetoplumbite - G32175
PbCO3
Plumbogummite - G17555
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

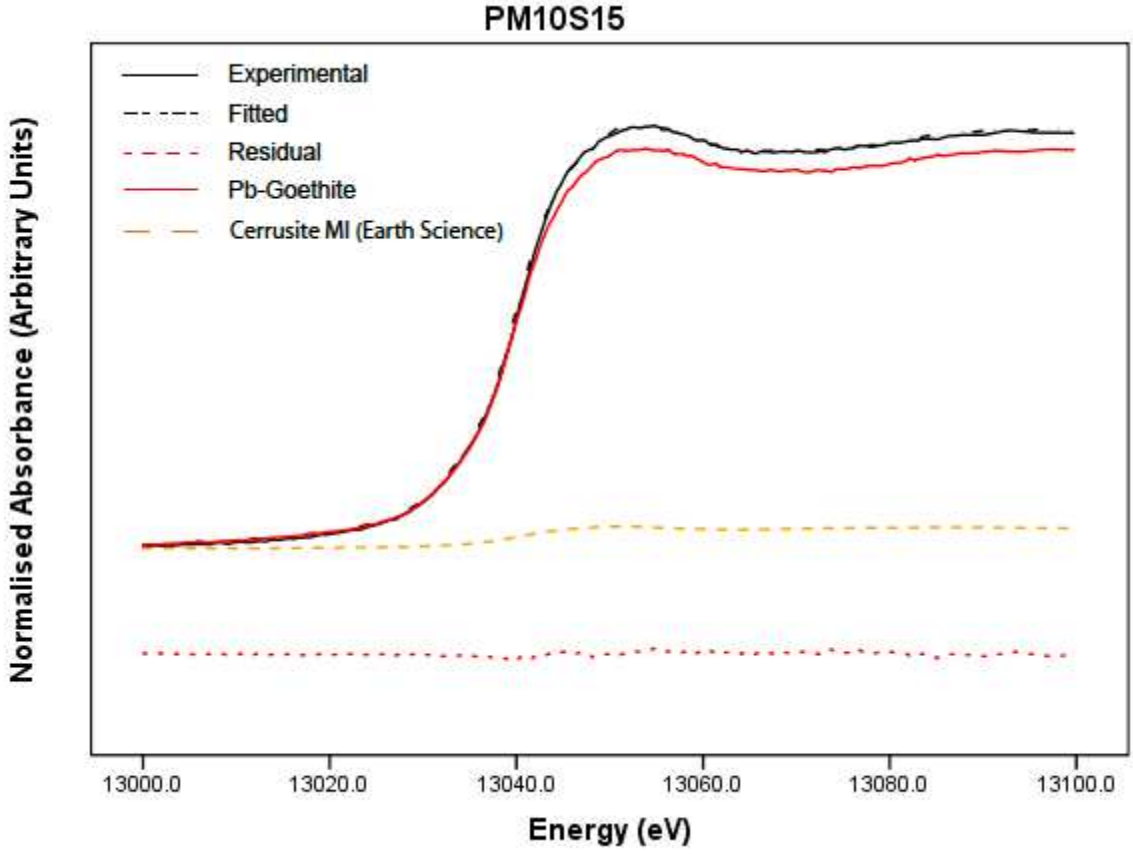

PM10S16
Experimental
Fitted
Residual
Pb-Goethite
Plumbogummite - G17555
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

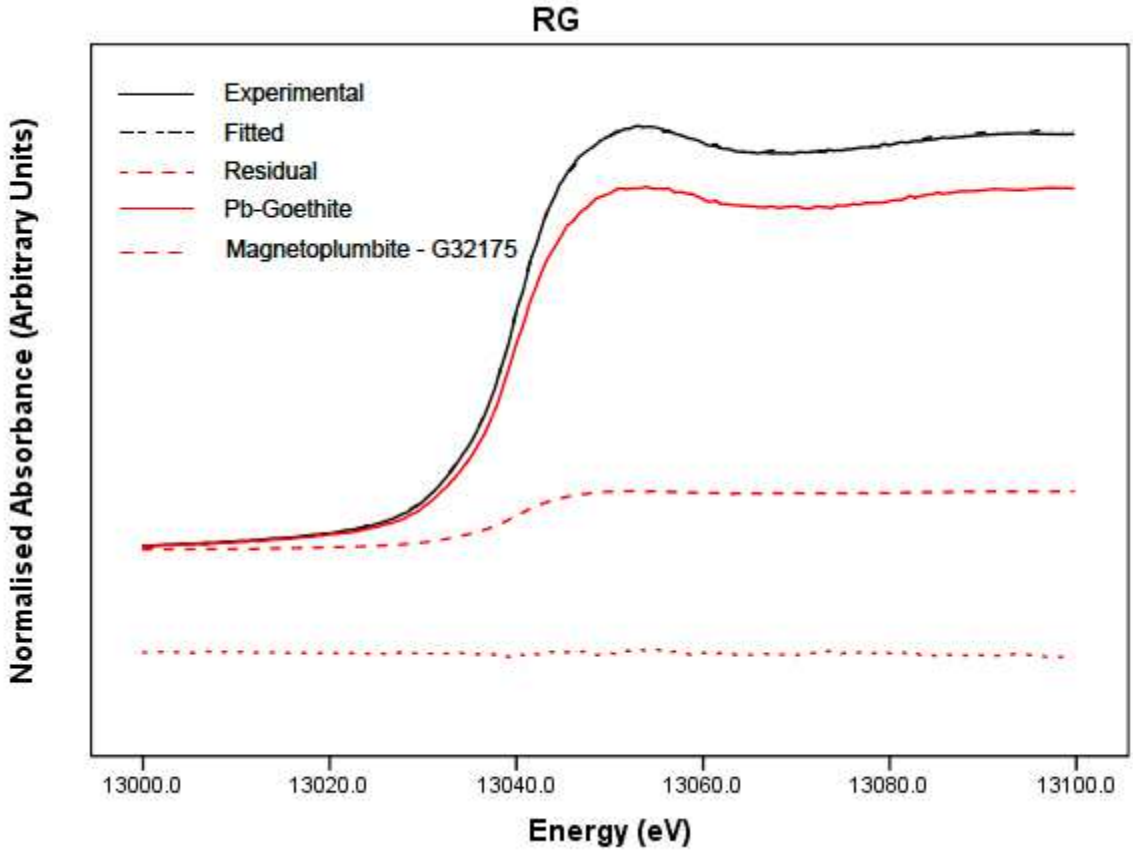

PM10S17
Experimental
Fitted
Residual
Pb-Goethite
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

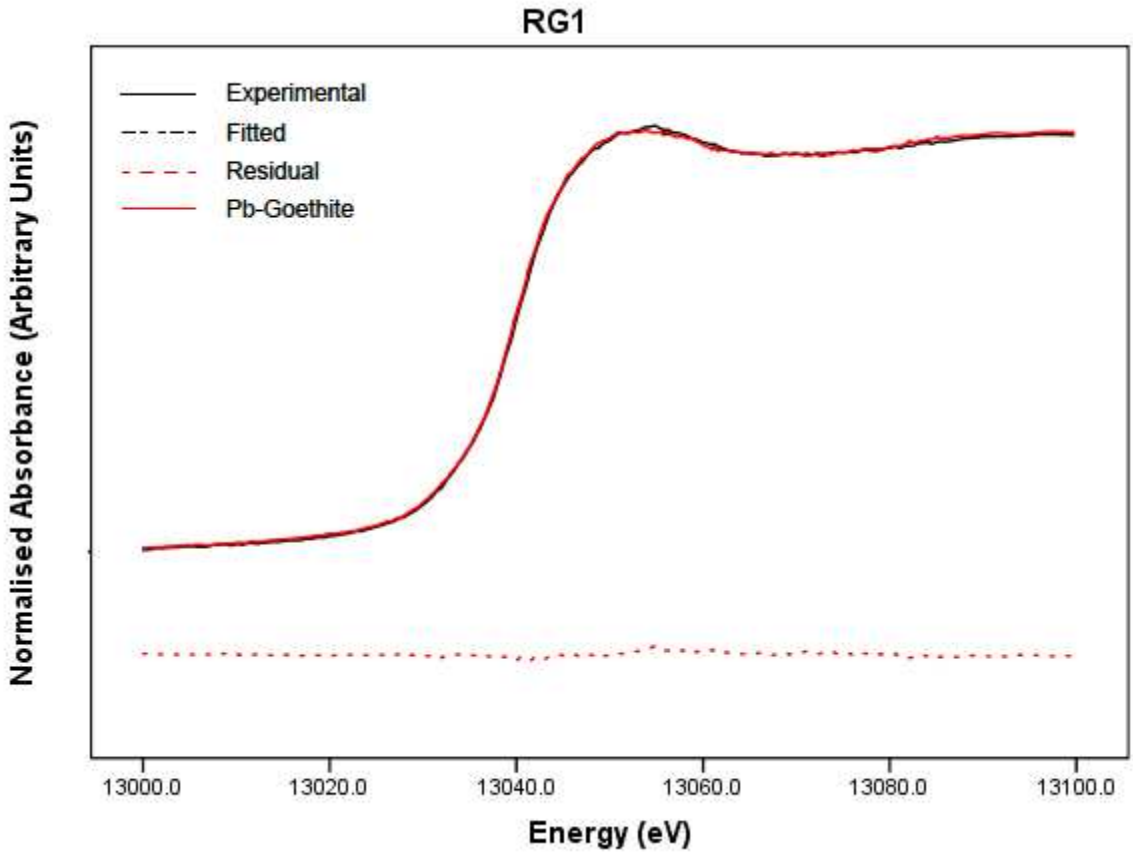

PM10S19
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

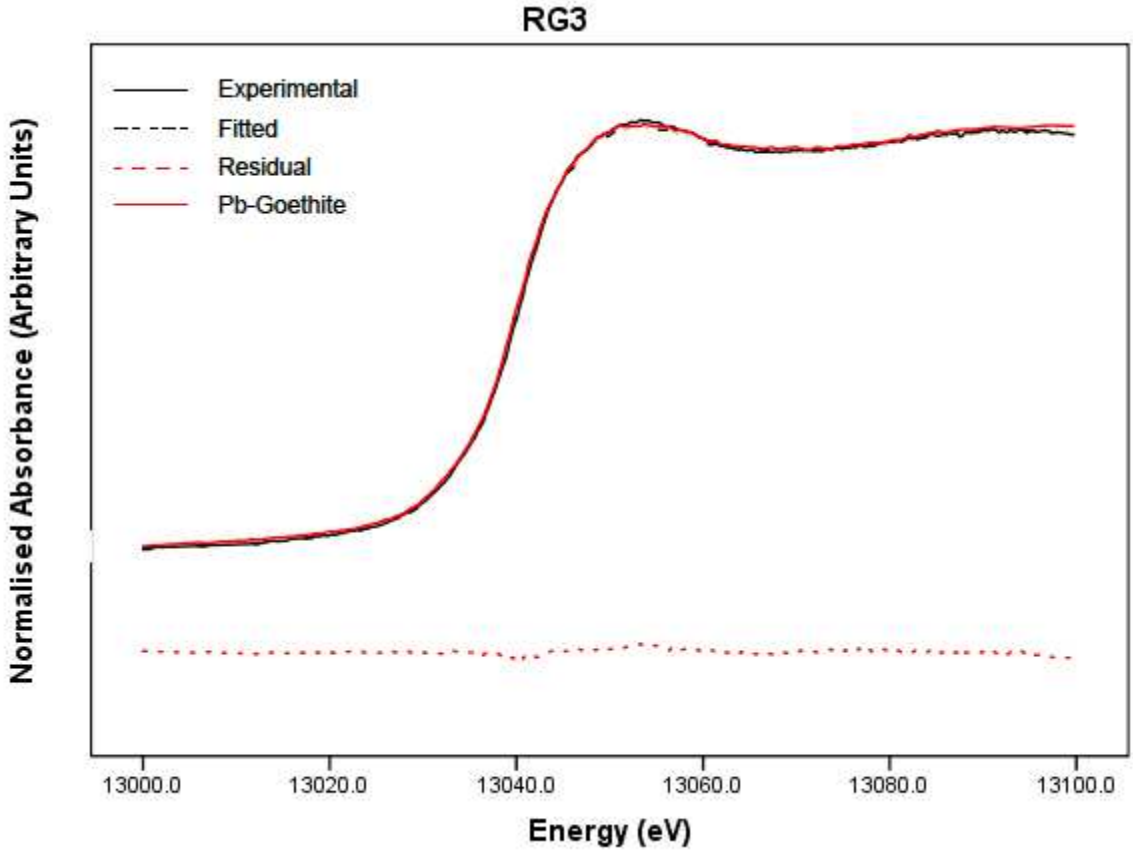

PM10S21
Experimental
Fitted
Residual
Pb-Goethite
PbSiF6.2H2O
Plumbogummite - G17555
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

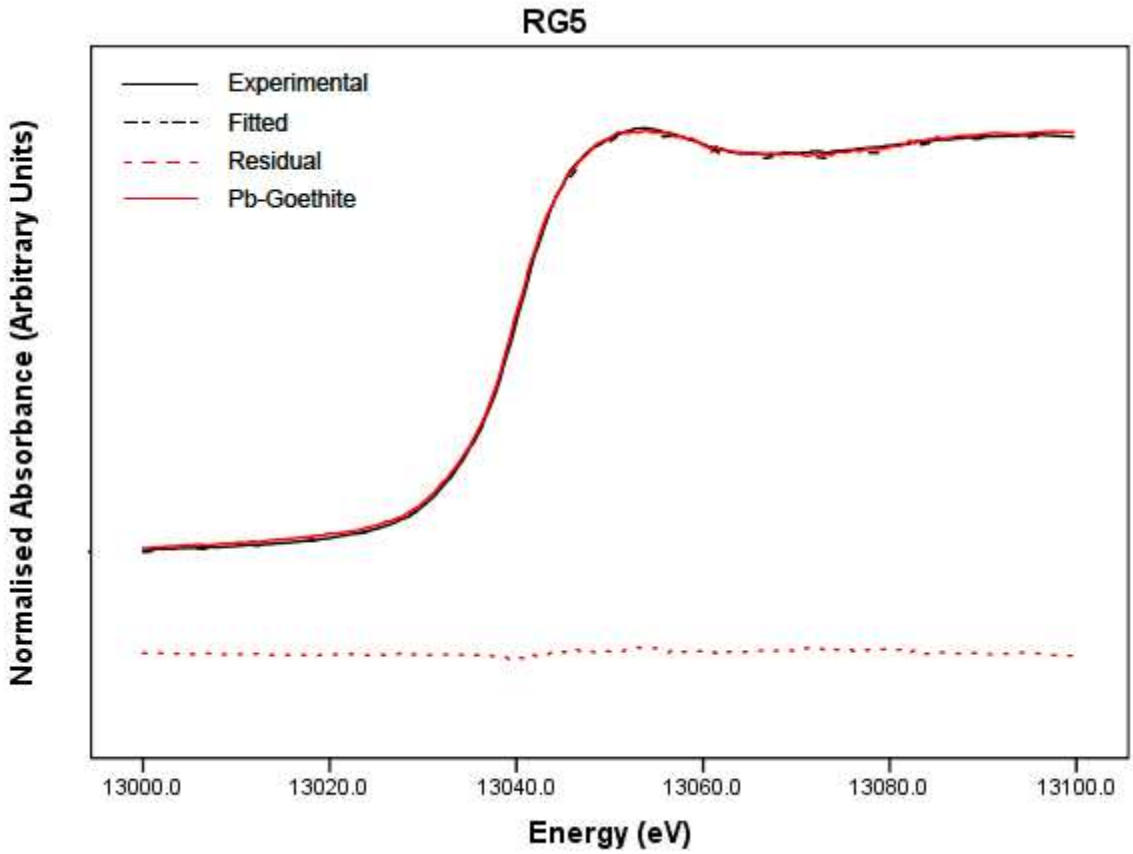

PM10S22
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

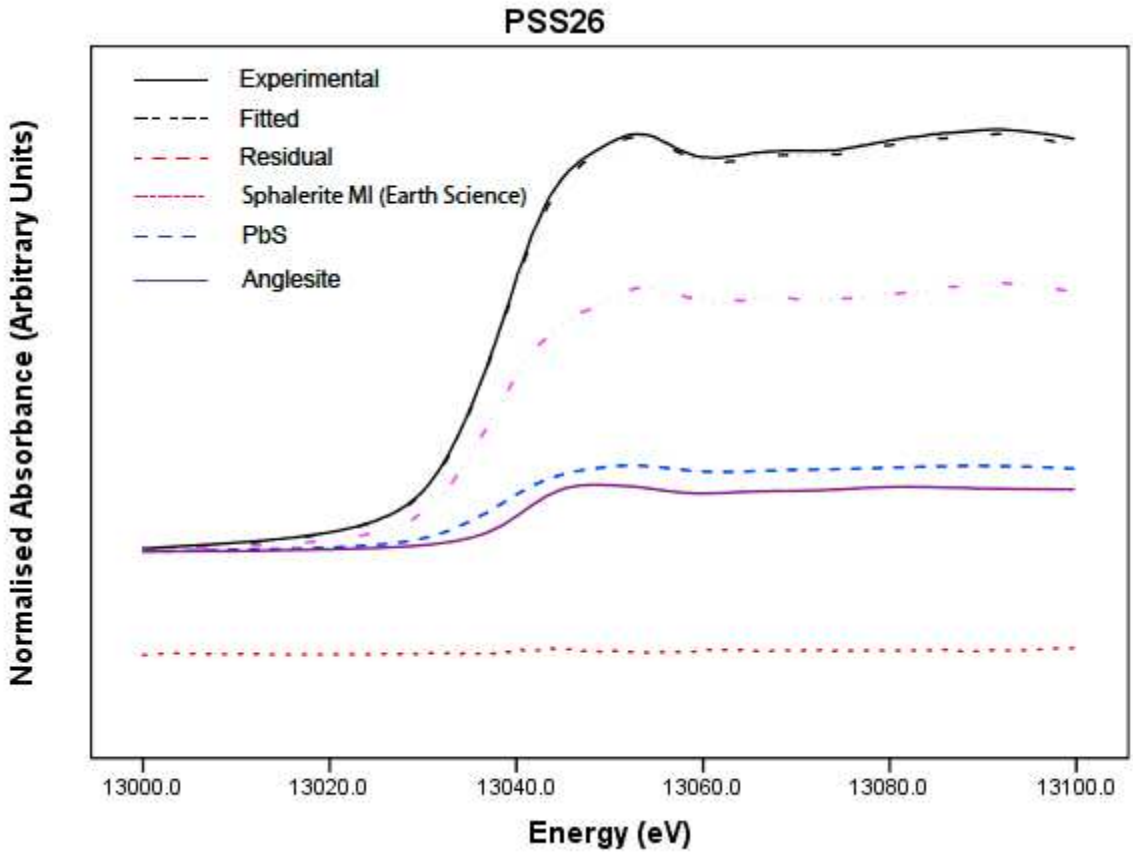

PM10S15
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

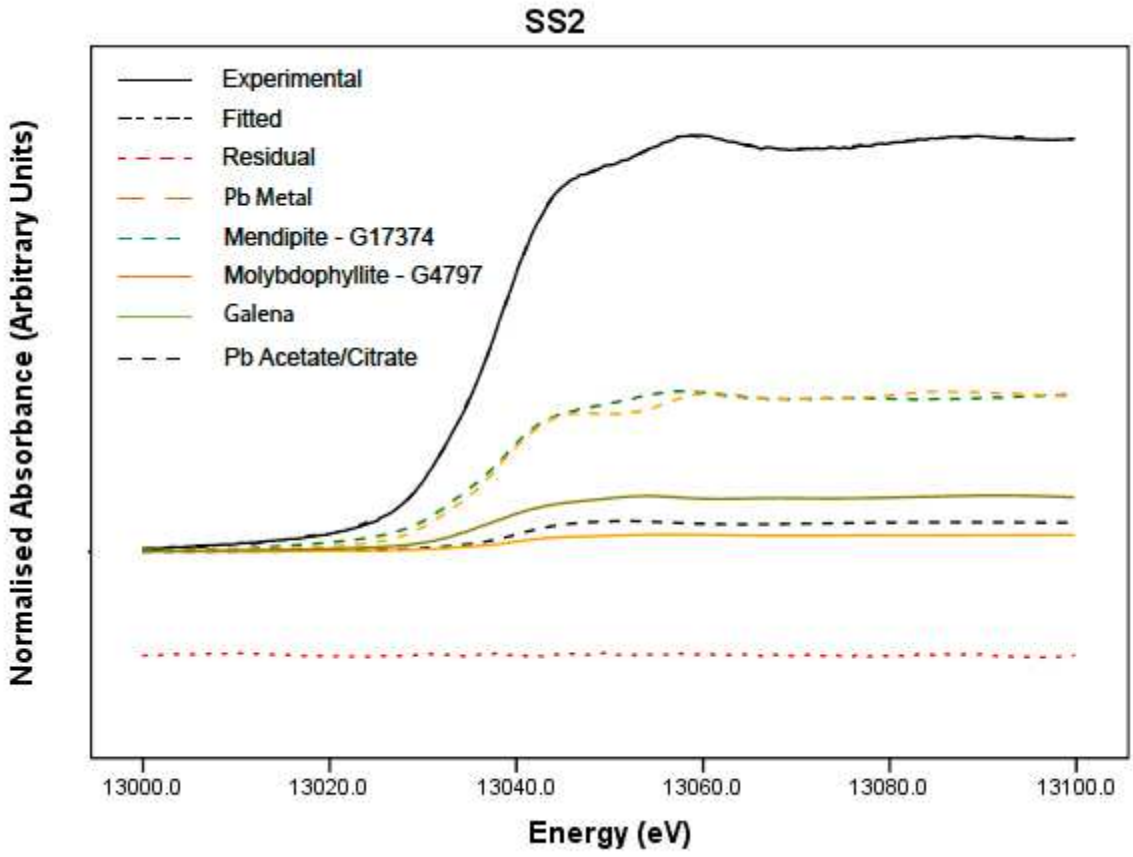

RG
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

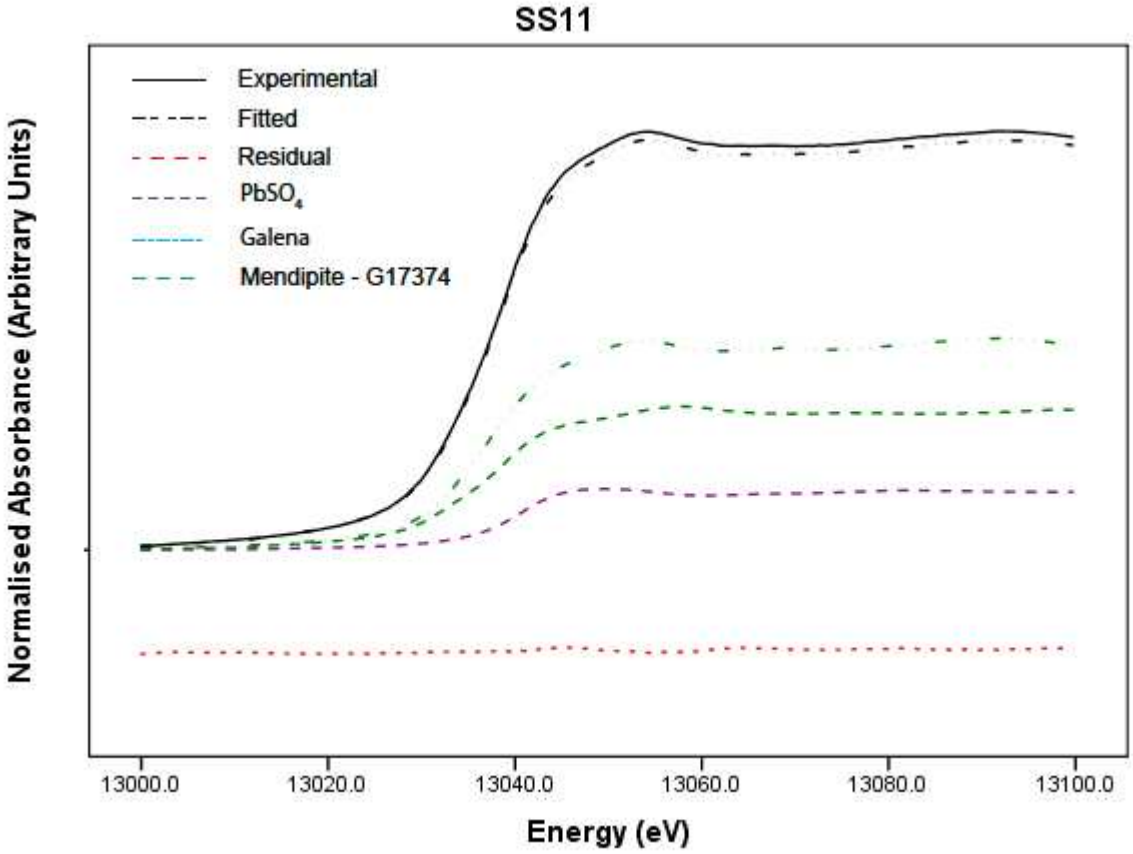

RG1
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

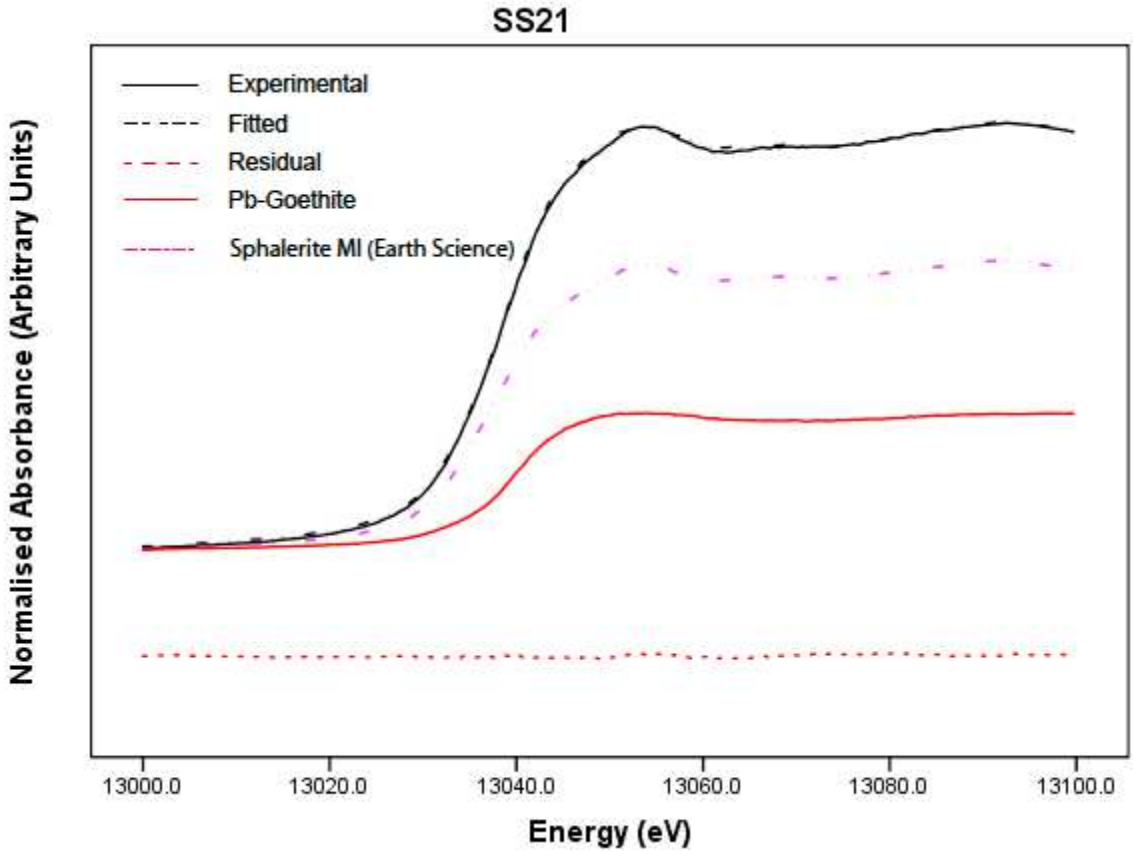

RG3
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

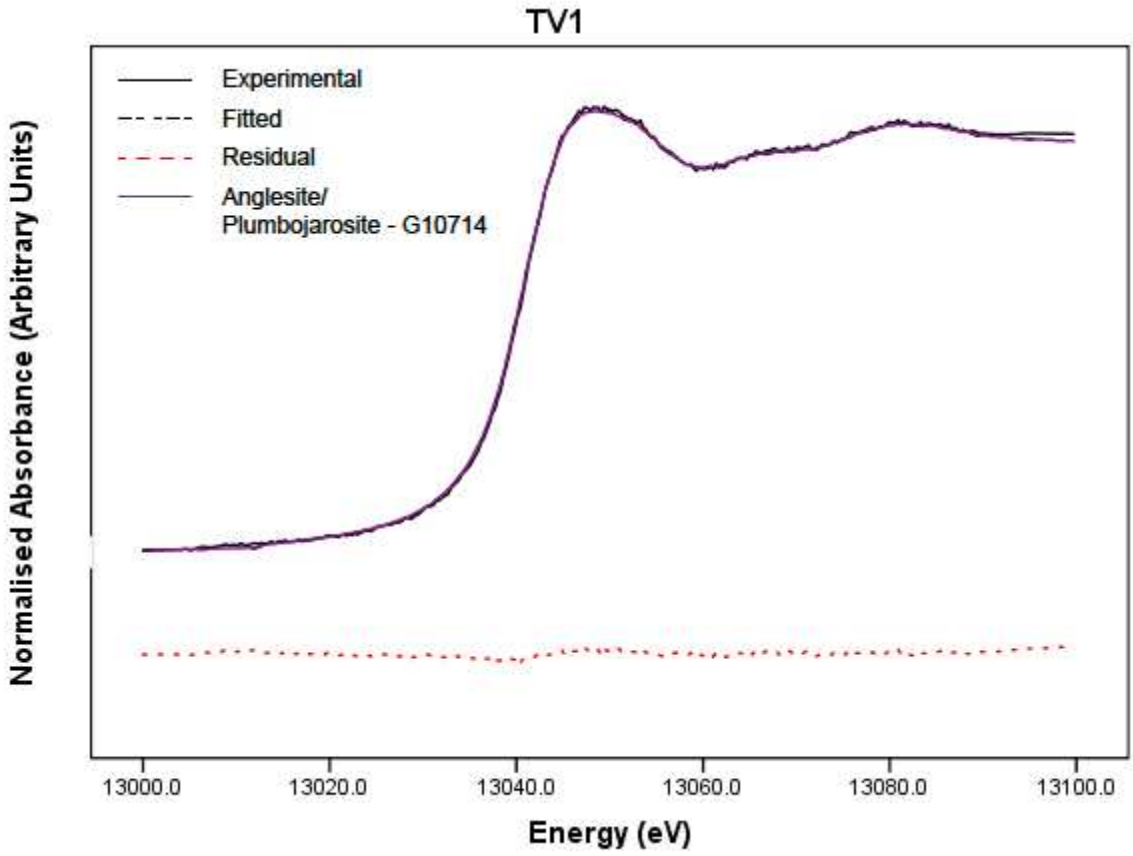

RG5
Experimental
Fitted
Residual
Pb-Goethite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

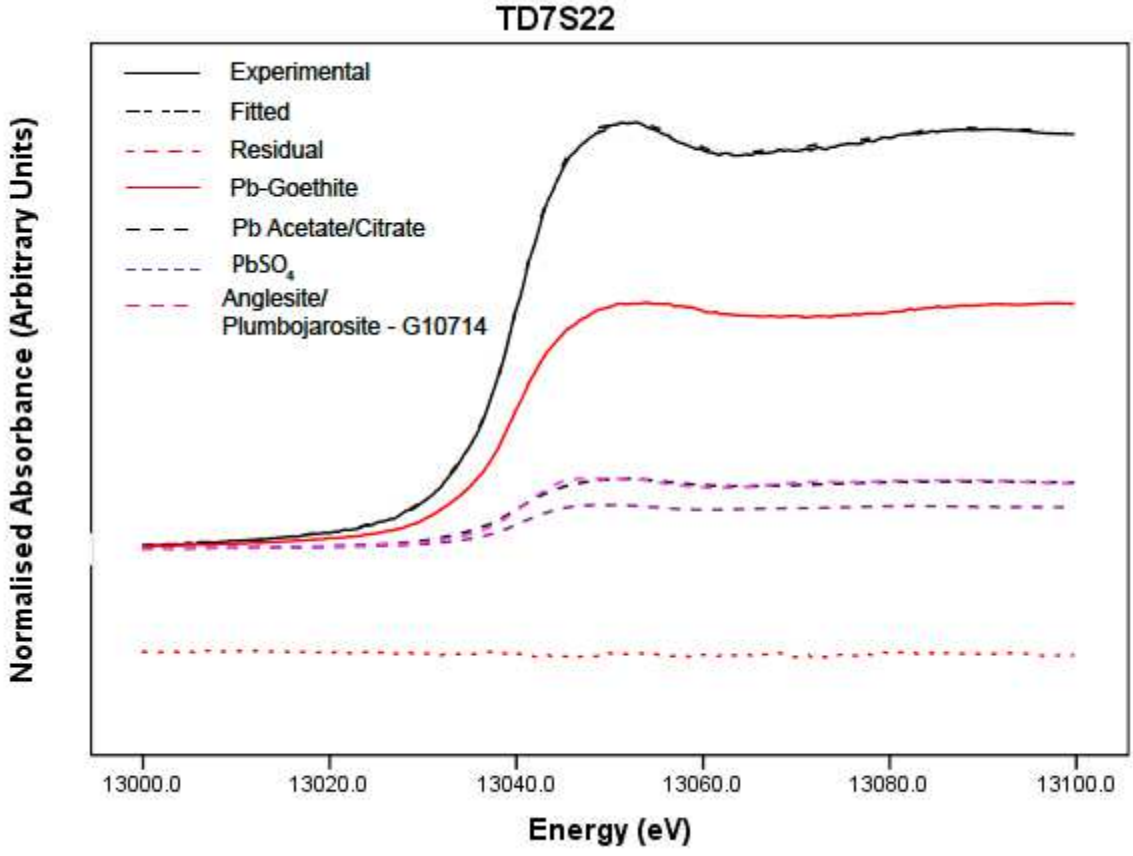

PSS26
Experimental
Fitted
Residual
Sphalerite MI (Earth Science)
PbS
Anglesite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

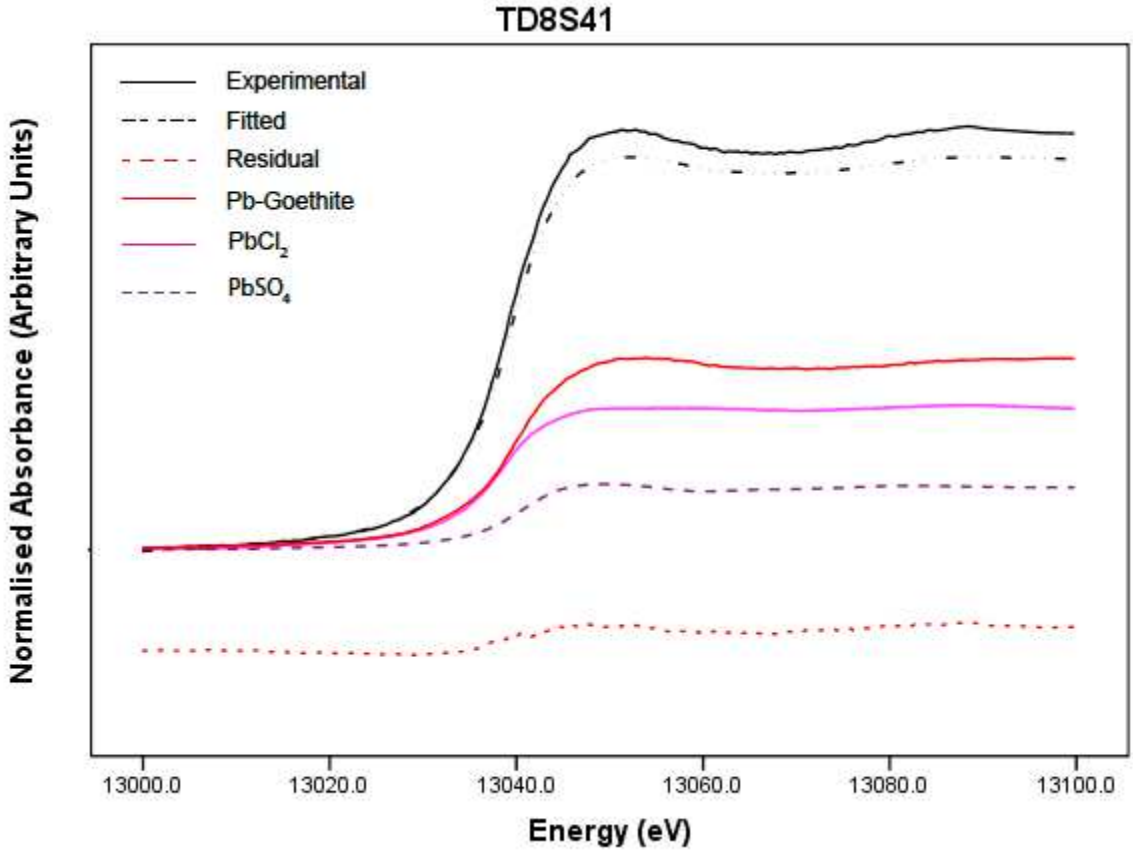

SS2
Experimental
Fitted
Residual
Pb Metal
Mendipite - G17374
Molybdophyllite - G4797
Galena
Pb Acetate/Citrate
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

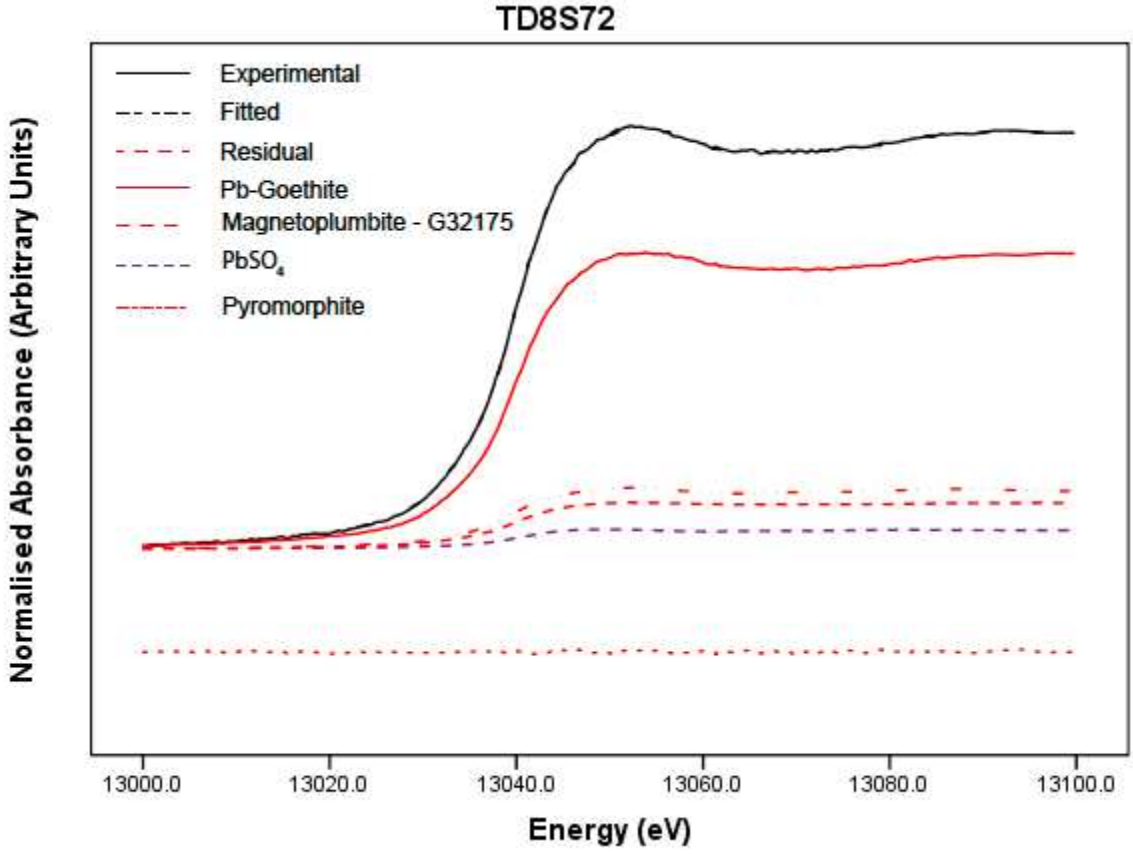

SS11
Experimental
Fitted
Residual
PbSO4
Galena
Mendipite - G17374
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

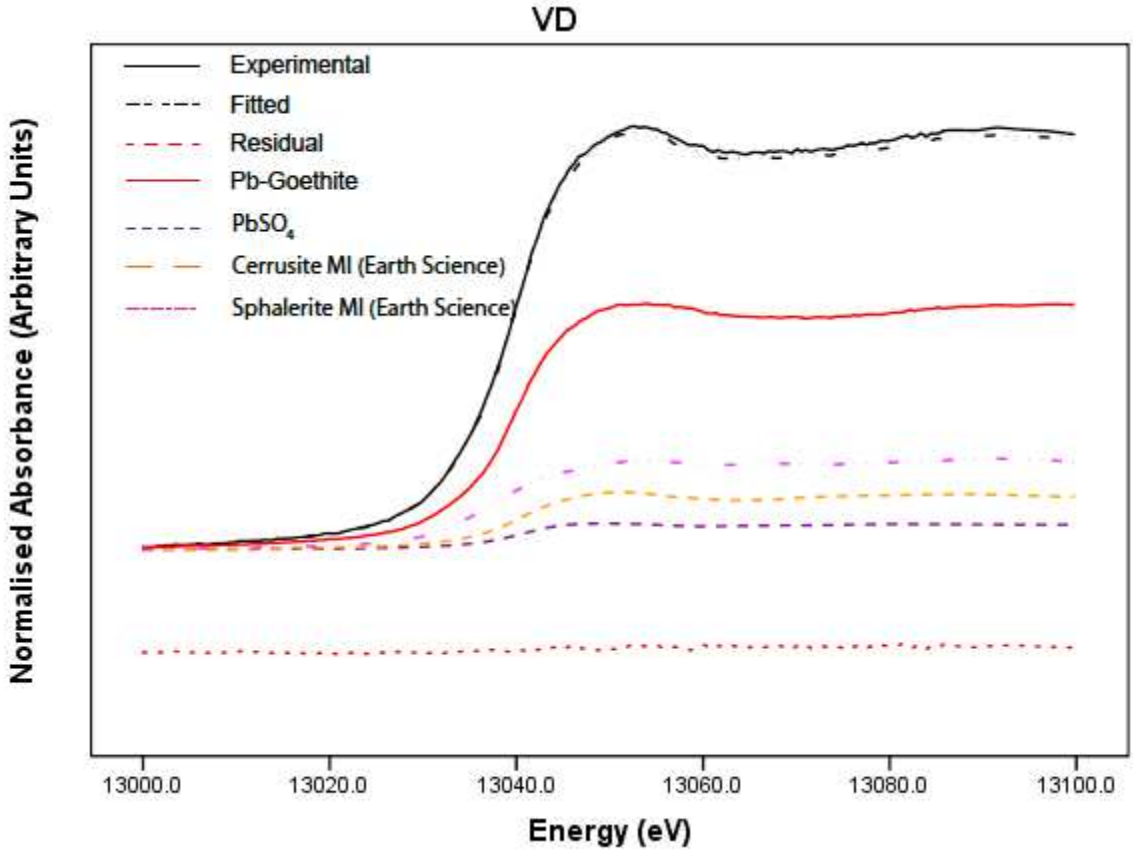

SS21
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

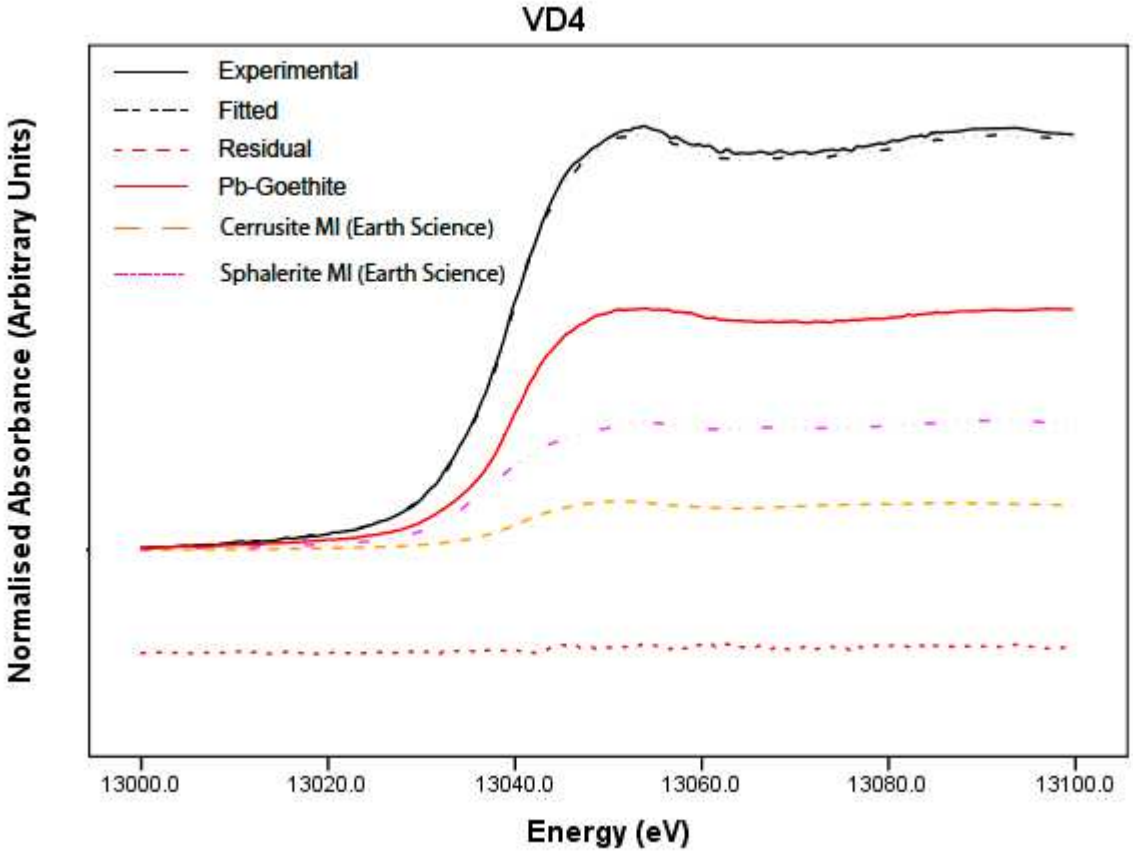

TV1
Experimental
Fitted
Residual
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

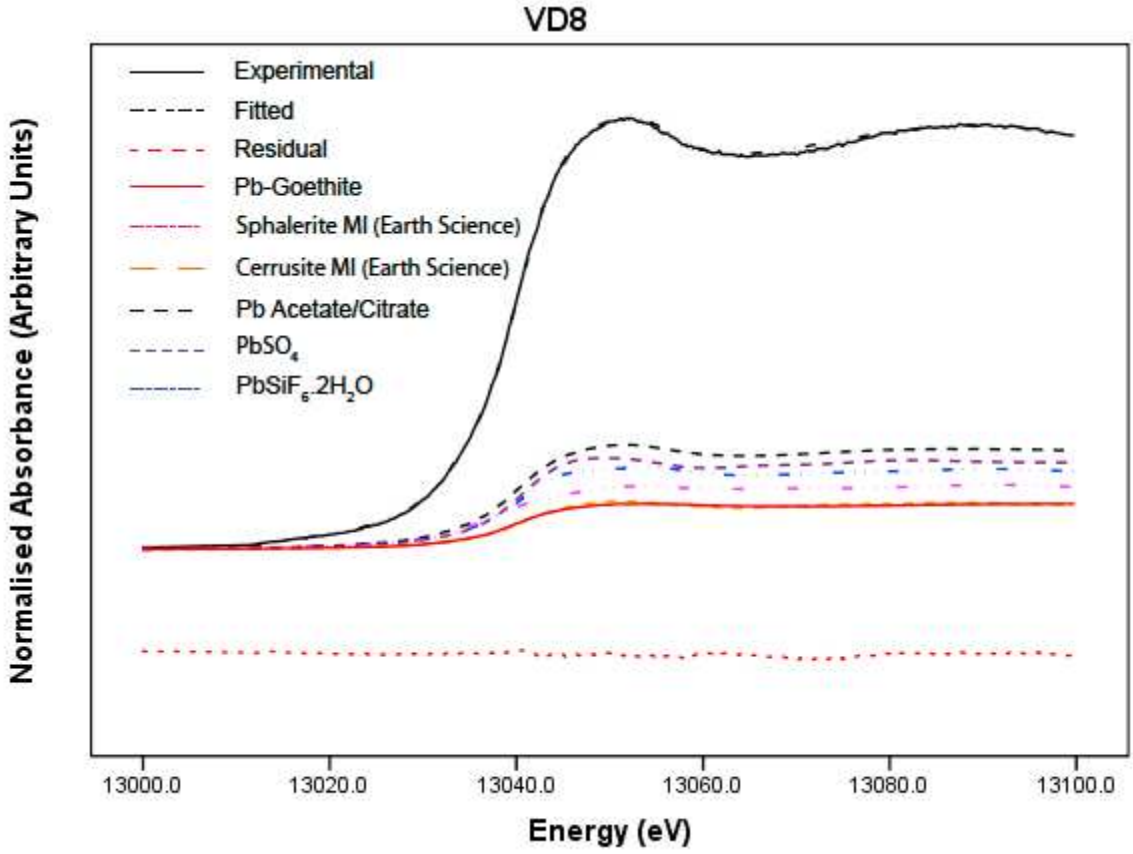

TD7S22
Experimental
Fitted
Residual
Pb-Goethite
Pb Acetate/Citrate
PbSO4
Anglesite/
Plumbojarosite - G10714
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

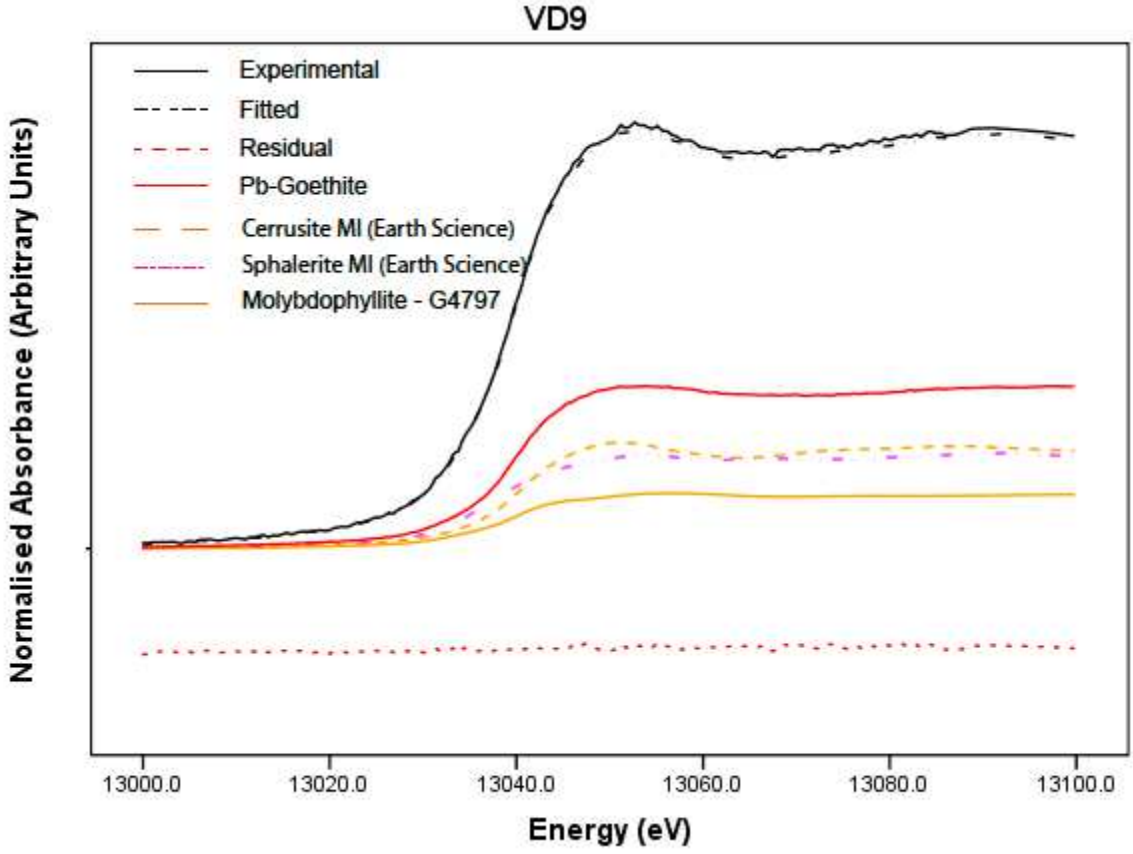

TD8S41
Experimental
Fitted
Residual
Pb-Goethite
PbCl2
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

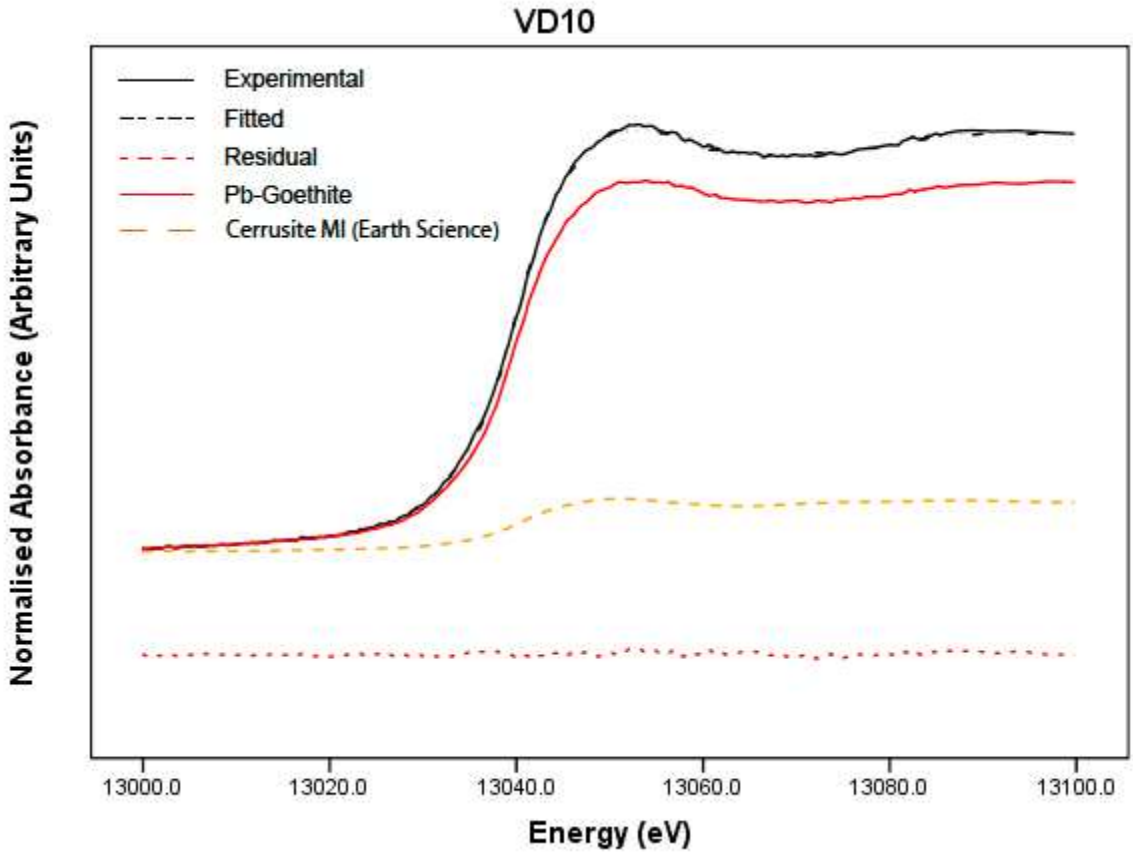

TD8S72
Experimental
Fitted
Residual
Pb-Goethite
Magnetoplumbite - G32175
PbSO4
Pyromorphite
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

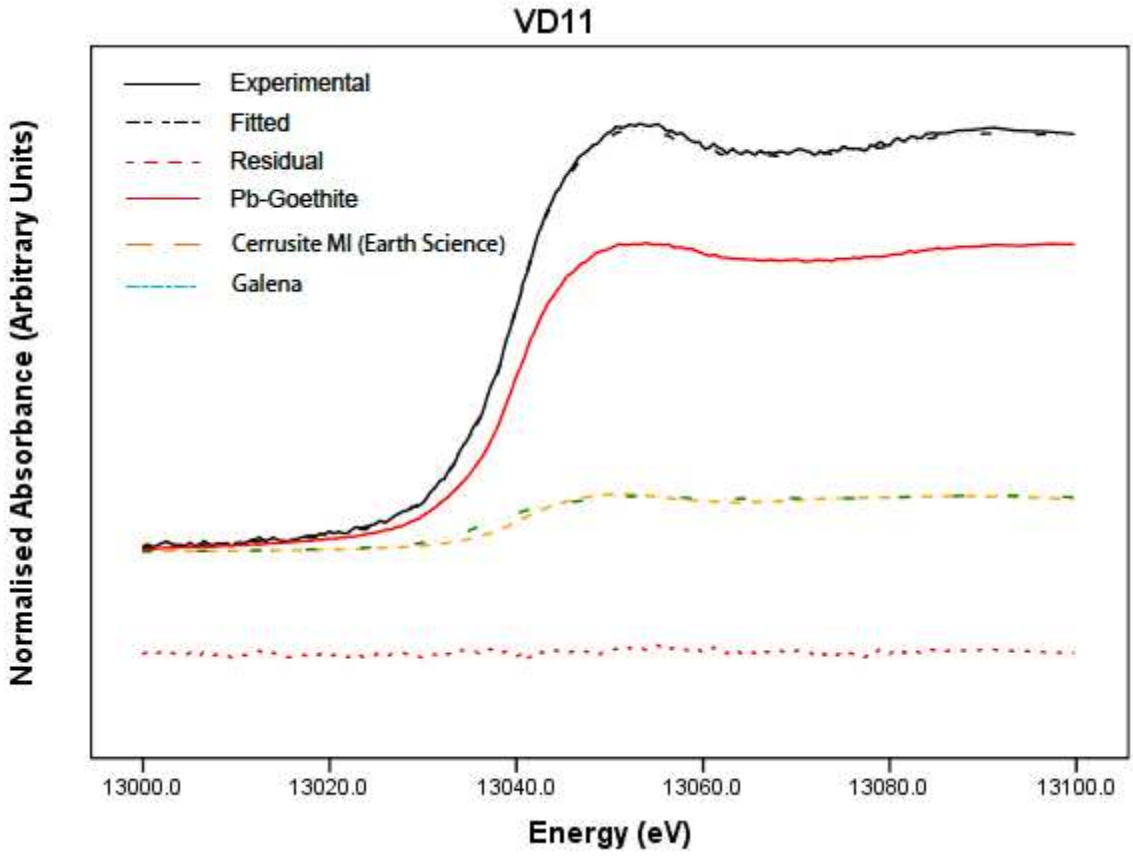

VD
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

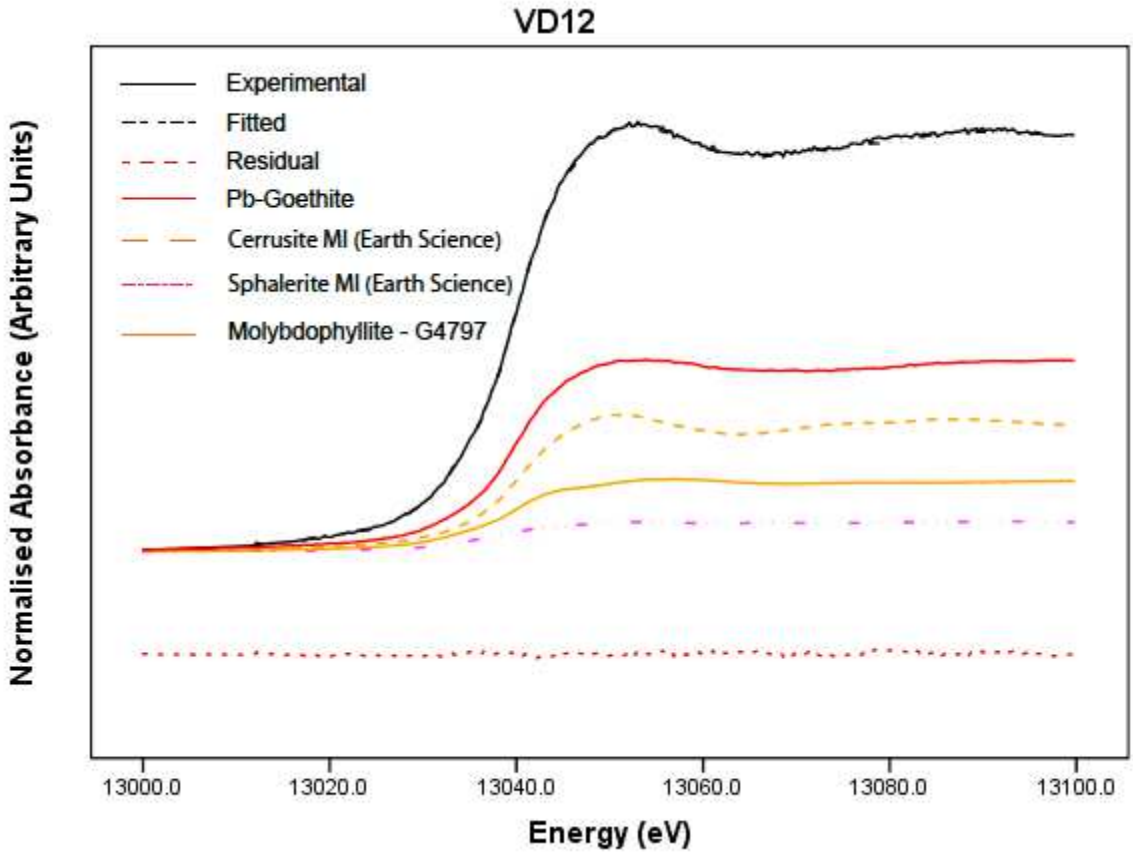

VD4
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

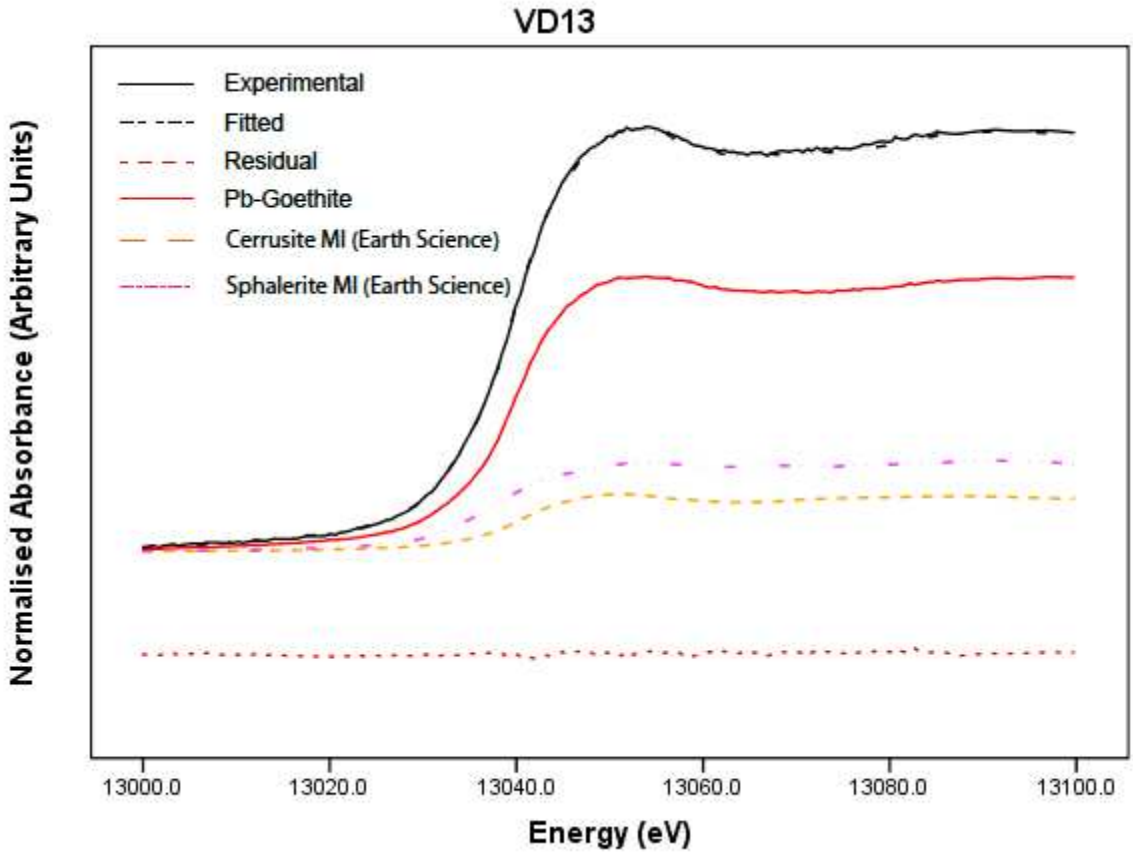

VD8
Experimental
Fitted
Residual
Pb-Goethite
Sphalerite MI (Earth Science)
Cerrusite MI (Earth Science)
Pb Acetate/Citrate
PbSO4
PbSiF6.2H2O
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

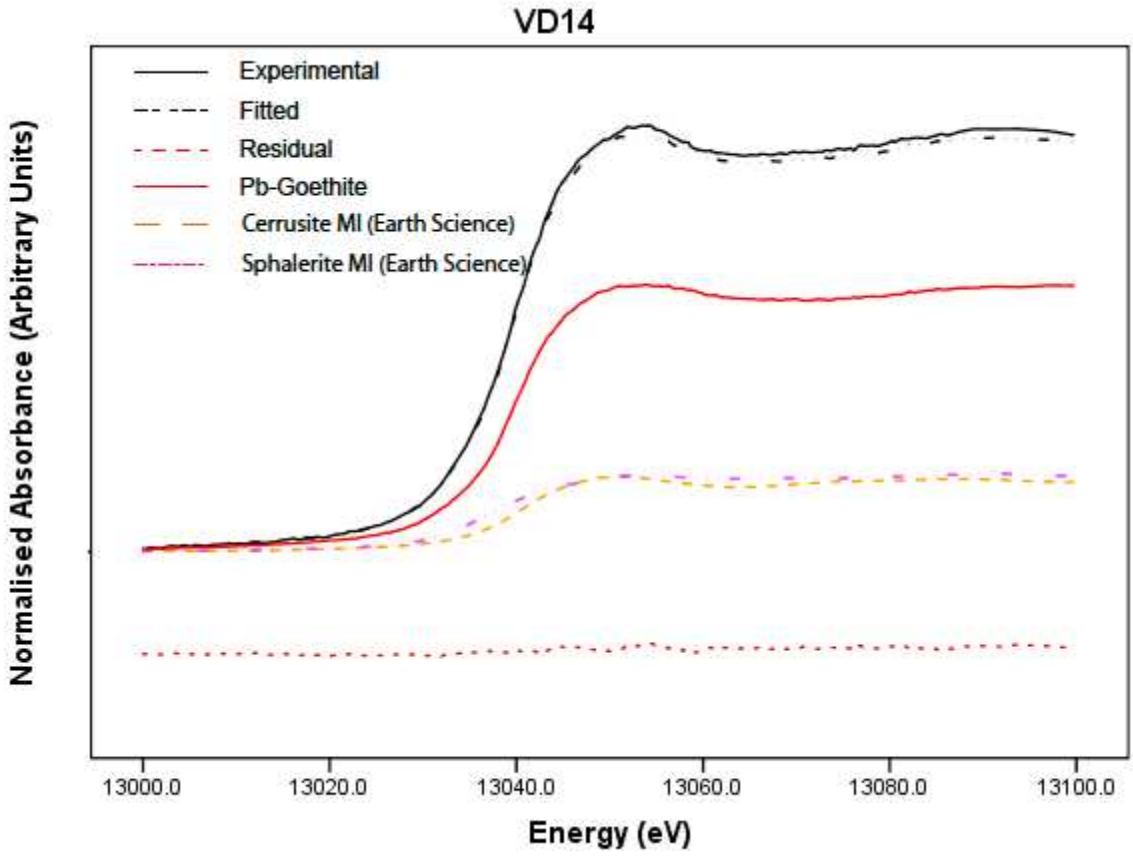

VD9
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

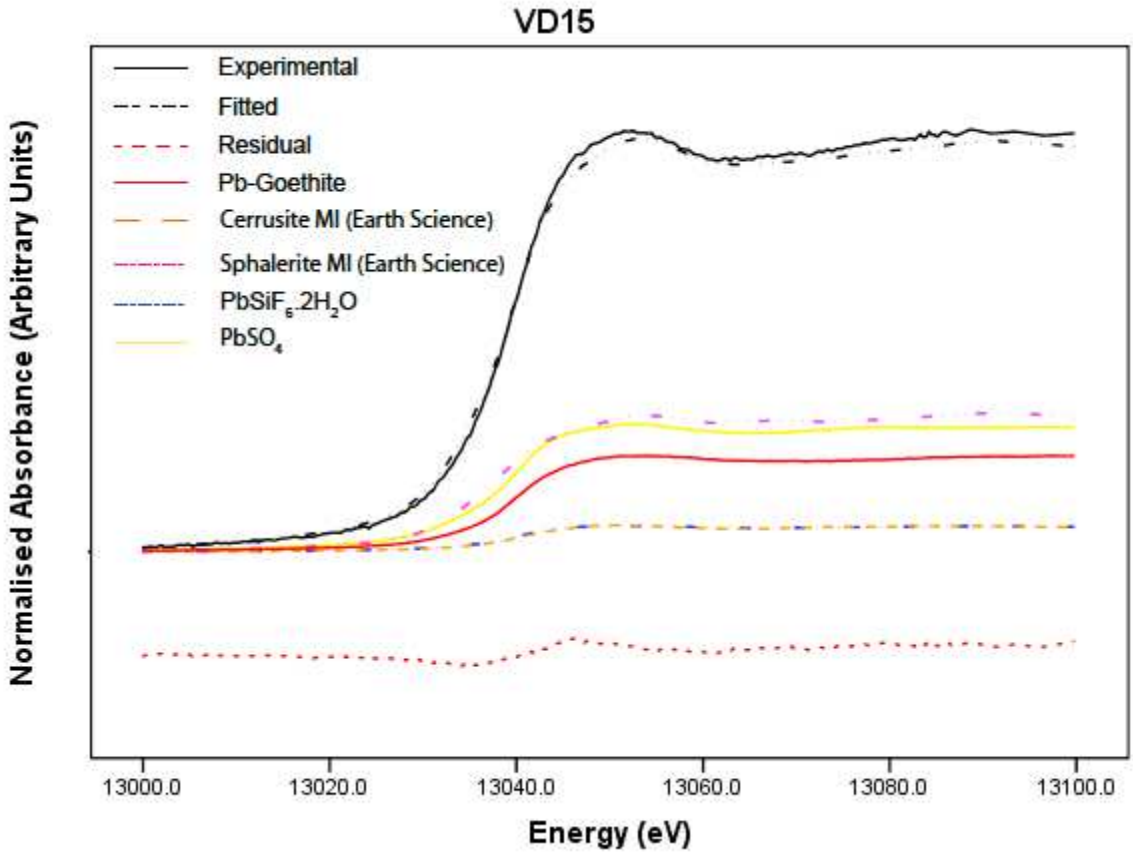

VD10
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

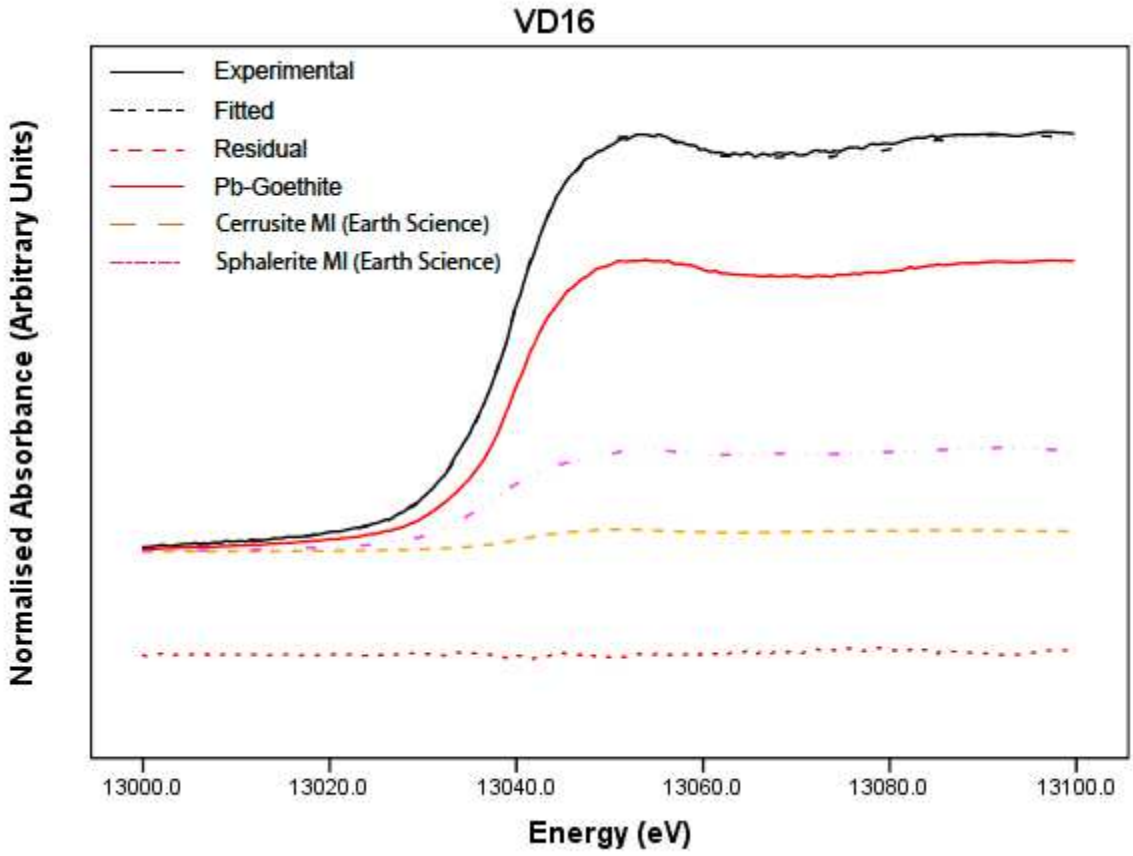

VD11
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Galena
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

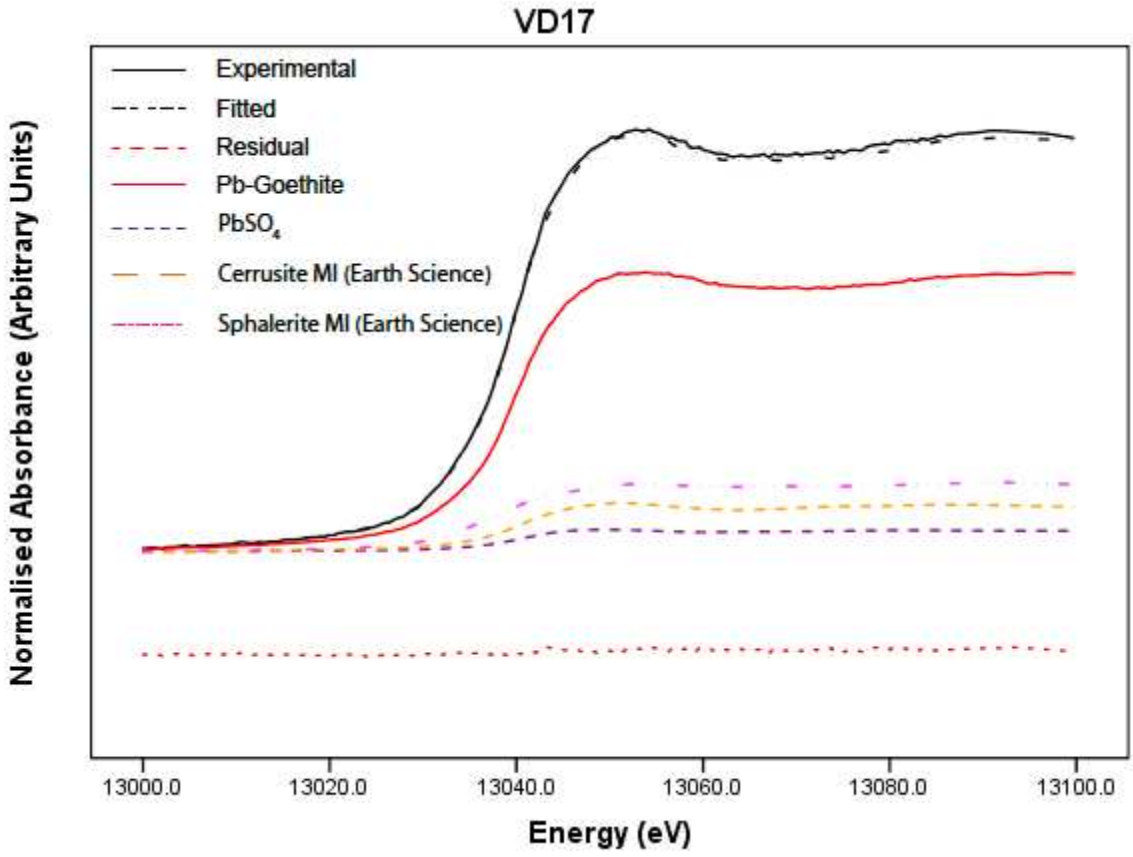

VD12
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Molybdophyllite - G4797
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

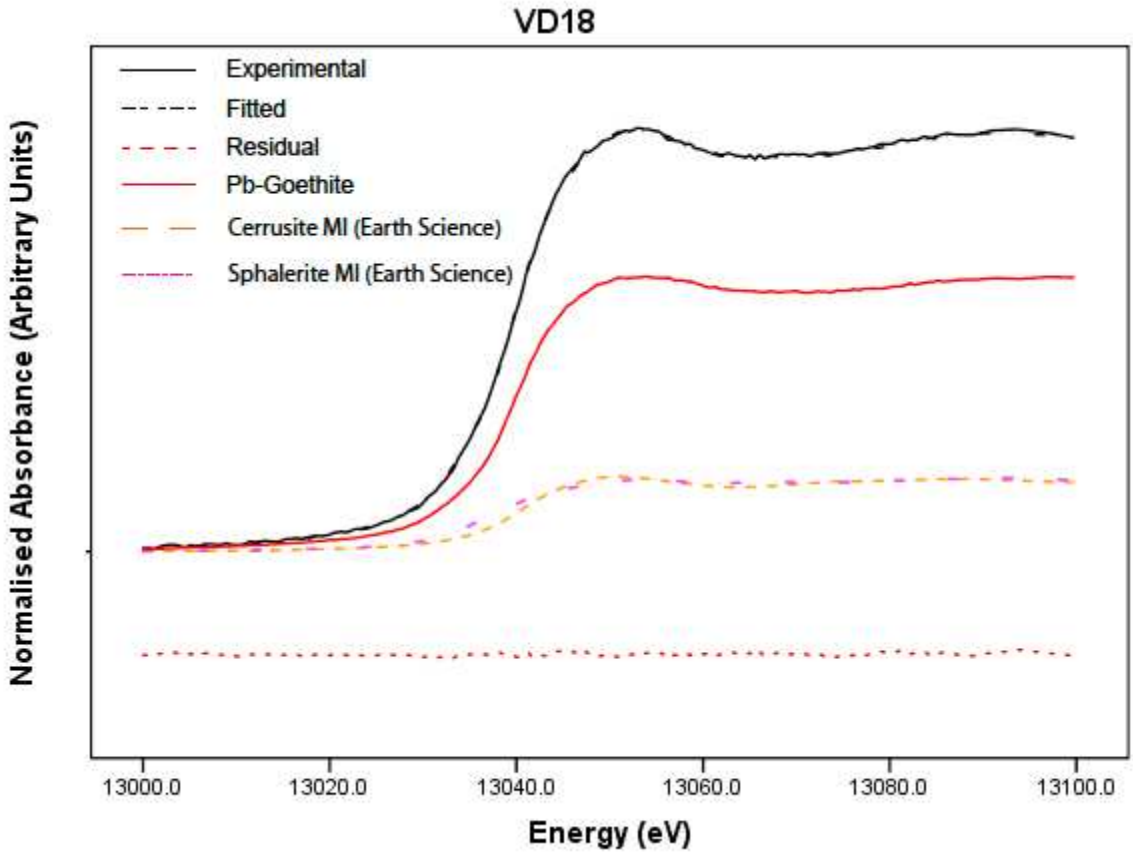

VD13
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

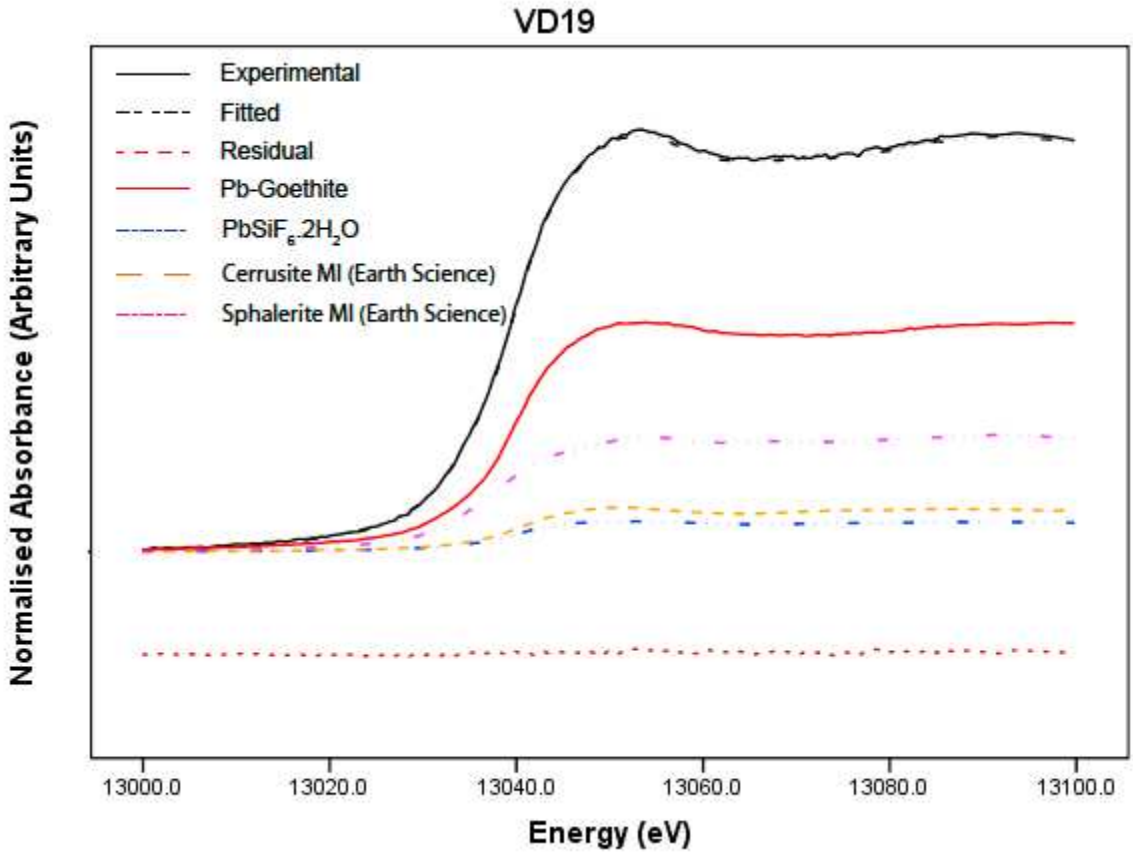

VD14
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)


VD15
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
PbSiF6.2H2O
PbSO4
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)


VD16
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)


VD17
Experimental
Fitted
Residual
Pb-Goethite
PbSO4
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)


VD18
Experimental
Fitted
Residual
Pb-Goethite
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)


VD19
Experimental
Fitted
Residual
Pb-Goethite
PbSiF6.2H2O
Cerrusite MI (Earth Science)
Sphalerite MI (Earth Science)
Normalised Absorbance (Arbitrary Units)
13000.0
13020.0
13040.0
13060.0
13080.0
13100.0
Energy (eV)

Sample Group: AH

	Residual	Total	Pb Acetate/ Citrate	PbS	Sphalerite	Pyromorphite	Molybdophyllite - G4797	Magnetoplumbite - G32175	Pb Goethite
AH1	1.24E-04	0.98	0.18(4)	0.21(2)					0.59(3)
AH2	2.13E-04	1.06	1.064(2)						
AH3	9.99E-05	1.02	0.47(3)						0.55(3)
AH4	2.71E-04	0.96	0.17(5)						0.79(5)
AH5	1.63E-04	1.02	0.69(4)						0.33(4)
AH6	3.83E-03	0.73			0.727(8)				
AH7	6.07E-04	0.88			0.58(4)			0.30(4)	
AH8	2.98E-04	0.94			0.31(3)				0.63(3)
AH9	1.47E-04	1.02	0.71(4)						0.31(4)
AH10	2.05E-04	0.97			0.21(2)				0.76(2)
AH11	1.37E-04	1.02	0.27(6)			0.13(6)		0.37(9)	0.25(8)
AH12	1.73E-04	1.01	1.017(2)						
HVA1	1.34E-05	1.01			0.375(8)	0.22(1)		0.30(3)	0.12(2)
HVA4	5.11E-05	1.01	0.31(2)						0.70(2)
HVAPSlurry	1.09E-04	0.99					0.72(3)		0.27(3)
HVAPSolid	1.52E-04	0.99					0.78(4)	0.21(2)	
HVA2	4.11E-04	0.89			0.53(4)		0.36(4)		

Sample Group: AM

	Residual	Total	PbO	PbOH	Pb Acetate/Citrate	PbS	$PbCl_2$	$PbSO_4$	Sphalerite	Pyromorphite	Molybdophyllite - G4797	Leadhillite - G3925	Mendipite - G17374	Magnetoplumbite - G32175	Pb Goethite
AM1	3.91E-05	1.01					0.09(2)	0.17(2)	0.07(2)						0.68(2)
AM2	1.80E-04	0.98	0.12(2)					0.72(2)	0.14(3)						
AM3	6.71E-05	1.00	0.15(1)					0.54(2)	0.12(2)	0.19(4)					
AM4	4.86E-05	1.01			0.29(4)			0.44(3)	0.13(1)		0.15(2)				
AM5	6.36E-05	1.03						0.21(2)	0.30(2)	0.29(4)	0.23(2)				
AM6	1.94E-06	1.00	0.139(7)					0.10(1)	0.318(5)			0.14(1)	0.17(1)	0.13(1)	
AM7	4.23E-06	1.00		0.064(8)		0.12(2)	0.173(8)	0.147(7)	0.41(1)		0.09(1))				
AM9	1.69E-04	1.00			0.33(7)			0.15(4)							0.52(4)
AM10	3.74E-05	0.98	0.11(1)					0.383(7)	0.49(1)						

Sample Group: ATC

	Residual	Total	$PbSO_4$	Sphalerite	Anglesite/ Plumbojarosite - G10714	Pb Goethite	Magnetoplumbite - G32175	Pb Acetate/ Citrate	Molybdophyllite - G4797	$PbCl_2$	PbS
ATC1	3.67E-05	0.98	0.41(3)	0.262(8)	0.31(3)						
ATC2	1.48E-04	0.96	0.66(1)	0.30(1)							
ATC3	2.22E-04	0.94	0.941(2)								
ATC4	6.85E-04	0.88	0.48(5)			0.40(5)					
ATC5	1.05E-04	0.96	0.88(1)	0.08(1)							
ATC6	4.62E-04	0.91	0.72(5)				0.19(5)				
ATC7	2.95E-04	0.90	0.42(6)					0.48(6)			
ATC8	1.44E-04	1.03	0.64(2)						0.39(2)		
ATC9	1.17E-03	0.65	0.26(4)	0.39(4)							
ATC10	9.59E-06	1.02	0.58(2)		0.06(1)					0.23(1)	0.15(1)
ATC11	2.62E-05	1.01					0.47(2)		0.11(1)	0.15(2)	0.28(2)

Sample Group: ATP

	Residual	Total	PbOH	PbS	$PbCl_2$	$PbSO_4$	Galena	Sphalerite	Pyromorphite	Anglesite/ Plumbojarosite - G10714	Leadhillite - G3925	Mendipite - G17374	Magnetoplumbite - G32175
ATA1	2.16E-06	1.00		0.10(2)	0.092(6)	0.47(1)		0.09(1)	0.045(9)			0.098(8)	0.10(1)
ATB1	8.15E-05	1.01		0.29(2)								0.72(2)	
ATP1	3.10E-05	1.00		0.14(4)			0.70(2)				0.16(2)		
ATP2	7.40E-05	0.99					0.73(2)				0.26(2)		
ATP3	1.60E-05	0.99		0.33(3)	0.12(2)		0.22(2)				0.32(2)		
ATP4	5.15E-05	1.00		0.51(4)	0.15(2)		0.34(3)						
ATP5	7.08E-06	1.01		0.413(5)								0.592(5)	
ATP6	4.21E-06	0.99		0.09(2)	0.222(9)	0.453(6)	0.20(2)					0.027(7)	
ATP7	1.74E-04	1.03								0.22(1)		0.81(1)	
ATP8	4.97E-06	1.00			0.25(1)	0.302(4)	0.186(7)				0.26(1)		
ATS1	3.03E-06	0.99	0.133(3)		0.104(8)		0.528(6)			0.050(3)	0.177(9)		
ATS2	1.21E-05	1.01					0.749(8)				0.257(8)		
LPC01	9.03E-05	0.97			0.07(1)	0.90(1)							
LPC01F	8.58E-05	1.00			0.08(1)	0.92(1)							
LPESP01	3.84E-05	0.99								0.993(1)			
HMA	5.90E-06	1.00		0.27(2)	0.264(9)	0.256(8)	0.21(2)						

Sample Group: CS

	Residual	Total	Cerrusite	Anglesite/ Plumbojarosite - G10714	Molybdophyllite - G4797	Magnetoplumbite - G32175	Pb Goethite
CS	3.09E-05	1.01		0.06(1)	0.11(2)		0.84(3)
CS7	4.34E-05	1.02	0.12(2)	0.08(2)			0.82(2)
CS16	3.57E-05	1.00					1.004(1)
CS17	2.78E-05	1.03			0.10(2)		0.93(2)
CS20	7.17E-05	1.02					1.018(1)
CS22	6.75E-05	1.02					1.017(1)
CS23	4.81E-05	1.01					1.012(1)
CS24	4.94E-05	1.01			0.10(2)		0.91(2)
CS25	2.96E-05	1.01					1.007(1)
CS26	9.36E-05	1.00			0.17(3)		0.83(3)
CS27	6.86E-05	1.01			0.27(2)		0.74(2)
CS28	5.99E-05	1.01			0.25(2)		0.76(2)
CS29	4.78E-05	1.01			0.18(2)		0.83(2)
CS30	6.49E-05	1.02			0.23(2)		0.79(2)
CS31	1.02E-04	0.99			0.33(3)		0.66(3)
CS32	3.24E-05	1.02			0.06(2)		0.96(2)
CS33	2.37E-05	1.00			0.09(1)		0.91(1)
CS34	2.86E-05	1.01			0.05(2)		0.96(2)
CS35	2.17E-05	1.00	0.05(1)				0.95(1)
CS37	4.71E-05	1.00			0.14(2)	0.12(5)	0.74(5)
CS38	2.39E-05	1.01			0.36(2)	0.14(4)	0.51(3)

Sample Group: FM

	Residual	Total	Pb Acetate/Citrate	PbS	$PbSO_4$	Galena	Sphalerite	Pyromorphite	Anglesite/ Plumbojarosite - G10714	Leadhillite - G3925	Mendipite - G17374	Magnetoplumbite - G32175	Pb Goethite
FM3	1.40E-05	1.00			0.179(8)		0.516(6)						0.30(1)
FM4	2.55E-05	1.01					0.379(8)		0.267(8)				0.36(1)
FM7	1.29E-05	1.01		0.33(2)		0.35(2)					0.13(1)	0.200(8)	
FM8	1.17E-05	0.99		0.16(3)	0.12(1)	0.43(3)					0.28(1)		
FM11	6.51E-06	1.01		0.14(3)	0.27(1)	0.41(2)		0.10(1)			0.089(8)		
FM12	4.72E-06	0.99		0.08(3)			0.40(2)	0.07(1)	0.18(1)		0.082(9)	0.18(2)	
FM13	9.87E-06	1.01					0.49(1)	0.09(2)	0.160(9)		0.038(9)	0.23(1)	
FM14	1.33E-05	1.03					0.50(1)	0.06(2)	0.16(1)			0.30(1)	
FM15	1.27E-04	1.03							0.40(2)				0.63(2)
FM17BN	4.78E-06	1.00					0.542(5)		0.151(4)			0.22(2)	0.08(2)
FM17	3.46E-06	1.01		0.10(2)			0.49(1)		0.205(9)		0.111(7)	0.10(1)	
FM17D	3.31E-06	1.01			0.292(4)		0.524(6)				0.123(5)		0.064(5)
FM18	3.94E-06	1.00			0.264(5)		0.557(6)				0.070(5)	0.108(8)	
FM19	7.98E-06	1.02					0.419(9)	0.16(2)	0.134(8)			0.16(2)	0.14(2)
FM20	1.33E-05	1.00	0.16(2)				0.396(8)		0.22(1)			0.22(1)	
FM21	8.63E-06	1.02				0.37(1)		**0.17(2)**	0.055(8)	0.13(1)			0.294(9)
FM22	4.01E-05	1.02					0.11(1)						0.91(1)
FM22C	5.86E-05	1.02											1.020(1)
FM23	8.46E-06	1.01					0.307(8)	0.12(2)	0.115(7)				0.468(8)
FM24	9.33E-05	1.02											1.015(1)
FM25	1.70E-05	1.02				0.14(2)		0.29(2)			0.06(1)	0.18(4)	0.34(3)
FM26	1.64E-05	1.02			0.062(8)		0.286(7)						0.67(1)

FM27	5.03E-06	1.01					**0.327(8)**	0.25(1)	0.073(6)	0.08(1)		0.10(3)	0.17(2)
FM28	1.03E-05	1.01					0.383(5)		0.099(5)				0.528(9)
FM29	6.63E-06	1.02					**0.230(8)**	0.18(1)	0.079(7)			0.08(2)	0.44(2)
FMB	6.94E-06	1.01					0.322(7)	0.20(1)	0.144(7)				0.343(8)
FMK	1.48E-05	1.01					**0.329(8)**		0.047(7)			0.18(3)	0.45(3)
FMR	9.03E-06	1.02					0.334(8)	0.15(2)	0.213(8)				0.321(9)
FMRC	6.62E-06	1.01	0.08(2)				**0.334(7)**	0.19(2)	0.055(8)				0.347(9)
FMS	5.52E-06	1.02	0.08(2)		0.266(9)		0.358(8)	0.11(2)			0.029(6)		0.171(8)

Sample Group: GF

	Residual	**Total**	**PbSO4**	**Cerrusite**	**Anglesite/ Plumbojarosite - G10714**	**Magnetoplumbite - G32175**	**Pb Goethite**
GF1	5.83E-05	1.04				0.15(5)	0.88(5)
GF2	2.63E-05	1.02				0.18(3)	0.83(3)
GF3	6.33E-05	1.03			0.05(1)		0.98(1)
GF4	5.32E-05	1.02				0.15(5)	0.86(5)
GF5	8.09E-05	1.01		0.10(2)			0.91(2)
GF6	4.88E-05	0.99		0.10(2)			0.89(2)
GF7	2.41E-05	1.00	0.71(1)	0.18(2)			0.11(1)
GF8	1.34E-05	1.02	0.13(3)	0.18(1)	0.70(3)		
GF9	4.88E-05	1.01		0.81(2)	0.20(2)		

Sample Group: HR

	Residual	Total	2 $PbCO_3$-$Pb(OH)_2$	$PbCl_2$	$PbSO_4$	$PBSiF_6.2H_2O$	Pyromorphite	Magnetoplumbite - G32175	Pb Goethite
HR1	2.02E-05	1.00	0.17(2)	0.17(1)					0.66(1)
HR2	2.52E-05	1.02		0.582(9)	0.13(1)				0.31(1)
HR3	2.66E-05	1.01		0.423(9)	0.15(1)				0.43(1)
HR4	2.45E-05	1.01		0.292(9)	0.15(1)				0.57(1)
HR5	1.34E-05	1.02	0.11(2)	0.17(1)			0.16(2)	0.19(4)	0.38(3)
HR6	1.67E-05	1.02		0.34(1)	0.11(1)		0.14(2)		0.42(1)
HR7	1.45E-05	1.02		0.11(1)	0.228(9)		0.16(2)		0.52(1)
HR8	2.59E-05	1.01		0.428(9)	0.12(1)				0.46(1)
HR9	3.19E-05	1.02		0.35(1)	0.14(1)				0.53(1)

Sample Group: HW

	Residual	Total	Pb Acetate/Citrate	PbS	$PBSiF_6.2H_2O$	Galena	Sphalerite	Pyromorphite	Molybdophyllite - G4797	Leadhillite - G3925	Magnetoplumbite - G32175	Pb Goethite
HW1F1	4.07E-05	1.00		0.28(1)								0.72(1)
HW1S1	2.95E-05	1.01	0.31(2)				0.048(9)					0.65(2)
HW1T1	6.77E-06	1.01	0.17(1)			0.037(5)			0.09(1)			0.71(2)
HW1V1	1.04E-05	1.01	0.24(1)				0.110(7)		0.06(1)			0.60(2)
HW2F1	1.84E-05	1.03	0.13(3)	0.33(1)				0.15(3)				0.41(1)
HW2F2	8.04E-06	1.01	0.16(2)		0.06(2)		0.445(5)				0.34(1)	
HW2S1	9.76E-06	1.04	0.19(2)	0.19(1)				0.10(2)			0.10(3)	0.45(3)
HW2T1	1.10E-04	1.04	0.13(3)									0.90(3)
HW2V1	1.76E-05	1.00		0.28(4)		0.33(2)		0.10(1)		0.29(2)		
HW3C1	2.27E-04	0.96					0.16(2)					0.80(2)
HW3F1	1.35E-04	1.08						0.33(3)				0.74(3)
HW3S1	9.79E-04	1.12	0.4(1)								0.7(1)	
HW3T1	1.34E-05	1.03	0.27(2)					0.13(2)				0.62(1)
HW3V1	1.40E-05	1.02		0.28(2)	0.14(2)		0.22(2)					0.37(2)

Sample Group: LM

	Residual	Total	Pb Acetate/ Citrate	2 $PbCO_3$-$Pb(OH)_2$	$PbCl_2$	$PbSO_4$	$PBSiF_6.2H_2O$	Sphalerite	Anglesite/ Plumbojarosite - G10714	Molybdophyllite - G4797	Leadhillite - G3925	Magnetoplumbite - G32175	Pb Goethite
LM1	2.69E-05	1.01							0.093(8)				0.916(8)
LM2	3.02E-05	1.01							0.04(1)	0.10(2)			0.86(3)
LM3	4.66E-05	1.02											1.017(1)
LM4	3.25E-05	1.04							0.05(1)	0.12(2)			0.86(3)
LM5	4.75E-05	1.02								0.10(2)			0.92(2)
LR2	3.65E-05	1.01							0.222(9)				0.79(1)
LR3	5.71E-05	1.02							0.28(1)				0.74(1)
LR7	6.91E-05	1.03							0.40(4)				0.62(1)
LR10	2.99E-04	1.06							0.34(2)		0.72(2)		
LR15R	1.31E-04	0.96							0.14(2)				0.82(2)
LR18	5.04E-05	1.02	0.20(5)				0.39(4)		0.21(2)			0.21(3)	
LR19	3.86E-05	1.02							0.08(1)	0.08(2)			0.85(3)
LR20R	3.32E-04	0.99							0.12(3)	0.19(6)			**0.66(8)**
LR21	8.69E-06	1.00		0.14(3)				0.570(7)			0.08(2)	0.20(1)	
LR22	2.69E-05	1.01							0.031(8)				0.978(8)
LR23	1.90E-05	1.02							0.031(8)	0.11(1)			0.88(2)
LR24	6.38E-05	1.03											1.031(1)
LR25	2.03E-05	1.02							0.051(7)				0.967(7)
LRV10	4.65E-06	1.02	0.29(1)		0.061(6)	0.15(2)			0.21(1)			0.21(2)	0.09(2)
RCD1	1.63E-05	1.02			0.13(2)						0.15(2)		**0.734(7)**

Sample Group: RG

	Residual	Total	Pb Goethite	Magnetoplumbite - G32175
RG	1.35E-05	1.01	0.87(2)	0.14(2)
RG1	2.50E-05	1.01	1.012(1)	
RG2	5.55E-05	1.02	1.021(1)	
RG3	3.55E-05	1.02	1.023(1)	
RG4	3.79E-05	1.02	1.020(1)	

Sample Group: PM10

	Residual	Total	Pb Acetate/ Citrate	$PbSO_4$	$PbCO_3$	$PBSiF_6.2H_2O$	Cerrusite	Molybdophyllite - G4797	Plumbogummite - G17555	Anglesite/Plumbojarosite - G10714	Magnetoplumbite - G32175	Pb Goethite
PM10S1	2.75E-05	1.02								0.140(8)		0.876(8)
PM10S2	5.12E-05	1.03	0.27(2)									0.76(2)
PM10S3	5.68E-05	0.98						0.11(2)				0.87(2)
PM10S4	1.12E-05	1.01							0.06(1)	0.08(1)		0.867(5)
PM10S5	5.80E-05	1.03										1.026(1)
PM10S6	4.70E-05	1.01						0.14(2)				0.87(2)
PM10S7	5.29E-05	1.02					0.11(2)					0.91(2)
PM10S9	6.06E-05	0.98					0.12(2)					0.86(2)
PM10S10	6.13E-05	1.01						0.08(1)				0.93(1)
PM10S11	1.09E-05	1.02						0.17(1)		0.107(6)		0.74(2)
PM10S12	1.07E-05	1.00			0.07(1)				0.40(1)	0.15(1)	0.377(7)	
PM10S13	5.07E-05	1.02					0.05(2)	0.13(1)		0.06(1)		0.77(2)
PM10S14	1.46E-05	1.02						0.11(1)		0.075(7)		0.83(2)
PM10S15	1.39E-05	1.01					0.05(1)					0.96(1)
PM10S16	1.96E-05	1.03							0.099(7)			0.925(7)
PM10S17	2.95E-05	1.01						0.11(2)				0.90(2)
PM10S18	1.76E-05	1.02				0.15(2)				0.055(9)		0.81(1)
PM10S19	7.49E-05	1.03									0.27(6)	0.75(6)
PM10S20	1.70E-05	1.02						0.04(1)	0.10(1)	0.07(2)		0.80(2)
PM10S21	2.20E-05	1.01				0.11(2)			0.09(1)			0.80(2)
PM10S22	3.43E-05	1.03		0.03(1)								1.00(1)

Sample Group: SS

	Residual	Total	Pb Acetate / Citrate	Sphalerite	$PbSO_4$	Pb Goethite	PbS	Anglesite/ Plumbojarosite - G10714	Mendipite - G17374	Magnetoplumbite - G32175	Pb Metal	Molybdophyllite - G4797	Galena	Leadhillite - G3925	2 $PbCO_3$-$Pb(OH)_2$
PSS7	1.36E-05	0.99	0.12(2)	0.498(7)	0.21(1)	0.16(3)									
PSS26	4.93E-06	0.98		0.62(1)			0.20(1)	0.158(3)							
SS1	7.67E-06	1.01							0.23(1)	0.17(1)	0.365(5)	0.17(2)	0.07(1)		
SS2	5.91E-06	1.01	0.074(7)						0.38(1)		0.380(5)	0.04(1)	0.13(1)		
SS3	1.21E-05	1.00		0.061(9)		0.27(3)		0.456(7)		0.15(3)	0.059(7)				
SS5	2.40E-05	1.01	0.18(2)	0.057(9)	0.77(2)										
SS6	7.60E-05	1.02				0.58(1)					0.10(2)		0.33(2)		
SS7	4.13E-06	0.98		0.628(9)			0.17(1)	0.183(3)							
SS8	1.04E-05	1.00			0.34(2)	0.12(1)			0.14(2)				0.21(1)	0.18(3)	
SS9	5.91E-06	1.00		0.19(3)	0.380(7)								0.30(3)	0.12(1)	
SS10	6.86E-06	1.00		0.36(2)			0.33(3)	0.028(7)	0.17(2)					0.10(3)	
SS11	2.18E-06	0.99			0.149(2)				0.344(4)				0.498(5)		
SS12	9.13E-04	0.84		0.23(4)	0.60(3)										
SS16	1.40E-05	1.00	0.29(1)	0.488(6)		0.22(1)									
SS17	7.91E-06	1.00	0.20(2)	0.671(5)	0.05(1)	0.07(1)									
SS18	3.63E-05	1.00		0.069(7)	0.927(7)										

SS19	1.73E-05	0.98	0.28(1)	0.187(7)		0.5(1)									
SS20	2.24E-05	1.02	0.07(1)	0.333(8)		0.61(2)									
SS21	1.05E-05	1.00		0.670(5)		0.333(5)									
SS22	5.43E-06	0.99		0.607(5)	0.094(5)	0.06(1)						0.229(9)			
SS26	5.90E-06	0.99		0.58(1)			0.30(1)	0.052(5)							0.05(1)
TV1	4.03E-05	1.00						0.995(1)							
TV3	5.49E-05	1.01	0.41(2)			0.33(3)			0.07(2)		0.19(2)				
TV7	1.79E-04	0.99							0.32(3)			0.66(3)			

Sample Group: TD

	Residual	Total	Pb Acetate/ Citrate	$PbCl_2$	$PbSO_4$	Pyromorphite	Anglesite/ Plumbojarosite - G10714	Magnetoplumbite - G32175	Pb Goethite
PTD5S3	1.01E-05	1.01		0.070(6)			0.074(5)		0.863(7)
PTD5S6	1.35E-05	1.01		0.146(6)			0.034(6)		0.826(8)
PTD7S2	1.25E-05	1.01	0.20(2)		0.33(3)		0.21(2)		0.26(1)
PTD7S5	3.47E-05	1.01		0.24(1)			0.192(9)		0.58(1)
PTD8S2	5.18E-05	1.02				0.19(2)			0.83(2)
PTD8S3	1.44E-05	1.01		0.070(7)			0.099(6)		0.842(9)
PTD8S4	2.05E-05	1.02		0.041(8)	0.13(3)		0.10(2)		0.74(1)
PTD8S8	2.33E-05	1.01					0.226(7)		0.781(8)
SS13	1.01E-05	1.03		0.10(1)		0.04(1)		0.10(3)	0.78(3)
SS14	2.41E-05	1.02		0.213(9)			0.133(8)		0.67(1)
SS15	1.74E-05	1.03		0.07(1)	0.20(1)	0.10(2)			0.65(1)
TD5S31	9.66E-06	1.02					0.043(5)	0.15(2)	0.82(2)
TD5S61	1.53E-05	1.02	0.13(2)	0.155(8)			0.06(1)		0.67(1)
TD5S62	7.56E-06	1.01				0.026(8)			0.984(8)
TD7S21	2.45E-05	1.01			0.33(3)		0.23(2)		0.44(1)
TD7S22	8.17E-06	1.02	0.16(2)		0.10(2)		0.16(1)		0.59(1)
TD7S51	3.81E-05	1.00		0.21(1)			0.141(9)		0.65(1)
TD8S21	2.51E-05	1.02		0.216(9)			0.177(8)		0.62(1)
TD8S31	2.43E-05	1.01	0.20(3)	0.383(9)			0.04(1)		0.38(2)

Sample Group: VD

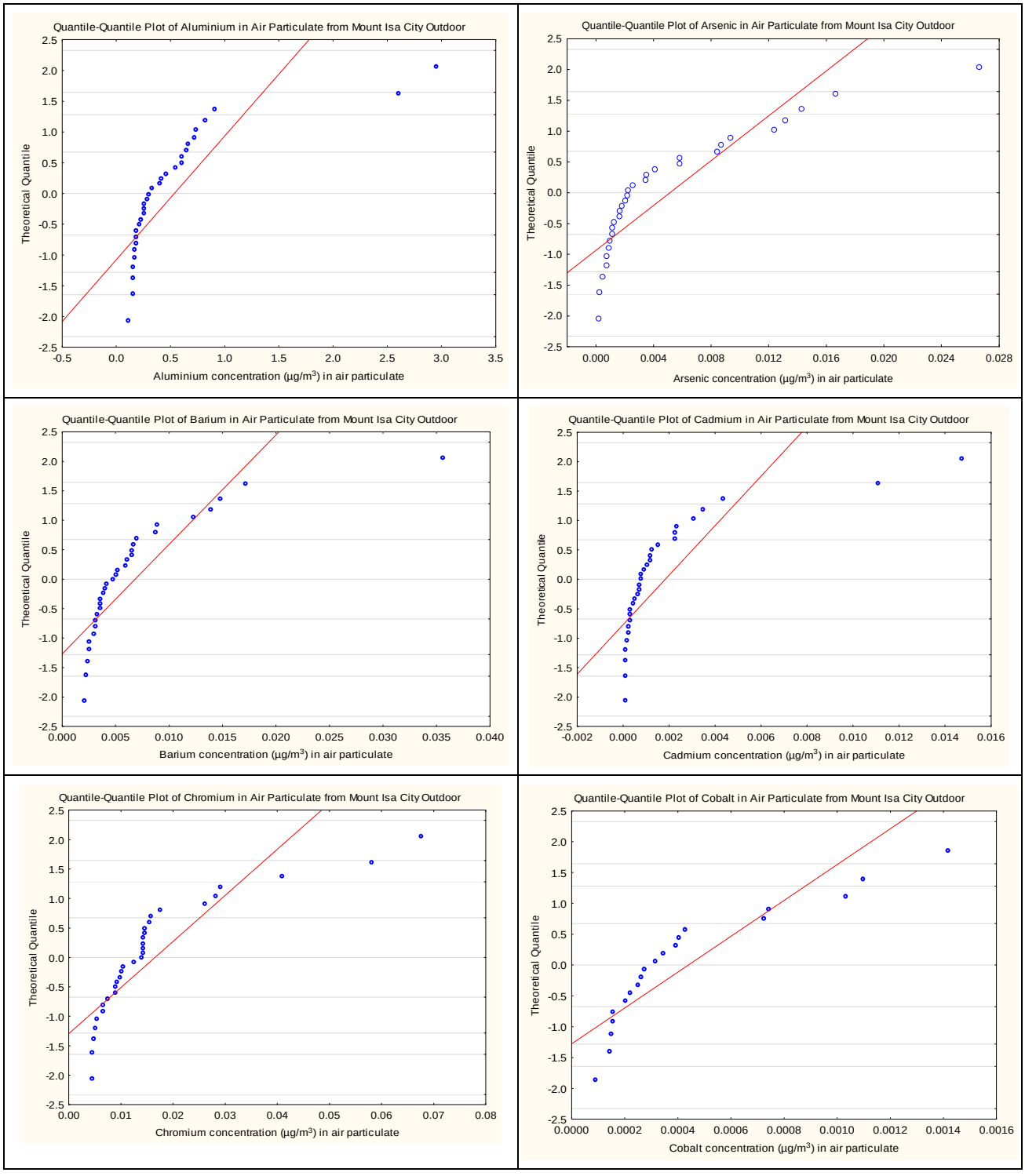
	Residual	Total	Pb Acetate/ Citrate	$PbSO_4$	$PBSiF_6.2H_2O$	Cerrusite	Galena	Sphalerite	Molybdophyllite - G4797	Pb Goethite
VD	7.95E-06	1.01		0.060(8)		0.135(9)		0.217(5)		0.593(9)
VD1	6.26E-05	1.02			0.11(3)			0.30(1)		0.60(3)
VD2	7.04E-06	1.00		0.069(8)		0.166(9)	0.308(4)			0.455(8)
VD3	1.84E-05	3.02			0.15(1)			0.333(7)		0.53(2)
VD4	1.01E-05	1.00				0.118(7)		0.304(5)		0.58(1)
VD5	1.96E-05	1.01				0.20(1)		0.126(7)		0.68(1)
VD6	1.18E-04	0.98				0.13(3)		0.24(2)		0.60(3)
VD7	1.23E-05	1.02	0.28(1)				0.191(5)			0.55(1)
VD8	1.65E-05	1.03	0.24(5)	0.21(2)	0.19(3)	0.11(2)		0.157(9)		0.11(2)
VD9	1.14E-05	1.01			0.05(1)	0.15(1)		0.260(6)		0.55(1)
VD10	2.05E-05	1.01				0.12(1)				0.89(1)
VD11	2.14E-05	1.01				0.13(1)	0.139(6)			0.74(1)
VD12	1.46E-05	1.02				0.31(1)		0.079(8)	0.17(2)	0.46(2)
VD13	1.12E-05	1.01				0.135(8)		0.210(5)		0.66(1)
VD14	1.31E-05	1.01				0.178(8)		0.186(6)		0.64(1)
VD15	1.55E-05	0.98		0.30(1)	0.06(2)	0.06(1)		0.325(7)		0.23(1)
VD16	2.48E-05	1.00				0.05(1)		0.245(8)		0.70(2)
VD17	1.04E-05	1.00		0.05(1)		0.11(1)		0.165(5)		0.67(1)
VD18	1.58E-05	1.01				0.175(9)		0.170(7)		0.66(1)

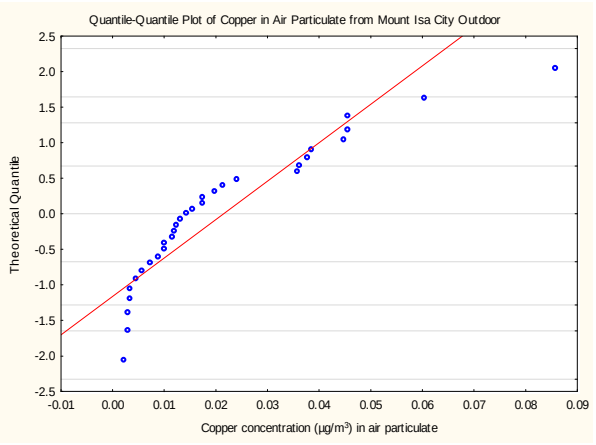
Sample Group: NM

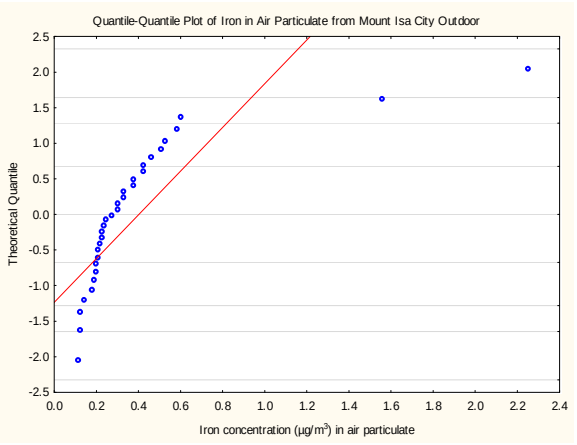
NM	Residual	Total	Pb Goethite	Anglesite/ Plumbojarosite - G10714	Plumbogummite - G17555	Molybdophyllite - G4797
H1	8.70E-04	0.75	0.753(4)			
H2	3.80E-05	1.01	0.80(1)	0.21(1)		
MIN11	9.81E-05	0.99			0.99(1)	
MiN10	1.21E-04	0.99	0.55(4)		0.29(2)	0.14(3)
MIN9	1.30E-05	0.91	0.59(2)	0.22(1)	0.07(1)	0.12(1)
MIN8	5.98E-05	1.01	0.63(1)	0.12(3)	0.25(3)	

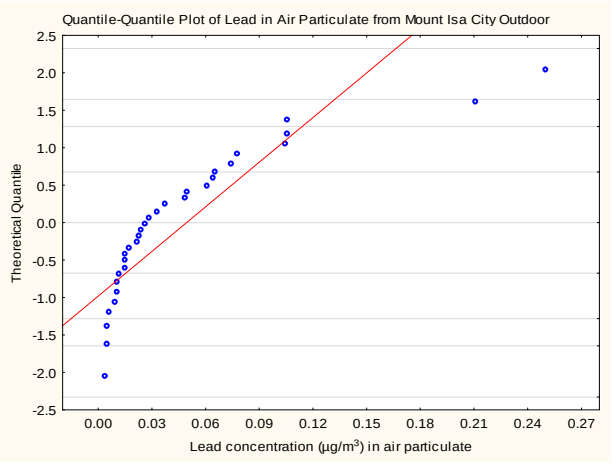
Appendix 5: Statistical analysis data

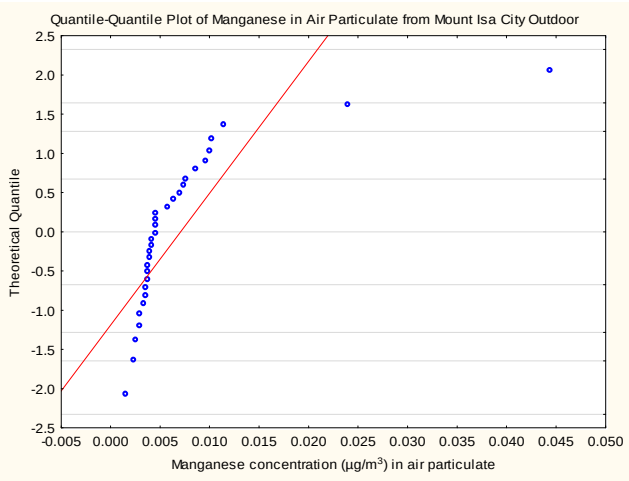
Figure A5- 1: Q-Q plots of metal and metalloid concentration in outdoor air particulate samples collected from Mount Isa city (AH)

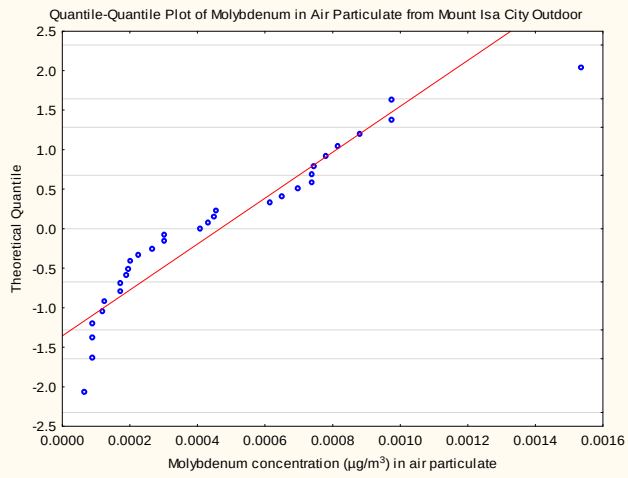


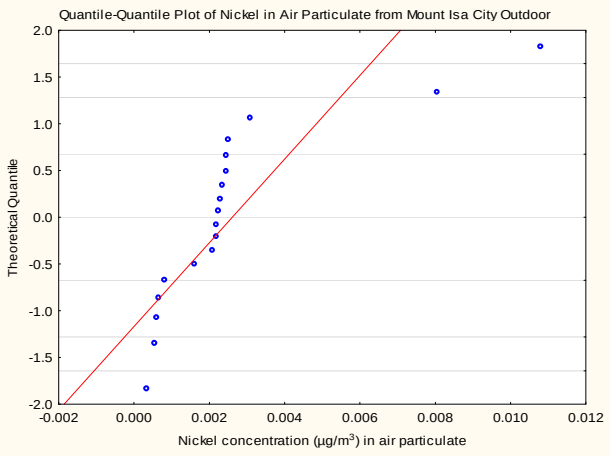

Quantile-Quantile Plot of Copper in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Copper concentration (µg/m³) in air particulate

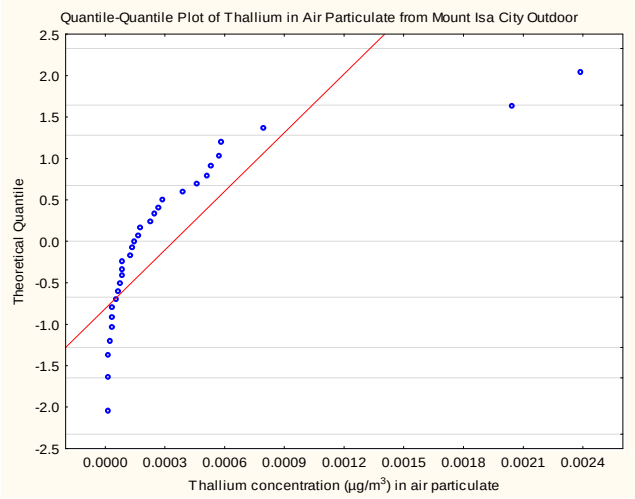

Quantile-Quantile Plot of Iron in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Iron concentration (µg/m³) in air particulate

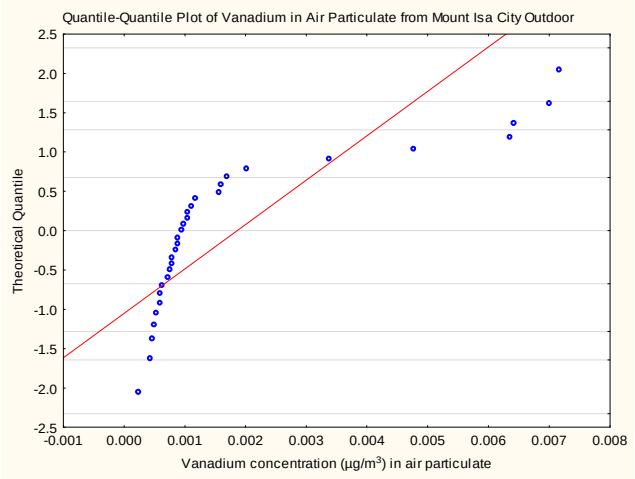

Quantile-Quantile Plot of Lead in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Lead concentration (µg/m³) in air particulate


Quantile-Quantile Plot of Manganese in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Manganese concentration (µg/m³) in air particulate


Quantile-Quantile Plot of Molybdenum in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Molybdenum concentration (µg/m³) in air particulate


Quantile-Quantile Plot of Nickel in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Nickel concentration (µg/m³) in air particulate


Quantile-Quantile Plot of Thallium in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Thallium concentration (µg/m³) in air particulate


Quantile-Quantile Plot of Vanadium in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Vanadium concentration (µg/m³) in air particulate

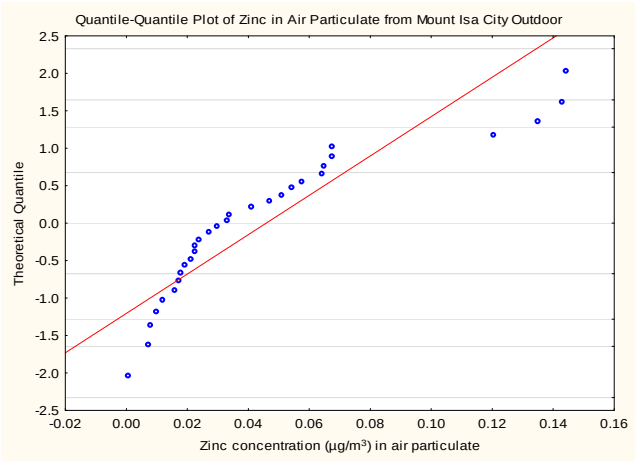
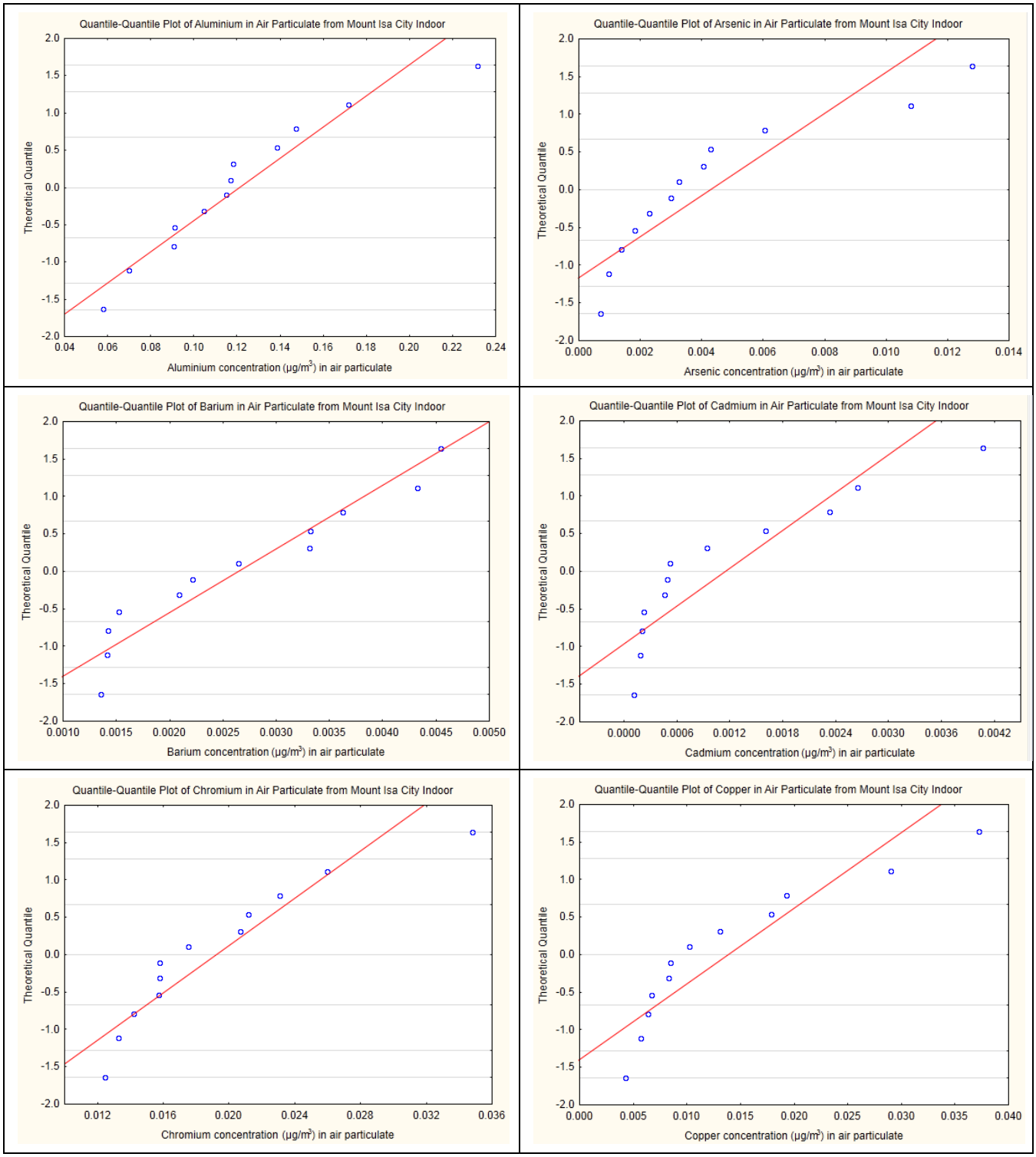
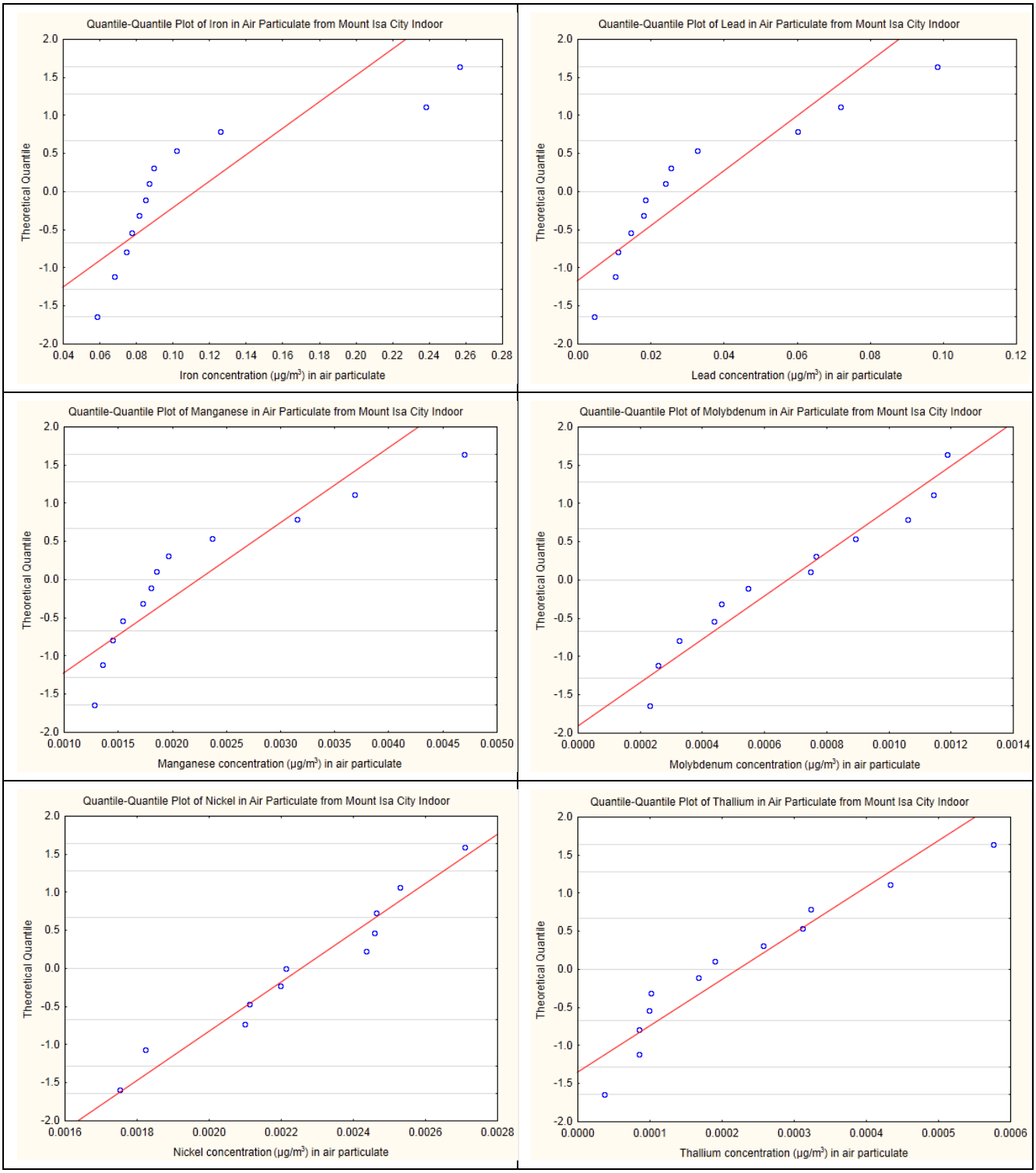

Quantile-Quantile Plot of Zinc in Air Particulate from Mount Isa City Outdoor
Theoretical Quantile
Zinc concentration (µg/m³) in air particulate

Figure A5- 2: Q-Q plots of metal and metalloid concentration in indoor air particulate samples collected from Mount Isa city (IAH)




Quantile-Quantile Plot of Iron in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Iron concentration (µg/m³) in air particulate
Quantile-Quantile Plot of Lead in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Lead concentration (µg/m³) in air particulate
Quantile-Quantile Plot of Manganese in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Manganese concentration (µg/m³) in air particulate
Quantile-Quantile Plot of Molybdenum in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Molybdenum concentration (µg/m³) in air particulate
Quantile-Quantile Plot of Nickel in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Nickel concentration (µg/m³) in air particulate
Quantile-Quantile Plot of Thallium in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Thallium concentration (µg/m³) in air particulate

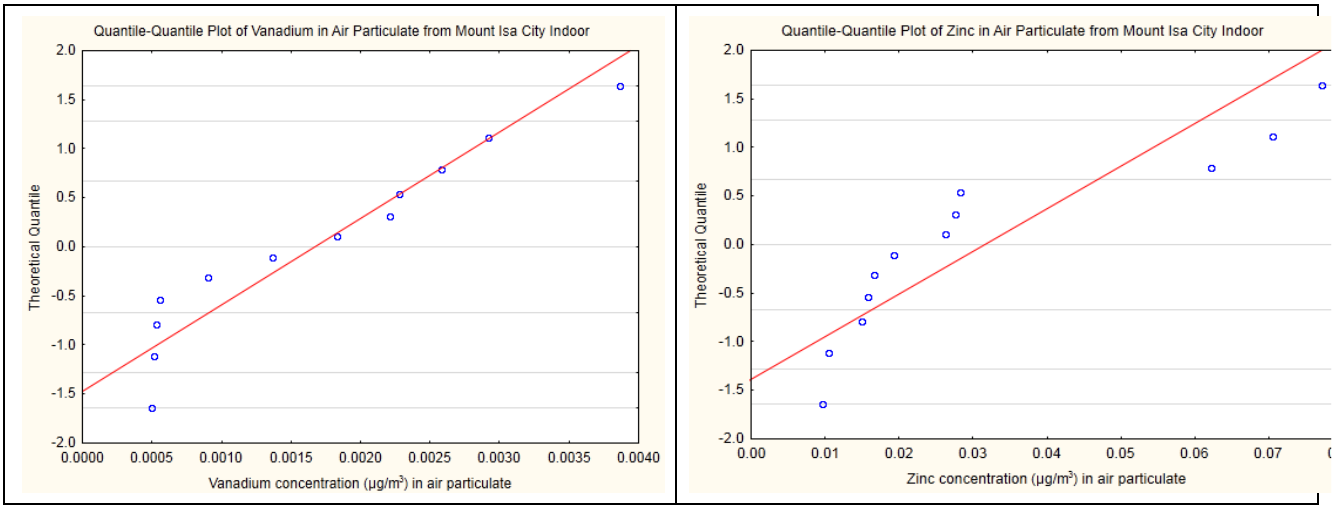
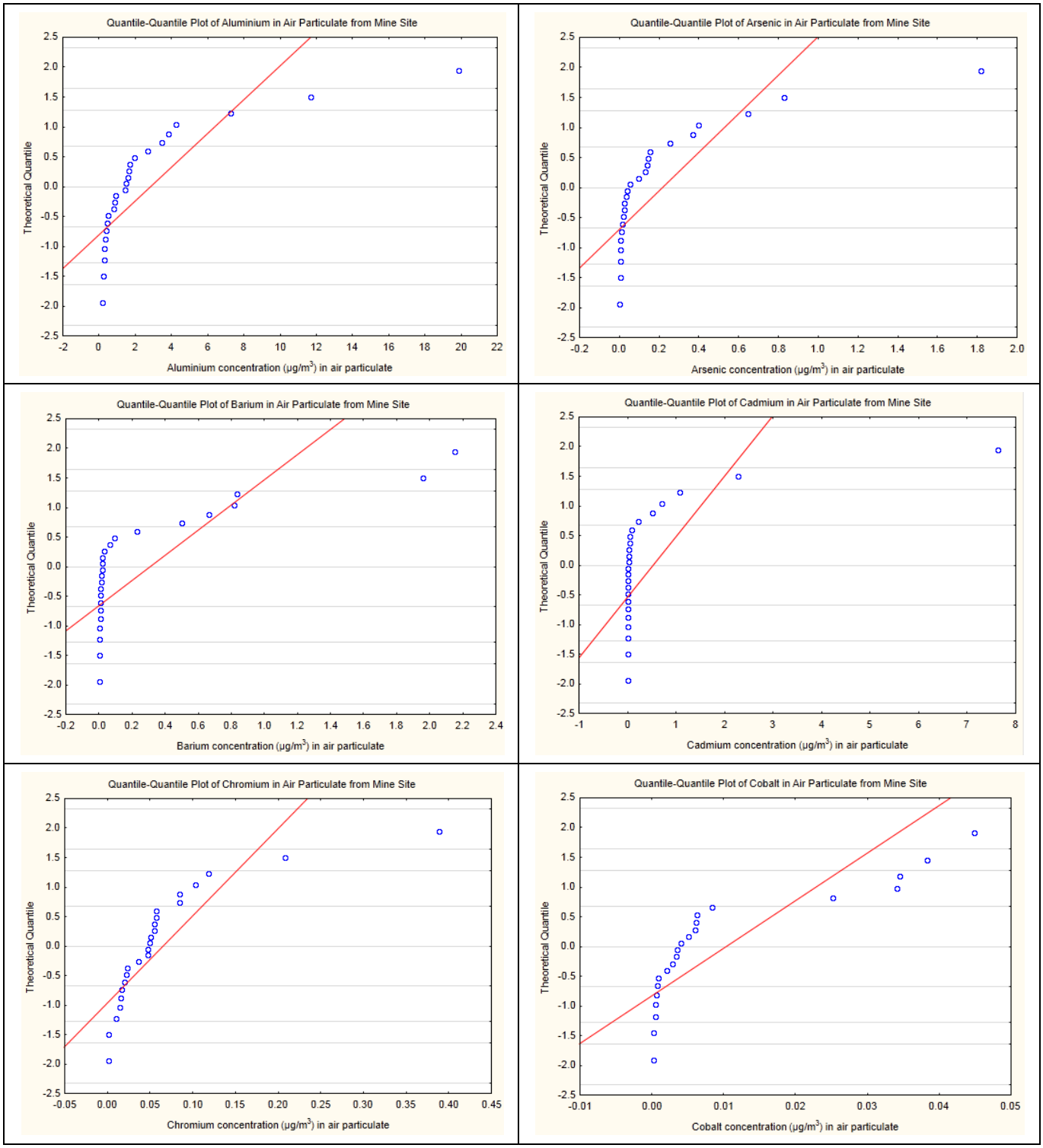
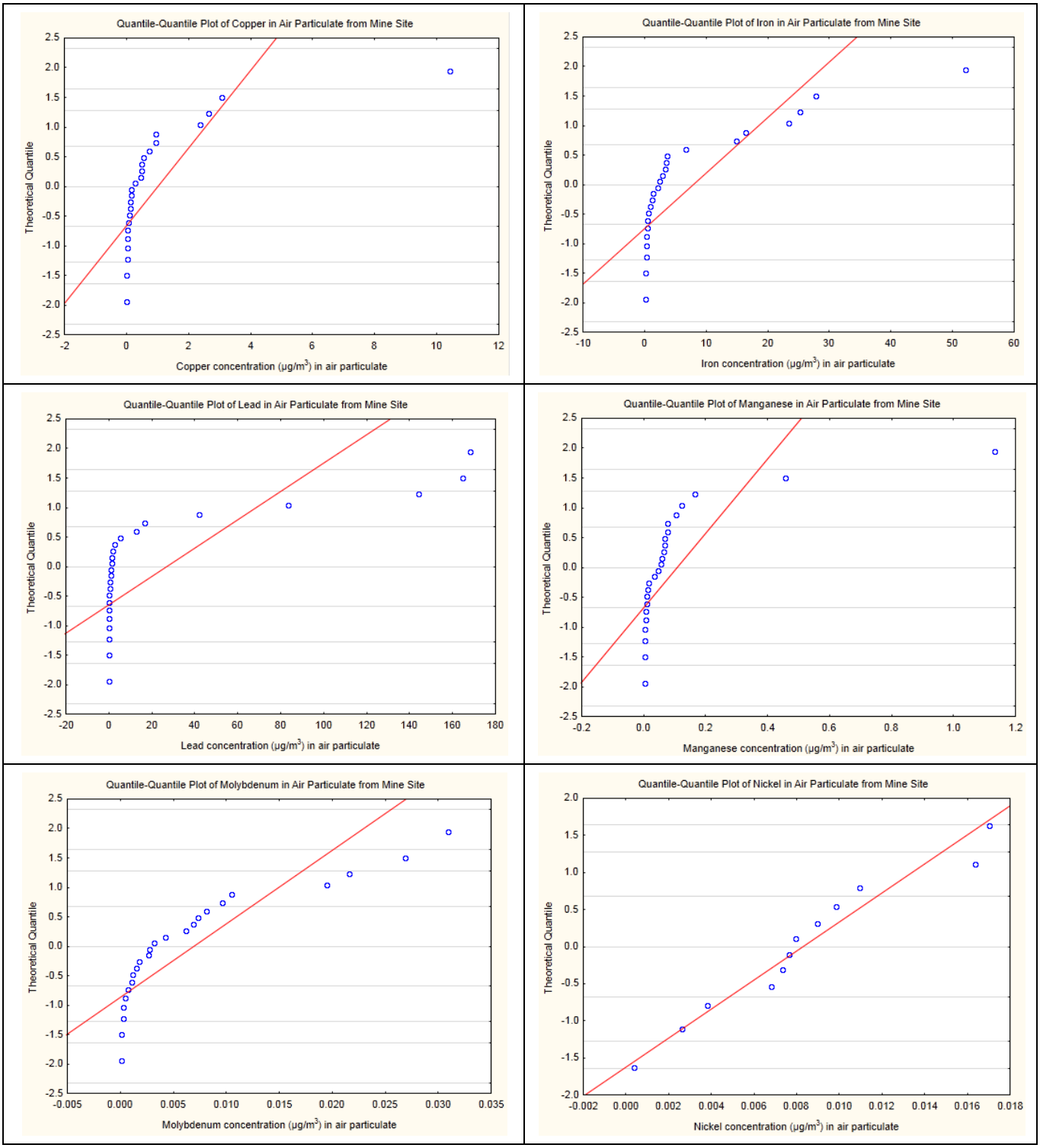
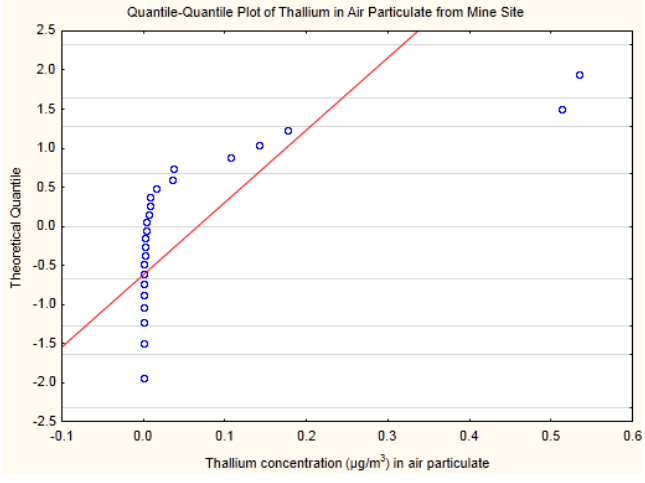
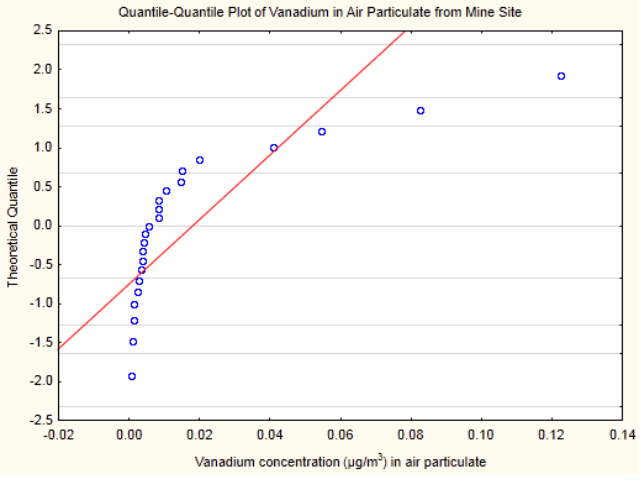

Quantile-Quantile Plot of Vanadium in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Vanadium concentration (µg/m3) in air particulate
Quantile-Quantile Plot of Zinc in Air Particulate from Mount Isa City Indoor
Theoretical Quantile
Zinc concentration (µg/m3) in air particulate

Figure A5- 3: Q-Q plots of metal and metalloid concentration in air particulate samples collected from mine site (AM)




Quantile-Quantile Plot of Copper in Air Particulate from Mine Site
Theoretical Quantile
Copper concentration (µg/m3) in air particulate
Quantile-Quantile Plot of Iron in Air Particulate from Mine Site
Theoretical Quantile
Iron concentration (µg/m3) in air particulate
Quantile-Quantile Plot of Lead in Air Particulate from Mine Site
Theoretical Quantile
Lead concentration (µg/m3) in air particulate
Quantile-Quantile Plot of Manganese in Air Particulate from Mine Site
Theoretical Quantile
Manganese concentration (µg/m3) in air particulate
Quantile-Quantile Plot of Molybdenum in Air Particulate from Mine Site
Theoretical Quantile
Molybdenum concentration (µg/m3) in air particulate
Quantile-Quantile Plot of Nickel in Air Particulate from Mine Site
Theoretical Quantile
Nickel concentration (µg/m3) in air particulate


Quantile-Quantile Plot of Thallium in Air Particulate from Mine Site
Theoretical Quantile
Thallium concentration (µg/m3) in air particulate


Quantile-Quantile Plot of Vanadium in Air Particulate from Mine Site
Theoretical Quantile
Vanadium concentration (µg/m3) in air particulate

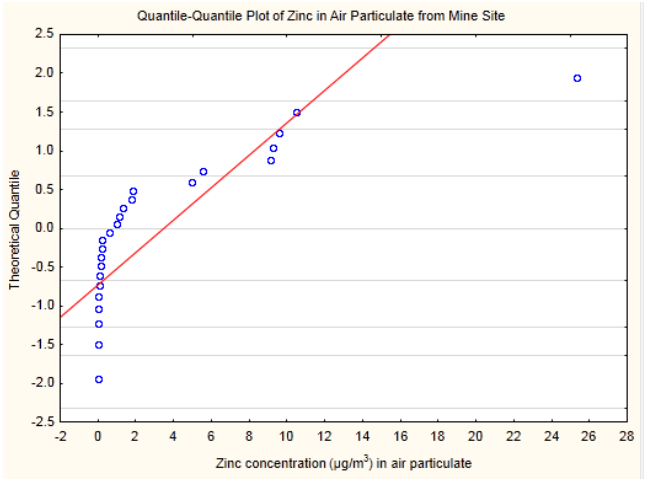
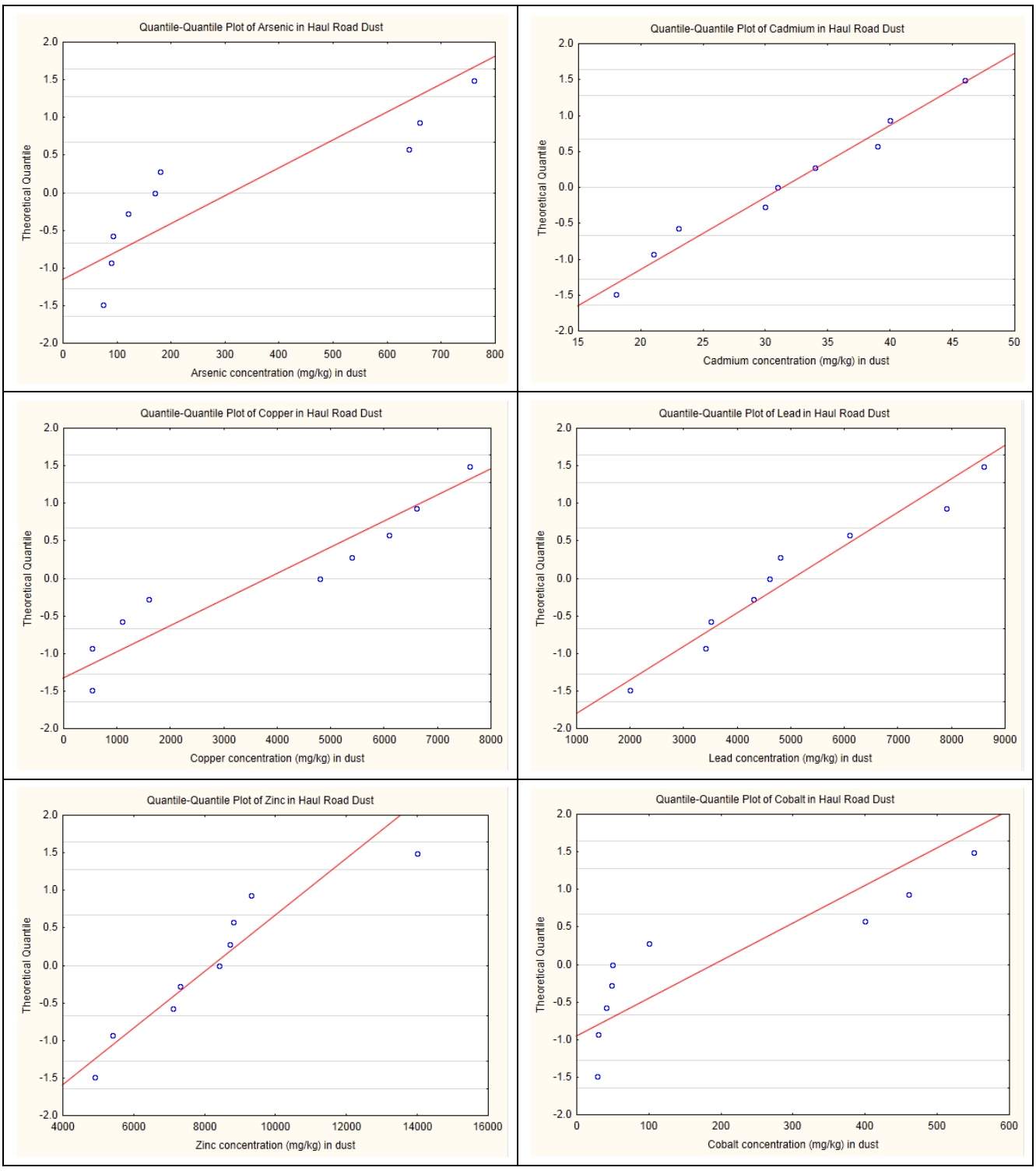
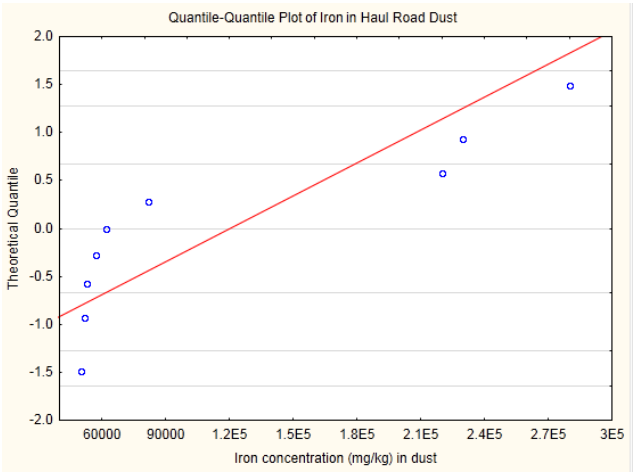
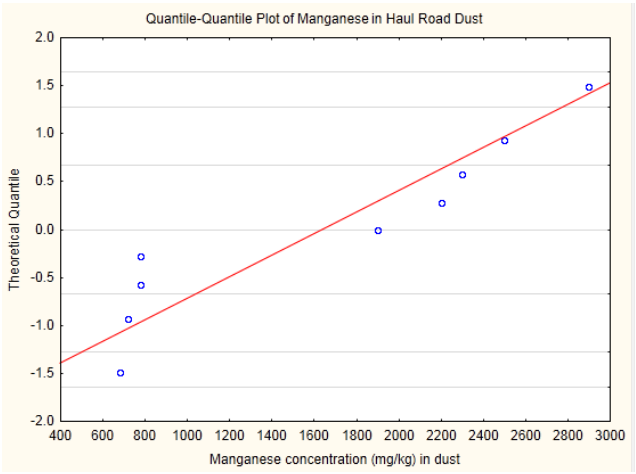

Quantile-Quantile Plot of Zinc in Air Particulate from Mine Site
Theoretical Quantile
Zinc concentration (µg/m3) in air particulate

Figure A5- 4: Q-Q plots of metal and metalloid concentration in haul road dust (HR)




Quantile-Quantile Plot of Iron in Haul Road Dust
Theoretical Quantile
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
60000
90000
1.2E5
1.5E5
1.8E5
2.1E5
2.4E5
2.7E5
3E5
Iron concentration (mg/kg) in dust


Quantile-Quantile Plot of Manganese in Haul Road Dust
Theoretical Quantile
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
3000
Manganese concentration (mg/kg) in dust

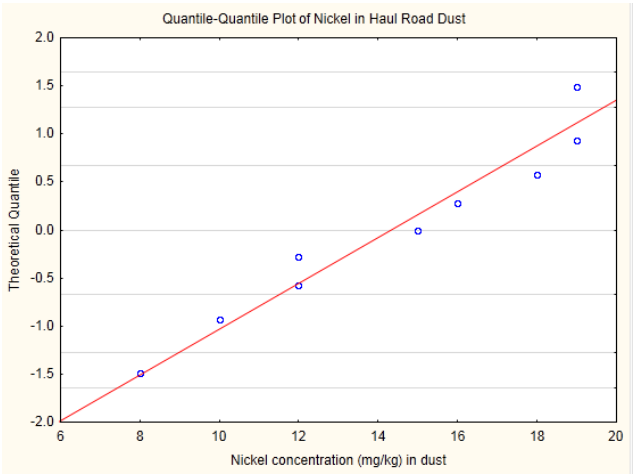
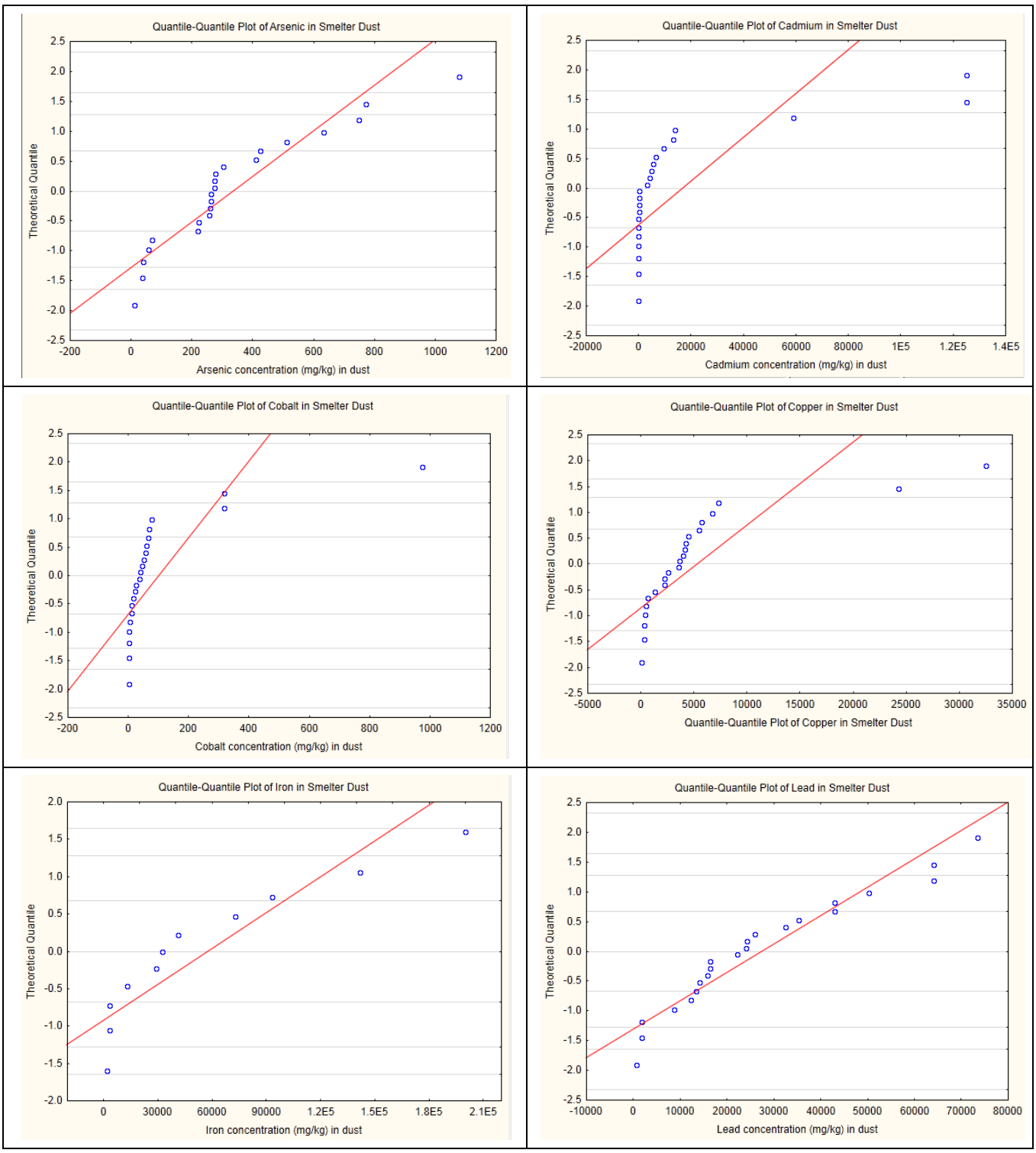
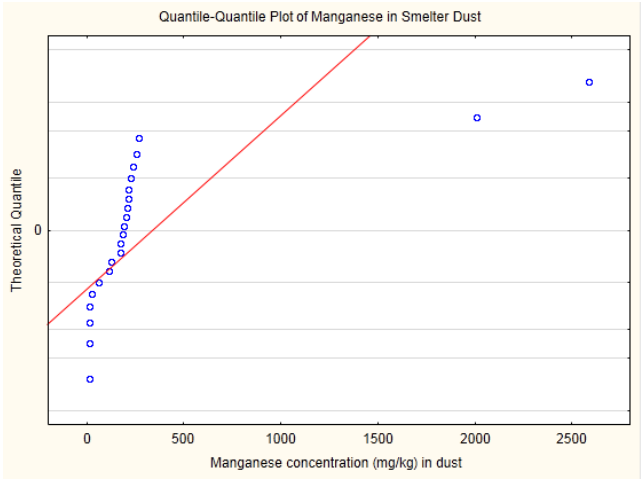
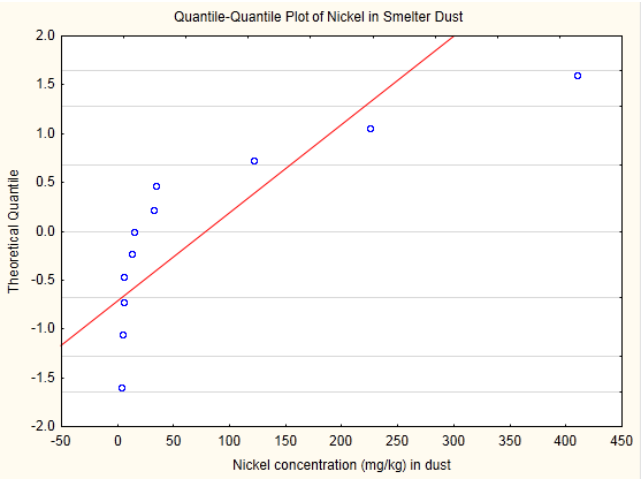

Quantile-Quantile Plot of Nickel in Haul Road Dust
Theoretical Quantile
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
6
8
10
12
14
16
18
20
Nickel concentration (mg/kg) in dust

Figure A5- 5: Q-Q plots of metal and metalloid concentration in smelter dust (SD)




Quantile-Quantile Plot of Manganese in Smelter Dust
Theoretical Quantile
0
0
500
1000
1500
2000
2500
Manganese concentration (mg/kg) in dust


Quantile-Quantile Plot of Nickel in Smelter Dust
Theoretical Quantile
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-50
0
50
100
150
200
250
300
350
400
450
Nickel concentration (mg/kg) in dust

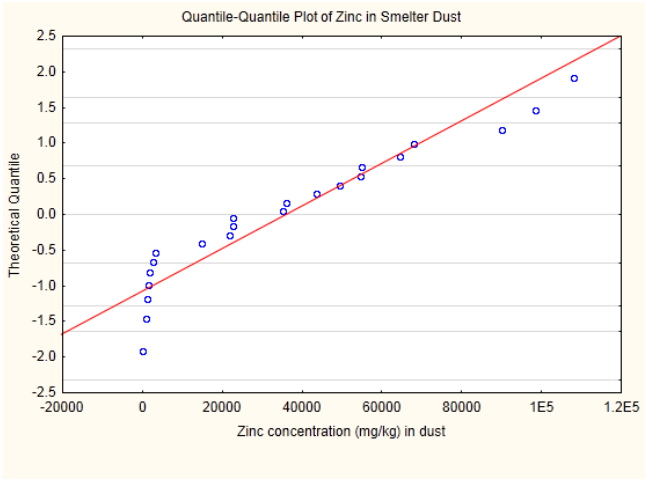
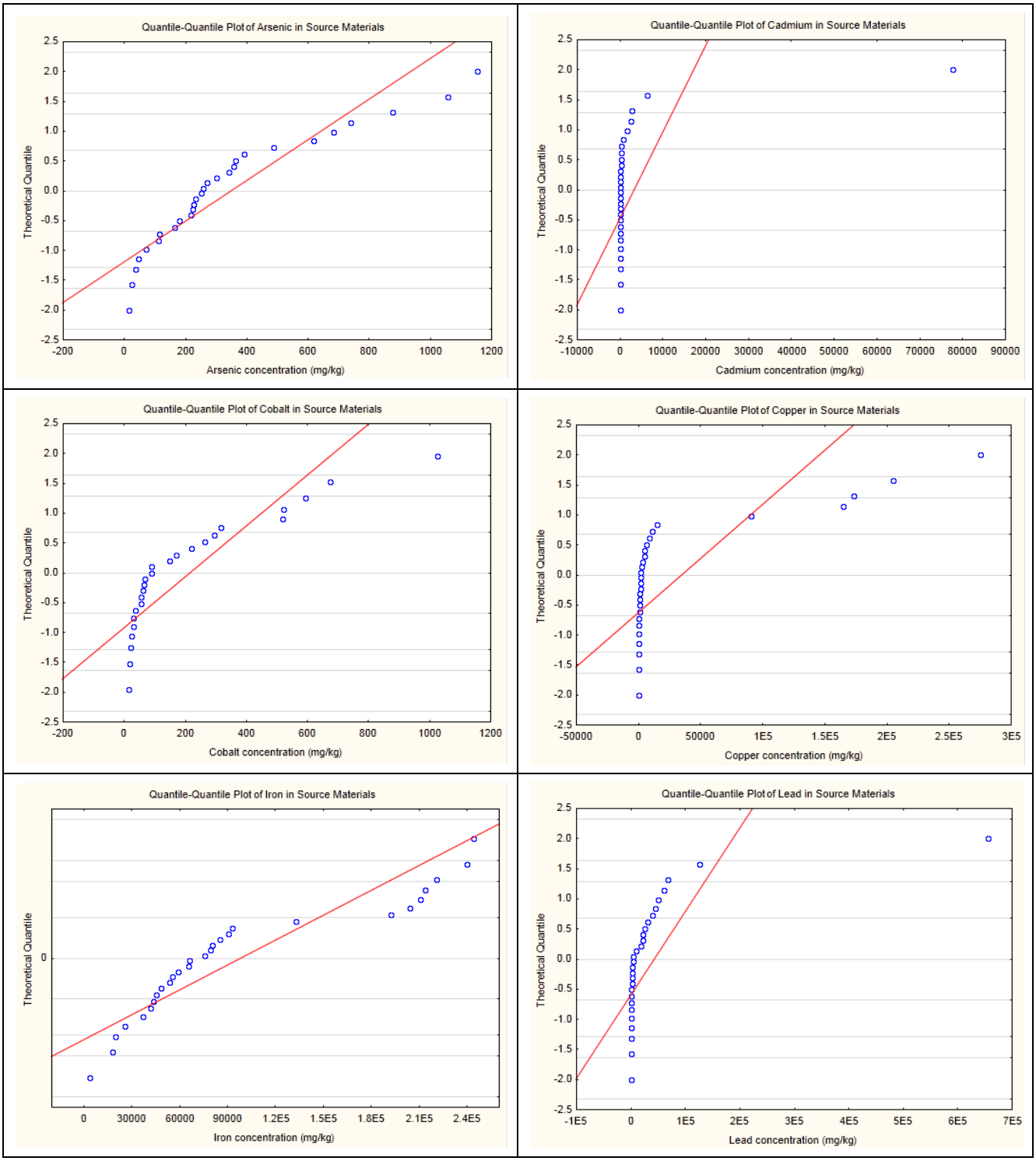
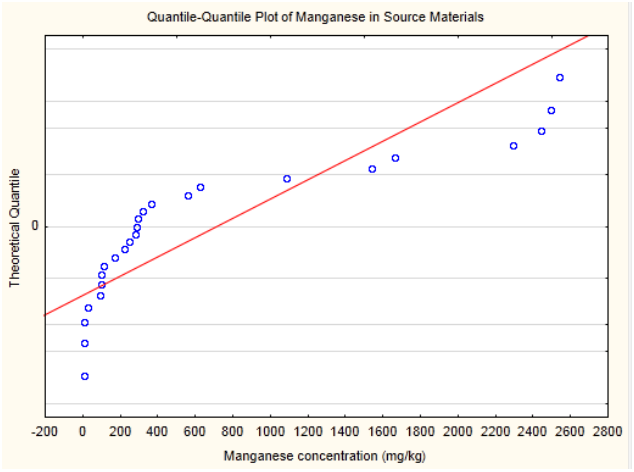
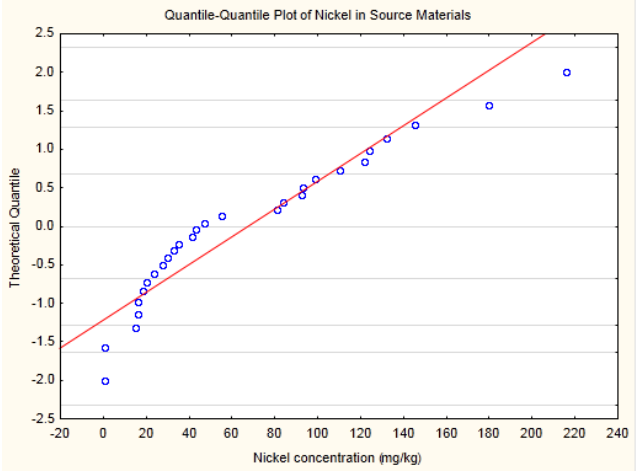

Quantile-Quantile Plot of Zinc in Smelter Dust
Theoretical Quantile
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-20000
0
20000
40000
60000
80000
1E5
1.2E5
Zinc concentration (mg/kg) in dust

Figure A5- 6: Q-Q plots of metal and metalloid concentration in source samples (SS)




Quantile-Quantile Plot of Manganese in Source Materials
Theoretical Quantile
0
-200 0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800
Manganese concentration (mg/kg)


Quantile-Quantile Plot of Nickel in Source Materials
Theoretical Quantile
2.5 2.0 1.5 1.0 0.5 0.0 -0.5 -1.0 -1.5 -2.0 -2.5
-20 0 20 40 60 80 100 120 140 160 180 200 220 240
Nickel concentration (mg/kg)

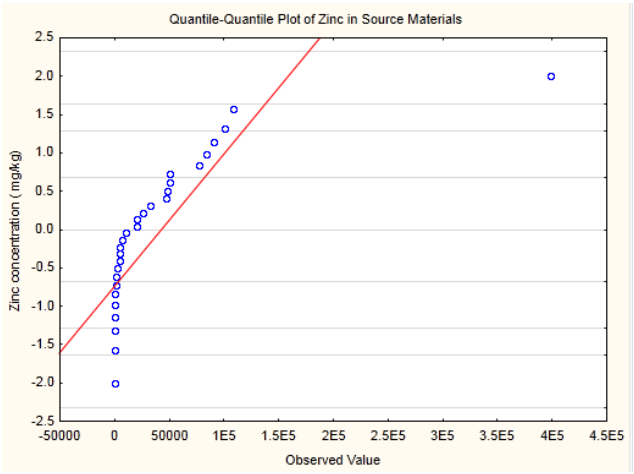
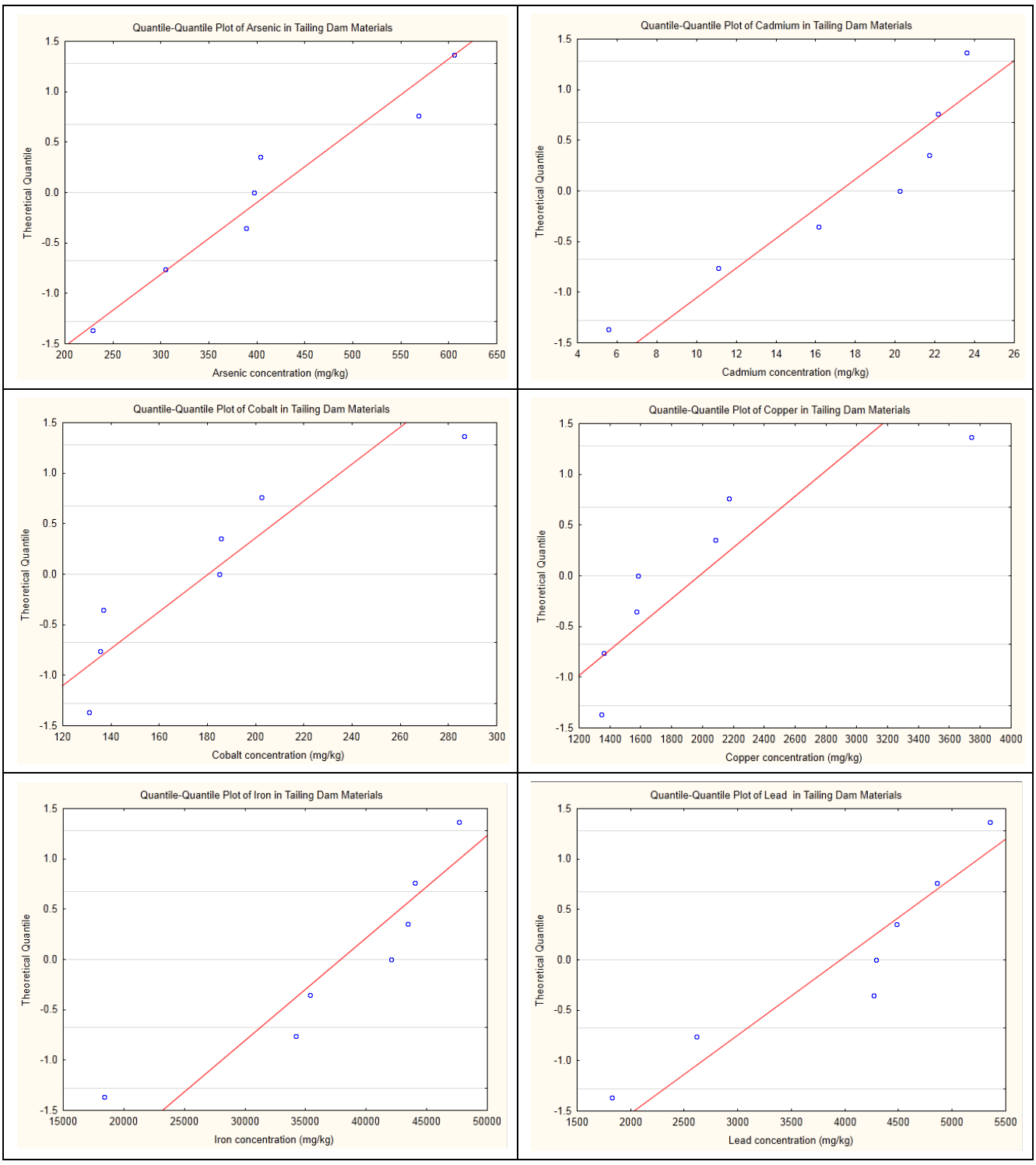
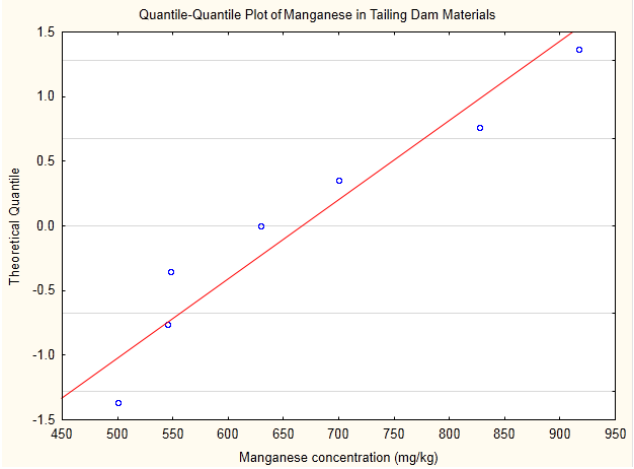
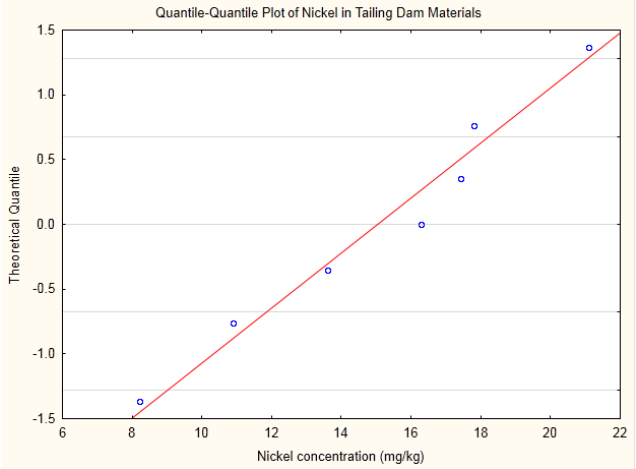

Quantile-Quantile Plot of Zinc in Source Materials
Zinc concentration (mg/kg)
2.5 2.0 1.5 1.0 0.5 0.0 -0.5 -1.0 -1.5 -2.0 -2.5
-50000 0 50000 1E5 1.5E5 2E5 2.5E5 3E5 3.5E5 4E5 4.5E5
Observed Value

Figure A5- 7: Q-Q plots of metal and metalloid concentration in tailing samples (TD)




Quantile-Quantile Plot of Manganese in Tailing Dam Materials
Theoretical Quantile
Manganese concentration (mg/kg)
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
450
500
550
600
650
700
750
800
850
900
950


Quantile-Quantile Plot of Nickel in Tailing Dam Materials
Theoretical Quantile
Nickel concentration (mg/kg)
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
6
8
10
12
14
16
18
20
22

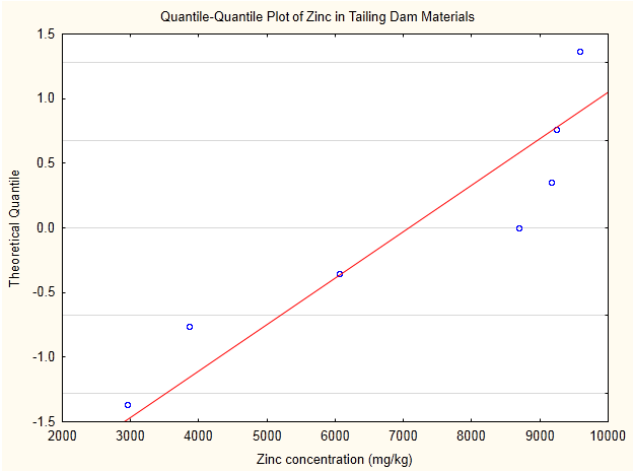
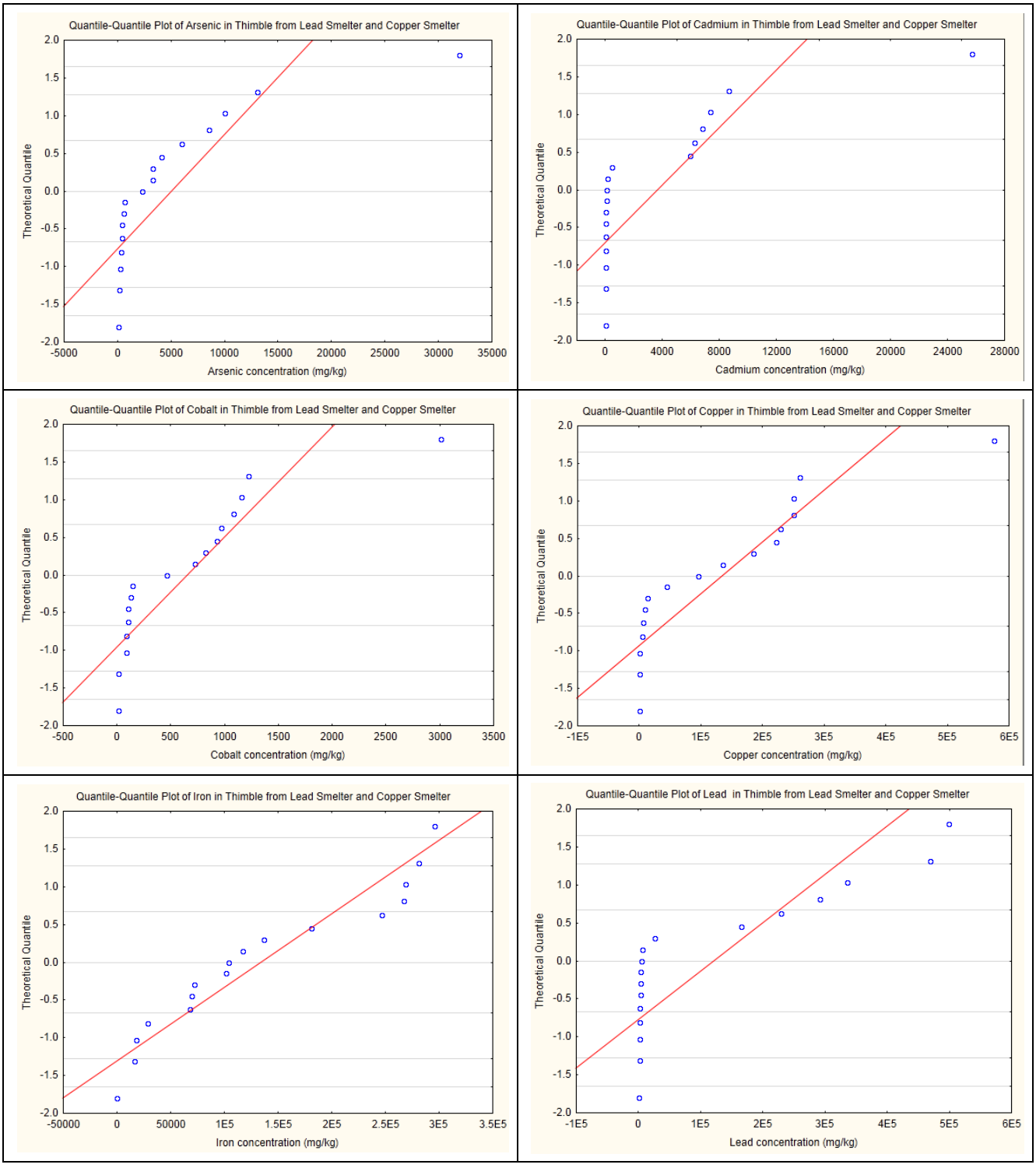
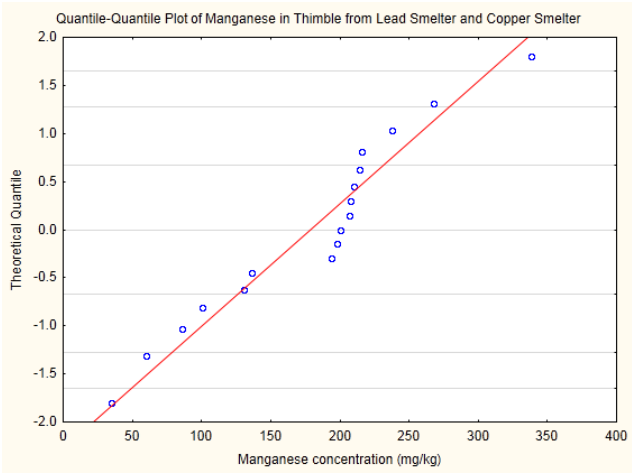
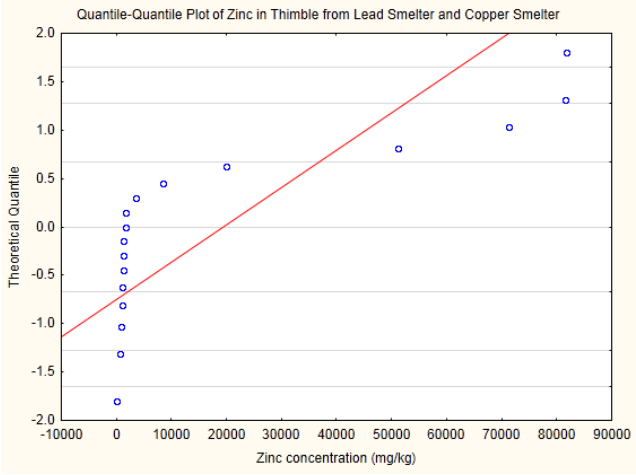

Quantile-Quantile Plot of Zinc in Tailing Dam Materials
Theoretical Quantile
Zinc concentration (mg/kg)
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2000
3000
4000
5000
6000
7000
8000
9000
10000

Figure A5- 8: Q-Q plots of metal and metalloid concentration in thimble collected from lead smelter (ATP) and copper smelter (ATC)




Quantile-Quantile Plot of Manganese in Thimble from Lead Smelter and Copper Smelter
Theoretical Quantile
Manganese concentration (mg/kg)


Quantile-Quantile Plot of Zinc in Thimble from Lead Smelter and Copper Smelter
Theoretical Quantile
Zinc concentration (mg/kg)

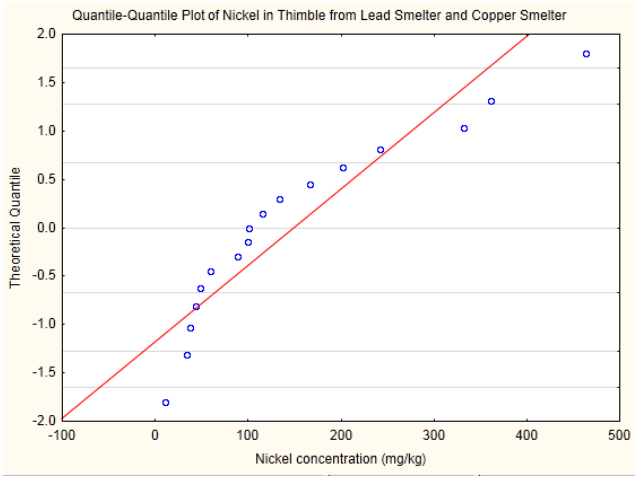
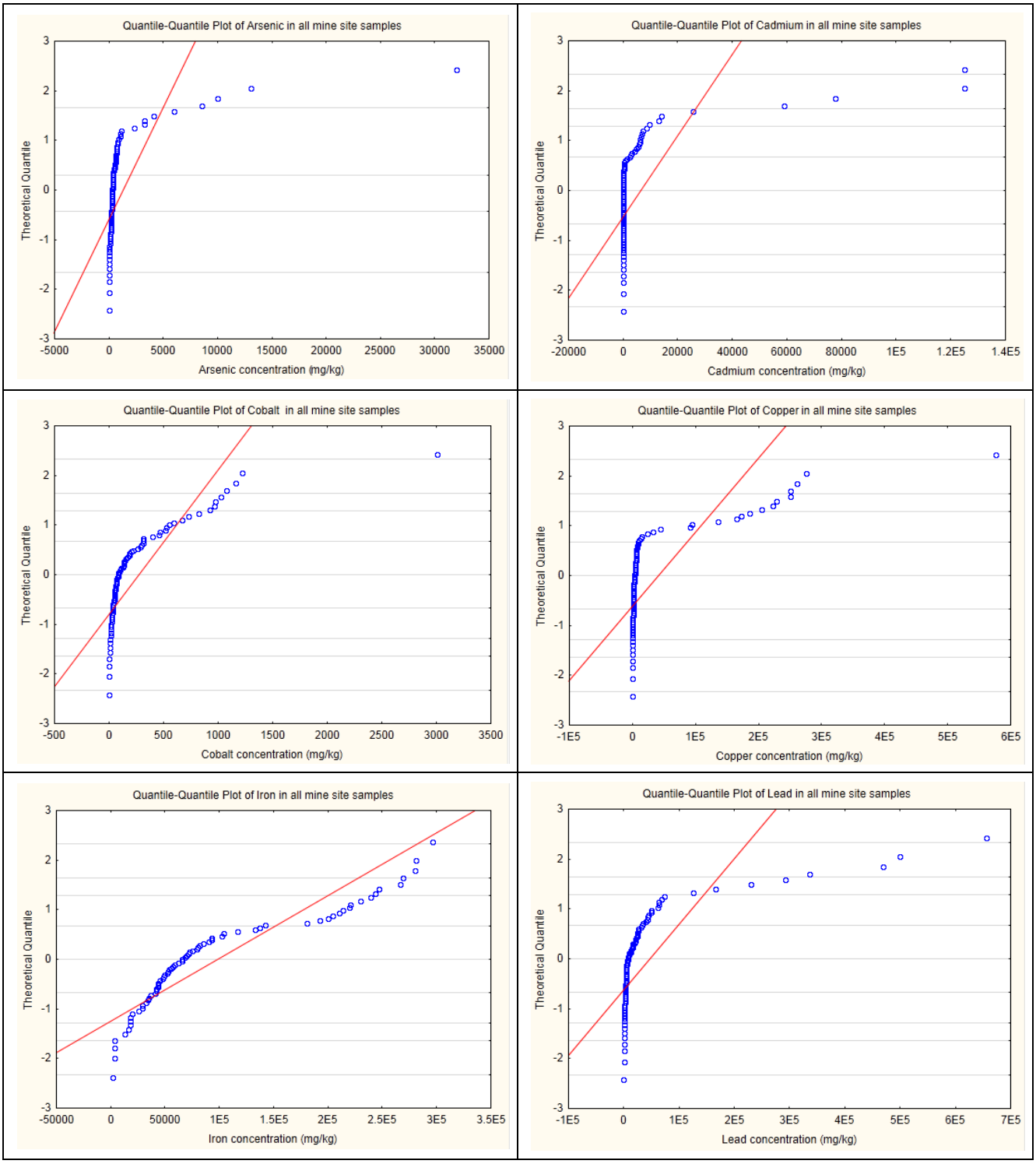
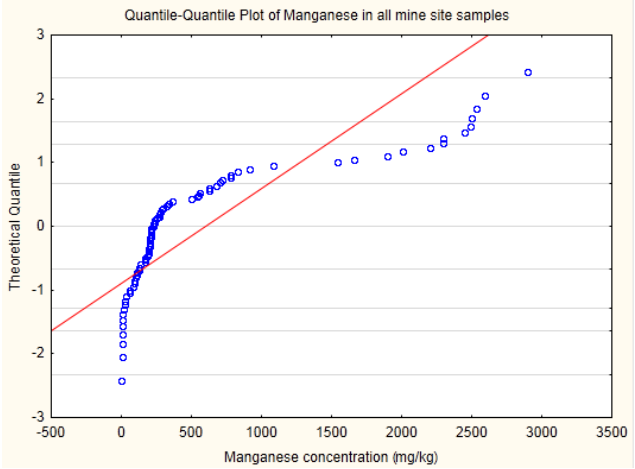
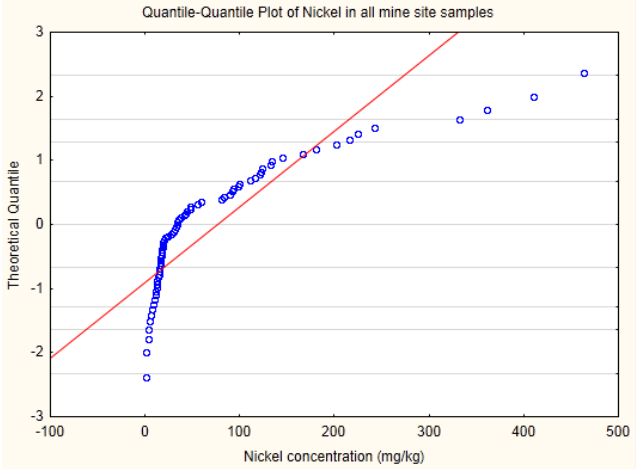

Quantile-Quantile Plot of Nickel in Thimble from Lead Smelter and Copper Smelter
Theoretical Quantile
Nickel concentration (mg/kg)

Figure A5- 9: Q-Q plots of metal and metalloid concentration in mine site samples




Quantile-Quantile Plot of Manganese in all mine site samples
Theoretical Quantile
Manganese concentration (mg/kg)
3
2
1
0
-1
-2
-3
-500
0
500
1000
1500
2000
2500
3000
3500


Quantile-Quantile Plot of Nickel in all mine site samples
Theoretical Quantile
Nickel concentration (mg/kg)
3
2
1
0
-1
-2
-3
-100
0
100
200
300
400
500

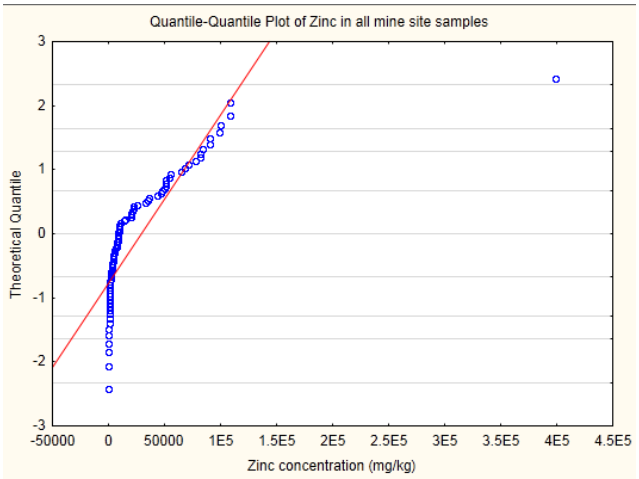
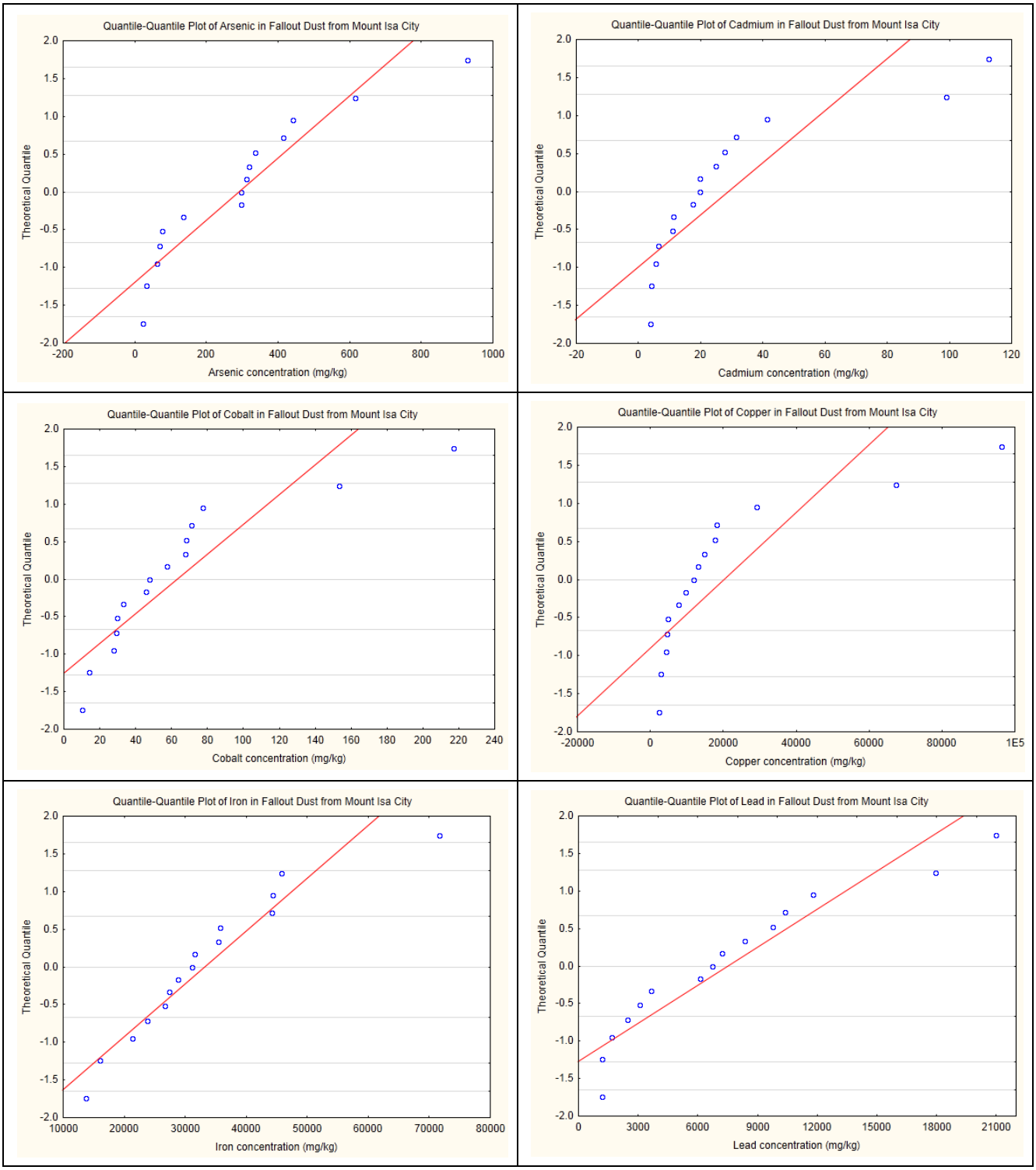
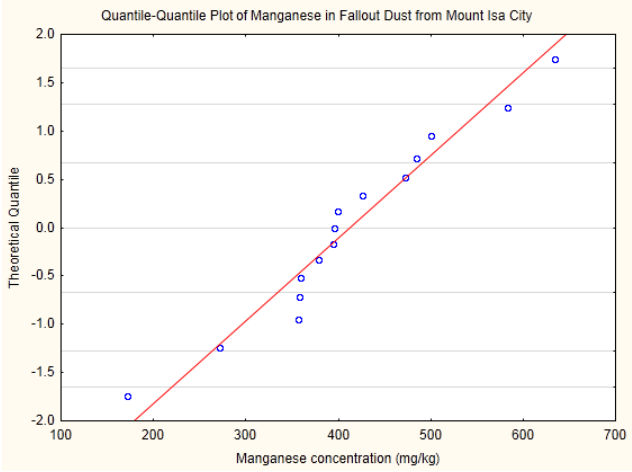
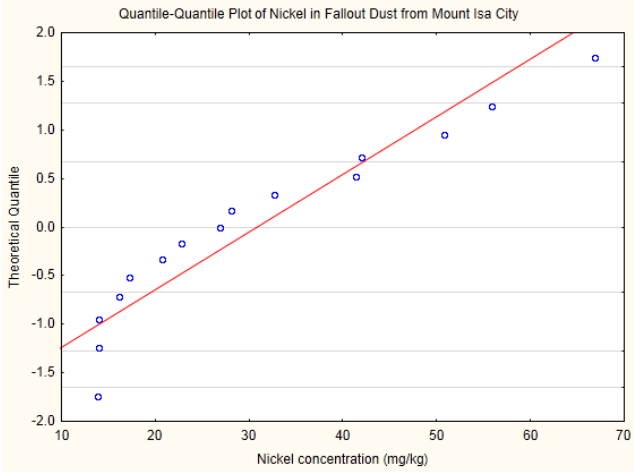

Quantile-Quantile Plot of Zinc in all mine site samples
Theoretical Quantile
Zinc concentration (mg/kg)
3
2
1
0
-1
-2
-3
-50000
0
50000
1E5
1.5E5
2E5
2.5E5
3E5
3.5E5
4E5
4.5E5

Figure A5- 10: Q-Q plots of metal and metalloid concentrations in fallout dust collected from Mount Isa city (FMT)




Quantile-Quantile Plot of Manganese in Fallout Dust from Mount Isa City
Theoretical Quantile
Manganese concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
100
200
300
400
500
600
700


Quantile-Quantile Plot of Nickel in Fallout Dust from Mount Isa City
Theoretical Quantile
Nickel concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
10
20
30
40
50
60
70

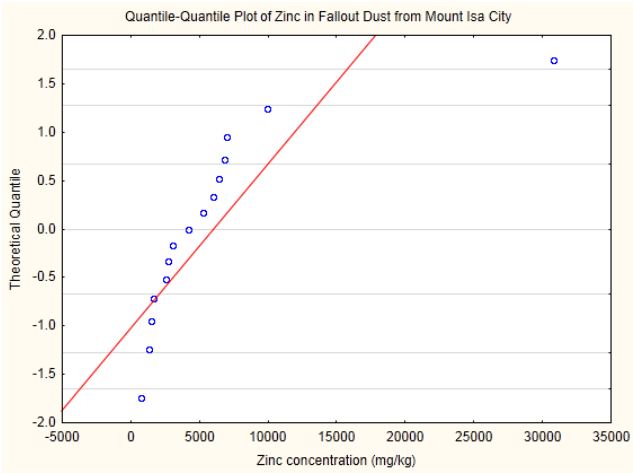
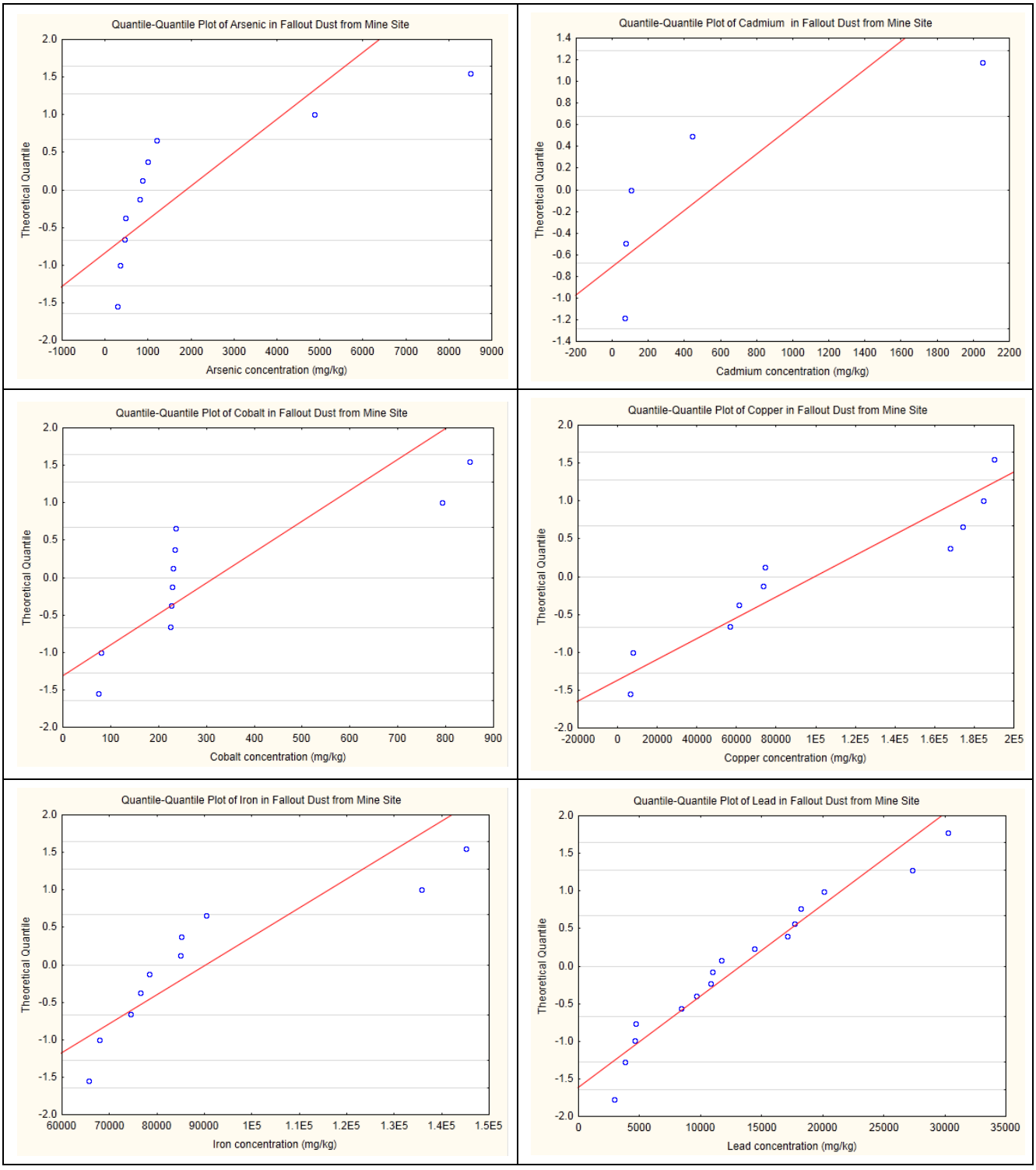
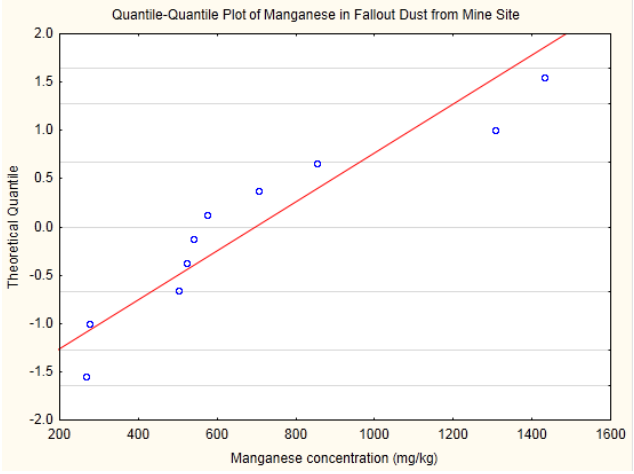
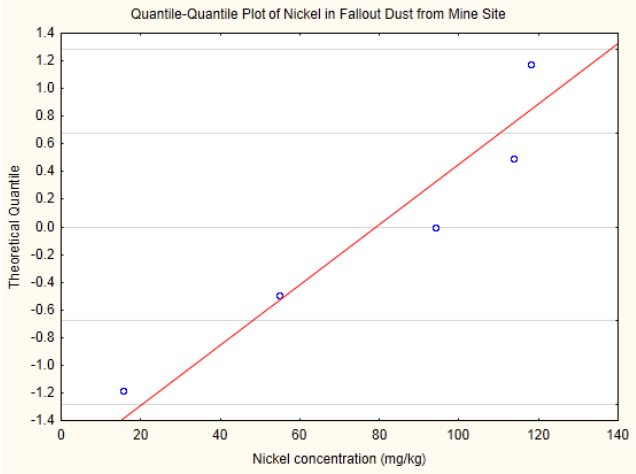

Quantile-Quantile Plot of Zinc in Fallout Dust from Mount Isa City
Theoretical Quantile
Zinc concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-5000
0
5000
10000
15000
20000
25000
30000
35000

Figure A5- 11: Q-Q plots of metal and metalloid concentration in fallout dust collected from mine site (FMM)

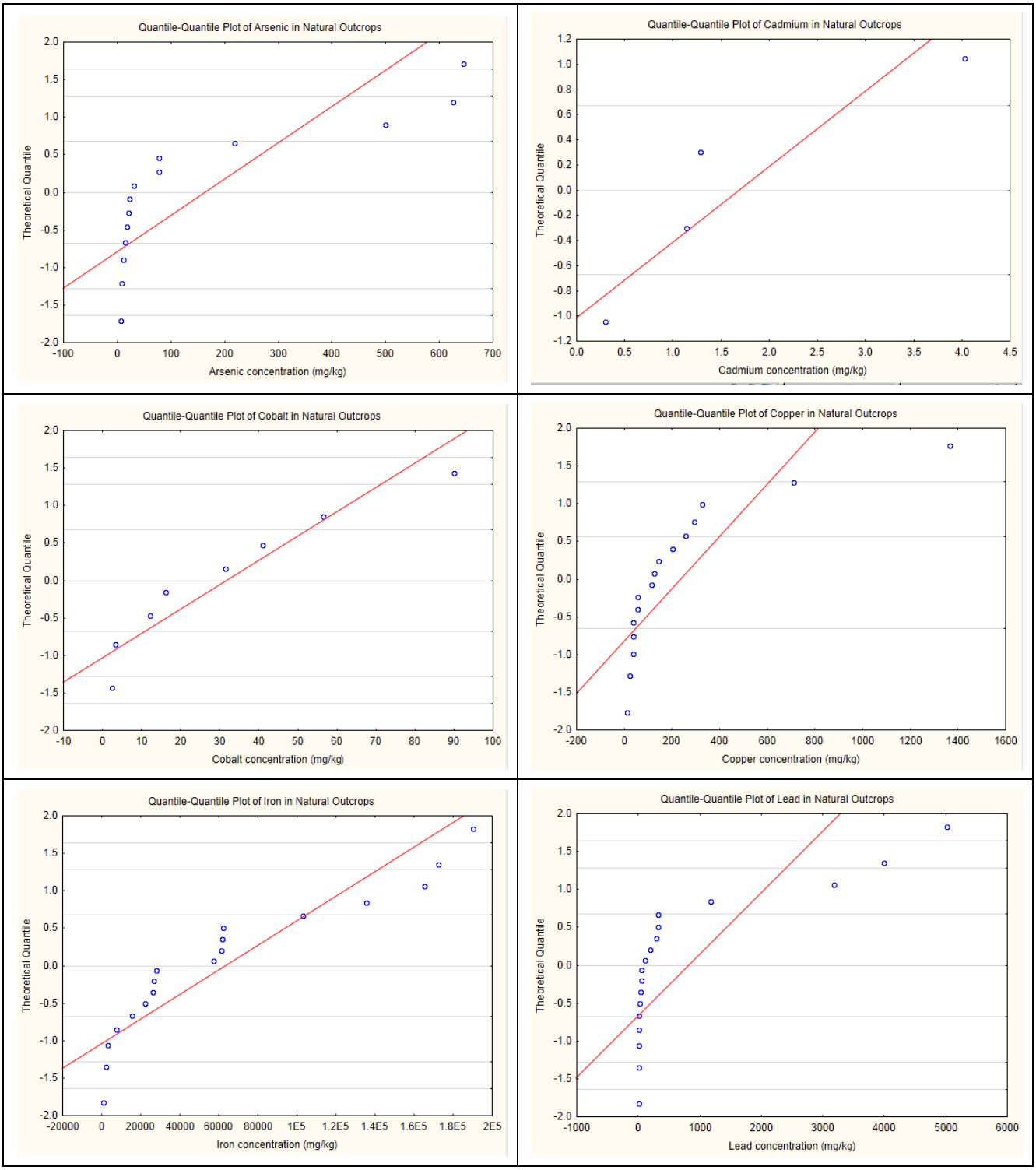



Quantile-Quantile Plot of Manganese in Fallout Dust from Mine Site
Theoretical Quantile
Manganese concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
200
400
600
800
1000
1200
1400
1600


Quantile-Quantile Plot of Nickel in Fallout Dust from Mine Site
Theoretical Quantile
Nickel concentration (mg/kg)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
0
20
40
60
80
100
120
140


Quantile-Quantile Plot of Zinc in Fallout Dust from Mine Site
Theoretical Quantile
Zinc concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000

Figure A5- 12: Q-Q plots of metal and metalloid in natural outcrops in and near Mount Isa city (NM/BGR)



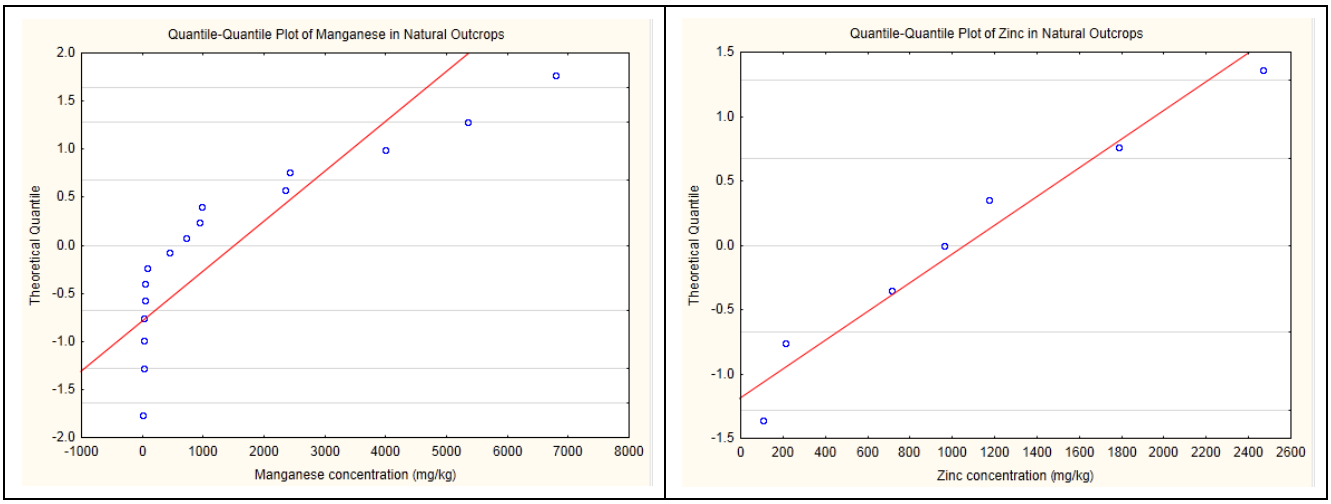
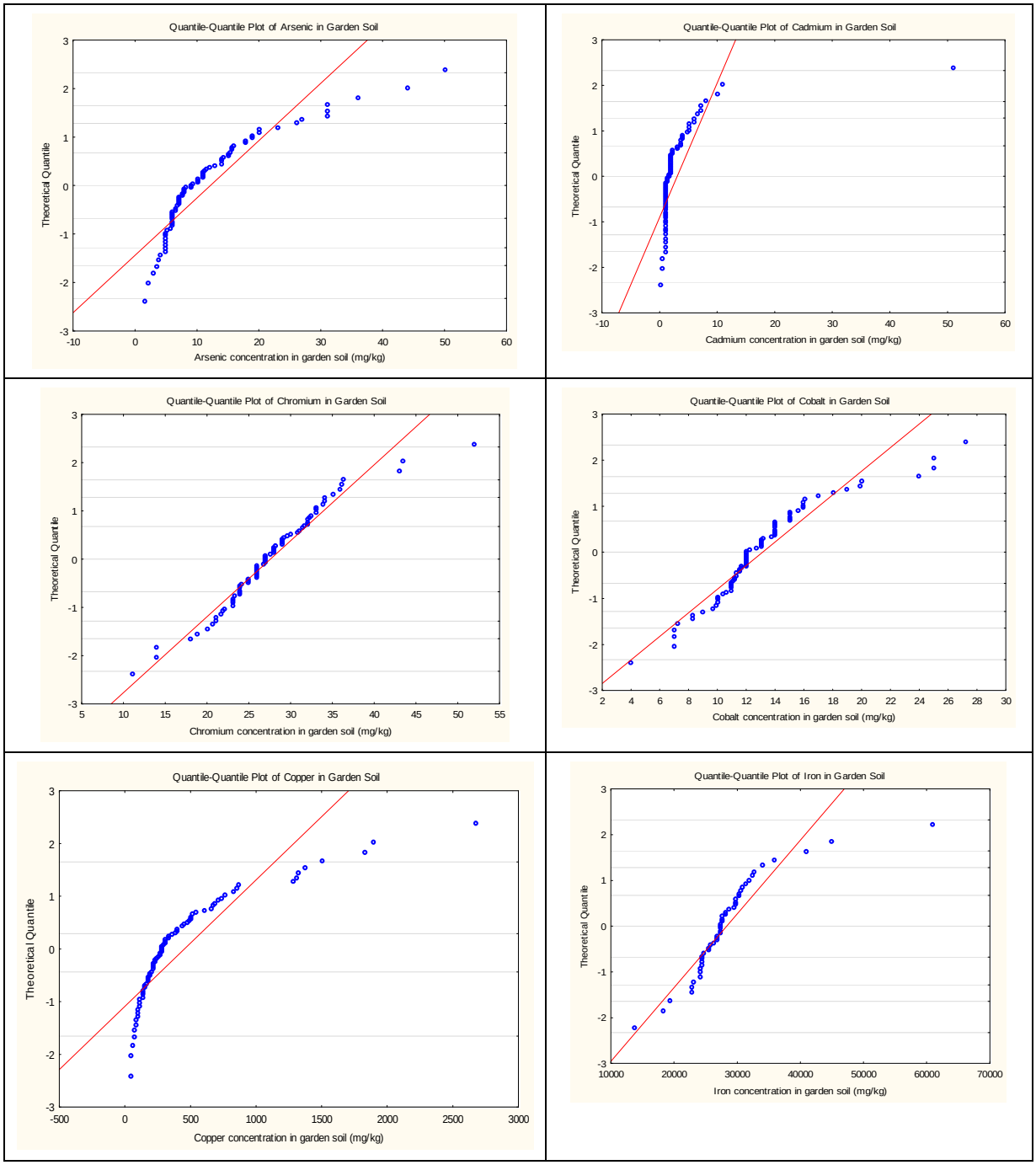
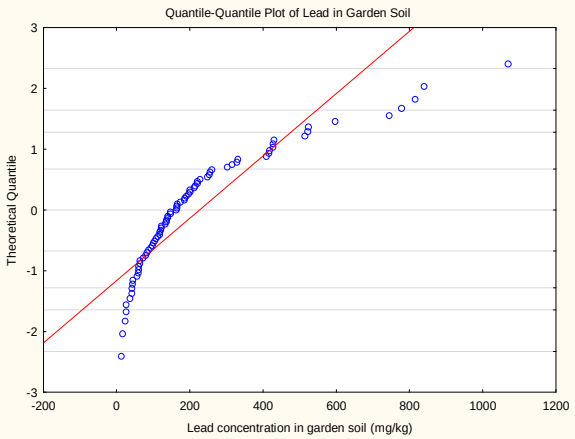
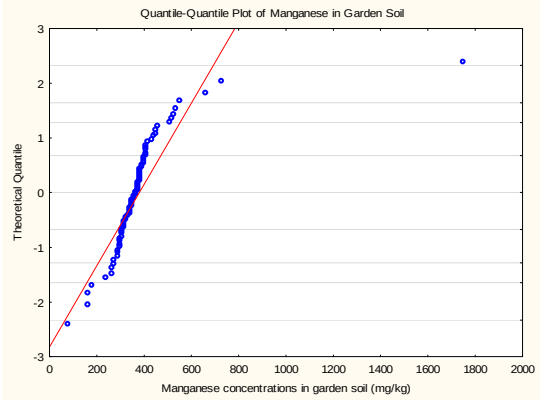
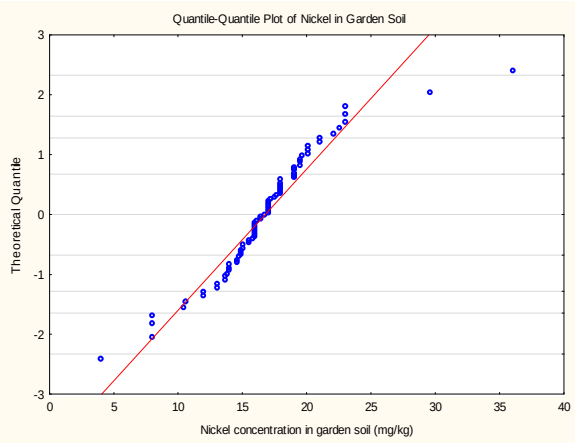

Quantile-Quantile Plot of Manganese in Natural Outcrops
Theoretical Quantile
Manganese concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-1000
0
1000
2000
3000
4000
5000
6000
7000
8000
Quantile-Quantile Plot of Zinc in Natural Outcrops
Theoretical Quantile
Zinc concentration (mg/kg)
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600

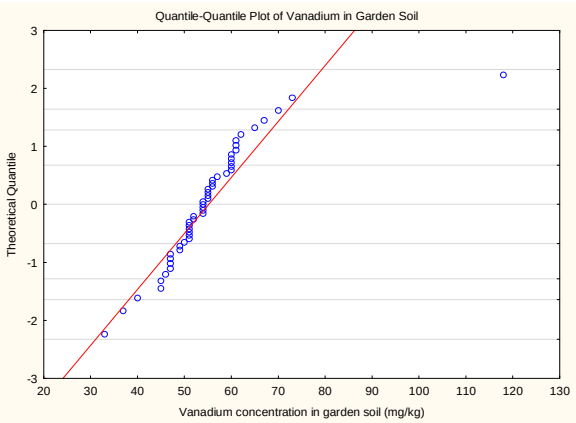
Figure A5- 13: Q-Q plots of metal and metalloid concentration in garden soil (<250 µm) (CS)




Quantile-Quantile Plot of Lead in Garden Soil
Theoretical Quantile
Lead concentration in garden soil (mg/kg)

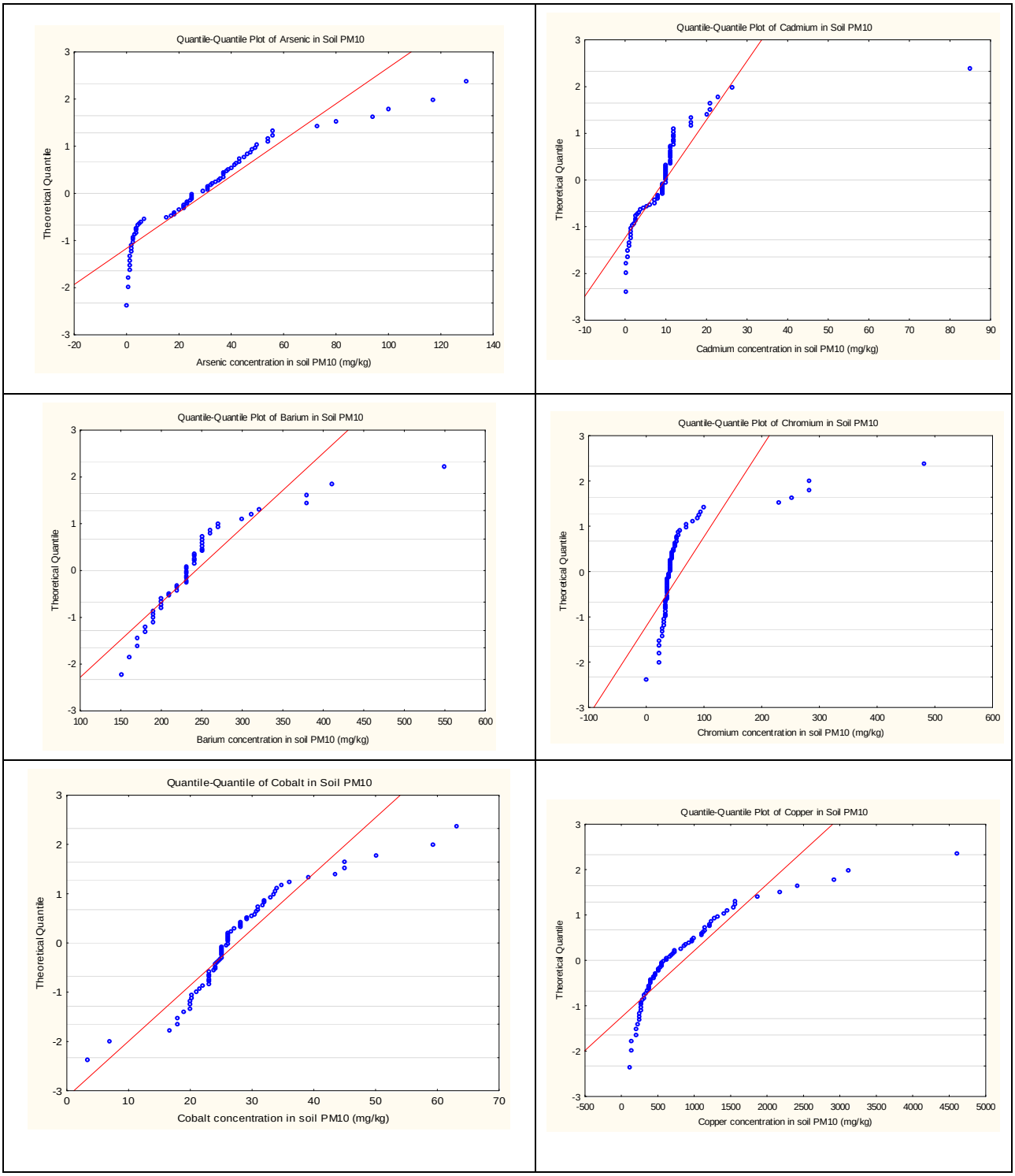

Quantile-Quantile Plot of Manganese in Garden Soil
Theoretical Quantile
Manganese concentrations in garden soil (mg/kg)

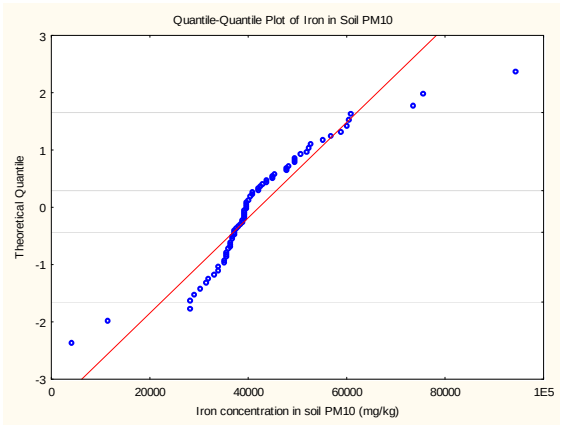

Quantile-Quantile Plot of Nickel in Garden Soil
Theoretical Quantile
Nickel concentration in garden soil (mg/kg)

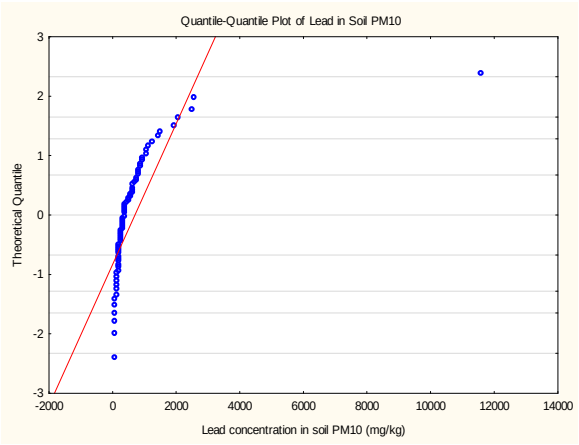

Quantile-Quantile Plot of Vanadium in Garden Soil
Theoretical Quantile
Vanadium concentration in garden soil (mg/kg)

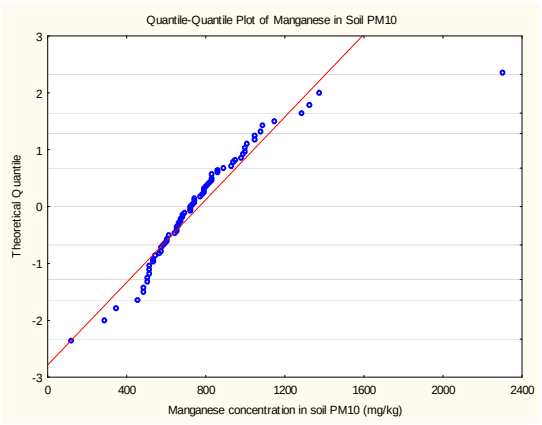

Quantile-Quantile Plot of Zinc in Garden Soil
Theoretical Quantile
Zinc concentration in garden soil (mg/kg)

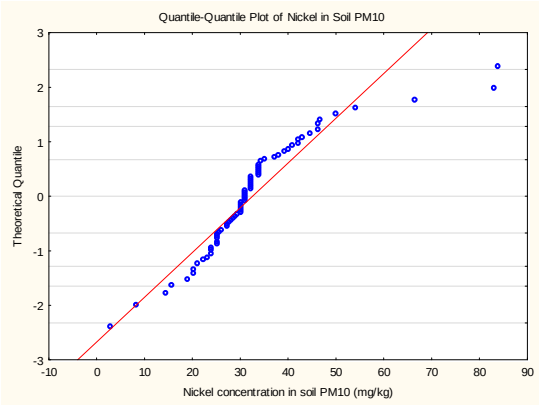
Figure A5- 14: Q-Q plots of metal and metalloid concentration in soil PM10 fraction (PM10S)

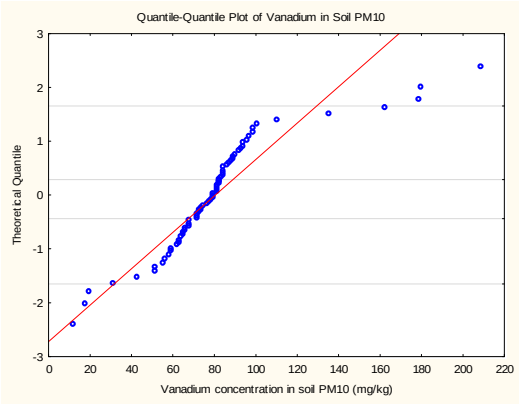



Quantile-Quantile Plot of Iron in Soil PM10
Theoretical Quantile
Iron concentration in soil PM10 (mg/kg)


Quantile-Quantile Plot of Lead in Soil PM10
Theoretical Quantile
Lead concentration in soil PM10 (mg/kg)


Quantile-Quantile Plot of Manganese in Soil PM10
Theoretical Quantile
Manganese concentration in soil PM10 (mg/kg)


Quantile-Quantile Plot of Nickel in Soil PM10
Theoretical Quantile
Nickel concentration in soil PM10 (mg/kg)


Quantile-Quantile Plot of Vanadium in Soil PM10
Theoretical Quantile
Vanadium concentration in soil PM10 (mg/kg)

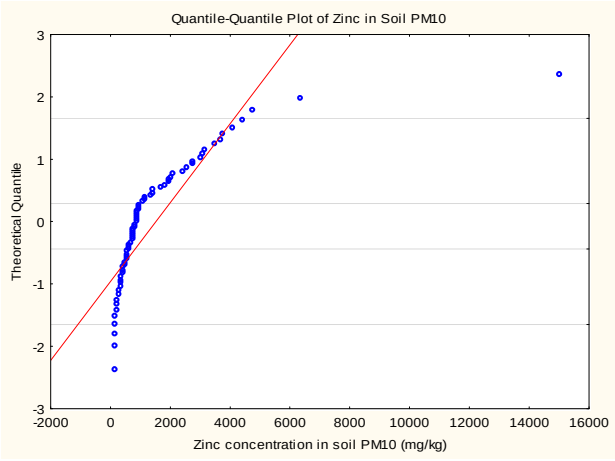
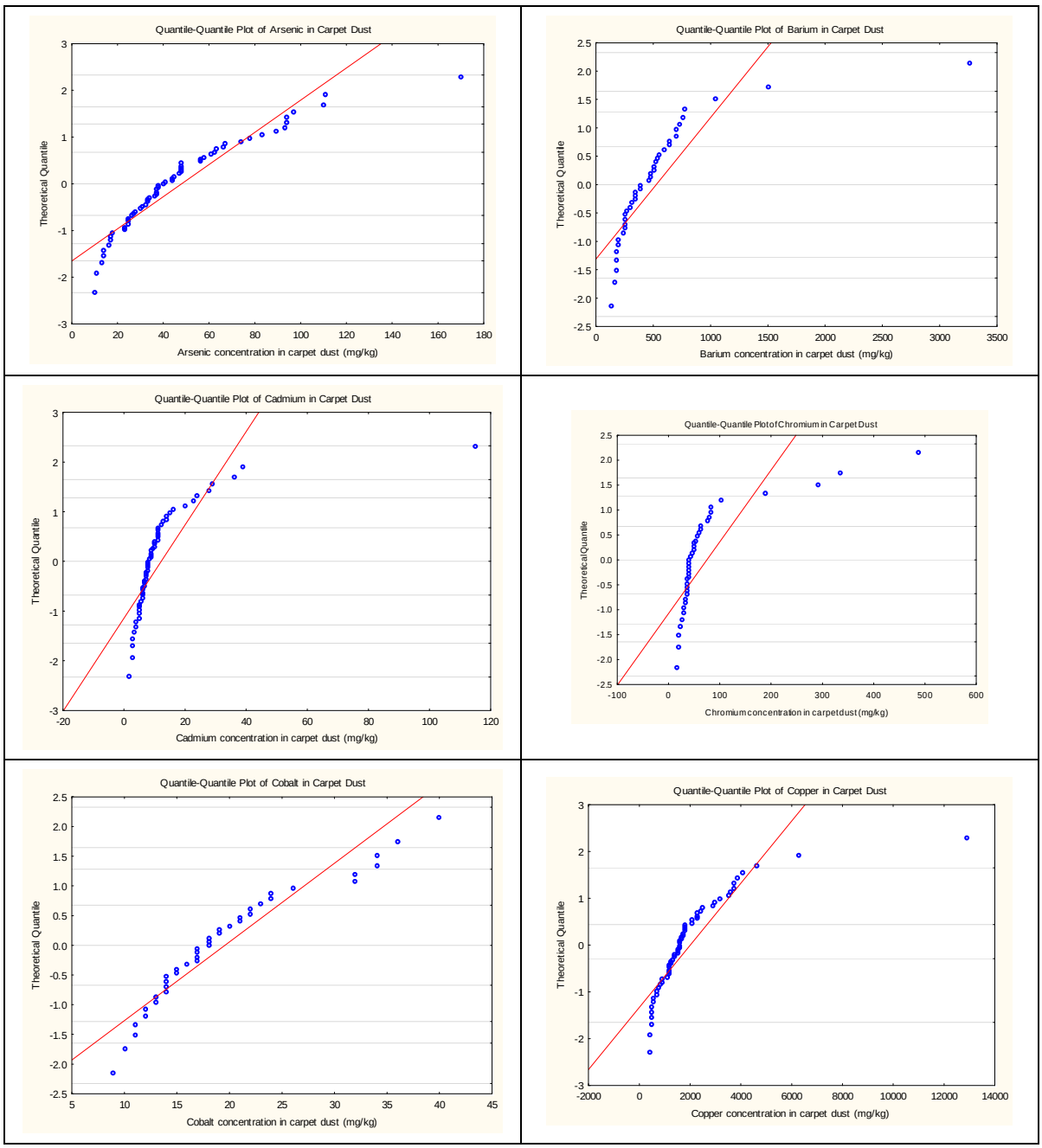
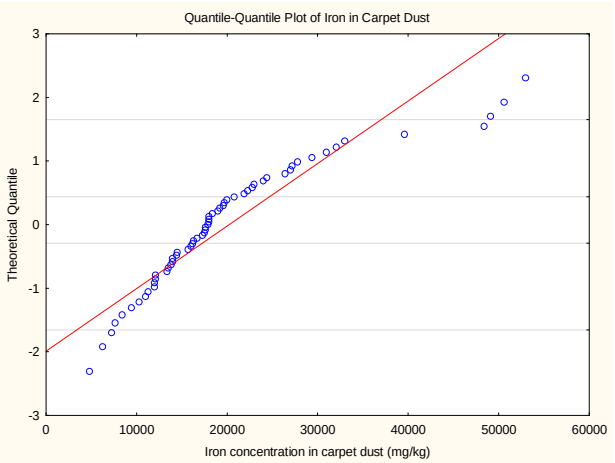
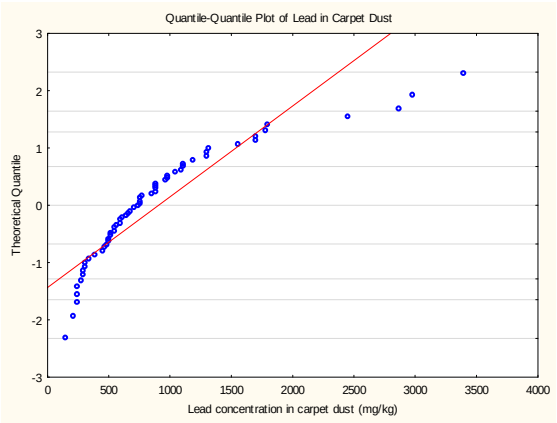
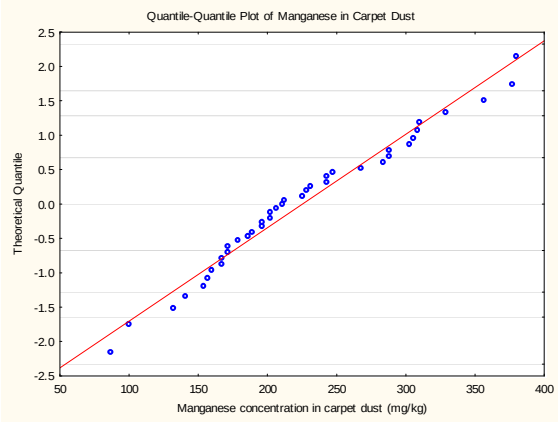

Quantile-Quantile Plot of Zinc in Soil PM10
Theoretical Quantile
Zinc concentration in soil PM10 (mg/kg)

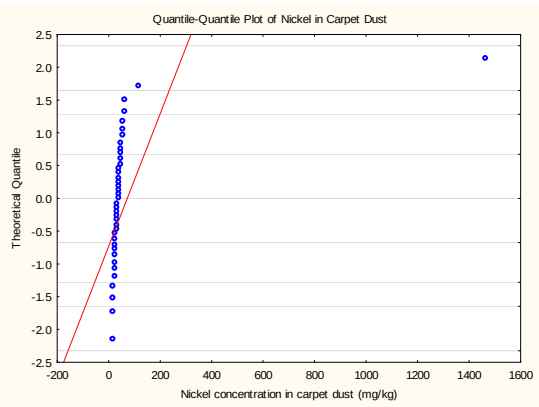
Figure A5- 15: Q-Q plots of metal and metalloid concentration in carpet dust (CD)

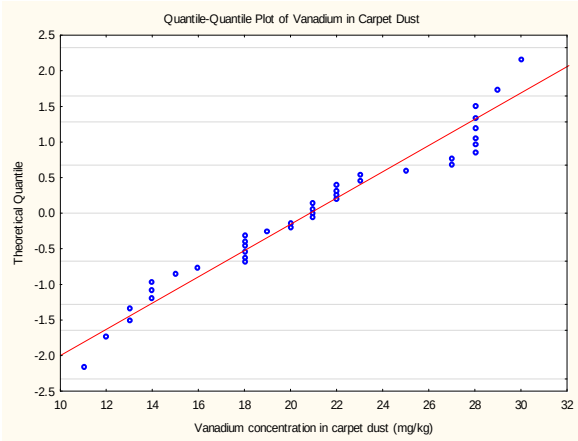



Quantile-Quantile Plot of Iron in Carpet Dust
Theoretical Quantile
Iron concentration in carpet dust (mg/kg)


Quantile-Quantile Plot of Lead in Carpet Dust
Theoretical Quantile
Lead concentration in carpet dust (mg/kg)


Quantile-Quantile Plot of Manganese in Carpet Dust
Theoretical Quantile
Manganese concentration in carpet dust (mg/kg)


Quantile-Quantile Plot of Nickel in Carpet Dust
Theoretical Quantile
Nickel concentration in carpet dust (mg/kg)


Quantile-Quantile Plot of Vanadium in Carpet Dust
Theoretical Quantile
Vanadium concentration in carpet dust (mg/kg)

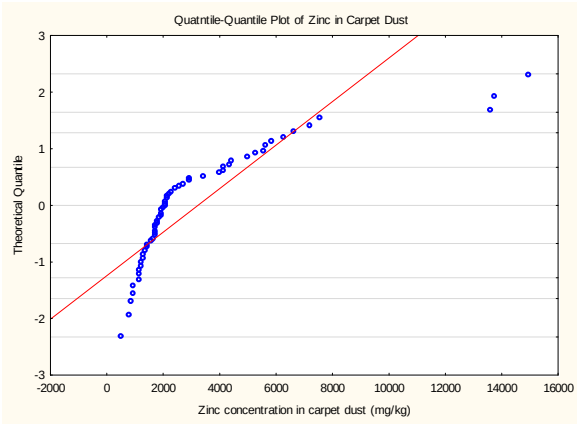
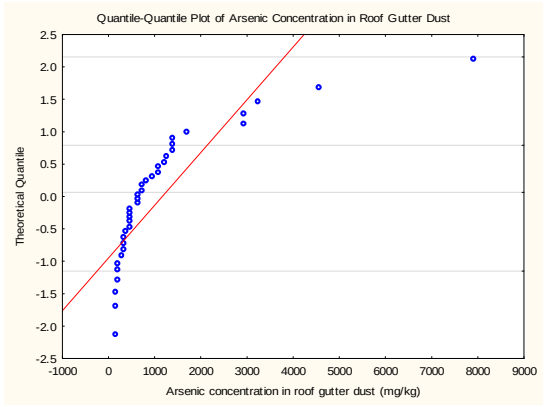
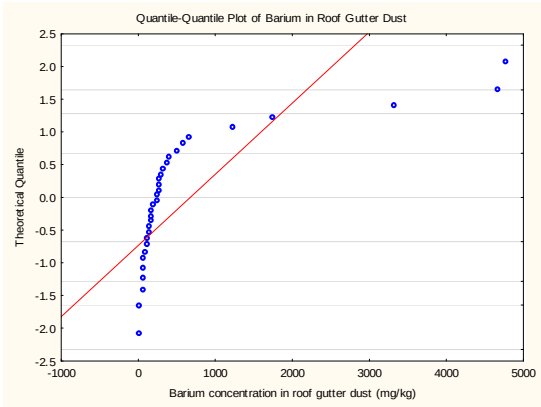
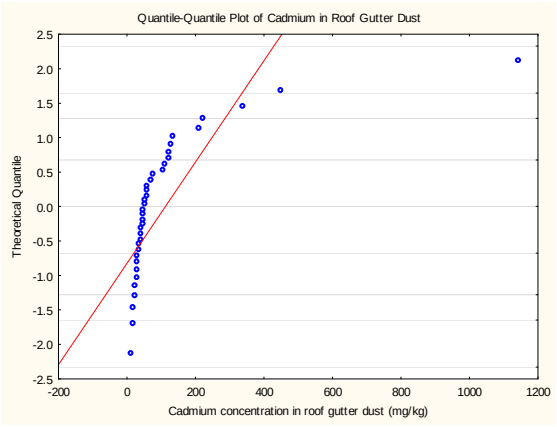
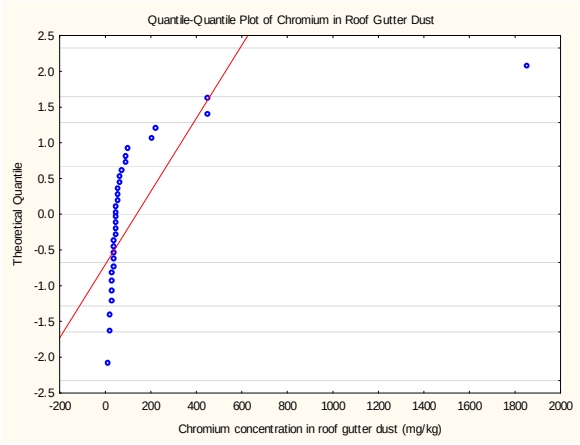

Quatntile-Quantile Plot of Zinc in Carpet Dust
Theoretical Quantile
Zinc concentration in carpet dust (mg/kg)

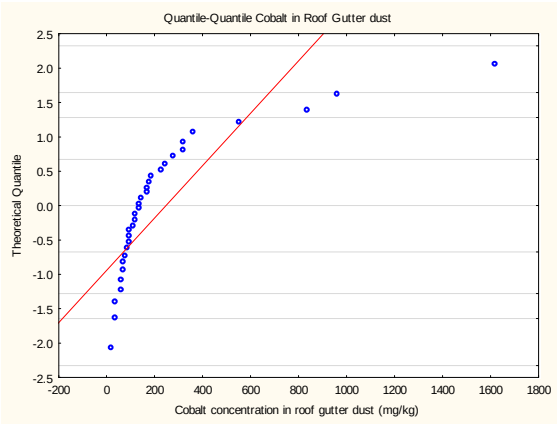
Figure A5- 16: Q-Q plots of metal and metalloid concentration in roof gutter dust (RGD)

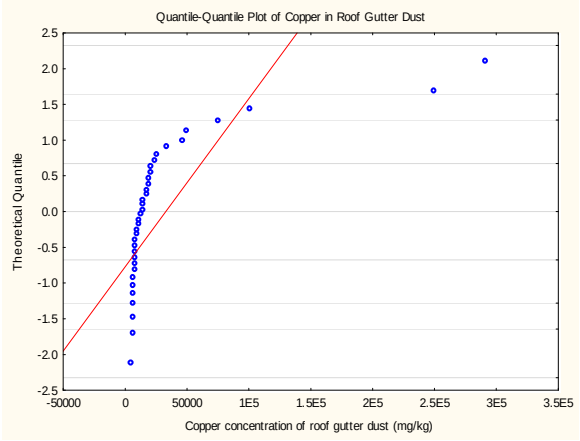


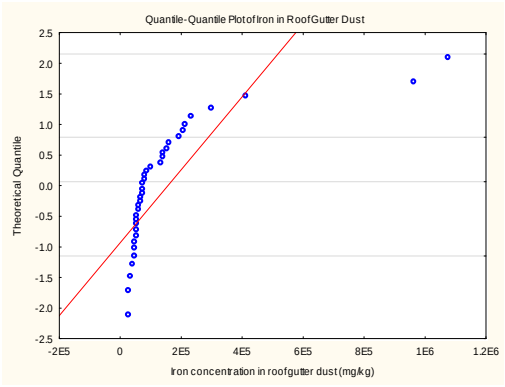


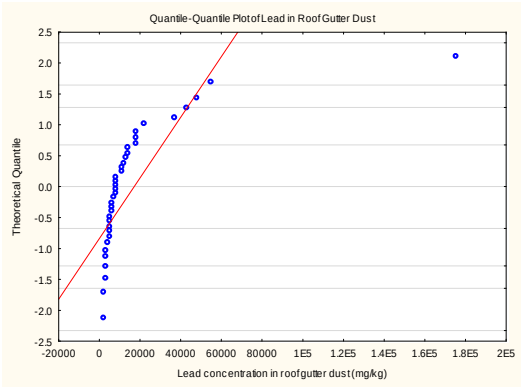


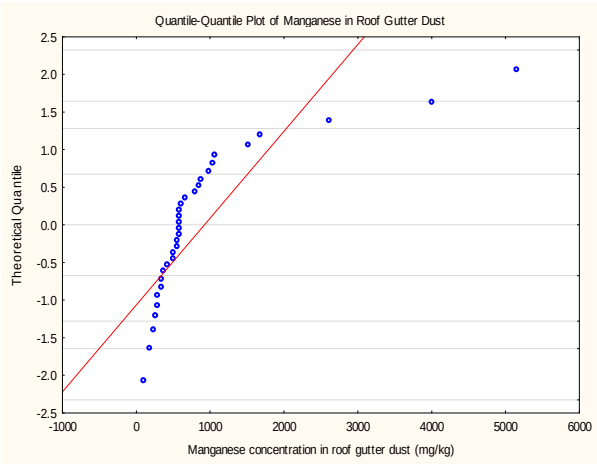


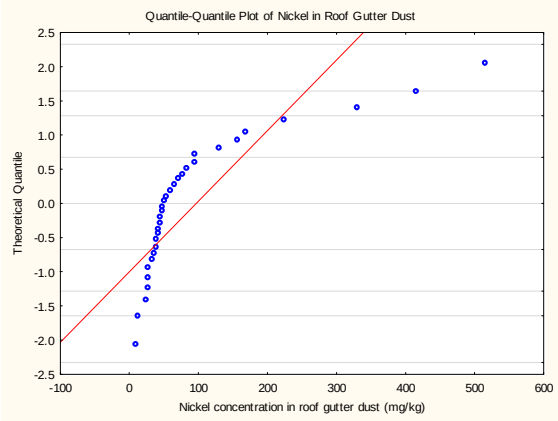


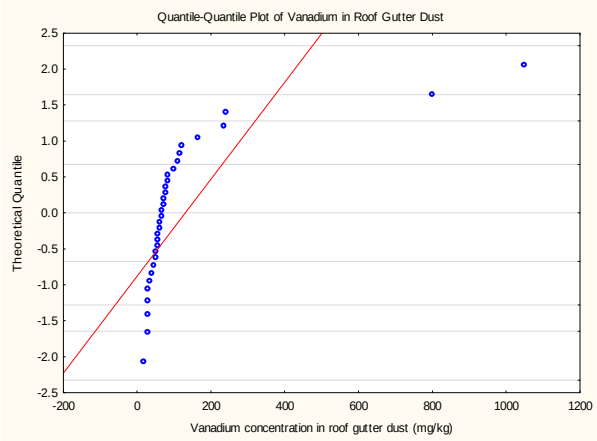



Quantile-Quantile Plot of Iron in Roof Gutter Dust
Theoretical Quantile
Iron concentration in roof gutter dust (mg/kg)


Quantile-Quantile Plot of Lead in Roof Gutter Dust
Theoretical Quantile
Lead concentration in roof gutter dust (mg/kg)


Quantile-Quantile Plot of Manganese in Roof Gutter Dust
Theoretical Quantile
Manganese concentration in roof gutter dust (mg/kg)


Quantile-Quantile Plot of Nickel in Roof Gutter Dust
Theoretical Quantile
Nickel concentration in roof gutter dust (mg/kg)


Quantile-Quantile Plot of Vanadium in Roof Gutter Dust
Theoretical Quantile
Vanadium concentration in roof gutter dust (mg/kg)

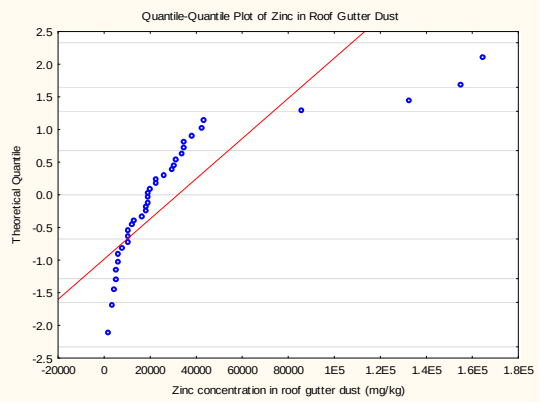
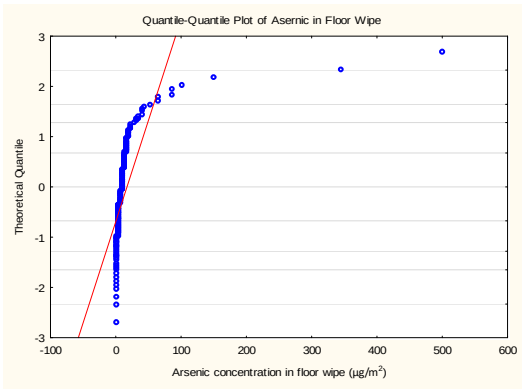
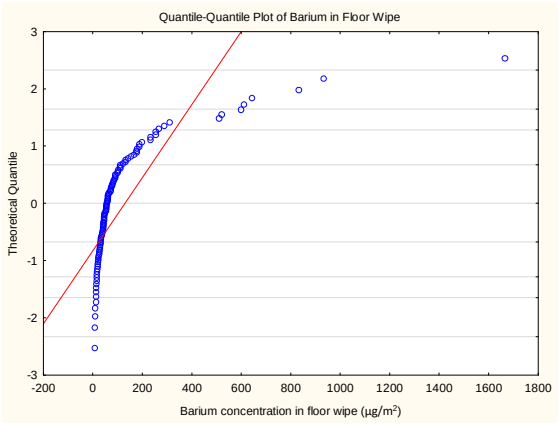
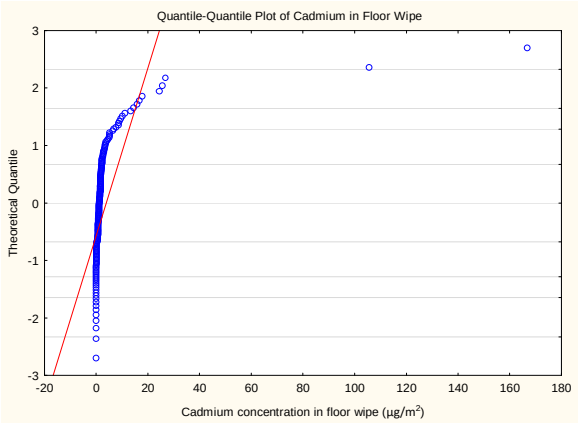
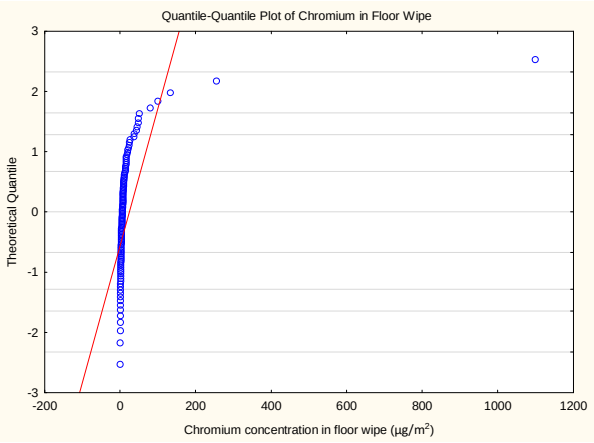

Quantile-Quantile Plot of Zinc in Roof Gutter Dust
Theoretical Quantile
Zinc concentration in roof gutter dust (mg/kg)

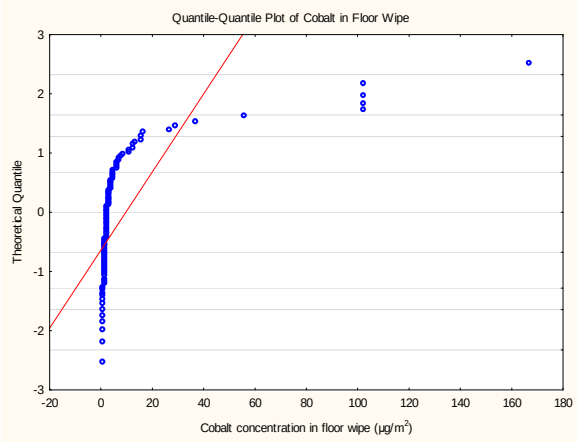
Figure A5- 17: Q-Q plots of metal and metalloid concentration in floor wipe (WF)

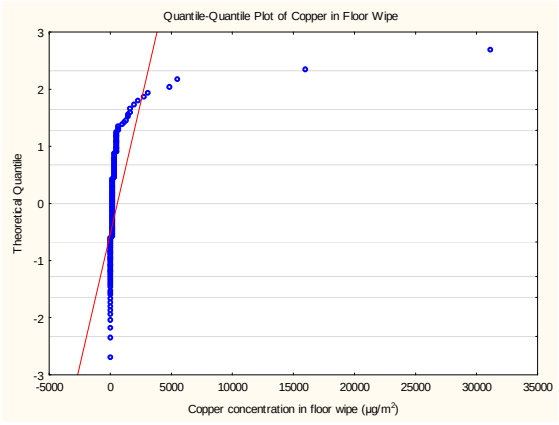


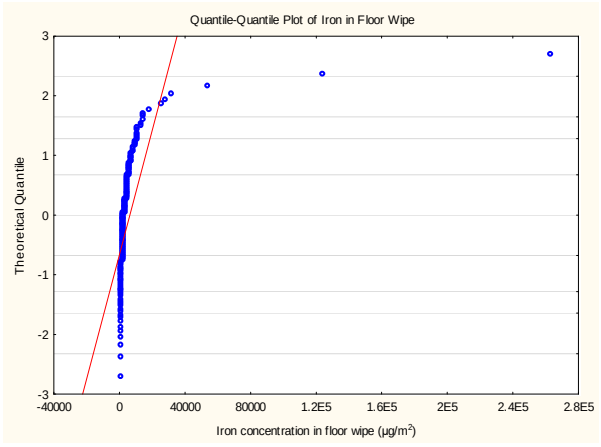


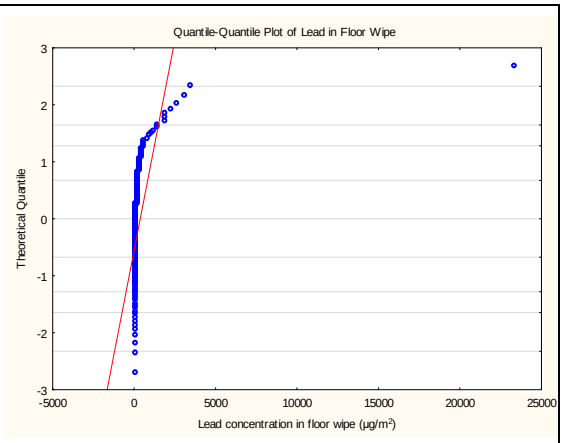


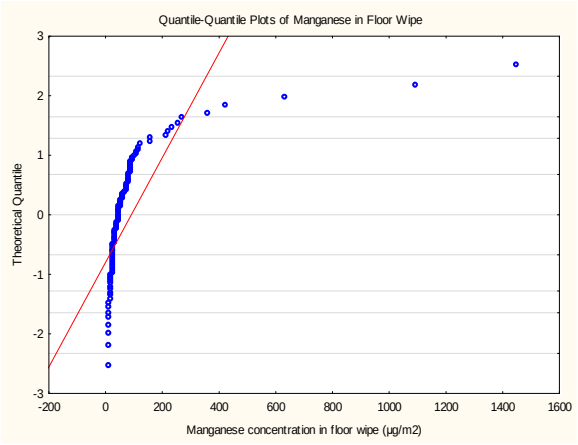


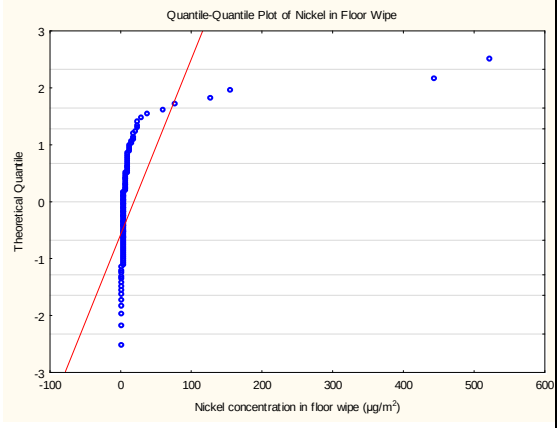


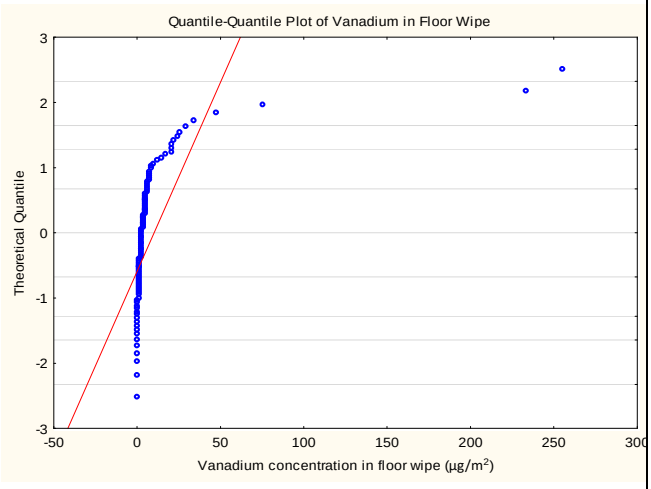



Quantile-Quantile Plot of Iron in Floor Wipe
Theoretical Quantile
Iron concentration in floor wipe (µg/m²)


Quantile-Quantile Plot of Lead in Floor Wipe
Theoretical Quantile
Lead concentration in floor wipe (µg/m²)


Quantile-Quantile Plots of Manganese in Floor Wipe
Theoretical Quantile
Manganese concentration in floor wipe (µg/m2)


Quantile-Quantile Plot of Nickel in Floor Wipe
Theoretical Quantile
Nickel concentration in floor wipe (µg/m²)


Quantile-Quantile Plot of Vanadium in Floor Wipe
Theoretical Quantile
Vanadium concentration in floor wipe (µg/m²)

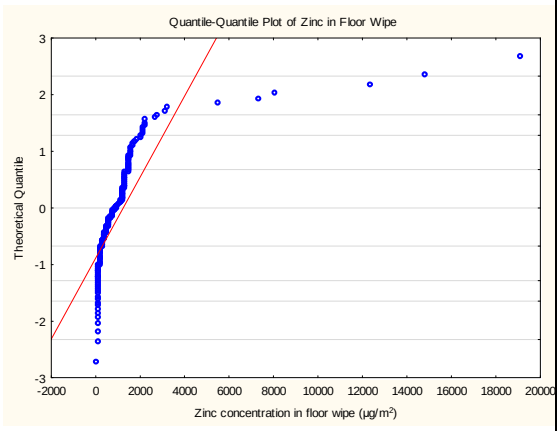
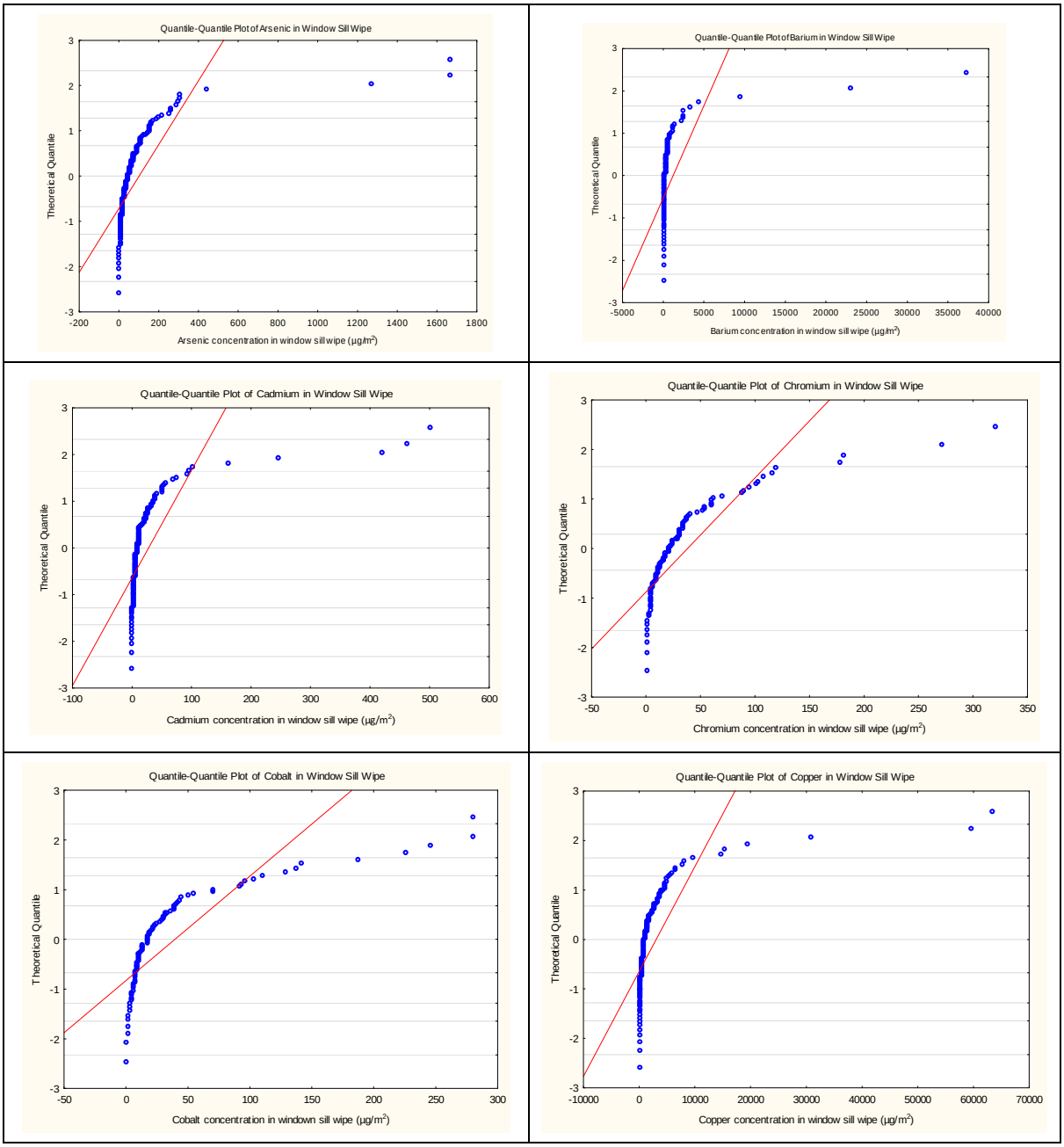
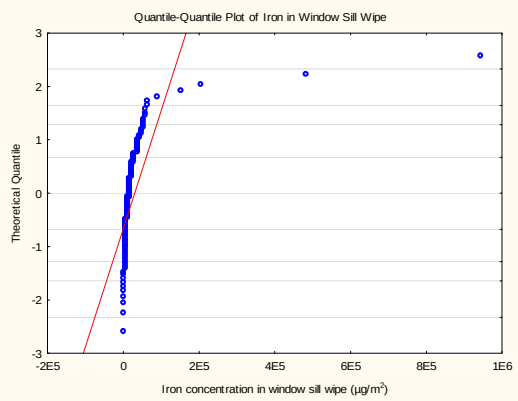
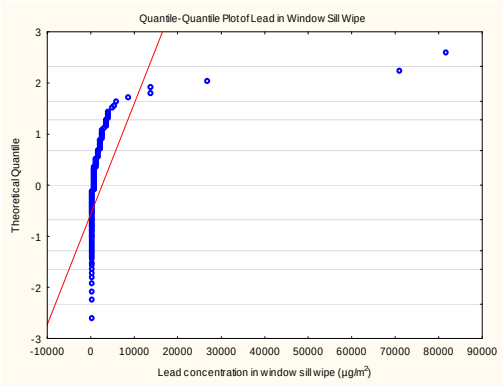
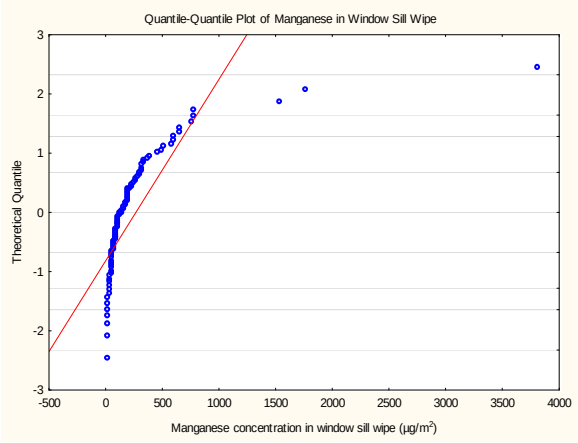

Quantile-Quantile Plot of Zinc in Floor Wipe
Theoretical Quantile
Zinc concentration in floor wipe (µg/m²)

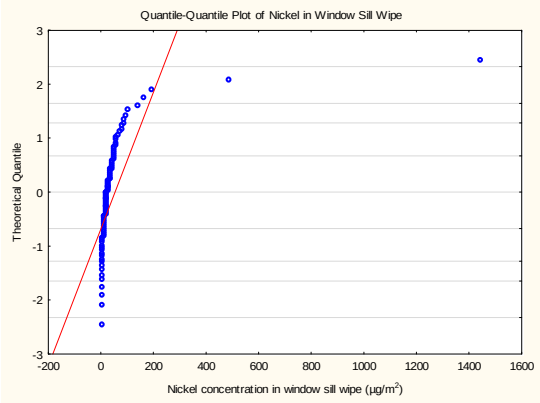
Figure A5- 18: Q-Q plots of metal and metalloid concentration in window sill wipe (WS)

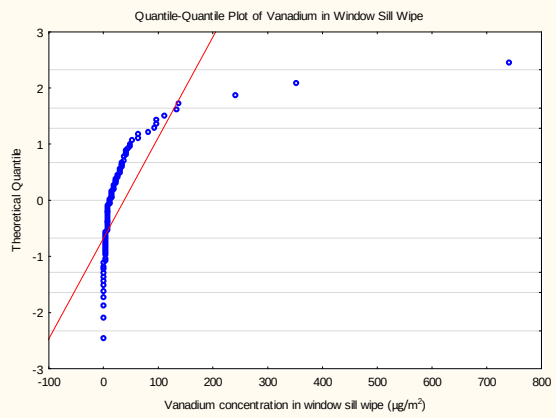



Quantile-Quantile Plot of Iron in Window Sill Wipe
Theoretical Quantile
Iron concentration in window sill wipe (µg/m²)


Quantile-Quantile Plot of Lead in Window Sill Wipe
Theoretical Quantile
Lead concentration in window sill wipe (µg/m²)


Quantile-Quantile Plot of Manganese in Window Sill Wipe
Theoretical Quantile
Manganese concentration in window sill wipe (µg/m²)


Quantile-Quantile Plot of Nickel in Window Sill Wipe
Theoretical Quantile
Nickel concentration in window sill wipe (µg/m²)


Quantile-Quantile Plot of Vanadium in Window Sill Wipe
Theoretical Quantile
Vanadium concentration in window sill wipe (µg/m²)

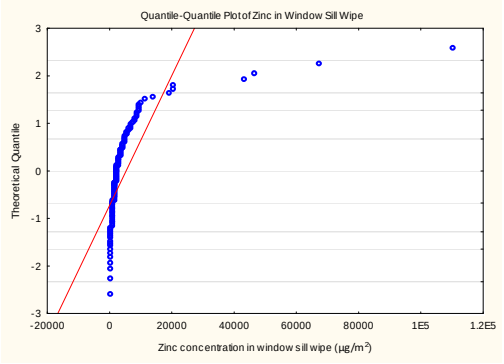
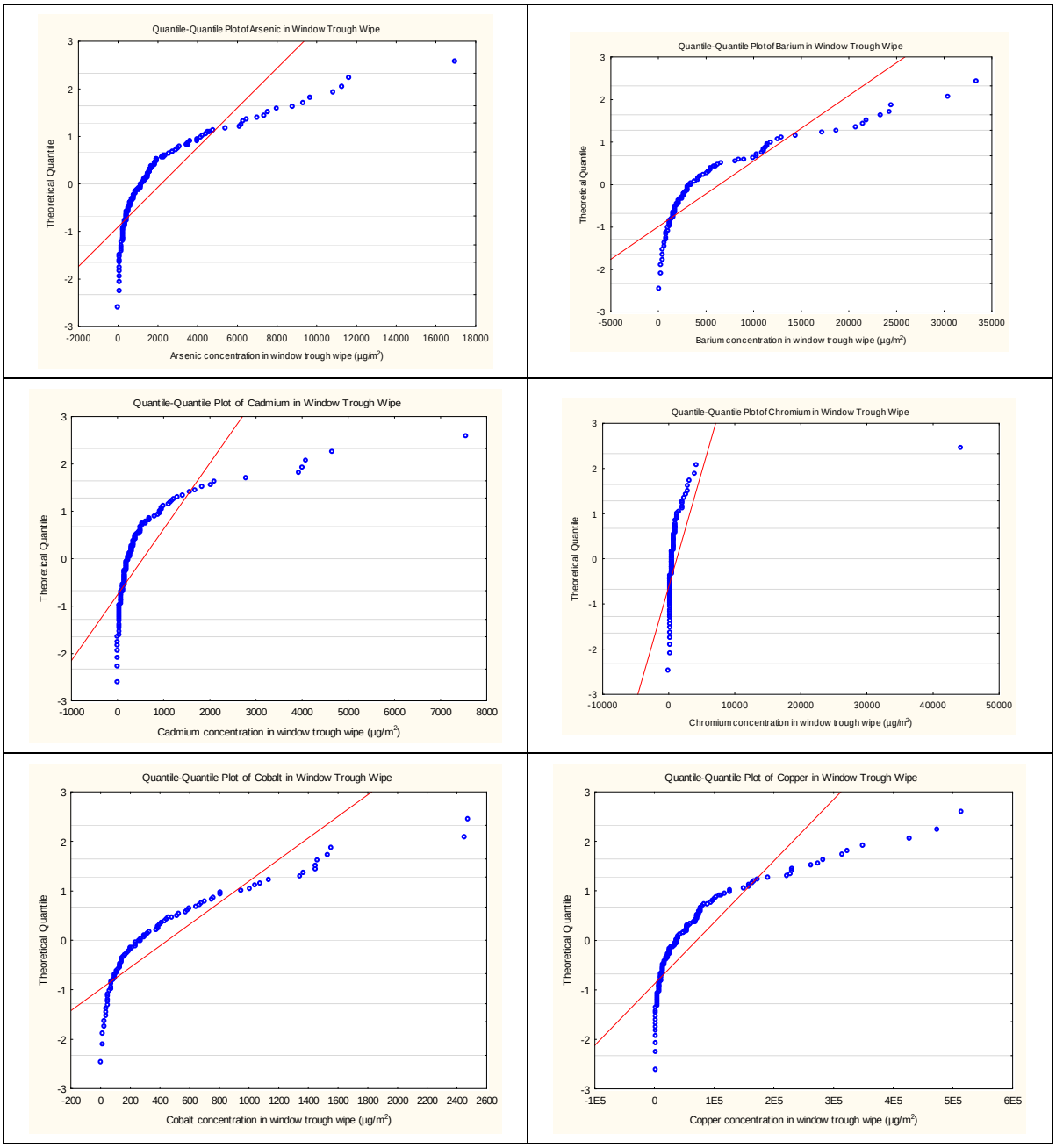
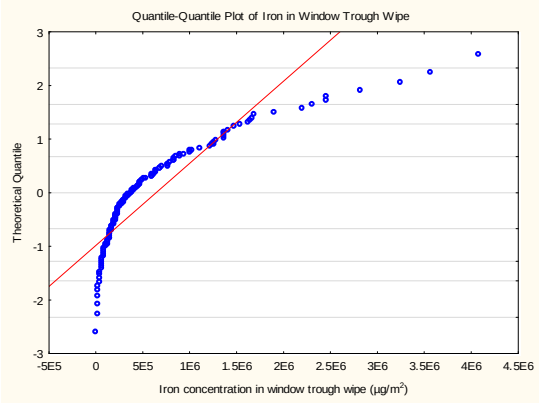
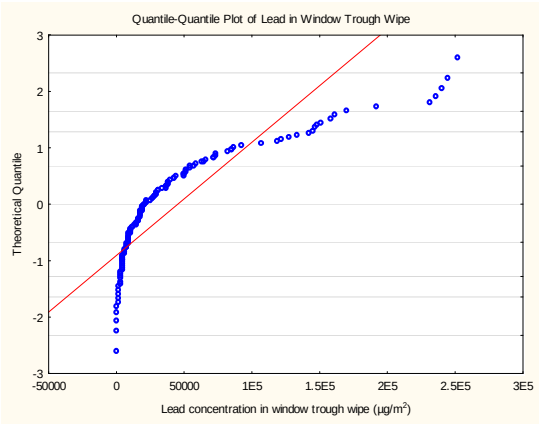
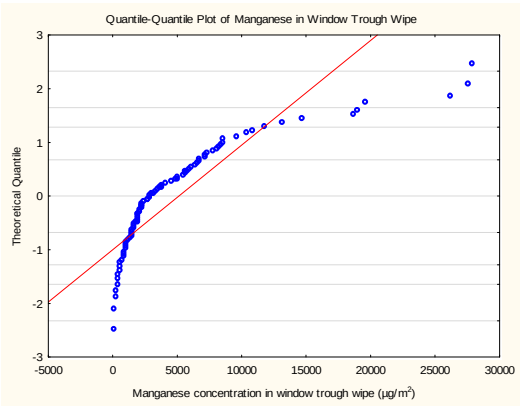

Quantile-Quantile Plot of Zinc in Window Sill Wipe
Theoretical Quantile
Zinc concentration in window sill wipe (µg/m²)

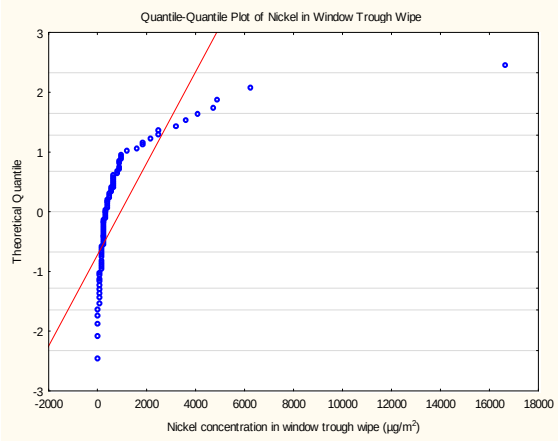
Figure A5- 19: Q-Q plots of metal and metalloid in window trough wipe (WT)

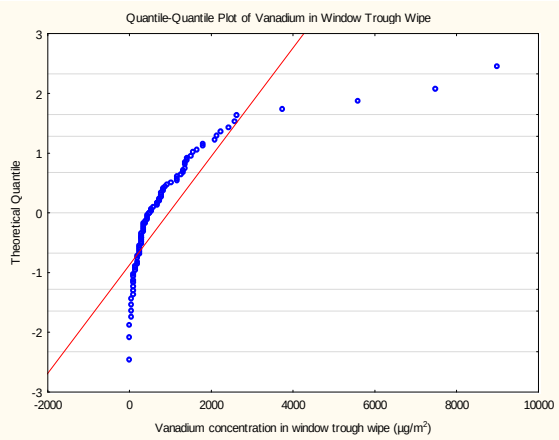



Quantile-Quantile Plot of Iron in Window Trough Wipe
Theoretical Quantile
Iron concentration in window trough wipe (µg/m2)


Quantile-Quantile Plot of Lead in Window Trough Wipe
Theoretical Quantile
Lead concentration in window trough wipe (µg/m2)


Quantile-Quantile Plot of Manganese in Window Trough Wipe
Theoretical Quantile
Manganese concentration in window trough wipe (µg/m2)


Quantile-Quantile Plot of Nickel in Window Trough Wipe
Theoretical Quantile
Nickel concentration in window trough wipe (µg/m2)


Quantile-Quantile Plot of Vanadium in Window Trough Wipe
Theoretical Quantile
Vanadium concentration in window trough wipe (µg/m2)

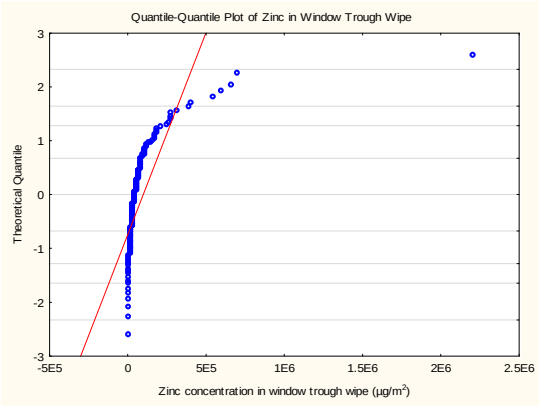
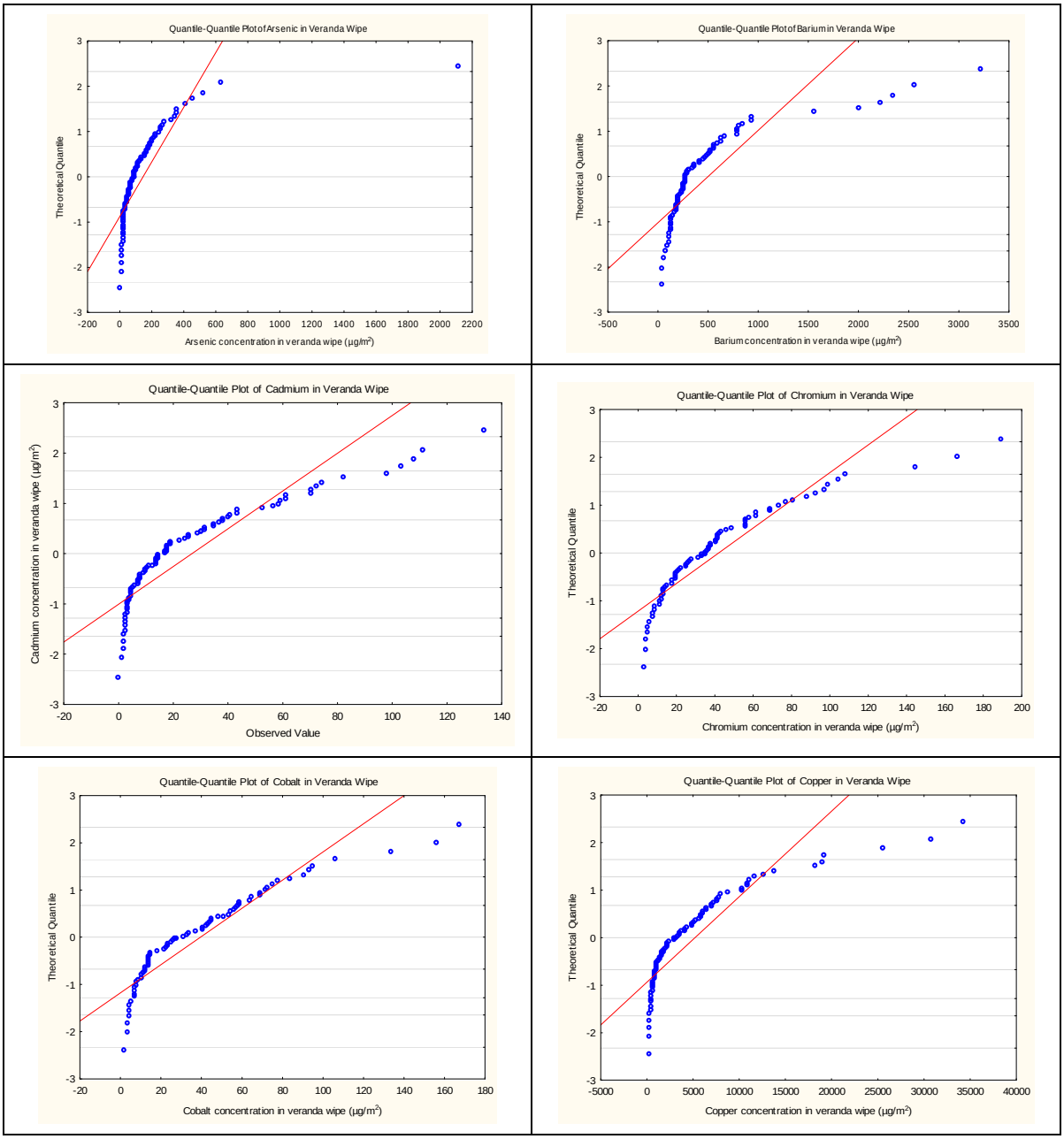
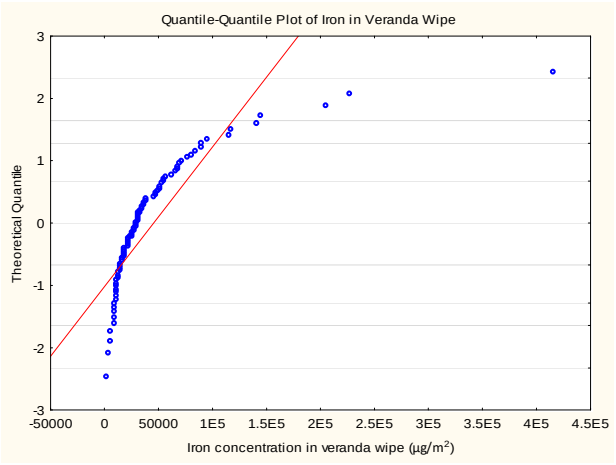
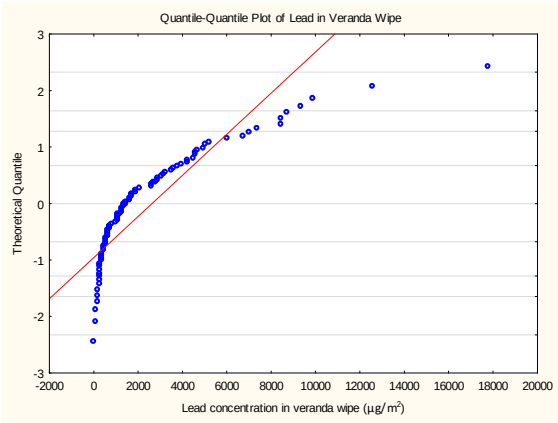
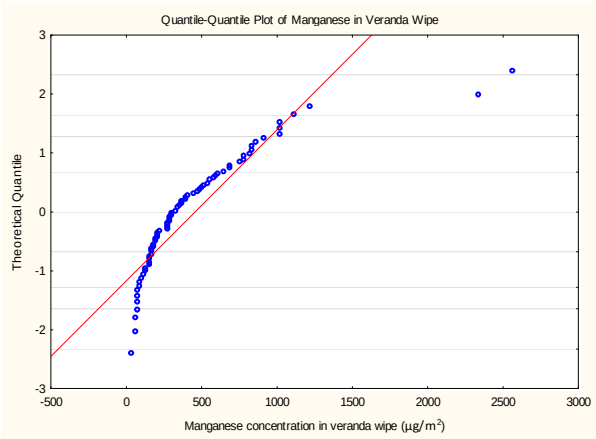

Quantile-Quantile Plot of Zinc in Window Trough Wipe
Theoretical Quantile
Zinc concentration in window trough wipe (µg/m2)

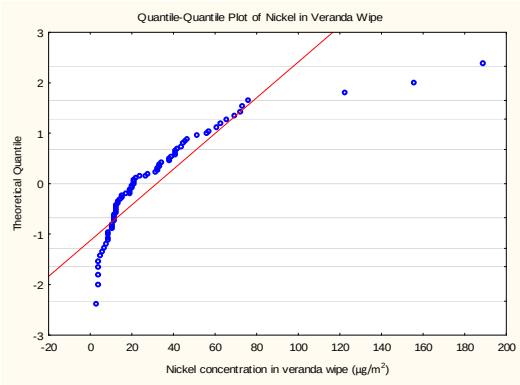
Figure A5- 20: Q-Q plots of metal and metalloid in veranda wipe (WV)

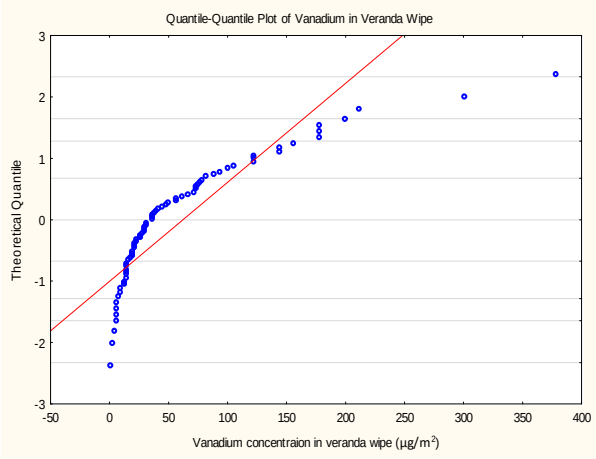



Quantile-Quantile Plot of Iron in Veranda Wipe
Theoretical Quantile
Iron concentration in veranda wipe (µg/m2)


Quantile-Quantile Plot of Lead in Veranda Wipe
Theoretical Quantile
Lead concentration in veranda wipe (µg/m2)


Quantile-Quantile Plot of Manganese in Veranda Wipe
Theoretical Quantile
Manganese concentration in veranda wipe (µg/m2)


Quantile-Quantile Plot of Nickel in Veranda Wipe
Theoretical Quantile
Nickel concentration in veranda wipe (µg/m2)


Quantile-Quantile Plot of Vanadium in Veranda Wipe
Theoretical Quantile
Vanadium concentraion in veranda wipe (µg/m2)

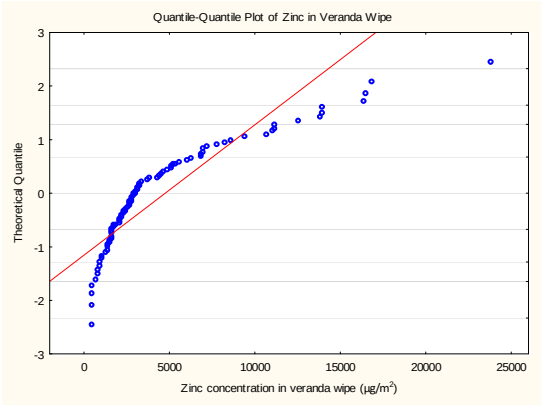
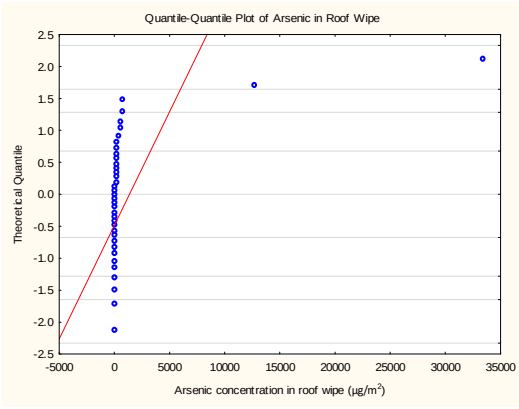
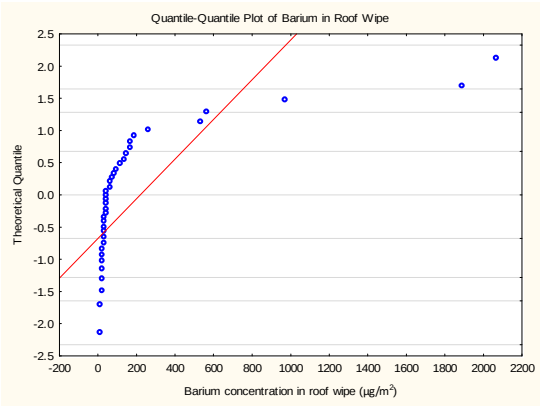
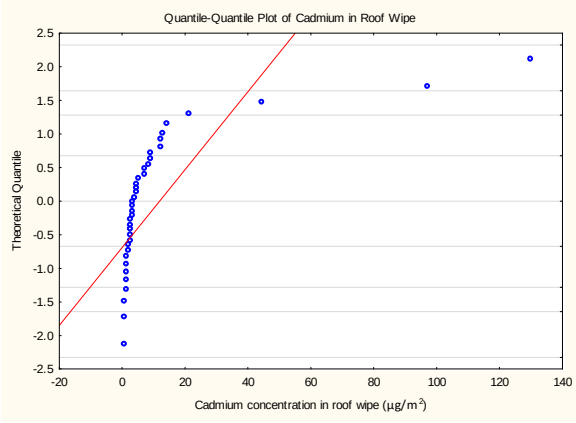
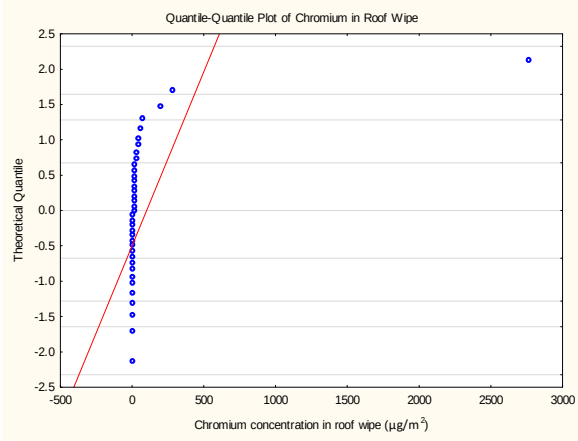

Quantile-Quantile Plot of Zinc in Veranda Wipe
Theoretical Quantile
Zinc concentration in veranda wipe (µg/m2)

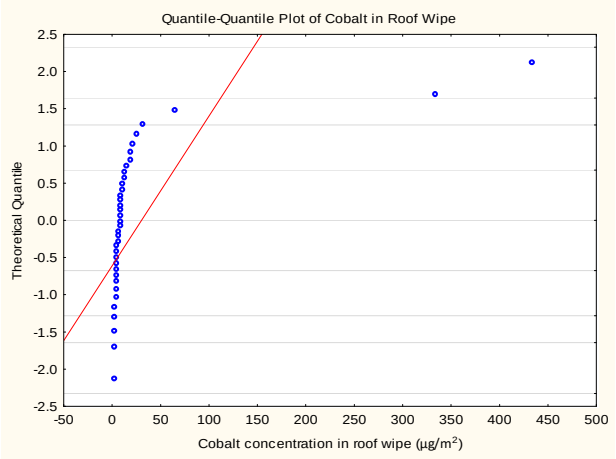
Figure A5- 21: Q-Q plots of metal and metalloid concentration in roof wipe (WR)

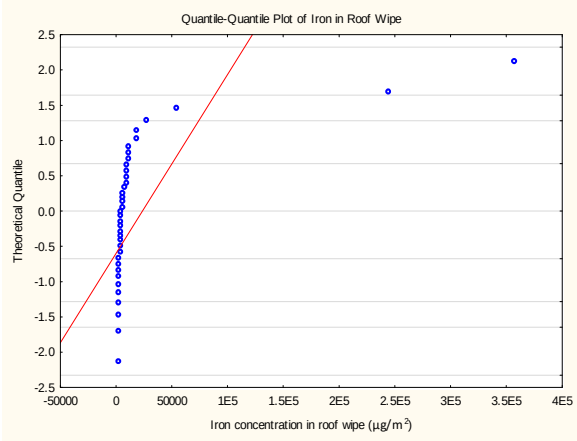


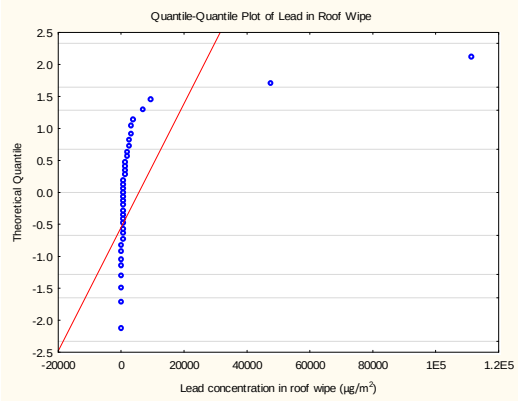


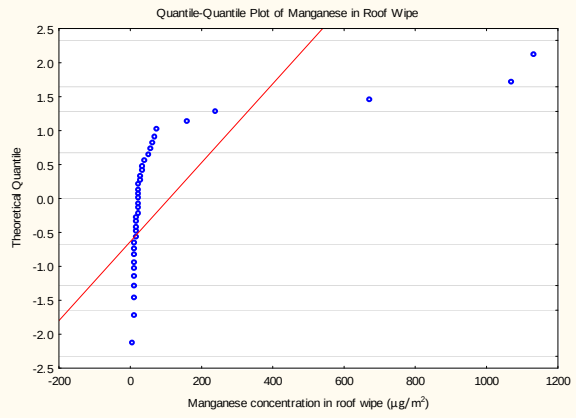




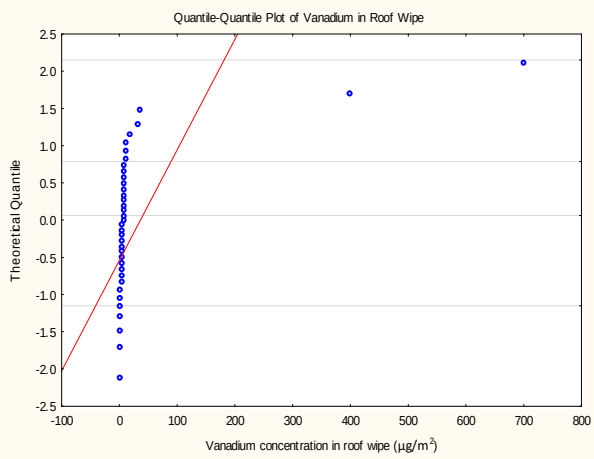





Quantile-Quantile Plot of Lead in Roof Wipe
Theoretical Quantile
Lead concentration in roof wipe (µg/m²)


Quantile-Quantile Plot of Manganese in Roof Wipe
Theoretical Quantile
Manganese concentration in roof wipe (µg/m²)


Quantile-Quantile Plot of Nickel in Roof Wipe
Theoretical Quantile
Nickel concentration in roof wipe (µg/m²)


Quantile-Quantile Plot of Vanadium in Roof Wipe
Theoretical Quantile
Vanadium concentration in roof wipe (µg/m²)

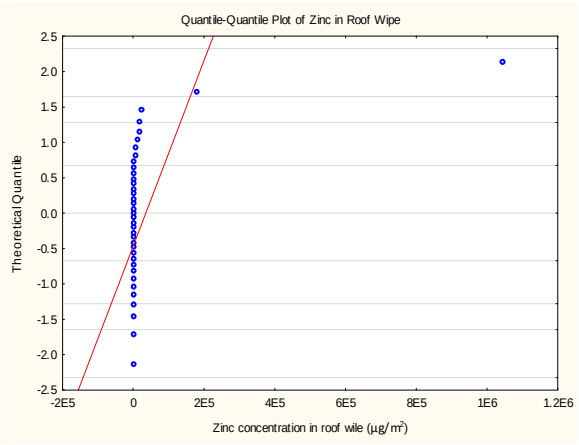
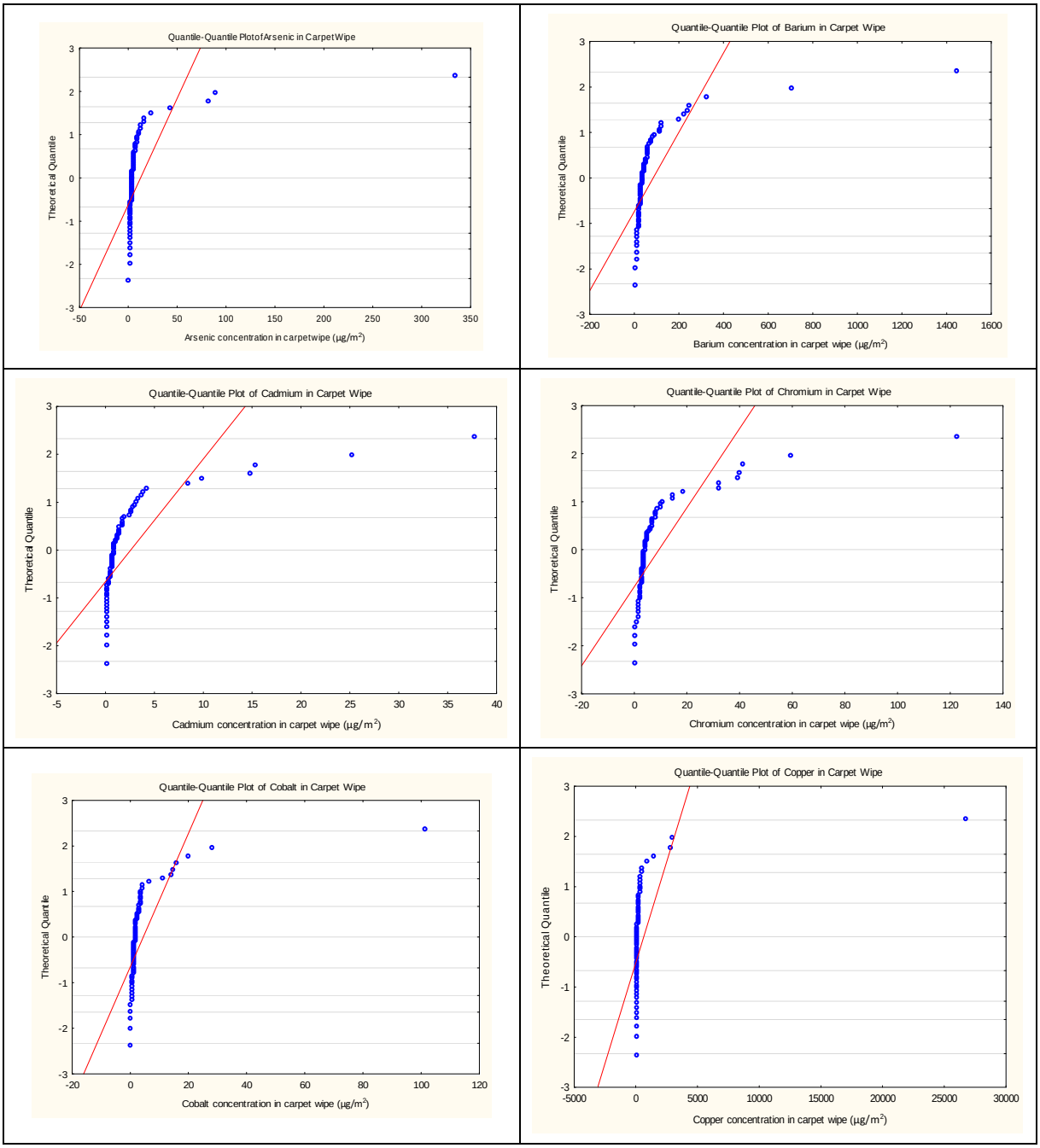
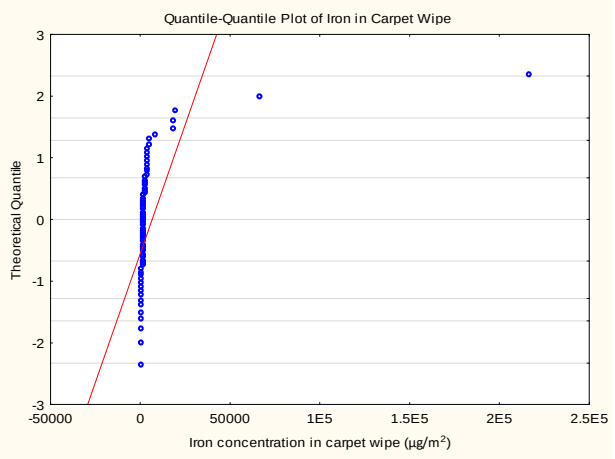
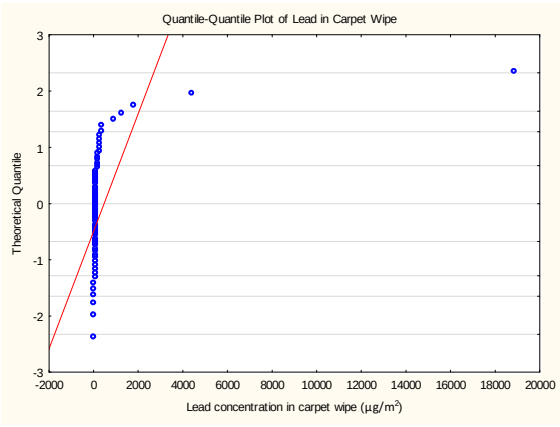
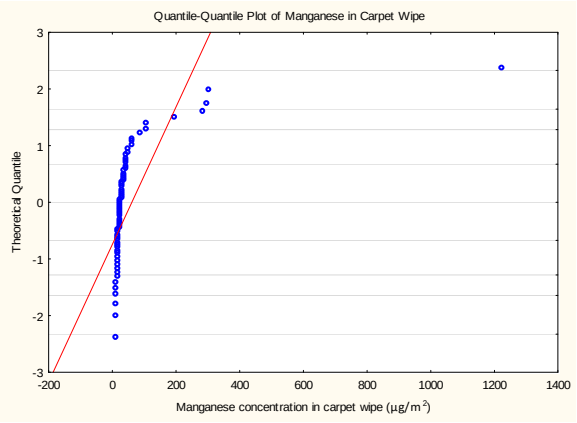

Quantile-Quantile Plot of Zinc in Roof Wipe
Theoretical Quantile
Zinc concentration in roof wile (µg/m²)

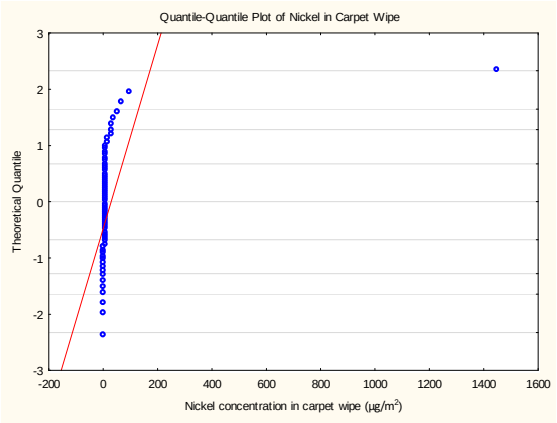
Figure A5- 22: Q-Q plots of metal and metalloid concentration in carpet wipe (WC)




Quantile-Quantile Plot of Iron in Carpet Wipe
Theoretical Quantile
Iron concentration in carpet wipe (µg/m2)
3
2
1
0
-1
-2
-3
-50000
0
50000
1E5
1.5E5
2E5
2.5E5


Quantile-Quantile Plot of Lead in Carpet Wipe
Theoretical Quantile
Lead concentration in carpet wipe (µg/m2)
3
2
1
0
-1
-2
-3
-2000
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000


Quantile-Quantile Plot of Manganese in Carpet Wipe
Theoretical Quantile
Manganese concentration in carpet wipe (µg/m2)
3
2
1
0
-1
-2
-3
-200
0
200
400
600
800
1000
1200
1400


Quantile-Quantile Plot of Nickel in Carpet Wipe
Theoretical Quantile
Nickel concentration in carpet wipe (µg/m2)
3
2
1
0
-1
-2
-3
-200
0
200
400
600
800
1000
1200
1400
1600

Appendix 6 Exposure assessment data

Rat bioavailability of lead study blood and urine

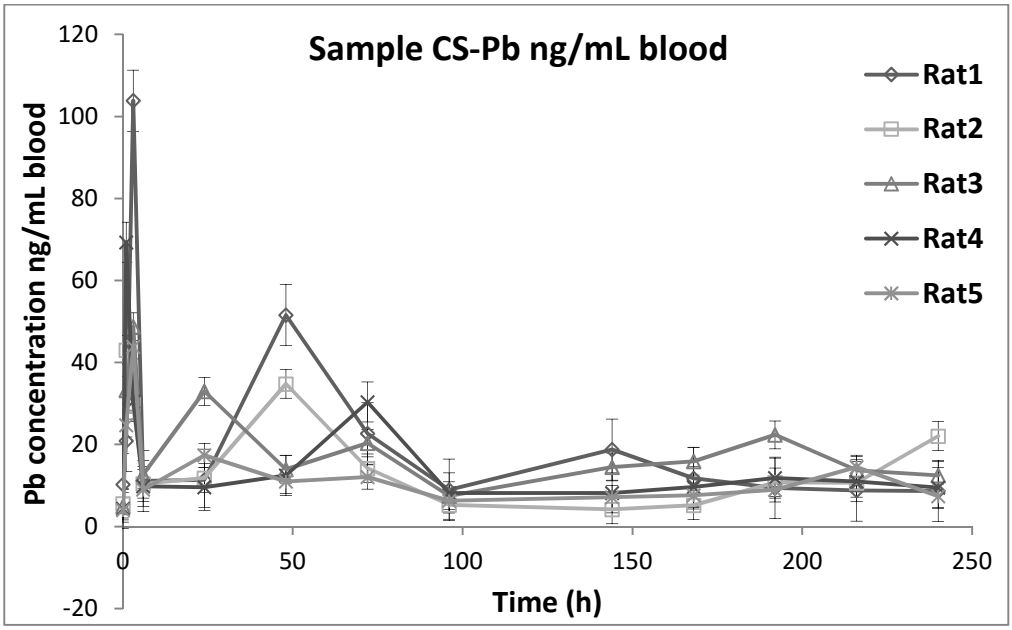
Rat bioavailability of lead study- Blood

Sample CS

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	10.30	5.55	4.97	4.35	4.00
1	20.86	43.08	33.25	69.31	24.75
3	103.84	29.72	48.72	30.47	43.84
6	11.09	10.43	12.72	9.77	9.03
24	11.39	11.84	32.96	9.53	17.34
48	51.60	34.80	13.97	12.43	10.97
72	22.67	14.20	20.33	30.37	12.04
96	8.92	5.24	7.48	8.18	6.31
144	18.74	4.15	14.50	8.17	7.11
168	11.75	5.19	15.91	9.67	7.64
192	9.43	10.77	22.35	11.80	8.96
216	8.79	10.63	13.68	10.95	14.45
240	8.66	22.06	12.42	9.51	7.38

Sample CS				
	%ABA	Pb Conc. (mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
sample CS		118	0.59	
Rat1				2067
Rat2				1567
Rat3				1598
Rat4				1018
Rat5				697.7
%BA-Rat1	4.51			
%BA-Rat2	3.42			
%BA-Rat3	3.49			
%BA-Rat4	2.22			
%BA-Rat5	1.52			
Mean BA	**3.03**		**Mean AUC**	**1390**

SD	**1.17**		**SD**	**536**
SE	**0.52**		**SE**	**240**



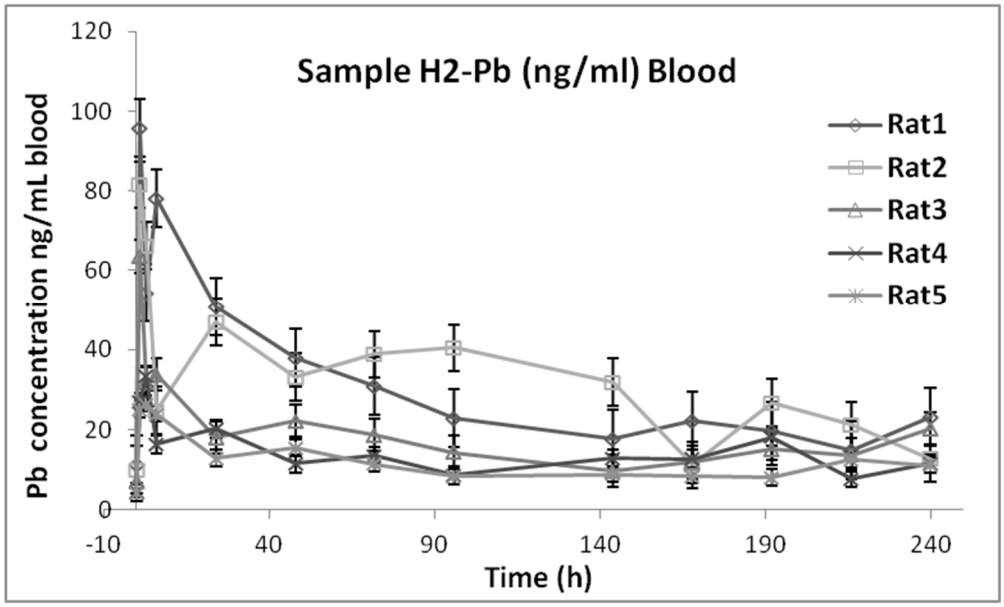
Sample H2

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	11.29	10.05	7.23	4.42	4.21
1	95.86	81.46	63.55	27.10	25.18

3	54.40	66.19	31.68	33.36	26.49
6	78.00	24.89	33.87	16.33	23.95
24	50.74	47.00	18.03	20.27	12.90
48	37.86	33.22	22.19	11.56	15.48
72	30.78	38.83	18.70	13.58	11.45
96	22.80	40.46	14.34	8.70	8.37
144	17.83	31.90	9.75	12.95	8.91
168	22.24	11.22	11.83	12.76	8.54
192	19.59	26.75	15.26	18.19	8.16
216	14.88	21.13	13.74	7.86	12.61
240	23.10	12.75	20.36	11.53	11.16

Sample H2

	%ABA	Pb Conc. (mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL			1	77611.8
Sample H2		2261	11.305	
Rat1				2996
Rat2				3975
Rat3				1019
Rat4				1271
Rat5				654
%BA-Rat1	0.34			
%BA-Rat2	0.45			
%BA-Rat3	0.12			
%BA-Rat4	0.14			
%BA-Rat5	0.07			
Mean BA	**0.23**		**Mean AUC**	**1983**
SD	**0.16**		**SD**	**1432**
SE	**0.07**		**SE**	**640**



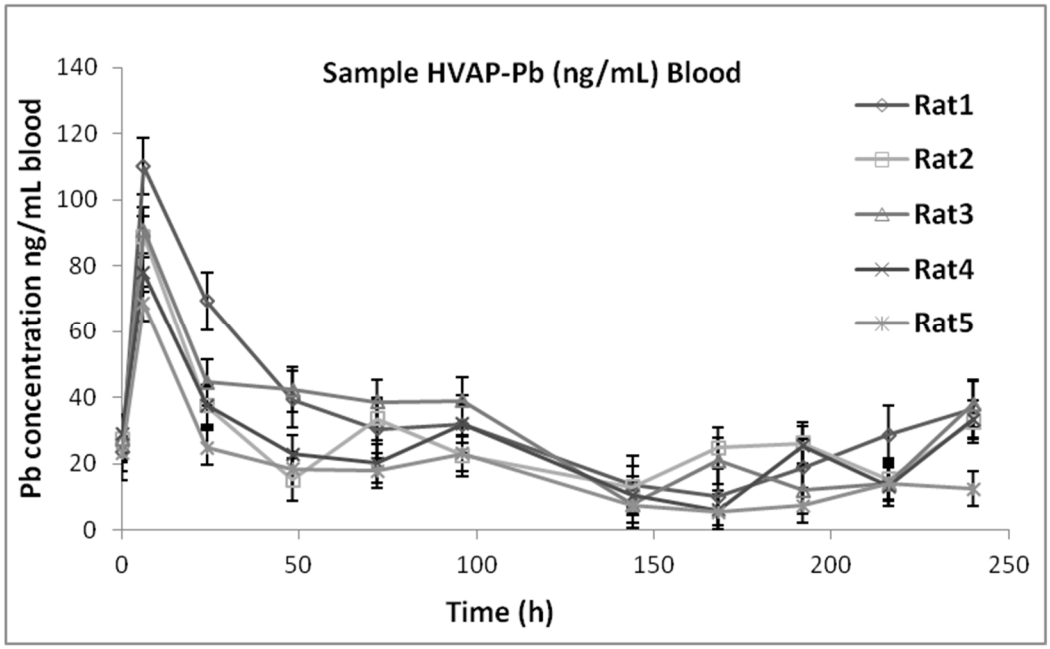
Sample HVAP

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	23.62	27.54	27.53	28.90	23.15
6	110.14	88.90	90.87	77.84	68.47
24	69.33	37.41	44.64	37.75	24.90
48	39.51	15.26	42.45	22.90	18.38
72	30.44	33.54	38.58	20.17	17.88
96	31.82	22.46	39.05	32.05	23.08

144	13.57	13.09	7.77	10.56	7.48
168	10.20	24.78	20.90	6.07	5.44
192	18.79	26.27	11.96	25.41	7.43
216	28.73	15.35	14.05	13.16	14.22
240	36.59	32.72	38.07	33.36	12.48

Sample HVAP

	%ABA	Pb Conc. (mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
Sample HVAP		35.8	0.537	
Rat1				3418
Rat2				1941
Rat3				3371
Rat4				2236
Rat5				1864
%BA-Rat1	8.20			
%BA-Rat2	4.66			
%BA-Rat3	8.09			
%BA-Rat4	5.37			
%BA-Rat5	4.47			
Mean BA	**6.16**		**Mean AUC**	**2566**
SD	**1.85**		**SD**	**769**
SE	**0.83**		**SE**	**344**



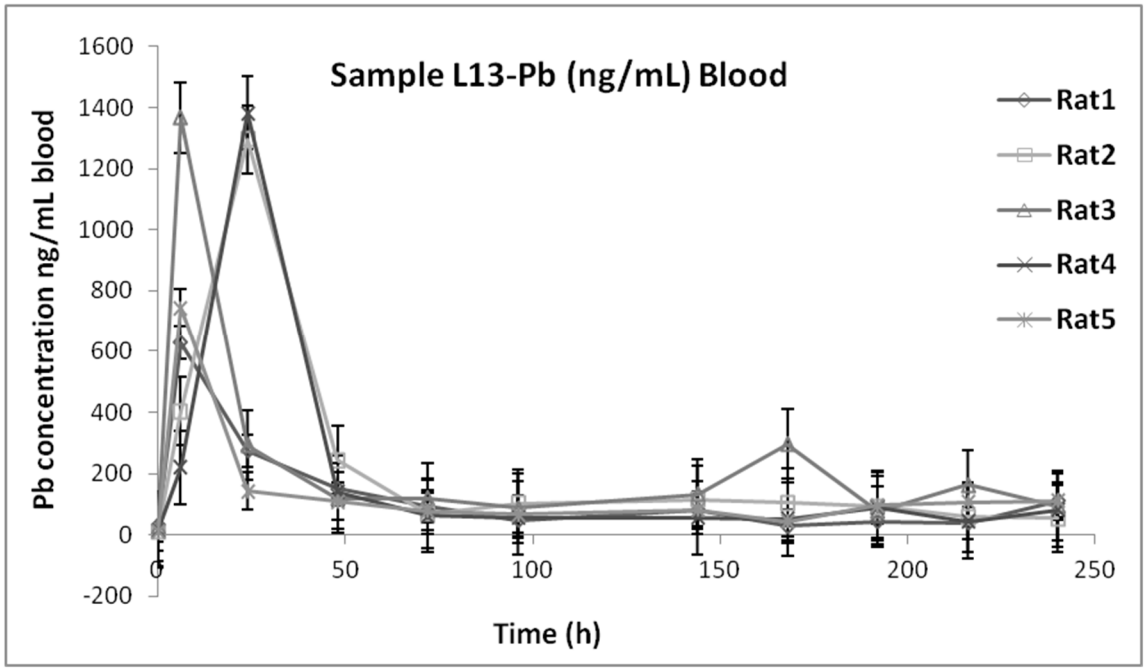
Sample L13

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	30.64	10.32	27.76	14.94	9.45
6	629.03	403.24	1366.43	219.51	743.56
24	274.60	1295.93	292.41	1382.35	141.78
48	150.57	243.13	120.22	140.07	108.55
72	93.65	69.65	117.97	62.62	78.03
96	47.41	103.88	87.54	54.95	67.09
144	82.84	116.25	132.47	56.33	80.59
168	28.47	104.89	296.68	50.99	42.76

192	44.63	92.20	76.30	88.92	96.39
216	38.48	57.69	163.53	42.55	105.33
240	111.22	54.41	94.24	82.31	110.60

Sample L13

	%ABA	Pb Conc. (mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
L13 Sample		41886.00	209.43	
Rat1				16472
Rat2				44504
Rat3				27689
Rat4				34810
Rat5				12427
%BA-Rat1	0.10			
%BA-Rat2	0.27			
%BA-Rat3	0.17			
%BA-Rat4	0.21			
%BA-Rat5	0.08			
Mean BA	**0.17**		**Mean AUC**	**27180**
SD	**0.08**		**SD**	**13143**
SE	**0.04**		**SE**	**5878**



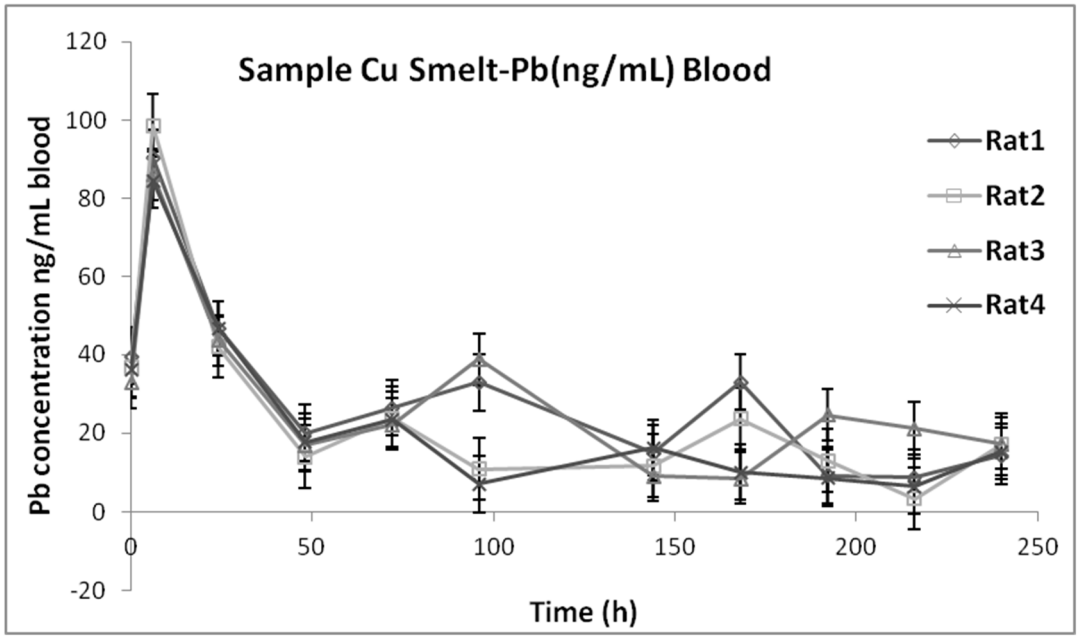
Sample Copper Smelter dust

Hours	Rat1	Rat2	Rat3	Rat4
0	39.63	36.75	33.04	36.30
6	90.55	98.68	86.14	84.73
24	46.76	41.94	43.67	46.76
48	20.06	14.06	16.97	17.74
72	26.55	23.79	22.28	23.42
96	32.82	10.90	38.70	7.06
144	15.00	11.84	9.22	16.26

168	32.92	23.65	8.55	10.09
192	9.27	13.13	24.61	8.60
216	8.81	3.38	21.24	6.48
240	14.21	17.09	17.40	15.31

Sample Cu Smelt

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
Pb Conc. Sample		500	2.5	
Rat1				2708
Rat2				2572
Rat3				2441
Rat4				2803
%BA-Rat1	1.40			
%BA-Rat2	1.33			
%BA-Rat3	1.26			
%BA-Rat4	1.44			
Mean BA	**1.36**		**Mean AUC**	**2631**
SD	**0.08**		**SD**	**158**
SE	**0.04**		**SE**	**71**

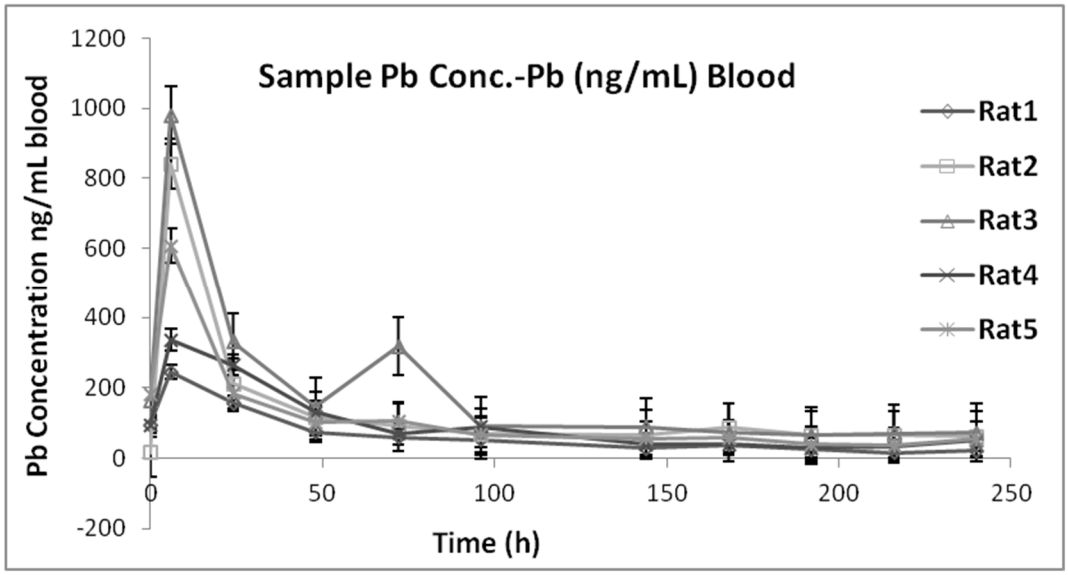


Sample Lead Concentrate

Rat1	Rat2	Rat3	Rat4	Rat5
93.87	15.68	164.92	92.71	183.19
244.69	840.58	980.86	335.56	605.54
156.51	211.53	330.55	264.81	184.41
74.13	116.63	146.88	130.60	100.94
60.11	89.85	317.52	70.65	105.06
52.93	69.03	91.39	88.57	66.71
29.77	66.71	88.55	39.65	56.37
38.10	86.38	73.68	39.40	56.92

23.80	64.41	64.34	27.50	40.67
15.77	64.10	71.20	33.31	36.55
21.54	62.28	73.68	49.33	54.28

Sample Pb Conc.				
	%ABA	**Pb Conc.(mg/kg)**	**Dose Rate(mg/kg)**	**AUC(Blood)**
Pb CTRL i.v.			1	77611.8
Pb Conc. Sample		865,985	4329.925	
Rat1				8171
Rat2				18965
Rat3				25134
Rat4				12904
Rat5				14696
%BA-Rat1	0.002			
%BA-Rat2	0.006			
%BA-Rat3	0.007			
%BA-Rat4	0.004			
%BA-Rat5	0.004			
Mean BA	**0.005**		**Mean AUC**	**15974**
SD	**0.002**		**SD**	**6419**
SE	**0.001**		**SE**	**2871**



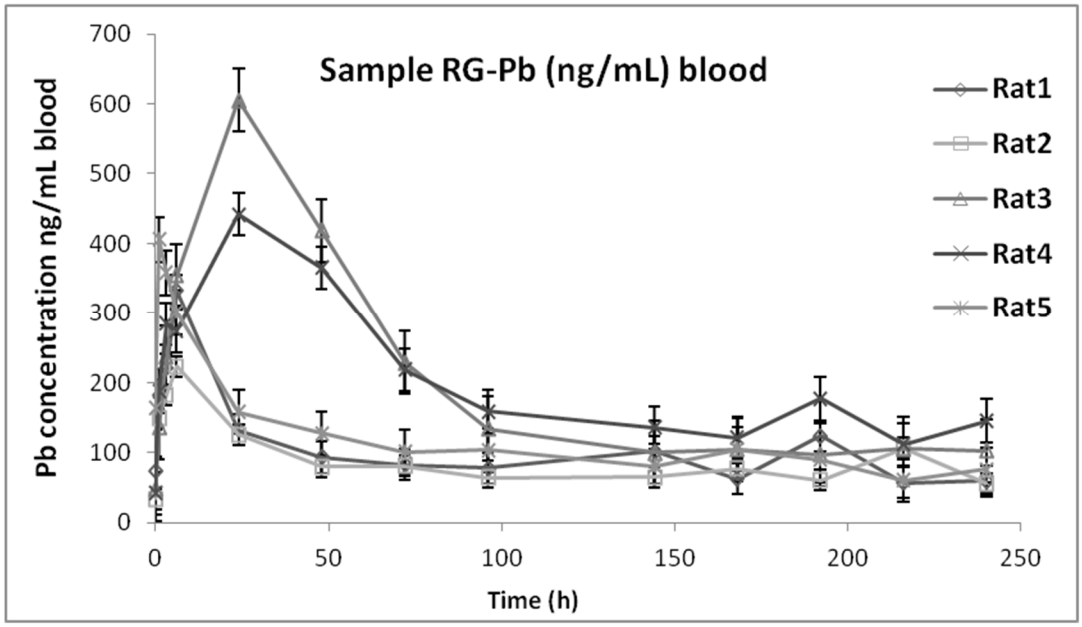
Sample RG

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	72.78	33.71	47.70	42.15	164.43
1	182.58	149.38	135.47	187.89	405.29
3	219.75	182.41	236.51	283.94	357.64
6	332.47	222.95	354.00	274.16	301.26
24	132.30	125.68	605.12	441.59	158.46
48	93.33	79.71	418.10	364.85	127.44
72	83.15	81.17	228.54	217.81	100.78

96	77.82	64.67	134.58	158.78	103.41
144	101.62	65.40	100.20	135.68	81.22
168	62.22	77.11	104.07	121.35	105.14
192	124.01	60.95	96.83	177.17	89.76
216	56.94	106.29	105.49	111.90	61.08
240	59.53	55.83	102.50	145.53	76.17

Sample RG

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
RG Sample		3840	19.2	
Rat1				9482
Rat2				5202
Rat3				29359
Rat4				25402
Rat5				7228
%BA-Rat1	0.64			
%BA-Rat2	0.35			
%BA-Rat3	1.97			
%BA-Rat4	1.70			
%BA-Rat5	0.49			
Mean BA	**1.03**		**Mean AUC**	**15334.6**
SD	**0.75**		**SD**	**11188**
SE	**0.34**		**SE**	**5003**



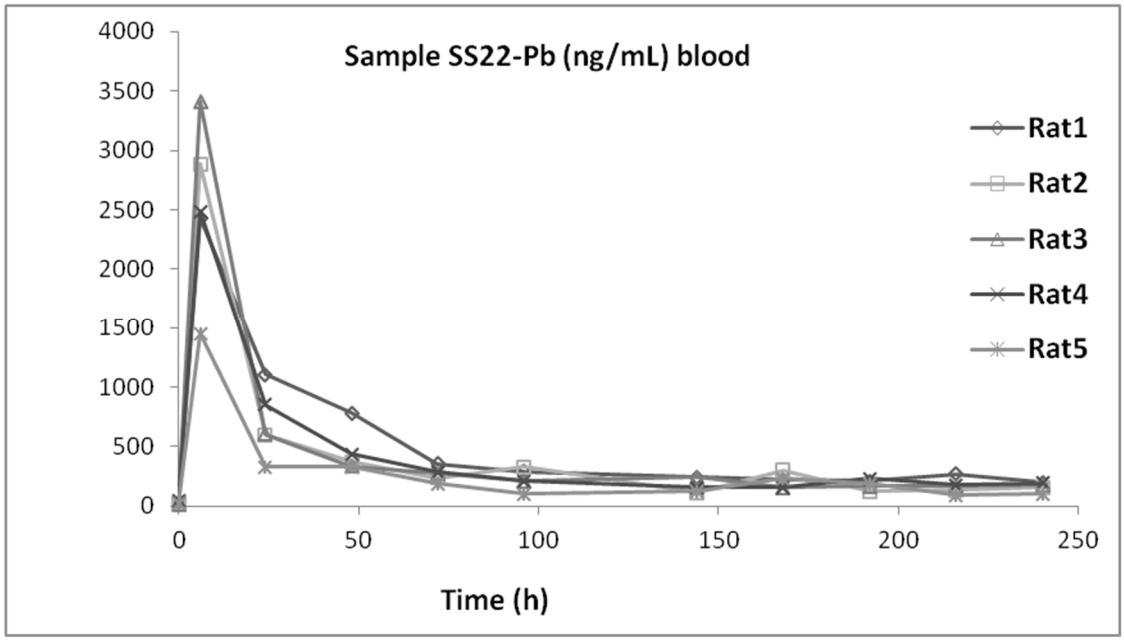
Sample SS22

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	13.19	28.84	13.86	48.83	23.03
6	2435.56	2882.27	3414.70	2484.26	1451.09
24	1105.65	596.28	605.63	851.03	331.26
48	779.82	372.04	334.10	439.30	327.64
72	354.78	237.97	274.83	288.59	188.94
96	291.80	330.82	213.18	213.50	101.49
144	242.89	113.21	246.01	158.11	127.55
168	219.50	302.56	157.17	156.16	231.01

192	210.45	122.44	170.04	229.26	186.81
216	271.16	136.40	164.34	178.88	91.62
240	197.92	159.50	177.81	192.72	105.77

Sample SS22

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
SS22 Sample		44944	224.72	
Rat1				79639
Rat2				67243
Rat3				70351
Rat4				60919
Rat5				40955
%BA-Rat1	0.46			
%BA-Rat2	0.39			
%BA-Rat3	0.40			
%BA-Rat4	0.35			
%BA-Rat5	0.23			
Mean BA	**0.37**		**Mean AUC**	**63821**
SD	**0.08**		**SD**	**14455**
SE	**0.04**		**SE**	**6465**



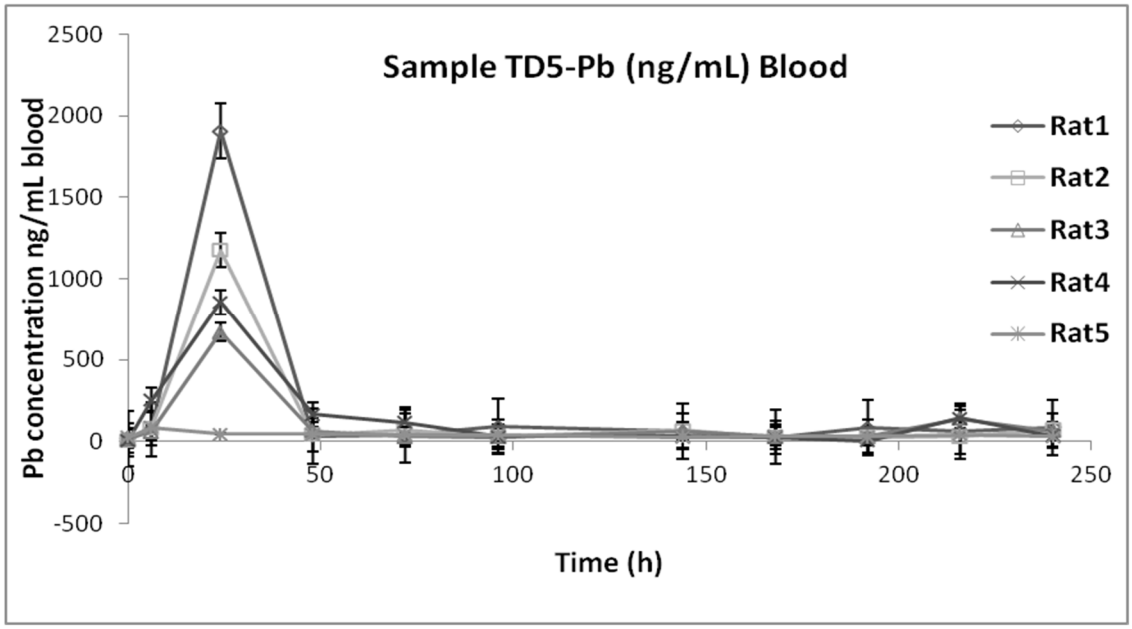
SampleTD5

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	17.27	7.54	15.42	7.56	25.16
6	73.53	81.25	59.66	252.38	87.77
24	1904.45	1175.17	668.00	855.21	46.83
48	33.43	40.86	62.73	166.04	45.57
72	37.59	68.74	29.59	117.79	42.55
96	90.10	31.68	24.64	29.30	41.06
144	59.02	67.21	62.37	30.56	26.93
168	27.78	25.08	29.06	25.57	32.62
192	83.78	27.85	31.42	2.03	31.39

216	60.57	29.91	138.79	143.20	42.24
240	87.11	70.67	63.07	35.72	31.09

SampleTD5

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Blood)
Pb CTRL i.v.			1	77611.8
Sample TD5		2053	10.265	
Rat1				42097
Rat2				27051
Rat3				18645
Rat4				27776
Rat5				2040
%BA-Rat1	5.28			
%BA-Rat2	3.40			
%BA-Rat3	2.34			
%BA-Rat4	3.49			
%BA-Rat5	0.26			
Mean BA	**2.95**		**Mean AUC**	**23522**
SD	**1.84**		**SD**	**14670**
SE	**0.82**		**SE**	**6561**

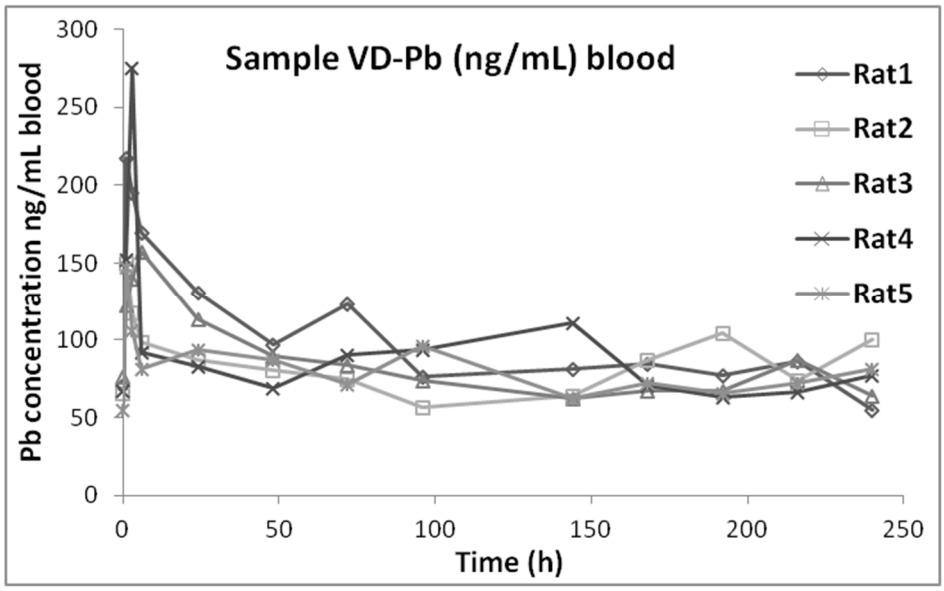


Sample VD

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	70.73	65.31	76.05	67.40	55.33
1	217.82	149.84	123.03	152.43	147.04
3	195.52	117.49	139.97	275.47	106.10
6	169.52	98.37	157.74	92.51	81.44
24	131.06	87.35	113.89	83.15	93.45
48	97.38	80.93	89.31	68.99	87.38
72	123.50	74.88	84.10	90.86	71.43
96	76.21	56.70	73.84	93.42	96.13
144	81.28	63.97	62.39	110.95	62.34
168	84.84	87.18	66.94	70.25	72.22

192	77.49	104.23	67.73	62.92	65.95
216	86.62	74.04	87.43	66.73	72.71
240	54.98	100.03	64.02	76.89	81.06

Sample VD				
	%ABA	**Pb Conc.(mg/kg)**	**Dose Rate(mg/kg)**	**AUC(Blood)**
Pb CTRL i.v.			1	77611.8
Sample VD		891	4.455	
Rat1				6192
Rat2				2877
Rat3				3502
Rat4				4182
Rat5				2468
%BA-Rat1	1.79			
%BA-Rat2	0.83			
%BA-Rat3	1.01			
%BA-Rat4	1.21			
%BA-Rat5	0.71			
Mean BA	**1.11**		**Mean AUC**	**3844**
SD	**0.42**		**SD**	**1464**
SE	**0.19**		**SE**	**655**



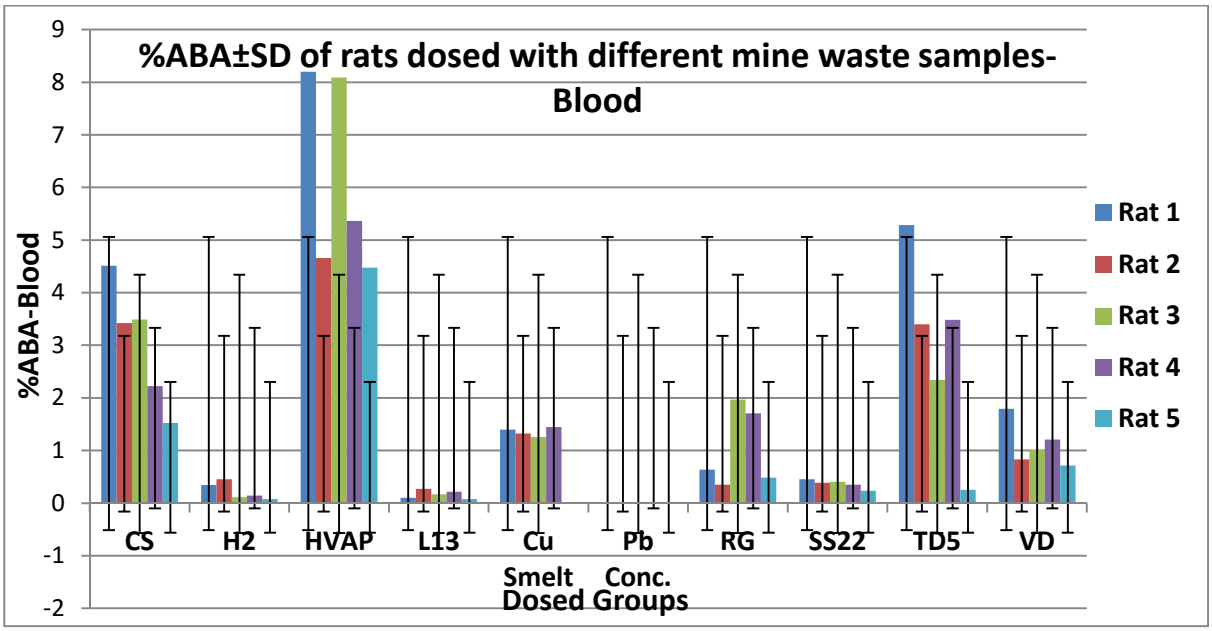
Mean and standard deviations – Blood

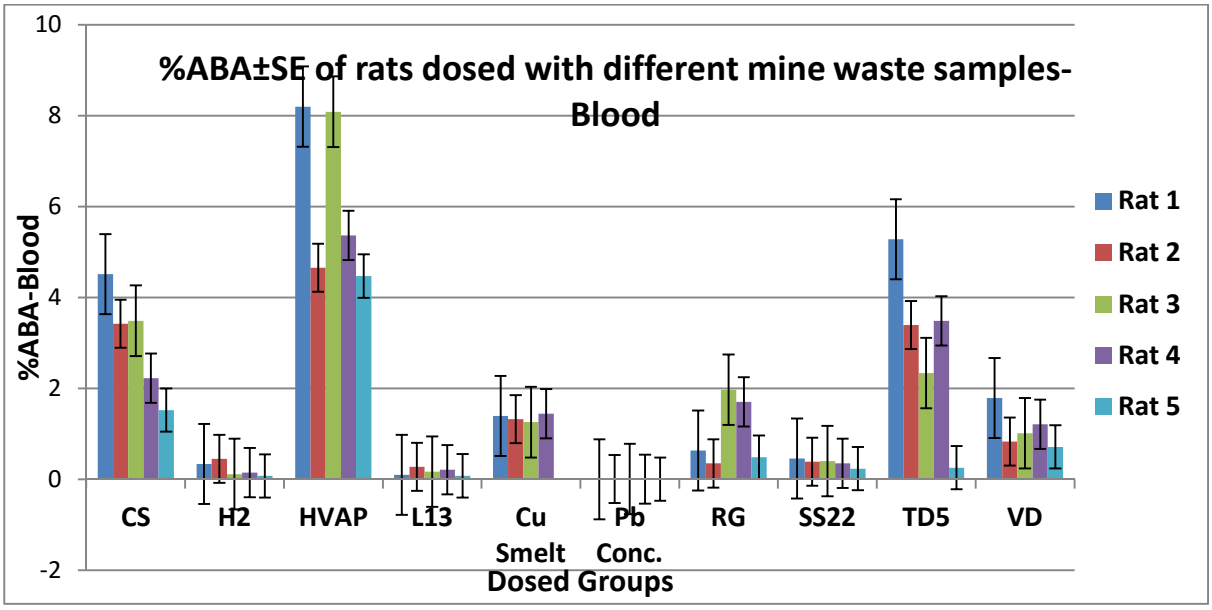
Sample	AUC(Mean±SD)	ABA(Mean±SD)
CS	1389.54±536.33	3.03±1.17
H2	1982.92±1431.59	0.22±1.16
HVAP	2566±761.13	6.16±1.85
L13	27180.4±13142.58	0.17±0.08
Cu Smelt	2631±158.21	1.36±0.08
Pb Conc.	15974±6418.66	0.01±0.002
RG	15334.6±11187.89	1.03±0.75
SS22	63821.4±14455.41	0.37±0.082
TD5	23521.8±14670.06	2.95±1.84
VD	3844.2±1463.97	1.11±0.42

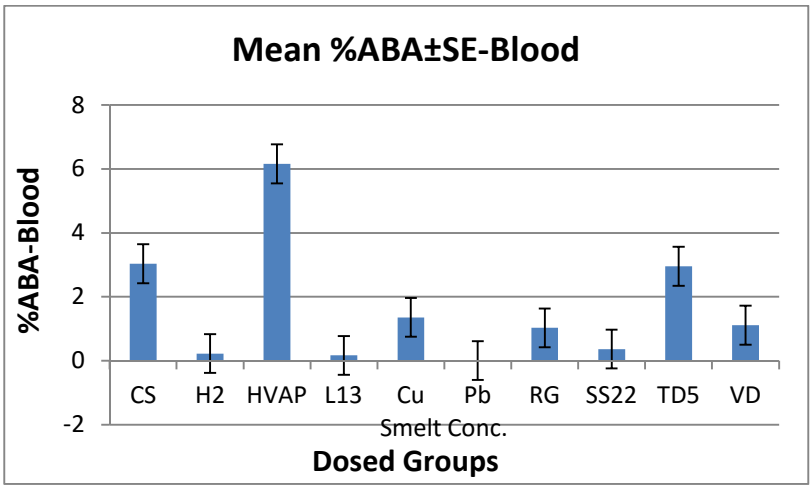
Graphs with SDs and SEs

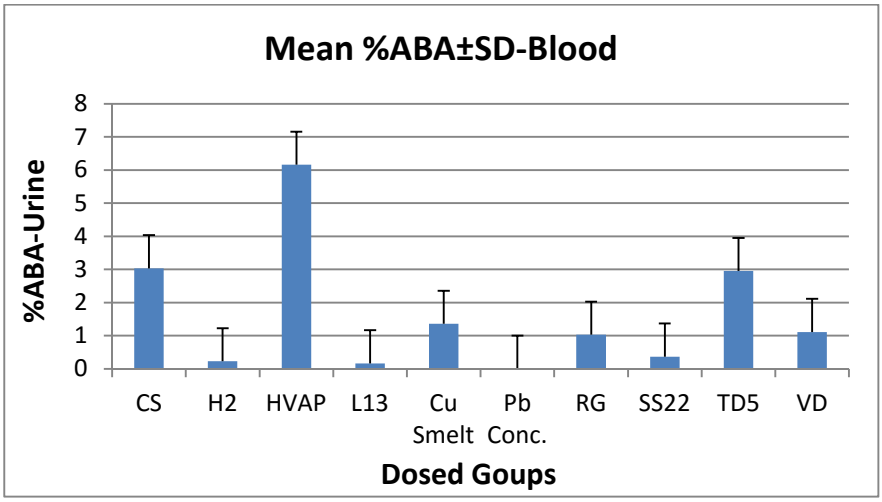
Individual and average absolute bioavailability for different sample groups-Blood										
	CS	**H2**	**HVAP**	**L13**	**Cu Smelt**	**Pb Conc.**	**RG**	**SS22**	**TD5**	**VD**
Rat 1	4.513991	0.341463	8.201061	0.10134	1.395664	0.002431	0.63631325	0.456621	5.28402	1.790835
Rat 2	3.422073	0.453042	4.657185	0.273799	1.325572	0.005643	0.349093179	0.385547	3.395444	0.832079
Rat 3	3.489772	0.116138	8.08829	0.170349	1.258056	0.007479	1.97020889	0.403367	2.340322	1.01284

Rat 4	2.223 146	0.144 86	5.365	0.214 16	1.444 626	0.003 84	1.704664 54	0.349 288	3.486 446	1.209 507
Rat 5	1.523 663	0.074 493	4.472 433	0.076 454		0.004 373	0.485052 96	0.234 821	0.256 061	0.713 789
Avera ge	3.034 529	0.225 999	6.156 794	0.167 22	1.355 979	0.004 753	1.029066 564	0.365 929	2.952 459	1.111 81
SD	1.171 25	0.163 162	1.845 436	0.080 856	0.081 541	0.001 91	0.750791 461	0.082 882	1.841 387	0.423 404
SE	0.523 799	0.072 968	0.825 304	0.036 16	0.040 77	0.000 854	0.335764 149	0.037 066	0.823 493	0.189 352




%ABA±SE of rats dosed with different mine waste samples-Blood
%ABA-Blood
10
8
6
4
2
0
-2
CS
H2
HVAP
L13
Cu Smelt Conc.
Pb
RG
SS22
TD5
VD
Dosed Groups
Rat 1
Rat 2
Rat 3
Rat 4
Rat 5


Mean %ABA±SE-Blood
%ABA-Blood
8
6
4
2
0
-2
CS
H2
HVAP
L13
Cu
Pb
RG
SS22
TD5
VD
Smelt Conc.
Dosed Groups



Blood

Samples	ABA(average)
CS	3.034528954
H2	0.225999184
HVAP	6.156793825
L13	0.167220376
Cu Smelt	1.355979374
Pb Conc.	0.004753413
RG	1.029066564
SS22	0.365929013
TD5	2.952458782
VD	1.111809832

Rat bioavailability of lead study - Urine

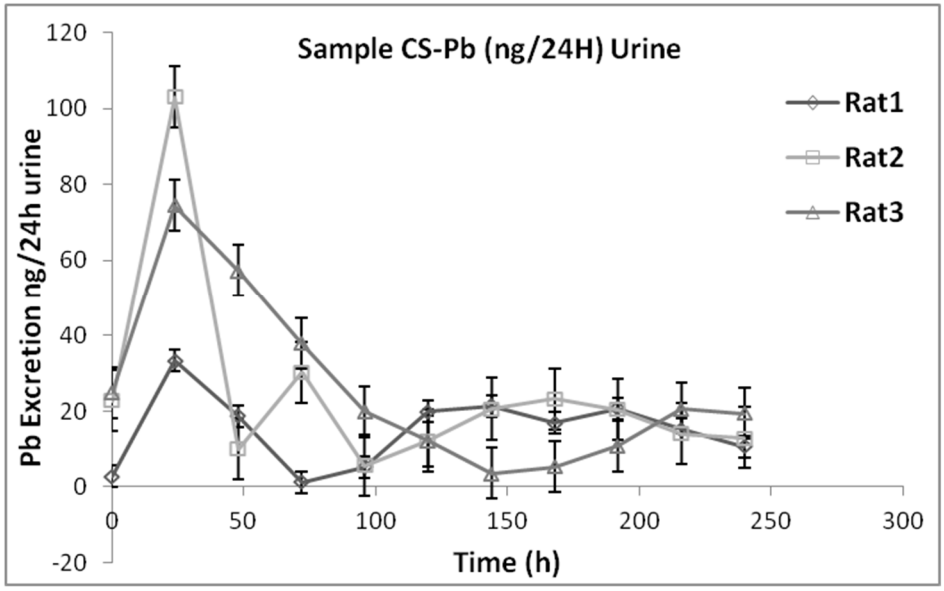
Sample CS

Hours	Rat1	Rat2	Rat3
0	2.73	22.77	24.86
24	33.33	103.07	74.55
48	18.66	9.94	57.29
72	1.22	30.30	37.86
96	5.31	5.57	19.92
120	19.94	12.23	12.10
144	21.45	20.65	3.52
168	16.93	23.17	5.26
192	20.74	20.35	10.76
216	15.13	13.99	20.67
240	10.62	12.93	19.35

Sample CS

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample CS		118	0.59	
Rat1				84
Rat2				124
Rat3				164
%BA-Rat1	0.83			
%BA-Rat2	1.24			
%BA-Rat3	1.63			

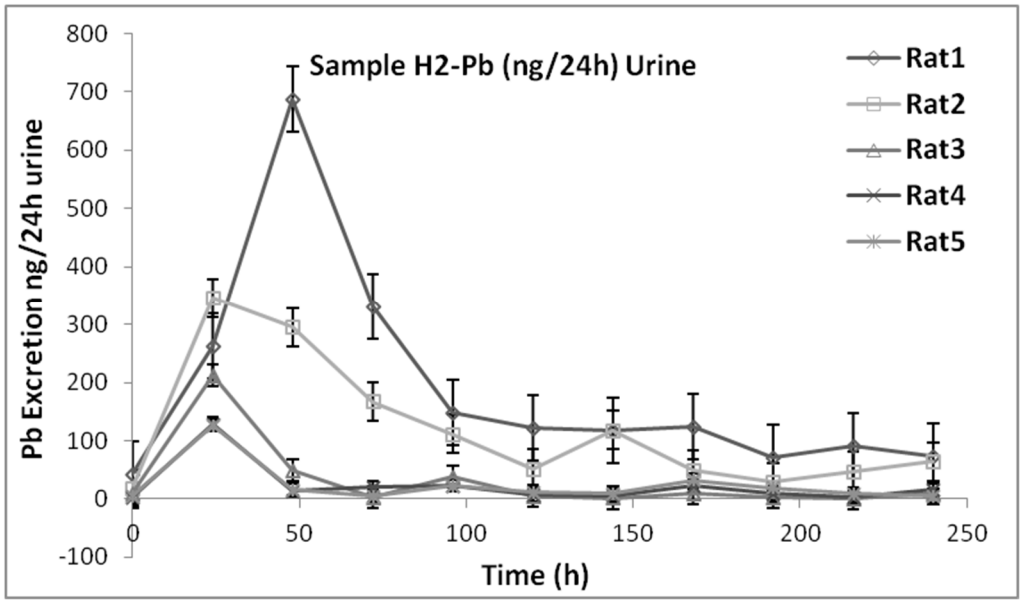
Mean BA	**1.24**		**Mean AUC**	**124**
SD	**0.40**		**SD**	**40**
SE	**0.18**		**SE**	**18**



Sample H2

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	43.26	17.79	10.18	3.03	6.12
24	263.34	346.20	212.40	129.28	126.48
48	687.71	294.92	50.17	14.78	15.92
72	330.66	166.90	3.06	20.92	6.12
96	148.53	111.72	37.60	23.63	23.36
120	122.24	51.65	4.51	7.04	11.94
144	118.16	117.78	1.90	6.22	10.50
168	123.47	49.91	10.12	22.73	32.73
192	70.44	28.88	3.34	9.37	19.41
216	90.35	47.86	0.51	3.61	9.42
240	73.25	64.27	9.12	15.57	5.72

Sample H2				
	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample H2		2261	11.305	
Rat1				1327
Rat2				846.6
Rat3				292.7
Rat4				178.3
Rat5				191.6
%BA-Rat1	0.69			
%BA-Rat2	0.44			
%BA-Rat3	0.15			
%BA-Rat4	0.09			
%BA-Rat5	0.10			
Mean BA	0.30		Mean AUC	822
SD	0.26		SD	518
SE	0.12		SE	231



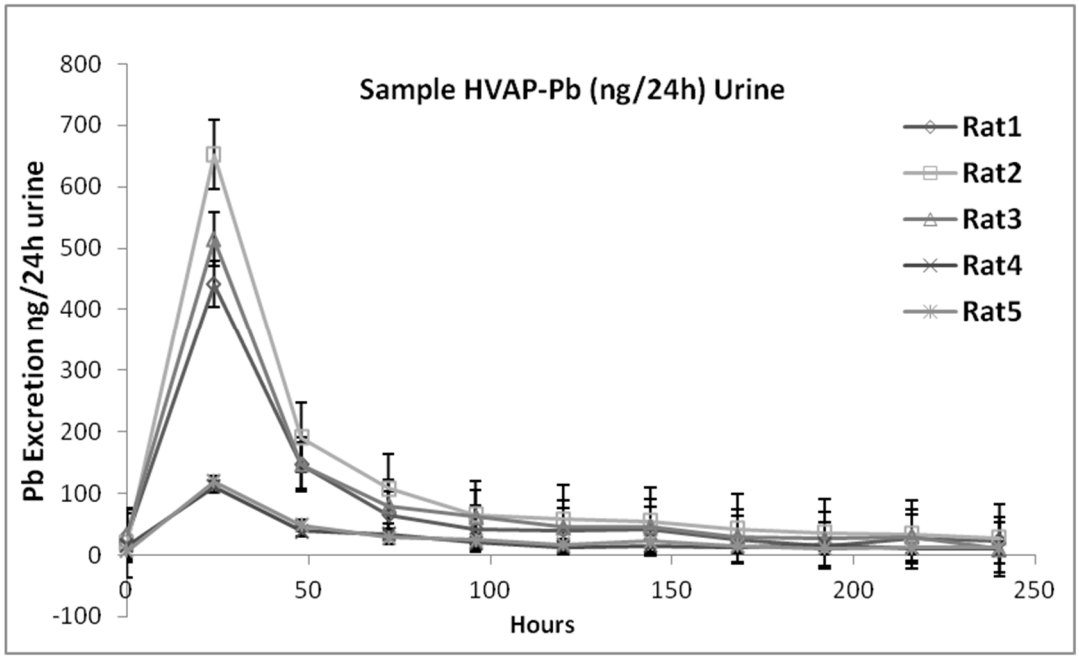
Sample HVAP

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	29.98	18.80	32.42	15.13	6.36
24	441.67	652.52	514.81	110.93	119.38
48	145.80	191.08	146.70	38.68	48.49
72	65.66	107.63	79.36	33.94	28.24

96	**41.86**	**64.51**	**61.98**	**19.94**	**24.41**
120	**39.62**	**57.82**	**45.04**	**13.18**	**16.96**
144	**40.86**	**54.18**	**46.54**	**14.28**	**22.22**
168	**26.03**	**42.74**	**29.95**	**12.91**	**14.99**
192	**15.02**	**35.19**	**26.25**	**16.49**	**10.19**
216	**27.73**	**33.09**	**30.22**	**11.08**	**11.58**
240	**23.16**	**27.70**	**9.71**	**9.84**	**11.70**

Sample HVAP

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample HVAP		35.8	0.537	
Rat1				629
Rat2				997
Rat3				771
Rat4				167
Rat5				207
%BA-Rat1	6.90			
%BA-Rat2	10.94			
%BA-Rat3	8.46			
%BA-Rat4	1.83			
%BA-Rat5	2.27			
Mean BA	**6.08**		**Mean AUC**	**799**
SD	**3.95**		**SD**	**186**
SE	**1.77**		**SE**	**83**



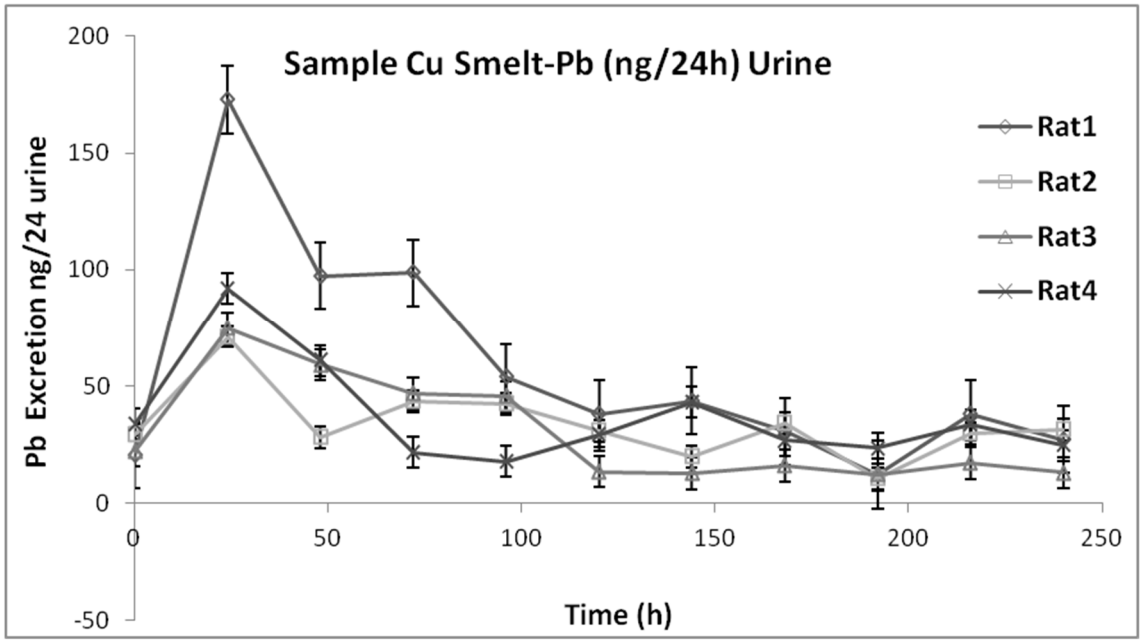
Sample Cu Smelter

Hours	Rat1	Rat2	Rat3	Rat4
0	20.66	29.21	22.29	33.59
24	172.86	71.10	74.71	91.81
48	97.38	28.13	59.06	60.87
72	98.65	43.25	46.75	21.66
96	53.74	42.57	45.45	17.71
120	38.14	30.89	13.47	28.98
144	43.58	19.74	12.71	43.08
168	30.63	33.96	15.92	26.71
192	12.17	10.75	12.09	23.41

216	**38.19**	**29.51**	**17.17**	**33.38**
240	**27.16**	**31.31**	**13.02**	**24.60**

Sample Cu Smelter

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample Cu Smelter		500	2.5	
Rat1				348
Rat2				93
Rat3				173
Rat4				131
%BA-Rat1	0.82			
%BA-Rat2	0.22			
%BA-Rat3	0.41			
%BA-Rat4	0.31			
Mean BA	**0.44**		**Mean AUC**	**205**
SD	**0.27**		**SD**	**131**
SE	**0.13**		**SE**	**58**



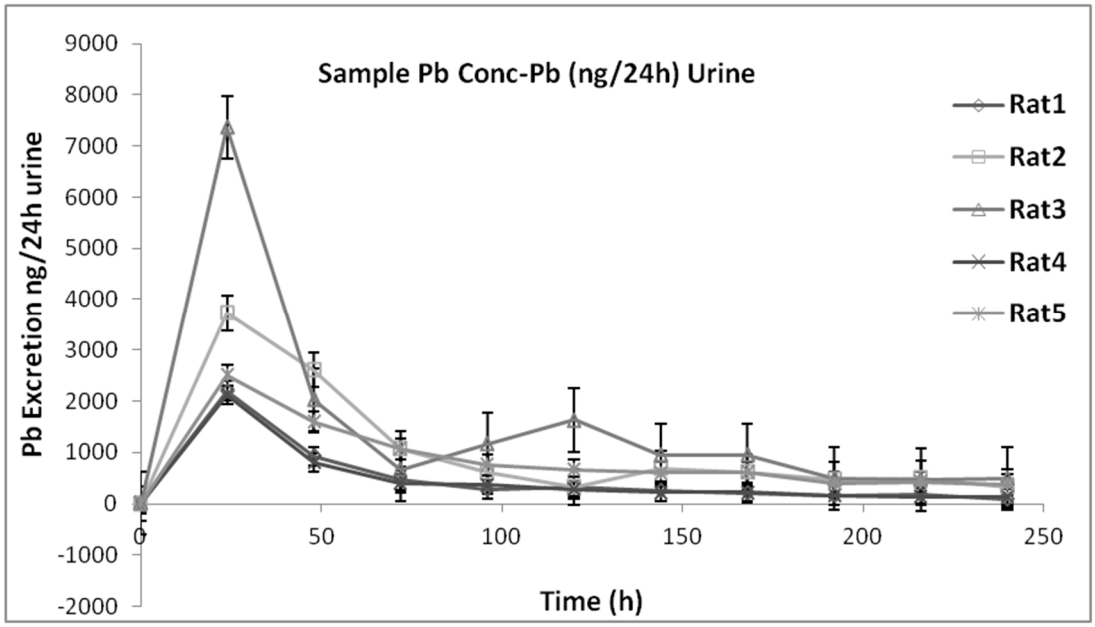
Sample Pb Concentrate

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	20.02	7.84	19.97	25.53	14.85
24	2197.68	3726.23	7354.47	2114.48	2500.50
48	927.27	2609.88	2029.07	813.97	1601.11
72	463.97	1067.00	670.79	405.36	1074.38
96	284.97	619.50	1158.39	364.10	754.39
120	333.35	325.64	1632.30	278.96	654.91
144	250.81	682.60	956.95	221.08	604.54
168	208.79	612.67	948.66	222.23	613.24
192	168.15	466.62	491.11	158.39	408.47

216	**192.96**	**492.19**	**468.43**	**146.05**	**418.87**
240	**96.19**	**322.60**	**495.05**	**139.85**	**377.45**

Sample Pb Conc.

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample Pb Conc.		865985		
Rat1			4329.925	4059
Rat2				8045
Rat3				12702
Rat4				3772
Rat5				6149
%BA-Rat1	0.01			
%BA-Rat2	0.01			
%BA-Rat3	0.02			
%BA-Rat4	0.01			
%BA-Rat5	0.01			
Mean BA	**0.01**		**Mean AUC**	**8269**
SD	**0.00**		**SD**	**4326**
SE	**0.00**		**SE**	**1935**



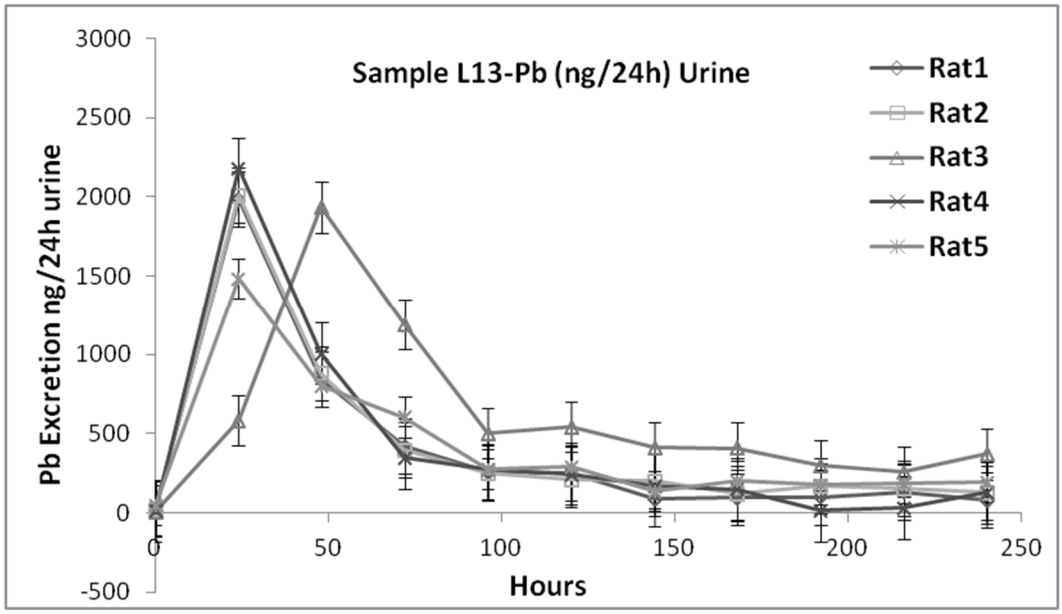
Sample L13

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	34.53	24.52	10.90	12.73	48.88
24	1989.50	2010.06	585.96	2179.69	1487.03
48	841.13	880.57	1935.82	1008.53	799.56
72	422.70	395.81	1193.08	349.26	604.83
96	260.17	249.07	504.75	275.27	276.32
120	248.07	212.03	544.96	244.90	294.09
144	91.49	201.49	411.03	173.27	139.59
168	94.17	124.23	410.09	149.70	203.07
192	101.84	171.46	299.12	15.50	182.08

216	**133.66**	**157.24**	**260.99**	**33.33**	**189.33**
240	**83.35**	**126.91**	**369.90**	**127.41**	**195.03**

SampleL13

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample L13		41886	209.43	
Rat1				3404
Rat2				3452
Rat3				4269
Rat4				4009
Rat5				2861
%BA-Rat1	0.10			
%BA-Rat2	0.10			
%BA-Rat3	0.12			
%BA-Rat4	0.11			
%BA-Rat5	0.08			
Mean BA	**0.10**		**Mean AUC**	**3708**
SD	**0.02**		**SD**	**486**
SE	**0.01**		**SE**	**217**



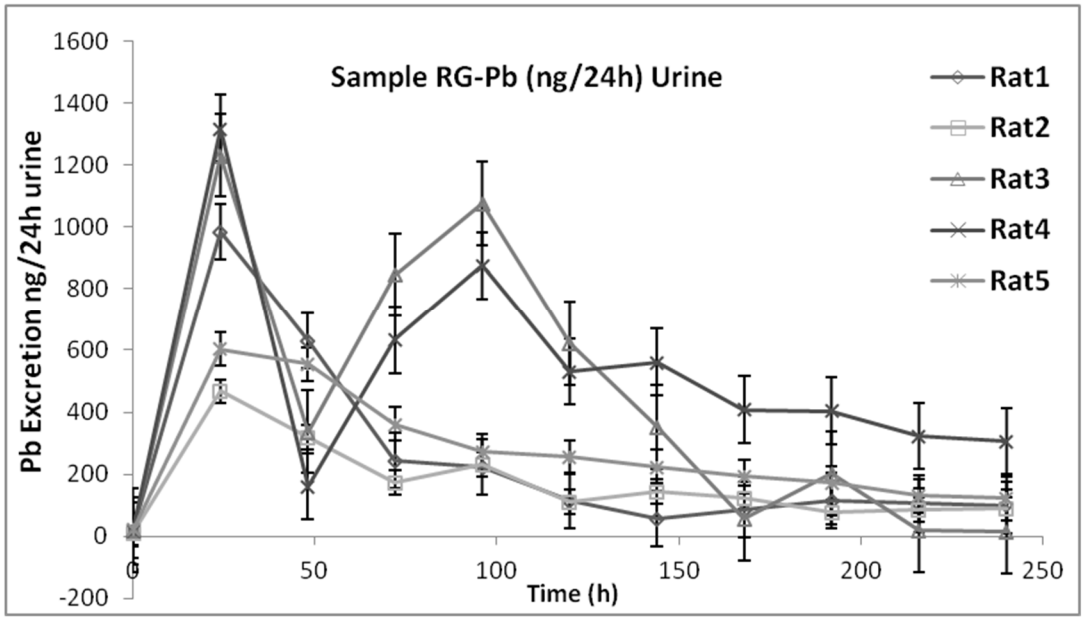
Sample RG

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	19.87	10.77	18.30	17.85	21.36
24	983.84	466.91	1231.15	1318.24	603.74
48	631.61	318.75	337.35	160.42	555.38
72	242.78	173.65	844.86	633.92	360.97
96	222.58	233.18	1076.76	874.33	273.86
120	113.86	112.27	623.43	530.42	255.98
144	58.11	144.16	351.01	561.44	223.38
168	87.37	125.12	57.11	408.32	193.69
192	115.37	77.73	201.22	403.99	171.48

216	**104.77**	**87.09**	**18.35**	**323.82**	**130.56**
240	**100.58**	**88.29**	**14.66**	**306.38**	**123.28**

Sample RG

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample RG		3840	19.2	
Rat1				1888
Rat2				1174
Rat3				4588
Rat4				3256
Rat5				1933
%BA-Rat1	0.58			
%BA-Rat2	0.36			
%BA-Rat3	1.41			
%BA-Rat4	1.00			
%BA-Rat5	0.59			
Mean BA	**0.79**		**Mean AUC**	**2550**
SD	**0.42**		**SD**	**1801**
SE	**0.19**		**SE**	**805**



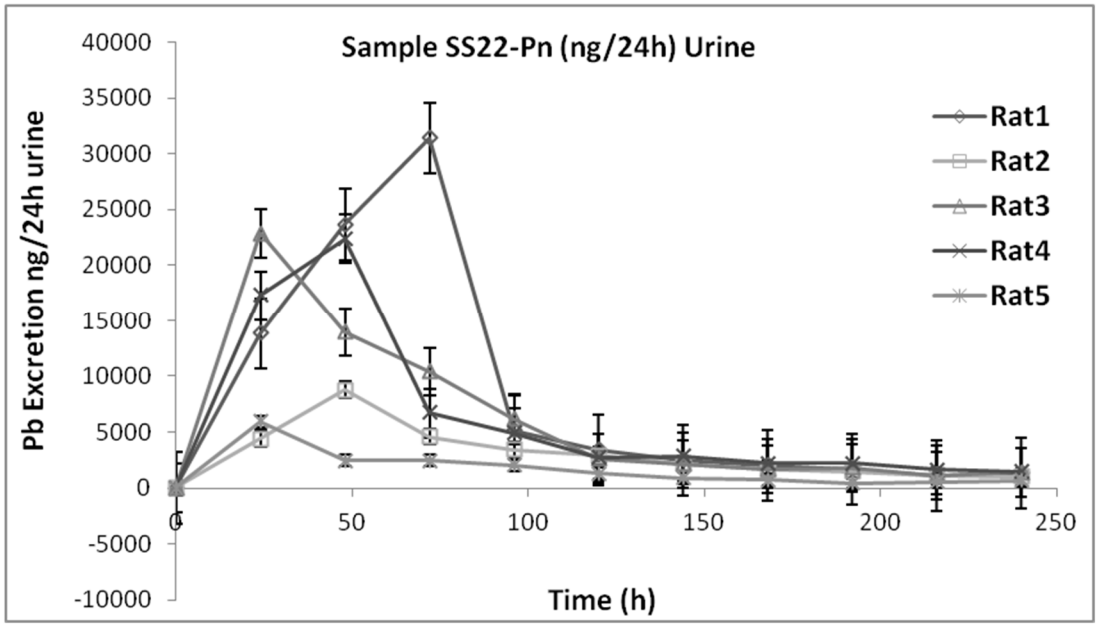
Sample SS22

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	40.44	18.86	20.09	34.85	30.62
24	13857.60	4405.60	22847.25	17254.88	5916.33
48	23655.39	8752.30	13977.97	22376.89	2450.60
72	31374.76	4600.73	10375.52	6703.24	2454.89
96	5175.55	3397.03	6127.55	4944.01	2041.67
120	3426.94	2907.90	2639.35	2712.63	1298.16
144	2465.44	2180.31	2158.07	2808.61	850.89
168	2032.14	1649.50	1686.66	2219.34	730.35
192	1701.84	1496.70	1791.72	2204.36	424.69

216	**1134.63**	**1100.69**	**1124.59**	**1646.36**	**529.61**
240	**1350.03**	**1020.91**	**1410.31**	**1431.32**	**689.30**

SampleSS22

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample SS22		44944	224.72	
Rat1				77149
Rat2				23986
Rat3				54958
Rat4				53287
Rat5				12917
%BA-Rat1	2.02			
%BA-Rat2	0.63			
%BA-Rat3	1.44			
%BA-Rat4	1.40			
%BA-Rat5	0.34			
Mean BA	**1.17**		**Mean AUC**	**52031**
SD	**0.68**		**SD**	**26702**
SE	**0.30**		**SE**	**11942**



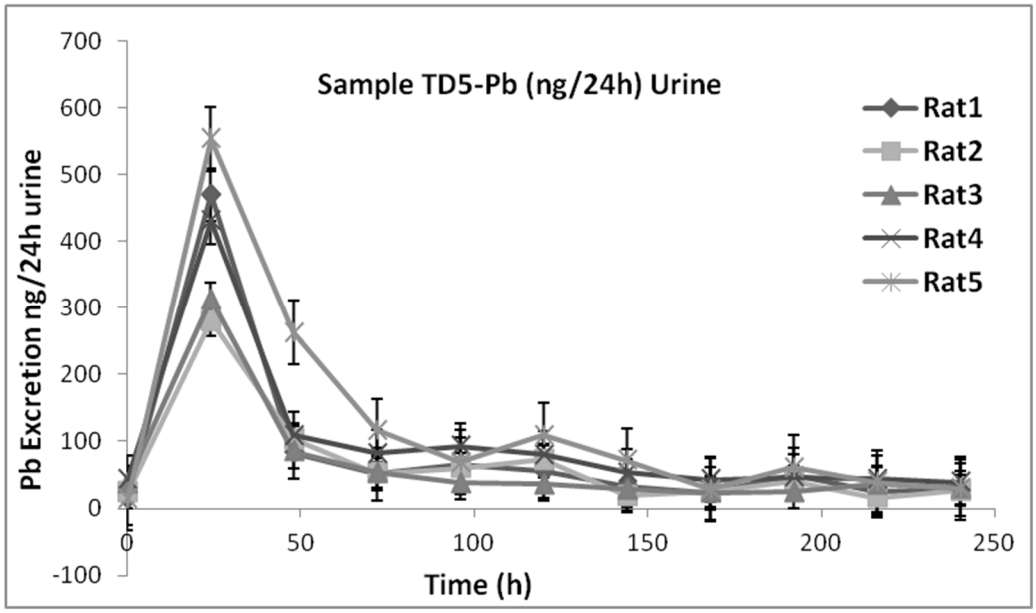
Sample TD5

Hours	Rat1	Rat2	Rat3	Rat4	Rat5
0	15.05	23.47	38.64	44.04	14.44
24	470.08	279.60	312.82	430.87	553.77
48	83.34	103.80	85.25	109.16	262.73
72	51.67	52.76	52.98	82.11	116.32
96	65.99	60.11	38.03	92.68	69.36
120	55.58	72.29	36.64	80.44	109.66
144	33.44	19.12	28.32	53.35	71.90
168	22.62	25.27	23.45	43.19	27.94
192	50.09	40.86	25.11	46.92	61.52

216	**25.06**	**16.32**	**35.79**	**44.13**	**39.11**
240	**28.74**	**26.72**	**30.78**	**38.88**	**29.70**

Sample TD5

	%ABA	Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample TD5		2053	10.265	
Rat1				650
Rat2				480
Rat3				381
Rat4				603
Rat5				1057
%BA-Rat1	0.37			
%BA-Rat2	0.28			
%BA-Rat3	0.22			
%BA-Rat4	0.35			
%BA-Rat5	0.61			
Mean BA	**0.36**		**Mean AUC**	**504**
SD	**0.15**		**SD**	**136**
SE	**0.07**		**SE**	**61**



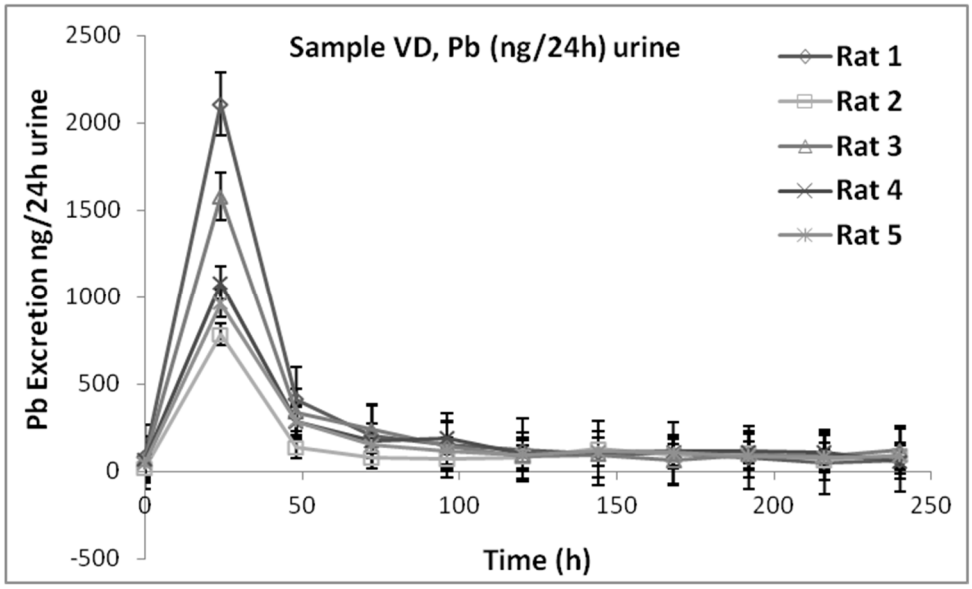
Sample VD

Hours	Rat 1	Rat 2	Rat 3	Rat 4	Rat 5
0	82.21	15.32	67.26	64.30	44.96
24	2106.47	782.50	1576.14	1079.34	961.78
48	410.67	136.80	337.55	283.90	286.64
72	199.17	77.46	238.21	172.38	151.61
96	147.66	66.92	145.54	191.19	115.41
120	121.39	79.95	86.65	96.18	95.54
144	102.82	125.81	94.25	3433.70	111.10
168	100.22	88.71	62.57	111.93	105.35
192	77.45	105.04	95.36	114.55	86.60

216	**50.58**	**58.94**	**83.67**	**109.41**	**80.50**
240	**60.72**	**88.45**	**121.33**	**52.77**	**86.26**

Sample VD

		Pb Conc.(mg/kg)	Dose Rate(mg/kg)	AUC(Urine)
Pb CTRL (i.v.)			1	16968.25
Sample VD		891	4.455	
Rat1				2136
Rat2				946.8
Rat3				1747
Rat4				1348
Rat5				1480
%BA-Rat1	2.83			
%BA-Rat2	1.25			
%BA-Rat3	2.31			
%BA-Rat4	1.78			
%BA-Rat5	1.96			
Mean BA	**2.03**		**Mean AUC**	**1610**
SD	**0.59**		**SD**	**606**
SE	**0.26**		**SE**	**271**



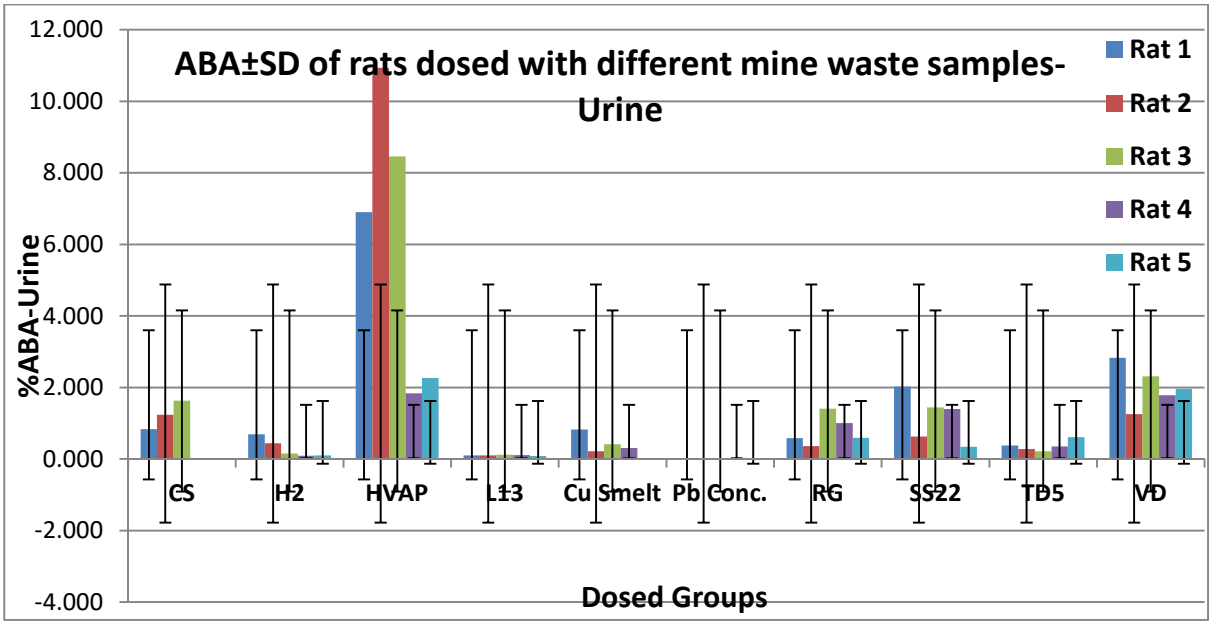
Mean and Standard Deviations - Urine

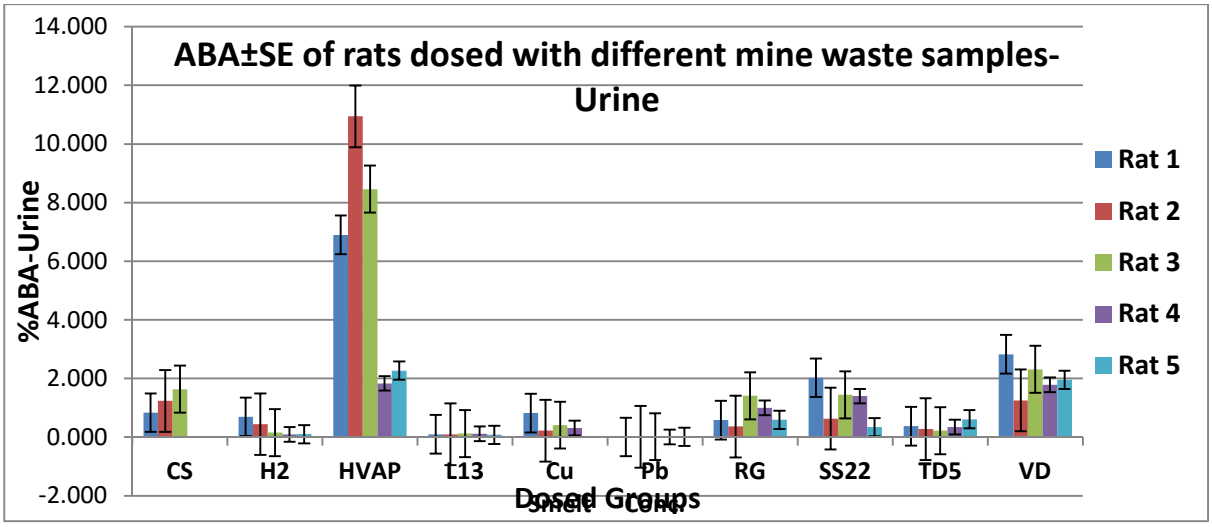
Urine		
Sample	**AUC(Mean±SD)**	**ABA(Mean±SD)**
CS	**123.64±40.04**	**1.24±0.40**
H2	**822.10±517.59**	**0.30±0.26**
HVAP	**798.73±185.72**	**6.08±3.95**
L13	**3798.33±486.14**	**0.10±0.02**
Cu Smelt	**204.92±130.54**	**0.44±0.27**
Pb Conc.	**8268.67±4325.84**	**0.01±0.01**
RG	**2550±1800.70**	**0.79±0.42**

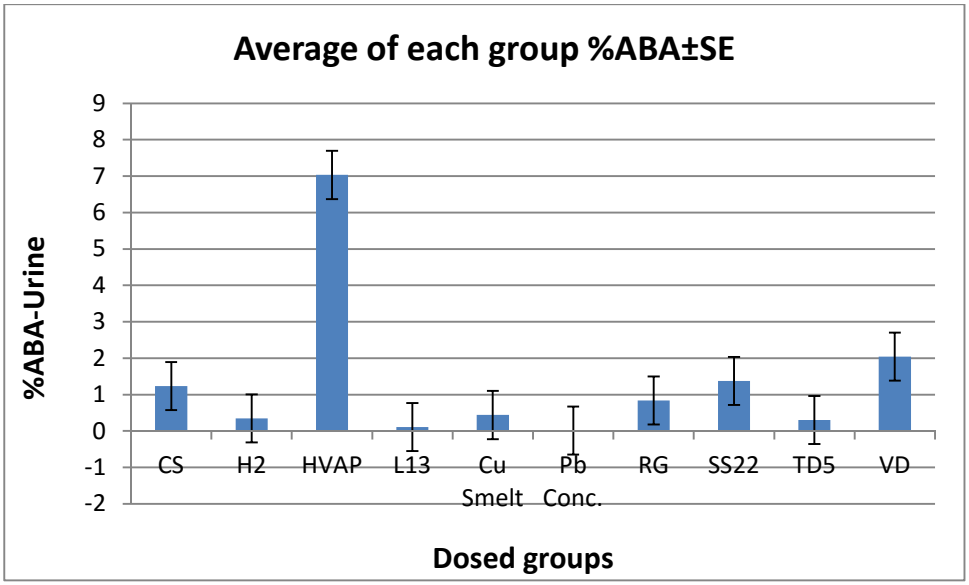
SS22	52031±26702.09	1.17±0.68
TD5	503.70±136.37	0.36±0.15
VD	1609.93±606.33	2.03±0.59

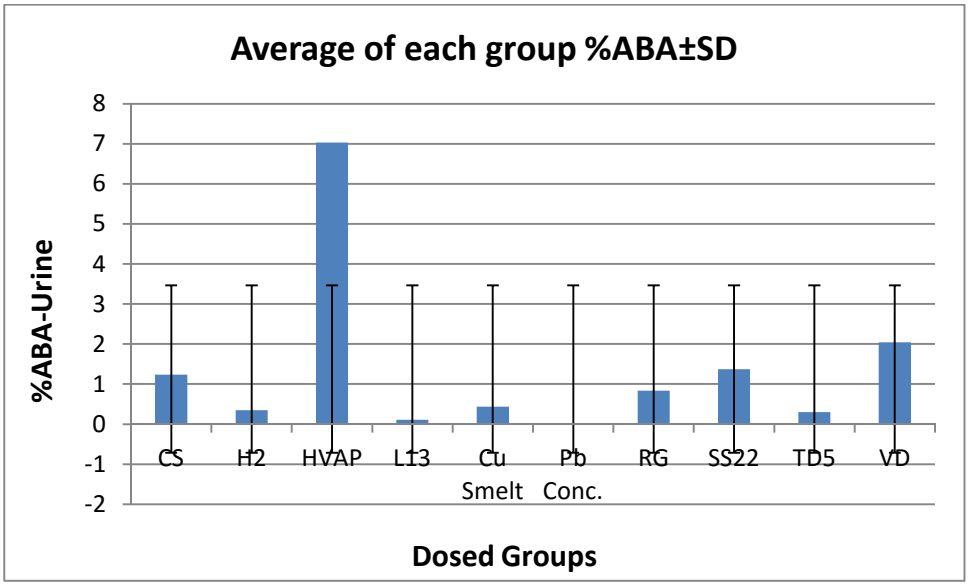
Graph with Standard and Standard Error - Urine

Individual and average absolute bioavailability of Pb for different sample groups-Urine										
	CS	H2	HVAP	L13	Cu Smelt	Pb Conc.	RG	SS22	TD5	VD
Rat 1	0.834	0.692	6.898	0.096	0.821	0.006	0.580	2.023	0.373	2.826
Rat 2	1.237	0.441	10.939	0.097	0.220	0.011	0.360	0.629	0.276	1.252
Rat 3	1.634	0.153	8.460	0.120	0.408	0.017	1.408	1.441	0.219	2.311
Rat 4		0.093	1.833	0.113	0.308	0.005	0.999	1.397	0.346	1.783
Rat 5		0.100	2.270	0.081		0.008	0.593	0.339	0.607	1.958
Average	1.235	0.296	6.080	0.101	0.439	0.009	0.788	1.166	0.364	2.026
SD	0.400	0.264	3.953	0.016	0.266	0.005	0.416	0.678	0.149	0.588
SE	0.231	0.118	1.768	0.007	0.133	0.002	0.186	0.303	0.066	0.263




ABA±SE of rats dosed with different mine waste samples-Urine
14.000
12.000
10.000
8.000
6.000
4.000
2.000
0.000
-2.000
%ABA-Urine
CS
H2
HVAP
L13
Cu Smelt
Pb Conc.
RG
SS22
TD5
VD
Dosed Groups
Rat 1
Rat 2
Rat 3
Rat 4
Rat 5


Average of each group %ABA±SE
9
8
7
6
5
4
3
2
1
0
-1
-2
%ABA-Urine
CS
H2
HVAP
L13
Cu Smelt
Pb Conc.
RG
SS22
TD5
VD
Dosed groups



Urine

Sample	ABA(average)
CS	1.235008454
H2	0.344661189
HVAP	7.032523032
L13	0.10646768
Cu Smelt	0.439267455
Pb Conc.	0.009724212
RG	0.836887766
SS22	1.372765714
TD5	0.303452045
VD	2.043097491

Table A6 - 1 IEUBK prediction predicted blood lead level (µg/dL) for different age groups in Mount Isa city and lead source allocation using bioaccessibility

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
1	2.50	0.16%	2.9	3.1	2.9	2.4	2.2	2.1	2	1.1	31.4	1.4	17	49
2	3.84	2.08%	4.1	4.7	4.4	3.8	3.6	3.4	3.2	0.7	19.5	0.9	27	51
3	4.82	6.02%	5.1	5.8	5.5	4.9	4.6	4.4	4.1	0.5	15.1	0.7	23	60
4	4.00	2.55%	4.3	4.9	4.6	4	3.7	3.6	3.4	0.7	18.7	0.8	4	76
5	3.09	0.63%	3.4	3.8	3.6	3	2.8	2.7	2.6	0.9	24.9	1.1	3	70
6	2.72	0.28%	3.1	3.4	3.2	2.6	2.4	2.3	2.2	1.0	28.7	1.3	29	39
7	2.21	0.07%	2.6	2.8	2.6	2.1	1.9	1.8	1.8	1.3	36.2	1.7	7	54
8	3.43	1.13%	3.7	4.2	4	3.4	3.1	3	2.8	0.8	22.2	1.0	21	54
9	4.10	2.88%	4.4	5	4.7	4.1	3.8	3.6	3.5	0.6	18.2	0.8	21	60
10	4.49	4.41%	4.7	5.4	5.1	4.5	4.2	4	3.8	0.6	16.4	0.7	25	57
11	2.24	0.07%	2.6	2.8	2.7	2.1	1.9	1.9	1.8	1.3	35.5	1.6	22	39
12	4.88	6.34%	5.1	5.9	5.5	4.9	4.6	4.4	4.2	0.5	14.9	0.6	40	44
13	1.53	0.00%	2.0	2	1.9	1.4	1.2	1.2	1.2	2.0	54.2	2.6	8	33
14	3.16	0.71%	3.5	3.9	3.7	3.1	2.9	2.7	2.6	0.9	24.3	1.1	9	64
15	4.27	3.49%	4.5	5.2	4.9	4.3	4	3.8	3.6	0.6	17.4	0.8	44	37

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
16	3.13	0.67%	3.5	3.8	3.6	3.1	2.8	2.7	2.6	0.9	24.5	1.1	8	65
17	3.41	1.11%	3.7	4.2	3.9	3.4	3.1	3	2.8	0.8	22.3	1.0	13	62
18	3.07	0.60%	3.4	3.8	3.6	3	2.8	2.7	2.5	0.9	25.0	1.1	15	58
19	7.10	23.26%	7.2	8.4	7.9	7.3	6.9	6.6	6.2	0.4	9.6	0.4	10	80
20	2.03	0.03%	2.4	2.5	2.4	1.9	1.7	1.7	1.6	1.4	39.8	1.8	24	32
21	2.56	0.19%	2.9	3.2	3	2.5	2.3	2.2	2.1	1.1	30.7	1.4	28	38
22	2.26	0.08%	2.6	2.8	2.7	2.1	1.9	1.9	1.8	1.3	35.3	1.6	8	53
23	4.91	6.52%	5.1	5.9	5.6	5	4.7	4.4	4.2	0.5	14.8	0.6	33	51
33	8.40	35.52%	8.4	9.9	9.3	8.7	8.3	7.9	7.4	0.3	7.9	0.3	8	84
34	3.42	1.12%	3.7	4.2	3.9	3.4	3.1	3	2.8	0.8	22.2	1.0	17	59
35	2.31	0.09%	2.7	2.9	2.7	2.2	2	1.9	1.9	1.2	34.4	1.6	9	53
36	3.56	1.41%	3.9	4.3	4.1	3.5	3.3	3.1	3	0.7	21.2	0.9	3	73
37	2.99	0.51%	3.3	3.7	3.5	2.9	2.7	2.6	2.5	0.9	25.9	1.2	33	39
38	3.42	1.12%	3.7	4.2	3.9	3.4	3.1	3	2.8	0.8	22.2	1.0	36	40
39	9.17	42.65%	8.6	10.1	9.5	8.9	8.5	8.1	7.6	0.3	7.6	0.3	8	84
40	2.43	0.13%	2.8	3	2.9	2.3	2.1	2	2	1.2	32.5	1.5	4	60
41	10.21	51.75%	10.1	11.9	11.2	10.6	10.2	9.7	9.1	0.2	6.2	0.3	30	63

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
42	4.96	6.77%	5.2	6	5.6	5	4.7	4.5	4.2	0.5	14.6	0.6	0.3	84
43	4.80	5.92%	5.0	5.8	5.5	4.8	4.5	4.3	4.1	0.5	15.2	0.7	1	82
44	6.79	20.54%	6.9	8.1	7.6	7	6.6	6.3	5.9	0.4	10.2	0.4	10	79
45	4.91	6.52%	5.1	5.9	5.6	5	4.7	4.4	4.2	0.5	14.8	0.6	19	65
46	4.25	3.43%	4.5	5.1	4.9	4.3	4	3.8	3.6	0.6	17.4	0.8	13	68
47	5.98	13.73%	6.1	7.1	6.7	6.1	5.8	5.5	5.2	0.4	11.8	0.5	16	71
48	3.05	0.58%	3.4	3.7	3.5	3	2.7	2.6	2.5	0.9	25.2	1.1	11	61
49	3.70	1.71%	4.0	4.5	4.2	3.7	3.4	3.3	3.1	0.7	20.4	0.9	10	68
50	2.89	0.41%	3.2	3.6	3.4	2.8	2.6	2.5	2.4	0.9	26.9	1.2	9	61
51	4.81	5.96%	5.0	5.8	5.5	4.8	4.6	4.3	4.1	0.5	15.2	0.7	43	40
52	1.46	0.00%	1.9	1.9	1.8	1.3	1.1	1.1	1.1	2.1	57.1	2.8	17	21
53	4.38	3.94%	4.6	5.3	5	4.4	4.1	3.9	3.7	0.6	16.8	0.7	56	25
54	3.74	1.83%	4.0	4.6	4.3	3.7	3.5	3.3	3.1	0.7	20.1	0.9	53	25
55	3.37	1.03%	3.7	4.1	3.9	3.3	3.1	2.9	2.8	0.8	22.6	1.0	45	30
56	2.60	0.21%	3.0	3.2	3.1	2.5	2.3	2.2	2.1	1.1	30.1	1.4	12	54
57	2.72	0.28%	3.1	3.4	3.2	2.6	2.4	2.3	2.2	1.0	28.7	1.3	34	34
58	4.66	5.23%	4.9	5.6	5.3	4.7	4.4	4.2	4	0.6	15.7	0.7	53	30

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
59	3.44	1.15%	3.8	4.2	4	3.4	3.1	3	2.9	0.8	22.1	1.0	28	47
60	3.61	1.51%	3.9	4.4	4.2	3.6	3.3	3.2	3	0.7	20.9	0.9	46	31
61	5.76	12.03%	5.6	6.5	6.1	5.5	5.2	4.9	4.6	0.5	13.3	0.6	58	27
62	4.00	2.55%	4.3	4.9	4.6	4	3.7	3.6	3.4	0.7	18.7	0.8	30	49
63	2.57	0.19%	2.9	3.2	3	2.5	2.3	2.2	2.1	1.1	30.5	1.4	44	22
64	1.70	0.01%	2.1	2.2	2.1	1.5	1.4	1.3	1.3	1.8	48.4	2.3	8	39
65	1.78	0.01%	2.2	2.3	2.1	1.6	1.5	1.4	1.4	1.7	45.9	2.2	27	23
66	1.61	0.01%	2.0	2	2	1.5	1.3	1.3	1.2	1.9	51.3	2.5	10	34
67	2.83	0.36%	3.2	3.5	3.3	2.7	2.5	2.4	2.3	1.0	27.5	1.2	11	59
68	5.82	12.48%	6.0	7	6.6	5.9	5.6	5.3	5	0.4	12.2	0.5	52	34
69	3.04	0.56%	3.4	3.7	3.5	3	2.7	2.6	2.5	0.9	25.4	1.1	23	49
70	2.00	0.03%	2.4	2.5	2.4	1.9	1.7	1.6	1.6	1.5	40.3	1.9	21	34
71	2.60	0.21%	3.0	3.2	3	2.5	2.3	2.2	2.1	1.1	30.2	1.4	18	49
72	2.45	0.14%	2.8	3	2.9	2.3	2.1	2.1	2	1.1	32.2	1.5	15	50
73	4.18	3.17%	4.5	5.1	4.8	4.2	3.9	3.7	3.5	0.6	17.8	0.8	33	47
74	7.70	28.92%	7.7	9.1	8.6	7.9	7.6	7.2	6.8	0.3	8.7	0.4	54	36
75	3.36	1.02%	3.7	4.1	3.9	3.3	3.1	2.9	2.8	0.8	22.6	1.0	15	60

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
76	2.67	0.25%	3.0	3.3	3.1	2.6	2.4	2.3	2.2	1.0	29.3	1.3	28	40

Note: * gives median levels

Table A6 - 2 IEUBK prediction predicted blood lead level (µg/dL) for different age groups in Mount Isa city and lead source allocation using ABA

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
1	1.24	0.00%	1.7	1.6	1.6	1.1	0.9	0.9	0.9	2.7	69	3.4	6	18
2	1.49	0.00%	1.9	1.9	1.8	1.3	1.2	1.1	1.1	2.1	56	2.7	13	25
3	1.68	0.01%	2.1	2.1	2	1.5	1.4	1.3	1.3	1.8	49	2.3	13	33
4	1.52	0.00%	1.9	1.9	1.9	1.4	1.2	1.2	1.2	2.1	55	2.7	2	38
5	1.35	0.00%	1.8	1.7	1.7	1.2	1	1	1	2.4	63	3.1	1	30
6	1.28	0.00%	1.7	1.7	1.6	1.1	1	1	1	2.6	67	3.3	12	15
7	1.19	0.00%	1.6	1.5	1.5	1	0.9	0.9	0.9	2.8	72	3.5	2	18
8	1.41	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	2.9	10	25

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
9	1.54	0.00%	2	2	1.9	1.4	1.2	1.2	1.2	2.0	54	2.6	10	30
10	1.61	0.01%	2	2	2	1.5	1.3	1.3	1.2	1.9	51	2.5	13	30
11	1.19	0.00%	1.6	1.5	1.5	1	0.9	0.9	0.9	2.8	72	3.5	8	13
12	1.69	0.01%	2.1	2.1	2	1.5	1.4	1.3	1.3	1.8	49	2.3	22	24
13	1.07	0.00%	1.5	1.4	1.4	0.9	0.7	0.8	0.8	3.3	82	3.8	2	8
14	1.36	0.00%	1.8	1.7	1.7	1.2	1	1	1	2.4	62	3.1	4	28
15	1.57	0.00%	2	2	1.9	1.4	1.2	1.2	1.2	2.0	53	2.6	23	19
16	1.35	0.00%	1.8	1.7	1.7	1.2	1	1	1	2.4	62	3.1	4	28
17	1.41	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	2.9	6	28
18	1.34	0.00%	1.8	1.7	1.7	1.2	1	1	1	2.4	63	3.1	6	25
19	2.14	0.05%	2.5	2.7	2.5	2	1.8	1.8	1.7	1.3	37	1.7	6	53
20	1.16	0.00%	1.6	1.5	1.5	1	0.8	0.8	0.8	3.0	75	3.6	8	10
21	1.25	0.00%	1.7	1.6	1.6	1.1	0.9	0.9	0.9	2.6	68	3.4	11	15
22	1.20	0.00%	1.6	1.6	1.5	1	0.9	0.9	0.9	2.8	72	3.5	3	18
23	1.70	0.01%	2.1	2.1	2.1	1.5	1.4	1.3	1.3	1.8	48	2.3	18	28
33	2.43	0.13%	2.8	3	2.9	2.3	2.1	2	2	1.2	33	1.5	5	59
34	1.41	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	2.9	8	27

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
35	1.21	0.00%	1.7	1.6	1.5	1	0.9	0.9	0.9	2.8	71	3.5	3	19
36	1.44	0.00%	1.9	1.8	1.8	1.3	1.1	1.1	1.1	2.2	58	2.9	2	34
37	1.33	0.00%	1.8	1.7	1.6	1.2	1	1	1	2.4	64	3.2	14	16
38	1.41	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	2.9	16	18
39	2.47	0.15%	2.9	3.1	2.9	2.4	2.2	2.1	2	1.1	32	1.5	6	60
40	1.23	0.00%	1.7	1.6	1.5	1	0.9	0.9	0.9	2.7	70	3.4	1	22
41	2.84	0.37%	3.2	3.5	3.3	2.8	2.5	2.4	2.3	1.0	27	1.2	23	47
42	1.70	0.01%	2.1	2.2	2.1	1.6	1.4	1.4	1.3	1.8	48	2.3	0	47
43	1.67	0.01%	2.1	2.1	2	1.5	1.3	1.3	1.3	1.8	49	2.4	0	46
44	2.08	0.04%	2.5	2.6	2.5	1.9	1.8	1.7	1.7	1.4	39	1.8	7	51
45	1.69	0.01%	2.1	2.1	2.1	1.5	1.4	1.3	1.3	1.8	49	2.3	10	36
46	1.57	0.00%	2	2	1.9	1.4	1.2	1.2	1.2	2.0	53	2.6	6	35
47	1.91	0.02%	2.3	2.4	2.3	1.8	1.6	1.5	1.5	1.5	42	2.0	10	44
48	1.34	0.00%	1.8	1.7	1.7	1.2	1	1	1	2.4	63	3.2	5	26
49	1.46	0.00%	1.9	1.9	1.8	1.3	1.1	1.1	1.1	2.2	57	2.8	5	33
50	1.31	0.00%	1.8	1.7	1.6	1.1	1	1	1	2.5	65	3.3	4	25
51	1.67	0.01%	2.1	2.1	2	1.5	1.3	1.3	1.3	1.8	49	2.4	24	22

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
52	1.06	0.00%	1.5	1.4	1.3	0.9	0.7	0.7	0.8	3.4	83	3.9	4	5
53	1.59	0.01%	2	2	1.9	1.4	1.3	1.2	1.2	1.9	52	2.5	30	13
54	1.47	0.00%	1.9	1.9	1.8	1.3	1.1	1.1	1.1	2.1	57	2.8	25	12
55	1.40	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	3.0	20	13
56	1.26	0.00%	1.7	1.6	1.6	1.1	0.9	0.9	0.9	2.6	68	3.4	5	21
57	1.28	0.00%	1.7	1.7	1.6	1.1	0.9	1	1	2.6	67	3.3	13	14
58	1.64	0.01%	2.1	2.1	2	1.5	1.3	1.3	1.3	1.9	50	2.4	29	16
59	1.41	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	2.9	13	22
60	1.44	0.00%	1.9	1.8	1.8	1.3	1.1	1.1	1.1	2.2	58	2.8	22	15
61	1.79	0.01%	2.2	2.3	2.2	1.6	1.5	1.4	1.4	1.7	46	2.2	34	16
62	1.52	0.00%	1.9	1.9	1.9	1.4	1.2	1.2	1.2	2.1	55	2.7	15	25
63	1.25	0.00%	1.7	1.6	1.6	1.1	0.9	0.9	0.9	2.6	68	3.4	17	8
64	1.10	0.00%	1.6	1.4	1.4	0.9	0.8	0.8	0.8	3.2	79	3.7	2	11
65	1.11	0.00%	1.6	1.5	1.4	0.9	0.8	0.8	0.8	3.1	78	3.7	8	7
66	1.08	0.00%	1.5	1.4	1.4	0.9	0.7	0.8	0.8	3.2	81	3.8	3	9
67	1.33	0.00%	1.8	1.7	1.6	1.2	1	1	1	2.4	64	3.2	5	25
68	1.86	0.02%	2.3	2.3	2.2	1.7	1.5	1.5	1.5	1.6	44	2.1	32	21

House ID	Predicted blood lead									Lead source allocation*				
	Geometric mean	Exceedance of 10 µg/dL	0.5-1 y	1-2 y	2-3 y	3-4 y	4-5 y	5-6 y	6-7 y	Air	Diet	Water	Soil	Dust
	µg/dL	unitless	µg/dL							%				
69	1.33	0.00%	1.8	1.7	1.7	1.2	1	1	1	2.4	63	3.2	10	21
70	1.15	0.00%	1.6	1.5	1.5	1	0.8	0.8	0.8	3.0	75	3.6	7	11
71	1.27	0.00%	1.7	1.6	1.6	1.1	0.9	0.9	0.9	2.6	67	3.4	7	19
72	1.24	0.00%	1.7	1.6	1.5	1.1	0.9	0.9	0.9	2.7	69	3.4	5	19
73	1.55	0.00%	2	2	1.9	1.4	1.2	1.2	1.2	2.0	54	2.6	17	24
74	2.27	0.08%	2.7	2.8	2.7	2.2	2	1.9	1.8	1.3	35	1.6	37	25
75	1.40	0.00%	1.8	1.8	1.7	1.2	1.1	1.1	1.1	2.3	60	3.0	7	27
76	1.27	0.00%	1.7	1.6	1.6	1.1	0.9	0.9	1	2.6	67	3.4	11	15

Note: * gives median levels