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Pulverproben / Festproben
Mineralische / Metallurgische Werkstoffe

Powders / Solid Samples
Mineral / Metallurgical Materials

Katalog Nr.6 / Catalogue No.6

VORWORT

B R E I T L Ä N D E R Eichproben + Labormaterial GMBH ist Spezialanbieter von Referenzproben seit dem Jahre 1972. Mit ca. 15000 Proben, die in unserer Datenbank erfaßt sind, bieten wir das umfangreichste Angebot an Referenzproben auf dem Weltmarkt. Unsere Datenbank gibt Auskunft über die Verfügbarkeit einer gesuchten Probe; der simultane Suchmodus erfaßt bis zu 8 Element-Konzentrationsbereiche von ppb bis 100%.

Da wir nur mit der Herstellung von Silikatglas-Monitorproben für die RFA befaßt sind, können wir unsere Kunden herstellerunabhängig beraten und das am besten geeignete Referenzmaterial für Kalibrierung, Kontrolle oder Rekalibration empfehlen. Mit einem Lagerbestand von mehr als 2000 verschiedenen Proben können wir gängige Referenzmaterialien in den meisten Fällen prompt ausliefern. Zusätzlich zum eigentlichen Referenzmaterial können wir eine geeignete Probenvorbereitung empfehlen und dies mit unseren Maschinen auch praktisch demonstrieren, sowohl für die Metalle, als auch für oxidische Materialien.

Referenzmaterialien, CRMs und RMs sind im ISO Guide 30: 1992 „Begriffe und Definitionen im Zusammenhang mit Referenzmaterialien“ von der **I**nternationalen **O**rganisation für **S**tandardisierung (ISO) definiert.

„**CRM**“ steht für „Certified Reference Material“ oder **zertifiziertes Referenzmaterial**, auch als „ZRM“ abgekürzt. CRM - von einem Zertifikat begleitetes Referenzmaterial mit einem oder mehreren Eigenschaftswerten, die durch ein Verfahren zertifiziert sind. Dieses Verfahren bescheinigt, daß die Werte auf ein exaktes Maß der Einheit zurückverfolgt werden können, in dem die Eigenschaftswerte ausgedrückt sind, und daß für jeden zertifizierten Wert eine Unsicherheit mit festgelegtem Zuverlässigkeitswert gegeben ist. CRMs werden zertifiziert durch eine anerkannte Zertifizierungsorganisation nach erprobten Verfahren, gemäß ISO Guide 35: 1989 „Zertifizierung von Referenzmaterialien – allgemeine und statistische Grundsätze“. Solche Zertifizierungsorganisationen sind gewöhnlich staatliche oder staatlich anerkannte Institutionen. Ein CRM hat die höchste hierarchische Stellung, die ein Referenzmaterial erhalten kann, weil eine direkte Rückführbarkeit zu SI-Einheiten angestrebt wird und wegen des ihm zugeschriebenen Vertrauens, das der Herausgeber genießt.

„**RM**“ steht für „Reference Material“ oder **Referenzmaterial**. RM - Material oder Substanz mit einem oder mehreren Eigenschaftswerten, die ausreichend homogen und konstant sind, um zur Eichung eines Instruments, zur Bewertung eines Meßverfahrens oder zur Zuweisung von Materialwerten verwendet zu werden. Solche Referenzproben sind normalerweise im Rahmen einer Ringanalyse von verschiedenen Analytikern untersucht und werden mit einem Analysezertifikat ausgeliefert, das nicht immer alle Zertifizierungsvorschriften nach ISO Guide 35 erfüllt, oder auf anderen Zertifizierungskriterien beruht, z.B. durch Rückführbarkeitsmessungen auf NIST-Standards (tracebility to NIST). Einige Hersteller geben sehr gut dokumentierte Zertifkate heraus, das Zustandekommen der Analysewerte (Anzahl der unabhängigen Laboratorien, Methoden, Unsicherheiten etc) ist jedoch nicht bei allen Herausgebern vollständig beschrieben.

„**SUS**“ steht für „Setting-Up Samples“ oder **Rekalibrierproben**. Es sind Materialien besonders geprüfter Homogenität, die angegebene quantitative Zusammensetzung ist jedoch nicht zertifiziert. Solche Proben werden zur Überprüfung und Aufrechterhaltung der Signalstabilität des Spektrometers benutzt, indem ihnen bei der Kalibrierung mit CRMs und RMs ein entsprechender Meßwert zugewiesen wird. Solche Proben werden auch als Geräte-Monitorproben bezeichnet, die Beschaffung einer hinreichenden Anzahl von Proben aus einer Schmelze wird angeraten, um neuerliche Dateneingabe bei nicht identischer Folgeschmelze zu vermeiden.

„**Kontrollproben**“ sind eigentlich den Referenzproben zuzurechnen, es handelt sich normalerweise um typische Legierungsqualitäten. Sie sind hinreichend gut analysiert für den gewünschten Einsatzzweck, nämlich für die statistische Kontrolle des Spektrometers für Qualiätssicherungsaufgaben, Überprüfung von Kalibrierung und Rekalibrierungsbedarf.

Die Referenzmaterialien dieses Kataloges sind entsprechend den o.g. Kategorien gekennzeichnet. CRMs müssen nicht von einer regierungsamtlichen Organisation herausgegeben werden, allerdings ist die Akkreditierung (Qualitätssicherung nach ISO 900x) eines Herausgebers oder eines an der Ringuntersuchung beteiligten Labors keine hinreichende Qualifizierung für eine Einstufung als CRM nach ISO Guide 30. Nur wenn der Herausgeber eine staatliche Einrichtung ist oder eine spezielle Akkreditierung gemäß ISO Guide 34 für das entsprechende Material besitzt, ist dies als CRM gekennzeichnet. Es sei ausdrücklich daraufhingewiesen, daß ein ISO 900x akkreditierter Herausgeber von Referenzmaterial durch eine solche Registrierung keine CRMs produziert.

Die in unseren Katalogen angegebenen Analysedaten sind als typische Werte zu betrachten, normalerweise in Gewichtsprozenten ausgedrückt, falls nicht als ppm, µg/g, mg/kg oder anders gekennzeichnet. Sie wurden sorgfältig nach Herstelllerangaben dokumentiert, Irrtum und auch Änderungen durch Folgeschmelzen kann nicht ausgeschlossen werden, gültig ist allein das zu der Probe mitgelieferte Zertifikat. Klammerwerte kennzeichnen nicht zertifizierte, nur informative Werte. Da Referenzproben aus Homogenitätsgründen normalerweise nur in sehr begrenzter Stückzahl zertifiziert werden können, haben Folgeschmelzen keine identische, sondern eine sehr ähnliche Zusammensetzung; auch die Probenabmessung kann sich ändern. Wir geben Ihnen gerne die tatsächlich vorliegenden Werte an, auch die Unsicherheiten, Bestimmungsmethoden etc. Sie können dies vor Bestellung bei uns erfragen. Wir geben Ihnen ferner alle weiteren uns vom Hersteller überlassenen Informationen. Zur Beachtung: prüfen Sie, ob die Werte des mitgelieferten Zertifkates Ihren Erfordernissen entsprechen bevor Sie ein gekauftes Referenzmaterial benutzen; wir akzeptieren nach Abstimmung Rückgaben innerhalb von 60 Tagen nach Lieferung nur für unbenutztes Material.

Die Auswahl geeigneter Referenzproben ist von besonderer Wichtigkeit für Ihre interne Qualitätssicherung und gegenüber Forderungen externer Abnahmegesellschaften. Dabei sind zwei Kriterien von besonderer Bedeutung: der o.g. metrologische Status der verschiedenen Proben und die Kongruenz des zu untersuchenden Materials mit dem der Referenzproben. Vergleichbares Probengefüge und gleiche Probenvorbereitung sind dabei wichtige Kriterien, die Kalibrierkurven sollten auf einer möglichst großen Anzahl von matrixähnlichen Referenzproben basieren. Auf die Empfehlungen der Gerätehersteller wird besonders hingewiesen. Bei Einsatz von Qualitätssicherungsprogrammen sollen gemäß internationalen Normen z.B. ISO 900x CRM-Proben eingesetzt werden, sofern diese für das zu untersuchende Material zur Verfügung stehen. Leider ist das Angebot an CRM-Proben beschränkt, so daß in der Praxis eine Kombination von verfügbaren CRM- und RM-Proben notwendig und sinnvoll ist. Aufgrund zufallsbedingter und auch systematischer Unsicherheitseffekte bei allen analytischen Messungen ist es unwahrscheinlich, daß die von einem Anwender erzielten Messwerte eines Referenzmaterials genau mit dem Zertifikat übereinstimmen. Wichtig ist, daß sich die Meßergebnisse in einem für den Verwendungszweck akzeptablen Toleranzbereich bewegen.

In unseren Katalogen sind die technologischen Eigenschaften der Proben, so weit bekannt, angegeben: „wrought“ kennzeichnet gewalzte, gezogene oder geschmiedete Metallproben, „cast“ bezeichnet gegossene Proben und „chill cast“ steht für Proben, die zur schnellstmöglichen Abkühlung, normalerweise auf einem Kupferblock, vergossen wurden. Bei Aluproben liegt bei den zylindrischen Proben im allgemeinen Extrudierung vor, die flachen Pilzproben sind Kokillenproben. Bestimmte Proben, die flüchtige Elemente enthalten, haben einen Kataloghinweis auf diese Konzentrationsbereiche – im Zertifikat sind die tatsächlichen Werte. Da die meisten Aluproben von den Aluminium-Großherstellern kommen (RM-Proben) sind nur die wenigen CRM-Proben als solche im Katalog gekennzeichnet. Bei einer Reihe von geochemischen Referenzproben sind neben der chemischen Zusammensetzung auch eine mineralogische und granulometrische Zusammensetzung angegeben. Auf Anfrage teilen wir Ihnen mit, ob eine solche erweiterte Aussage im Zertifikat gemacht wird.

Bitte fragen Sie auch nach Referenzmaterial an, das Sie nicht in unseren Katalogen finden, wir recherchieren für Sie und könnnen evtl. auch Material für Sie fertigen lassen, dank unserer langjährigen Kontakte zu spezialisierten Instituten und Laboratorien.

Bestellungen erbitten wir per Brief, Fax, e-mail oder auch telefonisch. Bei schriftlichen Aufträgen, die telefonische Aufträge bestätigen, erbitten wir einen entsprechenden Hinweis, um Doppelbestellungen zu vermeiden. Bitte geben Sie an: Menge, vollständige Art.-Nr. lt. Katalog, Materialbezeichnung und Preis, falls bekannt. Unsere Preise verstehen sich in EURO, Erfüllungsort Hamm. Wir berechnen keine separaten Verpackungskosten und liefern Nicht-Gefahrgut franko Werk des Empfängers im Inland. Besondere Zustellbedingungen und Gefahrgut-Transportkosten werden zusätzlich berechnet, Gefahrgut-Artikel sind in unseren Katalogpreislisten gekennzeichnet, die Zusatzkosten richten sich nach Eilbedürftigkeit, bitte fragen Sie an. Alle Verkäufe erfolgen ausschließlich zu unseren allgemeinen Verkaufsbedingungen. Zahlung: innerhalb von 30 Tagen netto Kasse bei gesicherter Bonität, bei Inlandsgeschäften gewähren wir 2% Skonto bei Barzahlung innerhalb von 14 Tagen nach Rechnungsdatum. Wir liefern normalerweise bei Lagerproben prompt nach Auftragseingang, Nicht-Lagerproben beschaffen wir innerhalb von 2-4 Wochen.

Bitte richten Sie Ihre Bestellung an:

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Preface

B R E I T L Ä N D E R Eichproben + Labormaterial GmbH have been specialist in reference materials since 1972. With about 15000 international reference materials included in our database, we supply the world's most comprehensive range of standards. Our database tells you the availability of particular materials of interest with up to 8 selected element or compound concentrations searched for simultaneously in the range from ppb to 100%.

As we specialise in production of XRF-glass-monitor samples only we can advise customers independently and help to select the most appropriate reference material for calibration, control or setting-up. We carry in stock a range of more than 2000 different materials and can satisfy most customer requirements for same day supply. Further to reference materials we can advise the customer on correct sample preparation either in the field of metals or for mineral based materials; we supply from stock sample preparaton machines as well as consumables.

Reference materials, CRMs and RMs, have been defined as per ISO Guide 30: 1992 „Terms and definitions used in connection with reference materials" issued by the **I**nternational **S**tandards **O**rganization.

CERTIFIED REFERENCE MATERIAL (CRM): Reference material, accompanied by a certificate, one or more of whose property values are certified by a procedure which establishes its traceability to an accurate realization of the unit in which the property values are expressed, and for which each certified value is accompanied by an uncertainty at a stated level of confidence. The CRMs are certified by a recognized certifying organization using approved certification procedures as instructed in ISO Guide 35: 1989 „Certification of reference materials – General and statistical principles." The organization is usually a function of a federal government or recognized by a federal government. A CRM is the highest level to which an analytical reference material can be elevated because it is directly traceable to SI units and because of the attributed confidence in the company or organization which produced the material.

REFERENCE MATERIAL (RM): A material substance one or more of whose property values are sufficiently homogeneous and well established to be used for calibration of an apparatus, the assessment of a measurement method, or for assigning values to materials. The RMs usually have been through interlaboratory testing using many analysts and supplied with a certificate of analysis but do not strictly follow all the procedures of certification as indicated in ISO Guide 35. Certificates of RMs often state that the measurement data are traceable to primary CRMs, mostly expressed as traceability to NIST.

SETTING-UP SAMPLES (SUS): Materials of minimum inhomogeneity to be used for monitoring or adjustment of the analytical signal of instruments. These materials are assigned values during calibration with CRMs or RMs, thus they do not need to have a certified analysis, but a guiding one only. Such standards are also called „recalibration samples", „drift control samples" or „monitor samples".

CHART CONTROL SAMPLES are selected RM-materials, their composition normally correspond to common alloy grades. These samples are sufficiently well analysed for their intended use to keep spectrometers in the state of statistical control and used for quality assurance, to check for calibration and recalibration.

Reference materials in this catalogue have been coded as per above categories. CRMs, certified by a recognized certifying organization, needn't to be governmental, however the accreditation of the issuing laboratory or that of one or more laboratories participating in the analysis does not fulfill the requirements for CRM coding as per ISO Guide 30. Only when the producer is a government agency or holds an accreditation specific to ISO Guide 34 for the material in question we have applied the term CRM in this catalogue. It should be clearly stated, that a reference material supplier, accredited as per ISO 900x does not produce CRMs, because of such a registration.

The analytical data in our catalogues are given in mass percent, unless another unit is indicated (ppm, µg/g, mg/kg). They have to be considered as typical or pilot values, the proper values are to be found in the certificate only, supplied together with the sample. Values in brackets ( ) are not certified and listed for information only. Reference materials can only be produced in a limited number mostly because of homogeneity reasons, thus follow up melts will normally differ slightly in composition and may differ in dimensions between batches. In case you need an exact value or more information on manufacture, material property, methods, uncertainties etc prior to selection, do not hesitate to ask for information. We will pass on to you the information available from the producer, though not all of them supply complete background information. Please note: before using a material check that the values from the certificate are acceptable, material returns are acceptable within 60 days after shipment, please contact us in such cases beforehand, however such returns apply only for unused material.

Selecting appropriate reference materials improves efficiency of your quality assurance programme. Two features are of importance – their metrological status as indicated above and how their properties match those of the user's routine samples. Due to increasing implementation of quality assurance programmes, growing emphasy is put on use of CRMs whenever available. International Standards like ISO 900x request CRMs, however the offer in certain areas is very limited. Therefore the optimum combination of CRMs and RMs has to be used.

Our catalogue indicates the technological properties of the materials whenever available, essential mainly for solid metals, where the prevailing spectral analytical techniques are structure and surface sensitive.The solid metal samples have therefore been marked „wrought", „cast" and „chill cast", the latter meaning rapid solidification, generally achieved by casting on a copper block. Aluminium samples in cylindrical form are usually extruded, the flat „mushroom" ones are mold cast. Trend inhomogeneity in Al-samples caused by technology for some „burn out" elements are individually certified by some producers, the range is given in the Al-catalogue, the exact value in the certificate. As most Al-samples are RMs coming from the leading aluminium producers, only the CRMs have been specially coded. Some certificates of geochemical samples not only list the chemical composition, but also the mineral and granulometric composition, on request we will let you know if the certificate indicates such information.

Users are advised to select reference materials close to their own samples. They should have similar structure and be prepared exactly the same way. Calibration should be based on matrix compatible materials and graphs should be made of as many reference materials as available. The instrument manufacturer's recommendations for calibration procedures should be followed. Analytical results always carry uncertainties due to random and systematic errors, thus it is unlikely that the measured value obtained from a CRM or RM exactly fits the certified one, important is that the results obtained are within acceptable tolerance for the applicational method used. In order to validate instrumental calibration classical chemical methods of analysis of customer's own material and parallel running of other CRMs of same matrix is recommended and should indicate possible calibration differences.

Should you look for a particular material you cannot locate in our catalogues, please inquire. We search for available reference materials, there might be new, recently issued materials and in some cases we can have material made and analysed for you. We are in close contact with specialised institutes and companies producing reference materials, as well as with the instrument producers.

Ordering: We accept orders by mail, fax, e-mail or phone. Please clearly indicate written orders of previously given phone orders to avoid double ordering and state in your order: quantity, catalogue number, material description and price, if known. Prices are understood in EURO, fca Hamm, Germany, as per current price list. We do not charge for packing. Transport charges are added, normally air parcel postage, unless courier or airfreight is appropriate or requested, we ship as per customer request. Hazardous goods require special packing and higher transport costs, all items are listed in our price list as „GEFAHRGUT", please inquire for additional charges depending on your time requirement and possibility of reduced collective transport rates. All sales are executed as per our conditions of sale. Delivery of stocked samples prompt after receipt of order/payment, non-stocked articles we normally have available within 2-4 weeks, faster service at extra charge, depending on source, is possible, too.

Payment: we accept MASTER or VISA card, we issue proforma invoices for pre-payments, L/Cs for bigger orders acceptable, payable on a German bank, 100% at sight upon presentation of shipping documents and invoice, all banking charges for account of applicant, established customers with trade reference may apply for open account.

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Katalog Nr. 6 Mineralische + metallurgische Werkstoffe

Catalogue No. 6 Mineral + Metallurgical Raw Materials

CRM	Mn	Si	P	S	C	Cu	Cr	Fe	N	Pb	As	Zn	Sn	Ni	Co	Sb	V	100 g	
CI HC28608	67.40	1.07	0.455	0.013	6.52	–	–	–	–	–	–	–	–	–	–	–	–	**50 g**	
CI HC25642	71.02	1.70	0.183	0.0065	1.11	–	–	–	1.92	–	–	–	–	–	–	–	–	**50 g**	**FeMn**
CI HC11602	73.88	0.43	0.152	0.005	6.72	0.080	–	18.14	–	–	–	–	–	–	–	–	–	**100 g**	
CI HC25632	78.41	0.69	0.204	0.0086	6.68	–	–	–	–	–	–	–	–	–	–	–	–	**50 g**	
CI HC25621	79.44	1.51	0.344	0.0029	1.40	–	–	–	–	–	–	–	–	–	–	–	–	**50 g**	
3 68c	80.04	0.225	0.19	0.008	6.72	–	0.074	12.3	–	–	0.021	–	–	–	–	–	–		
IP 54	80.4	1.74	0.22	0.003	1.20	0.059	0.043	15.9	–	–	–	–	–	0.14	–	–	–	**120 g**	
CI HC25620	80.48	0.94	0.153	0.0030	–	–	–	–	–	–	–	–	–	–	–	–	–		
CI HC25619	80.62	2.43	0.235	0.0028	1.22	–	–	–	–	–	–	–	–	–	–	–	–		
EC 503–1	80.8	0.865	0.069	(0.009)	0.700	–	–	–	–	–	–	–	–	–	–	–	–		
6 121	81.4	0.62	0.38	0.004	1.62	(0.15)	(0.080)	14.9	(0.022)	–	–	–	–	–	–	–	–		**RM**
CI HC28606	82.10	1.28	0.106	0.004	1.10	–	–	–	–	–	–	–	–	–	–	–	–		
CI HC41601	83.35	0.948	0.180	0.003	0.86	0.107	Bi=0.00005	13.48	0.018	0.068	0.048	0.12	0.0019	0.080	0.145	0.015	0.03	**50 g**	
CI HC25629	84.28	0.63	0.196	0.0018	0.300	–	–	–	–	–	–	–	–	–	–	–	–	**50 g**	
EC 583–1	86.42	0.396	0.146	(0.007)	0.333	–	–	–	0.041	–	–	–	–	–	–	–	–		
VS F29	86.7	–	0.055	0.033	0.133	–	–	2.15	5.43	–	–	–	–	–	–	–	–		
VS F6/2	90.3	2.00	0.330	0.0031	1.90	0.050	–	5.40	–	–	–	–	–	–	–	–	–		
VS F5/3	95.9	1.25	0.062	0.0095	0.079	0.0055	–	2.73	–	–	–	–	–	–	–	–	–		

CRM	Si	Mn	Fe	P	S	C	Al	Ti	Cu	Ca	Mg	Cr	V	Ni	Zr	B	100 g	
X 33	15.60	0.75	80.2	0.043	(0.0080)	1.01	0.62	–	0.29	–	–	0.43	–	0.28	–	–		**FeSi**
VS F1/3	24.5	0.510	–	0.042	0.0027	0.499	0.74	0.072	–	–	–	0.361	–	–	–	–		
VS F3/3	44.2	0.306	–	0.035	0.0023	0.027	1.03	–	–	0.056	–	0.324	–	–	–	–		
IP 70	44.7	0.283	54.1	0.018	(0.006)	0.087	0.21	0.018	0.066	0.16	0.016	0.046	–	0.022	–	–	**60 g**	
CI HC28604	47.62	0.31	49.70	0.015	0.003	0.063	1.16	–	0.079	0.067	–	0.094	–	0.021	–	–	**50 g**	
3 59a	48.2	0.76	50.0	0.016	–	0.04	0.35	–	0.05	0.04	–	0.08	–	0.03	–	0.06	**50 g**	
CI HC28605	51.46	0.285	46.07	0.015	0.0034	0.070	1.15	–	0.0735	0.106	–	0.091	–	0.0202	–	–	**50 g**	
CI HC19601	64.36	0.411	30.74	0.030	–	0.07	1.69	–	–	1.68	–	0.095	–	–	–	–		
CI HC37601	68.91	0.177	26.68	0.024	–	–	2.18	–	–	–	–	0.142	–	–	–	–		
CI HC19602	69.47	0.308	23.81	0.027	–	0.12	2.45	–	–	2.47	–	0.077	–	–	–	–		
CI HC28602	70.75	0.131	25.14	0.011	–	0.17	1.55	–	0.040	0.98	–	0.057	–	–	–	–	**80 g**	
CI HC19603	72.20	0.192	22.96	0.021	–	0.19	1.92	–	–	1.17	–	0.029	–	–	–	–		
CI HC28603	72.53	0.13	24.24	0.044	0.005	0.133	1.41	–	0.036	0.74	–	0.061	–	0.012	–	–	**50 g**	
CI HC11601	72.99	0.26	–	0.022	0.004	0.068	1.10	–	–	0.30	–	0.080	–	–	–	–		
3 58a	73.20	0.16	25.22	0.009	<0.002	0.014	0.95	0.051	0.024	–	–	0.020	(0.002)	0.012	0.002	0.001	**75 g**	
CI HC11601a	73.75	0.26	–	0.023	0.003	0.073	1.14	–	0.031	0.34	–	0.085	–	–	–	–		
CI HC37602	73.29	0.140	21.37	0.022	–	–	2.74	–	–	0.616	–	–	–	–	–	–		
NM 312	74.37	–	–	0.031	–	–	1.23	–	–	1.80	–	–	–	–	–	–		
IP 56	75.1	0.110	22.4	0.025	0.0012	0.054	0.57	0.068	0.014	0.79	0.039	0.0044	Sr=0.014	0.0028	0.082	Ba=0.126	**60 g**	
EC 582–2	75.22	0.230	21.42	0.018	–	0.150	1.154	0.225	–	0.405	–	0.074	–	–	–	–		
3 195	75.3	0.17	23.6	0.02	<0.002	0.034	(0.05)	0.037	0.047	–	–	0.047	–	0.032	(<0.02)	0.0010	**75 g**	
CI HC28601	75.6	0.129	22.43	0.012	0.003	0.075	1.13	–	0.028	0.29	–	0.068	–	0.0155	–	–	**50 g**	
J 39	75.9	0.16	–	0.018	(<0.001)	0.105	1.45	0.116	0.013	0.24	–	–	–	–	–	–	**50 g**	
9 720–4	76.35	0.221	–	0.032	(0.003)	(0.045)	1.52	–	–	–	–	–	–	–	–	–		
CI HC25618	76.42	0.14	–	0.025	0.003	0.066	0.78	–	–	0.19	–	–	–	–	–	–		
GB 01422a	76.74	0.172	–	0.023	0.004	0.081	1.80	–	–	0.30	–	0.140	–	–	–	–	**50 g**	
VS F3/3	77.5	0.122	–	0.025	0.0023	0.049	1.96	0.121	–	0.40	–	0.095	–	–	–	–		
EC 529–1	91.11	0.04	6.15	0.013	–	0.10	0.86	0.09	0.01	0.46	0.04	–	–	–	–	–		

B R E I T L Ä N D E R – E I C H P R O B E N **FeSi, FeMo, FeCr**

6.1.2

CRM	Si	C	Mn	P	S	Cu	Cr	Ni	Ca	Al	Fe	V	Co	Ti	B	Ba	Mo
CI HC14606	78.96	0.024	0.058	0.0093	0.0037	0.049	0.0053	0.035	0.064	0.24	20.24	0.0024	0.0031	0.032	0.0029	0.0060	0.0013
CI HC14607	55.73	0.19	0.22	0.038	0.0048	0.060	0.014	0.0063	0.14	0.78	41.89	0.011	0.0047	0.119	0.0032	0.0043	0.011

Mg	Sn	As	O	70 g
0.0051	0.0003	0.0012	(0.256)	**FeSi**
0.0068	0.0004	0.0015	(0.665	

RM	Si	Mn	Fe	P	S	C	Al	Ti	Cu	Ca	Cr	Ni	100 g
6 140–1	45.20	0.46	52.80	(0.02)	(0.004)	(0.03)	0.68	0.09	0.13	0.04	(0.25)	0.15	**FeSi**
6 140–2	51.85	0.53	46.12	(0.02)	(0.004)	(0.03)	0.62	0.10	0.14	0.03	(0.25)	0.15	
6 140–3	47.20	0.60	50.85	(0.02)	(0.004)	(0.05)	0.59	0.07	0.09	0.09	(0.18)	0.09	
6 140–4	49.80	1.00	47.50	(0.02)	(0.004)	(0.05)	0.90	0.09	0.09	0.09	(0.19)	0.11	

CRM	Mo	Si	P	C	S	Cu	As	Pb	Bi	W	Zn	Sn	Sb	100 g	
CM 1631	59.16	0.67	0.024	0.097	0.072	0.178	–	–	–	–	–	–	–	**50 g**	**FeMo**
CM 1633	60.08	0.45	0.023	0.049	0.065	0.191	–	–	–	–	–	–	–	**50 g**	
CI HC25634	62.12	0.33	0.032	0.022	0.067	0.181	–	–	–	–	–	–	–	**50 g**	
CI HC26610	66.52	1.20	0.035	0.049	0.064	0.049	–	–	–	–	–	–	–	**50 g**	
EC 578–1	72.23	0.208	0.024	0.016	0.065	0.136	–	–	–	–	–	–	–		

CRM	Cr	C	Si	P	S	Co	N	V	Al	Ti	Cu	Ni	Mn	Fe	Mg	100 g
EC 585–1	49.05	5.488	4.69	0.0255	0.0320	0.062	0.0127	0.282	–	0.263	–	0.294	0.801	38.67	–	
X 74	49.7	6.44	4.34	0.018	0.04	0.06	–	0.36	–	0.47	–	0.21	0.193	37.5	–	
CI HC27601	53.93	1.66	0.31	0.028	0.021	–	–	–	–	–	–	–	0.60	–	–	**50 g**
J 15A	55.08	7.54	3.03	0.020	0.022	0.049	0.020	0.19	–	0.30	–	0.33	0.275	–	0.017	
CM 1622	58.37	6.19	5.79	0.073	–	–	–	–	–	–	–	–	1.30	–	–	**50 g**
CM 1623	61.74	7.51	3.89	0.049	–	–	–	–	–	–	–	–	0.51	–	–	**50 g**
CI HC26607	61.48	7.83	2.95	0.022	0.017	–	–	–	–	–	–	–	0.34	–	–	**75 g**
CI HC25624	64.12	0.229	1.15	0.035	0.0035	–	–	–	–	–	–	–	0.44	–	–	**50 g**
CI HC25631	66.14	6.88	1.82	0.019	0.024	–	–	–	–	–	–	–	0.30	–	–	**50 g**
CI HC25636	66.85	0.021	0.19	0.31	0.0049	–	–	–	–	–	–	0.30	0.024	–	–	**50 g**
CI HC25626	66.96	0.178	1.02	0.026	–	–	–	–	–	–	–	–	0.356	–	–	**50 g**
VS F12	–	0.299	–	–	–	–	–	–	–	–	–	–	–	–	–	
CI HC25635	67.23	0.051	1.02	0.028	0.003	–	–	–	–	–	–	0.30	0.31	–	–	**50 g**
3 64c	68.00	4.68	1.22	0.020	0.067	0.051	0.045	0.15	–	0.02	0.005	0.43	0.16	24.98	–	
VS F15	68.2	0.078	2.10	0.036	0.0022	–	1.79	–	–	–	–	–	–	–	–	
CI HC25630	69.80	7.06	0.42	0.015	0.032	–	–	–	–	–	–	–	0.19	–	–	**50 g**
EC 507–1	70.30	5.40	1.20	0.017	–	–	0.049	–	–	–	–	–	0.270	–	–	
3 196	70.87	0.035	0.38	–	–	–	–	0.12	–	–	–	–	0.28	–	–	
IP 65	71.2	0.051	0.71	0.006	0.016	0.016	–	–	9.2	–	–	0.077	0.128	17.9	–	
EC 580–1	72.18	0.019	0.306	0.011	–	0.047	0.035	0.083	–	–	–	–	–	–	–	
J 14B	72.84	0.0233	0.652	0.0143	0.0022	0.044	0.0432	0.097	–	–	0.0090	0.317	0.293	–	–	
E 509–1	72.85	0.012	0.230	(0.019)	–	–	0.026	–	–	–	–	–	–	–	–	
VS F10	–	0.021	–	–	–	–	–	–	–	–	–	–	–	–	–	
VS F8/1	99.2	0.028	0.25	0.0035	0.013	–	0.025	As=0.00026	0.17	Sn=0.00030	0.0014	–	Zn=0.0030	0.26	Pb=0.00031	**Cr(metal.)**

RM	Cr	C	Si	P	S	V	Ti	Cu	Mn	100 g
6 130–1	51.6	7.06	4.46	0.016	0.034	(0.39)	(0.16)	(0.011)	1.20	**FeCr**
6 130–2	52.6	7.76	2.12	0.013	0.045	(0.38)	(0.10)	(0.007)	0.45	
6 130–3	49.0	6.54	6.25	0.014	0.029	(0.39)	(0.18)	(0.011)	0.77	

CRM	Nb	Si	Ti	P	C	S	Al	Ta	Sn	Co	Pb	N	As	Cu	100 g	
EC 576–1	43.90	1.79	1.32	–	0.201	–	2.53	0.306	0.195	–	–	–	–	–		**FeNb**
VS F20	55.7	1.77	0.060	0.068	0.061	0.0032	2.91	–	0.0006	–	0.0003	0.157	0.0005	–		**VS F20: Nb = Nb + Ta**
EC 579–1	62.85	1.03	0.576	0.064	0.037	0.021	1.86	3.85	0.344	(0.005)	–	–	–	–		
9 755–2	68.14	1.82	–	0.065	0.100	0.013	1.79	(0.37)	0.053	–	–	–	–	–		

CRM	V	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Al	Fe	As	N	Ti	100 g	
VS F32	37.05	–	–	3.50	–	–	–	–	–	–	–	–	–	6.15	–		**FeV**
6 FeV42	42.35	0.30	3.81	3.37	0.12	0.31	0.31	3.85	5.21	0.024	(0.06)	39.45	–	0.20	0.033	**RM**	
VS F19	42.6	0.418	1.47	3.30	0.059	0.0102	0.204	–	–	–	0.005	–	0.0009	–	–		
6 FeV45	45.27	0.24	4.86	4.14	0.12	0.33	0.41	4.28	5.82	0.01	(0.013)	33.8	–	0.26	0.022	**RM**	
EC 577–1	50.16	0.089	1.79	0.158	0.035	0.034	0.054	0.053	–	–	0.414	–	–	–	–		
NM 351	52.10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**150 g**	
CI HC26603	52.50	0.39	1.83	0.197	0.056	0.0054	–	–	–	–	–	–	–	–	–	**80 g**	
CI HC26608	53.93	1.66	0.31	0.60	0.028	0.021	–	–	–	–	–	–	–	–	–	**50 g**	
9 750–1	53.28	0.060	0.69	–	0.043	0.011	–	–	–	–	2.80	–	–	–	–		
EC 591–1	79.72	0.141	0.847	0.307	0.0299	0.0153	0.0596	0.0141	–	–	3.19	14.5	0.0022	(0.308)	(0.044)		
EC 511–1	80.7	0.049	0.341	–	(0.016)	0.018	–	–	–	–	–	–	–	–	–		

CRM	W	Si	C	S	Al	Sn	P	As	Mn	Mo	Cu	Pb	100 g	
VS F18	74.3	0.35	0.084	0.071	–	0.038	0.042	0.027	0.158	0.55	0.108	0.0003		**FeW**
CI HC25606	76.66	0.34	0.055	0.048	–	–	(0.028)	–	–	–	0.043	–	**50 g**	
EC 590–1	79.5	1.04	0.025	–	0.36	0.046	–	–	0.14	0.10	0.048	–		
EC 555–1	79.9	1.75	0.025	(0.018)	0.14	0.034	–	–	–	–	–	–		
J 17	80.8	0.2	0.74	–	–	0.05	–	0.08	–	–	–	–		
A FeW–2	81.47	0.39	1.08	–	–	0.027	0.026	–	0.41	–	–	–		

CRM	Ti	C	Si	Mn	P	S	Cu	Cr	Al	V	N	Mo	Sn	Co	Zr	Fe	Zn	100 g	
NM 341	24.91	–	2.55	–	–	–	–	–	5.54	–	–	–	–	–	–	–	–		**FeTi**
A FeTi–2	25.34	–	2.09	–	0.029	–	–	–	6.94	–	–	–	–	–	–	–	–		
EC 510–1	26.95	0.058	4.65	–	(0.035)	–	–	–	(4.9)	–	(0.014)	–	–	–	–	–	–		
GB 01430	26.76	0.023	4.68	2.54	0.040	0.012	0.012	–	5.08	–	–	–	–	–	–	–	–	**50 g**	
CI HC26609	27.47	0.048	5.61	2.36	0.035	0.020	0.102	–	6.21	–	–	–	–	–	–	–	–	**50 g**	
CI HC25608	28.76	0.023	4.68	2.54	0.040	0.012	0.012	–	5.08	–	–	–	–	–	–	–	–	**50 g**	
CI HC26606	29.89	0.062	4.58	–	–	0.012	0.01	–	6.37	–	–	–	–	–	–	–	–	**80 g**	
EC 584–1	37.20	0.044	1.80	1.13	0.032	0.030	–	–	7.19	–	–	–	–	–	–	–	–		
EC 589–1	68.4	0.13	0.41	0.15	0.010	0.016	0.15	0.51	5.34	0.074	0.65	0.93	0.55	0.11	(0.89)	16.9	–		

RM	Ti	C	Si	Mn	P	S	Cu	Cr	Al	V	N	Mo	Sn	Co	Zr	Ni	Nb
6 FeTi2	19.4	0.46	3.2	7.91	0.053	0.012	0.43	0.33	12.7	0.81	0.16	0.15	0.16	0.04	3.6	0.16	0.03
6 FeTi1	19.9	0.57	2.9	7.7	0.050	0.009	0.60	0.33	12.5	0.69	0.143	0.06	0.11	0.028	3.6	0.17	0.05

B	Ca	100 g
1.10	0.96	
0.60	1.12	

Sonstige Ferroleg. (Various Ferro Base Alloys)

CRM	Si	Mn	V	Ti	Cr	B	P	C	S	Cu	Al	Co	Fe	Ni	Mo	Ca	Zn	100 g
CI HC38603	0.93	1.07	–	–	–	–	15.58	0.488	0.060	–	–	–	–	–	–	–	–	**75 g**
GB 01429	1.87	0.47	–	–	–	–	17.90	0.244	0.0681	–	–	–	–	–	–	–	–	**50 g**
3 90	–	–	–	–	–	–	26.2	–	–	–	–	–	–	–	–	–	–	**75 g**
VS F22	8.70	–	–	–	–	8.40	0.023	0.144	0.015	3.76	8.64	–	–	–	–	–	0.0055	
CI HC38602	0.59	–	–	–	–	15.29	0.013	0.078	–	–	0.66	–	–	–	–	–	–	**75 g**
EC 587-1	0.129	0.2720	0.004	0.039	0.104	18.67	0.020	0.7384	0.0010	–	0.0470	0.010	–	–	0.005	0.048	–	
VS F21	0.73	–	–	–	–	20.90	0.012	0.028	–	0.013	1.55	–	–	–	–	–	–	
CI HC38601	1.09	–	–	–	–	22.51	0.018	0.031	–	–	1.71	–	–	–	–	–	–	**75 g**
EC 586-1	34.0	62.5	0.041	–	0.044	–	0.041	0.025	–	–	0.022	0.007	2.89	–	–	0.039	–	
CI HC25613	14.42	64.29	–	–	–	–	0.305	2.19	0.012	–	–	–	–	–	–	–	–	**50 g**
CI HC11603	18.96	65.33	–	–	–	–	0.162	1.14	0.017	0.019	–	–	14.02	–	–	–	–	**150 g**
GB 01427	19.34	66.66	–	–	–	–	0.217	0.922	0.0125	–	–	–	–	–	–	–	–	**50 g**
CI HC26611	17.53	67.51	–	–	–	–	0.087	1.67	0.023	–	–	–	–	–	–	–	–	**50 g**
9 760-3	1.29	0.162	–	–	1.19	–	0.0222	1.73	0.0093	0.0219	–	0.504	–	19.56	–	–	–	**150 g**

CRM	Si	Mg	Al	C	Mn	P	S	Cu	Ni	Cr	Co	Ti	Ce	La	Ca	RE(tot)	Fe	100 g
3 347	47.6	4.49	0.78	0.017	0.53	0.023	0.005	0.065	0.082	0.14	0.004	0.036	0.45	0.26	0.81	0.86	–	**FeSiMg**
CI HC28611	43.03	5.70	–	–	0.51	–	–	–	–	–	–	0.362	–	–	0.84	–	40.7	**80 g**

CRM	Si	Mn	V	Ti	Cr	B	P	C	S	Cu	Al	Co	Fe	Zr	Ni	Ca	100 g
VS F27	26.07	–	–	0.228	–	–	0.042	0.112	–	1.54	7.97	–	–	49.7	–	–	
3 689	39.5	0.32	0.09	0.40	36.4	0.0017	0.026	0.043	0.002	0.013	0.049	0.034	23.2	–	0.20	–	
CI HC25611	41.93	–	–	–	30.93	–	0.029	0.034	–	–	–	–	–	–	–	–	**50 g**
CI HC25633	44.06	0.29	–	–	33.90	–	0.013	0.045	0.002	–	1.00	–	–	–	–	–	**50 g**
VS F25	50.6	–	–	–	–	–	0.0088	–	0.0038	–	0.462	–	27.14	–	–	19.6	
GB 01431	57.02	0.426	–	–	–	–	0.025	0.61	0.048	–	1.95	–	8.49	–	–	30.03	
CI HC25610	59.02	–	–	–	–	–	0.026	0.30	0.028	–	1.30	–	10.17	–	–	27.12	**50 g**
VS F26	60.3	–	–	0.153	–	–	0.022	–	0.029	–	1.49	–	6.03	–	–	29.7	
6 119	62.5	–	–	–	–	–	0.034	0.30	(0.013)	–	0.48	–	3.00	–	–	31.5	**RM**

CRM	Si	Mn	P	S	C	Ni	Cu	Mg	Al	Ca	Ba	Fe	Sr	70 g
CI HC11605	53.46	0.075	0.014	0.039	0.054	0.023	0.079	0.22	2.34	13.22	14.02	13.57	0.235	**SiCaBaSr**

CRM	Si	Mn	P	S	C	Al	Ca	Ba	Fe	.. g
CI HC13601	58.89	0.0741	0.0129	0.052	0.73	1.55	12.70	12.61	9.26	**SiCaBa**
CI HC13602	32.01	0.197	0.017	0.0096	0.27	32.55	1.17	7.41	20.59	**SiAlBa**

CRM	SiC	Fe	Si	Ca	Al	Mg	Mn	Na	K	C	C(free)	O	N	100 g
EC 780–1	(86.1)	1.304	63.51	0.844	1.864	0.051	0.029	(0.050)	(0.011)	26.38	(0.563)	(5.24)	0.325	**Siliziumkarbid**
EC 781–1	–	(0.806)	35.56	(0.0433)	4.39	(0.0421)	(0.0274)	(0.0308)	(0.3765)	48.25	(37.22)	–	(0.0282)	**Silicon Carbide**

CRM	ppm Al	ppm B	ppm Ca	ppm Cr	ppm Cu	ppm Fe	ppm Mg	ppm Mn	ppm Na	ppm Ni	ppm Ti	ppm V	ppm Zr	ppm O	ppm C(free)	C(tot)	100 g
B S003	372	63	29.4	3.5	1.5	149	6.3	1.44	17.4	32.9	79	41.4	25.2	910	493	29.89	**Siliziumkarbid** **Silicon Carbide**

RM	Si(tot)	C(tot)	Al	Fe	Ca	Mg	C(free)	Ti	Mn	Si(free)	O	V	Cr	Ni	Zr	50 g	
CJ R021	68.8	29.9	0.039	0.018	0.007	0.0021	0.86	0.010	<0.001	0.15	1.08	0.002	0.004	0.001	0.001	**Siliziumkarbid**	
CJ R022	68.1	30.4	0.058	0.051	0.025	0.005	1.62	0.003	0.001	0.01	0.98	<0.001	0.006	0.001	0.001	**Silicon Carbide**	**nur Satz**
CJ R023	69.3	29.6	0.003	0.015	0.003	0.001	0.39	<0.001	<0.001	0.01	0.86	<0.001	0.001	0.001	<0.001		**set only**

CRM	Si	C	ppm Al	ppm Cr	ppm Cu	pm Fe	ppm Mn	ppm Mo	ppm Ti	ppm Y	50 g
JP 8001a	68.31	29.80	83.2	46.7	6.37	0.31	–	–	–	–	**Siliziumkarbid**
JP 8002a	68.01	29.93	189	61.9	11.5	130	1.60	109	47.7	0.58	**Silicon Carbide**

CRM	Co	Ta	Ti	C	W	100 g
3 887	10.35	–	–	(5.5)	(83)	**Wolframkarbid, gesintert**
3 888	24.7	4.77	–	(4.6)	(64)	**Tungsten Carbide, sintered**
3 889	9.50	4.60	(4.6)	(6.0)	(75)	

CRM	C(tot)	C(free)	Fe	O	100 g
5 352/1	6.154	0.036	0.0029	(0.11)	**Wolframkarbid**
EC 783–1	6.188	(0.04)	0.0022	(0.01)	**Tungsten Carbide**

CRM	Si	N	pmm Al	ppm Ca	ppm Fe	ppm Mg	ppm Mn	ppm Ni	ppm Ti	ppm Zr	50 g
JP 8004a	59.226	38.485	739.7	72.7	196.9	10.29	2.987	2.485	8.519	2.146	**Siliziumnitrit; Silicon Nitride**

CRM	C	N	ppm Al	ppm Ca	ppm Co	ppm Fe	ppm Mg	ppm Na	ppm W	100 g
B ED101	0.162	38.1	469	14.1	43.5	79.5	4.3	7.59	41.3	**Siliziumnitrit; Silicon Nitride**

RM	Si	N	Al	Fe	Ca	Mg	O	C	20 g	
CJ R003	59.55	39.00	–	0.0042	–	–	1.27	0.096	**Siliziumnitrit**	
CJ R004	59.41	38.58	0.035	0.028	0.0036	0.0026	1.67	0.214	**Silicon Nitride**	**nur Satz**
CJ R005	59.24	38.44	0.184	0.130	0.222	0.0040	1.65	0.170		**set only**

CRM	Fe	Si	Al	Ca	Mg	Mn	Ti	P	S	Na	K	V	As	Pb	Zn	Cu
AS 007	66.19	2.25	0.173	0.014	0.015	<0.005	0.031	0.0045	0.0054	0.0085	0.065	0.0013	0.005	(0.0015)	(0.0039)	(0.0030)

Cr	Ni	LOI	100 g
(0.0011)	(0.0010)	0.168	

CRM	Fe	SiO_2	Al_2O_3	CaO	MgO	V_2O_5	TiO_2	MnO	P	S	Cu	Co	Ni	Ga	Cr	100 g
CM 1704	32.97	20.33	8.26	6.38	6.16	0.311	0.63	0.288	0.0100	0.687	0.020	0.018	0.0094	0.0032	0.0067	
CM 1705	27.55	25.47	10.29	7.50	6.17	0.258	9.72	0.264	0.0119	0.566	0.015	0.016	0.0083	0.0029	0.0099	
CM 1708	13.23	36.33	11.47	11.62	8.32	0.059	10.74	0.242	0.0115	0.446	0.0065	0.0098	0.0048	0.0016	0.0033	

CRM	Fe	Si	Ca	Al	Ti	Mg	Mn	P	S	Na	K	H_2O	Cr	Ni	100 g
EC 601–1	36.76	8.95	4.05	2.33	0.114	1.21	0.370	0.590	0.065	–	–	–	–	–	
EC 603–1	53.65	1.28	(0.91)	4.20	0.137	(0.2)	0.440	0.084	0.087	–	–	–	–	–	
EC 604–1	65.69	1.27	(0.13)	0.93	0.060	(0.06)	0.092	0.053	0.015	–	–	–	–	–	
EC 606–1	59.66	1.04	1.04	0.34	0.019	0.32	2.59	0.027	0.033	–	–	–	–	–	
EC 607–1	30.89	3.07	13.74	2.48	0.123	0.77	0.254	0.529	0.050	–	–	–	–	–	
EC 609–1	30.52	7.83	6.87	2.26	0.118	2.00	0.472	0.608	1.000	–	–	–	–	–	
EC 610–1	47.46	3.17	(0.1)	1.96	0.015	1.86	0.581	0.007	0.189	–	–	–	1.84	1.48	
EC 677–1	51.54	11.78	0.038	0.32	0.013	0.012	0.016	0.019	–	0.007	0.008	0.43	–	–	
EC 679–1	24.27	3.43	18.15	2.05	0.106	0.73	0.300	0.555	0.095	–	–	–	–	–	

CRM	Fe	Si	Ca	Mg	Al	Ti	Mn	P	S	Na	K	F	V	Cr	Ni	C	Pb	100 g
EC 651–1	23.85	3.46	16.15	0.75	2.25	0.096	0.97	0.35	0.40	0.05	0.27	–	–	–	–	–	–	
EC 681–1	33.21	8.32	2.80	0.89	5.62	0.29	0.22	0.88	0.103	0.068	0.49	0.19	0.077	0.041	0.016	1.80	(0.007)	

CRM	Fe	SiO_2	CaO	MgO	Al_2O_3	TiO_2	Mn	P	S	As	K_2O	Na_2O	Cu	F	Cr	V	100 g
EC 627–2	31.77	9.24	15.67	1.57	4.49	0.225	0.250	0.661	0.114	0.020	–	–	(0.002)	–	0.018	–	
EC 629–1	36.21	19.25	5.63	1.64	4.07	0.216	0.390	0.696	0.063	0.023	–	–	(0.001)	–	0.016	–	
EC 630–1	65.63	5.88	0.10	0.47	0.88	0.066	0.060	0.043	0.032	–	–	–	–	–	–	–	
EC 631–1	61.09	3.20	0.75	0.54	1.06	0.109	0.044	0.114	0.033	–	(0.04)	(0.04)	–	–	–	–	
EC 678–1	60.75	3.70	5.50	0.94	0.53	0.22	0.08	1.61	0.021	–	0.13	0.15	–	0.29	–	0.12	

CRM	Fe	SiO_2	CaO	MgO	Al_2O_3	TiO_2	Mn	P	S	As	K_2O	Na_2O	Cu	Cr	Pb	Ni	Zn	100 g Co
EC 680–1	59.98	8.98	0.63	0.23	1.23	0.08	0.025	0.018	0.544	0.057	0.094	0.172	0.063	0.005	0.317	0.007	0.165	0.013

CRM	Fe	SiO_2	CaO	MgO	Al_2O_3	Mn	P	S	100g
G 261/1	67.54	3.18	0.30	1.40	0.59	(0.16)	(0.19)	(0.080)	
G 262/1	59.75	12.34	0.41	0.81	0.71	(0.04)	(0.016)	(0.005)	
G 263/1	52.14	22.82	0.17	0.17	1.14	(0.04)	(0.026)	(0.036)	
G 264/1	44.27	33.65	0.23	0.22	1.12	(0.04)	(0.026)	(0.055)	
G 265/1	37.74	37.02	1.50	0.53	3.10	(0.06)	(0.039)	(0.047)	
G 266/1	29.04	44.99	3.42	0.97	3.12	(0.08)	(0.030)	(0.104)	
G 267/1	19.57	53.92	4.85	1.23	4.05	(0.16)	(0.030)	(0.167)	

CRM	Fe	FeO	SiO_2	CaO	Mn	Al_2O_3	TiO_2	MgO	C	P	S	K_2O	Na_2O	V	Cr	Co	Ni	Zn
G PI3.21	64.94	25.94	8.33	0.15	0.017	0.20	0.016	0.44	0.18	0.015	0.026	0.029	0.077	0.0005	(0.002)	0.0009	0.0024	(0.003)
G PI3.22	65.50	26.82	7.56	0.26	0.026	0.095	0.02	0.46	0.047	0.015	0.047	0.058	0.069	0.0002	0.0019	0.0008	0.0014	0.0029
G PI3.23	68.35	27.65	4.13	0.109	0.043	0.23	0.017	0.28	0.027	0.018	0.052	0.027	0.035	(0.002)	0.0020	0.0026	0.0002	0.0021
G PI3.24	68.93	28.27	3.96	0.107	0.026	0.11	0.028	0.24	0.052	0.014	0.044	0.026	(0.04)	-	0.0025	0.003	0.0013	(0.003)
G PI3.25	67.73	28.03	5.01	0.17	0.031	0.20	0.018	0.27	0.094	0.016	0.077	0.027	(0.03)	0.0018	0.0023	0.002	-	(0.003)

Pb	Cl	Ba	Cu	LOI	100 g
-	0.083	0.0019	-	1.99	
0.0011	-	0.0013	-	2.25	
0.0015	-	0.0020	-	2.49	
0.0002	-	0.0024	0.0014	2.91	
0.0017	-	0.0021	0.0010	2.53	

CRM	Fe	SiO_2	Al_2O_3	TiO_2	P	S	MnO	CaO	MgO	K_2O	Ba	Zn	Cu	Co	Cr	Pb	Ni	V	
IP 123	65.1	2.76	0.46	0.056	0.026	(0.003)	0.094	3.313	0.043	0.013	0.004	0.0013	0.0010	0.0012	0.0056	0.0015	0.0014	0.0048	9
IP 30	65.11	2.72	0.85	0.052	0.026	0.010	0.041	2.61	0.28	-	-	-	-	-	-	-	-	-	10

CRM	Fe	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	P_2O_5	S	FeO	Fe_2O_3	Cu	Na_2O	K_2O	V_2O_5	P	150 g
J 28	65.86	0.30	0.059	4.20	0.60	0.30	0.20	0.102	0.004	2.4	91.5	0.002	0.106	0.120	0.21	0.045	
J 30	34.67	3.39	0.15	38.6	3.30	3.72	0.11	0.042	0.028	11.9	36.3	0.014	0.24	0.78	<0.005	0.019	

CRM	Fe	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	P	S	Na_2O	K_2O	V_2O_5	ppm Co	ppm Cr	ppm Cu	ppm Ni	ppm Sn	ppm Zn	10
J 41	70.83	0.177	0.062	0.60	0.214	0.46	0.207	0.025	0.007	0.029	0.016	0.190	102	44	9.7	144	3.6	19	Ma

CRM	Fe	Si	Al	Ca	Mg	Na	K	Mn	Ti	S	P	200 g
T SCH1	60.73	3.78	0.509	0.029	0.02	0.019	0.026	0.777	0.031	0.007	0.054	

CRM	Fe	CaO	Mn	SiO_2	Al_2O_3	MgO	TiO_2	S	Na	P	K	200 g
T MW1	66.08	0.053	(0.016)	4.6	0.3	0.034	(0.13)	(0.011)	(0.011)	0.011	0.011	

CRM	Fe	FeO	SiO_2	TiO_2	Al_2O_3	Mn	MgO	CaO	Na_2O	K_2O	P	CO_2	S	Cu	Zn	Ag	Ge
VS 5403-90	62.74	25.74	7.14	0.055	0.73	0.162	0.65	0.89	-	-	-	0.39	3.89	0.32	0.029	0.00059	-
VS 5405-90	54.83	-	16.23	0.092	2.04	0.62	0.29	-	-	0.33	0.034	-	0.018	-	0.089	-	0.00051
VS 5407-90	38.15	-	12.46	0.083	2.62	10.42	0.23	5.78	0.15	0.51	-	4.16	0.024	-	0.20	-	0.00219

Pb	Ba	100 g
-	-	
0.23	-	
0.15	0.74	

CRM	Fe_2O_3	Al_2O_3	CaO	CO_2	F	FeO	H_2O	K_2O	MgO	MnO	Na_2O	P_2O_5	S	SiO_2	TiO_2	100 g
T FER1	49.88	0.52	3.29	1.39	(0.06)	23.34	0.41	0.02	0.30	0.22	0.03	2.39	0.26	16.95	0.03	
T FER2	22.50	5.16	2.17	0.07	(0.04)	15.24	0.98	1.33	2.10	0.12	0.51	0.27	0.17	49.21	0.18	
T FER3	29.40	0.09	0.84	1.20	(0.01)	13.63	(0.2)	0.03	1.02	0.08	0.03	0.07	(0.03)	53.61	0.01	
T FER4	22.70	1.70	2.23	4.86	(0.02)	15.54	0.72	0.29	1.41	0.19	0.05	0.13	0.11	50.07	0.07	

CRM	Fe	FeO	MgO	SiO_2	CaO	Al_2O_3	S	P	C(carb)	100 g
VS P9/3	33.01	40.0	10.9	2.29	2.55	0.64	0.205	0.0056	10.6	**Eisenerz (Siderit); Iron Ore (Siderite)**

CRM	Fe	SiO_2	Al_2O_3	MnO	CaO	MgO	P	S	TiO_2	V_2O_5	K_2O	Na_2O	As	Pb	Zn	BaO	FeO	100 g
VS P7/1	41.94	14.09	4.84	2.76	1.73	0.78	1.10	0.162	0.199	0.121	0.358	0.123	0.115	0.0106	0.0321	0.23	(<1)	

CRM	Fe	FeO	SiO_2	Al_2O_3	CaO	MgO	Mn	P	S	Cu	Ti	K_2O	Na_2O	Co	Ni	100 g
GB 07221a	64.29	24.18	3.48	0.91	0.78	1.41	0.117	0.012	0.397	0.056	0.066	0.18	0.061	0.0068	0.0083	**Magnetit; Magnetite**
GB 07223a	61.73	1.51	9.82	0.48	0.11	0.055	0.027	0.024	0.036	0.061	0.041	0.056	0.0056	0.0048	0.0023	**Haematit; Haematite**

CRM	Fe	SiO_2	Al_2O_3	CaO	MgO	P	S	Ti	Co	Ni	V_2O_5	TiO_2	MnO	Cr	Ga	100 g
GB 07224	32.97	20.33	8.26	6.38	6.16	0.0100	0.687	0.020	0.018	0.0094	0.313	10.63	0.288	0.0067	0.0032	**V-Ti-Magnetit**
GB 07225	27.55	25.47	10.29	7.50	6.17	0.0119	0.566	0.015	0.016	0.0083	0.258	9.72	0.264	0.0099	0.0029	**V-Ti-Magnetite**
GB 07226a	52.66	4.11	4.46	1.04	3.21	0.022	0.556	0.019	0.020	0.012	0.572	12.66	0.349	0.024	0.0042	
GB 07227	13.23	36.33	11.47	11.62	8.32	0.0115	0.446	0.0065	0.0098	0.0048	0.059	10.74	0.242	0.0033	0.0016	

CRM	Fe	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	S	Cu	Na_2O	K_2O	P	Pb	V	Cr	Ni	Mn	100 g
X 11	66.16	0.045	0.015	3.10	1.38	0.021	0.064	0.012	0.0011	0.015	0.14	0.042	0.018	0.040	0.041	0.0030	0.113	
X 12	66.63	1.09	0.22	0.34	0.77	2.80	0.72	0.069	0.0502	0.012	0.12	0.0477	0.025	0.0520	0.021	0.0281	0.17	

CRM	Fe	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	S	Na_2O	K_2O	P	100 g
3 690	66.85	0.20	0.23	3.71	0.18	0.18	0.022	0.003	0.003	0.0030	0.011	
3 692	59.58	0.023	0.46	10.14	1.41	0.035	0.045	0.005	0.008	0.039	0.039	
3 693	65.11	0.016	0.091	3.87	1.02	0.013	0.035	0.005	0.0028	0.0028	0.0056	

CRM	Fe	FeO	CaO	SiO_2	Al_2O_3	MgO	TiO_2	S	Cu	P	As	Ni	Cr	100 g
9 801-6	61.75	(1.0)	(0.014)	1.95	1.09	(0.032)	0.051	0.0093	(0.002)	0.060	–	0.0033	(0.005)	
9 803-6	65.50	(0.27)	(0.018)	2.88	1.22	0.020	0.059	(0.011)	(0.001)	0.048	–	(0.001)	0.010	
9 804-2	66.93	(0.29)	Ca=0.0490	Si=1.17	Al=0.51	Mg=0.0099	Ti=0.023	0.0132	–	0.050	0.0019	0.0028	0.0244	
9 805-1	68.04	–	0.028	0.49	1.02	0.033	0.029	(0.003)	(0.001)	0.044	–	–	–	

RM	Fe	CaO	SiO_2	Al_2O_3	MgO	TiO_2	MnO	P_2O_5	S	Na_2O	K_2O	100 g
6 103	59.41	1.27	8.12	0.96	0.34	0.04	0.61	0.133	0.065	(0.05)	(0.07)	

CRM	Fe	Mn	SiO_2	CaO	MgO	Al_2O_3	P_2O_5	P	100 g	
N 101	45.67	0.930	14.08	14.17	3.10	1.84	0.070	0.050	**N 101–109**	**nur im Satz erhältlich**
N 102	36.66	0.140	8.33	17.41	11.58	1.32	0.055	0.026		**available as set only**
N 103	50.60	0.056	14.38	6.75	4.79	1.42	0.260	0.038		
N 104	54.48	0.072	16.86	2.07	1.16	1.74	0.480	0.008		
N 105	51.90	0.035	17.01	4.43	3.06	1.78	0.076	0.055		
N 106	34.88	0.116	12.36	26.46	6.67	2.02	0.250	0.264		
N 107	39.41	0.165	14.73	18.05	4.60	2.04	0.110	0.137		
N 108	32.48	0.762	14.11	28.53	2.29	2.15	0.100	0.142		
N 109	32.80	1.370	14.38	29.53	2.29	2.17	0.530	0.114		
N 125	46.12	0.490	10.43	8.78	5.50	1.97	0.250	0.064	**N 125–127**	**nur im Satz erhältlich**
N 126	45.17	0.470	10.42	9.55	5.93	2.86	0.240	0.068		**available as set only**
N 127	46.67	0.510	10.89	8.70	4.58	3.50	0.270	0.075		

CRM	Fe	FeO	MnO	SiO_2	CaO	MgO	Al_2O_3	P_2O_5	Zn	Cr	Na	K	C	S	Pb	100 g
N 1121	51.55	0.70	0.045	20.83	0.17	0.24	2.60	0.13	0.017	0.016	0.11	0.16	–	–	–	
N 1122	63.72	26.21	0.04	9.14	0.36	0.51	0.19	0.038	0.023	0.015	0.07	–	0.50	0.052	–	
N 1123	60.50	1.60	0.04	11.51	0.31	0.87	0.39	0.038	–	0.008	0.04	0.10	–	–	–	
N 1124	67.90	0.45	0.20	0.63	0.15	0.04	0.54	0.09	–	0.014	0.009	0.01	0.19	–	–	
N 1125	66.57	0.48	0.06	2.87	–	0.06	0.76	0.07	–	0.020	–	0.01	0.07	–	–	
N 1126	65.40	1.45	0.08	2.85	0.88	0.26	1.01	–	0.003	–	0.02	0.04	0.13	–	–	
N 1127	52.12	10.10	4.27	7.07	2.44	7.62	1.71	–	0.011	0.022	0.03	0.38	0.43	–	0.011	

CRM	Fe	FeO	SiO_2	Mn	P	S	Cu	TiO_2	Al_2O_3	CaO	MgO	V	Cr	Ni	Zn	Na_2O	K_2O	100 g
9 814–1	65.70	–	3.88	0.025	0.036	0.845	0.036	0.060	0.47	0.78	1.43	0.045	–	0.007	0.032	0.117	0.103	
9 820–2	57.00	–	5.75	0.077	0.036	0.033	(0.001)	0.25	2.78	0.12	0.084	(0.005)	(0.002)	(0.003)	0.009	0.019	(0.009)	**70 g**
9 850–4	65.67	(0.30)	4.12	0.019	0.013	0.006	0.008	0.056	0.40	0.41	0.79	0.025	(0.003)	(0.006)	(0.007)	0.129	0.075	
9 852–2	66.83	–	1.70	0.077	0.014	(0.002)	0.006	0.48	0.38	0.13	1.15	0.46	(0.004)	0.045	(0.005)	0.030	0.007	

CRM	Fe	Si	Ca	Al	Ti	Mg	Mn	P	S	100 g
EC 611–1	62.22	2.07	2.85	0.69	0.035	0.32	1.97	0.030	0.008	
EC 612–1	42.43	5.94	12.06	3.00	0.151	1.20	0.363	0.885	0.053	

CRM	Fe	Si	Ca	Mg	Al	Ti	Mn	P	S	Na	K	F	V	Cr	Zn	100 g
EC 676–1	39.76	6.40	12.78	1.16	3.40	0.19	0.83	0.59	0.12	0.095	0.43	0.10	0.070	–	–	
EC 683–1	56.06	3.38	5.70	1.04	1.30	0.097	0.462	0.148	–	0.045	0.148	0.020	0.026	0.018	0.010	

CRM	Fe	SiO_2	Al_2O_3	CaO	MgO	P	S	Mn	Cu	100 g
GB 07218	65.75	2.65	1.08	0.042	0.045	0.047	0.018	0.028	0.003	

CRM	Fe	SiO_2	Al_2O_3	CaO	MgO	Ti	Mn	P	S	Na_2O	K_2O	FeO	Cu	100 g
GB 07219a	54.24	6.38	2.45	11.03	3.21	0.087	0.066	0.060	0.014	0.054	0.084	(9.06)	0.005	

CRM	Fe	FeO	CaO	SiO_2	Al_2O_3	MgO	P_2O_5	S	P	Pb	100 g
2 Sinter	48.24	14.16	13.58	12.45	1.30	3.23	(0.064)	0.071	(0.028)	(0.01)	**Sinter**

RM	Fe	SiO_2	Al_2O_3	CaO	MgO	TiO_2	MnO	P	S	Na	K	100 g
6 104A	54.50	7.95	1.10	10.40	1.30	0.10	1.05	0.07	0.012	0.02	0.13	**Eisenerzsinter; Iron Ore Sinter**

CRM	Fe	SiO_2	CaO	MgO	Al_2O_3	MnO	S	P	Na_2O	Cu	TiO_2	Co	100 g
3 691	90.8	3.7	0.63	0.52	1.22	0.043	0.008	0.006	0.186	0.032	0.27	0.030	**Eisenerzkonzentrat; Iron Ore Concentrate**

CRM	Fe	Si	Ca	Al	Ti	Mg	Mn	P	S	Na	K	Ni	V	Co	C	100 g
EC 685–1	91.10	0.795	0.140	0.320	0.220	0.239	0.042	0.017	0.0031	0.077	0.042	0.018	0.144	0.013	1.47	**Eisenerz, vorreduziert Iron Ore, prereduced**

CRM	Fe	SiO_2	Al_2O_3	CaO	MgO	Mn	P	S	Cu	Ti	K_2O	Na_2O	Co	Ni	100 g
GB 07220a	61.97	4.92	0.74	3.54	1.64	0.113	0.014	0.039	0.011	0.040	0.053	0.031	0.0080	0.015	**Pellet**

CRM	Fe	FeO	SiO_3	CaO	MgO	Al_2O_3	S	P	MnO	TiO_2	V_2O_5	Co	100 g
VS P3/1	58.7	2.52	3.74	4.47	2.49	2.50	0.0050	0.0026	0.230	2.47	0.56	0.020	**Pellet**

CRM	Fe	Fe(met)	SiO_2	CaO	MgO	Al_2O_3	P	S	Na_2O	K_2O	C	Pb	Zn	Cu	100 g
VS P10/1	91.1	87.6	4.24	1.60	0.29	0.28	0.010	0.0063	0.089	0.053	1.66	0.00017	0.0017	0.0023	**Vorreduzierte Pellets Prereduced Pellets**

CRM	Mn	MnO_2	SiO_2	Fe	Fe_2O_3	Al_2O_3	CaO	MgO	BaO	S	P	Na_2O	K_2O	Zn	As_2O_3	TiO_2	CO_2
X 17	38.81	(28.2)	4.69	4.27	–	0.24	(14.4)	3.03	(0.08)	(0.01)	0.018	0.09	0.09	0.043	–	–	15.60
IP 52	46.1	–	3.06	2.40	–	10.6	0.15	0.25	0.32	0.018	0.035	0.10	1.60	–	0.0026	0.28	–
NM 662	47.43	–	4.96	10.045	–	1.65	–	–	–	–	–	–	–	–	–	–	–
5 176/2	47.5	–	2.53	6.86	–	5.2	0.09	0.04	0.19	0.018	0.087	0.11	1.30	–	0.22	0.30	–
EC 633-1	47.85	–	10.39	1.64	–	2.02	0.58	1.13	0.227	0.170	–	–	–	(0.004)	0.079	–	–
X 16	49.17	(31.6)	5.04	11.8	–	(0.3)	4.70	0.76	0.60	0.17	0.033	(0.03)	0.02	0.0364	(0.3)	–	(1.3)
9 861-1	49.22	–	5.46	3.15	–	3.89	(0.10)	–	1.44	(0.006)	0.087	–	–	–	–	–	–
VS P12/1	43.1	52.4	15.0	1.56	–	1.87	2.01	1.15	0.52	0.029	0.208	–	–	–	–	–	–
VS P13/1	58.8	90.4	2.00	–	–	–	–	–	–	0.070	0.197	–	–	–	–	–	–
IG 29	–	93.38	2.21	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3 25d	51.78	–	2.52	–	3.92	5.32	(0.052)	–	(0.21)	–	–	–	0.93	–	–	0.13	–

Ni	Cu	Pb	Ba	P_2O_5	100 g	
–	–	–	–	–		**Manganese Erz**
–	–	–	–	–	**120 g**	**Manganese Ore**
–	–	–	–	0.295		
–	–	(0.01)	–	–		
–	–	–	1.01	–		
–	–	–	–	–		
–	–	–	–	–		
–	–	–	–	–		
0.104	0.022	0.0014	–	–		
–	0.185	–	0.59	–	**40 g**	**Pyrolysit; Pyrolysite**
–	–	–	–	0.25		

CRM	Mn	MnO_2	Fe	SiO_2	Al_2O_3	TiO_2	CaO	MgO	Na_2O	K_2O	S	P	Cu	Zn	Ni	BaO	100 g
GB 07261	45.39	67.25	1.22	16.16	2.20	0.063	1.06	0.64	0.044	1.00	0.007	0.054	0.013	0.027	0.019	0.68	**Manganerz**
GB 07262	36.99	54.38	2.24	22.24	3.00	0.10	3.60	1.44	0.048	0.46	0.013	0.081	0.014	0.029	0.019	0.47	**Manganese Ore**
GB 07263	32.54	48.01	11.24	14.50	8.55	0.43	0.083	0.11	0.039	0.93	0.019	0.207	0.036	0.064	0.099	0.18	
GB 07264	25.00	36.93	20.99	10.46	8.97	0.54	0.051	0.10	0.030	0.72	0.032	0.275	0.028	0.048	0.073	0.23	
GB 07265	22.54	–	1.40	14.07	1.68	0.10	14.73	3.50	0.024	0.46	0.21	0.043	0.009	0.018	0.041	0.13	
GB 07266	14.74	–	2.07	15.82	2.49	0.15	19.78	3.82	0.040	0.70	0.27	0.061	0.014	0.020	0.050	0.15	

CRM	Mn	MnO_2	SiO_2	TiO_2	Al_2O_3	Fe	MgO	CaO	Na_2O	K_2O	P	CO_2	S	Zn	Ag	Ge	Ni
VS 5404-90	34.12	48.66	15.69	0.27	5.28	6.68	0.45	4.68	0.38	0.83	0.027	–	0.023	0.16	–	0.00034	0.013
VS 5406-90	15.98	14.40	47.66	0.31	9.78	2.43	0.74	1.96	0.70	4.99	0.043	1.29	0.22	0.018	–	0.00049	–
VS 5408-90	19.88	27.17	22.37	0.19	3.59	3.76	0.38	16.02	0.29	0.80	0.032	–	0.20	0.86	0.000233	0.00219	–

Co	Pb	Ba	100 g	
0.0086	0.15	–	**Manganerz**	
–	0.23	2.65	**Manganese Ore**	
–	0.15	0.74		

CRM	Mn	MnO_2	Fe	Co	Ni	Cu	SiO_2	Al_2O_3	TiO_2	P_2O_5	MgO	CaO	Na_2O	K_2O	Ba	Sr	H_2O
GB 07249	20.92	32.71	18.71	0.35	0.36	0.28	13.30	3.53	1.71	0.73	2.00	2.81	2.12	0.68	0.14	0.12	9.40

CO_2	C(org)	S	Cl	ppm As	ppm B	ppm Ce	ppm Cr	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ho	ppm La	ppm Li
(0.42)	(0.07)	0.18	0.85	179	215	998	10.0	48.9	26.4	12.7	(289)	5.5	56.2	9.9	239	11.1

ppm Lu	ppm Mo	ppm Nb	ppm Nd	ppm Pb	ppm Pr	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Tb	ppm Th	ppm Tl	ppm Tm	ppm U	ppm V	ppmnW
3.5	371	(64.9)	238	948	55.1	8.3	28.1	13.4	51.9	8.6	32.5	133	3.6	9.3	588	61.0

ppm Y	ppm Yb	ppm Zn	ppm Zr	30 + 60 g
159	24.3	563	659	Manganknolle, polymetallisch; Polymetallic Mn-Nodule

CRM	Mn	SiO_2	Fe	Ni	Co	Cu	100 g
NM 2388	21.28	16.07	14.94	0.71	0.14	0.49	Manganknolle; Fe-Mn-Nodule

CRM	MnO	MnO_2	Li	C(org)	CO_2(carb)	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	S	Cl	K_2O	CaO	Sc	TiO_2	V	Cr
VS 5373-90	29.91	35.8	0.007	0.18	0.39	2.61	2.74	5.21	16.20	0.65	0.12	0.8	1.18	2.77	0.0012	1.47	0.040	0.0017
VS 5374-90	35.09	41.7	0.014	0.18	0.43	2.94	3.40	5.68	16.60	0.68	0.10	0.7	1.27	2.82	0.0011	0.74	0.043	0.0018
VS 5375-90	25.16	31.1	0.004	0.22	0.60	2.40	2.24	5.46	14.50	0.80	0.16	0.9	0.83	3.01	0.0013	1.91	0.048	0.0019
VS 5376-90	19.85	24.2	0.0019	–	0.50	2.24	2.29	6.71	22.30	1.61	0.16	–	1.18	5.13	0.0019	1.56	0.054	0.0067

Fe_2O_3	Co	Ni	Cu	Zn	As	Rb	Sr	Y	Zr	Nb	Mo	Cd	Ba	La	Ce	Nd	Sm
17.21	0.31	0.84	0.51	0.077	0.011	0.0016	0.090	0.016	0.060	0.0048	0.0043	0.0009	0.19	0.015	0.05	0.015	0.004
9.28	0.220	1.37	1.01	0.12	0.006	0.0021	0.064	0.011	0.032	0.0020	0.052	0.0017	0.18	0.009	0.020	0.008	0.0022
24.87	0.47	0.422	0.22	0.058	0.017	0.0010	0.11	0.014	0.060	0.009	0.033	0.0005	0.17	0.014	0.09	0.014	0.003
22.13	0.27	0.34	0.13	0.060	0.014	0.0019	0.11	0.016	0.055	0.006	0.035	–	0.16	0.012	0.10	0.010	0.0027

Yb	Pt	Au	Pb	Th	Pd	U	Be	Tl	LOI	50 g
0.0021	0.000019	0.0000008	0.017	0.0031	–	0.0005	–	–	14.8	Manganknolle
0.0013	0.000010	0.0000005	0.040	0.0017	–	0.0004	–	–	15.3	Maganese Nodule
0.0014	0.000021	0.0000010	0.098	0.0038	0.0000003	0.0008	–	–	13.8	
0.0006	–	–	0.105	0.0028	–	0.0006	0.0019	0.010	11.4	

CRM	MnO	SiO_2	Al_2O_3	Fe_2O_3(t)	CaO	MgO	Na_2O	K_2O	P_2O_5	TiO_2	ppm Ba	ppm Co	ppm Cu	ppm Mo	ppm Ni	ppm Pb	ppm Sr
UG NOD-A-1	23.9	3.81	3.87	15.6	15.4	4.76	1.0	0.6	1.40	0.53	1670	3110	1100	448	6360	846	1750
UG NOD-P-1	37.6	13.9	4.8	8.3	3.1	3.3	2.2	1.2	0.46	0.5	3350	2240	11500	760	13400	560	680

ppm V	ppm Zn	30 g
770	590	Manganknolle
570	1600	Manganese Nodule

RM	MnO	SiO_2	Al_2O_3	Fe_2O_3(t)	CaO	MgO	Na_2O	K_2O	TiO_2	P_2O_5	ppm As	ppm Ba	ppm Ce	ppm Co	ppm Cr	ppm Cu	ppm Er	ppm Eu
JG JMn-1	33.09	14.11	4.30	14.40	2.91	3.12	2.80	0.94	1.06	0.54	75.4	1714	277	1732	26.6	11132	14.6	7.6

Manganknolle; Manganese Nodule 100 g

ppm La	ppm Mo	ppm Nd	ppm Ni	ppm Pb	ppm Rb	ppm Sb	ppm Sm	ppm Sr	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr
122	318	137	12632	430	10.9	37.5	30.2	792	4.8	11.7	2.1	5.0	424	111	13.8	1068	344

CRM	Cr_2O_3	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	TiO_2	P_2O_5	MnO	Na_2O	K_2O	H_2O	CO_2	S	NiO	CoO	V_2O_5
GB 07201	49.44	4.08	12.10	(1.84)	(13.06)	15.66	0.36	0.12	0.003	0.28	0.025	0.11	1.55	1.06	0.040	0.14	0.023	0.14
GB 07202	48.97	4.20	13.37	(3.86)	(9.13)	16.95	0.66	0.077	0.003	0.12	0.009	0.010	1.63	0.67	0.003	0.18	0.022	0.16

	Pd	Rh	Ir	Os	Ru	ppm Pt	200 g	
	0.007	0.012	0.090	0.175	0.305	0.010	**Chromit**	
	0.002	0.017	0.333	0.569	0.193	0.019	**Chromite**	

CRM	Cr_2O_3	SiO_2	Al_2O_3	MgO	CaO	Fe	P	S	100 g
CI DC25001	32.79	14.64	9.29	21.49	1.04	9.53	0.0055	0.012	**Chromit**
CI DC25002	36.31	11.71	10.97	20.59	0.82	9.71	0.0072	0.0017	**Chromite**
CI DC25003	38.80	9.63	12.76	12.92	0.76	17.58	0.0047	0.010	
CI DC25004	45.20	7.03	10.50	17.28	0.84	11.19	0.0039	0.016	
CI DC25005	50.95	3.56	13.12	9.87	0.17	12.56	0.0059	0.005	
CI DC25006	55.51	2.67	10.30	16.84	0.19	9.73	0.0042	0.004	

CRM	Cr_2O_3	Cr	Al_2O_3	CaO	Fe	MgO	MnO	SiO_2	Ti	TiO_2	V_2O_5	P	S	FeO	V	100 g
5 308	41.5	–	19.4	0.34	–	16.4	(0.14)	4.25	–	(0.16)	–	–	–	15.3	–	**Chromerz**
X 9	46.45	–	15.17	(0.16)	19.41	10.85	0.21	0.61	–	0.56	0.32	0.0024	0.0028	(17.15)	–	**Chromium Ore**
VS P14/3	42.8	–	6.43	0.126	8.59	23.7	–	10.7	–	–	–	0.0012	0.043	9.4	0.053	
9 870-2	48.14	–	11.62	–	14.04	15.54	–	3.96	–	–	–	(0.002)	0.018	–	–	
X 8	48.97	–	10.57	0.26	14.13	14.69	0.25	4.30	–	0.24	0.14	0.0039	0.0341	(13.9)	–	
IG 30	–	23.95	–	–	11.20	16.63	–	2.76	0.14	–	–	–	–	–	–	**55 g**

RM	Cr_2O_3	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	LiO_2	Mn_3O_4	LOI	25 g
CR AN22	34.0	3.45	0.26	29.3	15.4	0.39	16.5	0.08	0.03	0.02	0.14	–	**Chromerz**
CR 2CAS5	35.8	5.55	0.29	23.2	16.4	0.57	16.8	0.03	0.06	<0.01	0.13	0.76	**Chrome Ore**

CRM	Mo	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	MnO	CaO	MgO	K_2O	Na_2O	F	S	W	ppm Cu	ppm Pb	ppm Zn	ppm Cd	ppm Co
GB 07238	1.51	34.10	21.34	3.46	0.13	1.40	31.44	0.86	0.046	0.075	4.08	1.64	0.36	93.6	18.7	65.5	0.12	11.8
GB 07239	0.11	46.67	14.66	7.27	0.36	1.49	23.03	1.83	0.82	0.77	1.33	0.48	0.10	48.6	26.1	120	0.09	13.5

ppm Ni	ppm As	ppm Sb	ppm Bi	ppm Sn	ppm Ag	ppm Ga	ppm In	ppm Ge	ppm Se	ppm Te	ppm Tl	ppm La	ppm Ce	ppm Pr	ppm Nd	ppm Sm	ppm Eu
17.8	1.6	1.2	2.2	86.7	0.9	25.1	2.9	19.0	2.1	0.40	0.06	7.1	20.8	3.0	11.3	2.1	0.59
20.9	1.0	0.26	1.0	33.2	0.12	23.1	1.3	12.4	0.27	0.14	0.21	37.4	60.3	7.4	29.8	6.4	1.5

ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	ppm Sc	ppm Th	ppm Cr	ppm Li	ppm Re	100 g
1.9	0.34	1.8	0.36	1.0	0.14	1.0	0.16	11.4	3.4	2.3	(24)	(3.2)	(0.35)	**Mo-Erz**
5.8	0.98	5.8	1.2	3.2	0.44	2.8	0.41	34.2	8.4	9.7	(35)	(13)	(0.12)	**Mo-Ore**

Verschiedene Erze (Various Ores)
Erzaufbereitungsprodukte (Ore Processing Products)

CRM	Mo	WO_2	Bi	Cu	Ba	Be	Zr	Nb	ppm Ag	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO
VS 7025-93	0.067	0.040	0.0051	0.077	0.27	0.0019	0.013	0.0013	0.8	(70.74)	(0.41)	(12.40)	(3.92)	(1.98)	(0.04)	(0.94)	(0.35)

	Na_2O	K_2O	P_2O_5	CO_2	F	S	H_2O+	100 g	
	(2.07)	(5.79)	(0.09)	(<0.20)	(0.54)	(1.04)	(0.87)	Mo-Erz/Ore	

CRM	Ni	Cu	Co	Fe	50 g	
IG 21	1.97	0.798	0.069	23.40		Ni-Erz/Ore
IG 22	1.255	0.106	0.051	22.73	45 g	

CRM	Ni	ppm Pt	ppm Pd	ppm Rh	ppm Ir	ppm Ru	ppm Os	ppm Au	ppm Ag	100 g
VS 1702-86	5.4	8.6	30.0	0.98	0.11	0.34	0.06	0.84	23.4	Nickelkonzentrat; Nickel Concentrate

CRM	Ni	Co	S	Cu	ppm As	ppm Pb	ppm Zn	ppm Cd	ppm Sb	ppm Bi	ppm Ag	ppm Ga	ppm Se	ppm Te	ppm Li	ppm La	ppm Ce	ppm Pr
GB 07283	4.33	0.069	10.44	0.70	5.4	30.2	55.5	0.20	0.43	6.4	0.73	13.2	29.0	2.3	17.7	29.4	62.2	7.0

ppm Nd	ppm Sm	ppm Eu	ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	100 g
26.4	5.5	0.82	5.0	0.88	4.6	0.85	2.1	0.32	1.8	0.24	22.7	Ni-Co Erz; Ni-Co Ore

CRM	Nb	Ca	Fe	Si	Mg	Mn	P	Sr	Al	S	K	Na	Zn	LOI	200 g
T OKA1	0.37	(31.3)	(2.8)	(2.4)	(1.3)	(1.1)	(1.1)	(1.0)	(0.9)	(0.6)	(0.3)	(0.2)	(0.05)	(31.9)	Nb-Erz/Ore

CRM	Ta	Ta_2O_5	SiO_2	Al	Na	K	Ca	Fe	Mg	Mn	Nb	Sn	200 g
T TAN1	0.236	0.288	(71.5)	(8.2)	(4.6)	(1.5)	(0.5)	(0.2)	(0.02)	(0.02)	(0.02)	(0.01)	Ta-Erz/Ore

CRM	Sb	As	Si	Al	S	Fe	K	Ca	Mg	Cd	Na	Pb	Cu	H_2O	LOI	200 g
T CD1	3.57	0.66	(32.9)	(5.5)	(3.1)	(2.8)	(1.8)	(1.4)	(0.6)	(0.2)	(0.1)	(0.02)	(<0.01)	(0.2)	(4.0)	Sb-Erz

CRM	W	WO_3	Mo	Bi	Sn	Ag	Si	SiO_2	Al	F	Fe	Ca	Cu	S	Zn	As	Sn	Mg
T MP2	0.65	–	0.281	0.245	0.043	4.9ppm	–	(76.1)	(5.4)	(4.1)	(3.7)	(2.7)	(0.9)	(0.7)	(0.4)	(0.2)	–	(0.04)
IG 27	0.036	–	0.276	–	–	–	–	–	–	–	1.76	–	–	–	–	–	–	–
3 2430	–	70.26	0.22	0.078	–	–	–	–	(0.4)	–	(1.0)	–	(0.01)	0.26	–	0.002	–	(0.5)
3 277	–	67.4	(0.06)	–	(0.54)	–	(0.85)	–	–	–	(7.4)	(0.37)	–	(0.25)	–	–	(0.54)	–

	Pb	C	H_2O	Mn	Nb	O_2	P	Ta	Ti	K	Na		
	(0.04)	(0.02)	(<0.1)	–	–	–	–	–	–	–	–	200 g	WMo-Erz/Ore
	–	–	–	–	–	–	–	–	–	–	–	65 g	WMo-Erz/Ore
	–	–	–	(0.12)	–	–	0.017	(<0.01)	–	(0.16)	(0.02)	100 g	Scheelite-Erz/Ore
	(0.07)	–	–	(10.0)	(1.00)	(21.4)	(0.03)	(0.20)	(2.2)	–	–	100 g	Wolframkonzentrat; Tungsten Concentrate

CRM	WO_3	Mo	Bi	Sn	Be	Cu	Pb	Zn	Zr	Nb	Ge	Ag	100 g
VS 1710–79	71.6	–	0.146	–	–	–	–	–	–	–	–	–	**Wolframkonzentrat; Tungsten Concentrate**
VS 1711–79	0.036	0.0026	0.0044	0.0071	0.0022	–	–	–	–	–	–	–	**Wolframerz; Tungsten Ore**
VS 1712–79	6.00	0.26	1.30	0.89	0.021	0.077	0.77	0.28	–	–	0.00039	0.01503	
VS 1713–79	0.17	0.011	0.015	0.028	0.0058	–	–	–	–	–	0.00029	0.00055	
VS 1714–79	1.04	0.041	0.089	0.113	–	–	–	–	–	–	–	0.00103	
VS 1715–79	0.60	0.026	0.054	0.068	0.013	0.020	0.049	0.038	–	–	0.00031	–	
VS 7026–93	0.11	0.00098	0.018	–	0.0022	0.052	–	–	0.017	0.0015	0.00036	0.00012	
VS 7027–93	0.17	0.0093	0.015	–	–	–	–	–	0.013	0.0014	–	–	

CRM	WO_3	Mo	Bi	Cu	Fe	100 g
VS 2039–81	0.22	0.0026	0.023	0.27	2.47	**Wolframerz**
VS 2040–81	0.076	0.016	0.0058	0.053	0.94	**Tungsten Ore**
VS 2041–81	0.076	0.016	0.0058	0.053	0.94	
VS 2042–81	0.38	0.039	0.0032	0.105	4.17	

CRM	W	200 g
T CT1	1.04	**W–Erz/Ore**
T BH1	0.422	
T TLG1	0.083	

CRM	W	Cu	Pb	Zn	S	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	MnO	CaO	MgO	K_2O	Na_2O	F	ppm Cd	ppm Co	ppm Ni
GB 07240	0.015	0.079	0.26	0.29	3.1	13.27	7.79	8.24	0.079	0.97	37.73	1.45	1.94	0.16	9.91	26.1	2.7	4.1
GB 07241	0.22	0.096	0.00812	0.010	1.90	71.27	5.60	11.15	0.044	0.090	4.17	0.14	1.58	0.12	4.84	0.94	3.7	2.8

ppm As	ppm Sb	ppm Bi	ppm Sn	ppm Mo	ppm Ag	ppm Ga	ppm In	ppm Ge	ppm Se	ppm Te	ppm Tl	ppm La	ppm Ce	ppm Pr	ppm Nd	ppm Sm	ppm Eu
1800	5.1	110	1400	4.2	8.3	17.8	8.7	2.5	0.39	0.66	5.0	5.0	10.0	1.1	4.0	0.79	0.15
69.9	3.1	680	1700	980	1.8	16.5	1.3	11.2	0.96	2.9	1.8	23.7	60.3	7.9	32.9	12.5	0.17

ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	ppm Sc	ppm Th	ppm Cr	ppm Li	ppm Rb	ppm Re	ppm Cs	100 g
0.64	0.15	0.46	0.11	0.23	0.04	0.28	0.06	2.8	1.8	2.2	(6.5)	(200)	(800)	(0.12)	(36)	**W–Erz/Ore**
14.8	3.3	20.7	4.5	13.1	2.2	14.9	2.4	128	5.4	28.3	(30)	(300)	(500)	(0.08)	(41)	

Verschiedene Erze (Various Ores)
Erzaufbereitungsprodukte (Ore Processing Products)

CRM	Cu	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	MnO	CaO	MgO	K_2O	Na_2O	F	Zn	S	ppm Pb	ppm Cd	ppm Co	ppm Ni	ppm As
GB 07233	1.15	9.27	55.58	1.73	0.079	0.60	9.61	3.91	0.071	0.044	0.079	0.059	0.72	9.1	0.42	76.0	9.6	4.2
GB 07234	0.19	53.36	12.25	15.18	0.50	0.12	4.95	1.30	2.71	3.21	0.080	0.013	0.14	13.0	0.14	16.9	5.6	1.5

ppm Sb	ppm Bi	ppm Sn	ppm W	ppm Mo	ppm Ag	ppm Ga	ppm In	ppm Ge	ppm Se	ppm Te	ppm Tl	ppm La	ppm Ce	ppm Pr	ppm Nd	ppm Sm	ppm Eu
0.36	1.5	11.1	4.1	1.4	3.9	22.6	1.4	0.89	5.1	0.62	0.06	7.5	13.2	1.4	4.7	1.0	0.28
0.23	0.43	3.8	3.9	2.4	0.70	22.6	0.25	0.93	0.89	0.13	0.36	40.3	72.6	8.1	29.4	5.1	1.3

ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	ppm Sc	ppm Th	ppm Cr	ppm Li	ppm Ba	ppm Cs	100 g	
1.1	0.2	1.1	0.26	0.78	0.11	0.89	0.16	7.3	1.8	0.90	(7)	(9)	–	–	**Kupfererz**	
3.6	0.48	2.4	0.48	1.3	0.18	1.2	0.20	11.8	5.4	8.8	(10)	(15)	(800)	(10)	**Copper Ore**	

RM	Cu	Zn	Pb	Fe	Ag	As	SiO_2	Al_2O_3	MgO	CaO	200 g
IM MR1	1.23	0.040	0.15	1.41	0.0058	0.028	(60)	(4.7)	(3.8)	(9.6)	**Kupfererz**
IM MR2	1.61	0.025	0.085	0.88	0.0029	0.013	(22)	(4.9)	(8.2)	(25)	**Copper Ore**
IM MR3	1.87	0.047	0.16	1.10	0.0044	0.0057	(49)	(4.4)	(5.3)	(13)	

CRM	Cu	S	MgO	As	Pb	Zn	Ag	Au	F	80 g
CI DC35006	16.69	0.673	1.65	0.891	0.105	0.257	0.01004	0.000008	0.78	**Kupferkonzentat**
CI DC35005	21.69	1.04	0.54	1.160	0.039	1.51	0.00612	0.000005	1.52	**Copper Concentrate**

CRM	Cu	S	Fe	Zn	C	SiO_2	MgO	Pb	Al_2O_3	CaO	Ag	Se	Cd	Bi	Hg	As	Te	Co
T CCU1c	25.62	33.3	29.34	3.99	0.09	2.52	1.02	0.34	0.34	0.15	129ppm	107ppm	136ppm	70ppm	32ppm	34ppm	(23ppm)	18ppm

Mo	Au	Mn	Sb	Ni	200 g	
20ppm	4.94ppm	0.012	(4ppm)	11ppm	**Kupferkonzentrat; Copper Concentrate**	

CRM	Cu	Pb	Zn	Cd	ppm Re	ppm Ag	50 g
VS 2891-84	40.4	2.25	2.89	0.029	28.2	707.7	**Kupferkonzentrat; Copper Concentrate**

CRM	Cu	Fe	Ni	Pb	S	SiO_2	Zn	50 g
T HCC1	(26.9)	(29.8)	–	(1.0)	33.92	(1.1)	(4.6)	**S in Kupferkonzentrat/Copper Concentrate**
T INM1	(25.5)	(5.1)	(48.0)	–	22.17	(0.1)	–	**S in NiCu-Sulphide Matte**

CRM	Cu	ppm Pt	ppm Pd	ppm Rh	ppm Ir	ppm Ru	ppm Au	ppm Ag	200 g
VS 929–86	–	2.55	6.40	0.33	0.041	0.10	0.26	–	**CuNi–Erz**
VS 927–86	–	2.64	6.63	0.36	0.042	0.10	0.27	–	**CuNi–Ore**
VS 1703–86	0.070	0.43	0.84	0.096	0.010	0.029	0.07	0.58	**Erzaufbereitungswaschberge; Min. Dressing Tailings 100 g**

CRM	Cu	Mo	SiO_2	TiO_2	Al_2O_3	Fe	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	F	S	Co
VS 3029–84	0.30	0.0086	68.09	0.42	15.18	3.11	0.081	–	–	1.95	4.06	0.094	–	0.074	1.59	–
VS 3030–84	0.39	0.38	42.32	0.54	10.85	13.84	0.41	2.06	18.94	0.16	0.48	0.17	1.04	0.048	2.04	–
VS 3031–84	3.37	0.18	33.56	0.19	4.93	15.17	0.33	1.33	28.05	0.18	0.26	–	2.87	0.056	2.78	–
VS 3032–84	0.58	–	37.19	0.107	2.92	20.20	0.70	3.08	16.97	0.16	0.076	0.069	2.67	–	2.83	0.20

ppm Re	ppm Ag	ppm Au	ppm Te	ppm Se	50 g
0.43	2.1	–	–	–	**Porphyry–Copper–Ore**
0.30	8.6	–	–	–	
0.40	37.4	–	9.1	13.1	**CuMo–Skarn**
–	4.5	4.3	34.4	4.2	**AuCo–Skarn**

RM	Cu	Mo	SiO_2	TiO_2	Al_2O_3	Fe	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	F	S
VS 48–85	1.98	0.020	33.77	0.147	5.47	15.9	0.36	0.66	29.75	0.10	0.13	0.11	2.73	0.054	1.94

ppm Re	ppm Ag	ppm Se	100 g
0.04	7.3	5.7	**Cu–Mo–Skarn**

Verschiedene Erze (Various Ores)
Erzaufbereitungsprodukte (Ore Processing Products)

CRM	Pb	Cu	Zn	S	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	MnO	CaO	MgO	K_2O	Na_2O	F	ppm Cd	ppm Co	ppm Ni	ppm As
GB 07235	4.17	0.20	0.062	0.86	43.63	4.37	12.88	0.53	1.40	19.51	1.62	1.42	1.61	0.27	3.2	14.7	27.7	85.1
GB 07236	0.61	0.035	0.092	0.38	30.51	3.79	8.95	0.44	1.53	34.56	2.06	0.82	0.066	0.23	2.6	15.7	34.5	43.2

ppm Sb	ppm Bi	ppm Sn	ppm W	ppm Mo	ppm Ag	ppm Ga	ppm In	ppm Ge	ppm Se	ppm Te	ppm Tl	ppm La	ppm Ce	ppm Pr	ppm Nd	ppm Sm	ppm Eu
39.3	15.6	3.0	17.6	1.6	14.7	16.7	0.12	0.90	1.7	3.9	0.43	40.5	78.3	8.1	28.2	5.1	1.2
12.03	12.5	2.9	30.6	1.3	5.6	11.7	0.09	0.93	0.81	1.2	1.0	31.2	66.8	6.2	23.4	4.6	0.82

ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	ppm Sc	ppm Th	ppm Cr	ppm Li	ppm Rb	ppm Cs	100 g
3.7	0.58	3.0	0.61	1.5	0.23	1.5	0.24	15.4	7.5	10.2	(29)	(19)	(55)	(6)	**Pb-Erz/Ore**
3.6	0.60	3.1	0.65	1.6	0.26	1.7	0.25	16.2	8.1	10.5	(41)	(18)	(74)	(2.3)	

CRM	Pb	S	Fe	Zn	SiO_2	Sb	Al_2O_3	Cu	As	Mn	Bi	Sn	Cd	ppm Ag	ppm Au	ppm Se		
T CPB1	64.74	17.8	8.43	4.42	0.74	0.36	0.28	0.254	0.056	0.039	0.023	0.019	0.0143	626	–	30	**200 g**	**Pb-Konz.**
VS 2036-81	Rest	–	–	–	–	–	–	–	–	–	–	–	–	2322	32.6	–	**100 g**	
VS 2038-81	Rest	–	–	–	–	–	–	–	–	–	–	–	–	415	0.21	Ni=0.410ppm	**100 g**	

CRM	Zn	Cu	Pb	S	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	MnO	CaO	MgO	K_2O	Na_2O	F	ppm Cd	ppm Co	ppm Ni	ppm As
GB 07237	2.75	0.71	0.25	2.87	82.95	3.50	2.80	0.017	0.026	1.91	0.082	0.99	0.56	1.20	29.3	8.7	5.5	12.4

ppm Sb	ppm Bi	ppm Sn	ppm W	ppm Mo	ppm Ag	ppm Ga	ppm In	ppm Ge	ppm Se	ppm Te	ppm Tl	ppm La	ppm Ce	ppm Pr	ppm Nd	ppm Sm	ppm Eu
1.1	56.4	6.1	3.4	2.8	13.5	8.0	0.23	1.4	2.3	0.17	0.49	1.3	2.3	0.30	0.92	0.36	0.06

ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	ppm Sc	ppm Th	ppm Cr	ppm Li	ppm Rb	100 g
0.31	0.10	0.49	0.13	0.28	0.05	0.42	0.08	4.5	0.33	(1.1)	(62)	(86)	(73)	**Zn-Erz; Zn-Ore**

CRM	Zn	S	Fe	Pb	Al	Mn	Cu	Cd	Ca	Co	Sb	As	Ag	Hg	200 g
T CZN3	50.92	31.6	9.97	0.113	0.10	0.0096	0.685	0.248	0.058	0.009	10ppm	0.039	45ppm	5ppm	**Zn-Konzentrat; Zn-Concentrate**

CRM	Zn	S	Cd	Ca	Cu	Fe	Pb	Mg	Ag	ppm Hg	100 g
3 113b	56.49	30.032	0.7804	0.8196	0.2953	2.077	2.731	0.4460	0.04607	(0.55)	**Zn-Konzentrat; Zn-Concentrate**

CRM	Pb	Fe	Cu	Cd	Mg	F	Hg	Zn	200 g
H 108	0.904	7.21	0.073	0.079	0.075	0.0063	0.00109	Rest	**Zn-Konzentrat**
H 109	0.738	14.51	0.946	0.46	0.020	0.0081	0.000096	Rest	**Zn-Concentrate**
H 110	9.78	0.55	1.628	1.051	0.136	0.0055	0.01484	Rest	

CRM	Zn	10 g
H 026	48.50	**Zn-Erz**
H 027	44.01	**Zn-Ore**
H 028	51.16	
H 029	35.18	
H 030	49.10	
H 031	36.73	

RM	Zn	Pb	Fe	CaO	S	Al_2O_3	SiO_2	MgO	Cd	150 g
IM KC4	56.10	2.41	1.35	3.31	28.85	0.053	0.14	0.46	0.40	
IM KC8	59.52	2.20	0.88	2.37	29.58	0.029	0.14	1.21	0.40	
IM KC9	57.79	1.97	0.96	2.87	29.27	0.038	0.15	1.64	0.40	
IM KC10	54.49	2.59	1.47	4.35	28.23	0.05	0.24	2.54	0.40	

RM	Zn	Pb	Fe	CaO	MgO	Al_2O_3	SiO_2	S	As	F	Cl	Cd	Sb	Co	Ni	280 g / 220 g / 240 g
IM KC11	53.36	1.21	6.53	0.72	0.30	0.069	0.26	–	0.042	–	–	–	19.8ppm	1.8ppm	15.0ppm	**Zn-Konzentrat; Zn-Concentr.**
IM TC9	53.4	3.77	5.64	6.96	3.50	–	5.47	0.52	–	0.055	0.033	0.0049	–	–	–	**Zn-Oxid, gesintert;**
IM TC/P10	60.6	2.31	6.7	2.54	1.38	0.14	0.56	3.07	–	–	–	–	–	–	–	**Roasted Zn-Oxide**

CRM	Zn	Pb	Fe	Cd	S	SiO_2	CaO	MgO	Al_2O_3			
IM RB7	3.07	(0.26)	8.28	0.033	(10.3)	(0.8)	24.35	15.26	–	**170 g**	**Zinkblende; Blende Ore**	**Sphalerit/Sphalerite** **Seite/Page 6.6.2**
IM RG8	5.40	0.84	6.34	0.047	0.57	2.64	26.45	12.16	0.90	**130 g**	**Galmeierz; Galmei Ore**	

CRM	Zn	Pb	Cu	Sn	Ag	S	Fe	Si	Al	C	Mn	H_2O	200 g
T KC1a	34.65	2.24	0.629	0.61	0.167	(27.5)	(10.9)	(0.6)	(0.6)	(0.02)	(0.01)	(0.09)	**ZnPbSnAg-Erz/Ore**

Verschiedene Erze (Various Ores)
Erzaufbereitungsprodukte (Ore Processing Products)

CRM	Sn	Pb	Fe	As	Sb	Bi	Zn	S	Cu	SiO_2	WO_3	Ag	100 g	
GB 07231	45.80	2.89	21.33	0.574	0.024	0.034	0.264	0.183	–	–	–	25.5ppm	**Sn-Konzentrat**	**Kassiterit; Cassiterite**
GB 07232	62.49	1.62	9.53	0.306	0.016	0.020	0.120	0.090	0.043	0.930	0.182	–	**Sn-Concentrate**	**Seite/Page 6.6.3**

CRM	Sn	As	Cu	Pb	Zn	Sb	S	P	W	Mo	SiO_2	ppm Cd	ppm Ni	ppm Co	ppm Bi	ppm Ag	ppm Ga	ppm Se
GB 07281	4.47	0.79	0.26	2.72	0.74	0.018	0.097	(0.11)	0.068	0.027	9.50	26.8	70.9	26.2	80.3	16.7	25.2	3.0
GB 07282	1.27	0.78	0.32	2.82	0.91	0.012	0.082	–	0.015	0.033	–	32.4	44.1	9.6	80.9	16.5	17.8	2.9

ppm Li	ppm La	ppm Ce	ppm Pr	ppm Nd	ppm Sm	ppm Eu	ppm Gd	ppm Tb	ppm Dy	ppm Ho	ppm Er	ppm Tm	ppm Yb	ppm Lu	ppm Y	100 g
39.1	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3	0.50	32.1	**Sn-Erz**
33.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**Sn-Ore**

CRM	Sn	Fe	Cu	As	Bi	Zn	Pb	S	W	Ni	Si	Ti	Al	Ca	F	100 g
H 010	76.59	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**Sn-Konzentrat; Sn-Concentrate**
5 355	31.42	17.08	0.085	0.14	0.015	0.059	0.012	0.50	0.35	0.0040	7.14	0.37	4.12	2.63	2.02	**Sn-Erz; Sn-Ore**

CRM	Cu	Pb	Zn	SiO_2	TiO_2	Al_2O_3	FeO	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	F	H_2O	S
VS 2889-84	3.16	1.90	0.80	61.68	0.44	10.96	2.96	3.77	0.136	1.36	4.10	3.09	1.79	0.107	3.15	0.037	–	1.81
VS 8078-94	0.38	0.21	0.15	(63.23)	(0.46)	(11.87)	(2.95)	(4.40)	(0.16)	(1.35)	(5.62)	(3.32)	(2.21)	(0.11)	(4.05)	(0.042)	(1.14)	0.75
VS 8079-94	0.73	0.62	0.41	(63.32)	(0.41)	(10.62)	(2.15)	(3.49)	(0.18)	(0.96)	(6.73)	(3.34)	(1.92)	(0.092)	(4.88)	(0.032)	(1.54)	1.25

Cd	ppm Re	ppm Ag	100 g	
0.0071	4.7	35.0	**Zusammengesetztes Erz**	
0.0036	0.72	1.6	**Complex Ore**	
0.016	2.9	3.7		

CRM	Cu	Pb	Zn	Ba	S	SO_4	As	ppm Au	ppm Ag	ppm Cd	ppm In	ppm Se	ppm Te	ppm B	ppm Co	50 g
VS 3593-86	0.99	0.27	4.63	6.8	18.3	1.74	0.080	3.2	20.9	162.8	5.5	20.0	33.3	–	–	**Zusammenges. Erz; Compl. Ore**
VS 3594-86	4.16	0.34	2.25	10.7	41.1	3.07	0.18	12.1	107.0	75.0	9.7	50.9	210.4	–	–	**Eisenkies; Pyrite Compl. Ore**
VS 3595-86	2.15	0.13	0.81	2.40	46.8	1.08	0.12	2.1	36.7	52.3	2.5	58.2	72.6	–	–	**Eisenkies; Pyrite Compl. Ore**
VS 3596-86	13.1	0.56	1.22	26.0	26.1	6.4	1.21	7.6	155.4	52.5	13.1	–	–	–	–	**Py-Ba-Erz; Py-Ba-Complex Ore**
VS 3597-86	–	–	–	–	–	–	3.96	8.8	–	–	–	–	–	1.08	0.17	**B-Au-Co-Erz; B-Au-Co-Ore**

CRM	Fe	S	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl	Co	CO_2	Cr	Cs	Cu	F
BF PS1	40.42	42.90	0.0028	0.1850	0.2650	0.000004	(0.00096)	0.00079	2.0250	(0.0192)	(0.00068)	(0.0290)	0.0089	(4.1300)	(0.0014)	(0.0003)	(0.1058)	0.0690

Ga	Ge	Hg	Ho	I	In	K	La	Mg	Mn	Mo	Na	Nb	Nd	Ni	Pb	Pr	Ra
(0.00036)	(0.0040)	0.000021	(0.000012)	(0.00002)	(0.0095)	0.0620	(0.00026)	0.0933	0.2600	(0.00042)	(0.0093)	(0.00008)	(0.00023)	0.0190	0.0345	(0.00005)	(0.0001)

Rb	Re	Ru	Sb	Se	Si	Sn	Sr	Ta	Tb	Th	Ti	Tl	U	V	Y	Zn	15 g
(0.0062)	(0.000009)	(0.00096)	0.0062	(0.0076)	3.1920	(0.0125)	(0.0051)	(0.00024)	(0.000009)	(0.000068)	0.0021	(0.0120)	(0.00008)	(0.0014)	(0.00085)	(0.0203)	**Pyrit(e)**

CRM	ppm Pt	ppm Pd	ppm Rh	ppm Ir	ppm Ru	ppm Au	80 g	
VS 3613–87	1.22	6.0	1.26	0.10	0.31	0.12	Magnetkies	Hauptelemente im Zertifikat
VS 3614–87	1.07	5.1	0.55	0.052	0.14	0.11	Pyrrhotite Ores	Main elements in certificate
VS 3615–87	1.17	6.0	1.90	0.17	0.50	0.11		
VS 3616–87	3.1	17.6	1.13	0.10	0.22	0.44		

CRM	ppm Pt	ppm Pd	ppm Rh	ppm Ir	ppm Ru	ppm Os	ppm Au	ppm Ag	Ni	Cu	Co	Fe	S	Al_2O_3	SiO_2	Zn	Pb
VS 2532–83	16.60ppm	51.50ppm	3.72ppm	0.43ppm	1.16ppm	0.17ppm	1.62ppm	41.45ppm	12.87	(7.00)	(0.53)	(51.51)	(23.15)	(0.30)	(0.21)	(0.0067)	(0.013)

Na	K	Bi	100 g	
(0.04)	(0.03)	(0.010)	Pyrit; Pyritic Complex Ore Composition	

CRM	SiO_2	TiO_2	Al_2O_3	FeO	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	F	H_2O+	S	Cu	Pb	Zn
VS 2888–84	(66.14)	(0.48)	(11.49)	(3.16)	(4.17)	(0.16)	(1.49)	(3.78)	(2.98)	(1.82)	(0.12)	(3.05)	(0.039)	(1.84)	0.60	1.55	0.103	0.023
VS 8076–94	(68.88)	(0.58)	(12.38)	(3.06)	(4.02)	(0.14)	(1.64)	(3.14)	(3.46)	(1.64)	(0.12)	(2.44)	(0.040)	(2.00)	(0.02)	0.036	–	–
VS 8077–94	(63.74)	(0.55)	(12.82)	(2.76)	(4.76)	(0.15)	(1.58)	(4.70)	(3.42)	(2.43)	(0.12)	(3.38)	(0.049)	(2.04)	0.33	0.11	–	–

ppm Re	ppm Ag	50 g	
1.65	25.9	Sandstein, kupferhaltig; Cupriferous Sandstone	
0.023	0.64	Sandstein; Sandstone	
0.14	10.2	Sandstein, kupferhaltig; Cupriferous Sandstone	

CRM	S	Fe	Zn	Pb	Cu	SiO_2	TiO_2	Al_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	ppm Ag	ppm As	ppm Bi
2 SG	11.20	8.73	4.64	3.88	0.45	50.03	0.29	6.11	0.18	0.96	4.50	0.64	1.99	0.057	39	1130	13

ppm Cd	ppm Co	ppm Ni	70 g	
258	29	21	Sulfiderz, polymetal.; Polymetallic Sulphide Ore	

CRM	TiO_2	Al_2O_3	Fe	MgO	CaO	BaO	MnO	Zn	Cu	Na_2O	K_2O	ppm As	ppm Cd	ppm Co	ppm Ni	ppm Pb
UN MII	0.50	10.63	6.79	2.06	0.49	0.049	0.11	1.79	0.21	0.93	2.22	0.0901	0.0767	0.0223	0.0329	0.868

ppm Sr	ppm V	100 g	
0.0259	0.0845	Sulfiderz, polymetal.; Polymetallic Sulfide Ore	

CRM	S	S(sul)	Fe	Si	Ca	Al	Mg	Cu	Zn	Pb	Ni	Co	As	100 g	
T RTS1	1.66	1.26	19.64	19.89	2.67	4.26	2.67	0.0595	0.0553	0.0105	0.0022	0.00166	0.00082	Sulphiderzwaschberge	
T RTS2	18.95	3.87	37.4	2.92	0.53	0.83	0.35	0.0670	0.0117	0.0045	0.2430	0.0072	0.00063	Sulphide Ore Mill Tailings	
T RTS4	35.9	0.27	56.7	0.998	0.327	0.339	0.179	0.0280	0.0158	0.0060	0.7940	0.0186	0.0207	25 g	18 informative Values in Certificate

CRM	ppm Ag		500 g
GB 07255	46.9	Silber in Silbererz	
GB 07256	112	Silver in Silver Ore	
GB 07257	298		
GB 07258	446		
GB 07259	559		
GB 07260	732		

CRM	ppm Ag	ppm Au	1000 g
GB 07203	5.41	3.59	Edelmetallerz
GB 07207	0.33	0.008	Noble Metal Ore
GB 07208	2.06	0.051	
GB 07209	9.08	0.421	

CRM	ppm Au	200 g
3 886	8.25	Golderz; Gold Ore

CRM	SiO_2	Al_2O_3	Fe_2O_3	K_2O	ppm Au	ppm As	ppm Sb	30 g
UG DGPM-1	79.82	9.56	1.92	2.74	0.730	180	14	Golderz; Gold Ore

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	BaO	MnO	Na_2O	K_2O	ppm As	ppm Au	ppm Cr	ppm Cu	ppm B	ppm Sr
UN AuM	66.15	0.39	14.06	5.55	1.81	4.09	0.066	0.082	3.08	1.92	876.5	2.5	47	35.9	12.9	187.7

ppm V	ppm Y	ppm Zr	200 g
96.4	14.2	81.0	Golderz; Gold Bearing Ore

CRM	ppm Pt	ppm Pd	ppm Au	ppm Ag	ppm Rh	ppm Ru	ppm Os	ppm Ir	500 g
X 7b	3.74	1.54	0.27	0.42	0.24	0.46	0.063	0.09	Platinerz; Platinum Ore

CRM	ppm Ag	ppm Au	ppm Cd	ppm Co	ppm Se	Cu	Fe	K	Mg	S	Ti	Zn	200 g	
T CH4	2.1	0.88	1.14	26	2.1	0.20	5.42	1.81	1.43	0.63	0.31	0.020	Golderz; Gold Ore	47 informative Werte im Zertifikat
														47 informative values in certificate

CRM	ppm Au	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	P_2O5	SiO_2	TiO_2	S	C	LOI	400 g
T GTS2	0.263	(50)	(5.7)	(11.1)	(2.2)	(4.3)	(0.9)	(0.2)	(50)	(0.75)	(0.8)	(2.4)	(9.3)	Goldwaschberge; Gold Tailings

CRM	Au	Ag	As	S	Sb	100 g	
VS 2738–83	0.00046	0.00011	1.10	3.34	0.0040	**Golderz; Gold Bearing Ore**	
VS 2739–83	0.0034	0.00057	8.0	26.0	0.020		
VS 2740–83	0.00009	0.000031	0.17	0.38	0.0019	**Golderzberge; Tails of Gold Bearing Ore**	
VS 2741–83	0.00016	0.000053	0.080	0.33	(0.0007)		

CRM	ppm Au	ppm Ag	500 g
X 53	3.99	(1.0)	**Gold Head Sample**
X 54	0.215	–	**Gold Tailings**
X 56	2.69	(1.7)	**Gold Calcine**

CRM	ppm Pt	ppm Pd	ppm Au	ppm Ag	ppm Rh	ppm Ru	ppm Ir	ppm Os	Cu	Ni	Fe	Ca	S	Al		
T PTA1	3.05	–	–	–	–	–	–	–	–	–	–	–	–	–	**400 g**	**Edelmetallerz**
T PTC1a	2.72	4.48	1.31	56.0	0.33	–	–	–	13.51	10.13	–	–	–	–	**200 g**	**Noble Metal Ore**
T PTM1a	7.31	10.01	3.30	(135)	(0.02)	(0.7)	–	–	(25.00)	(47.95)	–	–	–	–	**400 g**	
T MA1b	–	–	17.0	–	–	–	–	–	–	–	–	–	–	–	**200 g**	
T MA2c	–	–	3.02	(0.51)	–	–	–	–	–	–	–	–	–	–	**400 g**	
T MA3a	–	–	8.56	–	–	–	–	–	–	–	–	–	–	–	**200 g**	
T TDB1	0.0058	0.0224	0.0063	–	(0.7)	–	(0.7)	–	–	–	–	–	–	–	**400 g**	
T WGB1	0.0061	0.0139	0.0029	–	(0.00032)	–	(0.00033)	–	–	–	–	–	–	–	**400 g**	
T WMG1	0.731	0.382	0.110	–	0.026	0.035	0.046	(0.024)	–	–	–	–	–	–	**400 g**	
T WMS1a	1.91	1.45	0.300	–	0.222	–	–	–	1.396	3.02	45.4	3.09	28.17	1.350	**200 g**	
T WPR1	0.285	0.235	0.042	–	0.0134	0.022	0.0135	–	–	–	–	–	–	–	**400 g**	

CRM	Al_2O_3	H_2O	ppm Ca	ppm Co	ppm Cr	ppm Cu	ppm Fe	ppm Mg	ppm Mn	ppm Na	ppm Ni	ppm Si	ppm Ti	ppm Zn	ppm Zr	100 g	
B Al_2O_3	99.76	0.22	3.1	<1	<1.6	2.5	3.2	<3	1.5	<15	<10	<20	<2	<2	<3.2	**Aluminiumoxid;**	**Aluminium Oxide**

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	100 g
A FF8	36.91	53.79	2.54	2.93	0.36	0.54	0.09	1.69	
A FF10	24.04	69.66	1.49	1.70	0.36	0.31	0.12	1.73	

CRM	Al_2O_3	SiO_2	Fe_2O_3	TiO_2	K_2O	Na_2O	CaO	MgO	LOI	75 g
N 137	32.43	61.46	1.63	1.13	1.31	0.126	0.28	0.28	1.24	**Schamotte**
N 138	26.01	68.90	1.47	0.92	0.98	0.10	0.23	0.22	0.92	**Refractories**
N 139	13.80	82.41	0.84	0.53	0.51	0.059	0.14	0.12	0.78	

RM	Al_2O_3	SiO_2	Fe_2O_3	TiO_2	MnO	CaO	MgO	Na_2O	10x20 g
JR 101	8.10	88.57	0.31	0.30	0.11	1.06	0.21	1.01	**Schamotte, tonhaltig**
JR 102	13.79	80.47	3.97	0.45	0.01	0.04	0.67	0.30	**Clayey Refractories**
JR 103	18.07	80.32	0.40	0.37	0.00	0.07	0.01	0.12	
JR 104	22.52	67.35	3.24	2.94	0.01	0.25	0.07	0.30	**nur Satz/set only**
JR 105	24.71	70.58	0.66	2.36	0.18	0.10	0.07	0.73	
JR 106	29.91	63.61	1.92	0.67	0.02	0.14	0.98	0.59	
JR 107	37.08	55.32	2.20	1.15	0.01	0.71	0.49	0.21	
JR 108	40.08	55.31	1.54	1.05	0.02	0.27	0.27	0.20	
JR 109	41.24	54.23	0.89	1.96	0.01	0.14	0.12	0.30	
JR 110	46.68	49.54	0.84	1.66	0.01	0.10	0.16	0.08	

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MnO	CaO	MgO	Na_2O	K_2O	P_2O_5	Cr_2O_3	Zr_2O_2	LOI	15x20 g
JR 121	86.3	6.07	0.40	0.05	0.02	1.96	0.12	3.20	0.23	0.32	0.01	1.11	(0.05)	**Schamotte, tonhaltig**
JR 122	78.2	10.2	0.24	1.03	0.20	0.43	0.65	1.04	2.05	4.89	0.81	0.20	(0.12)	**Clayey Refractories**
JR 123	79.1	13.3	4.13	0.45	0.01	0.13	1.32	0.29	0.10	0.80	0.01	0.00	(0.03)	
JR 124	73.9	16.5	2.60	2.74	0.24	1.09	0.10	0.31	1.79	0.19	0.11	0.11	(0.10)	**nur Satz/set only**
JR 125	79.2	18.7	0.50	0.30	0.00	0.13	0.08	0.07	0.69	0.04	0.01	0.02	(0.07)	
JR 126	66.9	21.3	3.34	2.84	0.03	0.45	0.12	0.28	3.13	0.49	0.65	0.04	(0.17)	
JR 127	68.5	23.0	0.92	2.19	0.17	0.18	0.15	1.75	0.54	1.78	0.27	0.04	(0.07)	
JR 128	54.3	26.0	4.45	1.37	0.24	2.80	3.10	0.37	1.84	3.36	0.85	1.01	(0.02)	
JR 129	62.2	30.1	1.46	0.96	0.01	0.15	2.23	0.23	1.92	0.20	0.10	0.11	(0.11)	
JR 130	53.4	32.7	0.53	3.35	0.37	1.95	0.61	2.32	1.42	0.91	1.05	0.83	(0.11)	
JR 131	52.7	36.6	2.20	1.16	0.03	0.78	1.02	0.76	2.61	1.61	0.07	0.26	(0.17)	
JR 132	50.6	39.1	1.64	0.29	0.11	1.29	0.34	2.16	0.79	2.38	0.11	0.75	(0.15)	
JR 133	50.1	39.0	3.69	1.93	0.01	0.10	2.03	0.33	0.91	0.34	1.27	0.57	(0.08)	
JR 134	47.2	44.3	1.07	1.74	0.24	0.20	0.20	0.13	0.37	3.83	0.24	0.35	(0.14)	
JR 135	37.2	48.9	3.05	0.07	0.04	2.36	1.24	2.87	2.77	0.48	0.42	0.20	(0.18)	

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	Cr_2O_3	MnO	CaO	MgO	BaO	Na_2O	K_2O	Li_2O	P_2O_5	ZrO_2	LOI	100 g
5 309	61.1	34.1	1.92	1.51	–	(0.03)	0.22	0.17	(0.006)	0.34	0.46	(0.01)	–	–	(0.08)	**Sillimanit; Sillimanite Brick**
EC 776-1	29.28	62.76	1.62	1.43	0.02	–	0.31	0.48	0.122	0.49	2.92	0.02	0.06	(0.04)	(0.3)	**Schamottstein; Fire Clay Brick**

RM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	Li_2O	BaO	LOI	25 g
CR 2CAS12	63.6	34.0	1.34	0.30	0.31	0.06	0.13	0.12	<0.01	–	0.12	**Sillimanit; Sillimanite**

CRM	Al_2O_3	Fe_2O_3	SiO_2	TiO_2	MgO	K_2O	Na_2O	CaO	LOI	100 g
X 34	59.15	0.75	39.04	0.163	0.131	0.238	0.093	(0.13)	0.622	**Andalusit; Andalusite**

CRM	Al_2O_3	CaO	Fe_2O_3	Li_2O	MgO	P_2O_5	K_2O	SiO_2	Na_2O	SrO	TiO_2	ZrO_2	LOI	75 g
3 76a	38.7	0.22	1.6	0.042	0.52	0.12	1.33	54.9	0.07	0.037	2.0	0.15	(0.34)	**Tonerde; Alumina**
3 77a	60.2	0.05	1.0	0.2	0.38	0.092	0.09	35.0	0.037	0.009	2.6	0.21	(0.22)	**Tonerde; Alumina**
3 78a	71.7	0.11	1.2	0.12	0.70	1.3	1.22	19.4	0.078	0.25	3.2	0.31	(0.42)	**Tonerde; Alumina**

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	K_2O	Na_2O_3	P_2O_5	LOI		
CM 1770	79.26	1.49	3.05	1.12	0.060	0.077	–	–	0.148	14.38	**60 g**	**Tonerde; Alumina**
CM 1778	90.58	4.20	2.13	1.82	0.16	0.38	0.12	0.19	–	–	**80 g**	**Tonerde, hochrein,; High Purity Alumina**

RM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	25 g	
CR AN40	38.2	58.9	0.02	0.90	0.15	0.27	0.10	1.48	**Molochit; Molochite**	

Tonerdeprodukte der Al-Industrie s. S. 6.7.1 ff.
Alumina from Al-Industry see page 6.7.1 ff.

CRM	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	P_2O_5	SiO_2	TiO_2	LOI	50 g
IP 28	37.6	0.09	0.83	0.03	0.04	0.02	0.15	45.1	2.04	13.9	**Tonerde**
IP 32	28.5	0.17	3.46	0.80	0.39	0.16	0.13	51.8	1.49	12.6	**Alumina**
IP 42	32.2	0.02	1.09	0.47	0.19	0.02	0.07	51.9	0.96	12.9	

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MnO	CaO	MgO	Na_2O	K_2O	10x20 g
JR 301	43.91	46.80	3.52	1.03	0.01	0.79	0.69	0.17	2.00	**Tonerde**
JR 302	37.70	53.93	4.49	0.59	0.20	0.87	0.69	0.56	0.66	**Alumina**
JR 303	36.16	59.25	1.47	0.16	0.00	1.03	0.85	0.69	0.20	
JR 304	27.55	63.06	3.46	4.34	0.05	0.18	0.37	0.27	0.38	**nur Satz/set only**
JR 305	20.03	68.69	2.81	3.30	0.01	0.65	0.30	0.80	3.11	
JR 306	17.35	74.19	1.95	2.68	0.01	0.62	0.10	0.99	1.75	
JR 307	10.87	80.14	2.97	1.22	0.01	0.15	0.61	1.08	2.36	
JR 308	10.25	86.59	0.41	1.79	0.11	0.09	0.05	0.26	0.10	
JR 309	2.12	89.83	1.27	3.85	0.00	1.02	0.28	0.42	0.92	
JR 310	0.41	94.71	0.02	2.06	0.04	0.03	0.97	0.08	1.32	

RM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	Mn_3O_4	Cr_2O_3	LOI	25 g
CR AN25	99.4	<0.01	<0.01	0.03	0.05	0.01	0.53	<0.01	0.05	–	–	–	**Tonerde, hochrein**
CR AN26	99.8	0.09	<0.01	0.04	0.06	<0.01	0.03	<0.01	–	–	–	–	**High Purity Alumina**
CR AN27	99.84	0.05	<0.01	0.03	0.06	<0.01	0.02	<0.01	–	–	–	–	

CRM	Al_2O_3	SiO_2	Fe_2O_3	FeO	CaO	MgO	K_2O	Na_2O	TiO_2	SO_3	P_2O_5	MnO	CO_2	H_2O	Cl	LOI	50 g
GB 03101	26.16	49.89	10.38	(0.030)	0.26	0.52	1.02	0.086	0.77	0.026	0.13	0.11	(0.08)	(10.06)	0.0033	10.48	**Ton**
GB 03101a	26.27	49.98	10.55	(0.080)	0.13	0.46	0.79	0.060	0.70	0.49	0.14	0.052	(0.041)	(9.64)	0.0041	10.62	**Clay**
GB 03102	36.74	48.17	0.28	(0.082)	0.054	0.046	1.05	0.094	0.021	0.019	0.032	0.013	(0.04)	(13.12)	0.0043	13.38	
GB 03102a	31.32	53.67	0.33	(0.052)	1.80	0.083	1.15	2.55	0.030	0.023	0.053	0.020	(0.051)	(8.64)	0.0029	8.81	
GB 03103	13.28	66.64	4.64	(0.80)	3.23	1.84	2.50	1.81	0.66	0.027	0.106	0.088	1.66	(3.38)	0.011	5.10	**60 g**

CRM	Al	Ca	Cr	Fe	Li	Mg	Mn	K	Si	Na	Sr	Ti	Ba	P	Zr	Sb	Cs	Co
3 97b	20.76	0.0249	0.0227	0.831	0.0550	0.113	0.0047	0.513	19.81	0.0492	0.0084	1.43	(0.018)	(0.0200)	(0.05)	(0.00022)	(0.00034)	(0.00038)
3 98b	14.30	0.0759	0.0119	1.18	0.0215	0.358	0.0116	2.81	26.65	0.1496	0.0189	0.809	(0.07)	(0.0300)	(0.022)	(0.00016)	(0.00165)	(0.00163)
3 679	11.01	0.1628	0.01097	9.05	0.00717	0.7552	(0.1730)	2.433	24.34	0.1304	0.00734	0.577	0.04322	(0.0750)	–	–	(0.00096)	(0.0026)

	Eu	Hf	Rb	Sc	Th	Zn	Ce	LOI	60 g
	(0.000084)	(0.0013)	(0.0033)	(0.0022)	(0.0036)	(0.0087)	–	13.3	**Ton, mager; Flint Clay**
	(0.00013)	(0.00072)	(0.0180)	(0.0022)	(0.0021)	(0.0110)	–	7.5	**Ton, fett; Plastic Clay**
	(0.00019)	(0.00046)	(0.0190)	(0.00225)	(0.0014)	(0.0150)	(0.0105)	–	**Ziegelton; Brick Clay, 75g**

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	Cr_2O_3	CaO	MgO	BaO	Na_2O	K_2O	P_2O_5	ZrO_2	LOI	100 g
5 348	31.59	51.13	1.08	1.04	0.016	0.173	0.305	(0.04)	0.344	2.23	0.071	(0.03)	11.75	**Töpferton; Ball Clay**

CRM	ppm F	30 g
H 461	568	**Fluor in Lehm; Fluorine in Clay**

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	Li_2O	LOI	25 g
CR 2CAS1	52.5	1.16	32.0	1.03	0.20	0.28	0.34	2.25	0.03	9.80	**Töpferton; Ball Clay**

CRM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	LOI	100 g
CM 1780	44.48	38.56	0.66	1.73	0.074	0.074	14.05	**Lehm; Clay**

CRM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	TiO_2	MnO	P_2O_5	SO_3	H_2O	FeO	CO_2	LOI	50 g
GB 03121	54.55	31.41	0.50	0.052	0.12	0.34	0.015	0.69	0.0032	0.099	0.53	11.72	(0.026)	(0.026)	11.94	**Kaolin**
GB 03122	44.53	38.62	0.72	0.16	0.068	0.049	0.069	0.39	0.0054	0.21	0.12	14.77	(0.33)	(0.06)	15.00	**China Clay**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	S	H_2O	Be	Cr	Cu	Li
UN KK	47.06	0.166	36.77	0.982	0.015	0.192	0.236	0.032	1.063	0.090	0.174	0.019	12.75	0.0012	0.00095	0.00088	0.0174

Pb	Rb	Sn	Sr	Zn	LOI	100 g
0.0120	0.0159	0.0033	0.0076	0.0049	13.08	Kaolin; China Clay

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	LOI	25 g
CR AN41	54.8	0.05	41.5	0.71	0.16	0.41	<0.05	1.81	(12.4)	Kaolin; China Clay

CRM	SiO_2	Al_2O_3	CaO	Fe_2O_3	MgO	P_2O_5	K_2O	Na_2O	SrO	TiO_2	BaO	Rb_2O	LOI	40 g
3 70a	67.1	17.9	0.11	0.07	–	–	11.8	2.5	–	0.01	0.02	0.06	0.40	Feldspat/Feldspar, K_2O
3 99a	65.2	20.5	2.14	0.06	0.02	0.02	5.2	6.2	–	0.007	0.26	–	0.26	Feldspat/Feldspar, Na_2O
3 607	–	–	–	–	–	–	–	–	0.00774	–	–	0.05732	–	Feldspat/Feldspar, K_2O 5 g

CRM	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	PbO	LOI	100 g
5 375/1	69.24	17.88	0.312	0.291	0.78	0.180	8.89	1.47	0.226	–	0.72	Na-Feldspat; Soda-Feldspar
5 376/1	65.77	18.63	(0.01)	0.085	0.421	(0.03)	3.00	11.59	(0.02)	0.0090	0.203	K-Feldspat; Potassium Feldspar

CRM	SiO_2	Fe_2O_3	Al_2O_3	CaO	MgO	TiO_2	K_2O	Na_2O	LOI	50 g
GB 03116	66.26	0.19	18.63	0.76	0.054	0.048	9.60	3.69	0.86	Feldspat; Feldspar

CRM	SiO_2	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	P_2O_5	TiO_2	LOI	80 g
IP 53	65.8	18.3	0.27	0.13	12.1	0.05	2.5	0.072	0.013	0.51	K-Feldspat; Potassium Feldspar
IP 72	66.2	20.26	0.18	0.09	1.47	(0.022)	10.0	1.03	0.005	0.66	Na-Feldspat; Soda Feldspar

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Ba	Cs	Cu	Ga	Li	Pb	Rb
Z FK	88.2	0.058	6.18	0.261	0.0037	0.15	0.110	0.25	4.23	0.077	0.0700	0.00026	0.0011	0.0006	0.0008	0.0018	0.0132

Sr	Zn	50 g
0.0072	0.0014	Feldspat; Feldspar

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	LiO_2	Na_2O	K_2O	Rb_2O	LOI	ppm As	ppm Ce	ppm Co	ppm Cs	ppm Cu
UN ZK	74.38	0.039	14.19	0.88	0.73	0.025	0.067	0.43	0.06	4.50	4.06	0.094	0.54	4.8	5.7	7.0	38.7	12.2

ppm Ga	ppm Hf	ppm Mo	ppm Nb	ppm Ni	ppm Sc	ppm Sn	ppm Ta	ppm Th	ppm Y	ppm Zn	100 g
33.3	1.4	21.0	33.5	29.4	3.6	16.8	19.4	4.7	8.4	19.4	Feldspat; Feldspar

CRM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	TiO_2	LOI	50 g
GB 03134	67.96	19.62	0.10	0.48	0.015	0.098	11.26	0.054	0.36	**Albit; Albite**

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3tot	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O+	H_2O-	Al	ppm Ba	Ca	ppm Ce
JG JF1	66.69	0.005	18.08	0.06	(<0.04)	0.08	0.001	0.006	0.93	3.37	9.99	(0.003)	0.23	0.13	9.57	1750	0.66	4.19
JG JF2	65.30	0.005	18.52	0.06	(<0.03)	0.06	0.001	(0.004)	0.09	2.39	12.94	0.099	0.24	0.18	9.80	298	0.06	0.84

ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	Fe	ppm Ga	ppm Gd	ppm Hf	ppm Ho	K	ppm La	ppm Li	ppm Lu	Mg	Mn
0.12	5.48	2.09	0.82	0.39	0.31	0.87	0.06	17.4	0.93	1.18	0.11	8.29	2.80	9.81	0.053	0.004	0.001
0.68	(2.47)	1.06	0.78	(0.036)	(0.034)	0.59	0.04	17.9	(0.072)	0.19	(0.021)	10.74	0.63	2.19	0.020	–	0.001

Na	ppm Nb	ppm Nd	P	ppm Pb	ppm Pr	ppm Rb	ppm Sc	Si	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	Ti	ppm Tl	ppm U	ppm V
2.50	0.74	1.46	0.004	33.4	0.48	266	0.23	31.17	0.41	172	0.079	0.076	1.17	0.003	1.18	0.33	5.43
1.77	0.70	(0.33)	–	48.7	(0.088)	218	0.089	30.52	0.11	200	(0.045)	(0.009)	0.31	0.003	1.10	(0.078)	4.86

ppm Y	ppm Yb	ppm Zn	ppm Zr	30 g + 100 g
2.84	0.35	4.41	38.6	**Feldspat**
2.67	(0.045)	1.40	6.73	**Feldspar**

CRM	MgO	SiO_2	Al_2O_3	Ti_2O	Fe_2O_3	Cr_2O_3	MnO	CaO	Cr_2O_3	B_2O_3	P_2O_5	100 g
5 389/1	97.89	0.274	0.104	0.0051	0.607	(0.004)	0.100	0.880	(0.004)	(0.015)	0.0295	**Magnesit; High Purity Magnesite**

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	Na_2O	K_2O	P_2O_5	LOI	MmO	Cr_2O_3	ZrO_2	10x20 g
JR 801	0.35	93.4	2.00	0.21	0.14	3.26	0.19	0.01	0.002	(0.14)	(0.00)	(0.00)	(0.00)	**Alumina-Magnesia**
JR 802	3.32	84.2	1.03	1.48	2.00	6.31	0.15	0.46	0.95	(0.06)	(0.00)	(0.00)	(0.00)	
JR 803	0.58	74.2	4.90	2.51	0.57	16.2	0.86	0.00	0.01	(0.36)	(0.00)	(0.00)	(0.00)	
JR 804	5.17	64.6	4.02	0.13	4.76	20.8	0.08	0.04	0.11	(0.01)	(0.02)	(0.01)	(0.00)	
JR 805	2.49	58.0	0.73	1.05	0.28	36.0	0.54	0.01	0.68	(0.17)	(0.00)	(0.00)	(0.00)	**nur Satz/set only**
JR 806	0.51	48.8	0.16	0.00	0.97	49.4	0.04	0.00	0.04	(0.21)	(0.02)	(0.00)	(0.00)	
JR 807	0.58	39.9	0.32	0.19	2.75	55.0	0.32	0.15	0.53	(0.57)	(0.00)	(0.00)	(0.00)	
JR 808	0.79	28.6	0.56	0.71	0.99	67.0	0.40	0.69	0.22	(0.84)	(0.01)	(0.00)	(0.00)	
JR 809	0.36	19.8	0.11	2.88	4.47	70.1	0.04	0.98	1.06	(0.48)	(0.00)	(0.00)	(0.00)	
JR 810	4.21	10.0	3.11	1.91	0.18	78.9	0.75	0.16	0.51	(0.22)	(0.01)	(0.00)	(0.00)	

RM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	TiO_2	MnO	Na_2O	K_2O	Cr_2O_3	P_2O_5	B_2O_5	10x20 g
JR 401	6.42	8.10	3.89	0.20	81.24	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.03)	(0.01)	**Magnesite**
JR 402	5.46	1.99	5.05	3.57	83.77	(0.02)	(0.01)	(0.01)	(0.00)	(0.00)	(0.07)	(0.12)	**Magnesites**
JR 403	8.14	4.06	1.55	0.61	85.48	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.04)	(0.03)	
JR 404	1.22	6.01	2.90	1.78	88.02	(0.01)	(0.03)	(0.00)	(0.00)	(0.00)	(0.05)	(0.01)	**nur Satz/set only**
JR 405	3.47	1.37	1.34	1.69	91.95	(0.05)	(0.07)	(0.00)	(0.01)	(0.01)	(0.12)	(0.01)	
JR 406	1.19	1.13	0.87	4.80	91.85	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.04)	(0.01)	
JR 407	2.43	0.10	2.14	0.67	94.55	(0.00)	(0.01)	(0.00)	(0.00)	(0.08)	(0.04)	(0.02)	
JR 408	0.46	2.55	0.13	0.67	96.19	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.09)	
JR 409	0.53	0.20	0.49	0.74	98.03	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)	(0.03)	
JR 410	0.18	0.05	0.05	0.59	99.08	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.04)	(0.02)	

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MnO	CaO	MgO	Cr_2O_3	P_2O_5	V_2O_5	NiO	ZnO	LOI	12x20 g
JR 501	0.92	2.92	4.80	0.00	0.02	0.92	87.60	2.82	(0.03)	(0.01)	(0.01)	(0.00)	(0.13)	**Chrommagnesite**
JR 502	3.11	11.98	1.02	0.01	0.01	0.20	76.28	7.49	(0.02)	(0.02)	(0.02)	(0.00)	(0.06)	**Chrome Magnesites**
JR 503	0.09	7.14	3.00	0.04	0.03	3.81	63.11	13.60	(0.03)	(0.03)	(0.03)	(0.01)	(0.11)	
JR 504	2.18	17.56	4.11	0.01	0.01	2.60	54.85	18.35	(0.03)	(0.01)	(0.01)	(0.01)	(0.12)	**nur Satz/set only**
JR 505	1.82	7.76	17.76	0.11	0.10	0.49	50.14	21.74	(0.02)	(0.07)	(0.07)	(0.02)	(0.08)	
JR 506	2.16	14.69	7.49	0.13	0.07	0.46	46.65	28.19	(0.01)	(0.08)	(0.09)	(0.01)	(0.07)	
JR 507	5.69	25.02	12.98	0.16	0.11	1.61	22.36	32.03	(0.01)	(0.13)	(0.20)	(0.03)	(0.11)	
JR 508	3.08	3.98	22.70	0.01	0.00	1.03	30.86	38.18	(0.01)	(0.00)	(0.01)	(0.00)	(0.05)	
JR 509	1.96	20.28	10.15	1.20	0.08	2.86	20.45	42.57	(0.01)	(0.11)	(0.04)	(0.03)	(0.13)	
JR 510	4.91	12.21	14.99	0.13	0.17	0.29	16.86	50.38	(0.01)	(0.11)	(0.19)	(0.04)	(0.05)	
JR 511	2.90	6.68	27.22	0.10	0.12	0.07	10.62	52.51	(0.00)	(0.05)	(0.10)	(0.05)	(0.48)	
JR 512	10.57	29.25	26.01	0.04	0.02	4.06	24.81	4.98	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	

CRM	MgO	Cr_2O_3	SiO_2	Al_2O_3	Fe_2O_3	CaO	Na_2O	K_2O	MnO	100 g
A FF15	74.10	9.54	3.59	2.27	7.42	2.12	(0.10)	(0.04)	0.32	
A FF16	39.44	34.37	5.66	7.23	11.64	1.04	(0.07)	(0.01)	0.18	

CRM	Fe	Si	Ca	Al	Ti	Mg	Mn	P	Na	K	Cr	C	B	100 g
EC 778-1	0.67	0.489	0.883	0.297	(0.008)	48.87	0.011	(0.004)	(0.023)	(0.020)	0.102	14.00	0.0012	**C-Magnesit; C-Magnesite**
EC 779-1	3.73	0.182	1.691	0.105	0.0081	(54.57)	0.503	0.0267	(0.0058)	(0.0020)	(0.0030)	–	0.0116	**Magnesit, niedr. B; Magnesite, low B**

CRM	MgO	Cr_2O_3	SiO_2	Fe_2O_3	Al_2O_3	CaO	75 g
N 8-3-01	86.7	–	0.80	7.50	0.41	2.55	**Magnesit; Magnesite**
N 8-3-02	85.4	–	1.59	7.35	0.63	2.64	**Magnesit; Magnesite**
N 8-4-01	48.0	28.21	2.93	11.58	6.08	1.56	**Chrommagnesit; Chrome-Magnesite**
N 8-4-02	76.2	5.56	2.93	8.72	2.21	2.45	**Chrommagnesit; Chrome-Magnesite**

CRM	MgO	Cr_2O_3	SiO_2	Fe_2O_3	Al_2O_3	CaO	75 g
N 92	90.19	–	3.58	1.74	1.11	1.57	**Magnesit; Magnesite**
N 95	63.93	18.30	4.05	6.77	3.50	1.23	**Chrommagnesit; Chrome-Magnesite**
N 96	46.98	22.37	2.71	11.90	12.92	1.59	**Chrommagnesit; Chrome-Magnesite**
N 97	21.26	40.00	5.94	14.73	16.12	0.52	**Chrommagnesit; Chrome-Magnesite**

CRM	MgO	SiO_2	TiO	Al_2O_3	FeO	MnO	CaO	Na_2O	K_2O	P_2O_5	CO_2	C	B	Cu	Ni	Zn	100 g
UN MK	45.22	0.593	0.019	0.414	2.191	0.160	0.581	0.024	0.013	0.055	50.31	0.13	0.00378	0.00025	0.00049	0.00153	**Magnesit; Magnesite**

CRM	MgO	SiO_2	Al_2O_3	Fe_2O_3	FeO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Ba	Ce	Co	Cr	Cu
X 43	44.11	5.99	(0.06)	0.26	(0.1)	0.75	(0.05)	(0.04)	(0.01)	(0.01)	(0.02)	(0.0025)	(0.0020)	0.0004	(0.0195)	(0.0015)

Ni	S	Sr	Zn	100 g
0.0252	(0.04)	0.0008	(0.0010)	**Magnesit; Magnesite**

CRM	MgO	Cr_2O_3	SiO_2	Al_2O_3	CaO	Fe_2O_3	100 g
VS K5/1	55.0	22.6	8.62	4.28	1.15	8.48	**Chrommagnesit; Chrome-Magnesite**

CRM	MgO	Cr_2O_3	SiO_2	Al_2O	TiO_2	Fe_2O_3	MnO	CaO	BaO	Na_2O	K_2O	Li_2O	B_2O_3	SrO	P_2O_5	100 g
5 389/1	97.89	(0.004)	0.274	0.104	0.0051	0.607	0.100	0.880	–	–	–	–	(0.015)	–	0.0295	**Magnesit, rein; HP Magnesia**
5 319/1	95.38	0.0035	1.093	0.109	0.0070	0.291	0.108	3.00	–	–	–	–	(0.002)	–	–	**Magnesit; Magnesite**
5 369	53.5	17.2	2.59	14.7	0.14	10.3	0.11	1.17	(<0.01)	0.05	0.03	0.03	–	(<0.01)	–	**Chrommagmesit; Chrome-Magnes.**
5 370	61.8	13.4	3.01	12.3	0.13	7.23	0.11	1.54	(<0.01)	0.06	0.03	0.03	–	(<0.01)	–	**Chrommagnesit; Chrome-Magnes.**
5 396	64.6	15.6	1.37	5.73	0.26	10.9	0.17	1.12	–	(0.06)	(0.03)	(0.05)	0.09	–	–	**Chrommagnesit; Chrome-Magnes.**

RM	MgO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	Mn_3O_4	Cr_2O_3	25 g
CR AN36	93.2	0.49	0.01	0.49	4.71	0.97	0.11	0.06	**Magnesit**
CR AN37	93.9	1.41	0.04	1.08	1.87	1.54	0.11	0.005	**Magnesite**

CRM	SiO_2	ppm Al	ppm As	ppm Ca	ppm Cd	ppm Cr	ppm Cu	ppm Fe	ppm Ge	ppm Hg	ppm K	ppm Li	ppm Mg	ppm Mn	ppm Na	ppm Pb	ppm Ti	100 g
B SiO_2	>99.99	8.7	<0.05	0.42	<0.05	0.062	<0.1	0.62	<1	<0.05	0.5	0.25	<0.2	<0.2	<1	<0.1	1.34	**Quarz, High Purity Quartz**

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	Na_2O	K_2O	LOI	100 g
JC R404	>99.99 (ppm11)	(ppm 0.06)	(ppm 6)	(ppm 0.2)	(ppm<0.1)	(ppm 1)	(ppm 0.4)		0.00	**Quarzpulver; Quartz Powder**
JC R405	97.78	1.07	0.053	0.022	0.029	0.023	0.060	0.71	0.13	**Siliziumpulver** **nur Satz/set only**
JC R406	96.71	1.31	0.102	0.564	0.016	0.005	0.030	0.13	0.97	**Silica Powder**

CRM	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	Cr_2O_3	MnO	CaO	MgO	Na_2O	K_2O	Li_2O	LOI	100 g
5 313-1	99.78	0.036	0.017	0.012	(<0.001)	0.00013	0.006	0.0013	0.003	0.005	(0.0005)	(0.1)	**Silika, hoch rein; High Purity Silica**

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	100 g
X 49	99.6	(0.05)	(0.05)	(0.05)	(0.01)	(0.05)	(0.01)	(0.01)	(0.01)	**Quarz; Quartz**

Glassände, siehe Seite 6.14.3
Glass Sands, see page 6.14.3

CRM	SiO_2	CaO	MgO	Al_2O_3	Fe_2O_3	TiO_2	100 g
CM 1781	98.38	0.009	0.021	0.57	0.45	0.20	**Silika; Silica**

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MnO	CaO	MgO	Na_2O	K_2O	10x20 g
JR 201	84.36	9.71	1.46	0.03	0.14	2.77	0.73	0.31	0.14	**Silikastein**
JR 202	85.72	7.59	3.97	0.56	0.00	0.81	0.02	1.01	0.02	**Silica Brick**
JR 203	87.33	5.09	1.78	0.18	0.11	3.97	0.47	0.61	0.24	
JR 204	89.64	4.49	2.08	0.15	0.10	1.79	0.31	0.31	0.90	**nur Satz/set only**
JR 205	90.40	3.08	1.24	0.32	0.06	3.11	0.09	0.93	0.50	
JR 206	92.88	1.77	3.20	0.01	0.01	1.20	0.07	0.18	0.50	
JR 207	94.05	1.70	0.96	0.07	0.04	2.51	0.16	0.04	0.21	
JR 208	94.43	0.46	0.06	0.00	0.00	4.19	0.05	0.63	0.02	
JR 209	96.22	0.87	0.37	0.05	0.06	1.89	0.10	0.03	0.17	
JR 210	97.69	0.16	0.83	0.00	0.00	0.30	0.78	0.02	0.00	

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	75 g
N 8-2-01	93.69	0.80	0.40	0.82	2.73	**Dinas, Silikastein; Silica Brick**
N 8-2-02	95.29	0.68	0.21	0.48	1.93	
N 8-2-03	98.05	0.85	0.18	0.25	–	
N 8-2-04	92.55	0.79	0.87	0.90	3.11	
N 8-2-05	91.90	0.62	1.24	0.76	3.81	
N 8-2-06	92.59	0.70	0.82	1.11	2.53	

CRM	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	100 g
A FF11	92.24	4.14	0.40	0.49	0.10	0.11	0.04	0.46	**Silikastein**
A FF12	96.38	0.77	0.59	0.34	0.97	0.05	0.03	0.10	**Silica Brick**

CRM	Si	Ca	Mg	Al	Ti	Fe	K	100 g
EC 777-1	44.44	2.026	0.043	0.421	0.266	0.232	0.128	**Silikastein; Silica Brick**

CRM	Al_2O_3	CaO	Fe_2O_3	Li_2O	MgO	MnO	P_2O_5	K_2O	Na_2O	TiO_2	ZrO_2	LOI	SiO_2	45 g
3 198	0.16	2.71	0.66	0.001	0.07	0.008	0.022	0.017	0.012	0.02	<0.01	0.21	Rest	**Silikastein**
3 199	0.48	2.41	0.74	0.002	0.13	0.007	0.015	0.094	0.015	0.06	0.01	0.17	Rest	**Silica Brick**

CRM	SiO_2	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	MnO	Na_2O	P_2O_5	TiO_2	LOI	50 g
IP 63	96.28	0.48	2.21	0.52	0.043	0.18	0.008	0.013	0.013	0.030	0.17	**Silikastein; Silica Brick**

CRM	SiO_2	Al_2O_3	MgO	CaO	Fe_2O_3	MnO	TiO_2	P	Na_2O	K_2O	100 g
VS K1	96.2	0.50	0.046	1.45	1.32	0.027	0.110	0.013	–	–	Silikastein
VS K2	60.8	32.25	0.69	0.51	3.21	0.058	1.64	–	0.21	0.67	Silica Brick
VS K3	33.7	62.7	0.31	0.48	1.14	–	–	–	0.307	0.174	

CRM	ZrO_2	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	P_2O_5	CaO	MgO	100g	$ZrO_2 = ZrO_2 + HfO_2$
AS 008	60.62	32.66	0.103	0.097	0.063	0.090	(0.012)	(0.004)	Zirkonsand; Zirconium Sand	

CRM	ZrO_2	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	BaO	P_2O_5	LOI	HfO_2	ThO_2	U_3O_8	Y_2O_3	100 g
5 358	92.5	0.2	0.1	0.2	0.05	1.5	3.5	0.1	–	0.1	1.6	–	–	–	Zirkonerde; Zirconia
5 388	66.2	32.7	0.291	0.232	0.049	–	–	–	0.12	–	1.30	0.018	0.034	0.136	Zirkonsand; Zircon

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	Na_2O	K_2O	P_2O_5	Cr_2O_3	ZrO_2	HfO_2	LOI	10x20 g
JR 601	0.26	0.11	0.10	0.16	5.58	0.06	0.00	0.00	0.00	0.00	92.01	1.59	(0.07)	Zirkonerde/Zirkon
JR 602	0.33	0.07	1.61	0.16	0.22	5.29	0.76	0.00	1.33	0.01	88.25	1.52	(0.25)	Zirconia/Zirkon
JR 603	0.96	5.29	2.85	0.93	0.95	0.96	0.18	0.65	0.83	0.02	84.70	1.45	(0.11)	
JR 604	3.04	6.91	0.42	0.13	0.09	0.01	1.08	1.93	1.99	3.06	79.18	1.35	(0.23)	nur Satz/set only
JR 605	10.78	4.83	0.17	0.12	1.93	1.99	0.45	0.54	0.35	1.54	75.27	1.31	(0.31)	
JR 606	22.03	0.53	0.93	0.11	0.02	0.32	2.02	0.01	0.01	0.00	72.35	1.26	(0.32)	
JR 607	32.75	3.51	0.12	0.13	0.04	0.03	0.02	0.04	0.08	0.00	61.31	1.21	(0.56)	
JR 608	34.62	0.70	0.09	0.10	0.52	3.12	0.03	0.01	0.11	0.49	58.84	1.21	(0.06)	
JR 609	40.50	0.88	0.15	0.15	0.30	0.15	0.94	0.02	0.08	0.01	55.56	1.12	(0.12)	
JR 610	45.66	0.45	0.30	0.09	3.07	0.54	0.04	0.01	0.11	0.00	48.70	0.98	(0.07)	

CRM	ZrO_2	HfO_2	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	P_2O_5	CaO	MgO	Cr	S	100 g	
X 13	64.01	1.29	32.45	0.295	0.61	0.187	0.23	(0.14)	(440ppm)	(23ppm)	–	Zirkonkonzentrat	
VS K7/1	92.2	–	0.66	–	–	0.73	–	5.39	–	–	–	Zircon-Concentrate	$ZrO_2=ZrO_2 + HfO_2$
VS K8/2	65.9	–	32.3	0.160	1.16	0.081	0.110	–	–	–	0.0064		

CRM	Zr	Hf	Ti	50 g
IG 35	48.96	1.13	0.16	Zirkon; Zircon

CRM	ZrO_2	SiO_2	HfO_2	TiO_2	Al_2O_3	Fe_2O_3	P_2O_5	ppm U_3O_8	ppm ThO_2	100 g
X 62	64.2	32.8	1.31	0.13	0.88	0.07	0.12	354	158	Zirkon; Zircon

RM	ZrO_2	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	Li_2O	LOI	25 g	$ZrO_2 = ZrO_2 + HfO_2$
CR 2CAS15	64.6	34.1	0.18	0.36	0.08	0.52	0.11	0.03	0.02	<0.01	0.25	Zirkon; Zircon	
CR AN46	15.7	45.5	0.50	30.5	0.85	0.21	5.36	0.15	1.01	0.01	0.08	Zirkon, Faser; Zircon Batt	

RM	ZrO_2	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	P_2O_5	SnO_2	LOI	100 g
5 204a	53.8	37.6	2.22	0.74	0.18	0.15	0.012	0.017	0.014	0.77	1.69	0.50	Zirkon; Zircon

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	ZrO_2	LOI	100 g
CJ R501	32.6	0.39	0.6	0.16	66.5	0.11	Zirkonsand
CJ R502	32.8	5.87	0.10	0.24	60.3	0.26	Zircon Sand

CRM	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	MnO	CaO	MgO	S	K_2O	PbO	ZnO	P_2O_5	LOI	100 g	
EC 752-1	0.70	0.12	0.009	0.045	0.010	55.4	0.15	0.007	0.02	–	–	(0.005)	43.4	**Kalkstein; Limestone**	
EC 782-1	0.266	0.104	0.0042	0.450	0.081	30.34	21.29	(0.006)	0.0260	0.0029	0.0082	0.0128	47.25	**Dolomit; Dolomite**	

CRM	CaO	MgO	SiO_2	Al_2O_3	Fe_2O_3	MnO	100 g
VS K4/2	31.3	20.1	0.93	0.46	0.56	0.033	**Dolomit; Dolomite**

CRM	CaO	H_2O	Be	B	CO_2	F	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	S	K_2O	TiO_2	V	Cr	MnO	Fe_2O_3
VS 813-89	29.48	0.4	0.00013	0.0005	45.6	0.02	0.07	20.75	0.43	2.69	0.011	0.02	0.35	0.025	0.0025	0.0006	0.050	0.47

	FeO	Co	Ni	Cu	Zn	Rb	Sr	Zr	Ba	Pb	Ra	Th	U	100 g
	0.36	0.00030	0.0005	0.0008	0.003	0.0005	0.009	0.0030	0.003	0.0008	2e-10	0.00010	0.00015	**Dolomitkalkstein; Dolomitized Limestone**

CRM	CaO	Al_2O_3	Fe_2O_3	MgO	MnO	P_2O_5	K_2O	SiO_2	Na_2O	SrO	ZnO	S	TiO_2	CO_2	H_2O	LOI	75 g
3 1d	52.85	0.526	0.3191	0.301	Mn=0.0209	0.0413	0.1358	4.080	0.0109	0.0303	0.0022	0.1028	(0.0306)	–	–	(41.57)	**Kalkstein; Limestone**
3 88b	30.12	0.336	0.277	21.03	0.0160	0.0044	0.1030	1.13	0.0290	0.0076	–	–	(0.016)	(46.37)	(0.24)	(46.98)	**Dolomit; Dolomite**

CRM	CaO	MgO	SiO_2	Fe_2O_3	Al_2O_3	Mn_3O_4	TiO_2	SO_3	Na_2O	K_2O	LOI	100 g
DK 1a	55.4	0.39	0.64	0.04	0.05	0.01	<0.01	0.02	0.01	0.01	43.3	**Kalkstein**
DK 1b	43.6	3.00	9.5	1.25	3.20	0.02	0.15	0.13	0.13	0.96	37.7	**Limestone**
DK 2a	29.2	19.5	4.3	1.01	0.91	0.06	0.07	0.06	0.04	0.37	44.3	

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	MgO	K_2O	Na_2O	TiO_2	SO_3	P_2O_5	MnO	CO_2	Cl	LOI	50 g
GB 03105a	54.03	1.09	0.24	0.11	0.81	0.084	0.017	0.010	0.018	0.0081	0.0067	(43.12)	0.0028	43.12	**Kalkstein**
GB 03106a	51.61	2.09	0.33	0.17	2.25	0.17	0.017	0.015	0.016	0.0061	0.0089	(42.59)	0.0066	42.84	**Limestone**
GB 03107	49.94	3.76	1.25	0.78	2.18	0.50	0.026	0.059	0.11	0.040	0.019	(41.19)	0.016	41.35	**Dolomit**
GB 03108	47.49	3.84	0.88	1.97	3.63	0.23	0.024	0.14	0.090	0.040	0.19	(41.13)	0.0062	41.52	**Dolomite**

CRM	CaO	MgO	SiO_2	Al_2O_3	Fe_2O_3	S	K_2O	Na_2O	LOI	70 g
CM 1763	28.57	19.84	5.01	1.05	0.56	0.020	0.680	0.031	43.95	**Dolomit; Dolomite**

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	MgO	S	LOI	80 g
CM 1767	55.15	0.451	0.105	0.158	0.24	0.025	43.38	**Kalkstein; Limestone**

CRM	CaO	MgO	SiO_2	Al_2O_3	MnO	K_2O	Na_2O	Fe_2O_3	S	P	LOI		
GB 07214a	55.34	0.29	0.22	0.093	0.005	0.019	0.007	0.085	0.043	0.0011	43.61	**50 g**	**Kalkstein**
GB 07215a	51.20	2.29	1.80	0.77	0.014	0.168	0.025	0.446	0.302	0.0013	42.57	**50 g**	**Limestone**
GB 07216a	35.02	17.88	0.049	0.024	0.020	(0.001)	0.013	0.495	0.0093	0.0012	46.32	**70 g**	**Dolomit**
GB 07217a	32.11	20.37	0.021	0.017	0.032	0.0011	0.023	0.224	0.018	0.0010	46.89	**70 g**	**Dolomite**

CRM	CaO	MgO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	K_2O	Na_2O	P_2O_5	Ba	Ge	Co	Cr	Cu	Ni	Pb
VS 3193-85	38.48	6.04	12.35	0.09	1.87	2.48	1.89	0.28	0.49	0.48	0.027	0.006	0.0018	0.00022	0.0013	0.0004	0.0007	0.0016

	Rb	Sr	Th	V	Zn	Zr	B	Be	Cs	La	Lu	Nb	Sc	U	Y	Yb	100 g	
	0.0015	0.05	(0.0002)	0.0024	0.0025	0.0026	(0.001)	(0.0001)	(0.00007)	(0.0007)	(0.00001)	(0.0008)	(0.0002)	(0.0001)	(0.0009)	(0.0001)	**Kalkstein; Limestone**	

CRM	CaO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	Na_2O	K_2O	P_2O_5	CO_2	H_2O	S	LOI	70 g
2 MV	35.78	19.85	0.32	5.96	3.23	0.053	1.70	0.38	1.07	0.057	28.87	2.17	0.12	31.09	**Marl**

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	MgO	SrO	Na_2O	K_2O	F	S	CO_2	P_2O_5	LOI	100 g
UN AK	54.9	0.64	0.11	0.130	0.110	0.28	0.047	0.037	0.20	0.046	43.0	0.029	43.27	**Aragonit; Aragonite**

CRM	CaO	Li	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	K_2O	Sc	TiO_2	V	Cr	MnO	Fe_2O_3	FeO	Co	Ni	Cu
VS 3192-89	21.56	0.004	1.38	12.89	5.48	19.92	0.060	2.75	0.0008	0.28	0.0030	0.0030	0.30	3.15	1.8	0.0012	0.0018	0.0029
VS 3193-89	38.46	–	0.46	5.97	1.89	12.40	0.030	0.49	0.00022	0.093	0.0023	0.0009	0.28	2.43	1.8	0.00023	0.0005	0.0004

	Zn	Rb	Sr	Y	Zr	Nb	Mo	Sn	Ba	La	Ce	Yb	Pb	Th	U	100 g	
	0.003	0.0057	0.0044	0.0022	0.007	0.0037	0.00008	0.00017	0.04	0.0013	0.0027	0.00025	0.0013	0.0015	0.00008	**Kalkstein**	
	0.003	0.0015	0.044	–	0.0027	0.0007	–	–	0.005	0.0008	0.0016	0.00009	0.0010	0.00018	0.00010	**Limestone**	

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MnO	P_2O_5	SrO	MgO	Na_2O	K_2O	SO_3	CO_2	Cr	Cu	LOI	80g	
IP 35	53.8	1.98	0.24	0.14	0.013	0.012	0.008	0.04	0.70	0.004	0.10	–	–	–	–	43.0		**Kalkstein**
IP 44	50.5	2.69	0.33	0.30	0.019	0.015	0.013	0.04	2.93	0.002	0.12	–	–	–	–	42.9		**Limestone**
IP 122	32.0	4.35	1.24	0.65	0.06	0.042	0.048	0.018	17.5	0.019	0.43	–	–	–	–	43.3		**Dolomit(e)**
VB K1	54.58	0.44	0.11	0.097	(0.011)	0.0095	(0.016)	–	0.72	0.020	(0.028)	(0.051)	(43.54)	(0.0025)	(0.00055)	43.70	**100g**	
VB K2	43.19	13.38	3.93	1.39	(0.21)	0.025	–	–	0.65	0.064	0.82	0.22	–	–	–	35.61		

CRM	CaO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	K_2O	P_2O_5	CO_2	F	Ba	Co	Cr	Cs	Cu
Z KH	47.8	8.60	0.130	2.39	0.92	0.33	0.088	0.74	0.41	0.121	37.6	0.057	0.0050	0.00053	0.0015	0.00014	0.0010

	Hf	Li	Lu	Ni	Rb	Sc	Sm	Sr	Ta	Th	V	Yb	Zn	Zr	25 g
	0.000078	0.00086	0.000012	0.0020	0.0025	0.00030	0.00022	0.0545	0.000019	0.00026	0.0024	0.000086	0.0022	0.0035	**Kalkstein; Limestone**

CRM	CaO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	Na_2O	K_2O	CO_2	P_2O_5	F	ppm Ba	ppm Ce	ppm Cr	ppm Cs	ppm Cu
Z KH2	47.64	8.66	0.130	2.365	0.855	(0.31)	0.0848	0.656	0.106	0.437	37.51	0.117	0.061	46.3	18.1	14.2	1.22	8.3

	ppm Eu	ppm Lu	ppm Ni	ppm Rb	ppm Sc	ppm Sr	ppm Th	ppm Zn	ppm Co	ppm Li	ppm Pb	ppm U	ppm H_2O	LOI	50 g
	0.47	0.127	20.3	22.0	2.83	532	2.08	22.9	(10)	(7)	(6)	(8)	(1.26)	(38.87)	**Kalkstein; Limestone**

CRM	CaO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	Na_2O	K_2O	CO_2	P_2O_5	S	H_2O	SO_3	F
Z KH3	47.6	8.59	0.130	2.40	0.87	0.32	0.080	0.65	0.10	0.43	37.6	0.117	0.09	(1.4)	(0.2)	(0.061)

C(org)	Li_2O	LOI	50 g
(0.14)	(0.0021)	38.6	Kalkstein; Limestone

CRM	CaO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	Na_2O	K_2O	P_2O_5	LOI	ppm Ba	ppm Ce	ppm Dy	ppm Er	ppm Eu	ppm Gd	ppm Ho
UL DWA1	30.84	(0.06)	(0.010)	(0.05)	0.27	(0.06)	21.40	0.042	0.010	(0.023)	47.29	24	2.2	0.82	0.50	0.16	0.81	0.18

ppm La	ppm Lu	ppm Nd	ppm Pr	ppm Sc	ppm Sm	ppm Sr	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	20 g
3.6	0.05	3	0.67	0.24	0.62	49	0.12	0.08	0.06	1.4	6.9	9.4	0.39	83	Dolomit; Dolomite

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	Fe_2O_3(t)	MnO	MgO	Na_2O	K_2O	P_2O_5	H_2O+	H_2O–	CO_2	ppm Ba	ppm Cd	ppm Ce	ppm Co	ppm Cr
JG JLs-1	55.09	0.120	0.0207	0.0178	0.0168	0.00209	0.606	0.00194	0.00297	0.0295	(0.140)	0.105	43.58	476	0.159	0.521	0.0825	3.37
JG JDo-1	33.96	0.216	0.0174	0.0222	0.0208	0.00657	18.47	0.0129	0.00232	0.0343	0.395	0.145	46.50	6.14	0.644	2.49	0.168	7.93

ppm Cu	ppm Dy	ppm Eu	ppm F	ppm Hf	ppm La	ppm Lu	ppm Nd	ppm Ni	ppm Pr	ppm S	ppm Sc	ppm Sm	ppm Sr	ppm Tb	ppm Th	ppm U	ppm V
0.268	0.0283	0.0072	57.5	0.126	0.153	0.0220	(0.136)	0.362	(0.032)	123	0.0307	0.135	295	(0.0041)	0.0287	1.75	3.59
1.41	0.814	0.176	246	(0.0897)	7.93	0.0494	5.25	2.90	0.956	(90.5)	0.136	0.788	116	0.116	0.0429	0.858	3.14

ppm Y	ppm Yb	ppm Zn	ppm Zr	100 g
0.223	0.0164	3.19	(4.19)	Kalkstein; Limestone
10.3	0.323	35.4	6.21	Dolomit(e)

CRM	Ca	Fe	Si	Al	Ti	Mg	Mn	P	S	100 g
EC 701-1	37.66	0.73	0.93	0.29	0.018	0.36	0.022	0.022	0.040	Zuschlagstoff
EC 702-1	21.48	0.44	1.04	0.20	0.013	12.37	0.098	0.024	0.027	Admixture
EC 608-1	6.22	4.00	28.23	5.26	0.428	0.81	0.044	0.053	0.455	

CRM	CaO	SiO_2	MgO	Al_2O_3	P	S	100 g
VS W10	55.60	0.133	0.38	0.156	0.0136	0.0043	Kalksteinzuschlag; Limestone Flux

CRM	$CaCO_3$	CO_2	H_2O	Ba	Cr	Cu	Fe	Mg	Mn	Na	Sr	Zn	100 g
B $CaCO_3$	99.79	43.95	0.13	45.3	<1	<1	<3	183	3.0	47.5	173	<1.5	Calcit; Calcite

Synthetischer Kalkstein; Synthetic Limestone 70 g

CRM	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi	ppm Cd	ppm Ce	ppm Co	ppm Cr	ppm Cu	ppm Ga	ppm La	ppm Li	ppm Mn	ppm Mo	ppm Nb	ppm Ni
GB 07712	(0.030)	2.2	2.2	24	0.22	0.23	(0.023)	2.8	2.3	2.3	2.2	2.8	2.6	3.2	37	0.21	2.5	2.1
GB 07713	0.060	5.2	5	54	0.52	0.53	0.053	5.8	5.3	5.3	5.2	5.8	5.6	6.2	67	0.51	5.5	5.1
GB 07714	0.11	10.2	10	104	1.0	1.0	0.10	11	10.3	10.3	10.2	10.8	10.6	11.2	117	1.0	10.5	10
GB 07715	0.21	20	20	204	2.0	2.0	0.20	21	20.3	20.3	20	20.8	20.6	21	217	2.0	20.5	20
GB 07716	0.51	50	50	504	5.0	5.0	0.50	51	50	50	50	51	50.6	51	517	5.0	50.5	50
GB 07717	1.0	100	100	1000	10	10	1.0	101	100	100	100	101	101	101	1020	10	100	100
GB 07718	2.0	200	200	2000	20	20	2.0	200	200	200	200	200	200	200	2020	20	200	200
GB 07719	5.0	500	500	5000	50	50	5.0	500	–	–	500	–	–	500	5000	50	–	500
GB 07720	10	–	–	–	100	100	10	–	–	–	1000	–	–	–	10000	100	–	–

ppm Pb	ppm Sb	ppm Sn	ppm Sr	ppm Ti	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	$CaCO_3$	MgCO	SiO_2	Al_2O_3	Fe_2O_3	Na_2SO_4	K_2SO_4
2.4	0.21	0.28	170	31	3.2	0.22	2.1	0.22	3.0	4.0	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
5.4	0.51	0.58	200	61	6.2	0.52	5.1	0.52	6.0	7.0	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
10.4	1.0	1.1	250	111	11.2	1.0	10	1.0	11.0	12	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
20.4	2.0	2.1	350	210	21	2.0	20	2.0	21	22	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
50	5.0	5.1	650	510	51	5.0	50	5.0	51	52	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
100	10	10	1150	1010	101	10	100	10	101	102	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
200	20	20	2200	2000	200	20	200	20	200	202	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
500	50	50	5200	5000	500	50	–	50	500	500	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2
1000	100	100	–	–	–	100	–	100	1000	–	(85)	(8)	(5.2)	(1.1)	(0.3)	0.2	0.2

CRM	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi	ppm Cd	ppm Ce	ppm Co	ppm Cr	ppm Cu	ppm La	ppm Li	ppm Mn	ppm Mo	ppm Nb	ppm Ni	ppm Pb
GB 07701	(0.034)	2.0	2.1	24	0.26	0.31	0.022	2.0	2.6	2.3	2.0	2.1	15	27	0.21	2.3	2.6	2.5
GB 07702	0.064	5.0	5.1	54	0.56	0.61	0.052	5.0	5.6	5.3	5.0	5.1	18	57	0.51	5.3	5.6	5.5
GB 07703	0.11	10	10.0	104	1.1	1.1	0.1	10.0	10.6	10.3	10.0	10	23	107	1.0	10.3	10.6	10.5
GB 07704	0.21	20	20	204	2.1	2.1	0.2	20	20.6	20.3	20.0	20	33	207	2.0	20.3	20.6	20.5
GB 07705	0.51	50	50	504	5.1	5.1	0.5	50	50.6	50	50	50	63	507	5.0	50	50.6	50
GB 07706	1.0	100	100	1000	10	10	1.0	100	101	100	100	100	113	1000	10	100	101	100
GB 07707	2.0	200	200	2000	20	20	2.0	200	200	200	200	200	213	2000	20	200	200	200
GB 07708	5.0	500	500	5000	50	50	5.0	500	500	500	500	500	513	5000	50	500	500	500
GB 07709	10.0	–	1000	10000	100	100	10	1000	–	1000	1000	–	1010	10000	100	–	–	1000
GB 07710	20	–	–	–	200	200	20	–	–	–	2000	–	–	–	200	–	–	2000
GB 07711	50	–	–	–	500	–	50	–	–	–	5000	–	–	–	500	–	–	5000

ppm Sb	ppm Sn	ppm Sr	ppm Ti	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	SiO_2	Al_2O_3	Fe_2O_3	Na_2SO_4	K_2SO_4	$CaMg(SO_4)_2$
0.28	0.28	5.0	24	2.8	0.20	2.0	0.2	3.0	2.2	(72)	(15)	(4)	(2.5)	(2.5)	(4)
0.58	0.58	8.0	54	5.8	0.50	5.0	0.5	6.0	5.2	(72)	(15)	(4)	(2.5)	(2.5)	(4)
1.1	1.1	13	104	10.8	1.0	10	1.0	11.0	10.2	(72)	(15)	(4)	(2.5)	(2.5)	(4)
2.1	2.1	23	204.5	20.8	2.0	20	2.0	21	20	(72)	(15)	(4)	(2.5)	(2.5)	(4)
5.1	5.1	53	504	51	5.0	50	5.0	51	50	(72)	(15)	(4)	(2.5)	(2.5)	(4)
10	10	103	1000	101	10	100	10	101	100	(72)	(15)	(4)	(2.5)	(2.5)	(4)
20	20	203	2000	200	20	200	20	200	200	(72)	(15)	(4)	(2.5)	(2.5)	(4)
50	50	500	5000	500	50	500	50	500	500	(72)	(15)	(4)	(2.5)	(2.5)	(4)
100	100	1000	10000	1000	100	–	100	1000	1000	(72)	(15)	(4)	(2.5)	(2.5)	(4)
200	200	2000	20000	–	200	–	–	2000	–	(72)	(15)	(4)	(2.5)	(2.5)	(4)
500	500	5000	–	–	500	–	–	5000	–	(72)	(15)	(4)	(2.5)	(2.5)	(4)

Wir können Ihnen ferner Referenzmaterialien von der DILLINGER HÜTTE anbieten. Die Werte basieren auf einer Multielementanalyse durch vollständige Proben-Rekonstituierung mittels geprüfter Reinstsubstanzen. Eine separate Zusammenstellung dieser Proben steht zur Verfügung.

We furthermore can offer you reference materials from DILLINGER LABORATORY. The values have been obtained after preliminary multi-element analysis by a complete reconstitution of the test sample using high purity compounds as primary references. A separate brochure for these samples is available.

CRM	CaF_2	SiO_2	P	S	$CaCO_3$	Fe_2O_3	K_2O	Na_2O	65 g
GB 07250	94.91	4.72	0.0025	0.029	(0.02)	0.096	0.019	0.005	Flußspat
GB 07251	90.87	8.35	0.0031	0.090	(0.02)	0.124	0.026	0.005	Fluorspar
GB 07252	92.57	6.84	0.0024	0.043	(0.02)	0.124	0.029	0.006	
GB 07253	85.21	14.15	0.0013	0.045	(0.02)	0.209	0.044	0.005	
GB 07254	98.59	0.87	0.0070	0.011	0.27	0.087	–	–	

Weitere Produkte hoch CaF_2 Seite 6.7.4
Further products high CaF_2 page 6.7.4

CRM	F	Ba	Sr	55 g
IG 39	46.85	0.44	0.014	Flußspat; Fluorspar

CRM	CaF_2	F	SiO_2	Al_2O_3	BaO	P	S	Pb	100 g
J C	76.91	37.43	8.2	0.66	8.2	0.026	1.75	0.07	Flußspat
J D	97.07	47.24	(1.5)	0.04	–	0.035	0.004	<0.001	Fluorspar

CRM	CaF_2	$CaCO_3$	SiO_2	S	P	Al_2O_3	Fe	100 g
VS 2665-83	38.00	6.80	25.57	0.32	0.036	–	–	Flußspat
VS 2666-83	32.02	0.70	47.73	1.24	0.055	–	–	Fluorspar Ore
VS 4182-87	32.75	1.70	47.52	0.038	0.114	–	–	
VS 5132-89	32.69	11.75	(27.68)	–	–	–	–	
VS 5133-89	4.17	1.10	–	–	–	–	–	
VS 1822-80	93.86	0.41	3.16	0.410	0.057	–	–	Flußspatkonzentrat
VS 1823-80	95.83	0.20	2.92	–	0.024	–	–	Fluorite Concentrate
VS 3383-86	91.84	–	5.03	0.095	0.063	0.53	0.612	Flußspatpellet; Fluorspar Pellet

CRM	CaF_2	$CaCO_3$	SiO_2	FeO_3	$MgCO_3$	P_2O_5	Mn	100 g
X 14	97.32	(0.3)	(0.57)	(0.06)	(0.03)	(0.18)	–	Flußspat
X 15	97.84	0.95	(0.26)	(0.23)	0.55	0.017	0.0213	Fluorspar

CRM	CaF_2	120 g
3 79a	97.39	Flußspat
3 180	98.80	Fluorspar

CRM	CaF_2	SiO_2	CaO	S	CO_2	BaO	Pb	100 g
5 392	97.2	0.67	0.52	0.12	0.48	0.37	0.18	Flußspat; Fluorspar

CRM	CaF_2	SiO_2	$CaCO_3$	P	S	As	70 g
9 883-1	75.24	20.16	0.29	0.008	0.39	0.0012	Flußspat; Fluorspar

CRM	F	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	Ca	Na_2O	S	Bi	Ce	Cu	Eu	La	Mn	Sb	Sc	Sm	Sr
UN FM	34.09	22.59	0.018	0.276	0.498	35.91	0.027	0.92	74ppm	28ppm	55.8ppm	1.23ppm	14ppm	63.6ppm	2.3ppm	0.63ppm	6.1ppm	527ppm

MgO	CaF_2	$BaSO_4$	K_2O	CO_2	P_2O_5	H_2O	Ag	Co	Cr	Cs	Gd	Hf	Lu	Mo	Nd	Ni	Pb
(0.025)	(69.1)	(5.98)	(0.095)	(0.09)	(0.023)	(0.2)	(0.11ppm)	(2.5ppm)	(279ppm)	(0.83ppm)	(5.2ppm)	(2.4ppm)	(0.4ppm)	(44.5ppm)	(17.7ppm)	(33ppm)	(65ppm)

Rb	Ta	Tb	U	V	W	Y	Yb	Zn	Zr	100 g
(7ppm)	(0.105ppm)	(1.7ppm)	(2.5ppm)	(5ppm)	(10.2ppm)	(144ppm)	(3.85ppm)	(24ppm)	(31.5ppm)	**Flußspat; Fluorspar**

CRM	CaF_2	SiO_2	P	S	Fe_2O_3	$CaCO_3$	100 g
CM 1727	88.54	10.45	0.0007	0.0004	0.21	0.66	**Flußspat**
CM 1728	93.62	6.02	0.0005	0.003	0.12	0.08	**Fluorspar**
CM 1730	90.55	8.98	0.0006	0.0035	0.17	0.10	

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	Na_2O	K_2O	P_2O_5	MnO	LOI	3x50 g
JC R901	59.77	0.924	1.224	0.019	0.438	31.22	0.054	0.004	0.195	0.004	6.14	**Talk**
JR R902	60.77	0.115	0.091	0.004	0.342	31.97	0.006	0.003	0.046	(0.002)	6.64	**Talc**
JR R903	55.76	2.447	0.564	0.075	0.998	31.84	0.029	0.007	0.051	(0.003)	8.23	

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	Li_2O	LOI	25 g
CR 2CAS14	62.5	0.01	0.15	0.35	0.28	31.7	0.02	<0.01	<0.01	5.15	**Steatit/Talk; Steatite/Talc**

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	P_2O_5	LOI	100 g
5 203a	59.7	<0.01	0.30	0.22	0.25	32.08	<0.01	0.02	0.13	6.8	**Steatit/Talk; Steatite/Talc**

CRM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	P_2O_5	MnO	TiO_2	CO_2	H_2O+	LOI	50 g
GB 03130	62.03	0.082	0.29	0.38	31.89	0.009	0.022	0.14	0.0015	0.0052	0.34	4.73	5.14	**Steatit**
GB 03131	47.71	7.62	2.64	2.39	29.50	0.026	0.049	0.11	0.021	0.52	2.17	7.34	9.40	**Steatite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	TiO_2	CaO	MgO	K_2O	Na_2O	P_2O_5	MnO	S	LOI	50 g
GB 03123	50.50	0.39	0.10	0.28	0.022	40.39	0.95	0.14	0.052	0.052	0.096	(0.010)	6.93	**Wollastonite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	TiO_2	P_2O_5	MnO	SO_3	H_2O+	LOI	50 g
GB 03126	66.84	23.58	1.94	0.17	0.087	0.38	0.34	0.70	0.20	0.0037	0.61	4.15	5.48	**Pyrophillit**
GB 03127	70.34	22.20	0.22	0.066	0.041	0.028	0.043	0.18	0.11	0.0040	0.17	5.57	6.34	**Pyrophillite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	P_2O_5	MnO	CO_2	H_2O+	50 g
GB 03128	2.69	0.053	0.49	2.51	61.43	0.0041	0.0066	0.12	0.036	8.08	(25.24)	**Brucit**
GB 03129	4.47	0.067	0.40	6.18	56.21	0.0066	0.013	0.12	0.033	9.95	(23.22)	**Brucite**

CRM	B_2O_3	CaO	SiO_2	Al_2O_3	BaO	Fe_2O_2	MgO	MnO	K_2O	Na_2O	TiO_2	SO_3	F	SrO	60 g
3 1835	18.739	21.622	18.408	3.474	0.0497	1.141	3.411	0.0333	1.261	3.484	0.1332	1.477	0.348	0.9418	**Borat; Borate**

Weitere Flußmittel siehe Seite 6.9.4
Further Fluxes see page 6.9.4

CRM	Ti	Nb	45 g	
IG 32	57.19	0.26	**Rutil; Rutile**	

CRM	TiO_2	Fe_2O_3	Al_2O_3	Cr_2O_3	SiO_2	V_2O_5	CaO	MgO	MnO	100 g
X 57	85.4	11.8	1.23	0.16	1.72	0.39	0.16	0.98	1.76	**Titanschlacke Titanium Slag**
X 59	48.8	50.3	0.61	0.10	0.75	0.25	0.05	0.56	1.05	**Ilmenit; Ilmenite**
X 61	93.3	0.68	0.93	0.11	2.03	0.42	(0.09)	(0.06)	(0.01)	**Rutil; Rutile**

CRM	TiO_2	Cr_2O_3	Fe_2O_3	SiO_2	V_2O_5	ZrO_2	P_2O_5	CaO	MgO	90 g
3 670	96.16	0.23	0.86	0.51	0.66	0.84	–	–	–	**Rutil; Rutile**
3 154c	99.591	–	(0.006)	(0.01)	–	–	(0.04)	(0.01)	(0.01)	**Titandioxid; Titanium Dioxide**

RM	PbO	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Na_2O	K_2O	LOI	25 g
CR AN28	64.5	32.8	<0.01	22.40	0.03	0.04	<0.01	0.04	0.04	0.13	**Pb-Bisilikat; Lead Bisilicate**

CRM	Ca	Si	Ba	Ce	Co	Cu	Eu	Gd	Hf	La	Lu	Mn	Na	Nd	Sc	Sm	Ta
IJ CTA-AC1	32.7	0.57	0.0767	0.3326	0.000272	0.00540	0.00467	0.0124	0.000113	0.2176	0.000108	0.0317	0.3841	0.1087	0.0000244	0.0162	0.000265

	Tb	Th	Ti	U	V	Y	Yb	Zn	Al	Fe	Sr	Cr	Dy	Er	Ho	K	Mg
	0.00139	0.00218	0.2927	0.00044	0.0104	0.0272	0.00114	0.00380	(0.41)	(0.50)	(2.0)	(0.0013)	(0.0078)	(0.0026)	(0.0009)	(0.2088)	(0.0435)

	Ni	Pr	Zr	P	50 g
	(0.0009)	(0.0353)	(0.0051)	Rest	**Apatitkonzentrat, Spuren; Apatite Concentrate, traces**

CRM	Zn	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Co	Cr	Cs	Cu	Dy	Er	F	Fe	Ga
BF SF1	46.51	0.0235	0.2430	0.3420	0.0000017	(0.0041)	0.0095	(0.3390)	0.4500	(0.0040)	(0.0045)	(0.00015)	1.3100	(0.00024)	(0.00014)	0.0205	12.70	0.00076

	Ge	Hg	Ho	In	K	La	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Ra	Rb
	0.00085	0.00136	(0.00003)	0.0738	0.0525	(0.00034)	0.1010	0.3550	0.00243	0.0119	(0.00005)	(0.00033)	(0.00125)	(0.00076)	1.0200	(0.00005)	(0.00015)	(0.0040)

	Re	S	Sb	Si	Sn	Sr	Tb	Th	Ti	Tl	U	V	Yb	Zr	15 g
	(0.00001)	32.200	0.0180	0.8740	0.3820	(0.0032)	(0.00003)	(0.00017)	0.0180	(0.0070)	(0.000118)	(0.00038)	(0.00011)	(0.0007)	**Sphalerit; Sphalerite**

CRM	Pb	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl	Co	Cr	Cs	Cu	Dy	Eu	F
BF GF1	81.90	0.2000	0.0670	0.0580	0.000001	(0.0109)	0.0154	0.0578	0.0245	(0.00005)	(0.0375)	(0.0023)	0.0372	(0.00008)	0.1150	(0.00005)	(0.00004)	0.0315
	Fe	**Gd**	**Ge**	**Hg**	**Ho**	**I**	**In**	**K**	**La**	**Lu**	**Mg**	**Mn**	**Mo**	**Na**	**Nb**	**Ni**	**P**	**Pr**
	0.6100	(0.00006)	(0.00065)	0.000021	(0.000006)	(0.00009)	0.0011	(0.0164)	(0.0039)	(0.00001)	0.0240	0.0180	(0.00048)	(0.0061)	(0.000004)	(0.0007)	(0.00011)	(0.000017)
	Ra	**Rb**	**S**	**Sb**	**Se**	**Si**	**Sm**	**Sn**	**Sr**	**Ta**	**Th**	**Ti**	**Tl**	**U**	**V**	**Yb**	**Zn**	**15 g**
	(0.0001)	(0.00034)	14.28	0.1800	(0.0032)	0.2970	(0.00025)	0.2500	(0.0005)	(0.0002)	(0.00007)	0.00108	(0.0100)	(0.000031)	(0.0002)	(0.00007)	1.2550	**Galenit Galenite**

RM	Sn	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Cl	Co	Cr	Cs	Cu	Dy	Er
BF KC1	74.27	0.0002	0.22	0.004	(0.0007)	(0.0078)	(0.0002)	0.007	0.155	(0.00014)	(0.0584)	(0.0150)	(0.00031)	(0.0006)	(0.0180)	(0.0035)	(0.00164)	(0.00089)
	Eu	**F**	**Fe**	**Ga**	**Gd**	**Ge**	**Hf**	**Ho**	**In**	**K**	**La**	**Li**	**Lu**	**Mg**	**Mn**	**Mo**	**Na**	**Nb**
	(0.00004)	(0.12)	0.23	0.0006	(0.0024)	(<0.0003)	0.013	(0.00035)	(0.001)	(0.11)	(0.02)	(<0.0003)	(0.000152)	(0.09)	0.002	0.001	(0.0065)	0.07
	Nd	**Ni**	**Pb**	**P**	**Pr**	**Rb**	**Sb**	**Sc**	**S**	**Sm**	**Sr**	**Si**	**Ta**	**Tb**	**Te**	**Th**	**Ti**	**Tl**
	(0.02)	0.002	0.032	(0.026)	(0.005)	0.0014	(0.0005)	(0.001)	0.005	(0.00238)	(0.0006)	(0.58)	0.009	(0.00024)	(<0.0003)	(0.007)	0.46	(0.0000047)
	Tm	**U**	**V**	**W**	**Y**	**Yb**	**Zn**	**Zr**	**15 g**									
	(0.0002)	(0.000625)	0.009	0.38	0.007	(0.00093)	0.012	0.37	**Kassiterit; Cassiterite**									

Sn-Erze/Ores Seite/Page 6.3.10

CRM	CeO_2	Tb_4O_7	Dy_2O_3	CaO	CuO	Fe_2O_3	NiO	PbO	SiO_2	Pr_6O_{11}	Y	10 g
GB 02901	4.80ppm	10.5ppm	21.6ppm	8.15ppm	1.51ppm	6.19ppm	9.8ppm	2.81ppm	34.0ppm	10.4ppm	Rest	**Yttriumoxid; Yttrium Oxide**

CRM	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	Na_2O	SiO_2(ac)
GB 02902	12.8ppm	3.4ppm	15.2ppm	11.8ppm	15.3ppm	16.8ppm	12.2ppm	11.3ppm	15.0ppm	12.6ppm	10.2ppm	16.3ppm	11.6ppm	17.2ppm	31.1ppm	30.0ppm
	SiO_2(bas)	CaO	Fe_2O_3	NiO	CuO	ZnO	PbO_2	Eu	5 g	**ac = acid/bas = base**						
	(40.5ppm)	13.0ppm	7.2ppm	9.6ppm	6.7ppm	15.6ppm	8.0ppm	Rest	**Europiumoxid; Europium Oxide**							

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	BaO	Na_2O	K_2O	Cr	Cu	Mn	Ni	Pb	Rb	Sr	Th	V
UN KB	74.21	0.557	14.47	1.68	0.251	0.158	0.094	0.074	0.67	0.0044	0.0019	0.0053	0.0013	0.0028	0.0051	0.0122	0.00132	0.0051
	Y	**Zn**	**Zr**	**100 g**														
	0.00118	0.0033	0.0115	**Kieselgur; Diatomaceous Earth**														

CRM	REO	ThO_2	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Lu_2O_3	Yb_2O_3	Y_2O_3	SiO_2
IG 41	64.21	0.121	20.90	32.24	2.74	7.61	0.52	0.075	0.151	0.068	157ppm	34ppm	49ppm	10.5ppm	500ppm	800ppm	664ppm	0.82

Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	CO_2	P_2O_5	SO_3	Cl	F	MnO	BaO	SrO	PbO	**90 g**
0.073	0.42	0.265	4.52	0.135	97ppm	20.12	1.265	1.215	0.41	4.37	0.06	1.58	2.26	0.13	**Bastnäsit(e)**

CRM	Li_2O	**45 g**	
3 181	6.39	**Spodumente**	**Lithiumerze**
3 182	4.34	**Petalite**	**Lithium Ores**
3 183	4.12	**Lepidolite**	

CRM	TR_2O_3	TiO_2	Fe_2O_3	BaO	CaO	FeO	MgO	MnO	SrO	K_2O	S	F	CeO_2	Eu_2O_3	Sm_2O_3	Y_2O_3	ppm Cu
UN TRV	13.82	0.079	8.34	17.02	13.54	3.61	2.27	1.15	5.92	0.15	6.05	1.57	6.64	0.042	0.22	0.048	0.0415

ppm Dy	ppm Mo	ppm Pb	ppm Zn	LOI	**100 g**	TR_2O_3=Seltene Erden Oxid; Total Rare Earth Oxide
0.2071	0.0714	0.3329	0.7679	17.17	**Seltene Erden Erz; Rare Earth Ore**	

CRM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	K_2O	Na_2O	MnO	P_2O_5	CO_2	S	H_2O	C(graph)	Ash	Volatile	**50 g**
GB 03118	49.84	12.93	6.73	0.57	9.37	6.10	2.54	1.60	0.084	0.13	3.60	1.18	2.60	2.91	–	–	**Graphiterz**
GB 03119	49.34	13.03	6.99	0.64	5.34	5.35	2.17	1.56	0.054	0.14	0.67	2.59	2.80	9.91	–	–	**Graphite Ore**
GB 03120	10.34	5.60	1.48	0.55	0.74	0.50	0.99	0.23	0.022	0.16	0.28	0.14	1.98	76.50	20.78	2.72	

CRM	Al_2O_3	Fe_2O_3	SiO_2	TiO_2	ZrO_2	P_2O_5	V_2O_5	Cr_2O_3	CaO	MgO	MnO	ZnO	K_2O	Na_2O	SO_3	LOI	60 g	
3 600	40.0	17.0	20.3	1.31	0.060	0.039	0.060	0.024	0.22	0.05	0.013	0.003	0.23	0.022	0.19	20.5	**90 g**	**Bauxit**
3 69b	48.8	7.14	13.43	1.90	0.29	0.118	0.028	0.011	0.13	0.085	0.110	0.0035	0.068	(0.025)	0.63	27.2		**Bauxite**
3 696	54.5	8.70	3.79	2.64	0.14	0.050	0.072	0.047	0.018	0.012	0.004	0.0014	0.009	(0.007)	0.21	29.9		
3 697	45.8	20.0	6.81	2.52	0.065	0.97	0.063	0.100	0.71	0.18	0.41	0.037	0.062	(0.036)	0.13	22.1		
3 698	48.2	19.6	0.69	2.38	0.061	0.37	0.064	0.080	0.62	0.058	0.38	0.029	0.010	(0.015)	0.22	27.3		

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O+	ppm Be	ppm Co	ppm Cu	ppm La	ppm Mo	ppm Ni
2 BAH	50.72	6.63	2.49	22.59	0.130	0.52	0.67	0.041	0.044	0.090	0.80	15.10	6.0	34	42	103	31	174

ppm Sc	ppm Sr	ppm V	ppm Zn	ppm Zr	70 g
46	130	670	86	140	**Bauxit; Bauxite**

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	MnO	CaO	MgO	Na_2O	K_2O	Li_2O	P_2O_5	ZrO_2	LOI	100 g
5 394	88.8	4.98	3.11	1.90	(0.08)	0.08	0.12	0.02	0.02	(<0.01)	0.22	(0.15)	(0.40)	**Bauxit, gesintert; Calcined Bauxite**

CRM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	ppm Cr	ppm Cu	ppm Mn	ppm Ni	ppm Pb	ppm Sr	ppm Zn	LOI	100 g
5 395	52.4	1.24	1.93	16.3	0.05	0.02	453	21	42	34	28	23	43	27.8	**Bauxit; Bauxite**

CRM	Al_2O_3	SiO_2	FeO	TiO_2	CaO	MgO	K_2O	Na_2O	LOI	50 g
GB 03133	85.07	8.17	1.18	3.76	0.24	0.21	0.44	0.080	0.29	**Bauxit; Bauxite**

CRM	Al_2O_3	SiO_2	Fe_2O_3	P_2O_5	TiO_2	K_2O	ZnO	MnO	V_2O_5	ZrO_2	LOI	70 g
IP 131	54.1	0.78	11.5	0.15	1.77	0.022	0.013	0.31	0.042	0.35	30.0	**Bauxite**

RM	Al_2O_3	SiO_2	Fe_2O_3	TiO_2	CaO	MnO_2	V_2O_5	ZnO	P_2O_5	Cr_2O_3	C(org)	MgO	K_2O	ZrO_2	LOI	100 g
CA BXT01(B)	58.3	0.95	5.1	3.46	0.57	0.02	0.07	0.002	0.13	0.065	0.08	0.02	0.01	0.09	31.8	**Bauxite**
CA BXT02(B)	50.9	1.56	17.8	1.87	0.04	0.01	0.06	0.009	0.15	0.068	0.07	0.09	0.01	0.05	27.0	
CA BXT03(B)	54.1	3.79	11.7	1.05	<0.01	0.01	0.04	0.002	0.02	0.016	0.03	0.01	<0.01	0.06	28.9	
CA BXT04(B)	48.5	2.68	17.0	5.32	0.02	0.00	0.19	0.003	0.13	0.090	0.12	0.05	0.03	0.06	25.7	
CA BXT05(B)	46.8	1.98	19.2	2.25	1.13	0.32	0.11	0.026	0.38	0.108	0.28	0.08	0.01	0.06	27.2	
CA BXT06(B)	48.7	0.80	18.9	2.67	0.13	0.27	0.13	0.023	0.61	0.134	0.14	0.06	0.01	0.07	27.2	
CA BXT07(B)	44.6	2.41	25.2	2.41	0.01	0.08	0.07	0.006	0.14	0.047	0.08	0.04	0.01	0.07	24.7	
CA BXT08(B)	51.5	3.17	9.6	9.41	0.02	0.02	0.19	0.006	0.26	0.048	0.07	0.04	0.02	0.10	25.6	
CA BXT09(B)	53.4	7.57	14.5	2.98	0.01	0.03	0.06	0.04	0.07	0.037	0.20	0.002	0.01	0.12	20.8	

RM	Al_2O_3	SiO_2	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	Li_2O	Mn_3O_4	LOI	25 g
CR AN29	88.6	6.17	3.28	1.72	0.07	0.09	0.04	0.03	<0.01	<0.01	0.09	**Bauxit; Bauxite**

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	ZrO_2	CaO	MgO	Na_2O	K_2O	P_2O_5	LOI	100 g
CJ R301	7.24	87.5	1.40	2.90	0.13	0.03	0.02	0.03	0.04	0.07	0.35	**Bauxit, calciniert**
CJ R302	3.45	90.6	1.76	3.17	0.30	0.02	0.03	0.02	0.02	0.05	0.22	**Burned Bauxite**

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	ZrO_2	CaO	MgO	Na_2O	K_2O	P_2O_5	LOI	100 g	
CJ R303	5.55	89.49	1.51	2.93	0.110	0.012	0.006	–	–	0.064	–	**Bauxit, calciniert; Burned Bauxite**	
CJ R304	35.90	55.94	0.585	1.33	0.105	0.427	0.451	0.273	0.329	–	4.26	**Sillimanit; Sillimanite**	**nur Satz/set only**
CJ R041	28.11	70.18	0.598	0.185	0.058	0.059	0.190	0.197	0.174	0.136	–	**Mullit; Mullite**	

RM	F	Fe	Si	Al	S	Na	100 g
CA CAA(C)	40.5	0.053	0.26	13.5	1.71	30.6	**Kryolith**
CA CAB(C)	44.3	0.067	0.16	11.9	2.59	30.1	**Cryolite**
CA CAC(C)	44.7	0.039	0.24	11.9	2.16	32.9	
CA CAG(C)	47.7	0.013	0.035	12.2	1.28	31.8	

RM	F	Fe	Si	Na	S	P	Ca	100 g
CA ALF01	62.0	0.009	0.070	0.32	0.28	0.0100	0.017	**Aluminium Fluorid**
CA ALF02	63.0	0.010	0.130	0.26	0.26	0.0100	0.014	**Aluminium Fluoride**
CA ALF03	64.3	0.009	0.120	0.27	0.25	0.0090	0.014	
CA ALF04	63.0	0.007	0.100	0.29	0.31	0.0090	0.016	
CA ALF05	63.3	0.006	0.090	0.29	0.10	0.0060	0.015	
CA CAA(AF)	60.6	0.056	0.50	1.16	0.11	0.0017	0.026	
CA CAB(AF)	57.2	0.056	0.42	1.00	0.16	0.0026	0.024	
CA CAC(AF)	61.8	0.049	0.68	0.92	0.20	0.0017	0.024	
CA CAN(AF)	62.4	0.018	0.100	0.22	0.23	0.0090	0.160	
CA CAO(AF)	57.7	0.020	0.130	0.69	–	0.0040	0.180	

RM	Al_2O_3	SiO_2	Fe_2O_3	TiO_2	CaO	Na_2O	C(org)	LOI	100 g
CA RM01(RM)	16.8	5.4	53.8	5.9	3.5	1.4	0.36	12.0	**Rotschlamm, Bayer Verfahren**
CA RM02(RM)	13.9	6.2	30.7	22.6	11.2	3.0	0.16	8.4	**Red Mud, Bayer Process**
CA RM03(RM)	13.3	4.6	49.2	6.5	8.3	1.4	0.28	12.1	
CA RM04(RM)	20.6	13.9	29.0	6.0	7.7	6.8	0.43	12.7	
CA RM05(RM)	21.9	15.7	35.6	7.1	0.9	8.3	0.22	8.9	
CA CAN(RM)	27.9	16.5	4.7	8.5	13.5	8.5	0.23	17.3	

RM	CaF_2	NaF/AlF_3	AlF_3	MgF_2	Al_2O_3	a-Al_2O_3	LiF	100 g
CA BA01	6.2	1.06	12.4	–	7.0	1.5	–	**Electrolysebad**
CA BA02	5.7	1.12	10.8	–	2.7	0.3	–	**Electrolytic Bath**
CA BA03	5.7	1.46	0.9	–	4.1	<0.2	–	
CA BA04	7.4	1.25	6.4	–	5.5	3.2	–	
CA BA05	4.5	1.02	11.3	–	23.6	17.3	–	
CA BA06	4.5	1.00	12.2	–	23.3	16.7	–	
CA BA07	8.3	1.23	6.9	–	6.8	5.3	–	
CA BA08	9.0	1.37	3.2	–	7.3	4.6	–	
CA BA09	9.5	1.44	1.3	–	7.8	5.8	–	
CA BA10	6.7	1.30	5.2	–	6.0	4.9	–	
CA BA11	8.1	1.46	1.1	–	5.3	2.9	–	
CA BA12	6.0	–	3.8	0.21	4.2	2.8	2.72	
CA BA13	5.4	–	0.6	0.24	4.2	0.7	2.47	
CA BA14	3.65	–	1.4	3.40	3.3	1.9	2.04	
CA BA15	6.9	–	5.7	0.28	6.0	4.4	0.95	
CA BA16	6.3	–	3.7	0.22	4.0	3.3	3.08	
CA BA17	5.4	–	0.6	0.16	5.1	3.4	2.61	

RM	CaF_2	NaF/AlF_3	MgF_2	Al_2O_3	100 g
CA CCB(EB)	21.3	1.71	0.19	2.6	**Elektrolysebad**
CA CCC(EB)	9.2	–	0.25	4.0	**Electrolytic Bath**
CA CCE(EB)	4.0	1.51	0.19	10.6	

RM	Na_2O	SiO_2	Fe_2O_3	CaO	V_2O_5	P_2O_5	Ga_2O_3	SO_3	TiO_2	ZnO_2	LOI	100 g
CA ALU01	0.27	0.013	0.016	0.017	0.002	0.0005	0.011	0.12	0.004	0.001	1.2	**Tonerde**
CA ALU02	0.25	0.007	0.017	0.009	0.002	0.0005	0.011	0.12	0.002	0.002	0.78	**Alumina**
CA ALU03	0.44	0.010	0.011	0.010	0.001	–	0.009	0.05	0.006	0.001	0.77	
CA ALU04	0.46	0.021	0.017	0.020	0.003	–	0.009	0.07	0.009	0.001	0.49	
CA ALU05	0.37	0.014	0.008	0.033	0.001	–	0.007	0.13	0.002	0.010	0.83	
CA ALU06	0.36	0.017	0.008	0.043	0.001	–	0.005	0.11	0.001	0.009	1.31	
CA ALU07	0.46	0.025	0.023	0.049	0.004	–	0.006	0.17	0.004	0.001	0.89	
CA ALU08	0.42	0.007	0.022	0.008	0.003	–	0.014	0.09	0.002	0.001	0.57	
CA ALU09	0.42	0.018	0.008	0.026	0.001	0.0002	0.009	0.08	0.001	0.001	0.60	
CA ALU10	0.37	0.005	0.015	0.004	0.002	0.002	0.013	0.08	0.002	–	0.6	

RM	F	Si	CO_2	Fe	P	100 g
CA CAA(RF)	35.4	8.3	3.3	(0.46)	0.0038	**Flußspat, roh**
CA CAB(RF)	35.0	8.6	3.3	–	0.0038	**Raw Fluorspar**
CA CAC(RF)	35.6	8.5	2.6	0.57	0.0041	
CA CAG(RF)	40.5	2.61	(5.5)	–	0.021	
CA CAH(RF)	37.2	6.4	(2.6)	0.43	0.048	
CA CAI(RF)	30.0	9.3	(4.9)	(0.77)	0.0070	
CA CAJ(RF)	46.4	(0.42)	(0.7)	(0.063)	0.025	
CA CAK(RF)	44.8	0.47	3.30	0.10	0.0052	

RM	F	Si	CO_2	Fe	P	100 g
CA CAA(FC)	47.2	0.72	0.37	(0.028)	0.0021	**Flußspat, Endkonzentrat**
CA CAB(FC)	45.6	1.20	1.58	–	(0.0021)	**Fluorspar, Final Concentrate**
CA CAC(FC)	47.2	0.51	0.53	0.03	0.0021	
CA CAL(FC)	44.8	0.34	3.42	0.09	0.0048	

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	SO_3	MgO	K_2O	TiO_2	Na_2O	SrO	P_2O_5	Mn_2O_3	F	Cl	ZnO
3 1881a	57.58	22.26	7.060	3.09	3.366	2.981	1.228	0.3663	0.199	0.036	0.1459	0.1042	(0.09)	(0.013)	0.0489
3 1882a	39.29	4.01	39.14	14.67	–	0.51	0.051	1.786	0.021	(0.024)	(0.070)	(0.060)	–	–	–
3 1883a	29.52	0.24	70.04	0.078	–	0.19	0.014	(0.020)	0.30	(0.019)	–	(0.003)	–	–	–
3 1884a	62.26	20.54	4.264	2.695	2.921	4.475	0.997	0.186	0.2161	0.2984	0.1278	0.0853	(0.11)	(0.0037)	(0.0101)
3 1885a	62.39	20.909	4.026	1.929	2.830	4.033	0.206	0.195	1.068	0.683	0.1220	0.0478	(0.13)	(0.0040)	(0.0029)
3 1886a	67.87	22.38	3.875	0.152	2.086	1.932	0.093	0.084	0.021	(0.018)	0.022	0.0073	(0.02)	(0.0042)	(0.001)
3 1887a	60.90	18.637	6.202	2.861	4.622	2.835	1.100	0.2658	0.4778	0.322	0.306	0.1186	(0.09)	(0.0104)	0.0667
3 1888a	63.23	21.22	4.265	3.076	2.131	2.982	0.526	0.263	0.1066	0.082	(0.080)	0.1256	(0.11)	(0.0036)	0.107
3 1889a	65.34	20.66	3.89	1.937	2.69	0.814	0.605	0.277	0.195	0.042	0.110	0.2588	(0.05)	(0.0019)	0.0048

	Cr_2O_3	LOI	Free CaO	4x5 g
	0.0588	(1.59)	(0.29)	**Portlandzement, gemischt mit Schlacke + Asche; Portland Cement, blended with Slag + Ash)**
	(0.113)	(0.20)	–	**Kalzium Aluminat Zement; Calcium Aluminate Cement**
	–	(0.35)	–	**Kalzium Aluminat Zement; Calcium Aluminate Cement**
	0.0166	(1.06)	(0.71)	**Portlandzement; Portland Cement**
	0.0195	(1.68)	(2.05)	**Portlandzement; Portland Cement**
	0.0024	(1.56)	(2.16)	**Portlandzement, niedr. Fe; Portland Cement, low Fe**
	(0.009)	(1.43)	0.53	**Portlandzement; Portland Cement**
	(0.0186)	(1.75)	(0.79)	**Portlandzement; Portland Cement**
	0.0072	(3.28)	(0.58)	**Portlandzement; Portland Cement**

CRM	CaO	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	MgO	K_2O	Na_2O	SO_3	LOI	25 g
GB 03201a	62.34	20.56	3.16	5.02	0.21	1.40	1.15	0.18	2.29	3.39	**Portlandzement; Portland Cement**

CRM	CaO	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	Cr_2O_3	Mn_2O_3	MgO	Na_2O	K_2O	P_2O_5	SO_3	SrO	100 g
5 353	64.8	20.5	3.77	0.16	4.82	(0.02)	0.23	2.42	0.10	0.49	0.077	2.25	0.23	**Portlandzement, sulfatres.; Portlandc., S-resist.**
5 354	70.0	21.8	4.85	(0.04)	0.30	(0.004)	0.058	0.42	0.10	0.11	0.12	2.25	0.11	**Portlandzement, weiß; Portland Cement, white**
5 372/1	65.3	20.3	5.37	0.27	3.42	(0.01)	0.074	1.31	0.10	0.75	(0.07)	2.95	(0.05)	**Portlandzement; Portland Cement**

CRM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	SO_3	K_2O	Na_2O	LOI	Res/ins	20 g
CI DC62102	20.81	4.54	2.48	0.34	61.42	2.62	2.78	0.61	0.13	(3.91)	0.68	**Zement; Cement**
CI DC62103	22.26	4.89	3.45	0.24	65.28	1.24	0.40	1.19	0.16	0.69	0.10	**Zementklinker; Cement Klinker**

CRM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	SO_3	K_2O	Na_2O	LOI	20 g
CI DC62104	13.07	3.54	2.34	0.17	39.48	1.17	0.70	0.70	0.23	38.18	**Rohmehl**
CI DC62105	11.04	2.98	2.09	0.16	44.75	1.51	0.09	0.45	0.11	36.45	**Raw Meal**

CRM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	Na_2O	K_2O	TiO_2	P_2O_5	MnO	SrO	60 g	
JC CRM-1	20.99	5.26	2.67	65.21	2.13	2.05	0.26	0.56	0.35	0.28	0.06	0.05	**Zement**	
JC CRM-2	25.66	8.94	2.08	56.33	3.05	–	0.24	0.31	0.50	0.07	0.15	0.07	**Cement**	

RM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	Na_2O	K_2O	TiO_2	P_2O_5	MnO	SrO	30 g	
JC RM-611	21.84	5.41	3.20	66.25	1.08	0.25	0.40	0.34	0.30	0.59	0.06	0.28	**Zement**	
JC RM-612	20.12	5.19	2.81	62.95	1.52	4.51	0.52	0.90	0.28	1.02	0.06	0.045	**Cement**	
JC RM-613	19.51	5.36	2.78	63.00	1.07	6.07	0.23	1.20	0.35	0.15	0.08	0.15		

RM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	Na_2O	K_2O	TiO_2	P_2O_5	MnO	LOI	Res/ins	15x20 g	
JC 601A/1	22.09	5.23	3.01	63.13	1.72	2.22	0.28	0.36	0.31	0.06	0.14	1.25	0.09	**601A/1 – 9**	**Portlandzement; Portland Cement**
JC 601A/2	21.02	5.29	2.86	63.66	1.73	1.83	0.35	0.47	0.30	0.11	0.20	1.96	0.15	**601/10 –15**	**Portlandzement(Hochofen)**
JC 601A/3	20.49	4.54	2.37	65.12	1.50	3.13	0.28	0.41	0.28	0.12	0.08	1.53	0.09		**Portland Blast Furnace Slag Cement**
JC 601A/4	20.69	4.69	2.80	65.41	1.38	2.58	0.23	0.51	0.26	0.37	0.04	0.78	0.07		
JC 601A/5	20.32	5.04	2.99	64.93	0.94	2.97	0.31	0.43	0.26	0.10	0.28	1.34	0.12	**nur Satz/set only**	
JC 601A/6	20.51	4.88	2.71	65.14	1.80	2.55	0.25	0.21	0.25	0.06	0.19	1.26	0.10		
JC 601A/7	22.42	4.18	4.01	63.11	1.02	2.33	0.14	0.32	0.24	0.06	0.06	1.70	0.13		
JC 601A/8	23.09	3.73	4.00	63.36	1.50	1.85	0.08	0.49	0.27	0.18	0.20	0.95	0.11		
JC 601A/9	23.72	3.45	4.10	64.10	0.77	1.88	0.21	0.35	0.16	0.06	0.11	0.89	0.10		
JC 601A/10	23.03	6.25	2.38	61.07	2.64	2.03	0.15	0.58	0.52	0.12	0.14	0.36	0.10		
JC 601A/11	24.36	7.35	2.24	58.33	2.59	1.92	0.24	0.47	0.56	0.20	0.15	1.24	0.08		
JC 601A/12	26.18	8.91	1.81	54.31	3.30	1.93	0.23	0.43	0.73	0.16	0.18	1.45	0.14		
JC 601A/13	25.99	9.16	2.01	54.46	2.97	1.19	0.28	0.38	0.41	0.06	0.60	1.73	0.51		
JC 601A/14	25.77	8.56	2.02	54.76	3.96	2.09	0.23	0.28	0.66	0.04	0.27	0.95	0.11		
JC 601A/15	29.56	10.70	1.33	49.25	5.05	1.32	0.23	0.36	0.65	0.06	0.48	0.59	0.09		

RM	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	Na_2O	K_2O	TiO_2	P_2O_5	MnO	CL	LOI	Res/ins	30 g	
JC 211R	20.77	5.67	2.65	64.37	1.16	2.13	0.22	0.44	0.31	0.10	0.07	0.009	1.86	0.08	**Portland Zement;**	**Portland Cement**

RM	20 g Portland Zement	Feinheit Standard	Wert	3220 cm^2/g Test Methode Japan Industrial Standard JIS R 5201-1997
JC 102L	20 g Portland Cement	Fineness Standard	Value	3220 cm^2/g Testing Method Japan Industrial Standard JIS R 5201-1997

CRM	SO_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	CO_2	Sr	SiO_2	TiO_2	Al_2O_3	MnO	H_2O	B	Cu	Li	Ba	Co
Z AN	57.6	0.014	0.34	40.7	0.032	0.013	0.65	0.14	(0.22)	(0.003)	(0.023)	(0.002)	(0.5)	100ppm	4ppm	9ppm	14.8ppm	0.25ppm

Cl	Cr	Cs	Ga	Mo	Rb	Sb	Ta	Th	V	Zn	Zr	50 g	
0.033ppm	0.90ppm	0.037ppm	4.3ppm	1.2ppm	4.7ppm	0.044ppm	0.007ppm	0.048ppm	18ppm	7.9ppm	13ppm	**Anhydrit;**	**Anhydrite**

CRM	CaO	SiO_2	Al_2O_3	Fe_2O_3	MgO	K_2O	Na_2O	TiO_2	SO_3	CO_2	H_2O	Cl	SrO	LOI	50 g
GB 03109a	39.24	1.68	0.34	0.16	1.74	0.094	0.065	0.016	51.91	(4.02)	0.39	0.033	(0.27)	4.55	**Gypsum**
GB 03110a	28.50	7.21	1.92	0.63	4.92	0.38	0.021	0.10	32.55	(8.63)	14.27	0.019	(0.071)	(23.55)	
GB 03111	30.28	4.16	1.14	0.38	3.19	0.23	0.014	0.058	37.64	(5.80)	16.62	0.013	(0.077)	(22.88)	
GB 03111a	32.30	0.63	0.14	0.11	2.47	0.026	0.014	0.010	40.72	(5.44)	17.95	0.0032	(0.096)	23.60	

RM	CaO	SO_3	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MgO	K_2O	Na_2O	P_2O_5	SrO	LOI	100 g
5 202a	37.6	54.0	1.33	0.02	0.32	0.1	0.38	0.1	0.1	<0.01	0.4	7.0	**Gips; Gypsum**

RM	CaO	SO_3	MgO	Al_2O_3	Fe_2O_3	P_2O_5	SiO_2	K_2O	Na_2O	SrO	V_2O_5	Cr_2O_3	TiO_2	H_2O+	CO_2	ppm As	ppm Ba	ppm Br
DT GYPA	32.9	46.2	0.18	0.10	0.05	0.011	0.45	0.021	0.009	0.11	–	–	–	19.4	0.47	0.19	(28)	(0.5)
DT GYPB	32.8	41.0	1.80	0.17	0.07	0.010	1.05	0.05	0.021	0.14	–	–	–	17.80	5.0	(0.2)	25	0.4
DT GYPC	30.4	33.0	5.35	0.79	0.40	0.018	3.5	0.36	0.022	0.35	–	–	–	14.37	11.2	2.4	53	1.7
DT GYPD	28.2	36.7	1.73	2.03	1.08	0.025	8.7	0.54	0.07	0.18	–	–	–	16.39	3.6	3	106	1.3
DT FGD1	32.7	46.4	0.007	0.023	0.014	0.03	0.13	0.007	0.005	0.012	0.0003	0.0002	–	20.70	0.02	0.10	–	–
DT FGD2	32.8	45.6	0.019	0.033	0.043	0.05	0.21	0.01	0.02	0.024	0.0009	0.0015	–	20.38	0.62	0.48	–	–
DT TIG1	32.3	43.4	0.12	0.57	0.26	0.04	0.11	0.008	0.036	0.42	0.10	0.036	0.82	20.3	1.41	0.22	–	–

ppm Cd	ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Dy	ppm Eu	ppm F	ppm Hf	ppm La	ppm Lu	ppm Mn	ppm Rb	ppm Sb	ppm Sc	ppm Se	ppm Sm
0.51	(0.70)	120	(0.2)	(2)	(0.15)	–	0.060	–	0.26	0.24	(0.006)	19	(0.8)	0.04	0.09	–	0.041
–	1.24	119	(0.7)	(2)	(0.2)	–	0.07	–	(0.32)	0.56	0.007	9	(4)	0.024	0.16	–	0.074
–	5	156	1.2	4	0.41	–	0.12	–	(0.36)	3	(0.05)	65	11	0.16	0.8	–	0.45
–	9	234	2.4	9	1.3	–	0.17	–	0.6	5	0.067	200	25	0.28	2	–	0.83
–	–	(100)	0.02	1.2	–	–	0.02	95	–	0.35	–	2.0	–	0.03	0.023	0.8	0.07
–	1.7	(115)	0.07	10.2	–	0.48	0.09	320	0.06	2.18	–	2.5	–	0.024	0.166	3.0	0.52
6	6	400	0.26	246	–	0.42	0.08	230	3.0	2.7	–	36	–	0.05	17.1	–	0.65

ppm Ta	ppm Tb	ppm Th	ppm Ti	ppm U	ppm V	ppm Yb	ppm Zn	ppm Zr	LOI	100 g
–	–	(0.1)	(78)	0.10	–	0.020	7	(9)	20.06	**Gips**
–	–	0.15	74	0.230	–	0.03	7	(16)	22.85	**Gypsum**
–	–	0.51	230	0.72	–	0.17	15	28	25.93	
0.15	–	1.3	473	0.65	17	0.44	16	29	20.82	
–	–	0.03	75	–	1.5	–	1.7	–	21.04	
–	0.07	0.38	75	1.10	5.1	0.27	2.3	(10)	21.33	
3.1	(2)	2.14	6154	2.5	560	0.31	(32)	(80)	22.03	

CRM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	S	FeO	100 g	
CM 1734	44.87	1.73	36.27	11.35	2.59	0.45	0.55	0.33	**Hochofenschlacke**	
CM 1735	46.61	0.425	36.61	7.46	5.95	0.60	1.559	0.26	**Blast Furnace Slag**	

CRM	CaO	SiO_2	Al_2O_3	Fe	FeO	MgO	MnO	TiO_2	P_2O_5	S	Cr_2O_3	Ga	V_2O_5	P	100 g	
CM 1737	0.57	11.80	61.16	38.48	–	0.29	8.70	9.39	–	0.150	1.40	0.20	19.030	0.0807	**60 g**	**Hochofenschlacke**
CM 1738	42.45	39.62	7.84	0.33	0.41	8.18	0.22	0.39	0.0074	0.53	–	–	–	–		**Blast Furnace Slag**
CM 1739	41.55	39.95	7.64	0.62	0.77	8.07	0.31	0.41	0.018	0.43	–	–	–	–		
CM 1740	40.46	40.66	8.28	0.42	0.53	7.61	0.23	0.45	0.010	0.581	–	–	–	–		

CRM	Ca	Fe	Si	Al	Ti	Mg	Mn	P	S	100 g
EC 802–1	30.62	0.576	15.16	8.53	0.366	2.87	0.460	0.109	0.714	**Hochofenschlacke**
EC 803–1	30.93	0.613	17.01	6.98	0.301	2.44	0.552	0.118	0.767	**Blast Furnace Slag**

CRM	CaO	MgO	SiO_2	Al_2O_3	Fe	FeO	Mn	P	S	Zn	Na_2O	K_2O	TiO_2	100 g	
G 271	43.92	5.08	41.31	4.75	1.56	–	0.61	0.011	0.540	0.040	0.35	0.42	–	**Hochofenschlacke**	
G 272	43.85	5.25	41.68	4.79	0.93	–	0.61	0.010	0.540	0.050	0.34	0.42	–	**Blast Furnace Slag**	
G 273	43.40	1.96	42.40	7.10	1.10	–	0.88	0.010	0.580	0.003	0.62	0.67	0.25		
G 274	43.35	4.68	38.95	5.24	3.37	–	0.63	0.011	0.570	0.002	0.32	0.45	0.20		
G 275	44.29	5.19	41.00	4.72	0.55	–	0.60	0.011	0.370	0.002	0.85	1.01	0.16		
G 276	38.62	5.75	10.95	1.05	25.10	22.07	4.87	0.415	0.076	0.010	0.016	0.004	–		
G 277	35.68	6.38	16.31	1.63	23.64	21.68	4.02	0.394	0.066	0.012	0.033	0.020	–		
G 278	51.69	3.30	17.45	1.51	12.30	10.97	4.43	0.430	0.136	0.004	0.035	0.012	0.20		

CRM	CaO	SiO_2	Al_2O_3	Fe	MgO	MnO	TiO_2	S	K_2O	Na_2O	100 g
GB 01703	40.98	36.09	12.30	0.30	7.17	0.142	0.44	0.92	0.91	0.38	

CRM	CaO	SiO_2	Al_2O_3	Cr_2O_3	MgO	MnO	P_2O_5	Fe	S	TiO_2	75 g
N 141	26.22	22.47	2.74	(0.85)	(4.02)	10.85	2.14	21.37	0.081	0.63	**Hochofenschlacke**
N 142	29.56	22.16	3.13	0.55	5.38	12.09	2.08	16.52	0.067	0.69	**Blast Furnace Slag**
N 143	42.90	4.88	(0.50)	0.97	5.29	2.84	16.71	14.53	0.083	0.15	
N 144	20.50	22.18	2.42	1.32	2.85	9.72	2.02	28.47	0.091	0.55	
N 145	20.85	22.43	2.39	0.99	2.71	9.26	2.05	27.97	0.089	0.56	
N 146	40.56	11.38	4.29	0.69	5.47	5.52	2.11	20.30	0.165	0.39	
N 147	40.29	12.87	4.40	0.48	5.20	5.45	2.44	19.59	0.146	0.50	
N 148	39.76	6.52	1.62	0.86	4.94	3.78	10.84	18.44	0.112	0.25	
N 149	9.85	8.42	3.36	53.81	2.89	3.74	(0.03)	14.09	0.040	0.22	
N 150	21.77	15.69	3.23	1.74	(14.46)	8.16	0.62	24.23	0.044	0.15	
N 151	34.83	15.97	2.06	0.65	5.05	8.44	7.92	14.94	0.079	0.53	
N 152	21.95	15.91	2.60	28.67	6.17	4.85	(0.12)	14.40	0.028	0.37	
N 153	15.17	12.12	3.37	36.50	16.68	4.47	(0.01)	7.09	0.036	2.26	
N 154	(1.15)	48.67	3.68	1.54	2.44	(28.00)	(0.03)	10.65	0.074	0.27	
N 155	34.35	19.19	10.20	0.68	4.70	3.91	4.26	13.17	0.124	0.38	
N 156	34.66	15.20	7.80	0.75	4.66	3.81	5.98	16.35	0.111	0.36	

CRM	CaO	SiO_2	MgO	Al_2O_3	Fe	MnO	TiO_2	S	K_2O	Na_2O	BaO	P_2O_5	ZnO	CdO	PbO	Cr_2O_3	75 g	
N 7-1-005	38.8	35.3	12.0	10.0	0.21	0.47	0.32	(0.85)	(0.19)	(0.13)	<0.03	<0.02	<0.004	<0.0001	<0.0007	<0.006	**Hochofenschlacke**	
N 7-1-006	32.7	38.5	16.8	7.05	0.59	1.24	0.34	(0.56)	(0.61)	(0.35)	(0.12)	<0.04	<0.004	<0.0001	<0.0007	<0.03	**Blast Furnace Slag**	
N 7-1-007	31.2	39.0	18.9	6.2	0.55	0.78	0.39	(0.57)	(0.38)	(0.24)	<0.15	<0.02	<0.005	<0.0001	<0.0008	<0.01		
N 7-1-008	42.1	39.1	6.1	8.4	0.30	0.73	0.30	(0.65)	(0.52)	(0.33)	(0.05)	<0.02	<0.004	<0.0001	<0.0007	<0.008		
N 7-1-009	42.6	32.8	1.1	9.2	0.48	0.60	0.38	1.17	(0.19)	(0.14)	(0.10)	<0.05	<0.008	<0.0001	<0.002	<0.02		
N 7-1-010	31.2	44.0	0.73	7.94	5.5	3.40	0.91	0.14	(0.59)	(0.18)	<0.07	<0.2	<0.007	<0.0002	<0.002	<0.08		
N 7-1-011	29.4	21.9	17.5	24.0	1.98	1.97	(0.09)	(0.03)	(0.04)	(0.19)	<0.04	<0.04	<0.06	<0.0002	<0.001	<0.2		
N 7-1-012	0.57	51.4	(0.21)	45.2	1.02	0.06	(0.09)	(0.009)	(0.02)	(0.52)	<0.006	<0.01	<0.005	<0.0001	<0.001	<0.3		
N 7-1-013	28.7	20.3	8.0	38.6	1.12	0.26	0.78	(0.03)	(0.03)	(0.04)	<0.02	<0.02	<0.006	<0.0001	<0.0005	<0.04		
N 7-1-014	30.1	33.6	9.3	24.0	1.27	(0.3)	(0.07)	(0.02)	(0.07)	(0.07)	<0.02	<0.02	<0.04	<0.0001	<0.0006	<0.06		
N 7-1-015	28.0	(44.6)	9.2	14.5	1.7	0.58	(0.08)	(0.02)	(0.08)	(0.1)	<0.02	<0.02	<0.003	<0.0001	<0.006	<0.06		

CRM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	S	FeO	Na_2O	K_2O	200 g	
T SL1	37.48	(0.86)	35.73	9.63	12.27	(0.38)	1.26	0.92	(0.039)	(0.51)	**Hochofenschlacke;**	**Blast Furnace Slag**

CRM	CaO	SiO_2	MgO	Al_2O_3	FeO	Fe	MnO	S	K_2O	Na_2O	TiO_2	V_2O_5	100 g	
VS W1/2	38.8	37.9	9.35	8.48	0.47	–	0.22	0.69	–	–	–	–	**Hochofenschlacke**	
VS W2/2	44.2	37.7	2.78	7.44	–	1.89	0.92	1.94	0.50	0.42	–	–	**Blast Furnace Slag**	
VS W3/2	31.7	30.1	12.1	14.5	–	–	0.38	0.51	–	–	9.62	0.25		

CRM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	S	FeO	K_2O	100 g	
2 NO1	41.52	0.66	38.58	8.17	7.13	(0.27)	(1.5)	0.26	(0.5)	**Hochofenschlacke;**	**Blast Furnace Slag**

CRM	CaO	SiO_2	Al_2O_3	MgO	TiO_2	S	Fe_2O_3	Mn_3O_4	K_2O	PbO	ZnO	LOI	100 g	
5 362	44.21	9.03	0.667	0.068	0.047	1.48	0.483	0.829	0.14	2.63	2.59	32.81	**Abraum;**	**Mine Tailing**

RM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	S	Fe	Na_2O	K_2O	C	50 g	
6 100A	37.6	0.35	35.20	10.16	12.90	0.50	1.80	0.29	0.15	0.48	0.068	**100 g**	**Hochofenschlacke**
6 SLAG1	30.2	1.11	36.7	18.5	11.01	0.42	1.8	0.28	0.20	0.36	0.07		**Blast Furnace Slag**
6 SLAG2	44.6	0.19	37.0	10.3	5.87	0.20	1.14	0.23	0.16	0.17	0.20		
6 SLAG3	37.3	1.72	37.44	12.9	8.3	0.63	0.81	0.25	0.26	0.81	0.03		

CRM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	P_2O_5	S	Fe	FeO	Fe_2O_3	100 g
CM 1744	26.73	2.01	8.91	3.92	12.15	0.32	0.87	–	34.33	36.55	–	**Stahlwerkschlacke**
CI HC13811	18.11	2.32	23.35	4.47	13.19	0.51	0.91	0.050	29.44	35.40	–	**Steelmaking Slag**
CI HC13817	35.68	1.24	13.72	7.60	24.36	0.47	0.67	0.070	12.13	–	13.16	

CRM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	P_2O_5	S	Fe	Cr_2O_3	V_2O_5	F	FeO	100 g
5 381	49.0	3.16	8.78	0.67	1.03	0.35	15.7	0.19	13.3	0.33	0.94	–	3.69	**Stahlwerkschlacke**
EC 879–1	43.70	4.45	8.82	0.803	2.19	0.535	8.46	0.102	18.97	0.477	0.738	0.368	–	**Steelmaking Slag**

CRM	CaO	P_2O_5	SiO_2	100 g
EC 826–1	46.48	14.65	8.96	**Phosphatschlacke**
EC 827–1	47.38	20.70	6.21	**Phosphate Slag**

CRM	Ca	Fe	Si	Al	Ti	Mg	Mn	P	S	V	100 g
EC 804–1	36.88	11.92	2.59	(0.42)	0.152	0.88	1.48	7.67	0.127	0.460	**Stahlwerkschlacke**
EC 805–1	34.96	14.87	3.10	0.326	0.205	1.12	1.59	7.07	0.092	0.514	**Steelmaking Slag**
EC 806–1	32.97	17.89	5.48	0.477	0.302	1.82	4.60	0.982	0.110	0.288	

CRM	CaO	SiO_2	Fe	FeO	MgO	MnO	Al_2O_3	TiO_2	S	P	100 g
VS W4/3	25.5	16.7	23.2	25.5	18.3	4.37	3.62	1.02	0.037	0.259	**Stahlwerkschlacke; Steelmaking Slag**

RM	CaO	SiO_2	Al_2O_3	MgO	TiO_2	Fe	MnO	P_2O_5	S	Na_2O	K_2O	100 g
6 101/1	52.4	23.7	0.61	9.15	0.80	6.25	3.45	0.78	0.18	0.009	0.003	**Stahlwerkschlacke**
6 101/2	47.0	16.8	0.92	8.12	0.77	15.16	4.76	0.70	0.23	0.031	0.006	**Steelmaking Slag**
6 101/3	53.7	18.8	1.47	3.1	0.92	10.96	5.2	0.77	0.19	0.028	0.006	
6 101/4	51.9	16.5	0.87	4.6	1.21	13.37	4.7	0.80	0.15	0.023	0.007	
6 101/5	46.0	14.9	0.57	5.5	1.10	19.20	5.7	0.71	0.12	0.043	0.005	

CRM	Ca	Fe	SiO_2	MgO	Al_2O_3	MnO	TiO_2	K_2O	Na_2O	P_2O_5	F	S	50 g	
GB 01704	40.62	13.60	10.24	6.89	0.62	1.88	0.565	–	–	1.03	2.22	0.105	**Konverterschlacke**	
GB 01705	37.39	12.56	13.73	8.33	1.43	3.03	0.520	–	–	1.08	2.06	0.126	**Converter Slag**	
GB 01706	35.27	11.21	19.13	5.18	4.73	3.63	0.445	0.038	0.064	1.15	1.52	0.192		
GB 01707	31.73	5.55	26.40	9.24	7.75	1.93	0.531	0.36	0.12	0.58	0.80	0.459		
GB 01708	25.90	18.82	12.20	11.67	3.08	1.64	0.781	0.052	0.030	0.95	0.85	0.089		

CRM	CaO	Fe	SiO_2	MgO	Al_2O_3	MnO	FeO	S	100 g	
VS W5/1	48.9	17.36	16.10	2.62	1.24	5.11	2.74	0.195	**Konverterschlacke;**	**Converter Slag**

CRM	Ca	F	Al_2O_3	SiO_2	MgO	100 g
G EZP1	36.76	31.62	24.85	2.61	(0.85)	**Fluoridschlacken**
G EZP2	24.03	(0.89)	41.38	5.81	16.89	**Fluorine Slags**
G EZP3	39.53	15.78	19.13	1.68	8.44	

CRM	Ca	CaF_2	CaO	Al_2O_3	C	F	FeO	MgO	MnO	P	SiO_2	TiO_2	V_2O_5	100g	
J S9	39.0	35.5	29.1	31.5	0.042	17.3	0.04	2.2	0.04	0.005	1.4	0.05	0.11	**Fluoridschlacke;**	**Fluorine Slag**

CRM	CaO	MnO	SiO_2	Al_2O_3	MgO	TiO_2	CaF_2	FeO	V_2O_5	F	Ca	C	P	100 g	
J S10	20.3	0.03	7.8	0.54	0.30	0.05	70.7	0.10	<0.01	34.4	50.8	0.022	0.002	**Fluoridschlacke;**	**Fluorine Slag**

CRM	CaF_2	SiO_2	MnO	CaO	MgO	Al_2O_3	Fe_2O_3	S	P	K_2O	Na_2O	100 g	
VS W6/1	7.7	39.2	38.5	12.7	1.59	3.01	1.30	0.009	0.070	–	–	**Schweißflußmittel**	**Boratflußmittel s. S. 6.6.1**
VS W7/2	28.5	23.3	0.40	24.1	11.4	29.7	0.55	0.31	0.011	0.93	1.40	**Fused Welding Flux**	**Borate Flux see page 6.6.1**

CRM	CaF_2	CaO	Al_2O_3	Fe	S	P	SiO_2	C	100 g	
VS W8/2	68.5	52.9	24.6	0.126	0.020	0.012	2.07	0.048	**Elektroschlacke-Umschmelzzuschlag;**	**Electro Slag Refining Flux**

CRM	Cu	Fe	S	Ag	Co	Ni	Mo	V	250 g	
IM ZM6	2.12	46.72	1.04	0.0031	0.39	0.080	0.021	0.006	**Kupfer Konverterschlacke;**	**Copper Converter Slag**

CRM	Al_2O_3	BaO	CaO	Fe_2O_3	K_2O	MgO	Mn_3O_4	P_2O_5	SiO_2	Na_2O	SrO	SO_3	TiO_2	Co_3O_4	Cr_2O_3	CuO	Li_2O
AS 010	29.8	0.19	3.27	12.8	0.90	2.11	0.22	0.91	47.3	0.36	0.10	0.62	1.69	(0.006)	(0.017)	(0.014)	(0.018)

NiO	Rb_2O	V_2O_5	ZnO	ZrO_2	100 g
(0.009)	(0.008)	(0.053)	(0.021)	(0.055)	**Kohlenasche; Coal Ash**

Asche-Schmelztemperaturen (Ash fusion temperatures)	reduz. Atmosphäre (Reduc. atmosphere)	oxidier. Atmosphäre (Oxidizing atmosphere)
Verformung; Deformation	1260 °C	1320 °C
Kugel; Sphere	1370 °C	1430 °C
Halbkugel; Hemisphere	1390 °C	1440 °C
Verflüssigung; Flow	1440 °C	1470 °C

CRM	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Mn_3O_4	P_2O_5	SiO_2	Na_2O	SO_3	TiO_2	30 g
IN 101	22.80	9.31	12.11	1.03	2.52	0.06	0.90	41.00	1.18	5.80	1.32	**Kohleasche**
IN 102	17.41	1.28	5.11	1.10	0.60	0.06	0.12	69.92	0.16	0.89	1.60	**Coal Ash**
IN 103	34.35	9.30	2.34	0.82	2.05	0.06	2.69	39.88	0.22	4.32	1.94	
IN 104	28.34	10.80	2.77	0.55	2.93	0.07	1.91	44.80	0.14	4.67	1.60	
IN 105	25.48	1.05	1.60	1.38	0.77	0.01	0.11	66.85	0.13	0.32	1.25	

Referenzproben Kohlen/Koks siehe Katalog Nr. 5
Reference Samples Coals/Coke see catalogue 5

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	SO_3	P_2O_5	CO_2	Ag	As	B	Ba	Be	Bi
BF BE1	10.62	0.390	12.53	5.14	0.26	4.65	35.61	0.47	0.180	28.02	0.75	1.81	0.000035	0.00915	0.0611	0.2430	(0.00034)	0.000027
BF BS1	15.05	0.253	5.15	26.93	0.361	4.91	26.96	0.19	0.195	18.90	0.07	0.26	0.00065	0.00415	0.0309	0.1990	0.000215	0.000018

Br	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	F	Ga	Gd	Ge	Hf	Ho	I	In
(0.0052)	(0.000073)	0.01023	0.00160	0.00719	0.000104	0.00593	0.00044	0.00028	0.00014	(0.00021)	0.00215	(0.00068)	(0.0037)	0.000345	(0.00014)	(0.00055)	(0.00007)
(0.0047)	(0.000042)	0.00473	0.00083	0.00498	0.000071	0.00650	0.00032	0.000195	0.00012	(0.0250)	0.0012	0.000473	0.000413	0.000280	(0.000085)	(0.000039)	(0.000043)

La	Li	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Ra	Rb	Re	Rh	Sb	Sc	Se	Sm	Sn
0.0055	(0.0133)	(0.0008)	0.000338	0.00150	0.00443	0.0046	0.0047	(0.0017)	1.9e-10	(0.0015)	(0.00002)	(0.00003)	0.00061	0.00190	(0.0010)	0.00085	0.0019
0.00288	(0.0017)	0.000035	0.00053	0.00123	0.0031	0.00180	0.00375	(0.0010)	8.5e-11	0.00113	(0.00005)	(0.00005)	0.00023	0.000558	(0.00058)	0.00046	0.00175

Sr	Ta	Tb	Th	Tm	U	V	W	Y	Yb	Zn	Z	15 g
0.3510	0.000122	0.00014	0.00230	(0.000055)	0.000545	0.01233	0.00043	0.00240	0.00025	0.0329	0.0113	**Braunkohleasche**
0.1620	0.00065	0.000365	0.00061	(0.00003)	(0.00051)	0.00370	(0.00036)	0.00190	0.00018	0.0184	0.00765	**Brown Coal Ash**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	CaO	MgO	Na_2O	K_2O	P_2O_5	CO_2	Ag	B	Ba	Be	Ce	Co
VS 7125-94	35.80	0.35	6.79	6.28	0.40	0.094	20.91	6.70	0.22	0.51	0.059	13.20	0.000016	0.0097	0.225	0.00029	0.0038	0.0016
VS 7177-95	58.68	0.60	27.07	5.48	1.50	0.059	4.88	1.48	0.14	0.59	-	-	-	-	-	0.0011	0.0138	0.0025

Cr	Cu	Eu	Ga	Ge	Hf	La	Li	Lu	Mo	Nb	Nd	Ni	Pb	Rb	S	Sc	Sm
0.0045	0.0045	0.00009	0.0009	0.00023	0.00026	0.0020	0.0032	0.000040	0.00014	0.00084	0.0020	0.0049	0.0013	0.0015	0.17	0.0011	0.00041
0.0099	0.0176	-	-	-	-	0.0070	0.0096	-	0.0074	0.0034	-	0.0066	0.0035	0.0022	-	0.0027	-

Sn	Sr	Tb	Th	U	V	Y	Yb	Zn	Zr	H_2O+	H_2O-	C(org)	80 g
0.00027	0.33	0.000068	0.00058	0.00033	0.0061	0.0029	0.00026	0.0065	0.0119	(5.74)	(2.41)	(1.33)	**Braunkohleasche**
0.0011	0.0403	-	-	-	0.0145	0.0087	0.00078	0.0077	0.033	-	-	-	**Brown Coal Ash**

CRM	Al	Ba	Ca	Fe	K	Mg	Mn	Na	P	Si	S	Sr	Ti	LOI 750°C	Siebrückst.	Feucht.	30 g	
3 2689	12.94	(0.08)	2.18	9.32	2.14	0.61	(0.03)	0.25	0.10	24.06	-	(0.07)	0.75	(1.76)	12.8	(0.14)	Kohleflugasche	
3 2690	12.35	(0.65)	5.71	3.57	1.00	1.53	(0.03)	0.24	0.52	25.85	0.15	(0.20)	0.52	(0.53)	8.0	(0.12)	Coal Fly Ash	
3 2691	9.81	(0.66)	18.45	4.42	0.33	3.12	(0.02)	1.09	0.51	16.83	0.83	(0.27)	0.90	(0.23)	10.5	(0.08)		

CRM	Al	Ca	Fe	Mg	K	Si	Na	S	Ti	ppm As	ppm Ba	ppm Cd	ppm Cr	ppm Cu	ppm Pb	ppm Mn	ppm Hg	ppm Ni
3 1633b	15.05	1.51	7.78	0.482	1.95	23.02	0.201	0.2075	0.791	136.2	709	0.784	198.2	112.8	68.2	131.8	0.141	120.6

ppm Se	ppm Sr	ppm Th	ppm U	ppm V	75 g	
10.26	1041	25.7	8.79	295.7	Kohleflugasche; Coal Fly Ash	

CRM	ppm As	ppm Be	ppm Cd	ppm Co	ppm Cu	ppm Mn	ppm Pb	ppm Se	ppm V	ppm Zn	ppm Cr	ppm Ba	ppm Hg	Fe	50 g	
GB 08401	11.4	10.7	0.16	33.2	53	1178	33.8	1.13	95	61	60	(1450)	(0.039)	7.65	Kohleflugasche; Coal Fly Ash	

CRM	Al	Ca	Fe	K	Mg	Na	Si	Ti	As	Ba	Ce	Co	Cr	Cs	Cu	Eu	La	Mn
IR ENO	10.9	3.34	7.49	1.75	1.17	0.551	25.7	0.447	0.1820	0.0674	0.00987	0.00257	0.00961	0.0118	0.00587	(0.0002)	0.00429	0.0630
IR EOP	15.8	(1.68)	5.16	0.64	(0.58)	(0.37)	(22.9)	3.68	0.00791	0.1100	0.0322	0.00532	0.0183	0.00201	0.0229	0.000499	0.0164	0.0440
IR ECH	14.6	(1.86)	5.57	1.32	0.79	(0.29)	(25.0)	1.37	0.00569	0.0711	0.0183	0.00498	0.0183	0.00230	0.0157	0.000295	0.00844	0.0381

Pb	Rb	Sc	Sr	Th	V	Zn	Zr	Ga	Hf	Lu	Ni	Sb	Sm	Ta	U	Yb	Be
0.00431	0.0150	0.00204	0.0275	0.00153	0.0195	0.0157	0.0222	0.00290	0.000489	0.000054	0.00709	0.000528	0.000945	0.000122	0.000729	0.000349	0.000430
0.00407	0.00690	0.00367	0.0574	0.00239	0.0553	0.0219	0.0822	0.00670	0.00177	0.000051	0.0108	0.000194	0.00219	0.00130	0.000944	0.000441	0.00233
0.00707	0.0141	0.00292	0.0401	0.00221	0.0375	0.0251	0.0361	0.00738	0.000822	0.000061	0.0117	0.000373	0.00136	0.000437	0.000736	0.000363	0.00101

Cd	Tb	Hg	B	50 g
-	-	7.06e-7	0.0291	Kohleflugasche
0.000294	0.000193	-	-	Coal Fly Ash
0.000306	0.000141	-	-	

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O+	H_2O-	ppm As	ppm Be	ppm C	ppm Co
JG JCFA-1	50.56	1.31	24.25	4.22	0.88	5.2	0.068	2.12	8.91	2.24	1.27	0.586	0.37	0.18	29.1	4.06	13500	37.4

ppm Cr	ppm Cs	ppm Cu	ppm Li	ppm Ni	ppm Pb	ppm Rb	ppm S	ppm Sb	ppm Sr	ppm V	ppm Zn	100 g	
75	8.6	122	91	32.2	47.2	54.1	1960	2.1	1100	243	63	Kohleflugasche; Coal Fly Ash	

CRM IR ECR Radionuklide in Kohleflugasche; Radionuclides in Coal Fly Ash 250 ml
zertifiziert für; certified for: K-40, Ra-226, Th-232

Informationswerte über; Information values for: Ac-228, Bi-214, Cs-134, Cs-137, Pb-210, Pb-212, Pb-214, Ra-228, Ru-106, Th-228, Th-230, Tl-208, U-234, U-235 und U-238
Ausführliches Zertifikat erhalten Sie auf Anfrage; Comprehensive certificate is supplied upon request

CRM	Zn	Pb	Cd	Hg	15 g	
J 43	4.96	0.21	0.0023	0.00039	Flugasche, industriellen Ursprungs	
J 44	27.3	2.74	0.0469	0.00028	Industrial Fly Ash	
J 45	1.53	0.11	0.0047	0.000025		

CRM	Fe	Si	Ca	Mg	Al	Ti	Mn	P	S	Na	K	F	V	Cr	Ni	C	Zn	Pb
EC 876-1	24.85	1.72	3.43	1.31	0.34	0.048	2.84	0.128	0.87	1.98	1.63	0.24	–	0.17	0.034	0.26	23.29	7.82
EC 880-1	31.0	3.34	3.15	0.714	1.28	0.081	0.218	0.038	0.425	0.041	0.108	0.034	–	0.027	0.014	(37.77)	0.064	0.017

As	Cd	Cu	Cl	100 g
0.023	0.13	0.42	3.63	Elektroofenstaub; Electric Furnace Dust
–	–	0.005	0.068	Hochofenstaub; Blast Furnace Dust

CRM	Pb	As	Hg	Fe	Si	S	Zn	Cd	Cu	200 g
T PD1	2.75	0.76	0.0389	(12.20)	(3.05)	(8.23)	(35.9)	(0.28)	(7.03)	NE-Hüttenstaub; NE-Smelter Dust

CRM	ppm Co	ppm Cr	ppm Cu	ppm Zn	ppm Ni	ppm Ag	ppm As	ppm Ba	ppm Cd	ppm Mo	ppm Pb	ppm Sb	ppm Sn	ppm Sr	ppm V
BL 12-1-10	31	189	76	86	47	(1)	(8)	(150)	5	(4)	56	(3)	(40)	(50)	(33)
BL 12-1-11	8	3910	27	50	36	–	(8)	160	(3)	(10)	(25)	–	(43)	(58)	56

SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	TiO_2	Fe_2O_3	MnO	SO_3	CO_2	30 g
(9.80)	(1.64)	(12.80)	(7.59)	(0.15)	(0.28)	(0.075)	(60.95)	(0.16)	(2.22)	(5.39)	Stahlwerksstaub, Sinteranlage; Sinter Plant Flue Dust
(65.58)	(4.00)	(6.77)	(2.22)	(4.11)	(1.23)	(0.23)	(3.18)	(0.03)	(1.15)	(8.60)	Stahlwerksstaub, Schmelzbetrieb; Foundry Flue Dust

CRM	Al	Fe	Na	Si	ppm As	ppm Ba	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Gd	ppm Hf	ppm La
IJ CTA-FFA1	14.87	4.89	2.19	22.48	53.6	835	120	39.8	156	48.2	158	9.09	4.52	2.39	198	10.0	6.09	60.7

ppm Li	ppm Lu	ppm Mn	ppm Nd	ppm Ni	ppm P	ppm Pb	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V
128	0.658	1066	56.8	99.0	725	369	185	17.6	24.2	10.9	250	2.11	1.38	29.4	0.705	15.1	260

ppm W	ppm Y	ppm Yb	ppm Zn	50 g
10.5	45.0	4.24	569	Kraftwerksflugasche, Elektrofilter; Power Station Fly Ash, Electrofilter

CRM	ppm Co	ppm Cr	ppm Cu	ppm Zn	ppm Ni	ppm As	ppm Ba	ppm Be	ppm Cd	ppm Mo	ppm Pb	ppm Se	ppm Sb	ppm Sn	ppm Sr	ppm V	ppm Hg
BL 12-1-12	23	731	375	10450	198	45	3600	(8)	(60)	(10)	(1389)	4	(67)	(815)	(233)	(69)	7.8

SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	TiO_2	Fe_2O_3	MnO	SO_3	CO_2	P_2O_5	30 g
(41.78)	(11.92)	(13.68)	(3.41)	(2.56)	(3.23)	(1.14)	(4.44)	(0.46)	(2.22)	(11.05)	(1.77)	Müllverbrennungsasche; Refuse Incineration Ash

CRM	ppm As	ppm Cd	ppm Co	ppm Cr	ppm Cu	ppm Fe	ppm Hg	ppm Mn	ppm Ni	ppm Pb	ppm Sb	ppm Se	ppm Tl	ppm Zn	ppm S
H 176	(93.3)	470	30.9	863	1302	21000	31.4	(1.5)	123.5	10870	412	41.2	2.85	25770	44600

SiO_2	Al_2O_3	CaO	P_2O_5	TiO_2	MgO	K_2O	Na_2O	30 g
(30.03)	(19.19)	(12.31)	(1.27)	(1.42)	(3.62)	(5.42)	(5.80)	Müllverbrennungsasche; Refuse Incineration Ash

B R E I T L Ä N D E R – E I C H P R O B E N **Filtermedium (Filtermedia)**
6.10.4

CRM	ppm As	ppm Cd	ppm Co	ppm Cr	ppm Cu	ppm Fe	ppm Hg	ppm Mn	ppm Ni	ppm Pb	ppm Th	ppm Zn	ppm Na	ppm V	0.47 cm petri slide
H 128	48.0	4.6	53.8	(178)	176	33800	2.10	479	(194)	262	(17.3)	581	3740	(334)	**Flugasche auf künstl. Filtermaterial** **Fly Ash on Artificial Filters**

RM	ppm Al	ppm As	ppm B	ppm Ba	ppm Be	ppm Cd	ppm Co	ppm Cr	ppm Cu	ppm Fe	ppm Mg	ppm Mn	ppm Mo	ppm Ni	ppm Pb	ppm Sb	ppm Sn	ppm Ti
NO A2	225	8.68	(40)	(40)	1.68	16.9	42.3	54.3	85.2	593	84.6	170	42.7	68.4	42.0	42.6	42.8	42.0
NO B2	125	4.25	(20)	(20)	0.82	8.29	20.7	26.6	41.7	290	41.4	83.1	20.9	33.5	20.5	20.8	21.0	20.5

ppm Tl	ppm V	ppm W	ppm Zn	ppm Zr	Ø 37 mm
2.96	17.6	43.4	256	(40)	**Filter, Rauchgase**
1.45	8.60	21.2	125	(21)	**Filter, Welding Fumes**

CRM	SiO_2	MgO	Cr_2O_3	Al_2O_3	Fe_2O_3	FeO	CaO	TiO_2	P_2O_5	MnO	Na_2O	K_2O	H_2O	CO_2	S	NiO	CoO	V_2O_5
GB 07101	34.34	41.03	1.57	0.67	(4.21)	(2.42)	0.10	0.008	0.004	0.068	0.008	0.010	14.17	0.58	0.051	0.32	0.012	0.007
GB 07102	37.75	38.34	0.42	0.21	(4.85)	(1.97)	1.80	0.004	0.003	0.097	0.028	0.009	12.69	1.66	0.008	0.30	0.013	0.003

Cl	ppm Ag	ppm As	ppm Au	ppm B	ppm Ba	ppm Cu	ppm F	ppm Ga	ppm Ge	ppm Hg	ppm Li	ppm Pb	ppm Sc	ppm Sr	ppm Zn	ppm Br	ppm Cd
0.57	0.031	0.82	0.0014	5.9	6.4	5.5	21.4	1.2	0.66	0.046	1.3	2.8	4.9	2.3	45.4	(24.7)	(0.024)
0.022	0.023	(0.43)	0.004	10.2	10.5	5.3	35.3	0.38	0.63	(0.015)	2.3	3.2	4.8	33.2	43.6	(1.4)	(0.034)

ppm Sb	ppm Ce	ppm Dy	ppm Eu	ppm Gd	ppm Ho	ppm La	ppm Lu	ppm Nd	ppm Sm	ppm Tb	ppm Tm	ppm Yb	ppm Er	ppm Pr	ppm Y	ppm Pt	ppm Pd
(0.12)	0.34	0.020	0.0043	0.024	0.0049	0.20	0.004	0.16	0.025	0.0029	0.0030	0.020	(0.014)	(0.045)	(0.14)	0.004	0.005
(0.050)	0.40	0.021	0.0061	0.031	0.0043	0.21	0.0022	0.10	0.028	0.030	(0.0028)	0.012	(0.012)	(0.047)	(0.14)	0.006	0.002

ppm Rh	ppm Ir	ppm Os	ppm Ru	150 g
0.0006	0.003	0.006	0.010	**Gestein, ultrabasisch**
0.0012	0.003	0.006	0.009	**Ultrabasic Rocks**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	H_2O	C(org)	CO_2	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi	ppm Cd
GB 07103	72.83	13.40	2.14	(1.03)	0.42	1.55	3.13	5.01	(0.61)	–	(0.15)	0.033	2.1	24	343	12.4	0.53	(0.032)
GB 07104	60.62	16.17	4.90	(2.43)	1.72	5.52	3.86	1.8	(1.54)	–	(3.46)	0.071	2.1	4.7	1020	1.1	0.081	0.061
GB 07105	44.64	13.83	13.40	(7.60)	7.77	8.81	3.38	2.32	(2.88)	–	(0.17)	0.040	(0.79)	3.5	527	2.5	(0.045)	0.067
GB 07106	90.36	3.52	3.22	(0.62)	0.082	0.30	0.061	0.65	(0.99)	(0.04)	(0.18)	0.062	9.1	34	143	0.97	0.18	0.060
GB 07107	59.23	18.82	7.60	(1.38)	2.01	0.60	0.35	4.16	(5.6)	(0.15)	(0.077)	0.047	1.4	154	450	3.0	0.23	(0.033)
GB 07108	15.60	5.03	2.52	(1.64)	5.19	35.67	(0.081)	0.78	(2.20)	(0.12)	(32.44)	0.043	4.7	16	120	0.8	0.16	0.069

ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge	ppm Hf	ppm Ho	ppm In	ppm La	ppm Li
108	127	3.4	(5.0)	38.4	3.2	10.2	6.5	0.85	2350	19	9.3	2.0	6.3	2.05	(0.02)	54	131
40	(42)	13.2	32.4	2.3	55.4	1.85	0.85	1.02	280	18.1	2.7	0.93	2.9	0.34	(0.033)	21.8	18.3
105	114	46.5	134	(1.2)	48.6	5.6	2.0	3.2	700	24.8	8.5	0.98	6.5	0.88	(0.063)	56	9.5
48	(42)	6.4	20	1.8	19	4.1	2.0	1.02	183	5.3	4.5	1.16	6.6	0.75	(0.026)	21	11.1
109	(40)	21	99	14	42	5.1	2.7	1.7	1290	25.6	6.7	3.1	2.9	0.98	0.082	62	44
25	(80)	9.0	32	3.2	23.4	1.6	(1.1)	0.51	406	7.1	1.9	0.67	1.8	0.33	(0.042)	14.6	20.5

ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm P	ppm Pb	ppm Pr	ppm Rb	ppm S	ppm Sb	ppm Sc	ppm Se	ppm Sm	ppm Sn	ppm Sr	ppm Ta
1.15	463	3.5	40	47	2.3	405	31	12.7	466	(380)	0.21	6.1	(0.059)	9.7	12.5	106	7.2
0.12	604	0.54	6.8	19	17	1030	11.3	4.9	37.6	(190)	0.12	9.5	(0.063)	3.4	0.79	790	(0.46)
0.19	1310	2.6	68	54	140	4130	7.2	13.2	37	100	0.083	15.2	(0.086)	10.2	2.0	1100	4.3
0.30	155	0.76	5.9	21	16.6	970	7.6	5.4	29	860	0.60	4.2	(0.098)	4.7	1.1	58	(0.42)
0.41	173	0.35	14.3	48	36.8	690	8.7	13.6	205	60	0.17	18.5	(0.084)	8.4	2.0	90	1.0
0.14	434	0.38	6.6	12.0	17.8	226	18.3	3.4	32	370	0.43	6.0	0.099	2.4	(0.98)	913	(0.46)

ppm Tb	ppm Te	ppm Th	ppm Ti	ppm Tl	ppm Tm	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	LOI	70 g
1.65	0.021	54	1720	1.93	1.06	18.8	24	8.4	62	7.4	28	167	(0.69)	**Granit; Granite**
0.41	0.017	2.6	3090	(0.16)	(0.15)	0.90	94.5	(0.47)	9.3	0.89	71	99	(4.44)	**Andesit; Andesite**
1.2	(0.022)	6.0	14200	(0.12)	0.28	1.4	167	(0.44)	22	1.5	150	277	(2.24)	**Basalt; Basalt**
0.79	0.038	7.0	1580	0.36	0.32	2.1	33.4	1.16	21.5	1.92	20	214	(1.10)	**Sandstein; Sandstone**
1.02	(0.022)	12.8	3950	0.71	0.43	1.5	87	0.79	26	2.6	55	96	(5.95)	**Schiefer; Shale**
0.35	(0.023)	4.1	1960	(0.36)	0.17	1.9	36	0.67	9.1	0.90	52	62	(34.14)	**Kalkstein; Limestone**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	H_2O	CO_2	P_2O_5	F	S	Cl	C
GB 07109	54.48	0.48	17.72	6.04	1.23	0.12	0.65	1.39	7.16	7.48	2.38	0.26	0.018	0.048	0.011	0.059	(0.093)
GB 07110	63.06	0.80	16.1	4.51	0.19	0.089	0.84	2.47	3.06	5.17	1.79	1.03	0.36	0.112	0.023	0.016	(0.29)
GB 07111	59.68	0.77	16.56	2.64	3.08	0.094	2.81	4.72	4.05	3.50	0.88	0.15	0.34	0.084	0.011	0.023	(0.057)
GB 07112	35.69	7.69	14.14	9.90	13.36	0.193	5.25	9.86	2.11	0.15	1.09	0.12	0.028	0.006	0.37	0.006	(0.039)
GB 07113	72.78	0.30	12.96	1.14	1.86	0.14	0.16	0.59	2.57	5.43	1.18	0.52	0.045	0.13	0.009	(0.002)	(0.15)
GB 07114	0.62	0.015	0.10	0.04	0.15	0.010	21.8	30.02	0.030	0.038	0.34	46.77	0.006	0.014	0.011	0.012	(12.88)

ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi	ppm Br	ppm Cd	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd
(0.033)	6.27	31.8	251	17.2	0.37	1.21	0.07	242	4.59	3.6	2.05	11.8	4.70	2.48	2.35	35.8	7.0
0.17	5.96	10.8	1053	3.64	0.09	(0.55)	0.61	117	7.9	7.7	7.16	9.1	5.32	2.93	1.96	19.8	6.54
0.066	0.4	3.92	1900	2.11	0.05	(0.34)	0.08	112	15.6	37.6	0.97	8.8	3.20	1.57	1.91	20.8	5.09
0.05	(0.21)	1.84	86.2	(0.98)	0.04	(0.32)	0.09	4.2	93.0	14.5	(0.17)	28.3	1.11	0.47	0.74	23.7	1.31
0.08	0.7	3.5	506	4.09	0.60	(0.25)	0.14	163	2.40	7.3	3.34	10.9	8.19	4.31	1.18	20.5	9.47
0.04	0.23	20.5	44.3	(0.22)	0.03	0.84	0.07	3.58	3.88	2.6	0.07	30.2	0.19	0.09	0.05	(0.21)	0.18

ppm Ge	ppm Hf	ppm Hg	ppm Ho	ppm I	ppm In	ppm La	ppm Li	ppm Lu	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm Sb	ppm Sc
0.95	34.0	0.005	0.96	0.14	0.15	149	32.9	0.43	0.26	66.9	65.1	1.75	196	22.5	130	0.15	2.22
1.11	7.5	0.014	1.10	0.07	0.11	62.2	17.5	0.49	0.95	20.8	47.2	12.6	97.7	13.2	183	1.34	7.52
1.00	5.2	0.035	0.60	(0.078)	0.08	60.5	16.2	0.24	0.47	10.6	48.1	24.4	19.8	13.2	70.1	0.06	10.3
1.06	0.65	(0.005)	0.20	0.08	0.12	1.71	1.94	0.06	(0.094)	9.3	4.10	69	(5.16)	0.84	(4.79)	(0.04)	22.5
1.17	10.8	0.005	1.64	(0.093)	0.09	82.7	12.7	0.67	2.46	34.3	64.5	64.5	33.3	18.4	213	0.38	5.15
0.15	(0.10)	(0.004)	0.04	0.23	(0.066)	1.34	2.30	0.019	(0.24)	(2.77)	1.39	241	(4.44)	(0.44)	(1.42)	(0.04)	0.098

ppm Se	ppm Sm	ppm Sn	ppm Sr	ppm Ta	ppm Tb	ppm Te	ppm Th	ppm Tl	ppm Tm	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	100 g
0.05	9.7	6.50	1160	1.96	1.02	0.012	79.3	0.76	0.46	14.6	179	1.24	24.7	2.56	112	1540	**Syenite**
0.03	8.63	3.12	318	1.42	0.99	(0.007)	16.7	1.02	0.50	3.04	64.3	1.62	28.0	3.15	164	335	**Andesite**
0.03	7.74	1.44	1198	0.62	0.68	0.011	10.9	0.39	0.26	1.40	104	0.19	15.5	1.56	85.4	224	**Granodiorite**
0.26	1.22	0.89	612	(0.56)	0.20	0.010	(0.28)	0.07	0.09	(0.086)	768	(0.10)	4.9	0.36	118	29	**Gabbro**
0.040	11.7	3.35	43.0	2.41	1.51	(0.009)	27.1	0.83	0.73	4.83	3.8	1.10	42.5	4.51	86.3	403	**Rhyolite**
0.08	0.25	0.53	27.0	(0.18)	0.05	(0.012)	0.11	(0.070)	(0.040)	0.16	2.10	0.11	(1.40)	0.09	11.7	3.0	**Dolomite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	H_2O	Ba	Be	Co	Cr	Cs
VS 519-84n	49.1	14.23	15.22	10.26	5.74	10.220	2.49	0.70	1.85	0.21	0.21	0.97	0.023	0.00009	0.0046	0.014	0.00009
VS 519-88n	47.99	14.63	14.62	10.33	7.51	10.42	2.32	0.46	1.59	0.17	0.21	(0.88)	0.0227	0.00008	0.0052	0.0213	(0.00009)

Cu	F	Ga	Ge	Li	Mo	Nb	Ni	Pb	Rb	S	Sc	Sn	Sr	Ta	Th	U
0.0222	0.025	0.0016	0.00016	0.0014	0.00017	0.0008	0.0090	0.0005	0.0016	0.04	0.0043	0.00035	0.027	0.00012	0.00026	0.00008
(0.0180	0.0221)	0.0017	0.00015	0.00086	(0.00009)	0.0006	0.126	(0.0002)	0.0011	(0.026)	0.0041	(0.0002)	0.0197	(0.00035)	(0.0001)	0.000045

W	V	Zn	Zr	$(RE)_2O_3$	La	Ce	Pr	Nd	Sm	Eu	Yb	Lu	Y	Ag	Au	As
0.00007	0.032	0.015	0.013	0.014	0.0014	0.0026	0.00027	0.0015	0.0005	0.00023	0.00038	0.00005	0.0034	(0.00001)	(0.000005)	(0.00015)
–	0.0315	0.0112	0.0125	–	0.0008	0.0022	–	(0.0013)	0.0004	0.00014	0.00033	0.000044	0.0029	(0.000005)	(2.6e-7)	–

B	Te	Cd	C(carb)	C	Cl	Sb	Dy	Er	Ho	Tm	Gd	Tb	100 g
(0.0007)	(0.00015)	(0.00001)	(0.03)	(0.06)	(0.043)	(0.0001)	(0.0005)	(0.0004)	(0.00013)	(0.00007)	(0.0005)	(0.0001)	**Trap**
(0.00038)	–	–	–	–	–	–	(0.00055)	–	–	–	–	(0.00008)	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	H_2O	Ag	Ba	Be	C	Cd
VS 520-84n	73.36	13.84	2.23	1.41	0.05	0.14	5.46	4.14	0.072	0.013	0.20	0.2	0.000010	0.0019	0.0010	0.04	0.000020

Co	Cr	Cs	Cu	F	Ga	Ge	Li	Mo	Nb	Ni	Pb	Rb	S	Sc	Sn	Sr
0.00014	0.0012	0.0012	0.0031	0.30	0.0040	0.00033	0.039	0.00010	0.038	0.0011	0.023	0.11	0.013	0.0005	0.0011	0.0020

Ta	Th	U	W	V	Zn	Zr	$(RE)_2O_3$	La	Ce	Pr	Nd	Sm	Yb	Y	Ho	Tm
0.0024	0.013	0.0063	0.00023	0.0005	0.027	0.069	0.027	0.0032	0.0062	0.0005	0.0018	0.0005	0.0012	0.0062	0.00015	0.00011

Lu	As	B	Bi	C(carb)	Gd	Dy	Er	Eu	Sb	Tb	Au	100 g	
(0.00019	(0.0001)	(0.0003)	0.0003)	(0.02)	(0.0007)	(0.0006)	(0.0006)	(0.00001)	(0.00007)	(0.00008)	(0.0000001)	**Granit; Granite**	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	H_2O	Ag	As	B	Ba	Be
VS 521-84n	46.4	14.88	11.66	6.86	7.0	10.97	2.82	2.96	1.71	1.01	0.17	0.83	0.000010	0.00018	0.0016	0.13	0.00020
VS 521-88n	46.63	14.93	11.33	6.23	6.81	10.68	2.72	3.09	1.72	1.03	0.167	(0.93)	(0.000009)	-	(0.0015)	0.152	0.00019

C(carb)	Co	Cr	Cs	Cu	F	Ga	Ge	Li	Mo	Nb	Ni	Pb	Rb	S	Sc	Sn
0.035	0.0040	0.0055	0.00038	0.0068	0.12	0.0019	0.00015	0.0014	0.00015	0.0008	0.0050	0.0017	0.0073	0.014	0.0027	0.00037
-	0.0040	0.0058	0.00033	0.0058	0.13	0.0017	0.00013	0.0012	0.00014	0.00084	0.0047	0.0015	0.0080	(0.015)	0.0026	0.00032

Sr	Ta	Th	U	W	V	Zn	Zr	$(RE)_2O_3$	La	Ce	Pr	Nd	Sm	Eu	Yb	Y
0.23	0.00011	0.0009	0.00020	0.00010	0.024	0.012	0.024	0.047	0.008	0.015	0.0015	0.007	0.0017	0.0005	0.00029	0.0030
0.224	(0.00005)	0.0008	(0.00019)	-	0.0250	0.0120	0.0219	-	0.0082	0.0163	-	-	0.0017	0.00039	0.00025	0.0030

Gd	Tb	Dy	Ho	Er	Tm	C	Cl	Sb	Lu	Au	100 g
0.0010	0.00014	0.0006	0.00012	0.00032	0.00005	0.06	(0.022)	(0.00015)	(0.00003)	(0.0000002)	**Gabbro**
-	-	(0.00067)	-	-	-	-	-	-	(0.00003)	(0.0000004)	

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	B	Ba	Be	Co	Cr	Cs	Cu
VS 3131-85	47.0	9.48	5.92	6.06	7.76	0.53	2.26	0.50	0.13	0.30	0.007	0.062	0.00024	0.0021	0.0068	0.0004	0.0037
VS 3132-85	60.54	16.46	8.76	1.60	0.41	1.61	2.43	0.98	0.19	0.13	0.007	0.057	0.00028	0.0030	0.014	0.00041	0.0048
VS 3133-85	60.85	14.40	5.45	2.54	2.95	2.33	3.56	0.62	0.18	0.087	0.006	0.091	0.00037	0.0013	0.0088	0.00058	0.019

Ga	Li	Mo	Nb	Ni	Pb	Rb	Sc	Sn	Sr	V	Y	Zn	Zr	Ag	As	Cd
0.0011	0.0096	0.00024	0.0011	0.0040	0.0020	0.0061	0.0011	0.0005	0.025	0.011	0.0022	0.005	0.013	(0.00002)	(0.0016)	(0.00023)
0.0016	0.00716	0.00025	0.0013	0.0072	0.0023	0.0077	0.0020	0.00039	0.013	0.018	0.0030	0.012	0.022	(0.000017)	(0.0038)	(0.00002)
0.0016	0.0037	0.0010	0.0017	0.0036	0.0058	0.012	0.0017	0.0005	0.028	0.011	0.0026	0.009	0.023	(0.00008)	(0.043)	(0.00015)

Ce	Ge	La	S	Sb	Yb	LOI	100 g
(0.006)	(0.00012)	(0.0038)	(0.037)	-	(0.00028)	20.10	**Silt**
(0.006)	0.00016	0.0043	(0.027)	(0.00019)	0.00043	6.78	
0.008	0.00014	0.0061	(0.10)	(0.0015)	0.00033	6.39	

CRM	H_2O	Li	Be	B	CO_2	F	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	S	K_2O	CaO	Sc	TiO_2	V	Cr
VS 811–89	4.0	0.006	0.00030	0.008	0.20	0.06	2.31	2.22	18.20	60.67	0.19	0.087	3.43	0.51	0.0019	0.94	0.016	0.0096

	MnO	Fe_2O_3	FeO	Co	Ni	Cu	Zn	Ga	Ge	Rb	Sr	Y	Zr	Nb	Mo	Sn	Cs	Ba
	0.042	7.20	4.8	0.0021	0.0059	0.0041	0.012	0.0022	0.00017	0.012	0.017	0.0032	0.021	0.0014	0.00020	0.00032	0.00063	0.09

	Ce	Yb	Ta	Pb	Ra	Th	U	100 g
	0.007	0.00034	0.00013	0.0020	3e–10	0.0011	0.00025	**Feldspat–Quarz Silt; Feldspar–Quartz Siltstone**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	Li	Be	B	F	S	Sc	V
VS 4317–88	39.2	4.55	12.55	6.8	30.0	4.50	0.18	0.105	0.80	0.100	0.170	0.0009	0.00006	0.016	0.03	0.050	0.0014	0.009
VS 4318–88	57.0	16.5	8.60	5.75	4.05	6.55	3.68	2.10	1.11	0.370	0.150	0.0010	0.00013	0.0020	0.04	0.006	0.0027	0.018
VS 4319–88	57.4	18.1	7.86	3.01	3.15	8.00	3.22	0.84	0.70	0.155	0.170	0.0007	0.00007	0.0020	0.015	0.009	0.0024	0.019
VS 4320–88	63.4	15.7	6.75	4.89	2.13	4.77	2.99	2.37	0.77	0.160	0.190	0.0033	0.00015	0.0010	0.05	0.006	0.0023	0.007
VS 4321–88	68.5	15.9	3.32	2.42	0.71	2.90	3.52	3.62	0.39	0.070	0.055	0.0040	0.0003	0.008	0.04	0.006	0.0010	0.003
VS 4322–88	70.8	15.3	2.00	1.65	0.07	0.76	3.81	3.32	0.012	0.055	0.080	0.33	0.0008	0.004	2.5	0.14	0.0003	0.00025
VS 4323–88	75.7	12.4	1.71	0.69	0.04	0.45	3.83	4.68	0.074	0.006	0.014	0.0038	0.0010	0.0009	0.24	0.006	0.00010	0.00030

	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	Cd	Sn	Sb
	0.2000	0.0120	0.1300	0.0090	0.0085	0.0006	0.0001	(0.0010)	0.0012	0.0035	0.0005	0.0050	0.0010	0.0001	0.000007	(0.0001)	0.0003	(0.0002)
	0.0075	0.0023	0.0040	0.0070	0.0070	0.0017	0.00013	(0.0005)	0.0037	0.0420	0.0034	0.0200	0.0007	0.00015	0.000005	(0.0001)	0.00023	(0.0002)
	0.0026	0.0017	0.0010	0.0035	0.0075	0.0016	0.00015	(0.0003)	0.0011	0.0480	0.0018	0.0090	0.0004	(0.0001)	0.000003	(0.0001)	0.00015	(0.00002)
	0.0038	0.0013	0.0013	0.0069	0.0150	0.0017	(0.00015)	(0.0010)	0.0130	0.0200	0.0025	0.0250	0.0011	0.0001	0.00003	(0.0001)	0.0004	(0.0002)
	0.0030	0.0005	0.0006	0.0045	0.0050	0.0018	0.0002	(0.0020)	0.0200	0.0160	0.0030	0.0200	0.0011	(0.0001)	0.000008	(0.0001)	0.0090	(0.0002)
	0.0045	0.00015	0.0007	0.0040	0.2000	0.0040	0.00027	0.0600	0.1500	0.0140	0.0120	0.0070	0.0050	0.0260	0.00004	0.0005	0.0033	(0.0020)
	0.0026	0.0001	0.0004	0.0022	0.0060	0.0026	0.00016	(0.0007)	0.0450	0.0005	0.0130	0.0180	0.0060	0.0002	0.000005	(0.0001)	0.0011	(0.0008)

	Cs	Be	Ba	Ce	Yb	W	Pb	Bi	Th	U	LOI	100 g
	0.0002	0.00006	0.004	(0.0020)	(0.00005)	–	0.0002	–	(0.0001)	(0.00003)	0.00076	**Olivine–rich Meymechnite**
	0.0002	0.00013	0.060	0.0040	0.0003	–	0.0009	–	0.0003	(0.00008)	0.000040	**Bipyroxene Basalic Andesite**
	0.00004	0.00007	0.040	(0.0020)	0.00023	–	0.0007	–	(0.0001)	(0.00003)	0.000040	**Hornblende Hyaloandesite**
	0.0060	0.00015	0.051	0.0050	0.0025	–	0.0030	–	0.0009	(0.0002)	0.00008	**Hornblende Dacite**
	0.0070	0.0003	0.071	0.0080	0.0003	–	0.0014	0.0002	0.0012	0.0003	0.00006	**Albitized Rhyodacite**
	0.0040	0.0070	0.007	0.0050	0.0020	0.0070	0.0090	0.0046	0.0038	0.0017	0.00017	**Granit/Greisen; Greisenized Granite**
	0.0005	0.0010	0.001	0.0070	0.0013	0.0005	0.0040	–	0.0047	0.0013	0.000050	**Bioitic Trachyrhyolite**

CRM	SiO_2	Al_2O_3	Fe_2O_3(tot)	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	S	Ba	Be	Co	Cr	Cu	Ga
VS 3483-86	45.59	11.60	4.62	5.82	7.05	0.87	2.96	0.63	0.15	0.073	0.05	0.047	0.00020	0.0014	0.0066	0.0048	0.0012
VS 3484-86	51.95	16.76	6.33	1.53	1.13	1.37	2.51	0.85	0.18	0.071	0.05	0.058	0.00023	0.0018	0.012	0.0052	0.0017
VS 3485-86	25.07	5.03	10.59	11.70	17.76	0.61	1.13	0.27	1.82	0.50	0.05	0.035	0.00025	0.0011	0.0028	0.026	0.0009
VS 3486-86	70.54	11.29	5.24	0.48	0.52	1.67	2.21	0.62	0.28	0.11	0.43	0.039	0.00036	0.0009	0.0076	0.025	0.0016

La	Li	Nb	Ni	Pb	Rb	Sc	Sn	Sr	V	Y	Yb	Zn	Zr	Ag	As	Cd
0.00322	0.010	0.0012	0.0033	0.0016	0.009	0.0009	0.00037	0.030	0.009	0.0023	0.00025	0.005	0.014	(0.00005)	(0.004)	(0.0002)
0.0034	0.0012	0.0060	0.0058	0.0016	0.010	0.0015	0.00044	0.020	0.014	0.0030	0.00032	0.009	(0.018)	(0.00007)	(0.004)	(0.00019)
0.026	0.0020	(0.0007)	0.0019	(0.020)	0.004	0.0009	0.0004	0.018	0.007	0.004	0.00033	0.014	0.007	0.00026	(0.009)	(0.00035)
0.0032	0.015	0.0017	0.0025	0.011	0.019	0.0008	0.04	0.020	0.006	0.0016	0.000224	0.039	0.021	(0.0034)	(0.7)	0.0009

B	Mo	Fe_2O_3	FeO	LOI	Au	100 g
(0.009)	(0.0003)	(2.8)	(1.3)	(20.33)	(0.000004)	**Sedimentgestein; Rock Sediments**
(0.008)	(0.0003)	(3.5)	(2.2)	(17.17)	(0.0000025)	
(0.0014)	0.0029	(0.2)	(0.24)	(25.14)	0.00013	
(0.016	(0.0003)	(3.5)	(1.3)	(5.44)	(0.000011)	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	B	P_2O_5	MnO	Ce	Eu	Ba	Be	Co
VS 6103-91	60.45	16.56	5.55	3.79	3.05	4.84	3.57	2.98	0.86	0.0046	0.17	0.086	0.0046	0.00013	0.072	0.00024	0.0017
VS 6104-91	57.86	16.68	5.41	2.51	1.25	6.94	4.51	4.77	0.78	(0.0007)	0.39	0.14	0.0219	0.00045	0.69	0.00019	0.0008

Cr	Cs	Cu	F	Ga	Lu	Li	Nb	Nd	Ni	Pb	Rb	Sc	Sr	V	Zn	Zr
0.0058	0.00029	0.0039	0.071	0.0018	0.00003	0.0030	0.0012	0.0024	0.0033	0.0024	0.0083	0.0015	0.041	0.0096	0.0071	0.0173
0.0016	(0.0001)	0.0005	0.082	0.0017	0.000033	0.00105	0.0020	0.0102	0.00084	0.0021	0.0056	0.00040	0.52	0.0079	0.0109	0.0185

La	Sm	Sn	Th	Yb	Y	Ag	As	Tb	Mo	Cl	Ge	H_2O+	H_2O-	S	Dy	Ho
0.0027	0.00048	0.00043	0.00068	0.00021	0.0021	(0.0000075)	0.0006)	(0.000087)	(0.00008)	(0.011)	(0.00014)	(1.6)	(0.14)	(0.013)	(0.0004)	(0.00006)
0.0108	0.0016	(0.00019)	(0.0012)	0.00023	0.0025	(0.000003)	(0.0012)	(0.00017)	0.00011	-	(0.00012)	(0.28)	(0.05)	(0.017)	(0.00069)	(0.0001)

Ta	U	CO_2(carb)	Er	Gd	Pr	Tm	Hf	Sb	LOI	100 g
(0.00008)	(0.0002)	(0.18)	(0.0002)	(0.00039)	(0.00047)	(0.00003)	(0.0005)	(0.00008)	1.59	**Diorit; Diorite**
(0.00018)	(0.0002)	(0.20)	(0.00025)	(0.0010)	(0.0023)	(0.000045)	0.0005	-	(0.38)	**Sviatonssit; Sviatonssite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	TiO_2	MnO	Co	Cr	Cu	Ge	Li	Ni	Sc	Sr
VS 4233-88	39.58	0.97	8.91	41.86	1.52	0.035	0.010	0.018	0.13	6.31	0.41	0.0033	0.00011	0.00020	0.22	0.0009	0.0018

V	Zn	FeO	P_2O_5	S	H_2O-	H_2O+	CO_2	100 g
0.0033	0.0030	(5.54)	(0.01)	(0.041)	(0.4)	(4.82)	(1.61)	**Dunit; Dunite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	ppm Co	ppm Cr	ppm Mn	ppm Ni	ppm V	ppm Zn	30 g
UG DTS-2	39.4	0.45	7.76	49.4	0.12	120	15500	830	3780	22	45	**Dunit; Dunite, Twin Sister Mountains**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	H_2O	TiO_2	P_2O_5	MnO	CO_2	S	Ba	Co	Cr	Cu
VS 2111-81	45.54	1.84	11.58	8.83	37.12	1.26	0.105	0.044	–	0.107	–	0.183	0.69	0.030	0.0066	0.0159	0.320	0.0140
VS 2112-81	35.07	–	10.06	–	42.40	–	–	–	11.35	–	–	0.176	0.46	–	–	0.0129	–	0.0027
VS 2113-81	37.95	14.24	18.26	9.72	12.70	11.04	2.14	0.382	–	1.91	–	0.144	–	0.054	0.0099	0.0074	0.0015	0.074
VS 2114-81	37.66	2.66	7.57	2.24	26.96	6.47	0.087	0.412	–	0.97	0.216	0.111	5.71	0.032	0.025	0.0073	0.068	0.0035
VS 2115-81	57.98	13.95	11.57	8.50	3.18	6.35	3.01	2.04	0.11	1.24	0.194	0.142	0.24	0.086	0.069	0.0034	0.0021	0.0059

F	Ga	Ge	Li	Nb	Mo	Ni	Pb	Sc	Sn	Sr	V	Y	Yb	Zn	Zr	40 g Fe_2O_3=Fe(tot)
–	0.00059	0.00016	–	–	0.00013	0.160	0.00067	0.00113	0.00032	–	0.0039	–	0.00015	0.0137	0.0021	**Peridotit(e)**
–	–	–	–	–	0.00014	0.133	–	–	0.00022	–	0.00069	–	–	0.0082	–	**Dunit(e)**
–	0.0025	–	–	–	0.00013	0.0057	0.00049	0.0058	0.00029	–	0.0039	–	0.00015	0.0137	0.0021	**Hornblende(dite)**
–	0.00068	–	–	0.0038	0.00013	0.106	0.00062	0.00019	0.00025	0.028	0.0047	0.00091	–	0.0063	0.0083	**Kimberlit(e)**
0.046	0.0023	0.00017	0.00066	0.00084	0.00027	0.0020	0.0022	0.0033	0.00059	0.033	0.020	0.0027	0.00028	0.0104	0.018	**Diabas(e)**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	Ba	Be	Co	Cr	Cu	Ga
VS 2116-81	49.15	16.53	11.07	7.71	6.56	8.87	3.74	0.98	1.65	0.40	0.164	0.0300	0.00023	0.0037	0.0099	0.0061	0.0022
VS 2117-81	37.62	13.67	18.54	9.05	8.66	15.75	0.72	0.204	1.46	2.15	0.222	0.0110	(0.0001)	0.0065	0.0014	0.3600	0.0021
VS 2118-81	52.04	16.94	9.93	5.43	3.74	7.36	4.20	2.25	1.02	0.476	0.187	0.1300	0.00029	0.0024	0.0021	0.0100	0.0024
VS 2119-81	37.66	13.35	20.98	14.98	7.48	7.81	2.35	0.80	6.99	2.21	0.198	0.0440	0.000082	0.0069	0.0056	0.0069	0.0013
VS 2120-81	51.77	22.78	6.26	4.66	2.10	10.06	4.04	0.76	1.87	0.140	0.076	0.051	0.00009	0.0023	0.0036	0.0031	0.0017
VS 2121-81	58.00	21.72	3.04	1.47	0.35	1.10	8.50	6.12	0.400	0.050	0.128	0.016	0.00045	0.00049	0.00117	0.0051	0.0041
VS 2122-81	56.29	21.96	0.03	0.88	–	1.20	10.79	4.30	0.045	–	0.085	0.017	0.0086	–	0.00098	0.0021	0.0080
VS 2123-81	42.80	26.47	4.23	1.40	1.14	3.73	13.33	5.16	1.79	0.388	0.084	0.035	0.00051	0.00081	0.00097	0.0024	0.0048
VS 2124-81	56.13	16.96	6.79	1.14	0.74	1.25	9.26	6.23	0.92	–	0.254	0.080	0.00139	0.00063	0.00125	0.00111	0.0063
VS 2125-81	64.08	15.35	5.23	2.87	1.87	3.93	3.25	3.98	0.517	0.228	0.160	0.14	0.00037	0.0013	0.0037	0.0057	0.0022

Ge	La	Li	Mo	Nb	Ni	Pb	Rb	Sc	Sn	Sr	V	Y	Yb	Zn	Zr	CO_2
0.00011	0.00040	0.00093	0.00018	–	0.0086	0.0012	0.0014	0.0022	0.00070	0.0500	0.0150	0.0029	0.00026	0.0082	0.0190	(0.13)
0.00021	–	0.00033	0.00020	–	0.0028	0.0006	(0.00045)	0.0037	0.00065	0.1040	0.0960	(0.0016)	0.00026	0.0136	(0.0050)	(0.16)
0.00011	0.0046	0.0013	0.00020	–	0.0014	0.0020	0.0042	0.0024	0.00055	0.0810	0.0220	0.0038	0.00028	0.0077	0.0160	0.37
–	–	–	(0.00027)	(0.00095)	0.0063	0.0011	–	0.0017	0.00044	(0.0330)	0.0120	(0.0031)	(0.00027)	0.0120	0.0100	0.33
–	–	–	–	–	0.0010	0.0007	–	0.0023	–	–	0.013	–	–	0.0083	0.0072	0.36
0.00012	0.0074	0.00066	0.00011	0.015	0.00071	0.00120	0.0189	–	0.00079	0.0126	0.0030	0.0019	0.00019	0.0066	0.085	–
0.00014	0.013	0.00043	0.00052	0.034	0.00065	0.0025	0.030	–	0.0015	0.012	0.0013	0.0064	0.00057	0.0069	0.0070	0.72
–	0.0100	0.00089	0.00023	0.0097	0.00065	0.00058	0.0079	–	0.00034	0.100	0.0086	0.0026	0.00017	0.0044	0.022	–
0.00013	0.040	0.0037	0.00028	0.034	0.00078	0.0020	0.0250	–	0.0014	0.080	0.0086	0.0081	0.00057	0.012	–	–
0.00018	–	0.0020	0.000322	0.00088	0.0015	0.016	0.016	0.0013	0.00080	0.048	0.0090	–	–	0.012	0.021	0.14

B	F	H_2O	S	40 g
–	0.0480	1.34	(0.0090)	**Basalt; Basalt**
–	0.0720	(0.12)	0.1240	**Gabbro; Gabbro**
–	(0.0690)	1.67	(0.0070)	**Gabbro; Gabbro**
–	0.1600	1.25	0.0820	**Gabbro, Erz; Gabbro, Ore**
–	–	0.40	0.069	**Anorthosit; Anorthosite**
–	–	0.40	–	**Miaskit; Miaskite**
–	–	–	–	**Maripolit; Maripolite**
–	–	–	–	**Urtit; Urtite**
–	–	–	–	**Lujavrit; Lujavrite**
0.0027	–	–	0.019	**Granodiorit; Granodiorite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	B	Ba	Be	Co	Cr	Cs
VS 3333-85	74.76	10.64	4.50	1.61	0.10	0.32	4.24	4.64	0.26	0.024	0.120	0.0011	0.009	0.0005	0.00013	0.00031	0.00045

Cu	F	Ga	Ge	Li	Mo	Nb	Ni	Pb	Rb	Sc	Sn	Sr	Ta	Th	U	V
0.0012	0.062	0.0027	0.00022	0.0052	0.00017	0.0017	0.0006	0.0010	0.014	0.00046	0.0005	0.0008	0.00011	0.0008	0.00018	0.0006

Zn	Zr	La	Ce	Hf	Nd	Sm	Eu	Tb	Yb	Lu	Y	Ag	As	CO_2	H_2O+	S
0.014	0.047	0.0045	0.009	0.0012	0.005	0.0010	0.00004	0.00004	0.0007	0.00009	0.006	(0.000006)	(0.0004)	(0.1)	(0.30)	(0.016)

Sb	W	Dy	Er	100 g
(0.00005)	(0.00011)	(0.001)	(0.0006)	**Granit; Granite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Cr_2O_3	NiO	ZrO_2	BaO	SrO	Nb_2O_5
X 1NIMG	75.70	12.08	(0.6)	1.30	(0.06)	0.78	3.36	4.99	-	-	-	-	-	-	-	-	-
X 2NIMS	63.63	17.34	1.11	0.30	0.46	0.68	0.43	15.35	-	-	0.12	-	-	-	0.27	-	-
X 3NIML	52.40	13.64	8.78	1.13	0.28	3.22	8.37	5.51	0.77	0.48	-	-	-	1.49	-	0.54	0.14
X 4NIMN	52.64	16.50	(0.8)	7.47	7.50	11.50	2.46	0.25	0.18	0.20	-	-	-	-	-	-	-
X 5NIMP	51.10	4.18	0.87	10.59	25.33	2.66	0.37	0.09	0.22	0.20	-	3.50	-	-	-	-	-
X 6NIMD	38.96	(0.3)	0.71	14.63	43.51	0.28	(0.04)	(0.01)	0.22	-	-	0.42	0.26	-	-	-	-

Cl	F	H_2O	CO_2	Ba	Ce	Co	Cr	Cu	Dy	Eu	Ga	Gd	La	Li	Lu	Mn
-	0.42	0.49	(0.10)	(0.0120)	0.0195	-	0.0012	0.0012	(0.0017)	0.000035	0.0027	(0.0014)	0.0109	(0.0012)	(0.0002)	0.0160
-	-	0.22	0.09	0.2400	0.00119	(0.0003)	0.0012	0.0019	(0.00004)	0.000030	0.0011	-	(0.0005)	-	-	0.0080
0.12	0.44	2.31	0.17	0.0450	(0.0240)	-	(0.0010)	0.0013	-	0.00012	(0.0054)	-	(0.0250)	(0.0048)	(0.00004)	0.6000
-	-	0.33	(0.10)	0.0102	(0.0006)	0.0058	(0.0030)	0.0014	-	0.000063	0.0016	-	(0.0003)	-	(0.00002)	0.1400
-	-	0.26	(0.08)	0.0046	-	0.0110	2.4000	0.0018	-	(0.00002)	(0.0008)	-	(0.0002)	-	-	0.1700
-	-	0.30	0.40	(0.0010)	-	0.0208	0.2900	0.0010	-	-	-	-	(0.00002)	-	-	0.1700

Nb	Nd	Ni	P	Pb	Rb	S	Sm	Sr	Tb	Th	Ti	Tm	U	V	Y
0.0053	0.0072	(0.0008)	-	0.0040	0.0325	-	0.00158	0.0010	0.00030	0.0051	0.0540	(0.0002)	(0.0015)	(0.0002)	0.0143
-	(0.0006)	(0.0007)	0.0520	(0.0005)	0.0530	-	(0.0001)	0.0062	-	0.00010	0.0265	-	-	0.0010	-
0.0960	0.0048	-	0.0260	0.0043	0.0190	(0.0650)	(0.0005)	0.4600	(0.00007)	0.0066	0.2900	-	0.0014	0.0081	0.0022
-	(0.0003)	0.0120	(0.0130)	-	-	-	(0.00008)	0.0260	-	-	0.1200	-	-	0.0220	(0.0007)
-	-	0.0555	0.0090	-	-	-	-	0.0032	-	-	0.1200	-	-	0.0230	(0.0005)
-	-	0.2040	(0.0040)	-	-	-	-	(0.0003)	-	-	0.0120	-	-	0.0040	-

Yb	Zn	Zr	100 g
0.00142	0.0050	0.0300	**Granit; Granite**
(0.000007)	(0.0010)	(0.0033)	**Syenit; Syenite**
(0.0003)	0.0395	1.1000	**Lujaurit; Lujaurite**
(0.00007)	0.0068	(0.0023)	**Norit; Norite**
(0.00006)	0.0100	-	**Pyroxenit; Pyroxenite**
-	0.0090	-	**Dunit; Dunite**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	TiO_2	CaO	MgO	K_2O	Na_2O	P_2O_5	MnO	H_2O+	S	CO_2	LOI	50 g
GB 03124	60.64	20.05	1.37	0.28	0.12	0.52	0.13	5.06	8.97	0.020	0.050	2.34	(0.011)	-	2.37	**Nephelin Syenit**
GB 03125	39.42	29.67	0.33	1.24	0.14	5.98	0.92	4.72	12.59	0.072	0.031	1.78	(0.064)	2.97	-	**Nepheline Syenite**

CRM	SiO_2	Al_2O_3	CaO	CO_2	Fe	Fe_2O_3	FeO	K_2O	MgO	MnO	Na_2O	P_2O_5	TiO_2	ppm Ba	ppm Be	ppm Ce	ppm Co	ppm Cr
T SY4	49.9	20.69	8.05	3.5	4.2	6.21	2.86	1.66	0.54	0.108	7.10	0.131	0.287	340	2.6	122	2.8	12

ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd	ppm Hf	ppm Ho	ppm La	ppm Li	ppm Lu	ppm Mn	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr
1.5	7	18.2	14.2	2.0	35	14.0	10.6	4.3	58	37	2.1	819	13	57	9	10	15.0

ppm Rb	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	LOI	100 g
55	1.1	12.7	1191	0.9	2.6	1.4	2.3	0.8	8	119	14.8	93	517	4.56	Diorit(e) Gneiss

RM	SiO_2	Al_2O_3	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	ppm Ba	ppm Ce	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd
JG Sy-1	60.02	23.17	0.084	0.0024	0.016	0.25	10.74	4.82	15.7	2.6	2.0	0.69	1.3	0.37	0.30	0.16	23.5	0.27

ppm Hf	ppm Ho	ppm La	ppm Lu	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm Sb	ppm Sm	ppm Sn	ppm Sr	ppm Th	ppm Tm	ppm U	ppm V
1.2	0.094	1.2	0.076	0.51	1.2	1.1	4.9	0.32	66.3	0.15	0.27	0.17	19.3	0.23	0.053	0.20	2.1

ppm Y	ppm Yb	ppm Zn	ppm Zr	100 g
2.6	0.41	3.2	70.2	Syenit; Syenite

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	TiO_2	CaO	MgO	K_2O	Na_2O	P_2O_5	MnO	H_2O+	S	LOI	Ba	Be	Cr	Cu
VS 1345-78	53.57	20.92	4.79	1.27	0.86	1.47	0.50	5.91	9.96	0.140	0.21	1.06	0.017	1.15	0.13	0.00096	0.0012	0.0073

F	Ga	La	Li	Nb	Rb	Sn	Sr	Y	V	Zn	Zr	Th	Ta	100 g
0.20	0.0030	0.022	0.0031	0.023	0.017	0.00077	0.19	0.0049	0.0046	0.014	0.06	0.0035	0.0011	Nephelin Syenit; Nepheline Syenite

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	P_2O_5	BaO	Mn_2O_3	SrO	LOI	100 g
5 201a	57.3	0.05	23.54	0.12	1.07	0.025	8.90	7.53	0.025	0.37	0.007	0.43	0.76	Syenit; Syenite

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3(tot)	FeO	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O-	ppm Ag	ppm As	ppm B	ppm Ba	ppm Co
2 TH	63.34	0.54	15.68	4.68	0.99	3.52	0.066	0.86	0.41	0.60	11.23	0.13	0.65	1.1	31	27	674	9

ppm Cr	ppm Cu	ppm Ga	ppm La	ppm Ni	ppm Pb	ppm Sr	ppm V	ppm W	ppm Zn	ppm Zr	100 g
61	15	14	34	14	16	85	96	48	85	137	Metasomatit; Metasomatite

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	H_2O	CO_2	F	Cr	Ni	B	Ba	Co	Cu
Z SW	39.04	0.016	0.66	7.40	2.00	0.084	38.5	0.18	0.013	13.6	0.28	0.0066	0.24	0.22	37ppm	19ppm	102ppm	7ppm

V	Zn	K_2O	Li_2O	P_2O_5	As	Cs	Ga	Nd	Pb	Rb	S	Sc	Sn	U	W	50 g	
20ppm	58ppm	(14ppm)	(3ppm)	(17ppm)	(5ppm)	(5ppm)	(4ppm)	(4ppm)	(6ppm)	(5ppm)	(3ppm)	(5ppm)	(5ppm)	(5ppm)	(5ppm)	**Serpentinit**	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	ppm Ba	ppm Be	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu
UG COQ-1	3.47	0.37	-	-	2.94	1.25	48.3	0.04	0.16	0.43	0.15	2.6	1000	1.2	1700	<5	<10	0.2	<10
UG DNC-1	47.15	18.34	1.79	7.34	9.97	10.13	11.49	1.89	0.234	0.15	0.48	0.07	118	-	-	57	270	-	100

ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd	ppm Ho	ppm La	ppm Li	ppm Nb	ppm Nd	ppm Ni	ppm Pr	ppm Sb	ppm Sc	ppm Sm	ppm Sr	ppm Tb	ppm Th	ppm U
18	7	15	6	50	3	750	-	3900	480	13	150	-	3	56	12000	4	10	11
-	-	0.59	-	-	-	3.6	5.2	-	5.2	247	-	0.96	3.1	-	144	-	-	-

ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	30 g	
110	81	6	87	65	**Carbonatit; Carbonatite**	
148	18	2	70	38	**Dolerit; Dolerite**	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Cr_2O_5	Ba	Ce	Co	Cr	Cu	Ga
X 39	33.44	4.29	9.29	(4.0)	26.24	9.69	(0.5)	1.04	0.17	1.58	1.46	0.19	0.17	(0.0085)	0.0077	-	0.0058	(0.0010)
X 40	3.08	0.41	2.75	(0.4)	1.97	49.77	(0.05)	(0.03)	0.18	0.05	2.05	-	(0.0310)	(0.0160)	(0.0020)	(0.0035)	(0.0010)	(0.0010)
X 48	67.11	11.24	0.58	(0.2)	0.18	8.90	3.22	4.26	0.02	0.10	(0.09)	-	(0.0290)	(0.0850)	-	0.0023	(0.0010)	-
X 50	51.56	15.28	11.0	8.49	7.57	10.80	2.30	0.61	0.17	0.86	0.15	-	0.0220	(0.0030)	0.0040	0.0357	0.0084	-

Mo	Nb	Ni	Pb	Rb	S	Sr	Th	V	Y	Zn	Zr	100 g
(0.0005)	0.0110	0.0994	(0.0025)	0.0052	(0.15)	0.14	(0.0010)	0.0109	0.0017	0.0070	0.0239	**Kimberlit; Kimberlite**
(0.0010)	(0.0010)	(0.0025)	(0.0020)	(0.0010)	(0.05)	0.16	(0.0012)	0.0027	0.0033	0.0025	0.0087	**Karbonatit; Carbonatite**
(0.0005)	0.0202	-	0.0135	0.0291	-	0.0029	0.0113	(0.0008)	0.0436	0.0053	0.0300	**Granit; Granite**
-	(0.0010)	(0.0085)	(0.0025)	0.0014	(0.03)	0.0195	(0.0006)	0.0216	0.0023	0.0081	0.0086	**Dolerit; Dolerite**

CRM	SiO_2	Al_2O_3	Na_2O	CaO	Cr	Cu	FeO	Fe_2O_3	Pb	MgO	MnO	Ni	P_2O_5	K_2O	Rb	Sr	Th
3 278	73.05	14.15	4.84	0.983	-	5.9ppm	1.36	2.04	16.4ppm	(0.23)	0.052	3.6ppm	0.036	4.16	127.5ppm	63.5ppm	12.4ppm
3 688	48.4	17.36	2.15	(12.17)	332ppm	-	7.64	10.35	3.3ppm	(8.4)	0.167	-	0.134	0.187	1.91ppm	169.2ppm	0.33ppm

TiO_2	Tl	U		
0.245	0.54ppm	4.58ppm	**35 g**	**Obsidian**
1.17	-	-	**60 g**	**Basalt**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	H_2O	P_2O_5	CO_2	F	As	Ba	Be	Ce
Z BM	49.51	1.14	16.25	9.67	7.28	0.140	7.47	6.47	4.65	0.20	3.62	0.106	1.35	0.028	13ppm	250ppm	1.3ppm	22ppm

Co	Cr	Cs	Cu	Eu	Ga	Hf	La	Li	Lu	Nd	Ni	Pb	Rb	Sb	Sc	Sm	Sn
36ppm	121ppm	2.0ppm	43ppm	1.12ppm	16ppm	3.0ppm	9ppm	72ppm	0.41ppm	15ppm	57ppm	13ppm	10ppm	2.3ppm	34ppm	3.6ppm	2.0ppm

Sr	Tb	V	W	Y	Yb	Zn	Zr	50 g	
220ppm	0.9ppm	190ppm	0.9ppm	27ppm	3.0ppm	120ppm	100ppm	**Basalt**	**B, Mo, Ta, Th, Ag, Dy, Er, Gd, Ge, Hg, Ho, Pr + U informative Werte/informative values**

B R E I T L Ä N D E R – E I C H P R O B E N **Gesteine (Rocks)**

6.11.10

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Br
UG BHVO-2	49.9	13.5	–	–	12.3	–	7.23	11.4	2.22	0.52	2.73	0.27	–	–	–	130	–	–
UG BIR-1	47.96	15.5	2.06	8.34	11.3	0.175	9.70	13.3	1.82	0.030	0.96	0.021	–	(0.44)	(0.33)	(7)	(0.58)	–
UG BCR-2	54.1	13.5	–	–	13.8	–	3.59	7.12	3.16	1.79	2.26	0.35	–	–	–	683	–	–
UG W-2	52.68	15.45	1.53	8.34	10.83	0.167	6.37	10.86	2.20	0.626	1.06	0.14	–	(1.2)	(12)	170	(1.3)	–
UG AGV-2	59.3	16.91	–	–	6.69	–	1.79	5.20	4.19	2.88	1.05	0.48	–	–	–	1140	2.3	–
UG RGM-1	73.4	13.7	0.50	1.27	1.86	0.036	0.28	1.15	4.07	4.30	0.27	–	0.11	3.0	28	810	2.4	1.3
UG QLO-1	65.6	16.2	1.02	2.97	4.35	–	1.00	3.17	4.20	3.60	0.62	0.25	0.064	(3.5)	36	1370	–	(2.1)

ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Hf	ppm Li	ppm La	ppm Lu	ppm Mn	ppm Mo
38	–	45	280	–	127	–	–	–	–	21.7	–	4.1	–	15	–	1290	–
1.9	(26)	52	370	–	125	4	–	0.55	(44)	(16)	1.8	0.6	3.6	0.63	(0.26)	–	–
53	–	37	18	–	–	–	–	2.0	–	23	6.8	–	–	25	–	1520	248
23	(190)	43	92	(0.99)	110	3.6	(2.5)	1.0	(205)	17	–	2.6	9.6	10	(0.33)	–	–
68	–	16	17	–	53	3.6	–	–	–	20	–	–		38	–	770	–
47	510	2.0	(3.7)	9.6	12	4.1	–	0.66	340	15	3.7	–	57	24	0.4	280	2.3
54	220	7.2	3.2	1.8	29	3.8	2.3	1.43	280	–	–	–	25	27	0.37	–	2.6

ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sn	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V	ppm W
–	25.0	119	–	–	9.8	–	32	–	–	389	–	–	–	–	–	–	–
(0.6)	2.5	170	(3)	–	–	(0.58)	44	(1.1)	–	110	–	–	–	–	–	310	–
–	28	–	–	–	48	–	33	–	–	346	–	–	6.2	–	1.69	416	–
(7.9)	13	70	(9.3)	–	21	(0.79)	36	3.3	–	190	(0.5)	(0.63)	2.4	(0.38)	(0.53)	260	–
15	30	19	13	8.3	68.6	–	13	–	–	658	–	–	6.1	–	1.88	120	–
8.9	19	–	24	–	150	1.3	4.4	4.3	4.1	110	0.95	–	15	–	5.8	13	1.5
10	(26)	–	20	–	74	–	–	4.9	2.3	340	0.82	0.71	4.5	0.37	1.9	54	0.58

ppm Y	ppm Yb	ppm Zn	ppm Zr	30 g
26	–	103	172	**Basalt/Hawaiian Volcanic Observotary**
16	1.7	70	18	**Basalt/Island**
37	3.5	127	188	**Basalt/Columbia River**
23	2.1	80	100	**Diabas(e)**
20	1.6	86	230	**Andesit(e)/Guano Valley, Columbia**
(25)	2.6	(32)	220	**Rhyolit(e)/Glass Mountain**
24	2.3	61	185	**Quarz Latit; Quartz Latite**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	H_2O	P_2O_5	CO_2	F	As	B	Ba	Ce
Z GM	73.42	0.212	13.55	2.01	1.13	0.043	0.37	1.07	3.78	4.76	0.35	0.062	0.28	0.067	4.1ppm	11ppm	340ppm	65ppm

Co	Cr	Cs	Cu	Eu	Ga	Hf	La	Li	Lu	Mo	Nb	Nd	Ni	Pb	Rb	Sc	Sm
3.7ppm	11ppm	8.1ppm	13ppm	0.6ppm	15ppm	5.1ppm	41ppm	50ppm	0.4ppm	1.1ppm	18ppm	30ppm	6.8ppm	30ppm	260ppm	4.8ppm	4.9ppm

Sn	Sr	Ta	Tb	Th	U	V	W	Y	Yb	Zn	Zr	50 g
4.4ppm	133ppm	1.7ppm	0.7ppm	36ppm	6.4ppm	11ppm	1.6ppm	26ppm	3.1ppm	34ppm	149ppm	**Granit(e)**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	H_2O+	H_2O–	Al	Ca	P	ppm Ag	ppm As
JG JA–1	63.97	15.22	2.59	3.98	7.07	0.157	1.57	5.70	3.84	0.77	0.85	0.72	0.30	8.06	4.07	0.072	(0.033)	2.78
JG JA–2	56.42	15.41	2.16	3.69	6.21	0.103	7.60	6.29	3.11	1.81	0.66	1.12	1.25	8.16	4.50	0.064	(0.043)	8.16
JG JA–3	62.27	15.56	1.15	4.83	6.60	0.104	3.72	6.24	3.19	1.41	0.70	0.20	0.11	8.23	4.46	0.051	0.084	8.23
JB JB–1b	51.11	14.38	3.29	5.16	9.02	0.147	8.14	9.6	2.63	1.32	1.26	1.53	1.06	–	–	–	–	1.24
JG JB–2	53.2	14.64	3.33	9,98	14.25	0.218	4.62	9.82	2.04	0.42	1.19	0.25	0.13	7.75	7.02	0.044	(0.072)	2.87
JG JB–3	50.96	17.20	3.20	7.85	11.82	0.177	5.19	9.79	2.73	0.78	1.44	0.18	0.07	9.10	7.00	0.128	0.075	1.84

ppm B	ppm Ba	ppm Be	ppm Bi	ppm Cd	ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge
21.0	311	0.50	(0.0091)	0.11	13.3	43.0	12.3	7.83	0.62	43.0	4.55	3.04	1.20	161	16.7	4.36	1.33
20.7	321	2.05	(0.07)	(0.078)	32.7	–	29.5	436	4.63	29.7	2.80	1.48	0.93	(223)	16.9	3.06	(1.05)
24.8	323	0.80	(0.05)	(0.089)	22.8	–	21.1	66.2	2.08	43.4	3.01	1.57	0.82	(286)	16.3	2.96	–
–	–	1.3	–	–	–	–	40.3	439	1.21	55.5	–	–	–	–	–	–	–
30.2	222	(0.26)	(0.033)	0.14	6.76	281	38.0	28.1	0.85	225	3.73	2.60	0.86	98.5	17.0	3.28	1.35
18.0	245	0.81	(0.023)	0.081	21.5	(259)	34.3	58.1	0.94	194	4.54	2.49	1.32	253	19.8	4.67	1.12

ppm Hf	ppm Ho	ppm La	ppm Li	ppm Lu	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm S	ppm Sb	ppm Sc	ppm Sm	ppm Sn	ppm Sr
2.42	0.95	5.24	10.8	0.47	1.59	1.85	10.9	(3.49)	6.55	1.71	12.3	21.6	0.22	28.5	3.52	(1.16)	263
2.86	0.50	15.8	27.3	0.27	0.60	9.47	13.9	130	19.2	3.84	72.9	(8)	(0.14)	19.6	3.11	1.68	248
3.42	0.51	9.33	14.5	0.32	1.89	3.41	12.3	32.2	7.70	2.40	36.7	(214)	(0.32)	22.0	3.05	(0.95)	287
–	–	–	10.8	–	–	–	–	148	6.8	–	39.1	10	0.2	–	–	–	439
1.49	0.75	2.35	7.78	0.40	1.08	(1.58)	6.63	16.6	5.36	1.01	7.37	17.9	0.25	53.5	2.31	0.95	178
2.67	0.80	8.81	7.21	0.39	1.09	2.47	15.6	36.2	5.58	3.11	15.1	9.86	0.12	33.8	4.27	0.94	403

ppm Ta	ppm Tb	ppm Th	ppm Tl	ppm Tm	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	20 g	
0.13	0.75	0.82	(0.13)	0.47	0.34	105	30.6	3.03	90.9	88.3	**Andesit(e)**	
0.80	0.44	5.03	0.32	0.28	2.21	126	18.3	1.62	64.7	116	**Andesit(e)**	
0.27	0.52	3.25	(0.23)	(0.28)	1.18	169	21.2	2.16	67.7	118	**Andesit(e)**	**100 g**
–	–	–	–	–	–	214	–	–	80	–	**Basalt**	
0.13	0.60	0.35	(0.042)	0.41	0.18	575	24.9	2.62	108	51.2	**Basalt**	
0.15	0.73	1.27	0.048	0.42	0.48	372	26.9	2.55	100	97.8	**Basalt**	**20 g + 100 g**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	Li_2O	F	Rb	Sn	Ba	Bi	Cs	Cu
Z GNA	71.47	0.022	14.7	5.92	3.81	0.168	0.034	0.62	0.08	2.63	0.49	3.32	0.202	0.19	51ppm	220ppm	45ppm	18ppm

Mo	Nb	Ta	U	Zn	Zr	H_2O	CO_2	P_2O_5	As	B	Be	Co	Cr	Ni	Pb	Sc	Sr
100ppm	94ppm	29ppm	22ppm	78ppm	70ppm	(11ppm)	(6ppm)	(14ppm)	(7ppm)	(10ppm)	(9ppm)	(9ppm)	(11ppm)	(8ppm)	(12ppm)	(9ppm)	(8ppm)

Th	Y	Ga	W	S	Ag	Au	Ce	Dy	Gd	Ge	Hf	Ho	La	Nd	Tm	V
(9ppm)	(7ppm)	(13ppm)	(11ppm)	(4ppm)	(5ppm)	(3ppm)	(5ppm)	(3ppm)	(4ppm)	(5ppm)	(4ppm)	(3ppm)	(5ppm)	(4ppm)	(3ppm)	(5ppm)

Yb	LOI	50 g
(5ppm)	(5ppm)	**Greisen**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	H_2O+	H_2O–	Al	Ca	ppm Ag	ppm As
JG JG-1	72.30	24.24	0.38	1.61	2.18	0.063	0.74	2.20	3.38	3.98	0.26	0.0099	0.54	0.07	7.54	1.57	0.043	0.034
JG JG-1a	72.30	14.30	0.51	1.36	2.00	0.057	0.69	2.13	3.39	3.96	0.25	0.083	0.59	0.12	7.57	1.52	(0.023)	(0.43)
JG JG-2	76.83	12.47	0.33	0.57	0.97	0.016	0.037	0.70	3.54	4.71	0.044	0.002	0.33	0.12	6.60	0.50	(0.019)	(0.68)
JB JG-3	67.29	15.48	1.62	1.83	3.69	0.071	1.79	3.69	3.96	2.64	0.48	0.122	0.67	0.17	8.19	2.64	(0.029)	(0.37)
JG JGb-1	43.66	17.49	4.79	9.43	15.06	0.189	7.85	11.90	1.20	0.24	1.60	0.056	1.28	0.13	9.26	8.50	(0.024)	1.09
JG JGb-2	46.47	23.48	0.62	5.41	6.69	0.13	6.18	14.10	0.92	0.059	0.56	0.017	1.46)	0.14	–	–	–	(0.96)
JG JP-1	42.38	0.66	1.98	5.99	8.37	0.121	44.40	0.55	0.021	0.003	(0.006)	(0.002)	2.39	0.44	0.35	0.39	(1.5)	0.34
JG JR-1	75.45	12.83	0.35	0.49	0.89	0.099	0.12	0.67	4.02	4.41	0.11	0.021	1.16	0.20	6.79	0.48	(0.031)	16.3
JG JR-2	75.69	12.72	0.27	0.44	0.77	0.112	0.04	0.50	3.99	4.45	0.07	0.012	1.19	0.22	6.73	0.36	(0.028)	19.2
JG JR-3	72.76	11.90	2.61	1.86	4.72	0.083	0.050	0.093	4.69	4.29	0.21	0.017	(0.72)	(0.24)	–	–	(0.036)	(1.1)
JG JH-1	48.18	5.66	1.39)	(8.09)	10.27	0.19	16.73	15.02	0.71	0.53	0.67	0.099	(1.82)	(0.18)	–	–	–	(1.0)

ppm B	ppm Ba	ppm Be	ppm Bi	ppm Cd	ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge
6.87	466	3.15	0.50	0.040	45.8	58.1	4.06	53.2	10.1	2.52	4.14	2.16	0.73	498	17.8	4.28	1.44
3.95	470	3.16	(0.43)	(0.026)	45	(65)	5.90	17.6	10.6	1.67	4.44	2.57	0.70	439	16.5	4.08	(1.5)
(1.78)	81.0	3.26	(0.64)	(0.004)	48.3	–	3.62	6.37	6.79	0.49	10.5	6.04	0.10	(972)	18.6	8.01	(1.70)
(2.15)	466	(1.60)	(0.05)	(0.054)	40.3	(156)	11.7	22.4	1.78	6.81	2.59	1.52	0.90	(317)	17.1	2.92	(1.6)
4.03	64.3	(0.34)	(0.014)	0.087	8.17	(81)	60.1	57.8	0.26	85.7	1.56	1.04	0.62	133	17.9	1.61	1.01
(4.9)	36.5	–	(0.022)	–	3.0	–	25.8	125	0.51	11.4	(0.60)	(0.36)	0.59	–	15.9	(0.48)	–
(1.4)	19.5	(<0.1)	–	(0.011)	(0.19)	(97)	116	2807	(0.15)	6.72	(0.022)	(0.016)	(0.004)	(14)	(0.70)	(0.015)	(0.49)
117	50.3	3.34	0.56	0.026	47.2	920	0.83	2.83	20.8	2.68	5.69	3.61	0.30	991	16.1	5.06	1.88
145	39.5	3.75	0.62	0.023	38.8	(736)	0.46	3.10	25.0	1.36	6.63	4.36	0.14	1109	17.9	5.83	(1.88)
(11.4)	65.8	7.6	(0.21)	(0.064)	327	–	0.98	3.5	1.0	2.9	(21.5)	(14.0)	0.53	–	(19.7)	–	–
(10.8)	106	(0.43)	(0.067)	–	17.6	–	51.5	616	0.87	8.6	2.5	1.2	0.86	–	7.9	(2.7)	–

ppm Hf	ppm Ho	ppm La	ppm Li	ppm Lu	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm S	ppm Sb	ppm Sc	ppm Se	ppm Sm	ppm Sn
3.56	0.81	22.4	86.6	0.39	1.75	12.4	19.3	7.47	25.4	4.83	182	10.9	0.13	6.53	0.0030	4.62	3.60
3.59	0.82	21.3	79.5	0.44	0.45	11.4	20.4	6.91	26.4	5.63	178	(11)	(0.048)	6.21	–	4.53	4.47
4.73	1.67	19.9	42.2	1.22	0.37	14.7	26.4	(4.35)	31.5	6.20	301	(7.0)	(0.057)	2.42	–	7.78	3.00
4.29	0.38	20.6	20.9	0.26	0.45	5.88	17.2	14.3	11.7	4.70	67.3	(54.7)	(0.08)	8.76	–	3.39	1.40
0.88	0.33	3.60	4.59	0.15	0.59	3.34	5.47	25.4	1.92	1.13	6.87	1910	(0.085)	35.8	(0.15)	1.49	0.48
0.25	(0.15)	1.5	(15.7)	0.062	0.42	1.9	1.8	13.6	1.5	(0.39)	2.9	(599)	(0.12)	24.7	–	0.51	(0.48)
0.20	(0.018)	0.084	(1.79)	(0.0044)	(0.087)	1.48	(0.072)	2460	(0.12)	(0.020)	(0.80)	(26.9)	(0.034)	7.24	–	0.019	(0.05)
4.51	1.11	19.7	61.4	0.71	3.25	15.2	23.3	(1.67)	19.3	5.58	257	13.3	1.19	5.07	(0.006)	6.03	2.86
5.14	1.39	16.3	79.2	0.88	3.357	18.7	20.4	(1.99)	21.5	4.75	303	(9.6)	1.51	5.59	(0.0028)	5.63	3.51
40.3	(4.7)	179	(120)	2.8	0.49	510	107	(1.6)	32.8	33.1	453	(39)	(0.17)	0.50	–	21.3	17.4
1.4	0.53	7.9	(12.1)	0.17	0.77	4.2	11.6	58.2	2.6	(2.3)	14.4	(567)	0.067)	77.6	–	3.1	(0.92)

ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm Tl	ppm Tm	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	20 g	
184	1.79	0.78	13.2	1.03	0.41	3.47	25.2	30.6	2.47	41.1	111	**Granodiorit(e)**	
187	1.90	0.81	12.8	0.98	0.38	4.69	22.7	32.1	2.70	36.5	118	**Granodiorite(e)**	**20 + 100 g**
17.9	2.76	1.62	31.6	1.55	1.16	11.3	3.78	86.5	6.85	13.6	97.6	**Granit(e)**	
379	0.70	0.46	8.28	(0.40)	0.24	2.21	70.1	17.3	1.77	46.5	144	**Granodiorit(e)**	**100 g**
327	0.18	0.29	0.48	(0.066)	0.16	0.13	635	10.4	1.06	109	32.8	**Gabbro**	
438	0.29	0.15	0.19	–	(0.059)	(0.041)	174	4.5	0.39	48.5	11.6	**Gabbro**	**100 g**
(3.32)	(0.02)	(0.003)	0.19	(0.003)	(<0.041)	0.036	27.6	1.54	0.022	41.8	5.92	**Peridotit(e)**	
29.1	1.86	1.01	26.7	1.56	0.67	8.88	7.0	45.1	4.55	30.6	99.9	**Rhyolit(e)**	
8.11	2.29	1.10	31.4	1.85	0.75	10.9	3.00	51.1	5.33	27.8	96.3	**Rhyolit(e)**	
10.4	36.8	4.29	112	(0.93)	–	21.1	4.2	166	20.3	209	1494	**Rhyolit(e)**	
153	0.23	0.52	1.4	–	(0.19)	0.58	228	13.7	1.2	61.8	48.3	**Hornblende; Hornblendite**	**100 g**

CRM	SiO_2	Al_2O_3	FeO	TiO_2	Cu	Ni	Co	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O	CO_2	S	Cr_2O_3	ZnO	100 g	
T UM2	39.2	7.23	12.95	0.24	0.095	0.29	0.012	0.08	25.45	4.68	0.32	0.11	0.02	6.27	0.1	0.94	1.51	0.004	Gesteine, ultramafic	
T UM4	39.35	8.98	12.8	0.35	0.054	0.19	0.007	0.15	22.5	6.27	0.45	0.18	0.02	4.86	0.26	0.44	2.59	0.008	Ultramafic Rocks	

CRM	ppm Pt	ppm Pd	ppm Au	ppm Ru	ppm Os	ppm Ir	ppm Rh	500 g	
GC GPt3	0.0063	0.0047	0.0011	0.015	0.0086	0.0046	0.0013	Gesteine, ultramafic, Pt-Elementgruppe	
GC GPt4	0.058	0.063	0.0043	0.0023	0.0021	0.0051	0.0046	Ultramafic Rocks, Pt-Group Elements	
GC GPt6	0.455	0.605	(0.045)	0.013	0.015	(0.033)	(0.022)		

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	Na_2O	K_2O	H_2O	P_2O_5	CO_2	F	As	B	Ba	Be	Ce
Z TB	60.23	0.93	20.64	6.90	5.43	0.052	1.93	1.32	3.87	3.78	0.097	0.14	0.074	0.00105	0.0090	0.0780	0.00041	0.0104
Z TB2	60.04	0.93	20.5	6.95	5.4	0.047	1.86	1.29	3.86	3.6	0.006	(0.10)	–	–	–	0.0649	–	–

Co	Cr	Cs	Cu	Eu	Ga	Hf	La	Li	Lu	Nd	Ni	Pb	Rb	Sb	Sc	Sm	Sn
0.0014	0.0082	0.0009	0.0049	0.00018	0.0025	0.00050	0.0061	0.0111	0.000045	0.0050	0.0040	0.0008	0.0180	0.00034	0.0016	0.00084	0.0006
0.0014	0.0092	0.0011	0.0049	0.0012	–	–	–	0.0109	–	–	0.0039	(0.0007)	0.0185	–	–	–	0.0005

Sr	Ta	Th	V	W	Y	Yb	Zn	Zr		
0.0160	0.00014	0.0018	0.0107	0.00022	0.0039	0.00033	0.0094	0.0180	25 g	Tonschiefer
0.0159	0.0010	–	0.0096	–	–	0.00038	0.0094	0.0180	50 g	Argillaceous Slate

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	CaO	MgO	K_2O	Na_2O	TiO_2	SO_3	P_2O_5	MnO	CO_2	H_2O	Cl	LOI	60 g	
GB 03104	69.63	14.82	5.67	(0.40)	0.22	0.67	3.76	0.20	0.68	0.028	0.043	0.024	0.13	(3.71)	0.014	4.17	Schiefer;	Shale

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	S	100 g	
VB 8-3-05	37.0	0.75	12.91	5.29	0.037	2.28	16.44	0.57	3.05	2.22	Schiefer;	Slate

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	SrO	BaO	Zn	Na_2O	K_2O	CO_2	S	ppm Cd	ppm Co	ppm Cr	ppm Cu
UN MI	62.19	0.71	14.54	6.41	0.25	3.28	1.96	0.016	0.10	0.30	3.33	2.15	2.13	0.33	0.0100	0.0120	0.1073	0.0438

ppm Ni	ppm Pb	ppm Rb	ppm V	ppm Y	ppm Zr	100 g	
0.0372	0.0945	0.0539	0.1052	0.0198	0.1518	Chlorit-Muscovit Schiefer;	Chlorite-Muscovite Schist

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	B	Ba	Be	Co	Cr	Ce
VS 3191-85	63.40	16.71	7.6	4.65	2.52	0.09	0.08	3.56	1.01	0.030	0.13	0.010	0.095	0.00035	0.0027	0.007	0.009

Cu	Nb	Ni	Pb	Rb	Sc	Sr	V	Zn	Zr	Y	Yb	100 g	
0.0046	0.0016	0.0045	0.0015	0.015	0.0022	0.0039	0.010	0.010	0.023	0.0048	0.0005	Schiefer;	Schist

B R E I T L Ä N D E R – E I C H P R O B E N **Gesteine (Rocks)**

6.11.14

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	CaO	MgO	Na_2O	K_2O	P_2O_5	TiO_2	S(t)	ppm As	ppm B	ppm Ba	ppm Be	ppm Ce	ppm Co
UG SGR-1	28.2	6.52	(1.46)	(1.41)	3.03	8.38	4.44	2.99	1.66	0.328	0.253	1.53	67	54	290	–	36	12
UG SCo-1	62.8	13.7	4.19	0.90	5.13	2.62	2.72	0.90	2.77	0.21	0.63	0.0630	12	72	570	1.8	62	11
UG SDC-1	65.8	15.8	2.62	3.93	6.32	1.40	1.69	2.05	3.28	0.16	1.01	–	0.22		630	3	93	18

ppm Cr	ppm Cs	ppm Cu	ppm F	ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd	ppm Hf	ppm La	ppm Li	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm Pb	
30	5.2	66	1960	(1.9)	1.1	0.56	–	–	1.4	20	147	267	35	(5.2)	16	(29)	38	
68	7.8	29	770	–	–	–	(15)	–	–	30	45	410	1.4	(11)	26	27	31	
64	4	30	600	–	–	–	21	7	8.3	42	34	880	–	–	40	–	25	

ppm Pr	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sn	ppm Sr	ppm Th	ppm U	ppm V	ppm Y	Yb	ppm W	ppm Zn	ppm Zr	30 g	
–	–	3.4	4.6	2.7	(1.9)	420	4.8	5.4	130	(13)	(0.94)	2.6	74	(53)	**Green River Schiefer/Shale**	
(6.6)	110	2.5	11	–	(3.7)	170	9.7	–	130	26	–	(1.4)	100	160	**Cody Schiefer/Shale**	
–	127	0.54	17	8.2	3.0	180	12	3.1	102	–	–	103	290	–	**Mica Schiefer/Schist**	

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	S	P_2O_5	C(org)	H_2O	B	Co	Cr	Cs
Z TS	62.8	0.69	15.96	7.40	0.70	0.037	1.77	0.12	0.078	4.86	0.022	0.28	1.42	4.01	74ppm	41ppm	280ppm	13ppm

Cu	F	Ga	Li	Mo	Ni	Pb	Rb	Sc	Sr	V	Y	Zn	Zr	CO_2	Ba	Ag	Be
460ppm	1150ppm	21ppm	40ppm	130ppm	170ppm	33ppm	230ppm	22ppm	88ppm	960ppm	150ppm	63ppm	290ppm	(0.03)	(0.18)	(0.8ppm)	(4ppm)

La	U	Yb	As	Ce	Eu	Hf	Lu	Nb	Nd	Sb	Sm	Sn	Ta	Tb	Th	50 g	
(80ppm)	(22ppm)	(15ppm)	(27.5ppm)	(168ppm)	(3.2ppm)	(7ppm)	(3.6ppm)	(13ppm)	(108ppm)	(8.2ppm)	(22.9ppm)	(4.1ppm)	(0.97ppm)	(2.4ppm)	(9.1ppm)	**Schwarzschiefer**	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Ba	Ce	Co	Cr	Cu	Ga
X 41	56.67	13.50	4.2	(0.3)	8.10	1.50	0.93	1.39	0.06	0.55	0.05	0.0820	(0.0060)	(0.0015)	0.0123	0.0053	(0.0020)
X 44	34.84	58.80	2.06	(1.0)	(0.1)	0.14	(0.05)	0.18	0.03	1.83	0.10	(0.0050)	(0.0220)	(0.0008)	0.0384	(0.0010)	(0.0055)

Mo	Nb	Ni	Pb	Rb	S	Sr	Th	V	Y	Zn	Zr	100 g	
(0.0005)	0.0008	0.0122	(0.0030)	0.0059	(0.15)	0.0054	(0.0012)	0.0139	0.0017	0.0076	0.0146	**Brandschiefer; Carbonaceous Shale**	
(0.0015)	0.0096	(0.0015)	(0.0030)	0.0013	(0.03)	0.0005	0.0050	0.0395	0.0084	0.0271	0.0406	**Silimanitschiefer; Silimanite Schist**	

CRM	SiO_2	TiO_2	Al_2O_3	FeO	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	LOI	ppm As	ppm Ba	ppm Be	ppm Ce	ppm Co	ppm Cr
UL AWI1	60.46	0.92	16.44	(5.52)	7.21	0.14	(2.09)	0.69	0.74	3.06	(0.15)	7.75	(15)	378	(2.7)	80	20	119
UL SBO1	55.16	0.94	18.24	(5.61)	7.15	0.18	(1.97)	1.76	0.66	3.55	0.17	9.67	(32)	549	(3.2)	101	22	116

ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd	ppm Hf	ppm Ho	ppm La	ppm Lu	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm Sc
(7)	34	5.1	2.9	1.47	22	6	6.3	1.1	38	0.45	17	37	61	(24)	9.3	130	16
(6.8)	33	(5.1)	(3.4)	1.64	(23)	6.2	5	(1.3)	48	0.49	17	42	60	27	11.1	163	17

ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	20 g	
7	108	1.2	0.94	12	0.42	3	134	29	3	99	223	**Schiefer; Shale**	
7.8	150	1.4	1	15.2	(0.43)	3.1	153	32	3.2	82	183	**Schiefer; Schist**	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	H_2O+	H_2O–	ppm Ag	ppm As	ppm Ba	ppm Be
JG JSI–1	59.47	17.60	1.875	4.523	6.764	0.0599	2.413	1.479	2.184	2.845	0.725	0.202	3.92	0.654	(0.119)	14.9	305	2.28
JG JSI–2	59.45	18.17	0.959	5.048	6.650	0.0818	2.385	1.885	1.344	3.008	0.754	0.164	4.158	0.362	(0.061)	11.4	302	2.68

ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Hf	ppm Ho	ppm La	ppm Li	ppm Lu	ppm Nb	ppm Nd	ppm Ni
60.6	(21.5)	15.5	60.9	7.60	40.8	(5.11)	(1.15)	1.22	598	4.63	0.688	29.3	(50.7)	0.442	9.53	28.8	37.6
69.6	(18.5)	15.7	64.7	8.24	44.5	4.71	(2.24)	1.14	678	5.54	(0.671)	32.7	52.6	0.404	12.3	32.0	40.6

ppm Pb	ppm Pr	ppm Rb	ppm S	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	20 g
17.4	6.07	117	1467	16.7	6.02	193	0.842	0.717	9.97	2.63	131	30	2.81	108	174	**Schiefer**
19.7	(6.44)	118	(579)	16.8	5.95	230	1.04	0.727	11.5	2.92	122	31.3	3.15	101	191	**Slate**

CRM	ppm U	ppm Th	SiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	H_2O	CO_2	S	F	80 g
GB 04117	4.6	17.9	68.93	14.99	3.47	2.69	0.052	1.04	2.69	3.13	4.17	0.438	0.122	0.73	0.09	0.007	0.065	**U–Gestein**
GB 04118	37.1	29.7	76.63	12.39	0.99	0.47	0.060	0.06	0.76	3.39	4.66	0.070	0.012	0.39	0.04	0.002	0.123	**U–Rocks**
GB 04119	86.2	11.9	79.16	12.25	1.30	0.22	0.025	0.24	0.08	0.055	2.35	0.246	0.141	3.52	0.06	0.036	0.034	
GB 04120	1.2	3.4	56.03	6.31	1.99	0.95	0.139	1.00	16.61	1.82	0.840	0.437	0.067	1.31	13.91	0.005	0.019	
GB 04121	6.1	21.7	72.01	11.96	5.33	3.04	0.114	0.08	0.39	3.12	6.08	0.292	0.027	0.43	0.38	0.017	0.031	
GB 04122	66.4	29.4	75.18	12.22	1.84	1.24	0.073	0.21	0.88	2.73	4.69	0.119	0.031	0.99	0.51	0.051	0.126	

Probe GB 04120 enthält zusätzlich C(org.) 0.23%
Sample GB 04120 contains additional C(org) 0.23%

CRM	SiO_2	Fe_2O_3	Al_2O_3	CaO	MgO	TiO_2	K_2O	Na_2O	Cr_2O_3	MnO	P_2O_5	LOI	60 g
GB 03112	98.51	0.093	0.84	0.077	0.066	0.020	0.061	0.021	0.00034	(0.0016)	(0.0041)	0.24	**Sandstein, silikatisch**
GB 03113	95.74	0.21	2.36	0.17	0.098	0.036	0.67	0.25	0.00054	(0.0033)	(0.0076)	0.35	**Siliceous Sandstone**
GB 03114	89.59	0.48	5.48	0.34	0.16	0.102	2.07	1.09	0.0012	(0.010)	(0.014)	0.53	

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	LOI	ppm Ba	ppm Be	ppm Ce	ppm Co	ppm Cr	ppm Dy	ppm Eu
UL PRI1	68.60	0.71	10.84	3.32	0.04	3.24	2.49	1.71	3.79	0.18	4.99	531	1.4	82	7.4	78	4.3	1.29

ppm Gd	ppm Hf	ppm La	ppm Lu	ppm Nb	ppm Nd	ppm Ni	ppm Rb	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm U	ppm V	ppm Y	ppm Yb
5.3	10.7	38	0.41	13	36	21	90	9.7	6.6	88	1	0.85	11.3	2.5	65	25	2.8

ppm Zn	ppm Zr	20 g
47	386	**Psammit; Psammite**

B R E I T L Ä N D E R – E I C H P R O B E N **Gesteine (Rocks)**

6.11.16

RM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	B	Ba	Be	Cl	Co	Cr	Cs
VS MO7	40.79	17.60	3.73	7.76	6.46	14.62	2.05	0.75	3.39	1.08	0.15	0.00045	(0.7480)	(0.00012)	0.0750	0.0049	0.0076	0.00011
VS MO8	51.98	16.39	0.85	9.61	6.39	9.02	3.27	0.46	1.15	0.21	0.16	0.00075	0.0272	0.00008	0.0270	0.0048	0.0126	0.00011
VS MO9	50.63	21.78	1.06	7.06	4.90	9,00	3.80	0.47	0.49	0.12	0.10	0.00093	0.0186	0.00009	0.0280	0.0047	0.0025	0.00016
VS MO10	51.65	23.91	1.45	4.40	2.24	10.18	3.99	0.50	0.83	0.13	0.073	0.00087	0.0294	0.00011	0.0240	0.0027	0.0023	0.000055
VS MO11	53.46	27.42	0.53	1.09	0.49	10.95	4.39	0.65	0.18	0.041	0.037	0.00045	0.0319	0.00008	0.0240	0.00096	0.0012	0.000073
VS MO12	49.87	16.74	2.96	6.82	7.38	8.73	3.85	1.12	1.61	0.45	0.14	0.00093	0.0311	0.00023	0.0240	0.0044	0.0181	0.00006
VS MO13	49.50	17.92	3.88	5.83	5.85	9.08	3.90	0.95	1.66	0.40	0.14	0.00093	0.0272	0.00026	0.0340	0.0047	0.0115	0.00009
VS MO14	46.85	17.06	3.26	6.83	8.05	9.60	3.00	0.46	1.62	0.37	0.15	0.00087	0.0172	0.00019	0.0260	0.0050	0.0152	0.00015
VS MO15	40.55	19.03	4.09	4.90	5.23	0.30	4.39	1.51	1.68	0.39	0.059	0.00099	0.0225	0.00022	0.0650	0.0034	0.0136	0.00014

	Cu	F	Ga	La	Li	Mo	Nb	Ni	Pb	Rb	Sc	S	Sn	Sr	V	Y	Yb	Zn
	0.0059	0.1300	(0.0018)	0.0037	0.00054	(0.00024)	0.0012	0.0045	0.00076	0.0012	(0.0025)	0.1800	(0.00038)	(0.1745)	0.0270	–	–	0.0065
	0.0040	0.0390	0.0018	0.0026	0.00055	0.00032	0.00037	0.0018	0.00073	0.00040	0.0031	0.1799	0.00027	0.0477	0.0199	0.0018	0.00020	0.0084
	0.0039	0.0350	0.0050	0.0039	0.00090	0.00024	0.00035	0.0081	0.00069	0.00046	0.0010	0.0380	0.00036	0.0404	0.0051	0.0014	0.00019	0.0066
	0.0044	0.0380	0.0026	0.0024	0.00071	0.00020	0.00039	0.0032	0.00080	0.00055	0.0011	0.0460	0.00050	0.0477	0.0109	0.0017	0.00020	0.0096
	0.0026	0.0420	0.0021	0.0020	0.00075	0.00012	0.00026	0.0014	0.00068	0.00027	0.0005	0.0100	0.00051	(0.0802)	0.0024	0.0008	0.00011	0.0050
	0.0054	0.0600	0.0019	0.0045	0.00092	0.00039	0.0014	0.0137	0.0011	0.0016	0.0022	0.0060	0.00039	0.0865	0.0199	0.0034	0.00033	0.0130
	0.0060	0.0520	0.0020	0.0040	0.0015	0.00030	0.0013	0.0076	0.00093	0.0013	0.0022	0.0060	0.00032	0.0692	0.0226	0.0036	0.00026	0.0074
	0.0066	0.0470	0.0015	0.0034	0.00075	0.00025	0.0011	0.0111	0.00086	0.00040	0.0025	0.0060	0.00024	0.0468	0.0181	0.0039	0.00030	0.0108
	0.0028	0.1600	0.0020	0.0069	0.0016	0.00034	0.0013	0.0090	0.00088	0.0050	0.0029	0.0160	0.00042	0.0554	0.0234	0.0039	0.00026	0.0033

	Zr	Fe_2O_3(tot)	H_2O+	H_2O	H_2O(tot)	CO_2	40 g
	0.0053	12.35	0.70	0.12	0.82	0.03	**Orthoclase-Gabbro**
	0.0048	11.53	0.22	0.088	0.31	0.43	**Gabbro**
	0.0054	8.91	0.37	0.10	0.47	0.16	**Anorthosite-Gabbro**
	0.0058	6.34	0.26	0.095	0.36	0.14	**Anorthosite**
	0.0042	1.74	0.33	0.088	0.42	0.0	**Anorthosite**
	0.0152	10.54	0.18	0.095	0.28	0.0	**Andesite-Basalt**
	0.0180	10.47	0.27	0.16	0.43	0.0	**Olivine-Basalt**
	0.0162	10.85	1.73	0.81	2.54	0.0	**Olivine-Basalt**
	0.0152	10.07	1.34	0.32	1.66	0.20	**Porph. Andesite-Basalt**

CRM	P_2O_5	SiO_2	CaO	MgO	Fe_2O_3	Al_2O_3	MnO	TiO_2	F	CO_2	K_2O	Na_2O	SrO	I	S	100 g	CaO = CaO + SrO
GB 07210	36.89	3.26	51.32	0.43	1.04	0.58	0.024	0.037	3.54	2.15	0.17	0.33	0.077	0.0052	–	**Phosphatgesteine**	
GB 07211	20.86	3.61	40.71	8.19	1.08	2.58	0.015	0.14	2.05	18.46	0.28	0.059	0.16	0.0059	0.79	**Phosphate Rocks**	
GB 07212	6.00	38.80	19.42	7.12	3.08	4.06	0.026	0.48	0.51	16.41	2.63	0.14	0.055	–	–		

CRM	P_2O_5	CaO	SiO_2	F	Fe_2O_3(sol)	Al_2O_3(sol)	Al(tot)	MgO	Na_2O	K_2O(sol)	K_2O(tot)	SrO	120 g
IP 18B	35.7	52.6	1.15	1.33	0.21	0.31	0.35	1.65	0.14	0.21	0.23	0.48	**Phosphatgestein; Phosphate Rock**

CRM	P_2O_5	CaO	Al_2O_3	SiO_2	Fe_2O_3	K_2O	MnO	Na_2O	TiO_2	U_3O_8	V_2O_3	CdO	F	S	SO_4	As_2O_3	CoO	Cr_2O_3
3 120c	33.34	48.02	1.30	5.5	1.08	0.147	0.027	0.52	0.103	0.0135	0.016	0.0010	3.82	(0.37)	(1.7)	(0.001)	(0.01)	(0.0016)

	CuO	Eu_2O_3	MoO_3	NiO	PbO	SrO	ZnO	90 g
	(0.0005)	(0.002)	(0.004)	(0.003)	(0.37)	(0.1)	(0.009)	**Florida Phosphatgestein; Florida Phosphate Rock**

CRM	P_2O_5	CaO	CO_2	F	SiO_2	SO_3	Al_2O_3	MgO	Fe_2O_3	ppm As	ppm B	ppm Cd	ppm Cr	ppm Co	ppm Cu	ppm Hg	ppm Mn	ppm Ni
H 032	32.98	51.76	5.10	4.04	2.09	1.84	0.55	0.403	0.231	9.5	22.6	20.8	257	0.59	33.7	0.055	18.8	34.6

ppm Ti	ppm V	ppm Zn	100 g	
171	153	253	Phosphatgestein; Phosphate Rock	

CRM	P_2O_5	CaO	F	CO_2	MgO	SrO	Fe_2O_3	SiO_2	Al_2O_3	Cl	100 g
X 32	39.96	54.44	2.49	1.61	0.50	0.52	0.14	(0.4)	(0.05)	0.0640	Phosphatgestein; Phosphate Rock

CRM	P_2O_5	SiO_2	CaO	Al_2O_3	CdO	F	Fe_2O_3	K_2O	MgO	MnO	Na_2O	U	V_2O_5	Cr_2O_3	TiO_2	ZnO	90 g
3 694	30.2	11.2	43.6	1.8	0.015	3.2	0.79	0.51	0.33	0.0116	0.86	0.01414	0.31	(0.10)	(0.11)	(0.19)	West. Phosphat West. Phosphate

CRM	P_2O_5	SO_4	CaO	SiO_2	F	Al_2O_3	Fe_2O_3	MgO	100 g
H 033	19.34	42.80	31.48	2.92	1.65	1.10	0.40	0.212	Superphosphat; Super Phosphate

CRM	K	Cl	Na	Ca	Mg	K(sol)	100 g
H 113	50.25	47.80	1.53	0.103	0.024	50.13	Kaliumchlorid; Potassium Chloride (sol = wasserlöslich/water soluble)

CRM	K	SO_4	Cl	Na	Ca	Mg	K(sol)	100 g
H 114	41.80	53.3	1.85	1.10	0.94	0.074	41.76	Kaliumsulphat; Potassium Sulphate (sol = wasserlöslich/water soluble)

CRM	NH_4	NO_3	N	Ca	100 g
H 178	13.044	13.015	26.019	8.882	Kalzium-Ammoniumnitrat; Calcium Ammonium Nitrate

CRM	N	Uric	Biuret	100 g
H 179	46.535	46.09	1.037	Harnstoff; Urea

CRM	N	C	H	O	Biuret	Ca	Mn	Fe	B		
GB 06202	46.65	20.00	6.71	26.64	–	–	–	–	–	2 g	Harnstoff
GB 06501	46.30	–	–	–	1.39	(1.1ppm)	(0.2ppm)	(1.1ppm)	(2.6ppm)	35 g	Urea

CRM	N	P	K	90 g
3 193	13.5	–	38.66	Kaliumnitrat; Potassium Nitrate
3 194	12.15	26.92	–	Ammonium Dihydrogen Phosphate
3 200a	–	22.7352	28.735	Potassium Dihydrogen Phosphate

CRM	N	P	Ca	Mg	Fe	30 g
GB 06502	12.08	26.85	(2.1ppm)	(0.2ppm)	(3.5ppm)	Ammonium Dihydrogen Phosphate

CRM	K	Ca	Mg	Mn	Fe	40 g
GB 06503	44.79	(67.7ppm)	(4.0ppm)	(0.2ppm)	(4.7ppm)	Potassium Sulfate

CRM	Al	ppm As	ppm Ba	ppm Br	Ca	ppm Cd	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Eu	Fe	ppm Hf	K	ppm La	ppm Lu
AE SL1	–	27.5	639	6.82	–	0.26	117	19.8	104	7.01	30.0	7.46	–	6.7400	4.16	–	52.6	–
AE SL3	2.45	3.2	–	5.63	11.11	–	45.5	–	–	1.38	–	2.22	0.66	–	9.10	0.874	22.5	0.30

Mg	Mn	Na	ppm Nd	ppm Ni	ppm Pb	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	Ti	ppm U	ppm V
–	0.3460	0.1720	43.8	44.9	37.7	113	1.31	17.3	9.25	–	–	–	14	5.17	4.02	170
2.70	–	0.669	21.5	–	–	38.8	0.56	3.91	3.83	0.47	0.70	0.49	7.02	2.61	2.30	–

ppm Yb	ppm Zn	25 g
3.42	223	Flußablagerung, Binnensee
1.89	–	Sediment, Lake

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	P_2O_5	MnO	MgO	CaO	Na_2O	K_2O	H_2O	CO_2	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi
GB 07302	(69.90)	(0.23)	(15.72)	(1.89)	(0.05)	(0.03)	(0.21)	(0.25)	(3.04)	(5.19)	(2.45)	(0.07)	0.066	6.2	10.8	185	17.1	1.64
GB 07304	(52.51)	(0.89)	(15.67)	(5.90)	(0.11)	(0.11)	(1.04)	(7.25)	(0.30)	(2.23)	(6.38)	(5.44)	0.084	19.7	52	470	2.4	0.64
GB 07305	(56.36)	(0.90)	(15.37)	(5.86)	(0.14)	(0.15)	(0.98)	(5.34)	(0.40)	(2.10)	(6.41)	(3.57)	0.36	75	51	440	2.3	2.4
GB 07306	(61.23)	(0.78)	(14.16)	(5.88)	(0.23)	(0.13)	(3.00)	(3.87)	(2.31)	(2.44)	(3.37)	(2.01)	0.36	13.6	50	330	1.7	5.0
GB 07308	(82.92)	(0.61)	(7.71)	(2.20)	(0.03)	(0.04)	(0.25)	(0.25)	(0.47)	(2.83)	(2.12)	(0.08)	0.062	2.4	3.6	480	2.0	0.19

ppm Cd	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge	ppm Hf	ppm Hg	ppm Ho	ppm In	ppm La
0.065	192	2.6	12.2	16.6	4.9	11	(8.0)	0.49	1980	27.4	9.5	1.7	(20)	0.04	(2.9)	(0.046)	90
0.19	78	18	81	10	37.3	4.6	2.4	1.3	740	20.5	5.0	1.4	–	0.044	(0.07)	(0.09)	40
0.82	89	18.9	70	9.4	137	5.0	3.1	1.4	585	20.3	6.4	1.4	–	0.10	(1.1)	0.13	46
0.43	68	24.4	190	9.1	383	3.8	(2.1)	1.5	690	16.7	5.5	1.3	–	0.045	(0.78)	0.14	39
0.081	54	3.6	7.6	3.6	4.1	2.6	1.8	0.56	204	10.8	3.5	0.94	(15)	0.042	(0.96)	(0.043)	30

ppm Li	ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm P	ppm Pb	ppm Pr	ppm Rb	ppm Sb	ppm Sc	ppm Se	ppm Sm	ppm Sn	ppm Sr	ppm Ta
101	1.6	240	2.0	95	62	5.5	200	32	18.6	470	0.46	4.4	(0.21)	10.8	29	28	15.3
51	(0.46)	825	0.86	18	32	40	470	30.4	9.3	130	1.84	15.4	(0.28)	6.2	4.0	142	(1.36)
45	0.46	1160	1.2	19	35	34	630	112	(9.6)	118	3.9	14.5	(0.36)	6.6	4.6	204	(1.4)
40	(0.36)	970	7.7	12	33	78	1020	27	(8.2)	107	1.25	17	(0.30)	5.6	2.8	266	(0.72)
13.2	(0.36)	335	0.54	35	21	2.7	140	21	5.7	132	0.24	5.7	(0.15)	3.8	9.4	52	3.7

ppm Tb	ppm Te	ppm Th	ppm Ti	ppm Tl	ppm Tm	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	70 g
1.8	(0.031)	70	1380	1.9	1.55	17	16.5	24.4	67	11	44	460	Stream Sediment
0.90	(0.08)	14.6	5340	1.2	0.48	2.6	118	2.5	26	2.9	101	188	
0.9	(0.12)	15.2	5370	1.16	0.48	2.6	109	3.2	26	2.9	243	220	
0.69	(0.14)	9.0	4640	1.08	(0.38)	2.4	142	25	20.2	2.1	144	170	
0.54	–	13.4	3640	0.78	(0.36)	3.0	26	195	18	2.1	43	490	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	H_2O	C(org)	CO_2	ppm Ag	ppm As	ppm Au	ppm B	ppm Ba	ppm Be
GB 07309	64.89	10.58	4.86	(1.52)	2.39	5.35	1.44	1.99	(2.93)	(0.47)	(4.19)	0.089	8.4	(1.3e-7)	54	430	1.8
GB 07310	88.89	2.84	3.86	(0.24)	0.12	0.70	(0.04)	0.125	(2.10)	(0.44)	(0.40)	0.27	25	-	26	42	0.9
GB 07311	76.25	10.37	4.39	(0.34)	0.62	0.47	0.46	3.28	(2.66)	(0.09)	(0.24)	3.2	188	(3.6e-7)	68	260	26
GB 07312	77.29	9.30	4.88	(1.19)	0.47	1.16	0.44	2.91	(2.10)	(0.18)	(0.40)	1.15	115	(5.6e-7)	24	206	8.2

ppm Bi	ppm Br	ppm Cd	ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge	ppm Hf
0.42	(1.5)	0.26	78	(50)	14.4	85	5.1	32.1	5.1	2.8	1.33	494	14.0	5.5	1.28	9.7
0.38	(2.4)	1.12	38	(53)	15.3	136	2.3	22.6	2.2	1.3	0.47	149	6.4	2.25	0.40	1.8
50	(2.3)	2.3	58	290	8.5	40	17.4	78.6	7.2	4.6	0.60	0.165e-7	18.5	5.9	1.81	5.4
10.9	(1.7)	4.0	61	(163)	8.8	35	7.9	1230	4.8	3.1	0.61	1250	14.1	4.4	1.87	8.3

ppm Hg	ppm Ho	ppm I	ppm In	ppm La	ppm Li	ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm P	ppm Pb	ppm Pr	ppm Rb	ppm S
83e-7	0.96	(0.61)	0.056	40	30	0.45	620	0.64	17.7	34	32.3	670	23	9.2	80	150
280e-7	0.45	1.6	0.067	13.0	13.0	0.19	1013	1.2	6.8	11.8	30.2	271	27	3.2	9.2	90
72e-7	1.4	2.0	1.86	30	70.6	0.78	2490	5.9	25	27	14.3	255	636	7.4	408	170
56e-7	0.94	1.8	0.96	32.7	39.0	0.58	1400	8.4	15.4	25.6	12.8	235	185	6.9	270	940

ppm Sb	ppm Sc	ppm Se	ppm Sm	ppm Sn	ppm Sr	ppm Ta	ppm Tb	ppm Te	ppm Th	ppm Ti	ppm Tl	ppm Tm	ppm U	ppm V	ppm W	ppm Y
0.81	11.1	0.16	6.3	2.6	166	1.3	0.87	(0.04)	12.4	5500	0.49	0.44	2.6	97	1.76	26.6
6.3	4.1	0.28	2.4	1.4	25.3	(0.52)	0.42	(0.09)	5.0	1270	0.21	0.20	2.1	107	1.63	13.8
14.9	7.4	0.20	6.2	370	29	5.7	1.13	(0.38)	23.3	2100	2.9	0.74	9.1	46.8	126	42.7
24.3	5.1	0.25	5.0	54	24.4	3.2	0.82	0.29	21.4	1510	1.76	0.53	7.8	46.6	37.4	29.3

ppm Yb	ppm Zn	ppm Zr	LOI	70 g
2.8	78	370	(7.21)	**Flußablagerung**
1.2	46	70	(2.88)	**Stream Sediment**
5.1	373	153	(3.02)	
3.7	498	234	(2.62)	

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(t)	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O+	H_2O	CO_2	ppm As	ppm Ba	ppm Be
JG JSd-1	66.55	0.643	14.65	3.526	1.363	5.059	0.0924	1.813	3.034	2.727	2.183	0.122	2.554	0.451	(0.0867)	2.42	520	1.40
JG JSd-2	60.78	0.614	12.31	4.552	5.955	11.65	0.120	2.731	3.658	2.438	1.145	0.105	2.554	0.451	(0.501)	38.6	1199	(1.04)
JG JSd-3	76.00	0.403	9.908	3.057	1.161	4.368	0.148	1.17	0.560	0.411	1.971	0.0817	2.838	0.964	-	252	462	(9.08)

ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Gd	ppm Hf	ppm La	ppm Li	ppm Lu	ppm Mo	ppm Nb	ppm Nd	ppm Ni
34.4	11.2	21.5	1.89	22.0	2.23	0.906	0.925	306	2.71	3.55	18.1	22.8	0.186	(0.669)	11.1	17.6	7.04
23.4	48.4	108	1.07	1117	2.86	1.48	0.81	259	(2.67)	2.70	11.3	(19.2)	0.252	11.5	4.56	13.2	92.8
42.0	12.7	35.3	30.6	426	2.22	1.07	0.686	3200	(2.63)	3.21	19.8	151	0.196	-	7.80	15.7	19.6

ppm Pb	ppm Pr	ppm Rb	ppm S	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm U	ppm V	ppm Y	ppm Yb	ppm Zn	ppm Zr	100 g
12.9	4.05	67.4	(68)	10.9	3.48	340	0.893	0.431	4.44	1.00	76.0	14.8	1.18	96.5	132	**Flußsediment**
146	2.40	26.9	13100	17.5	2.68	202	(0.515)	0.440	2.33	1.10	125	17.4	1.67	2056	111	**Stream Sediment**
821	3.40	285	(399)	10.5	3.26	58.7	0.687	0.368	7.79	1.66	70.4	14.9	1.40	136	124	

CRM	ppm As	ppm Cd	ppm Cr	ppm Cu	ppm Hg	ppm Ni	ppm Pb	ppm Sc	ppm Se	ppm Zn	40 g
H 320	76.7	0.533	138	44.1	1.03	75.2	42.3	15.25	0.214	142	Flußablagerung; River Sediment

CRM	ppm As	ppm Ba	ppm Cd	ppm Co	ppm Cr	ppm Cu	ppm Hg	ppm Mn	ppm Pb	ppm Se	Fe	ppm Be	ppm Ni	ppm V	ppm Zn	50 g
GB 08301	56	375	2.45	16.5	90	53	0.22	975	79	0.39	3.94	(3.5)	(32)	(96)	(251)	Flußablagerung; River Sediment

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	C	Fe	S	H_2O	LOI(500°)	LOI(1000°)
T LKSD1	40.1	7.8	4.1	1.7	10.8	2.0	1.1	0.1	0.5	0.2	12.3	2.8	1.57	2.92	23.5	29.9
T LKSD2	58.9	12.3	6.2	1.7	2.2	1.9	2.6	0.3	0.6	0.3	4.5	4.3	0.14	2.23	12.3	13.6
T LKSD3	58.5	12.5	5.7	2.0	2.3	2.3	2.2	0.2	0.5	0.2	4.5	4.0	0.14	2.07	11.8	13.4
T LKSD4	41.6	5.9	4.1	0.9	1.8	0.7	0.8	0.1	0.4	0.3	17.7	2.8	0.99	6.55	40.8	43.6
T STSD1	42.5	9.0	6.5	2.2	3.6	1.8	1.2	0.5	0.8	0.4	12.3	4.7	0.18	4.46	29.7	31.6
T STSD2	53.7	26.1	7.5	3.1	4.0	1.7	2.1	0.1	0.8	0.3	1.6	5.2	0.06	2.43	8.7	10.3
T STSD3	48.6	10.9	6.2	2.2	3.3	1.5	1.8	0.3	0.7	0.4	8.4	4.4	0.14	3.47	21.6	23.6
T STSD4	58.9	12.1	5.7	2.1	4.0	2.7	1.6	0.2	0.8	0.2	4.1	4.1	0.09	1.73	10.2	11.6

ppm Ag	ppm As	ppm Au	ppm B	ppm Ba	ppm Be	ppm Br	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Eu	ppm F	ppm Hf	ppm La	ppm Li
0.6	40	0.005	49	430	1.1	11	27	11	31	1.5	44	3.4	0.9	300	3.6	16	7
0.8	11	0.003	65	780	2.5	18	108	17	57	3.0	37	7.3	1.9	590	7.0	68	20
2.7	27	0.003	25	680	1.9	16	90	30	87	2.3	35	4.9	1.5	490	4.8	52	25
<0.5	16	0.002	22	330	1.0	49	48	11	33	17	31	3.7	1.1	260	2.8	26	12
<0.5	23	0.008	89	630	1.6	40	51	17	67	1.8	36	5.6	1.6	950	6.1	30	11
0.5	42	0.003	42	540	5.2	4	93	19	116	12	47	6.5	2.0	940	5.0	59	65
<0.5	28	0.007	82	1490	2.6	24	63	16	80	5.2	39	5.4	1.3	850	5.1	39	23
<0.5	15	0.004	46	2000	1.7	13	44	13	93	1.9	65	3.8	1.2	380	5.5	24	14

ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sn	ppm Sr	ppm Ta	pmm Tb	ppm Th	ppm Ti	ppm U
0.4	700	10	7	16	16	82	24	1.2	9	4	16	250	0.3	0.6	2.2	3010	9.7
0.6	2020	<5	8	58	26	44	85	1.1	13	11	5	220	0.8	1.4	13.4	3460	7.6
0.4	1440	<5	8	44	47	29	78	1.3	13	8	3	240	0.7	1.0	11.4	3330	4.6
0.5	500	<5	9	25	31	91	28	1.7	7	5	5	110	0.4	1.2	5.1	2270	31.0
0.8	3950	<5	5	28	24	35	30	3.3	14	6	4	170	0.4	1.2	3.7	4600	8.0
0.7	1060	13	20	43	53	66	104	4.8	16	8	5	400	1.6	1.3	17.2	4870	18.6
0.8	2730	6	12	33	30	40	68	4.0	13	7	4	230	0.9	1.1	5.5	4400	10.5
0.5	1520	<5	9	21	30	16	39	7.3	14	5	2	350	0.6	0.9	4.3	4530	3.0

ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	100 g	
50	<4	19	2.0	331	134	**Ablagerung, Binnensee**	KÖNIGSWASSER-Werte zertifiziert; AUQA REGIA-values certified
77	<4	44	4.0	209	254	**Lake Sediment**	Zertifikat auf Anfrage; certificate on request
82	<4	30	2.7	152	178		
49	<4	23	2.0	194	105		
98	<4	42	4.0	198	218	**Ablagerung, Fluß**	KÖNIGSWASSER-Werte zertifiziert; AUQA REGIA-values certified
101	7	37	3.7	246	185	**Stream Sediment**	Zertifikat auf Anfrage; certificate on request
134	<4	36	3.4	204	196		
106	<4	24	2.6	107	190		

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Cr_2O_3	Ba	Ce	Co	Cr	Cu	Ga
X 46	35.90	6.71	28.16	(18.0)	3.16	1.32	0.28	0.35	1.14	0.60	0.11	–	(0.0180)	(0.0110)	0.0056	0.0559	0.0566	–
X 51	33.81	11.87	18.36	(3.0)	0.92	0.86	0.07	0.33	0.21	0.82	0.21	–	(0.0335)	(0.0120)	0.0060	0.0509	0.0268	(0.0020)
X 52	57.81	9.38	19.71	(4.0)	0.60	0.37	(0.1)	0.25	0.27	1.30	0.09	0.19	(0.0410)	(0.0210)	0.0081	–	0.0219	(0.0015)

Mo	Nb	Ni	Pb	Rb	S	Sr	Th	V	Y	Zn	Zr	**100 g**	
(0.0010)	–	(0.0125)	(0.00013)	(0.0020)	(0.17)	0.0025	–	0.0225	(0.0020)	0.59	0.101	**Flußsediment**	
–	(0.0009)	0.0178	0.52	0.0037	(0.24)	0.0044	(0.0010)	0.0181	0.0021	0.22	0.0121	**Stream Sediment**	
–	0.0011	0.0182	0.12	0.0020	(0.02)	0.0025	(0.0011)	0.0364	0.0020	0.0264	0.0250		

RM	Al	Ca	C	Fe	Mg	K	Na	Ti	ppm Sb	ppm As	ppm Ba	ppm Cd	ppm Ce	ppm Cs	ppm Cr	ppm Co	ppm Eu	ppm Hf	ppm Pb
3 8704	6.10	2.641	3.351	3.97	1.200	2.001	0.553	0.457	3.09	(17)	413	2.94	66.5	5.83	121.9	13.57	1.31	8.4	150

ppm Mn	ppm Ni	ppm Sc	ppm Th	ppm U	ppm V	ppm Zn	**50 g**	**als RM charakterisiert, bitte anfragen; characterized as RM, please inquire**
544	42.9	11.26	9.07	3.09	94.6	408	**Ablagerung, Buffalo Fluß; Buffalo River Sediment**	

CRM	Al	Ca	Fe	Mg	P	K	Si	Na	S	Ti	ppm As	ppm Cd	ppm Cr	ppm Cu	ppm Pb	ppm Mn	ppm Se
3 1646a	2.297	0.519	2.008	0.388	0.027	0.864	40.0	0.741	0.352	0.456	6.23	0.148	40.9	10.01	11.7	234.5	0.193

ppm V	ppm Zn	**70 g**	
44.84	48.9	**Ablagerung, Flußmündung; Estuarine Sediment**	

CRM	Al	Fe	K	Na	P	Ti	ppm As	ppm Ba	ppm Ce	ppm Cd	ppm Co	ppm Cr	ppm Hg	ppm La	ppm Mn	ppm Ni	ppm Pb	ppm Rb	ppm Sb
3 2702	8.41	7.91	2.054	0.681	0.1552	0.884	45.3	397.4	123.4	0.817	27.76	352	0.4474	73.5	1757	75.4	132.8	127.7	5.

ppm Sc	ppm Sr	ppm Th	ppm Tl	ppm V	ppm Zn	**50 g**	
25.9	119.7	20.51	0.8267	357.6	485.3	**Meeressediment; Marine Sediment**	

CRM	ppm Sb	ppm As	ppm Be	ppm Cd	ppm Cr	ppm Co	ppm Cu	ppm Pb	ppm Mn	ppm Hg	ppm Mo	ppm Ni	ppm Se	ppm Sr	ppm Sn	ppm V	ppm Zn	ppm Ag
NC HISS1	(0.13)	0.801	0.129	0.024	30	(0.65)	2.29	3.13	66.1	(0.01)	(0.13)	2.16	(0.050)	96.9	(0.11)	6.80	4.94	0.016
NC MESS3	1.02	21.2	2.30	0.24	105	14.4	33.9	21.1	324	0.091	2.78	46.9	0.72	129	2.50	243	159	0.18
NC PACS2	11.3	26.2	1.0	2.11	90.7	11.5	310	183	440	3.04	5.43	39.5	0.92	276	19.8	133	364	1.22

ppm Tl	ppm Li	Al	Ca	Cl	Fe	K	Mg	Na	P	S	Si	Ti		
(0.06)	2.83	0.73	1.14	(0.35)	0.246	0.332	0.075	0.373	–	–	(44)	0.076	**100 g**	**Meeressediment**
0.90	73.6	8.59	1.47	–	4.34	(2.6)	(1.6)	(1.6)	(0.12)	(0.19)	(27)	0.44	**50 g**	**Marine Sediment**
(0.6)	32.2	6.62	1.96	(3)	4.09	1.24	1.47	3.45	0.096	1.29	(28)	0.443	**65 g**	

NC PACS2 enthält/contains: Tributyltin (als/as Sn) 0.98 ppm
Dibuthyltin (als/as Sn) 1.09 ppm
Monobuthyltin (als/as Sn) 0.45 ppm

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	TiO_2	P_2O_5	MnO	MgO	CaO	Na_2O	K_2O	C(org)	CO_2	Ba	H_2O+	S	Cl	F
GB 07313	53.86	13.75	6.58	(0.29)	0.67	0.45	0.43	3.38	1.71	4.81	2.95	(0.25)	(0.38)	0.44	5.39	0.31	4.07	(0.13)
GB 07314	61.91	13.07	5.36	–	0.285	0.148	0.096	2.50	4.31	1.68	2.48	0.50	4.70	425ppm	–	–	–	–

ppm As	ppm B	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm Ga	ppm Gd	ppm Ho	ppm La	ppm Li	ppm Lu	ppm Mo	ppm Nb
5.8	125	92	76.7	58.4	9.4	424	19.9	11.0	5.3	23.7	22.0	4.3	67.8	60.0	1.46	7.2	(15.1)
10.3	(73)	(78)	14.2	86	–	31	(5.4)	(3.0)	(1.3)	(16.1)	(5.6)	(1.0)	(38)	–	(0.45)	(0.64)	(19.1)

ppm Nd	ppm Ni	ppm Pb	ppm Pr	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sr	ppm Tb	ppm Th	ppm Tm	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn
91.8	150	29.3	20.1	97.3	1.85	25.6	21.5	267	3.4	13.9	1.54	1.98	112	5.5	104	9.8	160
(33)	34.3	25	(8.7)	(109.3)	(1.4)	(12.5)	(6.7)	150	(0.83)	(10.2)	(0.44)	(2.7)	(103.1)	(2.1)	(27.0)	(2.8)	87

ppm Zr	ppm Cd	ppm Hg	ppm Se	LOI		
177	–	–	–	(9.93)	**Meeresablagerung; Marine Sediment**	**25 g + 50 g**
(229)	0.20	0.048	0.16	–	**Meeresablagerung; Marine Sediment/Offshore**	**75 g**

CRM	Li	Be	B	CO_2(carb)	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	S	K_2O	CaO	Sc	TiO_2	V	Cr	MnO	FeO
VS 5368–90	0.005	0.00014	0.005	6.00	4.45	3.21	12.70	41.80	0.23	0.12	1.33	9.20	0.0023	0.73	0.012	0.0066	1.04	0.6
VS 5369–90	0.0035	0.00018	–	2.40	4.00	4.58	14.37	43.50	0.27	0.17	1.34	7.63	0.0026	2.30	0.020	0.026	0.265	2.9
VS 5370–90	0.0013	0.00010	–	32.20	1.86	3.44	3.60	11.90	0.23	0.19	0.51	39.23	0.0006	0.30	0.0057	0.0034	0.218	0.17
VS 5371–90	0.0018	0.00016	0.007	2.70	4.52	3.16	8.96	59.60	0.12	0.17	1.39	6.40	0.0017	0.59	0.0085	0.0080	0.37	1.2
VS 5372–90	0.006	0.00021	0.007	1.00	3.50	3.17	15.97	48.80	0.72	0.15	2.79	3.03	0.0032	0.98	0.015	0.009	1.77	0.20

Fe_2O_3	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Mo	Sn	Ba	La	Ce	Yb	Pb
6.92	0.0038	0.019	0.017	0.024	0.0010	0.0028	0.050	0.0030	0.009	0.0004	0.00020	0.32	0.0013	0.0025	0.0003	0.0010
11.82	0.0046	0.015	0.018	0.013	0.0012	0.0037	0.051	0.0033	0.017	0.00017	0.00033	0.13	0.0025	0.005	–	0.0018
2.44	0.0012	0.0038	0.0030	0.010	0.0005	0.0011	0.12	0.0009	0.008	0.0004	0.021	0.010	0.0007	–	–	0.0011
5.05	0.0030	0.010	0.014	0.0090	0.0011	0.0046	0.034	0.0016	0.010	0.00028	0.00032	0.15	0.0015	0.0033	0.00022	0.0024
9.23	0.016	0.037	0.032	0.016	0.0014	0.0090	0.029	0.015	0.019	0.0038	0.00040	0.11	0.008	0.010	0.0015	0.0062

Th	As	Nb	Cs	Nd	Sm	Au	U	LOI	50 g	Meeresablagerungen
0.00024	–	–	–	–	–	–	–	17.5		**Lehm; Clay**
0.0005	–	–	–	–	–	–	–	9.2		**Schlick, vulkanisch; Volcanogeous Ooze**
0.0003	–	–	–	–	–	–	–	36.6		**Schlick, kalkhaltig; Calcareous Ooze**
0.0005	0.0020	0.0010	0.00030	0.0013	0.00025	0.0000004	0.00015	9.6		**Schlamm, silikatisch; Siliceous Silt**
0.0014	0.0032	0.0012	0.0005	–	0.0020	0.0000005	0.00025	9.3		**Roter Lehm, Tiefsee; Red Clay, Deep Water**

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(tot)	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O+	Cl	C(tot)	S(tot)	LOI
JG JMS-1	53.74	0.70	15.82	4.54	2.12	6.90	0.102	2.87	2.13	4.07	2.24	0.18	6.79	2.69	1.69	1.32	15.44
JG JMS-2	41.8	1.40	14.18	10.96	<0.04	10.96	2.26	3.24	4.68	5.79	2.70	1.26	7.13	4.05	0.39	0.29	19.15

ppm As	ppm B	ppm Ba	ppm Be	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm In	ppm Li	ppm Ni	ppm Pb	ppm Rb	ppm Sb	ppm Sr	ppm Te	ppm V	
18	81	307	1.3	18.1	133	5.9	88	0.101	62	53	49	88	1.4	154	0.132	127	
35	106	1856	1.8	226	78	3.0	447	0.178	43	311	88	65	4.5	454	1.38	183	

ppm Y	ppm Zn	ppm Zr	100 g
24.3	264	132	**Meeressediment**
254	166	220	**Marine Sediment**

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	CaO	MgO	Na_2O	K_2O	P_2O_5	LOI	As	B	Ba	Be	Ce	Co
VS 7126-94	61.07	0.69	13.57	7.02	1.60	0.40	1.85	2.00	1.96	2.21	0.345	8.34	0.0018	0.0034	0.071	0.00027	0.0080	0.0018
VS 7176-95	62.46	0.76	14.22	5.39	3.50	0.12	7.09	3.12	3.11	1.51	0.139	1.78	–	–	0.053	–	(0.0041)	0.0017

Cr	Cs	Cu	Eu	F	Ga	Ge	Hf	La	Li	Lu	Mo	Nb	Nd	Ni	Pb	Rb	S
0.0066	0.0006	0.0052	0.00014	0.060	0.0016	0.00014	0.00039	0.0045	0.0037	0.000040	0.00029	0.0012	0.0039	0.0054	0.0021	0.0093	0.165
0.0158	–	0.0018	(0.00014)	(0.038)	(0.0013)	(0.00013)	(0.00067)	0.0019	0.00085	(0.000041)	(0.00016)	0.0010	(0.0021)	0.0031	0.0014	0.0039	–

Sc	Sm	Sn	Sr	Ta	Tb	Th	U	V	Y	Yb	Zn	Zr	C(org)	CO_2	SO_3	60 g
0.0013	0.0007	0.00032	0.0266	0.000084	0.00009	0.00127	0.00120	0.011	0.0030	0.00029	0.0096	0.0156	(2.24)	(0.07)	(0.35)	**Sediment, Baikalsee**
0.0019	(0.00043)	0.00037	0.0578	–	–	(0.00048)	(0.0003)	0.0105	0.0024	0.00027	0.0064	0.0204	–	(0.74)	(0.05)	

CRM	Al	ppm Cd	ppm Co	ppm Cu	Fe	ppm Mn	ppm Ni	ppm Pb	ppm V	ppm Zn	ppm As	ppm Se	ppm Hg	ppm Cr	5 g
NW WQB1	8.29	2.10*	18.2*	80.0*	4.92*	2260*	59.3*	85.7*	125.0*	279.0*	23.00	1.02	1.09	–	**Lake Ontario**
NW WQB3	5.80*	3.85*	15.3	83.4*	6.0	1264	52.0	243.0*	88.85*	1396	18.8	1.15	2.75	–	**Hamilton Harbour**
NW SUD1	6.22*	2.30*	44.8*	565.0*	3.40*	582.5*	941.0*	58.0*	69.90*	771.0*	–	–	–	–	**Sudbury**
NW TH2	6.33*	4.91*	14.4*	123 *	3.57*	562*	40.1*	190 *	81.8 *	904 *	8.83*	0.815*	0.593*	120*	**Toronto Harbour**
NW HR1	5.94*	3.80*	13.0*	81.0*	3.19*	540*	38.5*	143.5*	73.35*	1100.0*	–	–	–	–	**Humber River**

*** = Empfohlene Werte, mögliche Änderung bei Vorlage weiterer Daten; Recommended values, subject to change as more data become available.**

CRM	ppm As	ppm Cd	ppm Cu	ppm Pb	ppm Hg	ppm Mo	ppm Ni	ppm Se	ppm Zn	ppm Cr	ppm Ag	N	Al	Ca	Fe	Mg	P	K
3 2781	7.82	12.78	627.4	202.1	3.64	46.7	80.2	16.0	1273	(202)	(98)	4.78	(1.6)	(3.9)	(2.8)	(0.59)	(2.42)	(0.49)

Si	Na	Ti	40 g	
(5.1)	(0.21)	(0.32)	**Schlamm, häusl. Ursprung; Domestic Sludge**	

CRM	ppm Cd	ppm Cr	ppm Co	ppm Cu	ppm Hg	ppm Mn	ppm Ni	ppm Pb	ppm Zn	40 g
H 144R	1.82	104	15.0	308	3.14	208	47.7	106	932	**Abwasserschlamm; Sewage Sludge (häusl. Urpsrung/domestic Origin)**
H 145R	3.50	(313)	5.61	696	2.01	156	247	286	2122	**Abwasserschlamm; Sewage Sludge (gemischter Ursprung/mixed Origin)**
H 146R	18.8	196	7.39	838	8.62	324	69.7	609	3061	**Abwasserschlamm; Sewage Sludge (industr. Ursprung/industr. Origin)**
H 597	–	203	–	–	–	–	–	–	–	**Abwasserschlamm; Sewage Sludge**

KÖNIGSWASSER-Werte für H 144R, 145R + 146R zertifiziert; Aqua Regia-values for H 144R, 145R + 146R certified.

CRM	ppm Ag	ppm As	ppm Ba	ppm Be	ppm Bi	ppm Cd	ppm Cl	ppm Co	ppm Cr	ppm Cu	ppm Hg	ppm Li	ppm Mn	ppm Mo	ppm Ni	ppm Pb	ppm Sb	ppm Sn
IR WT-H	38.4	146	772	677	–	54.7	6170	315	1340	3140	31.3	11.5	3660	78.4	1140	2290	43.0	20.3
IR WT-M	40.4	9.84	787	72	–	11.9	–	8.20	939	959	14.6	–	942	–	240	841	12.7	20.3
IR WT-L	11.9	8.87	781	3.73	3.73	1.97	–	6.77	79.0	136	4.25	–	390	–	32.0	122	17.8	–

ppm Sr	ppm V	ppm Zn	Al	Ca	Fe	K	Mg	Na	P	S	Si	40 b
872	33.7	6360	2.51	4.83	1.70	0.582	0.570	(0.282)	1.44	1.34	(8.20)	**Abwasserschlamm, städt. Kläranlage**
160	34.2	3080	2.61	5.15	1.74	0.589	0.613	(0.303)	1.58	1.03	(8.37)	**Sewage Sludge from City Water Treatment**
170	41.3	1310	3.03	8.80	1.70	(0.695)	0.781	(0.414)	0.881	1.02	(11.1)	

CRM	Al	B	Ba	Cd	Co	K	Mg	Mn	Pb	Na	Sr	Ni	Cu	Ca	Cr	Zn	70 g
2 GI	0.30	0.03	0.03	0.001	0.002	0.14	1.1	0.14	0.63	0.7	0.033	(2.7)	(4.4)	(6.4)	(3.8)	(2.1)	**Galvanikschlamm Galvanic Sludge**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	H_2O+	C(org)	CO_2	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi	ppm Br
GB 07401	62.60	14.18	5.19	(1.27)	1.81	1.72	1.66	2.59	(4.99)	1.80	(1.13)	0.35	33.5	50	590	2.5	1.17	2.9
GB 07402	73.35	10.31	3.52	0.57	1.04	2.36	1.62	2.54	(2.86)	0.49	(0.97)	0.054	1.37	36	930	1.8	0.38	4.5
GB 07403	74.72	12.24	2.00	0.50	0.58	1.27	2.71	3.04	(1.91)	0.50	(0.13)	0.091	4.4	23	1210	1.4	0.17	4.3
GB 07404	50.95	23.45	10.30	(0.41)	0.49	0.26	0.11	1.03	(10.13)	0.62	(0.12)	0.070	58	97	213	1.85	1.04	4.0
GB 07405	52.57	21.58	12.62	(0.22)	0.61	(0.095)	0.122	1.50	(8.81)	(0.32)	(0.096)	4.4	412	53	296	2.0	41	(1.8)
GB 07406	56.93	21.23	8.09	(0.57)	0.34	0.22	0.19	1.70	(8.90)	0.81	(0.084)	0.20	220	57	118	4.4	49	(7.2)
GB 07407	32.69	29.26	18.76	(1.05)	0.26	0.16	0.074	0.20	(13.73)	0.64	(0.11)	0.057	4.8	(10.5)	180	2.8	0.20	5.2
GB 07408	58.61	11.92	4.48	1.22	2.38	8.27	1.72	2.42	(3.28)	(0.31)	(5.97)	0.060	12.7	54	480	1.9	0.30	(2.6)

ppm Cd	ppm Ce	ppm Cl	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge	ppm Hf	ppm Ho	ppm I	ppm In
4.3	70	(78)	14.2	62	9.0	21	4.6	2.6	1.0	506	19.3	4.6	1.34	6.8	0.87	1.9	0.081
0.071	402	(63)	8.7	47	4.9	16.3	4.4	2.1	3.0	2240	12	7.8	1.2	5.8	0.93	1.8	0.091
0.059	39	(57)	5.5	32	3.2	11.4	2.6	1.5	0.72	246	13.7	2.9	1.17	6.8	0.53	(1.3)	0.031
0.35	136	(36)	22.3	370	21.4	40.5	6.6	4.5	0.85	540	30.6	4.7	1.91	14	1.46	9.4	0.12
0.45	91	(78)	12.3	118	15.0	144	3.7	2.4	0.82	603	31.7	3.5	2.6	8.1	0.80	3.8	4.1
0.13	66	98	7.6	75	10.8	390	3.3	2.2	0.66	906	29.5	3.4	3.2	7.5	0.69	19.4	0.84
0.080	98	100	97	410	2.7	97	6.6	2.7	3.4	321	39.3	9.6	1.6	7.7	1.1	19.3	0.10
0.13	66	(68)	12.7	68	7.5	24.3	4.8	2.8	1.2	577	14.8	5.4	1.27	7.0	0.97	1.6	(0.043)

ppm La	ppm Li	ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm P	ppm Pb	ppm Pr	ppm Rb	ppm S	ppm Sb	ppm Sc	ppm Se	ppm Sm	ppm Sn
34	35.3	0.41	1760	1.4	16.6	28	20.4	735	98	7.5	140	310	0.87	11.2	0.14	5.2	6.1
164	22	0.32	510	0.98	27	210	19.4	446	20.2	57	88	210	1.3	10.7	0.16	18	3.0
21	18.4	0.29	304	0.30	9.3	18.4	12.2	320	26	4.8	85	120	0.45	5.0	0.094	3.3	2.5
53	55.4	0.75	1420	2.6	37.6	27.3	64.2	695	58.5	8.4	75	180	6.3	20.2	0.64	4.4	5.7
35.7	56	0.42	1360	4.6	22.6	24	40	390	552	7.0	117	410	35.4	17.2	1.56	4.0	17.7
30	36	0.42	1450	18	26.8	21	53	303	314	5.8	237	260	60	15.5	1.34	3.8	72
46	19.5	0.35	1780	2.9	64	45	276	1150	13.6	11	15.8	250	0.42	28	0.32	10.8	3.6
35.5	35.5	0.43	650	1.16	15	32	31.5	775	21	8.3	96	120	1.04	11.7	0.12	5.9	2.8

ppm Sr	ppm Ta	ppm Tb	ppm Te	ppm Th	ppm Ti	ppm Tl	ppm Tm	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn	ppm Zr	LOI	70 g
155	1.4	0.75	(0.051)	11.6	4830	1.0	0.42	3.3	86	3.1	25	2.66	680	245	(8.59)	**Böden**
187	(0.8)	0.97	(0.035)	16.6	2710	0.62	0.42	1.45	62	1.08	21.7	1.97	42.3	219	4.4	**Soils**
380	(0.8)	0.49	0.040	6.0	2240	(0.48)	0.28	1.26	36.5	0.95	15	1.68	31.4	246	2.67	
77	3.1	0.94	(0.15)	27.3	10800	0.94	0.70	6.7	147	6.2	39	4.8	210	500	(10.9)	
41.5	1.8	0.69	(4.0)	22.7	6290	1.6	0.41	6.5	166	33.5	21	2.8	494	272	(9.1)	
39	5.3	0.61	(0.42)	23	4390	2.4	0.40	6.7	130	89.5	18.8	2.7	96.6	220	(10.0)	
26	3.9	1.3	–	9.1	20200	(0.21)	0.42	2.2	245	1.23	26.6	2.4	142	318	(14.3)	
236	1.05	0.89	0.046	11.8	3800	0.59	0.46	2.7	81.4	1.7	26	2.8	68	229	9.12	

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	ppm Ag	ppm As	ppm B	ppm Ba	ppm Be	ppm Bi	ppm Cd	ppm Ce	ppm Co	ppm Cr	ppm Cs
GB 07409	73.28	12.91	2.08	0.49	1.35	3.31	3.37	0.067	2.9	13.8	693	2.1	0.10	0.068	58.9	4.9	26.4	3.3
GB 07410	65.64	14.55	4.60	1.25	1.42	1.90	2.59	0.11	10.5	38.3	623	2.6	0.37	0.090	76.6	12.8	66.0	7.9
GB 07411	47.96	12.04	7.97	3.71	4.33	1.10	2.03	5.4	205	63.9	550	2.3	1.7	28.2	66.3	11.6	59.6	9.3

ppm Cu	ppm Dy	ppm Eu	ppm F	ppm Ga	ppm Gd	ppm Ge	ppm Hg	ppm La	ppm Li	ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni	ppm P	ppm Pb
4.9	3.2	0.97	215	14.6	3.9	1.2	0.015	31.3	14.3	0.27	262	0.43	13.0	26.0	9.3	318	16.3
23.2	(5.3)	1.2	438	18.8	5.6	(1.6)	0.066	37.6	33.2	0.46	706	0.84	17.1	34.4	27.6	439	29.2
65.4	(4.4)	1.1	624	17.3	4.6	(1.3)	0.150	32.8	29.4	0.36	9700	1.5	15.1	27.4	24.2	1400	2700

ppm Rb	ppm Sb	ppm Sc	ppm Se	ppm Sm	ppm Sn	ppm Sr	ppm Tb	ppm Th	Ti	ppm Tl	ppm Tm	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn
97.4	0.21	4.8	(0.044)	4.9	1.4	270	0.55	8.4	0.25	0.58	0.28	1.6	34.7	0.98	16.9	1.8	34.2
109	0.93	11.4	0.28	6.6	4.2	188	0.85	12.0	0.46	0.62	0.48	2.4	82.7	5.0	27.4	3.1	72.8
111	9.2	11.0	0.51	5.4	64.3	130	0.70	12.6	0.41	(1.7)	0.40	3.3	88.5	6.9	24.2	2.5	3800

ppm Zr	ppm Br	ppm Cl	ppm Er	ppm Ho	ppm I	ppm In	N	ppm Pr	ppm S	ppm Te	50 g
300	(1.2)	(57.4)	(1.8)	(0.66)	(0.44)	(0.032)	(0.052)	(7.1)	(97.0)	(0.024)	**Böden**
337	(5.0)	(45.6)	(2.9)	(1.1)	(2.6)	(0.07)	(0.12)	(8.8)	(174)	(0.035)	**Soils**
192	(3.1)	(101)	(2.4)	(0.88)	(2.6)	(0.38)	(0.32)	(7.5)	(999)	(0.055)	

CRM	Al	Ca	Fe	F	Mg	Na	P	Si	Ti	N	ppm As	ppm Be	ppm Cd	ppm Co	ppm Ce	ppm Cr	ppm Cu	ppm Eu
GB 08302	7.11	2.59	3.34	2.12	1.53	1.52	0.86	30.57	0.40	0.128	3.8	2.96	0.081	13.1	83.6	60.8	24.6	1.4

ppm La	ppm Mn	ppm Nd	ppm Ni	ppm Pb	ppm Rb	ppm Sc	ppm Se	ppm Sm	ppm Sr	ppm Th	ppm U	ppm V	ppm Zn	ppm Yb	ppm Ba	ppm Br	ppm Cs
41.9	677	42.3	31.1	14.2	135	10.8	0.16	7.1	163	17.6	3.84	77.5	58.0	3.1	(509)	(1.3)	(7.3)

ppm Dy	ppm Hf	ppm Hg	ppm Lu	ppm Sb	ppm Ta	ppm Tb	15 g
(5)	(7.3)	(0.018)	(0.48)	(0.4)	(1.1)	(0.9)	**Tibetboden; Tibet Soil**

CRM	Si	Al	Fe	K	Ca	Na	Ti	Mg	P	Mn	ppm Ba	ppm Sr	ppm Zn	ppm Rb	ppm V	ppm Pb	ppm Cr	ppm Co
T SO2	24.99	8.07	5.56	2.45	1.96	1.90	0.86	0.54	0.30	0.072	966	340	124	78	64	21	16	9
T SO3	15.86	3.06	1.51	1.16	14.63	0.74	0.20	4.98	0.048	0.052	296	217	52	39	38	14	26	8

ppm Ni	ppm Cu	ppm Hg	200 g
8	7	0.082	**Böden**
16	17	0.017	**Soils**

CRM	As	Be	Co	Cu	Mo	Ni	Pb	Sn	Zn	Cd	Hg	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	S	B	Ba
VS 2501-83	0.0010	0.00016	0.0014	0.0047	0.0003	0.0054	0.0023	0.0005	0.0087	0.000012	0.000008	59.18	1.56	17.01	7.86	0.04	0.006	0.027
VS 2502-83	0.003	0.0010	0.0063	0.017	0.0008	0.016	0.015	0.0022	0.027	0.00026	0.000026	59.18	1.56	17.01	7.86	0.04	0.006	0.027
VS 2503-83	0.005	0.0025	0.015	0.031	0.0013	0.038	0.028	0.006	0.061	0.0005	0.00004	59.18	1.56	17.01	7.86	0.04	0.006	0.027

CRM	Nb	Rb	Sc	Sr	MnO	CaO	MgO	K_2O	Na_2O	P_2O_5	Ce	Cr	Cs	F	Ga	La	Li	V
VS 2501-83	0.0025	0.0080	0.0015	0.005	0.051	0.17	0.92	0.98	0.15	0.10	0.007	0.018	0.0009	0.04	0.0015	0.0030	0.005	0.018
VS 2502-83	0.0025	0.0080	0.0015	0.005	0.051	0.17	0.92	0.98	0.15	0.10	0.007	0.018	0.0009	0.04	0.0015	0.0030	0.005	0.018
VS 2503-83	0.0025	0.0080	0.0015	0.005	0.051	0.17	0.92	0.98	0.15	0.10	0.007	0.018	0.0009	0.04	0.0015	0.0030	0.005	0.018

CRM	Y	Yb	Zr	Se	LOI	100 g
VS 2501-83	0.0027	0.00036	0.034	(0.0003)	11.86	**Rote Erde**
VS 2502-83	0.0027	0.00036	0.034	(0.003)	11.86	**Red Soil**
VS 2503-83	0.0027	0.00036	0.034	(0.0003)	11.86	

CRM	As	Be	Co	Cu	Mo	Ni	Pb	Sn	Zn	Mg	Cd	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	S	B	Ba
VS 2504-83	0.0013	0.00022	0.0012	0.0034	0.00014	0.0045	0.0017	0.0004	0.0070	0.0000025	0.00003	52.65	0.64	11.48	4.60	0.04	0.0063	0.050
VS 2505-83	0.0029	0.0008	0.0057	0.012	0.0006	0.013	0.010	0.0020	0.017	0.000018	0.00021	52.65	0.64	11.48	4.60	0.04	0.0063	0.050
VS 2506-83	0.006	0.0026	0.015	0.029	0.0013	0.032	0.028	0.006	0.039	0.00004	0.00055	52.65	0.64	11.48	4.60	0.04	0.0063	0.050

CRM	Ce	Nb	Rb	Sc	Sr	MnO	CaO	MgO	K_2O	Na_2O	P_2O_5	Cr	Cs	F	Ga	Li	La	V
VS 2504-83	0.006	0.0013	0.0081	0.0014	0.031	0.089	11.47	2.99	2.09	1.64	0.17	0.0084	0.0005	0.05	0.0013	0.0032	0.0029	0.009
VS 2505-83	0.006	0.0013	0.0081	0.0014	0.031	0.089	11.47	2.99	2.09	1.64	0.17	0.0084	0.0005	0.05	0.0013	0.0032	0.0029	0.009
VS 2506-83	0.006	0.0013	0.0081	0.0014	0.031	0.089	11.47	2.99	2.09	1.64	0.17	0.0084	0.0005	0.05	0.0013	0.0032	0.0029	0.009

CRM	Y	Yb	Zr	Se	LOI	100 g
VS 2504-83	0.0026	0.00033	0.019	(0.0001)	11.80	**Grauer Boden**
VS 2505-83	0.0026	0.00033	0.019	(0.0001)	11.80	**Grey Soil**
VS 2506-83	0.0026	0.00033	0.019	(0.0001)	11.80	

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	C	CO_2	S	Li	Be	B	F
VS 5358-90	65.5	12.45	4.90	-	1.95	2.83	1.16	2.58	0.090	0.74	0.22	1.7	1.2	0.03	0.0028	0.00021	0.007	0.034
VS 5359-90	69.4	10.30	3.83	-	1.03	1.62	0.80	2.27	0.077	0.75	0.18	3.6	-	0.04	0.0025	0.00020	0.005	0.027
VS 5360-90	78.3	9.58	3.00	0.5	0.77	0.82	1.15	2.48	0.070	0.84	0.075	0.55	-	0.03	0.0016	0.00015	0.004	0.021

CRM	Sc	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	Rb	Sr	Y	Zr	Nb	Mo	Ag	Sn	Cs
VS 5358-90	0.0013	0.011	0.014	0.0014	0.0058	0.0030	0.0073	0.0013	0.00016	0.0087	0.016	0.0027	0.030	0.0015	0.00010	0.000012	0.00034	0.0004
VS 5359-90	0.0012	0.0075	0.008	0.0010	0.0033	0.0023	0.0054	0.0010	0.00010	0.0084	0.014	0.0030	0.045	0.0015	0.00010	0.000010	000035	0.0004
VS 5360-90	0.0009	0.0064	0.008	0.0010	0.0025	0.0018	0.0042	0.0009	-	0.0078	0.0012	0.0027	0.053	0.0020	0.00008	0.000008	0.00026	0.00021

CRM	Ba	La	Ce	Yb	Pb	LOI	100 g
VS 5358-90	0.046	0.0038	0.006	0.0003	0.0017	6.7	**Light Chestnut Coloured Soil**
VS 5359-90	0.040	0.0035	0.006	0.0004	0.0016	9.3	**Chernozemic Soil**
VS 5360-90	0.051	0.0035	0.005	0.0004	0.0015	2.6	**Sod-Pozolic Soil**

CRM	As	Be	Co	Cu	Mo	Ni	Pb	Sn	Zn	Cd	Hg	Se	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	B
VS 2499-83	0.0017	0.0010	0.0045	0.010	0.0007	0.0087	0.0087	0.0019	0.014	0.00013	0.000013	(0.00008)	91.24	0.29	3.36	0.99	0.011	0.003
VS 2500-83	0.007	0.0025	0.013	0.026	0.0012	0.029	0.025	0.006	0.043	0.0004	0.00003	(0.00008)	91.24	0.29	3.36	0.99	0.011	0.003

	Ba	Ce	Cr	Cs	Sc	Sr	V	Y	Yb	CaO	MgO	K_2O	Na_2O	P_2O_5	Ga	La	Li	Nd
	0.031	0.0017	0.010	0.00016	0.00026	0.0069	0.0014	0.0013	0.00015	0.27	0.13	1.23	0.51	0.036	0.0005	0.0010	0.00035	0.0012
	0.031	0.0017	0.010	0.00016	0.00026	0.0069	0.0014	0.0013	0.00015	0.27	0.13	1.23	0.51	0.036	0.0005	0.0010	0.00035	0.0012

	Rb	Zr	Se	LOI	100 g
	0.0032	0.035	(0.00008)	1.48	**Sandboden mit Torfasche**
	0.0032	0.035	(0.00008)	1.48	**Turf-Ash Bearing Sandy Soil**

CRM	As	Be	Co	Cu	Mo	Ni	Pb	Sn	Zn	Cd	Hg	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	MnO	CaO	S
VS 2507-83	0.0008	0.00020	0.0009	0.0025	0.00012	0.0032	0.0018	0.0003	0.0056	0.000010	0.000005	71.49	0.74	9.81	3.48	0.079	1.60	0.05
VS 2508-83	0.0021	0.0009	0.0046	0.011	0.0006	0.011	0.009	0.0020	0.018	0.00018	0.000021	71.49	0.74	9.81	3.48	0.079	1.60	0.05
VS 2509-83	0.004	0.0024	0.013	0.027	0.0011	0.030	0.026	0.006	0.046	0.00045	0.00004	71.49	0.74	9.81	3.48	0.079	1.60	0.05

	B	Ba	Ce	Cr	Cs	Nb	Rb	Sc	Sr	V	Y	MgO	K_2O	Na_2O	P_2O_5	F	Ga	La
	0.0056	0.050	0.007	0.0083	0.0004	0.0014	0.0088	0.0011	0.011	0.0072	0.0031	0.95	2.42	0.81	0.18	0.028	0.0011	0.0036
	0.0056	0.050	0.007	0.0083	0.0004	0.0014	0.0088	0.0011	0.011	0.0072	0.0031	0.95	2.42	0.81	0.18	0.028	0.0011	0.0036
	0.0056	0.050	0.007	0.0083	0.0004	0.0014	0.0088	0.0011	0.011	0.0072	0.0031	0.95	2.42	0.81	0.18	0.028	0.0011	0.0036

	Li	Yb	Zr	Se	LOI	100 g
	0.0023	0.00041	0.047	(0.0003)	8.26	**Schwarzer Boden**
	0.0023	0.00041	0.047	(0.0003)	8.26	**Black Soil**
	0.0023	0.00041	0.047	(0.0003)	8.26	

CRM	Pt	Pd	Au	Ru	Os	Ir	Rh	500 g
GC GPt1	0.00026	0.00026	0.0009	(0.00005)	(0.00005)	(0.00003)	(0.00002)	**Lößboden, Pt-Elementgruppe; Loess, Pt-Element Group**

CRM	SiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Cr_2O_3	Ba	Ce	Co	Cu	Ga
X 42	74.09	10.03	4.68	(4.0)	1.92	0.89	(0.15)	0.45	0.10	0.36	(0.04)	0.63	(0.0250)	(0.0030)	0.0035	0.0017	(0.0012)

	Mo	Nb	Ni	Pb	Rb	S	Sr	Th	V	Y	Zn	Zr	100 g
	(0.0005)	(0.0008)	0.0125	(0.0010)	0.0022	(0.02)	0.0037	(0.0005)	0.0094	0.0011	0.0044	0.0192	**Boden; Soil**

CRM	ppm As	ppm Ba	Ca	ppm Cd	ppm Co	ppm Cr	ppm Cu	Fe	ppm Hg	K	ppm Mn	ppm Ni	ppm Pb	ppm Sb	ppm Sr	ppm V	ppm Zn	ppm Ag
IR SVM	13.6	582	0.692	0.214	15.4	79.8	30.0	3.73	0.171	3.08	897	30.8	19.6	4.58	82.0	98.3	88.8	(4)
IR SSP	14.0	315	6.34	0.285	15.6	75.3	30.9	3.73	0.0874	2.63	734	37.4	41.3	2.11	274	89.7	119	(5)
IR SMS	9.36	(365)	0.490	0.198	11.9	87.4	21.2	2.70	0.0785	1.85	910	40.0	18.9	1.92	107	(87.5)	63.7	(1)

Al	ppm B	ppm Be	ppm Br	ppm Ce	ppm Cs	ppm Dy	ppm Eu	ppm Gd	ppm Hf	ppm La	ppm Li	ppm Lu	Mg	Na	ppm Nd
8.96	(70)	(500)	(5)	(100)	(6)	(5)	(2)	(7)	(10)	(60)	(30)	(500)	0.593	(0.3)	(50)
7.48	(70)	(2)	(5)	(75)	(12)	(4)	(1)	(7)	(10)	(40)	(60)	(500)	1.19	(0.45)	(40)
5.77	(50)	(1)	(4)	(100)	(5)	(5)	(1)	(10)	(10)	(40)	(20)	(500)	0.627	(0.8)	(40)

ppm P	ppm Rb	ppm Sc	ppm Se	Si	ppm Sm	ppm Ta	ppm Tb	ppm Th	Ti	ppm Tl	ppm U	ppm W	ppm Yb	ppm Zr	50 g
(0.13)	(200)	(15)	(300)	25	(10)	(1)	(1)	(20)	0.55	(<200)	(3)	(3)	(4)	(350)	**Böden**
(0.14)	(150)	(10)	(150)	20	(5)	(1)	(1)	(10)	0.38	(<200)	(4)	(2)	(2)	(200)	**Soils**
(0.10)	(100)	(10)	(200)	31	(7)	(1)	(1)	(10)	0.5	(<200)	(3)	(2)	(4)	(500)	

CRM	Al	Ca	Fe	K	Mg	Na	P	Ti	Si	ppm As	ppm Cd	ppm Co	ppm Cr	ppm Cu	ppm Hg	ppm Mn	ppm Ni	ppm Pb
GB 08303	6.86	4.79	2.97	1.57	1.30	1.10	0.160	0.36	(25.9)	10.6	1.20	13.0	112	120	2.15	519	40	73

ppm Th	ppm Sr	ppm Zn	ppm Ba	ppm Be	ppm La	ppm Mo	ppm Sc	ppm Se	ppm U	ppm Rb	20 g
11.6	405	260	(724)	(2.5)	(40)	(3.3)	(10)	(1.0)	(3.2)	(68)	**Ackerboden, verunreinigt; Polluted Farmland Soil**

RM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Fe_2O_3(tot)	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O+	C(tot)	S(tot)	LOI
JG JSO-1	38.37	1.23	18.06	8.58	2.52	11.38	0.197	2.11	2.55	0.67	0.34	0.48	7.88	8.91	0.20	33.49
JG JSO-2	42.24	1.14	21.34	7.99	2.21	10.44	0.175	1.66	1.09	1.03	1.55	0.15	8.57	4.06	0.18	23.58

ppm As	ppm B	ppm Ba	ppm Be	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm In	ppm Li	ppm Ni	ppm Pb	ppm Rb	ppm Sb	ppm Sr	ppm Te	ppm V
8.1	12.0	267	0.69	32	71	1.5	169	0.086	11.2	39	13	14.5	0.38	196	0.085	300
1076	129	352	109	1071	1118	3.8	1276	10.5	25.7	1070	1087	62.5	106	87	10.7	1345

ppm Y	ppm Zn	ppm Zr	100 g
24.9	105	96	**Boden**
1090	1174	1161	**Soil**

Bei allen CRM-Proben auf dieser Seite sind nur die Totalgehalte angegeben.
Die Proben der Serie T TILL-1 – 4 haben außerdem zertifizierte Gehaltsangaben für 16 Elemente nach KÖNIGSWASSER-Aufschluß und Informationswerte nach EPA Methode 3050 und 3051.

With all CRM-samples on this page only the total content is given.
Samples of series T TILL-1 – 4 also have certified values for 16 elements for AQUA REGIA extractable content and further information values as per EPA methods 3050 and 3051.

CRM	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	MnO	TiO_2	P_2O_5	Fe	S	ppm As	ppm Au	ppm Ba	ppm Be	ppm Bi
T TILL-1	60.8	13.7	6.82	2.15	2.72	2.71	2.22	0.18	0.98	0.22	4.81	<0.05	18	0.0013	702	2.4	<5
T TILL-2	60.8	16.0	5.39	1.83	1.27	2.19	3.07	0.10	0.88	0.17	3.84	<0.05	26	0.0002	540	4.0	<5
T TILL-3	69.1	12.2	3.92	1.71	2.63	2.64	2.42	0.06	0.49	0.11	2.78	<0.05	87	0.0006	489	2.0	<5
T TILL-4	65.0	14.4	5.63	1.26	1.25	2.46	3.25	0.06	0.81	0.20	3.97	0.08	111	0.0005	395	3.7	40

ppm Br	ppm Ce	ppm Co	ppm Cr	ppm Cs	ppm Cu	ppm Eu	ppm Er	ppm Hf	ppm La	ppm Li	ppm Lu	ppm Mn	ppm Mo	ppm Nb	ppm Nd	ppm Ni
6.4	71	18	65	1.0	47	1.3	3.6	13	28	15	0.6	1420	2	10	26	24
12.2	98	15	74	12	150	1.0	11	44	47	6.8	0.6	780	14	20	36	32
4.5	42	15	123	1.7	22	<1.0	1.4	8	21	21	0.2	520	2	7	16	39
8.6	78	8	53	12	237	<1.0	3.2	10	41	30	0.5	490	16	15	30	17

ppm P	ppm Pb	ppm Rb	ppm Sb	ppm Sc	ppm Sm	ppm Sr	ppm Ta	ppm Tb	ppm Th	ppm Ti	ppm U	ppm V	ppm W	ppm Y	ppm Yb	ppm Zn
930	22	44	7.8	13	5.9	291	0.7	1.1	5.6	5990	2.2	99	<1	38	3.9	98
750	31	143	0.8	12	7.4	144	1.9	1.2	18.4	5300	5.7	77	5	40	3.7	130
490	26	55	0.9	10	3.3	300	<0.5	<0.5	4.6	2910	2.1	62	<1	17	1.5	56
880	50	161	1.0	10	6.1	109	1.6	1.1	17.4	4840	5.0	67	204	33	3.4	70

ppm Zr	LOI(500°)	LOI(1000°)100 g	
502	6.3	7.3	**Boden; Soil**
390	6.8	8.1	**Boden; Soil**
230	3.6	4.6	**Till**
385	4.4	5.7	**Till**

Bei allen CRM-Proben auf dieser Seite sind nur die Totalgehalte angegeben. Neben diesen sind in den Zertifikaten Extraktionswerte nach KÖNIGSWASSER-Aufschluß und nach anderen Extraktionsverfahren zertifiziert. Einige Elemente sind nur als Extraktionswerte zertifiziert und der Totalwert ist informativ. Zertifikate mit allen Werten und Verfahrensbeschreibungen senden wir auf Anfrage zu.

With all CRM-Soil-Samples on this page only the total content is given. Further to the total values there are certified element fractions extractable by AQUA REGIA and other conventional extraction procedures given in the certificate. Some elements have certified leachate values only and the total values are informative. Please request certificate for details of values and procedures.

CRM	ppm Cd	ppm Cu	ppm Hg	ppm Pb	ppm Zn	ppm Co	ppm Cr	ppm Mn	ppm Ni	ppm Se	40 g	
H 141	0.36	32.6	0.0568	29.4	81.3	(9.2)	(75.0)	(547)	(30.9)	(0.160)	**Boden; Soil**	KÖNIGSWASSER-Werte informativ; AQUA REGIA-values informative
H 141R	14.6	46.4	0.25	57.2	283	10.5	195	683	103	–	**Boden, lehmig, kalkhaltig; Calcareous Loam Soil**	
H 142R	0.34	69.7	0.067	40.2	(101)	12.1	(113)	970	64.5	–	**Boden, sandig; Light Sandy Soil**	
H 143R	71.8	130.6	1.10	179.7	1055	12.3	(577)	904	299	(0.6)	**Boden, gedüngt mit Abwasserschlamm; Sewage Sludge amended soil**	

CRM	ppm As	ppm Ba	ppm Be	ppm Cd	ppm Co	ppm Cr	ppm Cu	ppm Hg	ppm Mn	ppm Ni	ppm Pb	ppm V	ppm Zn	SiO_2	Al_2O_3	CaO	MgO	Fe_2O_3
AN 7001	(12.3)	(970)	3.32	0.32	9.66	89.6	30.8	0.087	540	31.9	43.8	58.7	120	(65.06)	(15.41)	(1.50)	(1.27)	(4.73)
AN 7002	32.4	(987)	8.77	0.31	12.6	179	29.3	0.090	587	42.0	58.9	54.9	69.0	(66.21)	(14.02)	(1.20)	(1.90)	(3.77)
AN 7003	(16.7)	(495)	2.18	0.32	11.5	79.8	29.1	0.096	600	31.3	33.5	76.2	81.0	(68.80)	(12.30)	(1.38)	(1.02)	(4.15)
AN 7004	49.6	(568)	4.17	1.52	20.0	82.2	183	0.223	869	33.3	93.4	126	227	(64.35)	(13.10)	(2.07)	(1.29)	(5.82)

K_2O	Na_2O	P_2O_5	TiO_2	80 g
(3.16)	(2.35)	(0.34)	(0.52)	**Sandboden, nicht kontaminiert; Light Sandy Soil, no contamination**
(5.20)	(1.45)	(0.54)	(0.45)	**Sandboden, kontaminiert; Light Sandy Soil, contaminated**
(2.21)	(0.74)	(0.16)	(0.68)	**Lehmboden, nicht kontaminiert; Silty Clay Loam, no contamination**
(2.55)	(0.72)	(0.45)	(1.32)	**Lehmboden, kontaminiert; Loam, contaminated**

CRM	Al	Ca	Fe	K	Mg	Na	P	Si	Ti	ppm Ba	ppm Co	ppm Cr	ppm Cu	ppm Dy	ppm Ga	ppm Hf	ppm La	ppm Li
PM BPGM-1	2.29	0.28	0.062	1.30	0.130	0.37	0.045	41.6	(0.185)	283	(2.8)	(26.3)	5.0	(1.7)	(4.7)	(7.0)	13.7	(8.0)
PM PL-1	2.85	0.303	0.820	1.53	0.16	0.51	0.044	40.2	0.32	354	(3.9)	49.6	6.2	(2.8)	6.0	(13.8)	21.5	(10.7)

ppm Mn	ppm Nb	ppm Nd	ppm Ni	ppm Pb	ppm Sc	ppm Sm	ppm Sr	ppm Th	ppm V	ppm Yb	ppm Zn	ppm Zr	100 g
238.4	(5.3)	(12.5)	(5.3)	14.2	2.5	(2.0)	53.0	(4.2)	18.7	(1.1)	22.9	278.4	**Schwerer lehmhaltiger Sandboden; Heavy Loamy Sand**
394.5	(9.95)	16.4	(7.4)	19.6	(3.8)	(3.4)	67.4	6.3	24.1	(2.0)	30.0	634.4	**Lößboden; Loess**

Sedimente mit Extraktionswerten nach KÖNIGSWASSER-Aufschluß s. S. 6.12.3 + 6.12.4, Schlämme s. S. 6.12.6
Sediments with AQUA REGIA extractable values on page 6.12.3 + 6.12.4, sludges on page 6.12.6

CRM	Al_2O_3	BaO	CaO	Fe_2O_3	K_2O	MgO	Na_2O	PbO	SiO_2	Li_2O	Sb_2O_3	ZnO	100x100x10 mm + Ø 40x10 mm
H 126A	0.128	1.036	1.033	0.0055	10.00	0.512	3.58	23.98	57.80	0.495	0.290	1.020	Bleikristallglas; Lead Chrystal Glass

CRM	Al_2O_3	As_2O_5	As_2O_3	B_2O_3	BaO	CaO	Fe_2O_3	K_2O	MgO	MnO	Na_2O	P_2O_5	PbO	SO_3	SiO_2	TiO_2	ZnO	Cl
3 89	0.18	0.36	0.03	–	1.40	0.21	0.049	8.40	0.03	0.088	5.70	0.23	17.50	0.03	65.35	0.01	–	0.05
3 92	–	–	–	0.70	–	(8.3)	–	(0.6)	(0.1)	–	(13.1)	–	–	–	(75.0)	–	(0.2)	–
3 93a	2.28	–	–	12.56	–	0.01	0.028	0.014	0.005	–	3.98	–	–	–	80.8	0.14	–	0.06
3 620	1.80	–	0.056	–	–	7.11	0.043	0.41	3.69	–	14.39	–	–	0.28	72.8	0.18	–	–
3 621	2.76	–	0.030	–	0.12	10.71	0.040	2.01	0.27	–	12.74	–	–	0.13	71.13	0.014	–	–
3 1830	0.12	–	–	–	–	8.56	0.121	0.04	3.90	–	13.75	–	–	0.26	73.07	0.011	–	–
3 1831	1.21	–	–	–	–	8.20	0.087	0.33	3.51	–	13.32	–	–	0.25	73.08	0.019	–	–
3 1411	5.68	–	–	10.94	5.00	2.18	0.050	2.97	0.33	–	10.14	–	–	–	58.04	–	3.85	–
3 1412	7.52	–	–	4.53	4.67	4.53	(0.031)	4.14	(4.69)	–	4.69	–	4.40	–	42.38	–	4.48	–

ZrO_2	R_2O_3	CdO	SrO	LOI		
0.005	–	–	–	0.32	45 g	Glas, PbBa, Glass, PbBa
–	(1.5)	–	–	(0.42)	45 g	Glas, niedr. Bor; Glass, low Boron
0.042	–	–	–	–	Ø 32x6 mm	Glas, hoch Bor; Glass, high Boron
–	–	–	–	–	35x35x3(x3) mm	Glas, Kalk Soda; Glass, Lime Soda
0.007	–	–	–	–	35x35x3(x3) mm	Glas, Kalk Soda; Glass, Lime Soda
–	–	–	–	–	38x38x6(x3) mm	Glas, Kalk Soda (float); Glass, Lime Soda (float)
–	–	–	–	–	37x37x3(x3) mm	Glas, Kalk Soda (sheet); Glass, Lime Soda (sheet)
–	–	–	0.09	–	10 Plättchen	Glas, weich, Borsilikat; Glass, soft, Boron Silicate
–	–	4.38	4.55	–	8 Plättchen	Glas, Multikomponent; Glass, Multicomponent

CRM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	K_2O	Na_2O	B_2O_3	F	LOI	50 g
GB 03132	53.98	14.50	0.34	0.19	16.54	4.40	0.59	0.096	8.87	0.54	0.26	Borsilikatglas; Boron Silicate Glass

RM	Al_2O_3	B_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	SO_3	SiO_2	TiO_2	ZnO	PbO	As_2O_3	F	LOI 550°C 25 g, Scherben; Fragments
SG 4G	3.02	0.19	4.24	0.099	0.57	<0.05	15.45	<0.05	69.49	0.041	3.28	–	–	4.96	0.22	Opalglas; Opal Glass
SG 5G	1.12	–	6.55	0.043	0.42	2.75	15.65	0.21	72.74	0.034	–	–	–	–	–	Glas,Kalksoda;Glass,Lime Soda
SG 6G	1.70	–	9.97	0.034	<0.1	<0.1	14.65	0.20	73.06	0.02	–	–	–	–	–	Glas,Kalksoda;Glass,Lime Soda
SG 7G	1.50	–	11.03	0.044	0.43	0.14	13.90	0.19	72.64	0.042	–	–	–	–	0.07	Glas,Kalksoda;Glass,Lime Soda
SG 8G	0.05	0.36	<0.02	0.010	11.85	<0.02	0.23	–	56.34	0.02	–	30.59	0.32	–	0.21	Glas,K_2O, PbO;Glass, K_2O, PbO
SG 9G	1.4	–	0.1	0.045	8.4	–	4.0	–	56.7	0.03	–	28.4	–	–	0.4	Glas,K_2O, PbP;Glass, K_2O, PbO

RM	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	SO_3	SiO_2	TiO_2	ca./approx. 75x75x6 mm
GI EC1.1	1.08	8.63	0.103	0.59	3.78	13.41	0.24	71.97	0.040	Floatglas; Float Glass

CRM	ppm Sb	ppm Ba	ppm B	ppm Cd	ppm Ce	ppm Co	ppm Cu	ppm Dy	ppm Er	ppm Eu	ppm Gd	ppm Ga	ppm Au	ppm Fe	ppm La	ppm Pb	ppm Mn
3 610	–	–	(351)	–	–	(390)	(444)	–	–	–	–	–	(25)	458	–	426	485
3 611	–	–	(351)	–	–	(390)	(444)	–	–	–	–	–	(25)	458	–	426	485
3 612	–	(41)	(32)	–	(39)	(35.5)	(37.7)	(35)	(39)	(36)	(39)	–	(5)	51	(36)	38.57	(39.6)
3 613	–	(41)	(32)	–	(39)	(35.5)	(37.7)	(35)	(39)	(36)	(39)	–	(5)	51	(36)	38.57	(39.6)
3 614	(1.06)	–	(1.30)	(0.55)	–	(0.73)	1.37	–	–	(0.99)	–	(1.3)	(0.5)	(13.3)	(0.83)	2.32	–
3 616	(0.078)	–	(0.20)	–	–	–	(0.80)	–	–	–	–	(0.23)	(0.18)	(11)	(0.034)	1.85	–
3 617	(0.078)	–	(0.20)	–	–	–	(0.80)	–	–	–	–	(0.23)	(0.18)	(11)	(0.034)	1.85	–

ppm Nd	ppm Ni	ppm K	ppm Rb	ppm Sm	ppm Sc	ppm Ag	ppm Sr	ppm Ta	ppm Th	ppm Ti	ppm U	ppm Y	ppm Zn	SiO_2	CaO	Na_2O	Al_2O_3	Ø 16 mm	
–	458.7	(461)	425.7	–	–	(254)	515.5	(61.8)	457.2	(437)	461.5	–	(433)	(72)	(12)	(14)	(2)	**6 Wafers/3 mm**	**Glas, Spuren**
–	458.7	(461)	425.7	–	–	(254)	515.5	(61.8)	457.2	(437)	461.5	–	(433)	(72)	(12)	(14)	(2)	**6 Wafers/1 mm**	**Glass, traces**
(36)	38.8	(64)	31.4	(39)	–	22.0	78.4	(15.7)	37.79	(50.1)	37.38	(42)	–	(72)	(12)	(14)	(2)	**6 Wafers/3 mm**	
(36)	38.8	(64)	31.4	(39)	–	22.0	78.4	(15.7)	37.79	(50.1)	37.38	(42)	–	(72)	(12)	(14)	(2)	**6 Wafers/1 mm**	
–	(0.95)	30	0.855	–	(0.59)	0.42	45.8	(0.269)	0.748	(3.1)	0.823	–	–	(72)	(12)	(14)	(2)	**6 Wafers/3 mm**	
–	–	29	(0.100)	–	(0.026)	–	41.72	(0.0082)	0.0252	(2.5)	0.0721	–	–	(72)	(12)	(14)	(2)	**6 Wafers/3 mm**	
–	–	29	(0.100)	–	(0.026)	–	41.72	(0.0082)	0.0252	(2.5)	0.0721	–	–	(72)	(12)	(14)	(2)	**6 Wafers/1 mm**	

CRM	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	K_2O	Na_2O	50 g
GB 03117	71.25	0.057	2.56	0.18	6.37	3.98	1.10	13.77	**Si-Glas; Si-Glass**

CRM	SiO_2	Na_2O	CaO	MgO	Al_2O_3	K_2O	SO_3	Fe_2O_3	TiO_2	BaO	ZrO_2	Cr_2O_3	Ø ca. 40x4 mm + 100 g, pulverisiert, powdered
SV RMI	72.4	13.50	8.61	3.99	0.61	0.30	0.24	0.042	0.037	(0.014)	(0.012)	(0.0009)	**Flachglas; Flat Glass – Float**
SV RMII	72.7	15.11	6.03	4.12	1.03	0.57	0.33	0.049	0.035	0.016	(0.0082)	(0.001)	**Flachglas; Flat Glass – Fourcault**
SV RMIII	70.1	13.30	9.89	2.82	2.13	0.94	0.15	0.29	0.047	0.061	(0.013)	(0.11)	**Flaschenglas, grün; Green Container Glass**
SV RMIV	71.8	13.42	7.33	4.74	1.50	0.70	0.038	0.30	0.033	(0.025)	(0.0087)	0.004	**Flaschenglas, braun; Amber Container Glass**

CRM	SiO_2	B_2O_3	Na_2O	K_2O	MgO	CaO	BaO	PbO	ZnO	Al_2O_3	Fe_2O_3	As_2O_3	TiO_2	Cr_2O_3	ZrO_2	F	100 g + Ø 30x4 mm + 40x4 mm
SV 4001	69.55	1.09	5.73	10.43	1.11	1.80	0.014	6.53	(0.0021)	1.87	0.038	0.43	0.023	(0.0025)	(0.012)	(0.85)	**Pb-Glas/Glass**
SV 4002	66.07	0.84	2.57	13.53	0.021	2.77	1.07	10.76	1.043	0.15	0.038	0.43	0.023	(0.0011)	(0.033)	(0.56)	
SV 4003	59.49	(0.020)	1.85	12.34	0.006	0.014	(0.0063)	23.97	1.55	0.12	0.017	0.16	0.019	(0.0007)	(0.025)	(0.42)	

RM	Li_2O	B_2O_3	F	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	Fe_2O_3	ZnO	As_2O_3	SrO	ZrO_2
BR 1/S	0.000	0.000	0.000	14.680	4.450	1.160	71.910	0.000	0.450	0.050	0.660	6.560	0.035	0.110	0.000	0.000	0.000	0.000
BR 25/S	0.000	0.000	0.000	2.350	0.002	0.150	58.020	0.000	0.080	0.000	11.470	0.015	0.000	0.014	0.000	0.470	0.058	0.000

	CdO	Sb_2O_3	BaO	La_2O_3	CeO_2	PbO	Ø 40x3-5 mm
	0.000	0.000	0.000	0.000	0.000	0.000	Flachglas; Float Glass
	0.000	0.000	2.240	0.000	0.000	24.740	Bleiglas; Lead Cristal Glass

CRM	SiO_2	Al_2O_3	CaO	Cr_2O_3	Fe_2O_3	K_2O	MgO	Na_2O	TiO_2	ZrO_2	LOI	75 g
3 81a	-	0.66	-	0.0046	0.082	-	-	-	0.12	0.034	-	Glassand, hoch Fe; Glass Sand, high Fe
3 165a	-	0.059	-	(0.00011)	0.012	-	-	-	0.011	0.006	-	Glassand, niedr. Fe; Glass Sand, low Fe
3 1413	82.77	9.90	0.74	-	0.24	3.94	0.06	1.75	0.11	-	0.12	Glassand, hoch Al_2O_3; Glass Sand, high Al_2O_3

CRM	SiO_2	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	TiO_2	ZrO_2	LOI	100 g
IP 61	99.79	0.054	0.004	0.014	(0.007)	0.003	(0.002)	0.026	0.010	(0.06)	Glassand
IP 62	99.62	0.11	0.004	0.072	(0.007)	0.004	(0.002)	0.036	0.010	0.10	Glass Sand

CRM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MgO	CaO	Na_2O	K_2O	Ce	Co	Eu	La	Li	Sc	Th	LOI	100 g
UN SpS	99.32	0.248	0.037	0.035	0.0071	0.029	0.045	0.058	0.0006	0.000048	0.0000066	0.000242	0.00053	0.000027	0.000104	0.167	Glassand;Glass Sand

RM	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	CaO	MgO	Na_2O	K_2O	Cr_2O_3	LOI	200 g
SG 1	99.74	0.061	0.014	0.026	<0.02	<0.02	<0.02	<0.02	0.0003	0.12	Glassand
SG 6	98.66	0.60	0.032	0.024	<0.02	<0.02	<0.02	0.40	-	0.14	Glass Sand
SG 8	95.63	2.07	0.26	0.073	0.06	0.12	0.20	1.06	-	0.48	
SG 9	97.24	1.35	0.103	0.044	0.02	0.06	0.10	0.82	-	0.24	

Reinquarz + Silikasteine siehe Seite 6.4.6

Pure Quartz + Silica Bricks see page 6.4.6

Synthetische Glasprobe zur Kalibrierung von RFA-Spektrometern für die Analyse von Gesteinen, Erzen und Ton, sowie als Rekalibrier- oder Monitorprobe

Synthetic glass standard for calibrating XRF-spectrometers for the analysis of rocks, ores and clays, or as quality control standard for monitoring instrument stability

CRM	Al	Ba	Ca	Fe	Mg	P	K	Si	Sr	Ti	Ø 30x3 mm
3 1834	20.71	0.062	0.095	0.32	0.088	0.152	0.42	20.19	0.153	1.11	

Spezial-Silikatglasproben für die Rekalibrierung und Kontrolle von RFA-Spektrometern

Silica glasses of special composition for XRF-spectrometer recalibration and control

RM	B_2O_3	F	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	K_2O	CaO	TiO_2	V_2O_5	Cr_2O_3	MnO	Fe_2O_3	CoO	NiO	CuO	ZnO
BR A4	4.2	0.17	0.13	3.2	15.8	36.52	0.56	2.16	0.83	3.9	0.01	0.15	20.3	1.16	–	–	–	7.4
BR B2	–	1.4	0.09	0.23	8.6	42.0	2.1	0.04	21.0	1.2	–	–	0.89	12.3	1.62	0.79	0.25	0.45
BR C3	19.1	–	7.9	–	27.1	9.9	15.6	6.9	0.03	0.10	0.26	–	0.47	5.4	–	0.29	–	–
BR D3	22.2	–	9.6	7.4	20.0	5.5	5.8	0.09	14.4	0.03	0.86	–	–	0.58	–	–	–	3.7
BR E3	4.0	1.3	15.3	–	8.5	48.9	–	0.95	0.60	0.02	–	0.56	6.5	0.03	0.74	1.85	0.82	0.92
BR F3	2.0	5.0	1.2	0.82	3.85	56.36	–	18.3	2.84	0.04	1.7	0.27	–	0.07	0.25	–	1.8	–

	Ga_2O_3	GeO_2	As_2O_3	Rb_2O	SrO	Y_2O_3	ZrO_2	Nb_2O_5	MoO_3	Ag_2O	CdO	In_2O_3	SnO_2	Sb_2O_3	TeO_2	Cs_2O	BaO	La_2O_3
	–	0.08	–	0.04	0.71	–	0.15	–	–	–	0.39	0.04	–	–	0.04	0.04	2.0	–
	–	–	–	–	0.008	–	–	–	–	–	–	–	0.92	–	0.08	–	0.04	–
	–	0.27	0.78	–	–	–	–	0.60	2.0	–	0.16	–	–	–	–	–	1.0	–
	0.46	0.41	1.86	–	0.13	–	0.34	–	0.87	–	–	–	–	1.85	–	–	–	0.88
	–	–	0.44	–	0.31	0.18	–	0.05	–	0.13	–	0.09	0.60	0.43	0.03	–	4.6	0.40
	0.09	–	–	0.16	–	0.45	0.74	0.38	–	–	0.96	0.26	0.20	0.86	–	0.13	0.34	–

	Ce_2O_3	Pr_2O_3	Nd_2O_3	Sm_2O_3	Ta_2O_5	WO_3	PbO	Bi_2O_3	**Ø 40x5 mm + Ø 32x5 mm**
	–	–	–	–	–	–	–	–	
	–	–	–	–	0.85	1.85	4.4	–	
	–	0.20	0.46	–	–	0.90	–	0.50	
	0.84	–	–	–	–	0.32	1.7	0.18	
	–	–	–	–	0.05	–	0.45	0.08	
	0.39	–	–	0.18	0.36	–	–	–	

SUS	B_2O_3	F	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	K_2O	CaO	TiO_2	V_2O_5	Cr_2O_3	MnO	Fe_2O_3	CoO	NiO	CuO	ZnO
BR AS1	3.22	0.17	0.13	3.20	15.80	38.90	0.58	2.16	0.83	3.90	0.01	0.15	20.30	1.16	–	–	–	7.40
BR BS1	–	1.40	0.09	12.00	6.75	31.40	2.10	0.04	21.40	1.20	–	–	0.89	12.30	1.62	0.79	0.10	0.10
BR CS1	19.23	–	7.90	–	27.10	11.30	15.60	6.90	0.03	0.10	0.26	–	0.47	5.40	–	0.29	–	–
BR DS1	23.62	–	9.60	7.40	20.00	6.60	5.80	0.09	14.40	0.03	0.86	–	–	0.58	–	–	–	3.70
BR ES1	1.10	1.30	14.60	–	13.20	48.30	–	2.70	0.60	0.80	0.20	0.56	6.20	0.03	0.74	1.85	0.25	0.15
BR FS1	1.48	5.00	1.20	0.82	3.85	59.60	–	18.40	2.84	0.04	1.70	0.27	–	0.07	0.25	–	1.80	–

	Ga_2O_3	GeO_2	As_2O_3	Rb_2O	SrO	Y_2O_3	ZrO_2	Nb_2O_5	MoO_3	Ag_2O	CdO	In_2O_3	SnO_2	Sb_2O_3	TeO_2	Cs_2O	BaO	La_2O_3
	–	0.08	0.05	0.04	0.71	–	0.15	–	–	–	0.39	0.04	–	–	0.04	0.04	–	–
	–	–	0.05	–	0.008	–	–	0.60	–	–	–	–	0.20	–	0.08	–	0.04	–
	–	0.27	0.78	–	–	–	–	–	2.00	–	0.16	–	–	–	–	–	1.00	–
	0.46	–	–	–	0.13	–	0.34	–	0.87	–	–	–	–	1.85	–	–	–	0.88
	–	–	0.20	–	0.31	0.18	–	0.05	–	0.13	–	0.09	0.60	0.43	0.03	–	4.60	0.40
	0.09	–	–	0.16	–	0.45	0.74	0.38	–	–	0.20	0.26	0.20	0.25	–	0.13	0.34	–

	Ce_2O_3	Pr_2O_3	Nd_2O_3	Sm_2O_3	Ta_2O_5	WO_3	PbO	Bi_2O_3	ThO_2	UO_3	F_{corr}	**Ø 40x5 mm + 32x5 mm**
	–	–	–	–	–	–	0.50	–	0.04	0.01	0.07	
	–	–	–	–	–	1.85	4.40	–	–	–	0.59	
	–	0.20	0.46	–	–	0.05	–	0.50	–	–	–	
	0.84	–	–	–	–	0.05	1.70	–	0.18	–	–	
	–	–	–	–	0.05	–	0.30	0.08	0.44	–	0.55	
	0.39	–	–	0.18	0.36	–	0.05	–	0.33	0.27	2.10	

Hinweis:

Wir fertigen Monitorproben (SUS-Proben) aus Glas (Silikatgläser) mit höchster Stabilität: Strahlungsfestigkeit, mechanische, chemische, thermische und hygroskopische Resistenz, keine Oxidation, einfache Reinigung mit Wasser oder Alkohol; ideal zur Überwachung der Langzeitstabilität des Röntgenspektrometers. Individuelle Proben ab EUR 400,–/2 St., bitte fragen Sie an.

Note:

We manufacture Monitor-Samples (SUS) from glass (silicate glasses) with unsurpassed stability: radiation, mechanical, chemical, thermal and hygroscopic resistance, no oxidation, easy to clean with water or alcohol, ideal for monitoring long term XRF-spectrometer stability. Individual samples from EUR 400,–/pair of two samples, please inquire.

Spezial-Silikatglasproben für die Rekalibrierung und Kontrolle von RFA-Spektrometern

Silica glasses of special composition for XRF-spectrometer recalibration and control

SUS	SiO_2	Al_2O_3	B_2O_3	Na_2O	K_2O	MgO	CaO	BaO	Fe_2O_3	FeO	MnO	ZnO	CuO	NiO	CoO	PbO	Cr_2O_3
SV A2	37	12	3.5	0.3	2.5	3.5	0.7	–	0.4	–	32	6.6	–	–	–	–	–
SV B1	51	–	–	–	–	–	25	–	19	3	–	–	0.5	1	–	–	–
SV C1	10	35	22.5	9	1	–	–	1	5	–	0.5	–	–	–	–	–	–
SV D1	3	16	26	10	–	9	15	–	0.5	–	–	5	–	–	–	1	–
SV E1	51	1.5	6	15	2.5	–	5	3	–	–	5	2	1	0.5	1	–	4
SV F1	59	2	3	1	20	1	3	0.3	–	–	–	0.2	–	–	0.5	–	–

P_2O_5	As_2O_3	Sb_2O_3	V_2O_5	MoO_3	TiO_2	F	SrO	CdO	Bi_2O_3	ZrO_2	Ta_2O_5	Nb_2O_5	UO_3	GeO_2	Ga_2O_3	CeO_2
0.6	–	–	–	–	–	0.5	–	0.8	–	–	–	–	–	–	–	–
–	–	–	–	–	–	0.5	–	–	–	–	–	–	–	–	–	–
15	0.5	–	–	–	–	–	–	–	0.5	–	–	–	–	–	–	–
5	2	2	1	1	–	–	–	–	1	0.5	–	–	–	1.5	–	1
–	0.5	–	–	–	–	0.8	0.5	–	–	–	0.3	–	0.5	–	–	–
–	–	1	–	–	1	4	1	–	–	1	0.12	0.5	1	–	0.1	0.5

Pr_2O_3	Nd_2O_3	La_2O_3
–	–	–
–	–	–
–	–	–
–	–	1
–	–	–
0.15	0.6	0.5

Ø 32x5 mm + Ø 40x5 mm

SUS	Li_2O	B_2O_3	F	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	Fe_2O_3	ZnO	As_2O_3	SrO	ZrO_2
BR 2/L	0.000	13.800	0.000	6.820	6.730	4.680	44.600	1.260	0.120	0.000	3.120	3.930	0.990	0.100	2.670	0.500	0.700	0.500
BR 3/L	0.000	6.830	0.000	1.110	0.000	0.080	55.400	0.000	0.000	0.000	16.900	0.060	0.030	0.020	19.500	0.300	0.002	0.000
BR 4/L	0.000	4.250	0.000	1.080	0.000	0.700	35.000	0.000	0.000	0.000	1.850	4.770	2.330	0.020	4.980	0.310	0.220	0.000
BR 7/L	0.000	9.630	0.000	0.060	0.000	0.910	30.600	0.000	0.000	0.000	0.120	3.230	2.780	0.030	5.270	0.000	0.270	0.000
BR 8/L	0.000	7.470	4.020	0.070	0.010	8.070	49.400	0.000	0.000	0.000	20.100	0.020	9.200	0.020	0.000	0.420	0.000	0.000

CdO	Sb_2O_3	BaO	La_2O_3	CeO_2	PbO
0.430	0.500	2.900	1.000	1.010	3.040
0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.200	24.700	0.000	0.000	18.700
0.000	0.620	45.600	0.000	0.000	0.260
0.000	0.000	0.000	0.000	0.000	1.200

Ø 40x5–8 mm

Spezialgläser für RFA
Special Glasses for XRF

Gläser, RFA-Monitorproben
(Glasses, XRF-Monitor Samples)

Spezialgläser und Keramikproben für die Rekalibrierung und Kontrolle von RFA-Spektrometern

Special glasses and ceramic samples for XRF-spectrometer recalibration and control

SUS	Al_2O_3	BaO	Bi_2O_3	CaO	CdO	CeO_2	Co_2O_3	Cr_2O_3	CuO	F	Fe_2O_3	K_2O	MgO	MnO_2	Na_2O	NiO
BR G1	2.31	11.1	–	–	–	0.28	–	–	0.92	–	–	7.41	0.58	–	7.59	–
BR H1	4.00	–	–	3.8	–	–	–	–	–	–	–	8.7	2.6	–	6.2	–
BR K1/3	0.17	–	–	0.02	–	–	–	–	–	–	0.02	0.07	–	–	0.10	–
BR M1	1.3	62.2	–	–	–	–	–	2.8	–	–	0.02	–	–	–	–	–
BR N1	–	–	4.5	–	–	–	1.9	1.6	–	–	–	–	–	0.7	–	0.7
BR V1	–	–	–	1.93	0.26	–	–	–	–	1.23	–	7.79	–	–	12.15	–
BR W1	–	–	–	5.09	–	–	–	0.30	0.51	–	–	2.46	3.22	–	17.16	–
BR X1	–	–	–	4.99	–	–	0.2	–	1.60	–	–	2.26	3.12	–	16.96	–
BR Y1	–	–	–	4.99	–	–	–	0.13	2.62	–	–	2.16	3.12	–	16.61	–
BR Z1	3.9	–	–	2.25	–	–	–	–	–	4.7	–	5.27	1.65	–	12.48	–

	PbO	Sb_2O_3	Se	SiO_2	SrO	TiO_2	ZnO	ZrO_2	Ø 40x3-6 mm
G1	2.03	0.57	–	61.15	4.99	0.14	–	1.0	**TV-Glas**
H1	23.5	–	–	51.1	–	–	–	–	**TV-Glas**
K1/3	–	–	–	99.5	–	0.02	–	–	**Quartz, monokristal.**
M1	–	–	–	0.2	–	33.5	–	–	**Piezokeramik**
N1	–	9.3	–	0.2	–	0.9	0.2	–	
V1	–	–	0.19	66.75	–	–	9.67	–	
W1	–	–	–	71.29	–	–	–	–	
X1	–	–	–	70.89	–	–	–	–	
Y1	–	–	–	70.50	–	–	–	–	
Z1	–	–	–	67.0	–	–	2.75	–	

Die meisten Glas- und Keramik-SUS-Proben wurden in kleinen Schmelzen gefertigt, geringe Veränderungen der Zusammensetzung bei Folgeschmelzen möglich

Most glass and ceramic SUS-samples were produced in small batches, slight changes in composition possible

SUS	Al_2O_3	B_2O_3	BaO	C	Cl	CeO_2	CaO	CdO	CoO	Cr_2O_3	CuO	F	Fe_2O_3	Ga_2O_3	K_2O	MgO	MnO	Na_2O
BR U4/2	1.0	–	–	–	–	–	2.0	0.40	–	–	–	1.20	0.05	–	0.60	–	–	12.0
BR U7	7.1	0.5	0.5	–	0.6	–	3.6	–	–	–	–	2.8	0.14	–	5.1	0.05	–	11.5
BR U12	7.0	–	–	–	–	–	4.5	–	–	–	–	6.0	0.02	–	2.5	0.05	–	14.0
BR U13	1.5	–	–	–	–	–	7.5	–	–	–	–	1.0	0.06	–	3.0	–	–	13.5
BR U14	1.3	–	1.3	–	–	–	7.7	–	–	–	–	–	0.05	–	5.3	0.07	–	12.1
BR U17	1.7	–	–	–	–	–	7.9	–	–	0.6	1.0	0.5	0.10	–	3.5	–	–	13.0
BR U21	2.0	10	–	–	–	0.15	6.5	1.5	0.25	0.6	1	–	0.05	–	5.8	0.05	0.15	10.0
BR U25	3.0	–	–	–	–	–	6.9	–	–	0.27	0.18	–	0.34	–	2.9	0.15	6.0	9.3
BR U26	1.5	–	0.1	–	–	2.0	6.5	–	–	–	–	1.0	0.07	–	3.0	–	–	13.3
BR U27	1.4	–	–	0.16	–	–	10	–	–	–	–	–	0.2	–	0.4	–	–	14.5
BR U29*	–	–	–	–	–	–	71	–	–	–	–	48	–	–	–	–	–	–
BR U30	20.0	22.0	–	–	–	–	–	–	–	–	–	–	–	–	–	14.0	–	14.0
BR U31B	1.5	–	–	–	–	–	20.0	–	–	2.0	–	–	16.0	–	3.0	–	–	–
BR U32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	30.00	–	–	10.0
BR U33	0.25	–	–	–	–	–	56	–	–	–	–	–	0.2	–	–	–	–	–
BR U34	–	–	7.8	–	–	–	6.5	–	–	0.25	0.1	–	0.03	–	5.4	–	–	9.3
BR U35	1.2	3.0	–	–	–	–	0.75	0.52	–	–	–	0.5	0.05	–	5.3	0.02	–	13.5
BR U37	1.9	–	–	–	–	–	8	–	0.25	–	–	0.5	0.05	–	2.5	0.05	–	12.0
BR U38	1.2	–	–	–	–	–	5.3	–	–	–	–	0.5	0.04	–	7.5	0.07	–	9.2
BR U40	1.0	–	–	–	–	–	6.0	–	–	–	–	–	0.05	0.05	0.5	4.0	–	14.9

	Nd_2O_3	NiO	P_2O_5	PbO	Sb_2O_3	SeO_2	SiO_2	SrO	Sm_2O_3	SO_3	TeO_2	TiO_2	Tl_2O_3	U_3O_8	Y_2O_3	ZnO	Ø 40x5 mm
U4/2	–	–	–	–	–	–	67.0	–	–	1.70	–	–	–	–	–	15.0	
U7	–	–	2.5	0.1	0.14	–	65.3	0.25	–	–	–	–	–	–	–	0.05	
U12	–	–	–	–	0.2	–	65.5	–	–	–	–	–	–	–	–	2.0	
U13	–	–	–	–	0.25	–	71.5	–	–	0.25	–	–	–	–	–	1.0	
U14	–	–	–	–	0.36	–	71.0	0.20	–	0.28	–	–	–	–	–	–	
U17	–	–	–	–	0.18	–	70.5	–	–	0.1	–	–	–	–	–	0.6	
U21	–	0.15	–	–	0.25	0.02	60.0	–	–	0.15	–	–	–	0.40	–	–	
U25	–	–	–	–	0.20	–	69.3	–	–	0.12	–	–	–	0.10	–	0.8	
U26	–	–	–	–	0.25	0.14	70.0	–	–	0.2	–	–	–	1.0	–	1.0	
U27	–	–	–	–	–	–	73.0	–	–	0.04	–	–	–	–	–	–	
U29	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Fluorit; Fluorite
U30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
U31B	–	–	1.0	4.0	–	–	49.1	–	–	0.4	–	3.0	–	–	–	–	
U32	–	–	–	–	–	–	60.0	–	–	–	–	–	–	–	–	–	
U33	–	–	–	–	–	–	0.3	–	–	–	–	–	–	–	–	–	Marmor; Marble
U34	–	–	–	–	0.35	–	69.7	–	–	–	–	–	–	–	–	–	
U35	–	–	–	–	0.03	0.05	60.5	–	–	0.1	–	–	–	–	–	14.5	
U37	–	–	–	–	0.29	–	73.0	–	–	0.15	–	–	–	–	–	1.0	
U38	2.5	–	–	–	0.2	–	72.0	–	–	0.11	–	–	–	–	–	1.1	
U40	–	–	–	–	–	–	72.6	–	0.1	0.35	0.05	–	0.1	–	0.1	–	

* = Ca-Konzentration in CaF_2 ausgedrückt als CaO
Ca-concentration in CaF_2 expressed as CaO

SUS	Ag_2O	Al_2O_3	As_2O_3	B_2O_3	Bi_2O_3	Br	CaO	CeO_2	Fe_2O_3	GeO_2	I	K_2O	La_2O_3	MgO	MoO_3	Na_2O	Nd_2O_3	NiO
BR U16	–	–	1.5	24.0	–	–	–	1.0	0.10	1.5	–	5.0	1.0	10.0	1.0	10.0	–	–
BR U22	0.50	7.0	–	8.0	0.5	0.1	10.0	–	–	–	0.1	–	–	6.5	–	16.0	0.5	2.0

	P_2O_5	PbO	Pr_2O_3	SiO_2	SnO_2	Ta_2O_5	V_2O_5	WO_2	ZnO	Ø 40x5 mm
U16	–	2.0	–	40.0	0.5	0.1	1.5	1.0	–	
U22	0.3	–	0.5	45.0	–	–	–	–	1.0	

SUS	SiO_2	B_2O_3	Na_2O	MgO	Al_2O_3	P_2O_5	SO_3	K_2O	CaO	TiO_2	Mn_2O_3	Fe_2O_3	Sb_2O_3	PbO	Ø 40x5 mm
BR ACEM	9.56	19.88	11.15	7.03	21.68	0.20	0.50	3.14	10.53	0.20	0.20	11.93	2.00	2.00	
BR BCEM	49.15	2.40	2.12	2.37	4.88	0.01	0.50	0.99	35.00	0.01	0.01	2.25	0.31	–	

SUS	SiO_2	B_2O_3	Na_2O	MgO	Al_2O_3	SO_3	Cl	K_2O	CaO	Fe_2O_3	Sb_2O_3	Ø 40x5 mm
BR SP1-1	15.00	25.65	1.00	8.00	5.00	0.05	0.20	2.00	40.60	2.00	0.50	
BR SP2	25.00	19.50	2.00	6.00	9.00	0.30	0.70	2.00	30.00	5.00	0.50	

SUS	SiO_2	Na_2O	MgO	SO_3	K_2O	CaO	Fe_2O_3	ZnO	Cr_2O_3	MnO_2	Ø 40x5 mm
BR AB1	69.33	14.20	3.12	0.45	6.25	4.99	0.04	0.95	–	–	
BR AC1	66.84	15.79	3.04	–	2.50	4.86	–	–	0.40	6.57	

SUS	SiO_2	Na_2O	P_2O_5	SO_3	K_2O	CaO	ZnO	CdO	BaO	PbO	Ø 40x5 mm
BR AK1	47.82	10.00	3.38	1.80	2.00	10.00	10.00	5.00	5.00	5.00	
BR AK2	30.83	10.00	4.00	0.67	0.50	1.00	1.00	1.00	1.00	50.00	

SUS	SiO_2	B_2O_3	Na_2O	Al_2O_3	P_2O_5	S	Cl	K_2O	CaO	Cr_2O_3	Fe_2O_3	NiO	CuO	ZnO	Sb_2O_3	PbO	Ø 40x5 mm
BR DEA1	73.193	0.670	9.540	0.378	0.458	0.200	0.200	7.700	5.600	0.292	0.286	0.254	0.250	0.249	0.500	0.230	
BR DEA2	69.294	0.670	9.540	0.945	1.146	0.500	0.500	7.700	5.600	0.731	0.715	0.636	0.625	0.623	0.500	0.575	

SUS	SiO_2	B_2O_3	Na_2O	MgO	Al_2O_3	P_2O_5	SO_3	Cl-	K_2O	CaO	TiO_2	Cr_2O_3	Fe_2O_3	NiO	CuO	MnO	ZnO
BR DS1	3.00	41.82	17.00	0.60	21.82	0.57	0.50	0.60	0.83	0.71	0.60	0.68	0.70	0.78	0.80	2.00	0.80
BR DS2	3.00	45.00	17.82	0.60	21.80	0.57	0.50	–	0.83	0.71	0.60	0.68	0.70	0.78	0.80	–	0.80

MoO	Ag_2O	CdO	SnO_2	BaO	PbO	V_2O_5	Bi_2O_3	Ø 40x5 mm
0.66	0.93	2.00	0.79	0.89	0.92	–	–	
–	–	–	–	0.89	0.92	0.60	1.20	

SUS	SiO_2	B_2O_3	Na_2O	K_2O	CaO	V_2O_5	Cr_2O_3	CoO	NiO	CuO	ZnO	As_2O_3	MoO_3	CdO	SnO	Sb_2O_3
BR EKO10	67.14	0.74	8.54	6.82	4.96	0.89	1.17	0.38	0.64	0.63	3.73	0.13	0.30	0.02	0.57	0.44

BaO	PbO	Ø 40x5 mm
2.24	0.65	

SUS	SiO_2	B_2O_3	Na_2O	Al_2O_3	CaO	CoO	ZnO	Fe(tot)	Ø 40x5 mm	$Fe^{II} : Fe^{III}$ = 0.85
BR FE2FE3	67	0.8	17	1.7	2.5	0.01	0.6	10		

*** Fe(tot) ausgedrückt als/expressed as Fe_2O_3**

SUS	SiO_2	Na_2O	K_2O	B_2O_3	Sb_2O_3	PbO	Al_2O_3	Cl	TiO_2	P_2O_5	SO_3	CaO	MgO	ZnO	ZrO_2	Ø 40x5 mm
BR FR2	73.50	9.00	3.40	10.00	1.00	3.00	0.015	0.006	0.008	0.014	0.022	0.011	0.013	0.007	0.004	

SUS	SiO_2	MgO	Al_2O_3	K_2O	CaO	Sb_2O_3	BaO	PbO	Ø 40x5 mm
BR K	52.26	1.97	2.96	30.50	1.97	0.49	0.98	8.87	

SUS	SiO_2	B_2O_3	Na_2O	M_gO	SO_3	Cl-	K_2O	CaO	Fe_2O_3	ZnO	Br-	Sb_2O_3	PbO	Ø 40x5 mm
BR KC1	73.50	2.00	2.00	-	-	0.50	15.00	-	-	2.00	-	1.00	4.00	
BR KC2	73.50	2.00	2.00	0.0083	0.0125	0.50	15.00	0.0140	0.0028	2.00	0.010	1.00	4.00	

SUS	SiO_2	F-	Na_2O	SO_3	CaO	CoO	ZnO	Se	CdO	Ø 40 x5 mm
BR PN1	60.0	1.00	9.80	2.00	2.00	1.00	16.00	1.00	7.20	

SUS	SiO_2	MgO	Na_2O	K_2O	CaO	B	Rb_2O	Sb_2O_3	Ø 40x5 mm
BR RB	73.75	3.94	6.90	10.77	3.94	0.10	0.11	0.49	

SUS	SiO_2	B_2O_3	Na_2O	MgO	Al_2O_3	K_2O	CaO	ZnO	Br	Sb_2O_3	Ø 40x5 mm
BR SA1	70.60	10.00	1.90	0.80	3.00	10.40	0.20	2.00	0.10	1.00	

SUS	SiO_2	B_2O_3	MgO	Al_2O_3	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	Fe_2O_3	Cr_2O_3	Ø 40x5 mm
BR BF2	36.0	3.43	8.0	10.0	2.0	0.2	0.4	37.0	1.0	0.77	1.0	-	Hochofenschlacke; Blast Furnace Slag
BR SS2	16.1	1.0	8.0	1.5	0.9	0.03	0.2	38.0	1.0	5.8	27.1	0.4	Stahlwerksschlacke; Steel Making Slag

SUS	SiO_2	Na_2O	PbO	K_2O	CaO	B_2O_3	SnO_2	CuO	Cl-	Al_2O_3	TiO_2	Fe_2O_3	BaO	Ø 40x5 mm
BR SVCL1	67.4	8.4	7.4	5.8	3.1	2.3	1.8	1.5	0.9	0.8	0.5	0.1	0.1	

SUS	SiO_2	Na_2O	MgO	K_2O	B_2O_3	CaO	Al_2O_3	Sb_2O_3	BaO	PbO	Ø 40x5 mm
BR TAB3	44.10	9.00	8.00	30.00	-	0.30	3.00	0.60	2.00	3.00	
BR TAB4	57.37	2.00	1.00	31.00	-	0.03	3.00	0.60	2.00	3.00	
BR TAB5	38.40	10.00	28.00	-	15.00	-	3.00	0.60	2.00	3.00	

SUS	SiO_2	Na_2O	CaF_2	MgO	Al_2O_3	P_2O_3	TiO_2	V_2O_5	Fe_2O_3	Ø 40x5 mm
BR WC	38.10	10.00	20.00	5.00	25.00	0.15	0.80	0.15	0.80	

SUS	MnO	Al_2O_3	CaO	MgO	SiO_2	Zn	Cr	Pb	Ni	Mo	V	Cu	K_2O	Na_2O	TiO_2	Fe	Co	Sb
BR 8FLUX	0.46	1.27	0.67	0.76	1.31	0.11	0.47	0.10	0.52	0.091	0.08	0.47	0.71	0.74	0.63	0.44	0.44	0.10
	Bi	**P**	**Ag**	**Sn**	**Te**	**Be**	**F**	**S**	**Cl**	**Sc**	**Ga**	**Ge**	**As**	**Se**	**Br**	**Rb**	**Sr**	**Y**
	0.085	0.50	0.11	0.093	0.38*	0.10*	0.51	0.43	0.49	0.0076	0.0077	0.10	0.13	0.20*	0.098	0.01	0.48	0.005
	Zr	**Nb**	**Ru**	**In**	**Cs**	**Ba**	**I**	**La**	**Ce**	**Pr**	**Nd**	**Sm**	**Gd**	**Tb**	**Hf**	**Ta**	**Ti**	
	0.405	0.13	0.01*	0.0055	0.0115	0.517	0.39*	0.086	0.104	0.10*	0.10*	0.0070	0.01*	0.0091	0.0134	0.0911	0.10*	
	Th	**U**	**5 g**	*** berechnet auf Synthesebasis; Calculated on synthetic basis**														
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