Industrial and geological reference materials

LGC Standards

Excellence through measurement

Analytical Reference Materials International

Part of LGC Standards

BREITLÄNDER

Part of LGC Standards

Industrial Analytical (Pty) Ltd

ISO 9001:2008

Part of LGC Standards

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For further information, or if you require substances or materials not currently listed please contact one of our local sales offices.

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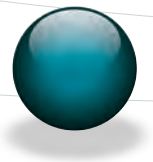

www.lgcstandards.com

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Introduction

About LGC and LGC Standards

LGC Standards provides the widest range of reference materials from a single supplier. We work closely with the leading manufacturers to provide laboratories worldwide with improved access to reference materials, covering an increasingly large range of parameters. Our network of offices in Europe, US, Middle East, Africa, China and India allow us to work in partnership with our customers across the globe. Extensive technical expertise and experience in selling reference materials allows LGC to provide fast delivery, sound technical advice and deal with complex import and export regulations.

LGC Standards is part of LGC, an established leader in laboratory services, measurement standards, reference materials and proficiency testing. LGC's Science and Technology Division acts as the designated UK National Measurement Institute (NMI) for chemical and bioanalytical measurement, and has a long history in the development and validation of analytical methods and the production of reference materials.

LGC's Science and Technology Division is accredited to ISO Guide 34 (General requirements for the competence of reference materials producers) for the production of reference materials. In its role as the NMI, LGC serves on the International Organisation for Standardisation (ISO) Committee for Reference Materials (REMCO), which aims to deliver and encourage a broad international effort for the harmonization, production and application of certified reference materials (CRMs).

Breitländer GmbH has been a specialist company in reference materials since 1972 and was acquired by LGC Standards in 2007, joining forces to offer the most extensive range of certified reference materials and standards. Breitländer also brought high quality sample preparation equipment to the portfolio.

Industrial Analytical (Pty) Ltd was formed in 1988 specifically to meet the ever-increasing demand in industry to supply Reference Materials for verifying analytical results and proving quality of characterization. Now the single largest supplier of Certified Reference Materials, not only in the Republic of South Africa, but also in the African continent as a whole, Industrial Analytical was acquired by LGC Standards in 2011.

Analytical Reference Materials International was founded in 1984 and is a market leader in the chemical characterization and certification of metal alloys. Based in Colorado in the US, ARMI produces and distributes reference materials into markets worldwide and runs interlaboratory testing schemes covering a range of alloy materials. ARMI became part of LGC Standards in 2012.

This catalogue

This catalogue features certified reference materials for the geological industry. It provides an updated and relevant listing of the available materials on the market. The products are listed in alphabetical order of the main product groups. An index of all products is included in the back of the catalogue, listed by name and catalogue number.
The analytical data is given in mass percentage. 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 limited numbers, mostly due to homogeneity reasons, thus follow-up batches will differ slightly in composition and may differ in format 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 more information.

Some analytes are given as abbreviations due to limitations in column width. These are explained below:

% Vol.	=	Volatile matter
A.I.	=	Attrition Index
Air.perm.	=	Air permeability (Centidarcys)
Al (150)	=	Low temperature extractable Al2O3
Al (225)	=	High temperature extractable Al2O3
Al(alpha)	=	alpha-Alumina
Al(free)	=	free alumina
Al2O3(ex)	=	Extractable Al2O3
Alkali S.	=	Alkali sulfates
AOR	=	Angle of repose
Apht.	=	Aphthitalite
Ash(700)	=	Ash at 700°C
Ash(900)	=	Ash at 900°C
C (fx)	=	Fixed carbon
C2AF	=	Ferrite
C2S	=	Belite
C3A	=	Aluminate
C3S	=	Alite
Coking	=	Coking value in %
D.I.	=	Dustiness index (kg/t)
Dens.	=	Real density in g/mL
EVT1	=	equiviscous temperature
EVT100	=	equiviscous temperature
Ex.AlF3	=	Excess AlF3
Fe (tot)*	=	Total Fe as Fe2O3
Ins.Res.	=	Insoluble residuals
K (sol)	=	water soluble K
Lime	=	Limestone
LOI	=	Loss on ignition
LOM	=	Loss of mass
Max.dens	=	Maximum bulk density (g/cm3)
Min.dens	=	Minimum bulk density (g/cm3)
NSS	=	Non-solved slag (after EDTA addition)
O*	=	Active oxygen
Pozz.	=	Pozzolana or coal ash
Q.I.	=	Quinoline Insoluble
S(45µm)	=	Sieve residue after 45µm
S(80µm)	=	Sieve residue after 80µm
S.P.	=	Softening Point in °C
Si (150)	=	Low temperature extractable SiO2
Si (225)	=	High temperature extractable SiO2
T.I.	=	Toluene Insoluble
T.S.G.	=	True specific gravity @ 20°C
ZrO2**	=	ZrO2 + HfO2

The use of reference materials

When choosing a matrix reference material for a particular application the analyst should consider the following factors before selecting the material:

Reference materials are instrumental in ensuring the reliability of analytical measurements and so ensuring the use of high quality data as the basis of decision making. When choosing a matrix reference material for a particular application the analyst should consider the following factors before selecting the material:

- Matrix match and potential interference
- Analytes
- Measurement range
- Measurement uncertainties
- Certification procedures used by the producer
- Documentation supplied with the material (e.g. certification or report)

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 of certification as instructed in ISO Guide 35:2006 “Reference Materials – General and statistical principles for certification”. A CRM is the highest order to which an analytical reference material can be elevated because of the traceability to SI units and because of the attributed confidence in the company or organization which produced the material.

Reference Material (RM)

A material or 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 supplier with a certificate of analysis but do not strictly follow all procedures of certification as indicated in ISO Guide 35. Certificates of RMs often state that the measurement data is traceable to primary CRMs.

Producers of reference materials

This catalogue brings together products from a wide variety of sources. These include certified reference materials from National Measurement Institutes and also reference materials and quality control samples from many different producers. Most products are supplied with a certificate of analysis although the layout and format of the certificates will vary according to the producer. Quality control samples may come with an information sheet only.

General ordering information

Prices and delivery procedures are available from your local LGC Standards sales office.

Unless otherwise agreed in advance and in writing, orders are accepted only against LGC Standards standard terms and conditions of sale.

LGC Standards technical staff is available to advice on the use and suitability of a particular product. Customers requiring assistance with the use or application of a particular material should contact their local LGC Standards office, contact details are provided on the back of this catalogue.
For any additional information please visit www.lgcstandards.com or www.breitlander.com globally, www.industrialanalytical.co.za in Africa and www.armi.com in the USA.

More catalogues

LGC Standards will be releasing additional catalogues to cover the rest of our extensive range of reference materials and standards including:

- Copper base
- Aluminium base
- Cast irons
- Industrial
- Non-ferrous base
- Precious metals
- Steel
- XRF glass
- Mechanical testing
- Combustion and wet chemistry analysis

Additional materials

This catalogue presents a wide selection of the materials available for geological analysis at the time of going to print. New materials are constantly being added to our range, and we can often source products for a specific application so if you do not find the material you need, please contact us. We also have many other ranges of materials which may be associated with geological testing for which **other catalogues are available such as soils, waters, industrial materials, metals, ores, petroleums and many others.**

LGC Standards

Excellence through measurement

Soil and sediment reference materials

The most comprehensive range available

Study of the geological landscape often involves the analysis of soils or sediments, and the interpretation of this data is based on the quality of the chemical analyses. To ensure reliable data, laboratories need to include appropriate reference materials in their quality system.

LGC Standards offers a wide range of soil and sediment materials containing inorganic and organic analytes in a range of matrices of different characteristics.

Matrices include naturally occurring and spiked material such as:

freshwater sediment – estuarine sediment – marine sediment – sludge
light soil – sandy soil – loam – clay – contaminated soil – sand – silt

Wide range of analytes:

- Organic contaminants
- Sulfide
- pH
- TOC
- Elemental analysis
- Loss on ignition
- Cyanide
- Nutrients

LGC Standards partners with the world's leading producers of reference materials to provide laboratories worldwide with access to the widest range of reference materials for soil and sediments.

Our global network of offices enables us to provide fast delivery and local technical advice.

Contact us for a catalogue or visit www.lgcstandards.com

3502/LB/0113

LGC Standards

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CENTRAL GEOLOGICAL LABORATORY
www.cengeolab.com

Central Geological Laboratory (CGL) of Mongolia, founded in 1957, is the leading professional organization performing the complex production of CRMs from mineral deposits in Mongolia. CGL, a state owned company, is accredited at national and ILAC level according to ISO Standard 17025 and at ACLASS level according to ISO Guide 34. CGL regularly participates in international proficiency testing programs.

The analysis of geological and mineral materials is not just concerned with mining and mineral abstraction. It is also carried out for the purpose of monitoring, and protection of the environment, health and natural resources. To support the accuracy of these tests, CGL has been involved in the production of mineral reference materials for more than 30 years.

CGL material includes rocks, ores, mineral processing products and environmental materials.

More than 45 CGL CRM are available and information about the individual materials can be found on the LGC Standards website, www.lgcstandards.com.

Recent highlights in CGL CRM program include:

- 3 new CRMs for mercury in soil introduced to address the surge in demand for soil reference materials containing mercury.
- In high demand internationally are CGL CRMs related to rare earth elements.

 3391/LB/1112

Aluminium intermediates

Alumina

Code	Product			Unit
CERAM-AN27	(a)	RM	Alumina	100 g
CERAM-AN26(100G)	(b)	RM	Alumina	100 g
CERAM-AN25	(c)	RM	Alumina	100 g
NCS DC62107	(d)	CRM	Alumina	20 g
VS-W12/3	(e)	CRM	Aluminous intermediate product	100 g
NIST-699	(f)	CRM	Alumina (reduction grade) - Trace constituents	60 g
BAM-RS 2	(g)	CRM	Aluminium oxide	100 g

	Al2O3	**B2O3**	**Ba**	**Be**	**Ca**	**CaO**	**Cd**	**Ce**	**Cl**	**Co**	**Cr**	**Cr2O3**	**Cu**	**CuO**	**Fe**	**Fe (tot)**	**Fe (tot)***
(a)	99.84					0.06											
(b)	(99.76)					(0.03)											
(c)						0.05											
(d)	83.9					0.99											
(e)	73.6					18.8						0.46					0.66
(f)		(0.001)		0.000281		0.036						0.0002		(0.0005)		0.013	
(g)			(0.00005)	(0.00002)	0.00031		(0.00002)	(0.00001)	(0.001)	<0.0001	<0.00015		<0.00025		0.00033		

	Fe2O3	**Ga**	**Ga2O3**	**In**	**K**	**K2O**	**LOI**	**La**	**Li**	**Li2O**	**Mg**	**MgO**	**Mn**	**MnO**	**Mo**	**Na**	**Na2O**
(a)	0.03					<0.01						<0.01				0.02	
(b)	(0.03)					(0.01)	(0.08)					(0.01)				(0.02)	
(c)	0.03					<0.01						0.01				0.53	
(d)	3.91					0.38						0.46				0.11	
(e)												2.15					
(f)			0.01			(0.005)				0.002		0.0006		0.0005			0.59
(g)		(0.0002)		(0.00005)	(0.0005)			(0.00003)	(0.0001)		<0.0003		<0.00015		(0.0001)	<0.0015	

	Ni	**P**	**P2O5**	**Si**	**SiO2**	**Sn**	**Ti**	**TiO2**	**V**	**V2O5**	**Zn**	**ZnO**	**Zr**	**ZrO2**
(a)					0.05			<0.01						
(b)					(0.12)			(0.01)						
(c)			0.05		<0.01			<0.01						
(d)					4.97			4.19						
(e)					0.76									
(f)		0.0002			0.012			(0.001)		0.0005		0.013		(0.0002)
(g)	<0.001			<0.002		(0.0001)	<0.0002		(0.0001)		<0.0002		0.00032	

Aluminium intermediates

Code	Product			Unit
SEI-CJR034	(a)	CRM	Alumina fine powder (Set only)	50 g
SEI-CJR035	(b)	CRM	Alumina fine powder (Set only)	50 g
SEI-CJR036	(c)	CRM	Alumina fine powder (Set only)	50 g

ONLY AVAILABLE AS ”SEI-CJR034-036”

	B2O3	**CaO**	**Cl**	**CuO**	**Fe2O3**	**Ga2O3**	**K2O**	**MgO**	**Na2O**	**NiO**	**SO3**	**SiO2**	**SrO**	**TiO2**	**ZnO**	**ZrO2**
(a)	(0.0006)	0.0002	(0.0004)	(0.0003)	(0.0003)	0.0021	0.0020	(0.0001)	0.0018	(0.0004)	(0.0007)	0.0045	(0.0001)	(0.0002)	(0.0002)	(0.0002)
(b)	(0.0006)	0.0188	(0.0004)	0.0018	0.0151	0.0074	0.0005	0.0013	0.222	(0.0004)	(0.0011)	0.0116	0.0007	0.0029	0.0012	0.0009
(c)	0.0533	0.0242	(0.0004)	(0.0003)	0.0139	0.0076	(0.0002)	0.0006	0.0316	(0.0004)	(0.0007)	0.0569	0.0002	0.0032	0.0007	0.0004

Code	Product			Unit
ALCAN-ALU01	(a)	CRM	Alumina	100 g
ALCAN-ALU03	(b)	CRM	Alumina	100 g
ALCAN-ALU04	(c)	CRM	Alumina	100 g
ALCAN-ALU05	(d)	CRM	Alumina	100 g
ALCAN-ALU06	(e)	CRM	Alumina	100 g
ALCAN-ALU07	(f)	CRM	Alumina	100 g
ALCAN-ALU08	(g)	CRM	Alumina	100 g
ALCAN-ALU09	(h)	CRM	Alumina	100 g
ALCAN-BU(CA)	(i)	CRM	Alumina, calcined	100 g
ALCAN-BW(CA)	(j)	CRM	Alumina, calcined	100 g

	CaO	**Fe2O3**	**Ga2O3**	**LOM**	**Na2O**	**P2O5**	**SO3**	**SiO2**	**TiO2**	**V2O5**	**ZnO**
(a)	0.017	0.016	0.011	1.2	0.27	0.0005	0.12	0.013	0.004	0.002	0.001
(b)	0.010	0.011	0.009	0.77	0.44		0.05	0.010	0.006	0.001	0.001
(c)	0.020	0.017	0.009	0.49	0.46		0.07	0.021	0.009	0.003	0.001
(d)	0.033	0.008	0.007	0.83	0.37		0.13	0.014	0.002	0.001	0.010
(e)	0.043	0.008	0.005	1.31	0.36		0.11	0.017	0.001	0.001	0.009
(f)	0.049	0.023	0.006	0.89	0.46		0.17	0.025	0.004	0.004	0.001
(g)	0.008	0.022	0.014	0.57	0.42		0.09	0.007	0.002	0.003	0.001
(h)	0.026	0.008	0.009	0.60	0.42	0.0002	0.08	0.018	0.001	0.001	0.001
(i)		0.034	0.016		0.74	0.0005	0.17	0.024	0.006	0.01	(0.001)
(j)		0.038	(0.015)		0.86		0.27	0.028	0.006	0.006	0.001

Code	Product			Unit
ALCAN-ALU10	(a)	CRM	Alumina	100 g
ALCAN-ALU11	(b)	CRM	Alumina	100 g
ALCAN-ALU12	(c)	CRM	Alumina	100 g
ALCAN-ALU87	(d)	CRM	Alumina	100 g

	A.I.	AOR	Air.perm.	CaO	D.I.	Fe2O3	Ga2O3	LOM	Max. dens	Min. dens	Na2O	P2O5	SO3	SSA	SiO2	TiO2	V2O5
(a)	29.4			0.004	0.54	0.015	0.013	0.6	1.19	0.967	0.37	0.002	0.08	55.60	0.005	0.002	0.002
(b)	11.2			0.017		0.0097	0.0139	0.81			0.42	0.0002	0.03	70.30	0.0056	0.000.00104	
	0.0005																
(c)	27.2			0.033		0.0063	0.0057	1.02			0.36	0.0015	0.185	82.90	0.021	0.0009	0.0021
(d)	(1)	33.6	4.3						1.15	0.96							

	ZnO	a-Alumina
(a)		
(b)	0.0086	
(c)	0.0094	14.3

Sieve fraction information available for ALCAN-ALU10 and ALCAN-ALU12 on certificates of analysis

Code	Product			Unit
ALCAN-CDH	(a)	CRM	Scrubber alumina	100 g

	F
(a)	0.074

Aluminum Fluoride

Code		Product		Unit
ALCAN-ALF01	(a)	CRM	Aluminum Fluoride	100 g
ALCAN-ALF02	(b)	CRM	Aluminum Fluoride	100 g
ALCAN-ALF03	(c)	CRM	Aluminum Fluoride	100 g
ALCAN-ALF04	(d)	CRM	Aluminum Fluoride	100 g
ALCAN-ALF05	(e)	CRM	Aluminum Fluoride	100 g
ALCAN-CAB(AF)	(f)	CRM	Aluminum Fluoride	100 g
ALCAN-CAC(AF)	(g)	CRM	Aluminum Fluoride	100 g
ALCAN-CAN(AF)	(h)	CRM	Aluminum Fluoride	100 g
ALCAN-CAO(AF)	(i)	CRM	Aluminum Fluoride	100 g

	Ca	F	Fe	Na	P	S	Si
(a)	0.017	(62.0)	0.009	0.32	0.010	0.28	0.07
(b)	0.014	(63.0)	0.01	0.26	0.010	0.26	0.13
(c)	0.014	(64.3)	0.009	0.27	0.009	0.25	0.12
(d)	0.016	(63.0)	0.007	0.29	0.009	0.31	0.10
(e)	0.015	(63.3)	0.006	0.29	0.006	0.10	0.09
(f)	0.024	57.2	0.056	1.00	0.0026	0.16	0.42
(g)	0.024	61.8	0.049	0.92	0.0017	0.20	0.68
(h)	0.16	(62.4)	0.018	0.22	0.009	0.23	0.10
(i)	0.18	(57.7)	0.020	0.69	0.004		0.13

Bauxite

Code		Product		Unit
BAS-BCS-CRM 395	(a)	CRM	Bauxite	100 g
NIST-600	(b)	CRM	Bauxite, Australian - Constituents	90 g
NIST-696	(c)	CRM	Bauxite, Surinam - Constituents	60 g
NIST-697	(d)	CRM	Bauxite, Dominican - Constituents	60 g
NIST-698	(e)	CRM	Bauxite, Jamaican - Constituents	60 g
NIST-69b	(f)	CRM	Bauxite, Arkansas - Constituents	60 g

	Al2O3	BaO	CaO	Ce	Co	Cr2O3	Fe2O3	K2O	LOI	MgO	MnO	Na2O	P2O5	SO3	SiO2	TiO2	V2O5
(a)	52.4		0.05				16.3		27.8	0.02					1.24	1.93	
(b)	40.4		0.22			0.024	17.0	0.23	20.5	0.05	0.013	0.022	0.039	0.155	20.3	1.31	0.060
(c)	54.5	(0.004)	0.018	(0.0041)	(0.00009)	0.047	8.70	0.009	29.9	0.012	0.004	(0.007)	0.050	0.150	3.79	2.64	0.072
(d)	45.8	(0.015)	0.71	(0.069)	(0.0013)	0.100	20.0	0.062	22.1	0.18	0.41	(0.036)	0.97	0.0770	6.81	2.52	0.063
(e)	48.2	(0.008)	0.62	(0.030)	(0.0045)	0.080	19.6	0.010	27.3	0.058	0.38	(0.015)	0.37	0.143	0.69	2.38	0.064
(f)	48.8	(0.008)	0.13	(0.024)	(0.0001)	0.011	7.14	0.068	27.2	0.085	0.110	(0.025)	0.118	0.551	13.43	1.90	0.028

	ZnO	ZrO2
(b)	0.003	0.060
(c)	0.0014	0.14
(d)	0.037	0.065
(e)	0.029	0.061
(f)	0.0035	0.29

Code		Product		Unit
CRPG-BX-N	(a)	CRM	Bauxite	30 g

	Al2O3	As	Ba	Be (ppm)	Bi (ppm)	CO2	CaO	Ce	Co	Cr	Cs (ppm)	Cu	Dy (ppm)	Er (ppm)	Eu (ppm)	F	Fe2O3
(a)	54.21	0.0115	0.0030	5.5	(1.7)	0.44	0.17	0.0520	0.0030	0.0280	(0.4)	0.0018	(18.5)	(11)	4.4	(0.0900)	22.88

	Fe2O3(T)	FeO	Ga	Gd	Ge (ppm)	H2O+	H2O-	Hf (ppm)	Ho (ppm)	In (ppm)	K2O	LOI	La	Li	Lu (ppm)	MgO	MnO
(a)	23.17	0.26	0.0067	0.0020	(1.1)	11.48	0.44	15.2	(4.1)	(0.3)	0.05	12.17	0.0355	0.0039	1.8	0.11	0.05

	Mo (ppm)	Na2O	Nb	Nd	Ni	P2O5	Pb	Pr	Rb (ppm)	Sb (ppm)	Sc	SiO2	Sm	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)
(a)	8.3	0.04	0.0052	0.0163	0.0180	0.13	0.0135	(0.0054)	3.6	8	0.0060	7.40	0.0022	13.4	0.0110	4.6	3

	Th	TiO2	Tm (ppm)	U (ppm)	V	W (ppm)	Y	Yb (ppm)	Zn	Zr
(a)	0.0050	2.37	(1.7)	8.8	0.0350	(9)	0.0114	11.6	0.0080	0.0550

Aluminium intermediates

Code		Product		Unit
ALCAN-BXT-02	(a)	RM	Bauxite	100 g
ALCAN-BXT-04	(b)	RM	Bauxite	100 g
ALCAN-BXT-05	(c)	RM	Bauxite	100 g
ALCAN-BXT-06	(d)	RM	Bauxite	100 g
ALCAN-BXT-08	(e)	RM	Bauxite	100 g
ALCAN-BXT-09	(f)	RM	Bauxite	100 g
ALCAN-BXT-10	(g)	RM	Bauxite	100 g
ALCAN-BXT-11	(h)	RM	Bauxite	100 g
ALCAN-BXT-12	(i)	RM	Bauxite	100 g
ALCAN-BXT-13	(j)	RM	Bauxite	100 g
ALCAN-BXT-14	(k)	RM	Bauxite	100 g
ALCAN-BXT-15	(l)	RM	Bauxite	100 g

	Al (150)	Al (225)	Al2O3	Al2O3(ex)	C (org.)	CaO	Cr2O3	Fe2O3	K2O	LOM	MgO	MnO2	Na2O	P2O5	SO3	Si (150)	Si (225)
(a)	46.5	49.5	50.9		0.07	0.04	0.068	17.8	0.01	27.0	0.09	0.01	0.04	0.15	0.08	1.1	1.3
(b)	42.5	46.3	48.5		0.12	0.02	0.090	17.0	0.03	25.7	0.05	0.04	0.02	0.13	0.13	2.3	2.5
(c)	42.4	44.5	46.8		0.28	1.13	0.108	19.2	0.01	27.2	0.08	0.32	0.03	0.38	0.21	1.5	1.7
(d)	45.5	47.4	48.7		0.14	0.13	0.134	18.9	0.01	27.2	0.06	0.27	0.03	0.61	0.15	0.5	0.7
(e)	41.7	48.5	51.5		0.07	0.02	0.048	9.6	0.02	25.6	0.04	0.02	0.02	0.26		2.9	3.0
(f)	26.4	46.5	53.4		0.20	0.01	0.037	14.5	0.01	20.8	0.002	0.03	0.01	0.07	0.06	5.9	6.8
(g)	51	52	54		0.08	0.01	0.03	12.4	0.01	28.6		0.01		0.05		2.0	2.4
(h)	44.6	51.8	54.2		0.11	0.01	0.10	12.8	0.02	27.4	0.03	0.01	0.03	0.15		0.8	1.1
(i)	45.4	48.4	50.67	49.1	0.243	0.012	0.031	15.9	0.011	26.13	0.037		0.02	0.067	0.14	2.76	3.64
(j)	49.2	53.3	53.4	53.3	0.051	0.02	0.016	11.44	0.01	28.52	0.01	0.01	0.01	0.02	0.09	4.2	4.5
(k)	49.0	46.0	51.2	50.4	0.162	0.01	0.01	13.17	0.01	28.35	0.01	0.02	0.01	0.062	0.11	1.1	5.2
(l)			51.1			3.34	0.20	24.9	0.040	12.20	0.16	0.020		0.053			

	SiO2	TiO2	V2O5	ZnO	ZrO2
(a)	1.56	1.87	0.06	0.009	0.05
(b)	2.68	5.32	0.19	0.003	0.06
(c)	1.98	2.25	0.11	0.026	0.06
(d)	0.80	2.67	0.13	0.023	0.07
(e)	3.17	9.41	0.19	0.006	0.10
(f)	7.57	2.98	0.06	0.04	0.12
(g)	2.7	2.01	0.06		0.07
(h)	1.49	3.39	0.11	0.003	0.08
(i)	3.58	3.18	0.088	0.0021	0.138
(j)	4.82	1.54	0.04	0.002	0.08
(k)	5.86	1.11	0.01	0.005	0.131
(l)	3.09	3.83	0.089	0.005	0.089

Code		Product									Unit
Cryolite											
ALCAN-CAA(C)	(a)	CRM	Cryolite								100 g
ALCAN-CAB(C)	(b)	CRM	Cryolite								100 g
ALCAN-CAC(C)	(c)	CRM	Cryolite								100 g
ALCAN-CAG(C)	(d)	CRM	Cryolite								100 g
		Al	**F**	**Fe**	**Na**	**S**	**Si**				
	(a)	13.5	40.5	0.053	30.6	1.71	0.26				
	(b)	11.9	44.3	0.067	30.1	2.59	0.16				
	(c)	11.9	44.7	0.039	32.9	2.16	0.24				
	(d)	12.2	47.7	0.013	31.9	1.28	0.035				
NCS DC91001	(a)	CRM	Cryolite								100 g
NCS DC91002	(b)	CRM	Cryolite								100 g
NCS DC91003	(c)	CRM	Cryolite								100 g
NCS DC91004	(d)	CRM	Cryolite								100 g
NCS DC91005	(e)	CRM	Cryolite								100 g
NCS DC91006	(f)	CRM	Cryolite								100 g
		Al	**CaO**	**F**	**Fe2O3**	**LOI**	**Na**	**P2O5**	**SO42-**	**SiO2**	
	(a)	17.34	(0.606)	55.45	0.053	4.53	21.75	0.0034	0.233	0.087	
	(b)	15.18	(0.597)	54.66	0.032	2.97	26.32	0.025	0.199	0.211	
	(c)	13.65	(0.719)	53.89	0.036	2.25	29.29	0.013	0.205	0.363	
	(d)	13.16	(0.508)	53.2	0.033	2.12	30.26	0.037	0.293	0.389	
	(e)	12.69	(0.0062)	52.14	0.0098	1.4	32.01	0.065	0.45	0.485	
	(f)	11.75	0.112	51.21	0.04	1.6	33.24	0.051	0.683	0.238	

Electrolytic bath

Code		Product						Unit
ALCAN-BA01	(a)	CRM	Electrolytic bath					100 g
ALCAN-BA02	(b)	CRM	Electrolytic bath					100 g
ALCAN-BA03	(c)	CRM	Electrolytic bath					100 g
ALCAN-BA05	(d)	CRM	Electrolytic bath					100 g
ALCAN-BA06	(e)	CRM	Electrolytic bath					100 g
ALCAN-BA07	(f)	CRM	Electrolytic bath					100 g
ALCAN-BA08	(g)	CRM	Electrolytic bath					100 g
ALCAN-BA09	(h)	CRM	Electrolytic bath					100 g
ALCAN-BA10	(i)	CRM	Electrolytic bath					100 g
ALCAN-BA11	(j)	CRM	Electrolytic bath					100 g

	Al(alpha)	Al(free)	CaF2	Ex.AlF3	NaCl	NaF/AlF3
(a)	1.5	7.0	6.2	12.4		1.06
(b)	0.3	2.7	5.7	10.8		1.12
(c)		4.1	5.7	0.9		1.46
(d)	17.3	23.6	4.5	11.3		1.02
(e)	16.7	23.3	4.5	12.2	(0.25)	1.00
(f)	5.3	6.8	8.3	6.9		1.23
(g)	4.6	7.3	9.0	3.2		1.37
(h)	5.8	7.8	9.5	1.3		1.44
(i)	4.9	6.0	6.7	5.2		1.30
(j)	2.9	5.3	8.1	1.06		1.46

Code		Product		Unit
ALCAN-BA12	(a)	CRM	Lithium bath, not for XRD	100 g
ALCAN-BA13	(b)	CRM	Lithium bath, not for XRD	100 g
ALCAN-BA14	(c)	CRM	Lithium bath, not for XRD	100 g
ALCAN-BA15	(d)	CRM	Lithium bath, not for XRD	100 g
ALCAN-BA16	(e)	CRM	Lithium bath, not for XRD	100 g
ALCAN-BA17	(f)	CRM	Lithium bath, not for XRD	100 g
ALCAN-CCB(EB)	(g)	CRM	Electrolytic bath	100 g
ALCAN-CCE(EB)	(h)	CRM	Electrolytic bath	100 g

	Al(alpha)	Al(free)	CaF2	Ex.AlF3	LiF	MgF2	NaCl	NaF/AlF3
(a)	2.8	4.2	6.0	3.8	2.72	0.21		
(b)	0.7	4.2	5.4	0.6	2.47	0.24		
(c)	1.9	3.3	3.65	1.4	2.04	3.40	(0.25)	
(d)	4.4	6.0	6.9	5.7	0.95	0.28		
(e)	3.3	4.0	6.3	3.7	3.08	0.22		
(f)	3.4	5.1	5.4	0.6	2.61	0.16	(0.25)	
(g)		2.6	21.3	(3.9)		0.19		1.71
(h)		10.6	4.0	(0.2)		0.19		1.51

Red mud

Code		Product		Unit
ALCAN-RM-01	(a)	CRM	Red mud	100 g
ALCAN-RM-02	(b)	CRM	Red mud	100 g
ALCAN-RM-04	(c)	CRM	Red mud	100 g
ALCAN-RM-05	(d)	CRM	Red mud	100 g
ALCAN-RM-08	(e)	CRM	Red mud	100 g

	Al 143	Al2O3	C (org.)	CaO	Fe2O3	LOM	Na2O	SiO2	T.E.A.	TiO2
(a)	0.6	16.8	0.36	3.5	53.8	12.0	1.4	5.4	4.6	5.9
(b)	1.9	13.9	0.16	11.2	30.7	8.4	3.0	6.2	5.7	22.6
(c)	1.2	20.6	0.43	7.7	29.0	12.7	6.8	13.9	6.6	6.0
(d)	1.7	21.9	0.22	0.9	35.6	8.9	8.3	15.7	6.9	7.1
(e)	0.2	28.2	0.27	13.9	4.8	17.2	8.7	16.7	13.3	8.6

Cement

Raw meal

Code	Product			Unit
NCS DC62104A	(a)	CRM	Cement Black Raw Meal	20 g
NCS DC62105D	(b)	CRM	Cement Raw Meal	20 g
NCS DC62121	(c)	CRM	Cl- content of cement raw meal	20 g
NCS DC62124	(d)	CRM	Sulphoaluminate Cement raw meal	20 g
NCS DC62126	(e)	CRM	Black raw meal	20 g

	Al2O3	CaCO3(T)	CaO	Cl-	F	Fe2O3	K2O	LOI	MgO
(a)	3.7		38.7			2.45	0.7	37.4	1.61
(b)	2.79		44.09			1.81	0.48	36.7	1.15
(c)				0.029					
(d)	22.29		33.05			1.34	0.14	28.21	1.21
(e)		70.9	38.89		0.15	2.74		37.46	

Calcium Aluminates

				Unit
DH-SX01-01	(a)	RM	Calcium aluminate	100 g
DH-SX01-02	(b)	RM	Calcium aluminate	100 g
DH-SX01-03	(c)	RM	Calcium aluminate	100 g

	Al2O3	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	MoO3	S	SiO2	SrO	TiO2	V2O5
(a)	72.2	26.74	0.006	0.118		0.191	0.008		0.011	0.17			<0.005
(b)	64.30	18.34	0.054	0.708		12.54	0.114		0.02	2.02	0.024	0.165	1.48
(c)	68.8	23.38	0.028	0.289	0.296	3.53	0.024	0.014		0.45	0.009	0.067	2.36

Calcium carbonate

				Unit
BAM-RS 3	(a)	CRM	Calcium carbonate, Calcite	100 g
NRCCACB-1	(b)	CRM	Calcium carbonate, Lead and cadmium	2.5 g
ECRM-F 701-1	(c)	CRM	Calcite, powder	100 g

	Al2O3	Ba	CaCO3	CaO	Cd	Co	Cr	Cu	Fe	Ga	K	La	Mg	MgO	Mn	MnO	Na
(a)		0.00453	99.79		(0.00005)	(0.0001)	<0.0001	<0.0001	<0.0005	(0.00015)	(0.002)	(0.00005)	0.0183		0.0003		0.00475
(b)					0.00076												
(c)	0.55			52.69					0.73					0.60		0.028	

	Ni	P	P2O5	Pb	S	Si	SiO2	Sn	Sr	Ti	TiO2	Zn	Zr
(a)	(0.0003)			(0.00001)		(0.002)		(0.0001)	0.0173	(0.00005)		<0.0002	(0.00002)
(b)				0.0243									
(c)		0.022	0.050		0.040		1.99				0.030		

Code	Product			Unit
Cement				
NIST-1880B	(a)	CRM	Portland cement (Black)	4 x 5 g
NIST-1881A	(b)	CRM	Portland cement - Constituents	4 x 5 g
NIST-1882A	(c)	CRM	Calcium aluminate cement (formally orange) - Constituents	4 x 5 g
NIST-1883A	(d)	CRM	Calcium aluminate cement (formally silver) - Constituents	4 x 5 g
NIST-1884B	(e)	CRM	Portland cement (Ivory)	4 x 5 g
NIST-1886A	(f)	CRM	Portland cement (Cranberry)	4 x 5 g
NIST-1887B	(g)	CRM	Type III Portland cement	5 x 5 g
NIST-1888B	(h)	CRM	Portland cement (Purple)	4 x 5 g
NIST-1889A	(i)	CRM	Portland cement - Constituents	4 x 5 g

	Al2O3	**BaO**	**CaO**	**CaO(free)**	**Cl**	**Cr2O3**	**F**	**Fe2O3**	**Ins. Res.**	**Ins.Res.**	**K2O**	**LOI**	**MgO**	**Mn2O3**	**Na2O**	**P2O5**
(a)	5.183		64.16	(1.567)	0.01830	0.01927	(0.0539)	3.681		(0.487)	0.646	(1.666)	1.176	0.1981	0.0914	0.2443
(b)	7.06		57.58	(0.29)	(0.013)	0.0588	(0.09)	3.09		(5.2)	1.228	(1.59)	2.981	0.1042	0.199	0.1459
(c)	39.14		39.29			(0.113)		14.67			0.051	(0.2)	0.51	(0.06)	0.021	(0.70)
(d)	70.04		29.52			(0.006)		0.078			0.014	(0.35)	0.19	(0.003)	0.30	(0.003)
(e)	4.851		61.31	(0.418)	(0.0065)	0.00791	(0.0394)	2.937		(0.159)	0.957	(0)	4.74	0.075	0.278	0.0965
(f)	3.875		67.87		(0.0042)	0.0024	(0.02)	0.152		(0.23)	0.093	(1.56)	1.932	0.0073	0.021	0.022
(g)	4.911	(0.022)	61.15	(0.21)	0.01001	0.01551	(0.101)	2.471	(0.26)		0.961	(2.121)	3.624	0.0957	0.288	0.1540
(h)	4.277		63.13	(1.42)	0.0143	(0.01021)	(0.048)	3.062		(0.32)	0.658	(a0.04)	3.562	0.0652	0.1364	0.07307
(i)	3.89		65.34		(0.0019)	0.0072	(0.05)	1.937		(0.66)	0.605	(3.28)	0.814	0.2588	0.195	0.110

	SO2	**SO3**	**SiO2**	**SrO**	**Sulfide**	**TiO2**	**ZnO**
(a)		2.710	20.42	(0.0272)	(0.0131)	0.236	(0.01054)
(b)		3.366	22.26	0.036	(0.035)	0.3663	0.0489
(c)			4.01	(0.019)		1.786	(0.004)
(d)			0.24	(0.019)		(0.020)	
(e)		4.034	19.30	0.0258	(0.0072)	0.2651	(0.0042)
(f)		2.086	22.38	(0.018)		0.084	(0.001)
(g)	4.599		19.59	0.2625	(0.025)	0.2034	0.01560
(h)		2.634	20.42	0.1009	(0.015)	0.2316	(0.01253)
(i)		2.69	20.66	0.042		0.227	0.0048

Cement

Code	Product			Unit
SEI-JC601A/1	(a)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/2	(b)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/3	(c)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/4	(d)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/5	(e)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/6	(f)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/7	(g)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/8	(h)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/9	(i)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/10	(j)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/11	(k)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/12	(l)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/13	(m)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/14	(n)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g
SEI-JC601A/15	(o)	RM	cement, for X-Ray fluorescence analysis (set only)	20 g

	Al2O3	**CaO**	**Fe2O3**	**K2O**	**MgO**	**MnO**	**P2O5**	**SO3**	**SiO2**	**SrO**	**TiO2**
(a)	5.35	64.14	3.05	0.4	1.75	0.15	0.06	2.33	22.23	0.037	0.33
(b)	5.29	65.17	2.93	0.5	1.77	0.21	0.11	1.91	21.31	0.037	0.31
(c)	4.57	66.32	2.43	0.45	1.53	0.08	0.13	3.18	20.67	0.049	0.28
(d)	4.73	66.17	2.8	0.54	1.37	0.05	0.40	2.64	20.71	0.036	0.26
(e)	5.07	65.99	2.99	0.46	0.94	0.28	0.10	3.02	20.52	0.027	0.25
(f)	5.02	66.23	2.7	0.23	1.81	0.19	0.05	2.61	20.71	0.035	0.24
(g)	4.26	64.27	4.11	0.35	1.03	0.06	0.06	2.42	22.76	0.030	0.25
(h)	3.82	64.15	4.02	0.54	1.52	0.21	0.19	1.93	23.23	0.038	0.27
(i)	3.4	64.75	4.18	0.39	0.78	0.11	0.06	1.94	23.82	0.024	0.16
(j)		61.67	2.39	0.62	2.71	0.14	0.06		22.99	0.024	0.16
(k)	7.37	59.15	2.26	0.51	2.63	0.16	0.23		24.43	0.046	0.55
(l)	8.95	54.9	1.82	0.44	3.33	0.18	0.17		26.34	0.051	0.73
(m)	9.22	55.36	2.02	0.41	2.98	0.61	0.06		26.62	0.037	0.41
(n)	8.7	55.15	2.03	0.31	3.98	0.28	0.04		25.74	0.051	0.66
(o)	10.7	49.28	1.32	0.42	5.12	0.48	0.06		29.29	0.071	0.64

Code	Product			Unit
BAS-BCS-CRM 354	(a)	CRM	White Portland Cement	100 g
BAS-BCS-CRM 353	(b)	CRM	Sulphate Resisting Portland Cement	100 g
NIST-634a	(c)	CRM	Portland cement - Constituents	100 g
DH-SX02-02	(d)	RM	Cement	100 g
DH-SX02-09	(e)	RM	Cement	100 g
DH-SX02-10	(f)	RM	Cement	100 g
DH-SX02-11	(g)	RM	Cement	100 g
DH-SX02-12	(h)	RM	Cement	100 g

	Al2O3	**BaO**	**Ca**	**CaO**	**CaO(free)**	**Cr2O3**	**Fe2O3**	**Ins.Res.**	**K2O**	**LOI**	**MgO**	**Mn2O3**	**Na2O**	**P2O5**	**S**	**SO3**	**SiO2**
(a)	4.84			70		(0.004)	0.3		0.11		0.42	0.058	0.10	0.12		2.25	21.8
(b)	3.77			64.8		(0.02)	4.82		0.49		2.42	0.23	0.10	0.077		2.25	20.5
(c)	5.015			65.07	(1.86)	(0.0114)	3.362	(0.21)	0.3572	(1.66)	1.0057	(0.0229)	(0.0842)	0.1767		2.780	20.493
(d)	4.63	0.028	48.78				0.204		1.01		0.717			0.043	1.19	21.95	
(e)	9.99	0.071	33.39	46.72			1.66		0.541		4.96			0.066	1.77	30.30	
(f)	6.86	0.041	40.63				2.98		0.524		2.79			0.137	1.48	40.63	
(g)	4.41		46.48				3.94		0.495		0.945			0.191	1.18	21.16	

	SrO	**TiO2**	**V2O5**	**ZnO**
(a)	0.11			
(b)	0.23	0.16		
(c)	(0.0735)	0.2463		(0.0222)
(d)	0.051	0.095		
(e)	0.077	0.421	(0.011)	
(f)	0.083	0.319		
(g)	0.086	0.242		

Cement

Code	Product			Unit
CCRL-167	(a)	RM	Portland Cement Calibration Sample	30 g
CCRL-168	(b)	RM	Portland Cement Calibration Sample	30 g
CCRL-169	(c)	RM	Portland Cement Calibration Sample	30 g
CCRL-170	(d)	RM	Portland Cement Calibration Sample	30 g
CCRL-171	(e)	RM	Portland Cement Calibration Sample	30 g
CCRL-172	(f)	RM	Portland Cement Calibration Sample	30 g
CCRL-173	(g)	RM	Portland Cement Calibration Sample	30 g
CCRL-174	(h)	RM	Portland Cement Calibration Sample	30 g

	Al2O3	CO2	CaO	CaO(free)	Cl	Cr2O3	Fe2O3	Ins.Res.	K2O	LOI	MgO	Mn2O3	P2O5	SO3	SiO2	TiO2
(a)	5.92		61.64	0.43	0.0006	0.012	2.44	0.27	1.068	0.84	3.11	0.098	0.240	4.39	19.29	0.24
(b)	5.11		62.28	0.7	0.004	0.011	2.14	0.33	1.227	0.86	3.88	0.089	0.191	3.48	19.91	0.20
(c)	3.17	1.66	63.47		0.005	0.013	3.7	0.28	0.429	2.3	2	0.111	0.135	2.15	22.07	0.23
(d)	3.77	1.88	64.32		0.003	0.008	2.48	0.56	0.628	2.78	1.44	0.045	0.074	2.75	21.71	0.17
(e)	4.16	0.88	63.6		0.008	0.011	4.53	0.21	0.7	1.02	2.06	0.05	0.064	2.24	21.29	0.22
(f)	4.66	1.38	61.78		0.008	0.009	2.93	0.44	0.935	2.09	4.74	0.088	0.111	3.21	19.3	0.26
(g)	4.49	0.6	62.45		0.023	0.009	2.62	0.36	0.447	2.02	3.03	0.06	0.192	4.10	20.01	0.27
(h)	3.71		62.43		0.005	0.006	3.62	0.26	0.43	1.14	4.83	0.073	0.067	2.64	20.75	0.21

Code	Product			Unit
FLX-CRM 100	(a)	CRM	Cement (Replacement 372/1)	50 g
FLX-CRM 101	(b)	CRM	Cement	50 g
FLX-CRM 103	(c)	CRM	Cement	50 g
FLX-CRM 105	(d)	CRM	Cement	30 g
FLX-CRM 106	(e)	CRM	Cement	30 g
FLX-CRM 107	(f)	CRM	Cement	30 g
FLX-CRM 108	(g)	CRM	Cement	30 g
FLX-CRM 109	(h)	CRM	Cement	30 g
FLX-CRM 110	(i)	CRM	Cement	30 g

	Al2O3	CaO	Cl	Cr2O3	Fe2O3	K2O	LOI	MgO	Mn2O3	Na2O	P2O5	S	SO3	SiO2	SrO	TiO2	ZnO
(a)	5.54	64.51	(0.09)	0.009	2.62	0.82	2.37	1.47	0.066	0.23	0.166	(0.06)	2.97	20.89	0.286	0.283	0.051
(b)	8.81	48.24	(0.05)	0.01	3.52	2.1	3.84	1.7	0.118	0.68	0.191	(0.08)	3.16	30.31	0.248	0.469	0.044
(c)	7.75	54.9		0.007	1.78	0.77		4.44	0.17	0.33	0.09		2.73	26.95	0.07	0.372	0.014
(d)	4.27	65.24	0.049	0.008	2.5	1.24	(2.61)	1.57	0.04	0.21	0.005		3.37	20.84	0.146	0.179	0.054
(e)	5.7	66.05	0.055	0.008	1.98	0.86	(2.06)	0.96	0.161	0.12	0.111		3.01	20.29	0.206	0.271	0.012
(f)	4.23	67.19	0.043	0.006	1.29	0.7	(6.59)	0.7	0.04	0.18	0.16		3.13	21.81	0.151	0.194	0.013
(g)	4.66	65.15	0.042	0.007	2.97	0.74	(2.68)	2.15	0.219	0.09	0.169		3.31	20.06	0.083	0.186	0.036
(h)	4.25	66.45	0.049	0.008	2.32	1.06	(5.96)	1.59	0.051	0.18	0.052		3.11	20.39	0.144	0.020	0.042
(i)	4.7	68.13	0.008	0.004	0.18	0.94	(3.46)	0.65	0.029	0.05	0.037		2.88	22.01	0.041	0.17	0.003

Code	Product			Unit
ATILH-NO9	(a)	RM	Cement, 2 ampoules of 25g each	2 x 25 g
ATILH-TL-1BGA	(b)	CRM	Portland cement	40 g
ATILH-TL-1CA	(c)	RM	Portland cement	40 g
ATILH-TL-200CA	(d)	RM	Portland cement	40 g
ATILH-TL-201B	(e)	CRM	Blast Furnace cement	40 g
ATILH-TL-201C	(f)	RM	Blast Furnace cement	40 g
ATILH-TL-202B	(g)	CRM	Composite cement	40 g
ATILH-TL-202C	(h)	RM	Composite cement	40 g

	Al2O3	Blaine	C2S	C3A	C3S	C4AF	CaO	CaO(free)	Density	Fe2O3	Ins.Res.	K2O	LOI	MgO	Mn2O3	Na2O	P.D.
(a)	4.66	4175	12.0	7.0	62.0	9.0	64.0	1.09		3.01	0.45	0.76	1.46	2.2		0.26	3.15
(b)		3396														3.11	
(c)	5.24						65.77			2.0		0.28	(1.39)	1.13		0.19	
(d)	8.72						49.97			4.07		1.1	(3.3)	2.06		0.21	
(e)		4231							3.03								
(f)	6.81						54.48			2.08		0.73	(1.96)	3.35		0.32	
(g)		4135							2.94								
(h)	10.14						45.12			3.27		1.05	(1.51)	4.46		0.32	

	P2O5	S	SO3	SiO2	SrO	TiO2
(a)	0.07			20.47		0.2
(c)	0.57		3.06	20.23	0.05	0.2
(d)	0.45		2.84	26.55	0.13	0.46
(f)			3.16	25.63		
(h)			3.17	29.61		

Code	Product			Unit
SEI-JC211R	(a)	RM	cement, for chemical analysis	30 g
SEI-JCCRM-1	(b)	CRM	cement, for X-Ray fluorescence analysis	60 g
SEI-JCCRM-2	(c)	CRM	cement, for X-Ray fluorescence analysis	60 g
SEI-JCRM-611	(d)	RM	cement, for X-Ray fluorescence analysis	30 g
SEI-JCRM-612	(e)	RM	cement, for X-Ray fluorescence analysis	30 g
SEI-JCRM-613	(f)	RM	cement, for X-Ray fluorescence analysis	30 g

	Al2O3	CaO	Cl	Fe2O3	Ins.Res.	K2O	LOI	MgO	MnO	P2O5	SO3	SiO2	SrO	TiO2
(a)	5.67	64.37	0.009	2.65	0.08	0.44	1.86	1.16	0.07	0.10		20.77		0.31
(b)	5.26	65.21		2.67		0.56	(0.63)	2.13	0.06	0.28	2.05	20.99	0.05	0.35
(c)	8.94	56.33		2.08		0.31	(0.47)	3.05	0.15	0.28	2.05	25.66	0.05	0.35
(d)	5.41	66.25		3.2		0.34	(0.51)	1.08	0.06	0.59	0.25	21.84	0.28	0.30
(e)	5.19	62.95		2.81		0.9	(2.52)	1.52	0.06	1.02	4.51	20.12	0.045	0.28
(f)	5.36	63		2.78		1.2	(3.45)	1.07	0.08	0.15	6.07	19.51	0.15	0.35

Cement

Code	Product			Unit
NCS DC62101B	(a)	CRM	Portland cement - Constituents	25 g
NCS DC62102A	(b)	CRM	Cement	20 g
NCS DC62109	(c)	CRM	Portland pozzolanic cement	20 g
NCS DC62110	(d)	CRM	Portland blast-furnace slag cement	20 g
NCS DC62111	(e)	CRM	Portland fly ash cement	20 g
NCS DC62112	(f)	CRM	Aluminate cement	20 g
NCS DC62113	(g)	CRM	Granulated blast-furnace slag for cement	20 g
NCS DC62114	(h)	CRM	Pozzolana in Cement Industry	20 g
NCS DC62115	(i)	CRM	Fly ash cement industry	20 g
NCS DC62116	(j)	CRM	Composite portland cement	20 g
NCS DC62117	(k)	CRM	White portland cement	20 g
NCS DC62118	(l)	CRM	Moderate heat portland cement	20 g

	Al2O3	CaO	Fe2O3	Ins.Res.	K2O	LOI	MgO	S	SO3	SiO2	TiO2
(a)	4.48	62.76	2.64	0.75	0.66	3	2.05		2.98	20.88	0.32
(b)	5.31	58.67	3.17		0.91	4.5	2.91		2.33	21.19	0.32
(c)	6.52	47.57	3.54		1.43	2.44	1.86		2.33	32.67	0.162.59
(d)	6.26	57.4	2.39		0.59	3.68	3.31		2.02	23.48	0.43
(e)	8.93	46.52	4.9		0.61	9.09	1.9		2.47	24.31	0.33
(f)	51.15	34.56	1.91		0.13	0.68	0.63	0.1		7.95	2.03
(g)	12.23	35.62	1.26		0.54	1.05	10.66	0.61	1.17	34.93	1.06
(h)	24.2	2.83	5.1		3.05	2.99	1.24		0.08	57.53	1.07
(i)	36.62	4.42	4.37		0.57	1.76	0.84		0.35	48.93	1.46
(j)	4.01	57.86	2.22		0.55	13.86	2.28		2.3	16.34	0.22
(k)	4.61	65.71	0.26		0.05	6.43	0.14		1.9	20.49	0.12
(l)	4.75	60.99	4.12	1.18	0.43	0.81	4.37		2.27	21.73	0.23

Code	Product			Unit
NCS DC62119	(a)	CRM	Ordinary portland cement content	20 g
NCS DC62120	(b)	CRM	Portland blast-furnace slag cement content	20 g

	CO2	Lime	NSS	Pozz.	Slag
(a)	0.98	1.2		4.5	5.8
(b)	3.5	7	97.5	0.5	18.5

Code	Product			Unit
NCS DC62122	(a)	CRM	Cl- content of cement	20 g
NCS DC62125A	(b)	CRM	Cement containing F	20 g

	CaF2	Cl-	F
(a)		0.012	
(b)	(0.37)		0.18

Code	Product					Unit
SEI-JC401H	(a)	CRM	Cement for Strength Test			4.8 kg

	28 days	3 days	7 days
(a)	61.3	32.4	46.9

Measured as compressive strength (N/mm2)

Clinker

NIST-2686A	(a)	CRM	Portland cement clinker - Major phases	set (4)
NIST-2687	(b)	CRM	Portland cement clinker - Major phases	3 x 10 g
NIST-2688	(c)	CRM	Portland cement clinker - Major phases	3 x 10 g

	Al2O3	Alkali S.	Apht.	Arcanite	C2AF	C2S	C3A	C3S	CaO	CaO(free)	Fe2O3	K2O	LOI	MgO	Mn2O3	Na2O	P2O5
(a)	(3.70)	0.87	(0.74)	(0.27)	10.76	18.68	2.46	63.35	(64.09)		(3.65)	(0.49)	(0.51)	(4.81)	(0.13)	(0.20)	(0.07)
(b)	(5.53)			0.92	2.81	12.57	11.82	71.24	(67.20)	(2.2)	(1.98)	(0.72)	(0.17)	(1.48)	(0.04)	(0.14)	(0.29)
(c)	(4.90)				12.20	17.45	4.99	64.95	(66.50)	(0.2)	(4.07)	(0.35)	(0.21)	(0.98)	(0.03)	(0.11)	(0.08)

	Periclase	SO3	SiO2	SrO	TiO2
(a)	3.40	(0.56)	(21.71)	(0.04)	(0.22)
(b)		(0.83)	(21.43)	(0.11)	(0.27)
(c)		(0.31)	(22.68)	(0.13)	(0.24)

NCS DC62123	(a)	CRM	Sulphoaluminate Cement Clinker	20 g

	Al2O3	CaO	Fe2O3	K2O	LOI	MgO	Na2O	SO3	SiO2	TiO2
(a)	32.6	43.4	2.21	0.22	0.41	1.37	0.09	9.55	8.56	1.51

Cement, physical properties

NIST-46h	(a)	CRM	Portland cement - Turbidity and Fineness	10 x 5 g
NCS DC62127	(b)	CRM	Portland Fineness and Blaine Std	20 g

	Blaine	Density	S(45µm)	S(80µm)
(a)			7.43	
(b)	354.7	3.16		2.03

Clays

Clay

Code	Product			Unit
BAS-BCS-CRM 348	(a)	CRM	Ball Clay	100 g
BCR-461	(b)	CRM	Clay - Fluorine	30 g
CERAM-AN41	(c)	RM	China Clay	100 g
IPT-32	(d)	CRM	Plastic Clay (Saracuruna)	50 g
IPT-42	(e)	CRM	Clay (Sao Simao)	50 g
N 137	(f)	CRM	Clay	75 g
N 138	(g)	CRM	Clay	75 g
N 139	(h)	CRM	Clay	75 g

	Al2O3	CaO	F	Fe2O3	K2O	MgO	Na2O	P2O5	SiO2	TiO2
(a)		0.173		1.04	2.23	0.305	0.344	0.071	51.13	1.08
(b)			0.0568							
(c)	41.5	0.16		0.71	1.81	0.41	<0.05		54.8	0.05
(d)	28.5	0.17		3.46	0.8	0.39	0.16	0.13	51.8	1.49
(e)	32.2	0.05		1.09	0.47	0.19	0.02	0.07	51.9	0.96
(f)	32.43	0.28		1.63	1.31	0.28	0.126		61.46	1.13
(g)	26.01	0.23		1.47	0.98	0.22	0.1		68.9	0.92
(h)	13.8	0.14		0.84	0.51	0.12	0.059		82.41	0.53

				Unit
NCS DC60102	(a)	CRM	Clay - Constituents (NIM-GBW03101A)	50 g
NCS DC60103	(b)	CRM	Clay - Constituents (NIM-GBW03102)	50 g
NCS DC60104	(c)	CRM	Clay - Constituents (NIM-GBW03102A)	50 g
NCS DC60105	(d)	CRM	Clay - Constituents (NIM-GBW03103)	60 g
NCS DC62108C	(e)	CRM	Clay	20 g

	Al2O3	CO2	CaO	Cl	Fe2O3	FeO	H2O+	K2O	LOI	MgO	MnO	Na2O	P2O5	SO3	SiO2	TiO2
(a)	26.27	(0.041)	0.13	0.0041	10.55	(0.080)	(9.64)	0.79	10.62	0.46	0.052	0.060	0.14	0.049	49.98	0.70
(b)	36.74	(0.04)	0.054	0.0043	0.28	(0.082)	(13.12)	1.05	13.38	0.046	0.013	0.094	0.032	0.019	48.17	0.021
(c)	31.32	(0.051)	1.80	0.0029	0.33	(0.052)	(8.64)	1.15	8.81	0.083	0.020	2.55	0.053	0.023	53.67	0.030
(d)	13.28	1.66	3.23	0.011	4.64	(0.80)	(3.38)	2.50	5.10	1.84	0.088	1.81	0.106	0.027	66.64	0.66
(e)	13.79		1.62		5.17			2.40	4.54	1.82		1.50		0.08	67.74	0.71

Code	Product			Unit
NIST-679	(a)	CRM	Brick clay - Constituents	75 g
NIST-97b	(b)	CRM	Flint clay - Constituent elements	60 g
NIST-98b	(c)	CRM	Plastic clay - Constituent elements	60 g

	Al	Ba	Ca	Ce	Co	Cr	Cs	Eu	Fe	Hf	K	Li	Mg	Mn	Na	P	Rb
(a)	11.01	0.0432	0.1628	(0.0105)	(0.0026)	0.01097	(0.00096)	(0.00019)	9.05	(0.00046)	2.433	0.00717	0.7552	(0.173)	0.1304	(0.075)	(0.019)
(b)	20.76	(0.018)	0.0249		(0.00038)	0.0227	(0.00034)	(0.000084)	0.831	(0.0013)	0.513	0.055	0.113	0.0047	0.0492	(0.02)	(0.0033)
(c)	14.3	(0.07)	0.0759		(0.00163)	0.0119	(0.00165)	(0.00013)	1.18	(0.00072)	2.81	0.0215	0.358	0.0116	0.1496	(0.03)	(0.018)

	Sb	Sc	Si	Sr	Th	Ti	Zn	Zr
(a)		(0.00225)	24.34	0.00734	(0.0014)	0.577	(0.015)	
(b)	(0.00022)	(0.0022)	19.81	0.0084	(0.0036)	1.43	(0.0087)	(0.05)
(c)	(0.00016)	(0.0022)	26.65	0.0189	(0.0021)	0.809	(0.011)	(0.022)

NIM-GBW03121	(a)	CRM	Kaolin - Constituents (NCS DC60122)	50 g
NIM-GBW03122	(b)	CRM	Kaolin - Constituents (NCS DC60123)	50 g
UN KK	(c)	CRM	Kaolin	100 g

	CO2	CaO	Fe2O3	FeO	H2O	K2O	MgO	MnO	Na2O	P2O5	SO3	SiO2	TiO2
(a)		0.052	0.5	(0.026)	11.72	0.34	0.12	0.0032	0.015	0.099	0.53	54.55	0.69
(b)	(0.06)	0.16	0.72	(0.33)	14.77	0.049	0.068	0.0054	0.069	0.21	0.12	44.53	0.39
(c)		0.236	0.982		12.75	1.063	0.192	0.015	0.032			47.06	0.166

ECRM-B 776-1	(a)	CRM	Firebrick - powder	100 g
ECRM-D 777-1	(b)	CRM	Silica brick - powder	100 g

	Al2O3	BaO	CaO	Cr2O3	Fe2O3	K2O	Li2O	MgO	Na2O	P2O5	SiO2	TiO2
(a)	29.28	0.122	0.31	0.022	1.43	2.92	0.019	0.476	0.488	0.062	62.76	1.62
(b)	0.795		2.826		0.33	0.154		0.071	0.02		95.06	0.444

Coal, Coke and Pitch

Coal ash

Code	Product			Unit
NCS FC82012	(a)	CRM	Coal ash - Constituents (NIM-GBW11127)	30 g
NCS FC82014	(b)	CRM	Coal ash - Constituents (NIM-GBW11129)	30 g
NCS FC82015	(c)	CRM	Coal ash - Constituents (NIM-GBW11130)	30 g
NCS FC82016	(d)	CRM	Coal ash - Constituents (NIM-GBW11131)	30 g
NCS FC82017	(e)	CRM	Coal ash - Constituents (NIM-GBW11132)	30 g

	Al2O3	CaO	Fe2O3	K2O	MgO	Na2O	P2O5	SO3	SiO2	TiO2
(a)	14.96	21.37	5.51	1.41	1.73	1.36	0.50	3.94	46.77	0.63
(b)	31.7	1.44	7.8	1.36	1.08	0.22	0.28	0.28	53.98	1.17
(c)	17.88	6.11	6.04	0.87	0.9	1.18	0.85	1.20	62.93	0.79
(d)	33.78	5.5	4.36	0.87	0.76	0.41	0.18	1.25	50.08	1.77
(e)	10	42.4	8.16	1.28	1.17	0.46	0.04	2.76	31.24	0.56

Code	Product			Unit
NCS FC28145	(a)	CRM	Coal Ash	5 g
NCS FC28146	(b)	CRM	Coal Ash	5 g
NCS FC28147	(c)	CRM	Coal Ash	5 g
NCS FC28148	(d)	CRM	Coal Ash	5 g
NCS FC28149	(e)	CRM	Coal Ash	5 g
NCS FC28150	(f)	CRM	Coal Ash	5 g
NCS FC28151	(g)	CRM	Coal Ash	5 g

	Al2O3	CaO	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SiO2	TiO2	V2O5
(a)	7.34	18.37	39.61	0.3	6.05	0.44	3.37	0.1	15.66	0.26	0.0042
(b)	33.71	9.9	4.74	0.3	1.27	0.037	2.9	1.44	37.86	1.56	0.02
(c)	32.78	10.97	4.81	0.24	1.17	0.02	3.5	1	37.52	1.34	0.019
(d)	35.8	3.27	2.81	0.9	0.69	0.0073	1.08	0.25	48.03	1.29	0.049
(e)	25.92	14.92	7.56	0.2	1.63	0.17	1.51	0.72	35.54	1.3	0.032
(f)	26.03	10.44	5.79	1.41	1.87	0.097	0.56	0.091	47.64	1.24	0.042
(g)	28.53	3.33	15.18	0.64	1.21	0.042	0.87	0.12	43.42	1.25	0.062

Code	Product			Unit
NCS FC28153	(a)	CRM	Ash of coal waste rock	5 g
BCR-038	(b)	CRM	Fly ash from pulverised coal - Trace elements	5 g
BCR-176R	(c)	CRM	Fly ash - Trace elements	40 g
GSJ-JCFA-1	(d)	CRM	Coal Fly Ash - Constituents	100 g
JSAC 0521	(e)	CRM	Inorganic components in coal ash (Set JSAC 0521-0522 only)	50 g
JSAC 0522	(f)	CRM	Inorganic components in coal ash (Set JSAC 0521-0522 only)	50 g
ASCRM010-2	(g)	RM	Coal Ash	100 g
IR ECH 12-1-03	(h)	CRM	Coal fly ash	50 g
IR ENO 12-1-01	(i)	CRM	Coal fly ash	50 g
IR EOP 12-1-02	(j)	CRM	Coal fly ash	50 g
NCS ZC78001	(k)	CRM	Coal fly ash - Metals (NIM-GBW08401)	30 g

	Ag	Al	Al2O3	As	Au (ppm)	B	Ba	BaO	Be	Be (ppm)	Br	C	Ca	CaO	Cd	Cd (ppm)	Ce
(a)			27.71											0.65			
(b)				0.0048											0.00046		
(c)	(0.00331)			0.0054	(0.604)		(0.465)				(0.0836)					226	(0.00477)
(d)			24.25	0.00291					0.000406			1.35		8.91			
(e)		13.48		0.00197		0.0148				3.03		1.21	1.31			(0.46)	
(f)		15.20		55.2		85.6				10.4		1.03	0.93			0.98	
(g)								0.14						3.47			
(h)		14.7		0.00505			0.0731						1.86			0.0183	
(i)		10.8		0.182		0.0291	0.068		0.00043				3.42			0.00987	
(j)		16.1		0.00739			0.109						1.49			0.0322	
(k)				0.00114			(0.145)			10.7						0.16	

	Co	Cr	Cs	Cu	Eu (ppm)	F (ppm)	Fe	Fe (tot)*	Fe2O3	FeO	H2O+	H2O-	Hf	Hg (ppm)	K	K2O	LOI
(a)									5.01							4.18	
(b)	0.00538	(0.0178)		0.0176			3.38										
(c)	0.00267	0.081	(0.000827)	0.105	(0.868)		1.31						(0.000485)	(1.6)			
(d)	0.00374	0.0075	0.00086	0.0122				5.2	4.22	0.88	0.37	0.18				1.27	
(e)	0.00278	0.0102		0.0103		153	3.09							0.14	1.99	0.066	
(f)	0.0474	0.0139		0.0113		(33)	2.92							(0.01)	0.24	1.36	
(g)									10.8							0.92	
(h)	0.00486	0.0191		0.0155			5.59								1.36		
(i)	0.00257	0.00968	0.0118	0.00587			7.49							7.06	1.75		
(j)	0.00524	0.0189	0.00201	0.0231	4.99		5.17								0.651		
(k)	0.00332	0.0060		0.0053			7.65							(0.039)			

Code	Product																Unit
		La	**Li**	**Mg**	**MgO**	**Mn**	**MnO**	**Na**	**Na2O**	**Ni (ppm)**	**P**	**P2O5**	**Pb (ppm)**	**S**	**Se (ppm)**	**Si**	**SiO2**	**Sr**	
	(a)				1.2		0.041		0.53			0.082					20.59		
	(b)					0.0479													
	(c)	(0.00302)				(0.073)													
	(d)		0.0091		2.12		0.068												
	(e)			0.87		0.0315		0.48		62.8	0.400		54.0	0.066	0.75	27.16	0.113		
	(f)			0.36		0.0240		0.13		106	0.146		98.1	0.067	(0.1)	27.76	0.122		
	(g)				1.4														
	(h)	0.00844		0.788		0.0383													
	(i)			1.17		0.063													
	(j)	0.0164		0.581		0.0441													
	(k)					0.1178							33.8		1.13				
		Ti	**TiO2**	**V (ppm)**	**V2O5**	**Y (ppm)**	**Zn (ppm)**												
	(a)		1.04		0.028														
	(e)	0.65		225			137												
	(f)	1.03		130			303												
	(k)					95	61												

NIST-1633C	(a)	CRM	Coal fly ash - Trace and constituent elements	75 g
NIST-2689	(b)	CRM	Coal fly ash - Constituent elements	set (3)
NIST-2690	(c)	CRM	Coal fly ash - Constituent elements	set (3)
NIST-2691	(d)	CRM	Coal fly ash - Constituent elements	set (3)
AR-4201	(e)	RM	Coal fly ash	20 g
AR-4202	(f)	RM	Coal fly ash	20 g

	Al	**Al2O3**	**As**	**Ba**	**Be**	**Ca**	**CaO**	**Cd (ppm)**	**Ce**	**Co**	**Cr**	**Cs (ppm)**	**Cu**	**Dy**	**Eu (ppm)**	**Fe**	**FeO**
(a)	13.28		0.01862	0.1126	(0.0016)	1.365		0.758	(0.018)	0.00429	(0.0258)	(9.39)	0.01737	(0.00187)	(4.67)	10.49	
(b)	12.94		(0.02)	(0.08)	(0.0021)	2.18		(3)		(0.0048)	(0.017)	(11)			(3)	9.32	
(c)	12.35		(0.0026)	(0.58)	(0.0008)	5.71		(0.7)		(0.0019)	(0.0067)	(8)			(2)	3.57	
(d)	9.81		(0.003)	(0.59)	(0.0008)	18.45		(0.9)		(0.0026)	(0.0068)	(1)			(2)	4.42	
(e)		23.22					2.04									5.20	
(f)		23.03					1.76									5.94	

	Ga	**Hf**	**Hg (ppm)**	**In (ppm)**	**K**	**K2O**	**LOI**	**La**	**Lu (ppm)**	**Mg**	**MgO**	**Mn**	**Na2O**	**SO3**	**SiO2**
(a)	(0.0055)	(0.0006)	1.005	(0.14)	1.773			(0.0087)	(1.32)	0.498		0.02402			
(b)		(0.0007)	(0.003)		2.2					0.61		(0.03)			
(c)		(0.0008)	(0.003)		1.04					1.53		(0.03)			
(d)		(0.001)	(0.003)		0.34					3.12		(0.02)			
(e)						0.84	0.88				1.39		0.83	0.27	64.57
(f)						0.93	1.23				1.54		0.82	0.20	62.91

Code	Product			Unit
NCS FS28001	(a)	CRM	Fusability for coal ash	5 g
NCS FS28002	(b)	CRM	Fusability for coal ash	5 g
NCS FS28003	(c)	CRM	Fusability for coal ash	5 g

Product	Atmosphere	Fusibility (°C)	Deformation temperature	Softening temperature	Hemisphering temperature	Fluid temperature
(a)	Mildly reducing atmosphere	Certified value	1161	1190	1198	1204
	Oxidizing atmosphere	Certified value	1211	1230	1239	1252
(b)	Mildly reducing atmosphere	Certified value	1217	1340	1357	1369
	Oxidizing atmosphere	Certified value	1356	1408	1420	1445
(c)	Mildly reducing atmosphere	Certified value	1285	1314	1322	1340
	Oxidizing atmosphere	Certified value	1314	1345	1360	1381

Code	Product			Unit
Coal				
IARM-HC20800A	(a)	CRM	Sulfur in coal	50 g
IARM-HC30800A	(b)	CRM	Coal CRM - 8.0% Sulfur Prox	50 g
IARM-HC20500B	(c)	CRM	Sulfur in coal	50 g
IARM-HC30500B	(d)	CRM	Sulfur and proximates in Coal	50 g
ASCRM012D-2	(e)	CRM	Sulfur in Coal	125 g
BCR-335	(f)	CRM	Flame coal - Sulfur	20 g
NIST-2685b	(g)	CRM	Coal - Sulfur, mercury and heat of combustion	50 g
NCS FC28221	(h)	CRM	Coal	50 g
NCS FC28220	(i)	CRM	Coal	50 g
NCS FC28008H	(j)	CRM	Coal - Bitumite	50 g

	% Ash	% Vol.	Al	As	As (ppm)	B	Ba	Br (ppm)	C	C (free)	Ca	Cal.val.	Ce	Cl	Co (ppm)	Cr (ppm)	Cs (ppm)
(a)																	
(b)	23.9	35			(60)				57	42				(0.07)			
(c)																	
(d)	22.3	32							64.2	(45)							
(e)																	
(f)																	
(g)	(15.94)		(1.7)	(0.0012)		(0.0109)	(0.0105)	(5.6)	(64.6)		(0.52)		(0.0018)	0.0517	(4.6)	(22)	(1.3)
(h)	18.98	32															
(i)	16.52	11.15															
(j)	34.68	23.14							51.05			20.60					

	Eu (ppm)	F	Fe	H	H2O	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	Joule/g	K	La	Mg	Mn	N	Na	O
(a)																	
(b)		(0.01)		4.1	(2)	(10750)	(25050)		(0.6)						1.1	(5.3)	
(c)																	
(d)				4.2	(1.1)	(11600)									1.1	3	
(e)																	
(f)																	
(g)	(0.36)		(3.9)	(4.5)				(0.91)	0.1462	(26940)	(0.26)	(0.001)	(0.1)	(0.0041)	(1.1)	(0.08)	
(h)							27790										
(i)							28670										
(j)				3.16											0.85		

Code	Product															Unit
		Rb	**S**	**S(tot)**	**Sb (ppm)**	**Sc (ppm)**	**Se (ppm)**	**Sm (ppm)**	**T.S.G.**	**Th (ppm)**	**Ti**	**U (ppm)**	**V**	**W (ppm)**	**Zn**	
	(a)		8.6													
	(b)		8.6													
	(c)		5.4													
	(d)		5.4													
	(e)		5.21													
	(f)		5.08													
	(g)	(0.0017)	4.73		(0.36)	(3.7)	(1.9)	(1.7)		(2.7)	(0.09)	(0.95)	(0.0031)	(1.2)	(0.0017)	
	(h)		4.04													
	(i)		4.03													
	(j)			3.68					1.70							

BCR-336	(a)	CRM	High volatile steam coal - Sulfur	20 g
NCS FC28210	(b)	CRM	Coal	50 g
NCS FC28216	(c)	CRM	Coal	50 g
IARM-HC20250A	(d)	CRM	Sulfur in coal	50 g
IARM-HC30250A	(e)	CRM	Sulfur and proximates in Coal	50 g
NCS FC28215	(f)	CRM	Coal	50 g
NCS FC28112	(g)	CRM	Coal - Bitumite	50 g
NCS FC28011F	(h)	CRM	Coal - Anthracite	50 g
NCS FC28007J	(i)	CRM	Coal (bitumite) - Elements and properties	50 g

	% Ash	**% Vol.**	**As**	**C**	**C (free)**	**Cl**	**F**	**H**	**Heat(BTU)**	**Heat(J/g)**	**Hg (ppm)**	**Moisture**	**N**	**O**	**S**	**S(tot)**	**T.S.G.**
(a)															3.29		
(b)	25.9	8.4								24470					3.17		
(c)	8.7	10.78								32340					2.79		
(d)															2.5		
(e)	32.9	19.3	(0.003)	57.1	47.9	0.09	(0.02)	3.2	(10160)	(23630)	0.4	(0.7)	1.0	3.2	2.5		
(f)	25.2	28.79								24830					2.17		
(g)	8.08	33.9		78.64				5.01		32710			1.31		2.1	1.33	
(h)	16.98	6.97		75.00				2.06		27860			0.89			2.38	1.72
(i)	13.40	35.59		67.39				4.04		26870			1.20			1.92	1.50

Code	Product			Unit
NIST-2683C	(a)	CRM	Coal (bituminous) - Sulfur, mercury	50 g
NCS FC28217	(b)	CRM	Coal	50 g
NCS FC28209	(c)	CRM	Coal	50 g
NCS FC28106	(d)	CRM	Coal - Bitumite	50 g
NCS FC28002L	(e)	CRM	Coal - Bitumite	50 g
NCS FC28214	(f)	CRM	Coal	50 g
BCR-334	(g)	CRM	Anthracite - Sulfur	20 g
NCS FC28213	(h)	CRM	Coal	50 g

	% Ash	% Vol.	C	Cl	F	H	H2O	Heat(J/g)	Hg (ppm)	N	S	S(tot)	T.S.G.
(a)	(9.87)	(35.84)	(73.38)	(0.1127)	(0.0082)	(4.886)	(3.185)	(30240)	0.09	(1.635)	1.955		
(b)	8.68	36.06						31330			1.79		
(c)	27.33	8.21						23960			1.76		
(d)	8.41	31.92	78.98			4.95		32870		1.38	1.7		1.35
(e)	15.52	33.31	66.61			4.06		26660		1.18		1.52	1.50
(f)	27.85	29.21						23630			1.66		
(g)											1.609		
(h)	9.88	36.2						30760			1.49		

Code	Product			Unit
SARM 19	(a)	CRM	Coal (OFS)	120 g
UG-CLB-1	(b)	CRM	Coal, bitumineous	30 g
NIST-1632D	(c)	CRM	Coal (bituminous) - Elements	50 g
NCS FC28218	(d)	CRM	Coal	50 g
BCR-333	(e)	CRM	Coking steam coal - Sulfur	20 g
NCS FC28140	(f)	CRM	Coal - Elements and properties	50 g
NCS FC28111	(g)	CRM	Coal - Bitumite	50 g
IND-CMT053	(h)	CRM	SABS CRM-053: Coal	150 g
NIST-2692C	(i)	CRM	Coal (bituminous) - Sulfur, mercury	50 g
NCS FC28105	(j)	CRM	Coal - Anthracite	50 g

	% Ash	% Vol.	Al	Al2O3	As	B	Ba	Be	C	Ca	CaO	Cd	Ce	Cl (ppm)	Co (ppm)	Cr	Cs (ppm)
(a)				8.01	0.0007		0.0304	0.00028			1.39		0.0056		5.6	0.005	1.4
(b)	(6.3)			(1.51)	(0.0013)		0.0034				0.22		0.001		7	0.00097	
(c)	(7.078)	(36.04)	(0.912)		(0.00061)	(0.0062)	0.004042		(76.88)	(0.144)		(0.000008)	(0.00117)	1142	3.424	(0.00137)	(0.598)
(d)	14.58	6.16															
(e)																	
(f)	25.88	30.43							58.12								
(g)	25.35	28.65							59.84								
(h)	29.42	27.86							55.76								
(i)	(7.499)													(0.1338)			
(j)	9.61	12.43							81.54								

	Cu	Dy	Eu (ppm)	F	Fe	Fe (tot)*	Fe2O3	Ga	Ge	H	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	K	K2O	La
(a)	0.0013						1.75	0.0014	0.0013				5.4	(2)		0.24	0.0027
(b)	(0.001)					1.25		(0.0003)						(0.2)		0.076	(0.0005)
(c)	0.000583	(0.00009)	(0.217)	(0.00636)	0.749					5.1	(13821)		(0.5)	0.0928	0.1094	(0.0006)	
(d)												29260					
(e)																	
(f)										3.4		22640					
(g)										3.73		23970					
(h)										3.61							
(i)														0.179			
(j)										3.7		32240					

Code	Product																Unit
		Li	**Mg**	**MgO**	**Mn**	**Mo**	**N**	**Na**	**Na2O**	**Nb**	**Nd**	**Ni**	**P**	**P2O5**	**Pb (ppm)**	**Rb (ppm)**	**S**	**Sb (ppm)**	
	(a)			0.2	0.0157				0.29			0.0016	0.013		20	9	1.49		
	(b)	(0.0008)		0.047	(0.0008)	(0.0009)			0.023	(0.0001)	(0.0005)	0.0018		(0.07)	5.1	5.2	(1.49 tot)	(1.5)	
	(c)		(0.039)		(0.00131)		(1.59)	0.02969				(0.001)			3.845	7.36	1.462	0.445	
	(d)																1.35		
	(e)																1.344		
	(f)						1.06										1.3		
	(g)						1.01										1.26		
	(h)						1.28						0.041				1.2		
	(i)																1.064		
	(j)						1.16										1.05		
		Sc (ppm)	**Se (ppm)**	**Si**	**SiO2**	**Sm**	**Sr (ppm)**	**T.S.G.**	**Th (ppm)**	**Ti**	**TiO2**	**U (ppm)**	**V (ppm)**	**Zn**	**Zr**				
	(a)	7.6			15	0.00049	126		12		0.341	5	35	0.0012	0.0351				
	(b)	2	(2)		(2.51)				(1.4)		(0.078)	(0.55)	12	0.0048					
	(c)	(2.89)	(1.29)	(1.65)		(0.0001)	63.5		1.428	0.0477		0.517	23.74	(0.00129)					
	(f)							1.62											
	(g)							1.57											
	(j)							1.43											

NCS FC28202	(a)	CRM	Coal	50 g
NCS FC28205	(b)	CRM	Coal	50 g
NCS FC28208	(c)	CRM	Coal	50 g
IND-CMT035	(d)	CRM	SABS CRM-035: Coal	150 g
IND-CMT028	(e)	CRM	SABS CRM-028: Coal	150 g
NCS FC28006Q	(f)	CRM	Coal - Bitumite	50 g
BCR-332	(g)	CRM	High volatile industrial coal - Sulfur	20 g
NCS FC28204	(h)	CRM	Coal	50 g

	% Ash	**% Vol.**	**C**	**H**	**Heat(J/g)**	**N**	**P**	**S**	**T.S.G.**
(a)	8.65	33.36			30770			1.05	
(b)	14.49	11.39			29980			0.31	
(c)	15.48	20.57			29190			1.03	
(d)	26.81	22.18	58.01	2.98		1.52	0.05	1.02	
(e)	27	23.1	57.24	2.94		1.45	0.09	0.99	
(f)	9.26	31.37	76.95	4.58	31510	1.37		0.81	1.38
(g)								0.961	
(h)	8.09	33.96			31310			0.96	

Code	Product			Unit
IND-CMT041	(a)	CRM	SABS CRM-041: Coal	150 g
NCS FC28211	(b)	CRM	Coal	50 g
IND-CMT055	(c)	CRM	SABS CRM-055: Coal	150 g
NCS FC28110	(d)	CRM	Coal - Bitumite	50 g
IND-CMT029	(e)	CRM	SABS CRM-029: Coal	150 g
IND-CMT040	(f)	CRM	SABS CRM-040: Coal	150 g
NCS FC28206	(g)	CRM	Coal	50 g
IND-CMT052	(h)	CRM	SABS CRM-052: Coal	150 g

	% Ash	% Vol.	C	H	Heat(J/g)	N	P	S	T.S.G.
(a)	27.62	22.84	57.61	3.08		1.48	0.065	0.94	
(b)	13.41	9.08			30230			0.88	
(c)	14.14	11.54	75.7	2.93		1.93	0.031	0.88	
(d)	8.42	32.94	75.96	4.56	30920	1.33		0.87	1.41
(e)	32.97	23.96	50.86	2.86		1.17	0.051	0.86	
(f)	26.63	23	58.36	3.14		1.51	0.058	0.86	
(g)	14.46	28.56			26720			0.85	
(h)	7.94	5.17	85.79	2.47		1.77	0.02	0.85	

Code	Product			Unit
IARM-HC20075C	(a)	CRM	Sulfur in coal	50 g
IARM-HC30075C	(b)	CRM	0.75% Sulfur in Coal Proximate Analysis CRM - 50g bottle, LECO Part No. 502-802	50 g
IND-CMT039	(c)	CRM	SABS CRM-039: Coal	150 g
IND-CMT043	(d)	CRM	SABS CRM-043: Coal	150 g
IND-CMT051	(e)	CRM	SABS CRM-051: Coal	150 g
NCS FC28203	(f)	CRM	Coal	50 g
NCS FC28107	(g)	CRM	Coal - Bitumite	50 g
IND-CMT046	(h)	CRM	SABS CRM-046: Coal	150 g

	% Ash	% Vol.	C	C (fx)	Cl	H	Heat(BTU)	Heat(J/g)	Hg (ppm)	Moisture	N	O	P	S	T.S.G.
(a)														0.76	
(b)	7.2	36	77.4	56	(0.2)	5.0	(13820)	(32150)	0.2	(2)	1.47	(8)		0.76	
(c)	24.51	23.34	59.97			2.93					1.56		0.079	0.75	
(d)	22.31	23.82	61.69			3.03					1.56		0.071	0.74	
(e)	39.7	20.89	44.44			2.45					1.1		0.11	0.72	
(f)	10.36	20.69						31660						0.71	
(g)	10.41	15.3	79.8			3.8		31640			1.1			0.66	1.43
(h)	11.86	26.87	74.21			3.77					1.76			0.66	

Coal, Coke and Pitch

Code	Product			Unit
IND-CMT026	(a)	CRM	SABS CRM-026: Coal	150 g
IND-CMT047	(b)	CRM	SABS CRM-047: Coal	150 g
IARM-HC20060A	(c)	CRM	Sulfur in coal	50 g
IARM-HC30060A	(d)	CRM	Sulfur and proximates in Coal	50 g
NCS FC28109	(e)	CRM	Coal - Anthracite	50 g
NCS FC28108	(f)	CRM	Coal - Bitumite	50 g
SARM 18	(g)	CRM	Coal (Witbank)	120 g
NCS FC28116	(h)	CRM	Coal - Bitumite	50 g

	% Ash	% Vol.	Al2O3	As	Ba	Be	C	C (fx)	CaO	Ce (ppm)	Cl	Co (ppm)	Cr (ppm)	Cs	Cu (ppm)	F	Fe2O3
(a)	37.83	22.07					46.63										
(b)	13.58	25.45					71.85										
(c)																	
(d)	11.5	6		(0.0003)			82	(82)			(0.023)					(0.007)	
(e)	11.98	11.3					79.42										
(f)	13.68	30.84					72.94										
(g)			2.57		0.0078	0.00041			0.18	22		6.7	16	(0.0001)	5.9	0.29	
(h)	6.08	32.34					78.68										

	Ga (ppm)	Ge	H	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	K2O	La	MgO	Mn (ppm)	Moisture	N	Ni (ppm)	O	P	Pb (ppm)
(a)			2.59										1.11			0.066	
(b)			3.81										1.66			0.06	
(c)																	
(d)			1.8	(13050)	(30400)		0.14					(4)	0.95		(3.2)		
(e)			3.28		30660								1.09				
(f)			4.46		29900								1.26				
(g)	(8)	(0.0008)				1.7	(0.04)	0.145	0.001	0.11	22			10.8		0.003	(5)
(h)			4.59		31820								1.34				

	Rb	S	Sc (ppm)	SiO2	Sm	Sr	T.S.G.	Th (ppm)	TiO2	U (ppm)	V (ppm)	Zn (ppm)	Zr
(a)		0.65											
(b)		0.6											
(c)		0.59											
(d)		0.59											
(e)		0.58					1.49						
(f)		0.57					1.42						
(g)	0.00081	0.56	4.3	6.2	0.0002	0.0044		3.4	0.114	1.5	23	5.5	0.0067
(h)		0.54					1.39						

Code	Product			Unit
NCS FC28212	(a)	CRM	Coal	50 g
NCS FC28001S	(b)	CRM	Coal - Bitumite	50 g
SARM 20	(c)	CRM	Coal (Sasolburg)	120 g
IND-CMT048	(d)	CRM	SABS CRM-048: Coal	150 g
BCR-331	(e)	CRM	Low volatile steam coal - Sulfur	20 g
NIST-2682b	(f)	CRM	Coal (sub-bituminous) - Sulphur, mercury and heat of combustion	50 g
IND-CMT054	(g)	CRM	SABS CRM-054: Coal	150 g
IND-CMT037	(h)	CRM	SABS CRM-037: Coal	150 g

	% Ash	% Vol.	Al	Al2O3	As	B	Ba	Be	Br	C	Ca	CaO	Ce	Cl	Co	Cr	Cs
(a)	8.49	25.65															
(b)	10.24	23.81								30.74							
(c)				11.27	0.00047		0.0372	0.00025				1.87	0.0087		0.00083	(0.0067)	(0.0002)
(d)	15.66	25.4								71.24							
(e)																	
(f)	(6.32)		(0.46)		(0.0001)	(0.0039)	(0.0382)		(0.00037)	(66.6)	(1.1)		(0.001)	(0.00161)	(0.00017)	(0.0015)	(0.00001)
(g)	15.66	25.27								70.96							
(h)	15.26	24.84								71.17							

	Cu	Eu (ppm)	Fe	Fe2O3	Ga	H	Heat(J/g)	Hf (ppm)	Hg (ppm)	Joule/g	K	K2O	La	Mg	MgO	Mn	N
(a)							30900										
(b)						4.04				30740						1.25	
(c)	0.0018			1.17	0.0016			4.8	0.25			0.14	0.0043		0.43	0.008	
(d)						3.76										1.65	
(e)																	
(f)		(0.17)	(0.24)			(4.3)	(25660)	(0.6)	0.1088		(0.01)		(0.00052)	(0.2)		(0.0026)	(1)
(g)						3.81										1.62	
(h)						3.67										1.72	

	Na	Na2O	Ni	P	P2O5	Pb	Rb	S	Sb (ppm)	Sc (ppm)	Se (ppm)	SiO2	Sm (ppm)	Sr	T.S.G.	Ta	Th
(a)								0.52									
(b)								0.42							1.43		
(c)		0.27	0.0025		0.14	0.0026	0.001	0.51		0.001	0.00008	17.66	0.00063	0.033		0.00012	0.0018
(d)				0.09				0.5									
(e)								0.499									
(f)	(0.1)						(0.0002)	0.4917	(0.19)	(1.5)	(0.91)		(0.78)			(0.00015)	
(g)				0.094				0.49									
(h)				0.102				0.48									

	Ti	TiO2	U	V	W	Y	Zn	Zr
(c)		0.63	0.0004	0.0047		0.0029	0.0017	(0.018)
(f)	(0.05)		(0.000052)	(0.0015)	(0.00018)		(0.00086)	

Coal, Coke and Pitch

Code	Product			Unit
IND-CMT056	(a)	CRM	SABS CRM-056: Coal	150 g
IND-CMT057	(b)	CRM	SABS CRM-057: Coal	150 g
IND-CCS 008	(c)	CRM	SABS Coal - Centralised Control Sample	100 g
NCS FC28201	(d)	CRM	Coal	50 g
NIST-2693	(e)	CRM	Coal (bituminous) - Sulfur and mercury	50 g
NCS FC28207	(f)	CRM	Coal	50 g
NCS FC28115	(g)	CRM	Coal - Bitumite	50 g
NCS FC28104	(h)	CRM	Coal - Anthracite	50 g
NCS FC62001A	(i)	CRM	Bituminous Coal	20 g
IND-CMT023	(j)	CRM	SABS CRM-023: Coal	150 g

	% Ash	% Vol.	C	C (tot)	Cl	H	H2O	Heat(J/g)	Hg (ppm)	N	P	S	S (tot)	T.S.G.
(a)	15.49	25.42	71.19			3.85				1.7	0.093	0.48		
(b)	15.49	25.42	71.19			3.85				1.7	1.093	0.48		
(c)	15.26	25.00		70.50		3.62		27520		1.61	0.085		0.48	
(d)	10.45	17.7						31570				0.47		
(e)	(9.44)				0.03696				0.0373			0.4571		
(f)	16.26	7.26						26100				0.43		
(g)	6.38	32.22	77.44			4.42		31050		1.21		0.42		1.41
(h)	10.09	11	81.45			3.52		32040		1.34		0.4		1.45
(i)	11.46	29.93					6.17	25700				0.37		
(j)	16.54	25.63	68.25			3.63				1.62	0.1	0.37		

Code	Product			Unit
NIST-1635	(a)	CRM	Coal - Trace elements	75 g
NCS FC28103	(b)	CRM	Coal - Anthracite	50 g
NCS FC62002A	(c)	CRM	Bituminous Coal (Anthracite in Cement Industry)	20 g
IARM-HC20025C	(d)	CRM	Sulfur in coal - Leco Part No. 502-383	50 g
IARM-HC30025C	(e)	CRM	Sulfur and proximates in coal	50 g
NCS FC28003H	(f)	CRM	Coal - Anthracite	50 g

	% Ash	% Vol.	Al	As (ppm)	C	C (fx)	Cd (ppm)	Ce (ppm)	Cl	Co (ppm)	Cr (ppm)	Cu (ppm)	Eu (ppm)	F	F (ppm)	Fe	Ga (ppm)
(a)	(4.6)		(0.32)	0.42			0.03	(3.6)		(0.65)	2.5	3.6	(0.06)		25.9	0.239	(1.05)
(b)	10.51	9.6			81.55												
(c)	23.90	4.29															
(d)																	
(e)	6.3	44			70	(50)			(0.01)					(0.01)			
(f)	13.16	9.99			78.73												

	H	H2O	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	Mn (ppm)	Moisture	N	Na	Ni (ppm)	O	Pb (ppm)	S	Sb (ppm)	Sc (ppm)	Se (ppm)
(a)					(0.29)	0.0109	21.4			(0.24)	1.74		1.9	0.3616	(0.14)	(0.63)	0.9
(b)	3.33			31800					1.3					0.36			
(c)		3.15		24190										0.36			
(d)														0.30			
(e)	4.7		(11850)	(27600)		0.07		(21)	0.97			(17.9)		0.30			
(f)	2.66			29660					0.98					0.40			

	T.S.G.	Th (ppm)	Ti	U (ppm)	V (ppm)	Zn (ppm)
(a)		0.62	(0.02)	0.24	5.2	4.7
(b)	1.47					
(f)	1.57					

NCS FC28219	(a)	CRM	Coal	50 g
NCS FC28017A	(b)	CRM	Coal - Anthracite	50 g
NCS FC28113	(c)	CRM	Coal - Bitumite	50 g
NCS FC28101	(d)	CRM	Coal - Anthracite	50 g
NCS FC28114	(e)	CRM	Coal - Bitumite	50 g
NCS FC28102	(f)	CRM	Coal - Anthracite	50 g
NCS FC28009H	(g)	CRM	Coal - Bitumite	50 g
NCS FC28004H	(h)		Coal - Anthracite	50 g

Code	Product											Unit
		% Ash	**% Vol.**	**% Volatile**	**C**	**H**	**Heat (J/g)**	**Heat(J/g)**	**N**	**S**	**S(tot)**	**T.S.G.**
	(a)	6.1	31.24					30090		0.28		
	(b)	14.53		5.85	80.04	0.97	27160		0.24	0.27		1.93
	(c)	7.06	33.4		74.8	4.47		30030	1.02	0.27		1.41
	(d)	3.95	6.82		90.2	3.01		34340	0.58	0.2		1.47
	(e)	4.66	33.41		76.69	4.42		30430	1.04	0.2		1.4
	(f)	6.46	7.9		87.47	2.86		33100	0.6	0.19		1.5
	(g)	26.49	19.08		60.33	2.96		23.86	0.98		4.69	1.69
	(h)	14.32	6.96		78.59	2.16		29150	1.04		1.02	1.67

NCS FC28122	(a)	CRM	Inorganic Elements of Coal - Anthracite	50 g
NCS FC28123	(b)	CRM	Inorganic Elements of Coal - Anthracite	50 g
NCS FC28124	(c)	CRM	Inorganic Elements of Coal - Anthracite	50 g
NCS FC28125	(d)	CRM	Inorganic Elements of Coal - Anthracite	50 g
NCS FC28126	(e)	CRM	Inorganic Elements of Coal - Bitumite	50 g
NCS FC28127	(f)	CRM	Inorganic Elements of Coal - Bitumite	50 g
NCS FC28128	(g)	CRM	Inorganic Elements of Coal - Bitumite	50 g

	Al	**Ca**	**Cd**	**Co**	**Cr**	**Cu**	**Fe**	**K**	**Mg**	**Mn**	**Na**	**Ni**	**P**	**Pb**	**Si**	**Ti**	**V**
(a)	0.25	0.85		0.0008	0.0002	0.0002	1.79	0.016	0.24	0.022	0.081	0.0008	0.0029	0.002	0.47	0.01	0.0001
(b)	1.88	0.74	(0.0001)	0.0004	0.001	0.0012	0.35	0.026	0.081	0.003	0.11	0.0008	0.066	0.0016	1.86	0.096	0.0012
(c)	1.75	0.79	(0.0001)	0.0004	0.0007	0.0012	0.34	0.02	0.071	0.0016	0.13	0.0008	0.044	0.0016	1.77	0.079	0.0011
(d)	2.27	0.28	(0.0001)	0.0011	0.0005	0.0017	0.24	0.09	0.05	0.0009	0.048	0.0018	0.013	0.0016	2.69	0.09	0.0033
(e)	0.83	0.65	(0.0001)	0.0003	0.0005	0.0008	0.32	0.01	0.06	0.008	0.034	0.0005			1.01	0.046	0.0011
(f)	3.47	1.88	0.0002	0.0009	0.0023	0.0023	1.02	0.29	0.28	0.019	0.052	0.0016	0.01		5.61	0.18	0.006
(g)	1.22	0.19		0.0004	0.0008	0.0012	0.86	0.043	0.059	0.0026	0.026	0.0008	0.0044		1.64	0.059	0.0028

	Zn
(b)	(0.001)
(f)	0.004
(g)	(0.001)

Mercury in coal

Code		Product		Unit
IARM-HC30250A	(a)	CRM	Sulfur and proximates in Coal	50 g
SARM 20	(b)	CRM	Coal (Sasolburg)	120 g
IARM-HC30075C	(c)	CRM	0.75% Sulfur in Coal Proximate Analysis CRM - 50g bottle, LECO Part No. 502-802	50 g
SARM 19	(d)	CRM	Coal (OFS)	120 g
UG-CLB-1	(e)	CRM	Coal, bitumineous	30 g
NIST-2692C	(f)	CRM	Coal (bituminous) - Sulfur, mercury	50 g
AR-3705	(g)	CRM	Hg + Cl in Coal	25 g

	% Ash	% Vol.	Al2O3	As	Ba	Be	C	C (free)	C (fx)	CaO	Ce	Cl	Cl (ppm)	Co	Co (ppm)	Cr	Cs
(a)	32.9	19.3		(0.003)			57.1	47.9				0.09					
(b)			11.27	0.00047	0.0372	0.00025				1.87	0.0087			0.00083		(0.0067)	(0.0002)
(c)	7.2	36					77.4		56			(0.2)					
(d)			8.01	0.0007	0.0304	0.00028				1.39	0.0056				5.6	0.005	
(e)	(6.3)		(1.51)	(0.0013)	0.0034					0.22	0.001				7	0.00097	
(f)	(7.499)												(0.1338)				
(g)	11.8												(0.01)				

	Cs (ppm)	Cu	F	Fe (tot)*	Fe2O3	Ga	Ge	H	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	K2O	La	Li	MgO	Mn
(a)			(0.02)					3.2	(10160)	(23630)		0.4					
(b)		0.0018			1.17	0.0016					4.8	0.25	0.14	0.0043		0.43	0.008
(c)								5.0	(13820)	(32150)		0.2					
(d)	1.4	0.0013			1.75	0.0014	0.0013				5.4	(2)	0.24	0.0027		0.2	0.0157
(e)		(0.001)		1.25		(0.0003)						(0.2)	0.076	(0.0005)	(0.0008)	0.047	(0.0008)
(f)												0.179					
(g)												0.16					

	Mo	Moisture	N	Na2O	Nb	Nd	Ni	O	P	P2O5	Pb	Pb (ppm)	Rb	Rb (ppm)	S	Sb (ppm)	Sc (ppm)
(a)		(0.7)	1.0					3.2							2.5		
(b)				0.27			0.0025			0.14	0.0026		0.001		0.51	0.001	
(c)		(2)	1.47					(8)							0.76		
(d)				0.29			0.0016		0.013			20		9	1.49	7.6	
(e)	(0.0009)			0.023	(0.0001)	(0.0005)	0.0018			(0.07)		5.1		5.2	(1.49 tot)	(1.5)	2
(f)															1.064		
(g)															4.71		

	Se (ppm)	SiO2	Sm	Sm (ppm)	Sr	Sr (ppm)	Ta	Th	Th (ppm)	TiO2	U	U (ppm)	V	V (ppm)	Y	Zn	Zr
(b)	0.00008	17.66		0.00063	0.033		0.00012	0.0018		0.63	0.0004		0.0047		0.0029	0.0017	(0.018)
(d)		15	0.00049			126			12	0.341		5		35		0.0012	0.0351
(e)	(2)	(2.51)							(1.4)	(0.078)		(0.55)		12		0.0048	

Code	Product			Unit
NIST-2685b	(a)	CRM	Coal - Sulfur, mercury and heat of combustion	50 g
IARM-HC30060A	(b)	CRM	Sulfur and proximates in Coal	50 g
AR-3704	(c)	CRM	Hg + Cl in Coal	25 g
NIST-2682b	(d)	CRM	Coal (sub-bituminous) - Sulphur, mercury and heat of combustion	50 g
AR-3703	(e)	CRM	Hg + Cl in Coal	25 g
NIST-1632D	(f)	CRM	Coal (bituminous) - Elements	50 g

	% Ash	% Vol.	Al	As	B	Ba	Br	Br (ppm)	C	C (fx)	Ca	Cd	Ce	Cl	Cl (ppm)	Co	Co (ppm)
(a)	(15.94)		(1.7)	(0.0012)	(0.0109)	(0.0105)		(5.6)	(64.6)		(0.52)		(0.0018)	0.0517		(4.6)	
(b)	11.5	6		(0.0003)					82	(82)				(0.023)			
(c)	10.31														(0.01)		
(d)	(6.32)		(0.46)	(0.0001)	(0.0039)	(0.0382)	(0.00037)		(66.6)		(1.1)		(0.001)	(0.00161)		(0.00017)	
(e)	7.64														(0.01)		
(f)	(7.078)	(36.04)	(0.912)	(0.00061)	(0.0062)	0.004042			(76.88)		(0.144)	(0.000008)	(0.00117)		1142	3.424	

	Cr	Cr (ppm)	Cs	Cs (ppm)	Cu	Dy	Eu (ppm)	F	Fe	H	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	Joule/g	K	La
(a)		(22)		(1.3)			(0.36)		(3.9)	(4.5)			(0.91)	0.1462	(26940)	(0.26)	(0.001)
(b)								(0.007)		1.8	(13050)	(30400)		0.14			
(c)														0.12			
(d)	(0.0015)		(0.00001)				(0.17)		(0.24)	(4.3)		(25660)	(0.6)	0.1088		(0.01)	(0.00052)
(e)														0.10			
(f)	(0.00137)			(0.598)	0.000583	(0.00009)	(0.217)	(0.00636)	0.749	5.1	(13821)		(0.5)	0.0928		0.1094	(0.0006)

	Mg	Mn	Moisture	N	Na	Ni	O	Pb (ppm)	Rb	Rb (ppm)	S	Sb (ppm)	Sc (ppm)	Se (ppm)	Si	Sm	Sm (ppm)
(a)	(0.1)	(0.0041)		(1.1)	(0.08)				(0.0017)		4.73	(0.36)	(3.7)	(1.9)		(1.7)	
(b)			(4)	0.95			(3.2)				0.59						
(c)											1.17						
(d)	(0.2)	(0.0026)		(1)	(0.1)				(0.0002)		0.4917	(0.19)	(1.5)	(0.91)		(0.78)	
(e)											0.45						
(f)	(0.039)	(0.00131)		(1.59)	0.02969	(0.001)		3.845		7.36	1.462	0.445	(2.89)	(1.29)	(1.65)	(0.0001)	

	Sr (ppm)	Th	Th (ppm)	Ti	U	U (ppm)	V	V (ppm)	W	W (ppm)	Zn
(a)			(2.7)	(0.09)		(0.95)	(0.0031)			(1.2)	(0.0017)
(d)		(0.00015)		(0.05)	(0.000052)		(0.0015)		(0.00018)		(0.00086)
(f)	63.5		1.428	0.0477		0.517		23.74			(0.00129)

Code	Product			Unit
NIST-2683C	(a)	CRM	Coal (bituminous) - Sulfur, mercury	50 g
IARM-HC30025C	(b)	CRM	Sulfur and proximates in coal	50 g
AR-3701	(c)	CRM	Hg + Cl in Coal	25 g
SARM 18	(d)	CRM	Coal (Witbank)	120 g
AR-3702	(e)	CRM	Hg + Cl in Coal	25 g
NIST-2693	(f)	CRM	Coal (bituminous) - Sulfur and mercury	50 g
NIST-1635	(g)	CRM	Coal - Trace elements	75 g

	% Ash	% Vol.	Al	Al2O3	As (ppm)	Ba	Be	C	C (fx)	CaO	Cd (ppm)	Ce (ppm)	Cl	Cl (ppm)	Co (ppm)	Cr (ppm)	Cs
(a)	(9.87)	(35.84)						(73.38)					(0.1127)				
(b)	6.3	44						70	(50)				(0.01)				
(c)	7.22													(1562)			
(d)				2.57		0.0078	0.00041			0.18		22			6.7	16	(0.0001)
(e)	6.45													(1713)			
(f)	(9.44)												0.03696				
(g)	(4.6)		(0.32)		0.42						0.03	(3.6)			(0.65)	2.5	

	Cu (ppm)	Eu (ppm)	F	F (ppm)	Fe	Fe2O3	Ga (ppm)	Ge	H	H2O	Heat(BTU)	Heat(J/g)	Hf (ppm)	Hg (ppm)	K2O	La	MgO
(a)			(0.0082)						(4.886)	(3.185)		(30240)		0.09			
(b)			(0.01)						4.7		(11850)	(27600)		0.07			
(c)														0.06			
(d)	5.9					0.29	(8)	(0.0008)					1.7	(0.04)	0.145	0.001	0.11
(e)														0.04			
(f)														0.0373			
(g)	3.6	(0.06)		25.9	0.239		(1.05)						(0.29)	0.0109			

	Mn (ppm)	Moisture	N	Na	Ni (ppm)	O	P	Pb (ppm)	Rb	S	Sb (ppm)	Sc (ppm)	Se (ppm)	SiO2	Sm	Sr	Th (ppm)
(a)			(1.635)							1.955							
(b)		(21)	0.97			(17.9)				0.30							
(c)										1.04							
(d)	22				10.8		0.003	(5)	0.00081	0.56		4.3		6.2	0.0002	0.0044	3.4
(e)										0.77							
(f)										0.4571							
(g)	21.4			(0.24)	1.74			1.9		0.3616	(0.14)	(0.63)	0.9			0.62	

	Ti	TiO2	U (ppm)	V (ppm)	Zn (ppm)	Zr
(d)		0.114	1.5	23	5.5	0.0067
(g)	(0.02)		0.24	5.2	4.7	

Coke ash

Code			Product	Unit
NCS FC28137	(a)	CRM	Ash of Coke	5 g
DH-SX37-11	(b)	RM	Coke Ash	100 g
NCS FC28135	(c)	CRM	Ash of Coke	5 g
NCS FC28136	(d)	CRM	Ash of Coke	5 g

	Al2O3	CO2	CaO	Co3O4	Cr2O3	CuO	Fe	Fe2O3	K2O	MgO	MnO	Na2O	NiO	P2O5	SO3	SiO2	SrO
(a)	35.62		2.82					5.02	1.57	0.53	0.07	0.94		0.24		47.81	
(b)		0.045	11.6	0.007	0.036	0.009	7.79		3.29	8.69	0.189	3.08	0.03	0.607	0.091	43.5	0.103
(c)	29.95		5.67					7.23	1.51	1.25	0.18	2.36		0.31		42.87	
(d)	30.666		6					7.51	1.22	1.5	0.16	1.36		0.41		41.61	

	TiO2	V2O5	ZnO	ZrO2
(a)	1.41	0.033		
(b)	2.78	0.058	0.01	0.041
(c)	1.44	0.049		
(d)	1.41	0.05		

Coke

Code			Product	Unit
ALCAN-DF	(a)	CRM	Green Petroleum Coke	100 g
ALCAN-DG	(b)	CRM	Green Petroleum Coke	100 g
ALCAN-DH	(c)	CRM	Green Petroleum Coke	100 g
ALCAN-DI	(d)	CRM	Green Petroleum Coke	100 g
ALCAN-DJ	(e)	CRM	Green Petroleum Coke	100 g
ALCAN-DL	(f)	CRM	Green Petroleum Coke	100 g

	% Ash	% Vol.	Ca	Fe	Mn	Na	Ni	S	Si	V	Zn
(a)			0.028	0.028	0.0003		0.050	1.58	0.022	0.040	0.006
(b)			0.0130	0.023	0.0002		0.038	1.59	0.014	0.035	0.0011
(c)			0.004	0.019	0.0001		0.021	2.40	0.006	0.034	0.0008
(d)			0.007	0.017	0.0001		0.004	1.02	0.013	0.004	0.0008
(e)			0.015	0.027	0.0005		0.003	0.64	0.12	0.0030	0.0004
(f)	0.20	10.4	0.011	0.010	0.0003	0.021	0.012	0.78	0.018	0.006	0.0003

Code			Product	Unit
ALCAN-PCC-02	(a)	CRM	Calcined Petroleum Coke	100 g
ALCAN-PCC-04	(b)	CRM	Calcined Petroleum Coke	100 g

	Cryst.	Density
(a)	0.86	0.860
(b)	0.86	0.860

Code	Product			Unit
ALCAN-PCC-07	(a)	CRM	Calcined Petroleum Coke	100 g
ALCAN-PCC-08	(b)	CRM	Calcined Petroleum Coke	100 g
ALCAN-PCC-09	(c)	CRM	Calcined Petroleum Coke	100 g
ALCAN-PCC-10	(d)	CRM	Calcined Petroleum Coke	100 g

	% Ash	Al	Ba	Ca	Cl	Cr	Cryst.	Cu	Dens.	Fe	K	Mg	Mn	Na	Ni	P	Pb
(a)	1.235	0.0060	0.0003	0.0495	0.0013	0.0012	27.51	0.0004	1.380	0.606	0.0198	0.0035	0.0071	0.0111	0.153	0.0007	0.0002
(b)	2.237	0.0051	0.0009	0.0925	0.0014	0.0024	30.74	0.0005	.1386	1.23	0.0393	0.0055	0.0138	0.0197	0.0011	0.0015	0.0002
(c)	0.550	0.0211	0.0008	0.0641	0.0037	0.0003	23.90	0.0004	1.382	0.0408	0.0015	0.0233	0.0008	0.0047	0.0135	0.0022	0.0004
(d)	0.375	0.0177	0.0008	0.0093	0.0031	0.0005	23.29	0.0002	1.382	0.0494	0.0018	0.0024	0.0006	0.0073	0.0201	0.0007	0.0002

	S	Si	Ti	V	Zn
(a)	1.93	0.0165	0.0016	0.0271	0.0003
(b)	0.029	0.0248	0.0007	0.0003	0.0003
(c)	5.97	0.0299	0.0007	0.0388	0.0022
(d)	3.29	0.0440	0.0012	0.0428	0.0005

ALCAN-AU	(a)	CRM	Anthracite	100 g
ALCAN-DM	(b)	CRM	Anthracite	100 g

	% Ash	Ca	Dens.	Fe	Ni	S	Si	V
(a)	7.8	0.083	1.76	0.32	0.004	0.57	1.8	0.004
(b)	8.6	0.17	1.85	0.32	0.003	0.40	1.9	0.004

ALCAN-AS	(a)	CRM	Metallurgical Coke	100 g
ALCAN-AZ	(b)	CRM	Metallurgical Coke	100 g
ALCAN-BY	(c)	CRM	Metallurgical Coke	100 g
ALCAN-CA	(d)	CRM	Metallurgical Coke	100 g
ALCAN-CB	(e)	CRM	Metallurgical Coke	100 g

	% Ash	Ca	Fe	H	Ni	S	Si	V
(a)			0.45			0.84	2.3	
(b)		0.099	0.77			1.05	2.4	0.005
(c)	10.0	0.085	0.60		0.002	0.96	2.4	0.004
(d)	10.1	0.066	0.40	(0.50)		0.65	2.64	0.001
(e)	7.5		0.36		0.011	0.54	1.62	0.003

Code	Product			Unit
AR-2721	(a)	CRM	Green Petroleum Coke	50 g
AR-756	(b)	CRM	Green Petroleum Coke	50 g
AR-2723	(c)	CRM	Green Petroleum Coke	50 g
NIST-2718	(d)	CRM	Green petroleum coke - Trace elements	50 g
AR-747	(e)	CRM	Green Petroleum Coke	50 g
AR-2720	(f)	CRM	Green Petroleum Coke	50 g
AR-2719	(g)	CRM	Calcined Petroleum Coke	50 g
AR-744	(h)	CRM	Calcined Petroleum Coke	50 g

	% Ash	% Vol.	% Volatile	Al	C	C (fixed)	Ca	Ca (ppm)	Co	Fe	Fe (ppm)	H	Heat (J/g)	Heat(BTU)	N	Na	Ni
(a)																	
(b)	0.92	6.52			89.60			105				1.66		14494	1.90		
(c)																	
(d)	(0.18)		(10.6)	0.00165	(88.99)		0.0174		(0.000579)	0.029		(3.47)	(35760)		(1.23)	(0.00886)	0.01391
(e)	0.49	11.87			89.70	(87.64)		251			185	3.65		15443	1.41		
(f)																	
(g)																	
(h)	0.33	0.45			95.58	(99.23)		79			917	(0.23)		13989	0.92		

	Ni (ppm)	S	Si	Si (ppm)	V	V (ppm)
(a)		5.56				
(b)	290	5.27		386		1675
(c)		5.16				
(d)		4.703	(0.0063)		0.0302	
(e)	163	4.03		(284)		(1165)
(f)		3.99				
(g)		2.58				
(h)	164	2.53		(153)		(239)

Code	Product			Unit
AR-2716	(a)	CRM	Green Petroleum Coke	50 g
AR-2717	(b)	CRM	Green Petroleum Coke	50 g
NCS FC28023	(c)	CRM	Coke	50 g
VS-P18	(d)	CRM	Coke	100 g
AR-720	(e)	CRM	Sulfur in Coke	50 g
AR-2715	(f)	CRM	Green Petroleum Coke	50 g

	% Ash	% Vol.	Al2O3	As	CaO	Cl	Cr	Cu	Fe2O3	Heat(J/g)	K2O	MgO	MnO	Na2O	Ni	P	Pb
(a)																	
(b)																	
(c)	16.2	1.8	5.28	0.00024	0.57	0.022	0.0021	0.0018	0.96	27560	0.11	0.097	0.0044	0.067	0.001	0.018	0.0008
(d)	12.45										0.128			0.051		0.037	
(e)																	
(f)																	

	S	SiO2	SrO	TiO2	V
(a)	2.47				
(b)	2.21				
(c)	1.44	8.17	0.0084	0.2	0.0037
(d)	1.34				
(e)	1.21				
(f)	1.20				

Code	Product			Unit
NCS FC28134	(a)	CRM	Coke	50 g
NCS FC28133	(b)	CRM	Coke	50 g
AR-2714	(c)	CRM	Green Petroleum Coke	50 g
AR-742B	(d)	CRM	Petroleum Coke	50 g
NCS FC28027	(e)	CRM	Coke	50 g
NIST-2719	(f)	CRM	Calcinated petroleum coke - Trace elements	50 g
NIST-2776	(g)	CRM	Foundry coke - Sulfur, ash and volatile matter	50 g
NCS FC28022	(h)	CRM	Coke	50 g

	% Ash	% Vol.	% Volatile	Al	Al2O3	As	C	Ca	CaO	Cl	Co	Cr	Cu	Fe	Fe2O3	H	Heat (J/g)
(a)	12.7	1.95															
(b)	12.3	1.79															
(c)																	
(d)	0.09	9.67					93.81	0.0037						0.0129		3.76	
(e)	14.83	1.65															
(f)	(0.12)		(0.54)	0.00589			(97.06)	0.00577			(0.00186)			0.02016		(0.16)	(32900)
(g)	(8.06)		(0.98)				(89.15)									(0.26)	
(h)	11.9	1.68			3.98	0.0002			0.55	0.049		0.0022	0.002		0.63		

	Heat(J/g)	K2O	MgO	MnO	N	Na	Na2O	Ni	P	Pb	S	Si	SiO2	SrO	TiO2	V
(a)	29040								0.024		1.19					
(b)	29180								0.024		1					
(c)											0.906					
(d)					1.27			0.0068			0.89	0.0081				0.0022
(e)	28120								0.026		0.89					
(f)					(1.17)	(0.00151)		0.0204			0.8877	(0.0138)				0.00586
(g)					(1.21)						0.825					
(h)	29100	0.069	0.16	0.013			0.084	0.0008	0.018	0.0008	0.81		5.63	0.011	0.18	0.0032

Code	Product			Unit
NCS FC28021	(a)	CRM	Coke	50 g
NCS FC28026	(b)	CRM	Coke	50 g
NCS FC28020	(c)	CRM	Coke	50 g
AR-2772	(d)	CRM	Ultimate Metallurgical Coke	50 g
AR-734	(e)	CRM	Proximate Coke	50 g
NCS FC28019	(f)	CRM	Coke	50 g

	% Ash	% Vol.	Al2O3	As	C (fixed)	CaO	Cl	Cr	Cu	Fe2O3	Heat(BTU)	Heat(J/g)	K2O	MgO	MnO	Na2O	Ni
(a)	12.29	1.22	4.61	0.0001		0.38	0.022	0.0013	0.0014	0.4		29040	0.062	0.046	0.0028	0.038	0.0007
(b)	12.18	1.36										28950					
(c)	14.42	1.78	4.95	0.00014		0.52	0.02	0.0022	0.0027	1.22		28260	0.079	0.15	0.0052	0.05	0.0008
(d)	9.57	0.42	28.51			1.83	0.02			11.74	12878		1.91	0.90	0.10	0.49	
(e)	9.57	0.42			(90.01)						12878						
(f)	11.64	1.31	4.17	0.0001		0.45	0.024	0.0015	0.0018	0.55		29080	0.058	0.094	0.0049	0.08	0.001

	P	Pb	S	SiO2	SrO	TiO2	V
(a)	0.031	0.0009	0.8	6.08	0.01	0.19	0.0021
(b)	0.031		0.79				
(c)	0.037	0.0011	0.76	6.52	0.017	0.22	0.0038
(d)			0.76	51.60	0.11	1.54	
(e)			0.76				
(f)	0.027	0.0009	0.67	5.52	0.01	0.18	0.0027

Code	Product			Unit
NCS FC59001	(a)	CRM	Coke - Sulphur, ash and volatile matter	60 g
NCS FC28025	(b)	CRM	Coke	50 g
AR-719	(c)	CRM	Sulfur in Coke	50 g
AR-733	(d)	CRM	Proximate Coke	50 g
AR-732	(e)	CRM	Proximate Coke	50 g
AR-2771	(f)	CRM	Ultimate Coke	50 g
NIST-2775	(g)	CRM	Foundry coke - Sulfur	50 g

	% Ash	% Vol.	Al2O3	As	C	CaO	Cl	Cr	Cu	Fe2O3	H	Heat(BTU)	Heat(J/g)	K2O	MgO	MnO	N
(a)	7.22	1.39															
(b)	11.5	1.45											29320				
(c)																	
(d)	8.04	0.85										13123					
(e)	7.84	0.63										13168					
(f)	8.04	0.85	26.63			3.00	0.05			15.97		13123		1.74	1.19	0.10	
(g)	(5.77)	(1.31)			(91.34)						(0.41)					(1.16)	

	Na2O	Ni	P	Pb	S	SiO2	SrO	TiO2	V
(a)					0.63				
(b)			0.021		0.62				
(c)					0.91				
(d)					0.60				
(e)					0.59				
(f)	0.65				0.6	46.59	0.11	1.42	
(g)					0.5816				

Code	Product			Unit
NCS FC28018	(a)	CRM	Coke	50 g
NCS FC28132	(b)	CRM	Coke	50 g
AR-723	(c)	CRM	Sulfur in Coke	50 g
NCS FC59002	(d)	CRM	Coke - Sulphur, ash and volatile matter	60 g
AR-2712	(e)	CRM	Green Petroleum Coke	50 g
NCS FC28024	(f)	CRM	Coke	50 g
ASCRM014	(g)	CRM	Coal (ASCRM014-99)	200 g

	% Ash	% Vol.	Al2O3	As	C	CaO	Cl	Cr	Cu	Fe2O3	H	Heat(J/g)	K2O	MgO	MnO	N	Na2O
(a)	12.35	1.35	4.3	0.00008		0.56	0.046	0.0018	0.0024	0.64		28910	0.062	0.14	0.0071	0.13	
(b)	11.39	2.8										30230					
(c)																	
(d)	12.62	1.5															
(e)																	
(f)	15.43	1.98										28170					
(g)	12.23	1.04			85.65						0.32					0.82	

	Ni	P	Pb	S	SiO2	SrO	TiO2	V
(a)	0.0014	0.02	0.0007	0.5	5.7	0.013	0.18	0.0034
(b)		0.016		0.5				
(c)				0.47				
(d)				0.47				
(e)				0.43				
(f)		0.041		0.41				
(g)		0.09		0.314				

NCS FC28129	(a)	CRM	Elements in Coke	50 g
NCS FC28130	(b)	CRM	Elements in Coke	50 g
NCS FC28131	(c)	CRM	Elements in Coke	50 g

	Al	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	P	Pb	Si	Ti	V
(a)	2.34	0.6		0.0007	0.0015	0.0021	0.75	0.093	0.11	0.021	0.13	0.0015	0.02	0.0014	2.97	0.12	0.0041
(b)	1.96	0.52	<0.0001	0.0006	0.0012	0.0017	0.63	0.061	0.11	0.015	0.063	0.0012	0.022		2.35	0.099	0.0034
(c)	2.72	0.29	<0.0001	0.0007	0.0011	0.0016	0.51	0.094	0.046	0.008	0.05	0.0013	0.015		3.22	0.12	0.0027

	Zn
(a)	0.0011
(b)	0.0011
(c)	0.0018

Code	Product			Unit
Pitch				
ALCAN-PITCH-02	(a)	CRM	Pitch	100 g
ALCAN-PITCH-03	(b)	CRM	Pitch	100 g
ALCAN-PITCH-04	(c)	CRM	Pitch	100 g
ALCAN-PITCH-05	(d)	CRM	Pitch	100 g
ALCAN-PITCH-06	(e)	CRM	Pitch	100 g
ALCAN-PITCH-07	(f)	CRM	Pitch	100 g
ALCAN-PITCH-08	(g)	CRM	Pitch	100 g

	Ash(700)	Ash(900)	C	Ca	Coking	Dens.	EVT1	EVT100	Fe	H	Mn	Na	Ni	P	Pb	Q.I.	S
(a)	0.37			0.0150					0.032		0.0004	0.042	0.0004		0.0097	0.53	
(b)				0.017					0.042		0.0005	0.021	0.0004	0.0027	0.012	0.76	
(c)				0.0076					0.015		0.0009	0.011	0.0003	0.0066	0.036	1.05	
(d)				0.0066					0.059		0.0004	0.0020	0.0004	0.0030	0.027	0.54	
(e)				0.0042					0.027		0.0003	0.013	0.0003	0.0003	0.0081	0.50	
(f)				0.0082					0.032		0.0010	0.011	0.0004	0.0018	0.051	0.57	
(g)	0.17	1.16	93.5		60.9	1.34	167	121		4.1						14.4	0.55

	S.P.	Si	T.I.	Ti	V	Zn
(a)		0.041		0.0018	0.0002	0.0085
(b)		0.066		0.0015	0.00010	0.010
(c)		0.0075		0.0003	0.0001	0.047
(d)		0.154		0.0025	0.00020	0.016
(e)		0.082		0.0015	0.00010	0.0074
(f)		0.0080		0.00030	0.00003	0.074
(g)	111.6		28.5			

Continuous casting powder

Code	Product			Unit
DH-SX30-05	(a)	RM	Continuous casting powder	100 g
DH-SX30-11	(b)	RM	Continuous casting powder	100 g
DH-SX30-13	(c)	RM	Continuous casting powder	100 g
DH-SX28-02	(d)	RM	Continuous casting powder	100 g
IRSID-2701	(e)	RM	Continuous casting powder	100 g
IRSID-2702	(f)	RM	Continuous casting powder	100 g

	Al2O3	Ba	C	C (free)	CO2	Ca	F	Fe	Fe2O3	K	K2O	LOI	MgO	Mn	MnO	Na	Na2O
(a)	5.14					27.35	7.18		0.233		0.376		0.39		0.007		7.93
(b)	4.4					26.58	5.95		2.122		0.606		5.85		0.033		2.23
(c)	5.95	0.108				30.73	5.84		0.437		0.288		1.93		0.045		6.43
(d)	3.09					25.15	0.074		0.488		0.83		0.981		0.03		1.097
(e)	6.1		3.37	(1.78)	(5.59)	22.9	7.58	(0.145)		0.159		(2.08)	2.19			9.42	
(f)	12.6		16.54	15.8	(2.53)	17.8	6.08	1.26		(0.75)		(1.26)	(1.47)	0.071		3.61	

	P	P2O5	S	SiO2	SrO	TiO2	Y	ZnO
(a)		0.091	0.019	43.1		0.086		
(b)		0.106	0.058	43.23	0.029	0.178	0.028	
(c)		0.047	0.077	37.7		0.064		
(d)		0.06	0.132	57.5	0.02	0.055		0.004
(e)	(0.014)		(0.055)	32.7		(0.048)		
(f)	(0.18)		(0.49)	28.7		0.564		

Dust and Fly Ash

Code	Product			Unit
DH-SX15-01	(a)	RM	Iron ore sinter dust	100 g
DH-SX29-01	(b)	RM	Blast Furnace Dust	100 g
DH-SX29-02	(c)	RM	Blast Furnace Dust	100 g
DH-SX29-03	(d)	RM	Blast Furnace Dust	100 g
DH-SX62-03	(e)	RM	Cupola dust	20 g
DH-SX62-04	(f)	RM	Cupola dust	20 g
DH-SX62-05	(g)	RM	Cupola dust	20 g
DH-SX62-06	(h)	RM	Cupola dust	100 g
DH-SX62-07	(i)	RM	Cupola dust	20 g

Code	Product																Unit
		Al2O3	**Ba**	**Bi**	**C**	**CO2**	**CaO**	**Cd**	**CdO**	**Cl**	**Co**	**Cr2O3**	**Cu**	**CuO**	**F**	**Fe**	**Fe2O3**	**FeO**	
	(a)	1.23			2.78	2.59	7.11		0.001	1.11					0.377	52.32	71.2	3.24	
	(b)	0.961					5.28					0.038				59.37			
	(c)	0.823					3.12					0.037				61.67			
	(d)	0.701					2					0.04		0.006		63.01			
	(e)	2.57			4.22	1.01	1.23			2		0.004		0.311	0.57		36.85		
	(f)	1.06			8.08	2.02	2.54	0.0197		3.62		0.072	0.079		0.247	6.29			
	(g)	1.3			6.8	3.84	4.91			2.88		0.041		0.163	0.096		9.49		
	(h)	0.22			2.57		0.09					0.048	2.021				0.572		
	(i)	1.03	0.0382	0.0088	2.45	0.712	9.11	0.0277		2.44	0.003	0.435	0.237		0.73		41.84		
		Ga	**H2O**	**In**	**K2O**	**Li**	**MgO**	**Mn**	**Mn3O4**	**Mo (ppm)**	**Na2O**	**Nb (ppm)**	**Ni**	**NiO**	**P2O5**	**PbO**	**S**	**SO3**	
	(a)		1.04		1.59		1.49		0.327		0.121				0.104	0.103			
	(b)				0.778		1.147	0.367			0.119			0.015	0.153	0.006	0.488		
	(c)				0.84		0.678	0.341			0.138			0.016	0.165	0.017	0.577	1.44	
	(d)				0.705		0.502	0.425			0.111			0.012	0.158	0.018	0.392		
	(e)				2.51		3.1			60	5.12		0.0420		0.52	1.05	2.12		
	(f)				4.96	0.00004	1.53	0.97		510	2.63		0.0162		0.051	3.48	1.09		
	(g)				3.68		1.85			199	2.26		0.00354		0.147	2.43	1.08		
	(h)				0.086		0.02	0.04	0.572		0.085		0.2968		0.191		0.305		
	(i)	0.00522		0.0004	1.65	0.00235	4.79	1.63		50.5	1.65	8.4	259		0.269	2.59	0.60		
		SiO2	**SnO2**	**Sr (ppm)**	**TiO2**	**Tl (ppm)**	**V (ppm)**	**V2O5**	**ZnO**	**Zr**									
	(a)	6.13			0.107				0.012										
	(b)	4.28			0.068			0.020	0.267										
	(c)	3.28			0.053				0.271										
	(d)	2.44			0.058			0.020	1.19										
	(e)	15.65		1.8	0.517		42.5		12.32										
	(f)	26.95		5.4	0.184		292		30.65										
	(g)	34.52	0.018	10.6	0.060		111		21.01										
	(h)	0.430	0.047		0.014				91.1										
	(i)	4.19	0.050	75	0.086	2.2	152		22.74	0.00413									

Code	Product			Unit
BL 12-1-10	(a)	CRM	Steeldust, Sinterprocess	30 g
CAN-PD-1	(b)	CRM	Non-Ferrous Dust	200 g
ECRM-F 876-1	(c)	CRM	Electric furnace dust - powder	100 g
ECRM-B 884-1	(d)	CRM	Furnace dust	100 g

	Ag	Al	Al2O3	As	Ba	Bi	C	CO2	Ca	CaO	Cd	Cl	Co	Cr	Cu	F	Fe
(a)			1.64	(0.0008)	(0.015)			5.39		12.8	0.0005		0.0031	0.0189	0.0076		
(b)				0.76							(0.28)				(7.03)	(12.2)	
(c)		0.034	(0.63)	0.023					3.43	(4.80)				0.17	0.42	24.85	
(d)	0.0028	0.379		0.0054		0.028	(0.82)		5.22		0.0045	0.991	0.0046	1.86	0.1569	0.411	31.67

	Fe2O3	H2O	Hg	K	K2O	LOI	Mg	MgO	Mn	MnO	Na	Na2O	Ni	P	P2O5	Pb	S
(a)	60.95				0.28			7.59		0.16							
(b)		(0.4)	0.0389													2.75	
(c)	(35.54)			1.63	(1.96)		1.31	(2.17)	2.84	(3.67)	1.98	(2.67)		0.128	(0.29)	7.82	0.87
(d)		(0.3)	(0.0002)	0.979		(2.94)	1.848		5.85		0.585		0.197	0.079		0.442	

	S (tot)	Si	SiO2	Sn	Sulphate	Ti	TiO2	V	Zn
(b)	(8.23)	(3.05)			(4.27)				(35.9)
(c)		1.72	(3.67)	0.094		0.048	(0.080)		23.29
(d)		2.101		0.0186		0.0230		0.0303	17.50

Code	Product			Unit
NIST-2583	(a)	CRM	Indoor dust - Trace elements	8 g
NIST-2584	(b)	CRM	Indoor dust - Trace elements	8 g
BCR-723	(c)	CRM	Road dust - Palladium, platinum and rhodium	25 g
ERM-CZ120	(d)	CRM	Fine dust (PM10-like)	0.5 g

	Al	As	As (ppm)	Ba	Cd	Cd (ppm)	Co (ppm)	Cr	Cr (ppm)	Fe	Hf (ppm)	Hg (ppm)	Mn	Mo (ppm)	Ni (ppm)	Pb (ppm)	Pd (ppb)
(a)		0.0007			0.00073			0.008				1.56					
(b)		0.00174			0.001			0.0135				5.2					
(c)	(3.75)			(0.046)		(2.5)	(29.8)		(440)	(3.29)	(2.2)		(0.128)	(40.0)	(171)	(866)	6.1
(d)			7.1			0.90									58	113	

	Pt (ppb)	Rb (ppm)	Rh (ppb)	Sb (ppm)	Sr (ppm)	Th (ppm)	Ti	V (ppm)	Y (ppm)	Zn
(c)	81.3	(75)	12.8	(28.2)	(254)	(4.8)	(0.258)	(74.9)	(12.5)	(0.166)

Code	Product			Unit
ECRM-S 882-1	(a)	CRM	Industrial fly ash	100 g
JK 43	(b)	CRM	Industrial fly ash	15 g
JK 44	(c)	CRM	Industrial fly ash	25 g
JK 45	(d)	CRM	Industrial fly ash	15 g
VS-E1	(e)	CRM	Arc-Furnace fly ashes	100 g
VS-E2	(f)	CRM	Converter fly ashes	100 g
VS-E3	(g)	CRM	Marten fly ashes	100 g
VS-E4	(h)	CRM	Blast furnace fly ashes	100 g
VS-E5	(i)	CRM	Blast furnace fly ashes	100 g

	Al	**Al2O3**	**As**	**Bi**	**C**	**Ca**	**CaO**	**Cd**	**Cl**	**Co**	**Cr**	**Cr2O3**	**Cu**	**CuO**	**F**	**Fe**	**FeO**
(a)				0.0026	(1)	10.11		0.0183	(2.35)		0.49		0.218		(0.07)	22.2	
(b)						(12)		0.0023			(8)		(0.2)			(20)	
(c)						(5)		0.0469			(0.2)		(0.2)			(27)	
(d)						(7)		0.0047			(0.3)		(0.01)			(40)	
(e)		3.06	(0.004)		0.684		5.85			(0.03)		20.3	(0.1)		(0.19)	29.7	(21)
(f)	(0.07)		(0.002)		1.383		7.97			(0.003)	(0.1)		(0.04)		(0.5)	56.4	(6.2)
(g)		0.25	0.0067		0.082		0.69			0.013		0.203		0.242		52.9	
(h)		2.33	0.0018		13.2		8.8							0.034	0.023	44.6	
(i)		2.87			13.0		7.9			0.013		0.085		0.013	0.049	44.3	

	Hg (ppm)	**K**	**LOI**	**Mg**	**MgO**	**Mn**	**MnO**	**Na**	**Ni**	**NiO**	**P**	**Pb**	**S**	**Sb**	**Si**	**SiO2**	**Sn**
(a)	0.75	0.96		(0.48)		(2)		0.697	0.0263			1.324	(0.5)	0.0116	(1.05)	(0.02)	
(b)	3.9	(0.3)						(0.5)	(2)			0.21					
(c)	2.8	(1.3)						(1)	(0.02)			2.74					
(d)	0.25	(0.4)						(7)	(0.05)			0.11					
(e)		(0.1)			9.3		1.56	(0.1)		3.68	(0.02)	(0.05)	0.072			10.3	(0.0005)
(f)		(0.2)	(4.2)		1.64		1.41	(0.1)	(0.03)		0.065	0.276	0.116			1.76	(0.0005)
(g)					1.84		0.86			0.062	0.083	0.49	2.78			0.43	0.017
(h)					0.82		0.47				0.033	0.015	0.44			7.46	
(i)					2.26		0.50			0.022	0.041		0.26			7.17	

	TiO2	**V**	**V2O5**	**Zn**	**ZnO**
(a)		0.009			28.49
(b)		(0.02)		4.96	
(c)		(0.02)		27.3	
(d)		(0.1)		1.53	
(e)	2.79	(0.04)		(0.2)	
(f)		(0.01)		0.59	
(g)				4.2	
(h)	0.20		0.041	1.52	
(i)	1.63		0.39	0.27	

Code	Product																	Unit
Incinerated waste																		
BL 12-1-12	(a)	CRM	Incinerated Waste															30 g
		Be	**CO2**	**CaO**	**Cd**	**Co**	**Cr**	**Cu**	**Fe2O3**	**Hg (ppm)**	**K2O**	**MgO**	**MnO**	**Mo**	**Na2O**	**Ni**	**P2O5**	**Pb**
	(a)	(0.0008)	(11.05)	(13.68)	(0.006)	0.0023	0.0731	0.0375	(4.44)	7.8	(3.23)	(3.41)	(0.46)	(0.001)	(2.56)	0.0198	(1.77)	(0.1389)
		SO3	**Sb**	**Se**	**SiO2**	**Sn**	**Sr**	**TiO2**	**V**	**Zn**								
	(a)	(2.22)	(0.0067)	0.0004	(41.78)	(0.0815)	(0.0233)	(1.14)	(0.0069)	1.045								

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3391/LB/1112

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Ferroalloys

Ferroboron

Code	Product			Unit
VS-F22	(a)	CRM	Ferroboron	100 g
ECRM-B 587-1	(b)	CRM	Ferroboron	100 g
DH-SL17-03	(c)	RM	Ferroboron	50 g
NCS HC25658	(d)	CRM	Ferroboron	50 g
VS-F21	(e)	CRM	Ferroboron	100 g

	Al	B	C	Cr	Cu	Fe	Mn	Ni	P	S	Si	Ti	V	Zn
(a)	7.78	8.95	0.161		3.43				0.021	0.018	7.82			
(b)		18.67	0.738	0.104			0.272		0.02		0.129	0.039	0.004	
(c)		18.78	0.318	0.08	0.064	79.36	0.246	0.359	0.018		0.326	0.017	0.004	
(d)		20.58	0.022						0.017	0.0016	1.68			
(e)	1.546	20.91	0.047		0.0120				0.0119		0.73			0.0055

Ferrochromium

VS-F14/2	(a)	CRM	Ferrochromium	100 g
ECRM-F 509-1	(b)	CRM	Ferro chromium, low carbon with chromium content 72.9% - chips	100 g
JK 14B	(c)	CRM	Ferrochromium	100 g
ECRM-B 580-1	(d)	CRM	Ferro chromium, low carbon with chromium content 72,2% - chips	100 g
VS-F35/1	(e)	CRM	Ferrochromium - chips	100 g
IPT-65	(f)	CRM	Ferrochromium	100 g
NIST-196	(g)	CRM	Ferrochromium, low carbon	100 g
ECRM-F 507-1	(h)	CRM	Ferro chromium, high carbon with chromium content 70.3% - powder	100 g
VS-F15/1	(i)	CRM	Nitrated ferrochromium, high carbon, chips	100 g

	Al	C	Co	Cr	Cu	Fe	Mn	N	Ni	P	S	Si	V
(a)		8.06		73.2						0.012	0.033	0.102	
(b)		0.012		72.85				0.029		(0.019)		0.23	
(c)		0.0233	0.044	72.84	0.009		0.293	0.0432	0.317	0.0143	0.0022	0.652	0.097
(d)		0.019	0.047	72.18				0.035		0.011		0.306	0.083
(e)		0.88		71.3		26.74				0.022	0.0022	0.37	
(f)		0.051	0.016	71.2		17.9	0.128		0.077	0.006	0.016	0.71	
(g)		0.035		70.83						0.02	0.003	0.373	
(h)		5.4		70.3			0.27	0.049		0.017		1.2	
(i)	0.30	0.078		68.1				1.78		0.036	0.0023	2.10	

Code	Product			Unit
VS-F15/2	(a)	CRM	Nitrated ferrochromium, chips	100 g
NIST-64c	(b)	CRM	Ferrochromium, High Carbon	100 g
VS-F11/3	(c)	CRM	Ferrochromium, chips	100 g
NCS HC25635	(d)	CRM	Low Carbon Ferro Chromium	50 g
NM 303	(e)	CRM	Ferrochromium	100 g
NCS HC25651	(f)	CRM	Medium Carbon Ferrochromium	50 g
NCS HC25644	(g)	CRM	High Nitriding Chromium Iron	50 g
NCS HC28621	(h)	CRM	High-Carbon Ferrochromium	50 g
NCS HC25653	(i)	CRM	High Carbon Ferrochromium	50 g

	Al	C	Co	Cr	Cu	Fe	Mn	N	Ni	P	S	Si	Ti	V
(a)	0.30	0.080		68.1				1.79		0.036	0.0019	2.08		
(b)		4.68	0.051	68	0.005	24.98	0.16	0.045	0.43	0.02	0.067	1.22	0.02	0.15
(c)		0.180		67.9		29.83	0.168	0.044	0.379	0.022	0.0018	1.45		0.103
(d)		0.051		67.23			0.311		0.30	0.028	0.003	1.01		
(e)		6.43		64.95								1.77		
(f)		2.55		63.31			0.47			0.023	0.047	2.04		
(g)		0.0064		62.57				8.69		0.024	0.029	0.75		
(h)		7.78		62.54		27.09	0.307			0.026	0.033	1.45	0.166	0.138
(i)		8.7		62.49			0.11			0.025	0.024	0.15	0.016	

Ferroalloys

Code	Product			Unit
NCS HC28622	(a)	CRM	High-Carbon Ferrochromium	50 g
NCS HC28619	(b)	CRM	High-Carbon Ferrochromium	50 g
NCS HC28620	(c)	CRM	High-Carbon Ferrochromium	50 g
BS-130-2	(d)	RM	Ferrochromium	100 g
BS-130-1	(e)	RM	Ferrochromium	100 g
SARM 74	(f)	CRM	Ferrochromium	100 g
ECRM-B 585-2	(g)	CRM	High-Carbon Ferro-Chromium - powder	100 g
BS-130-3	(h)	RM	Ferrochromium	100 g
DH-SL54-03	(i)	RM	FeSiCr	50 g
NIST-689	(j)	CRM	Ferrochromium silicon	100 g
VS-F24/2	(k)	CRM	FeCrSi	100 g

	Al	**B**	**C**	**Co**	**Cr**	**Cu**	**Fe**	**Mn**	**N**	**Ni**	**P**	**Pb**	**S**	**Si**	**Sn**	**Ti**	**V**
(a)			7.72		60.00		28.65	0.340			0.025		0.033	2.43		0.261	0.153
(b)			7.28		56.76		30.22	0.300			0.023		0.024	4.25		0.412	0.203
(c)			7.60		55.77		31.41	0.382			0.022		0.031	3.95		0.423	0.175
(d)			7.76		52.61	(0.007)		0.45			0.013	(0.0002)	0.045	2.12	(0.001)	(0.1)	(0.38)
(e)			7.06		51.6	(0.011)		1.2			0.016	(0.0002)	0.034	4.46	(0.001)	(0.16)	(0.39)
(f)			6.44	0.06	49.7		37.5	0.193		0.21	0.018		0.04	4.34		0.47	0.36
(g)			5.488	0.0622	49.05		38.67	0.801	0.0127	0.294	0.0255		0.032	4.69		0.263	0.282
(h)			6.54		49.01	(0.011)		0.76			0.014	(0.0003)	0.029	6.25	(0.001)	(0.18)	(0.36)
(i)			0.034	0.028	36.93	0.02	20.93	0.41		0.19	0.022			40.46		0.124	0.074
(j)		0.0017	0.043	0.034	36.4	0.013	23.2	0.32		0.2	0.026		0.002	39.5		0.4	0.09
(k)	0.87		0.019		29.18						0.027		0.0015	49.9			

	Zr
(i)	0.005

VS-F38	(a)	CRM	Ferrochromium, high carbon	100 g
VS-F37	(b)	CRM	Ferrochromium, medium carbon, chips	100 g
VS-F12/3	(c)	CRM	Ferrochromium	100 g
VS-F10/1	(d)	CRM	Ferrochromium, chips	100 g
VS-F10/2	(e)	CRM	Ferrochromium, chips	100 g
VS-F9/2	(f)	CRM	Ferrochromium	100 g

	C	**Co**
(a)	4.62	
(b)	1.10	
(c)	0.289	
(d)	0.021	
(e)	0.018	
(f)	0.012	0.042

Ferromanganese

Code			Product	Unit
VS-F5/3	(a)	CRM	Ferromanganese	100 g
NCS HC15606	(b)	CRM	Extra Carbon Ferromanganese	100 g
VS-F6/2	(c)	CRM	Ferromanganese	100 g
DH-SL12-03	(d)	RM	Ferromanganese	50 g
DH-SL12-07	(e)	RM	Ferromanganese	50 g
VS-F29/3	(f)	CRM	Nitrated metallic manganese	100 g
ECRM-B 583-1	(g)	CRM	Ferro manganese, low carbon with manganese content 86,4% - powder	100 g
NCS HC15605	(h)	CRM	Extra Carbon Ferromanganese	100 g

	C	Co	Cr	Cu	Fe	Mn	N	Ni	P	Pb	S	Si	Ti	V	Zn
(a)	0.079			0.0055	2.73	95.9			0.062		0.0095	1.25			
(b)	0.047				6.64	92.92			0.02		0.012	0.47			
(c)	1.9			0.05	5.4	90.3			0.33		0.0031	2			
(d)	1.293	0.141	0.076	0.051	8.87	88.15		0.067	0.114	0.003		0.863	0.001	0.015	0.03
(e)	1.63	0.039	0.06	0.016	8.78	88		0.022	0.081	0.002		1.113		0.026	0.009
(f)	0.146				2.26	87.5	4.63		0.055		0.031				
(g)	0.333					86.42	(0.041)		0.146		(0.007)	0.396			
(h)	0.056				13.83	85.95			0.03		0.011	0.19			

Code			Product	Unit
NM 331	(a)	CRM	Low Carbon Ferromanganese	100 g
VS-F29/2	(b)	CRM	Nitrated metallic manganese	100 g
NCS HC15607	(c)	CRM	Extra Carbon Ferromanganese	100 g
NCS HC25619A	(d)	CRM	Medium Carbon Ferromanganese	50 g
NCS HC25619B	(e)	CRM	Medium Carbon Ferromanganese	50 g
ECRM-F 503-1	(f)	CRM	Ferro manganese, low carbon	100 g
NM 332	(g)	CRM	High Carbon Ferromanganese	100 g
IPT-54	(h)	CRM	Ferromanganese	120 g
DH-SL12-06	(i)	RM	Ferromanganese	50 g
NIST-68c	(j)	CRM	Ferromanganese, High Carbon	100 g

Code	Product																	Unit
		As	**C**	**Co**	**Cr**	**Cu**	**Fe**	**Mn**	**Mo**	**N**	**Ni**	**O2**	**P**	**S**	**Si**	**Ti**	**V**	**Zn**	
	(a)		0.115					85.48					0.129		1.74				
	(b)		0.299				2.16	84.6		4.69		(4.8)	0.053	0.032					
	(c)		0.135				16.59	82.59					0.033	0.0074	0.73				
	(d)		1.18					81.95					0.163	0.0018	0.75				
	(e)		1.2					81.74					0.163	0.0018	0.75				
	(f)		0.7					80.8					0.069	(0.009)	0.865				
	(g)		6.82					80.8					0.19		1.14				
	(h)		1.2		0.043	0.059	15.9	80.4			0.14		0.22	0.003	1.74				
	(i)	0.159	1.482	0.166	0.105	0.088	15.91	80.24	0.028		0.14		0.229		0.35	0.004	0.072	0.001	
	(j)	0.021	6.72		0.074		12.3	80.04					0.19	0.008	0.225				

VS-F7/4	(a)	CRM	Ferromanganese	100 g
NCS HC25632	(b)	CRM	High Carbon Ferromanganese	50 g
DH-SL12-16	(c)	RM	Ferromanganese	50 g
ECRM-D 502-2	(d)	CRM	Ferromanganese, high-carbon - powder	100 g
SEI-701-6	(e)	CRM	High carbon ferromanganese	150 g
NCS HC11602	(f)	CRM	High Carbon Ferromanganese	100 g
NCS HC18602	(g)	CRM	Silicon manganese	50 g
ECRM-F 586-1	(h)	CRM	Silicomanganese	100 g

	C	**Ca**	**Co**	**Cr**	**Cu**	**Fe**	**Mn**	**Ni**	**P**	**Pb**	**S**	**Si**	**Ti**	**V**
(a)	6.8					12.75	79.8		0.372		0.0037	0.269		
(b)	6.68						78.42		0.204		0.009	0.69		
(c)	1.44		0.019	0.071		17.03	78.3	0.047	0.123			1.25		0.019
(d)	6.94			0.0265	0.037		77.87	0.0384	0.148	0.0179			0.0034	
(e)	6.94						74.4		0.112		(0.002)	(0.03)		
(f)	6.72				0.08	18.14	73.88		0.152		0.005	0.43		
(g)	5.84						64.78		0.194		0.017	2.38		
(h)	0.0252	0.0386	0.0069	0.044		2.887	62.48		0.04			33.96		0.0408

Code		Product		Unit
Ferromolybdenum				
DH-SL20-10	(a)	RM	Ferromolybdenum	50 g
ECRM-B 578-1	(b)	CRM	Ferromolybdenum	100 g
DH-SL20-12	(c)	RM	Ferromolybdenum	50 g
DH-SL20-20	(d)	RM	Ferromolybdenum	50 g
NCS HC37603	(e)	CRM	Ferromolybdenum	50 g
VS-F17/3	(f)	CRM	Ferromolybdenum	100 g
NCS HC28624	(g)	CRM	Ferromolybdenum	50 g
NCS HC28623	(h)	CRM	Ferromolybdenum	50 g
NM 321A	(i)	CRM	Ferromolybdenum	100 g
NCS HC37604	(j)	CRM	Ferromolybdenum	50 g
NCS HC18605	(k)	CRM	Ferromolybdenum	50 g

	As	Bi	C	Co	Cr	Cu	Fe	Mn	Mo	N	Ni	O	P	Pb	S	Sb	Si
(a)				0.02	0.035	0.464	20.66	0.01	78.09		0.112		<0.017			0.161	
(b)			0.016			0.136			72.23				0.024		0.065	0.208	
(c)			0.011			0.39	27.82	0.042	69.99	0.014		0.534	0.028		0.084	0.79	
(d)			0.028		0.057	0.376	36.71	0.013	62.2	0.026	0.019	0.068	0.034		0.079	0.21	
(e)			0.054			0.126			61.41				0.046		0.071	0.3	
(f)	0.021	0.0009	0.042			0.31			61.2				0.042	0.0051	0.085	0.024	0.48
(g)	0.0078		0.019		0.052	1.07	37.22	0.039	61.00		0.144		0.044	0.0022	0.078	0.0059	0.367
(h)	0.016		0.032		0.011	0.368	38.48	0.185	60.61		0.033		0.031	0.0006	0.047	0.0043	0.275
(i)			0.028				39.06	0.023	59.36				0.08		0.035	1.155	
(j)			0.044			0.117			57.65				0.046		0.069	0.71	
(k)			0.015			0.63			55.78				0.154		0.079	0.055	

	Sn	W	Zn
(d)		0.155	
(f)	0.0029	0.022	0.0038
(g)	0.0026	0.047	
(h)	0.0007	0.034	

Ferroniobium				
DH-SL28-16	(a)	RM	Ferroniobium	50 g
DH-SL28-11	(b)	RM	Ferroniobium	50 g
DH-SL28-03	(c)	RM	Ferroniobium	50 g
NCS HC18606	(d)	CRM	Ferroniobium	50 g
DH-SL28-06	(e)	RM	Ferroniobium	50 g
DH-SL28-01	(f)	RM	Ferroniobium	50 g

Code	Product			Unit
DH-SL28-08	(g)	RM	Ferroniobium	50 g
DH-SL28-12	(h)	RM	Ferroniobium	50 g
DH-SL28-07	(i)	RM	Ferroniobium	50 g
VS-F20/3	(j)	CRM	Ferroniobium	100 g
ECRM-B 579-1	(k)	CRM	Ferroniobium	100 g
DH-SL28-09	(l)	RM	Ferroniobium	50 g
ECRM-B 576-1	(m)	CRM	Ferroniobium	100 g

	Al	C	Co	Cr	Cu	Fe	Mg	Mn	N	Nb	Nb+Ta	Ni	O	P	Pb	S	Si
(a)		0.069		0.026	0.026	27.12		0.177		69.27		0.006		0.132	0.079	0.025	1.748
(b)		0.08		0.038		29.29		0.181		67.5		0.012		0.09	0.038	0.085	0.271
(c)		0.076			0.062	28.38		0.276	0.01	66.99			0.36	0.101		1.88	
(d)		0.07						0.29		66.24				0.159		0.008	1.09
(e)		0.081	0.004	0.028	0.341	30.69		0.129	0.583	65.05		0.017	0.28	0.109	0.034	2.11	
(f)		0.432		0.007	0.011	29.77	0.016	0.102		64.69		0.003		0.105	0.058	1.9	
(g)		0.181	0.003	0.038	0.048	24.02		0.415		64.49		0.012		0.071	0.008	3.17	
(h)		0.135		0.012	0.095	29.84	0.012	0.441		64.37		0.006		0.089	0.005	2.09	
(i)		0.099	0.005	0.028	0.279	31.93		0.136		64.09		0.015		0.114	0.021	1.94	
(j)	0.35	0.136	0.0056			33.3			0.067		63.5			0.039		0.0091	0.67
(k)		0.037	0.005							62.87				0.064		0.021	1.03
(l)		0.495	0.003	0.035	0.037	27.46		0.53		60.12		0.017		0.097	0.01	3.47	
(m)		0.201								43.9						1.79	

	Sn	Ta	Ti	V	W	Zr
(a)	0.056	0.064	0.382	0.015		
(b)	0.066	0.102	0.695	0.011		
(c)			0.141	0.084		
(d)		0.084	0.78			
(e)	0.084	0.071	0.044	0.015	0.009	0.005
(f)	0.098	0.099	0.439	0.028	0.019	
(g)	0.051	0.171	1.82	1.16		0.222
(h)	0.052	0.317	0.683	0.052	0.008	0.121
(i)	0.012	0.066	0.045	0.014	0.018	
(j)	0.0014		0.292			
(k)	0.344	3.85	0.567			
(l)		0.217	1.35	0.878		0.238
(m)	0.195	0.306	1.32			

Code		Product		Unit
Ferrosilicon				
ECRM-D 529-1	(a)	CRM	Ferrosilicon	100 g
NCS HC14606	(b)	CRM	Ferrosilicon	70 g
DH-SL23-14	(c)	RM	Ferrosilicon	50 g
VS-F3/3	(d)	CRM	Ferrosilicon	100 g
DH-SL23-15	(e)	RM	Ferrosilicon	50 g
NCS HC25616	(f)	CRM	Ferrosilicon	50 g
DH-SL23-05	(g)	RM	Ferrosilicon	50 g
JK 39	(h)	CRM	Ferrosilicon	50 g

	Al	As	B	Ba	C	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	O	P	S
(a)						0.46			0.01	6.15	0.04	0.04				0.013	
(b)		0.0012	0.0029	0.006	0.024	0.064	0.0031	0.0053	0.049	20.24	0.0051	0.058	0.0013	0.035	(0.256)	0.0093	0.0037
(c)					0.031	0.094		0.082	0.049	19.89		0.19		0.044		0.028	
(d)					0.049	0.4		0.095				0.122				0.025	0.0023
(e)					0.042	0.357		0.143	0.042	19.86	0.025	0.159		0.048		0.023	
(f)	1.80				0.081	0.30		0.14				0.17				0.02	0.004
(g)					0.238	1.45		0.021	0.009	18.62	0.013	0.07		0.004		0.016	
(h)					0.105	0.24			0.013	21.6		0.165				0.018	

	Si	Sn	Ti	Tl	V
(a)	91.11		0.09		
(b)	78.96	0.0003	0.032		0.0024
(c)	78.33		0.067		
(d)	77.7			0.121	
(e)	77.06		0.086		
(f)	76.74				
(g)	76.58		0.107		0.005
(h)	75.9		0.116		

Ferroalloys

Code	Product			Unit
NCS HC15602	(a)	CRM	Ferrosilicon	50 g
NIST-195	(b)	CRM	Ferrosilicon	75 g
IPT-143	(c)	CRM	Ferrosilicon	50 g
NM 312	(d)	CRM	Ferrosilicon	100 g
VS-F4/2	(e)	CRM	Ferrosilicon	100 g
NCS HC11601A	(f)	CRM	Ferrosilicon	100 g
NIST-58a	(g)	CRM	Ferrosilicon (73%Si)	75 g
NCS HC11601	(h)	CRM	Ferrosilicon	100 g
NCS HC18601	(i)	CRM	Ferrosilicon	50 g

	Al	B	Ba	C	Ca	Co	Cr	Cu	Fe	Mg	Mn	N	Ni	P	S	Si	Sr
(a)				0.0074	(0.0013)		0.077	0.057	23.65		0.149		0.026	0.014	0.0035	75.9	
(b)		0.001		0.034	0.053	<0.01	0.047	0.047	23.6		0.17		0.032	0.017	0.001	75.3	
(c)			0.126	0.054	0.79		0.0044	0.014	22.4	0.039	0.11		0.0028	0.025	0.0012	75.1	0.014
(d)	1.23				1.80									0.031		74.37	
(e)				0.023	(0.03)		0.119	0.073			0.14	(0.02)	0.061	0.024	(0.002)	74.1	
(f)				0.073	0.34		0.085	0.031			0.26			0.023	0.003	73.75	
(g)		0.001		0.014	0.3	<0.01	0.02	0.024	25.23		0.16		0.012	0.009	<0.002	73.2	
(h)				0.068	0.3		0.08	0.029			0.26			0.023	0.003	72.95	
(i)				0.19	0.64		0.109				0.205			0.019	0.01	72.44	

	Ti	V	Zn	Zr
(a)	0.027	0.0036		
(b)	0.037			0.011
(c)	0.068			0.082
(e)	0.094		0.0013	
(g)	0.051			0.002

Code	Product			Unit
NCS HC19602	(a)	CRM	Ferrosilicon	100 g
DH-SL23-06	(b)	RM	Ferrosilicon	50 g
NCS HC14607	(c)	CRM	Ferrosilicon	70 g
BS-140-2	(d)	RM	Ferrosilicon	100 g
DH-SL23-11	(e)	RM	Ferrosilicon	50 g
BS-140-4	(f)	RM	Ferrosilicon	100 g
DH-SL23-12	(g)	RM	Ferrosilicon	50 g
NIST-59a	(h)	CRM	Ferrosilicon	50 g
NIST-347	(i)	CRM	Magnesium Ferrosilicon	100 g

	As	B	Ba	C	Ca	Ce	Co	Cr	Cu	Fe	La	Mg	Mn	Mo	Ni	O	P
(a)				0.12	2.47			0.077		23.81			0.308			0.027	
(b)				0.12	0.193			0.155	0.103	30.09		0.019	0.222		0.075	0.023	
(c)	0.0015	0.0032	0.0043	0.19	0.14		0.0047	0.014	0.06	41.89		0.0068	0.22	0.011	0.0063	(0.665)	0.038
(d)				(0.03)	0.03			(0.25)	0.14	46.12			0.53		0.15	(0.02)	
(e)				8.31	7.84			0.027	0.016	9.06		1.15	0.08		0.007	0.011	
(f)				(0.05)	0.09			(0.19)	0.09	47.5			1		0.11	(0.02)	
(g)				4.96	10.48			0.083	0.02	12.38		0.193	0.114		0.013	0.011	
(h)		0.058		0.046	0.042			0.08	0.052	50.05			0.75		0.033	0.016	
(i)				0.017	0.81	0.45	0.004	0.14	0.065		0.26	4.49	0.53		0.082	0.023	

	REE (tot)	S	Si	Sn	Ti	V
(a)			69.47			
(b)			66.98		0.118	0.007
(c)		0.0048	55.73	0.0004	0.119	0.011
(d)		(0.004)	51.85		0.1	
(e)		0.048	50		0.07	
(f)		(0.004)	49.8		0.09	
(g)		0.056	48.3		0.062	
(h)		0.002	48.1			
(i)	0.86	0.005	47.6		0.036	

Ferroalloys

Code	Product			Unit
BS-140-3	(a)	RM	Ferrosilicon	100 g
BS-140-1	(b)	RM	Ferrosilicon	100 g
IPT-70	(c)	CRM	Ferrosilicon	60 g
VS-F2/3	(d)	CRM	Ferrosilicon	100 g
NCS HC28609	(e)	CRM	RareEarth-Mg Alloy	80 g
NCS HC39603	(f)	CRM	Rare Earth-Mg Alloy	75 g
NCS HC28612	(g)	CRM	RareEarth-Mg Alloy	80 g
NCS HC28611	(h)	CRM	RareEarth-Mg Alloy	80 g
NCS HC28610	(i)	CRM	RareEarth-Mg Alloy	80 g

	C	Ca	Cr	Cu	Fe	Mg	Mn	Ni	P	REE (tot)	S	Si	Ti
(a)	(0.05)	0.09	(0.18)	0.09	50.85		0.6	0.09	(0.02)		(0.004)	47.2	0.07
(b)	(0.03)	0.04	(0.25)	0.13	52.8		0.46	0.15	(0.02)		(0.004)	45.2	0.09
(c)	0.087	0.16	0.046	0.066	54.1	0.016	0.283	0.022	0.018		(0.006)	44.7	0.018
(d)	0.027	0.056	0.324				0.306		0.035		0.0023	44.2	
(e)		1.01			31.67	10.2	0.66			8.6		43.98	0.54
(f)		2.65			21.78	8.51	2.23			18.1		43.55	1.35
(g)		0.9			36.43	8.25	0.58			6.42		43.54	0.435
(h)		0.84			40.7	5.7	0.51			5.1		43.3	0.362
(i)		0.76			43.4	5.52	0.42			3.71		42.2	0.275

Code	Product			Unit
NCS HC28615	(a)	CRM	RareEarth-FerroSilicon	100 g
NCS HC39601	(b)	CRM	Rare Earth-Mg Alloy	75 g
NCS HC28613	(c)	CRM	RareEarth-FerroSilicon	100 g
NCS HC28614	(d)	CRM	RareEarth-FerroSilicon	100 g
NCS HC39602	(e)	CRM	Rare Earth-Mg Alloy	75 g
VS-F1/3	(f)	CRM	Ferrosilicon	100 g
SARM 33	(g)	CRM	Ferrosilicon	100 g

	C	Ca	Cr	Cu	Fe	Mg	Mn	Ni	P	REE (tot)	S	Si	Ti	Tl
(a)		5.6					0.39			20		41.02	0.235	
(b)		3.21			20.81	9.5	2.72			20.09		40.31	1.5	
(c)		5					0.455			23.78		40	0.28	
(d)		6.26					0.46			26.38		38.92	0.416	
(e)		1.98			22.18	10.56	3.43			21.2		37.18	1.92	
(f)	0.499		0.361				0.51		0.042		0.0027	24.5		0.072
(g)	1.01		0.43	0.29	80.2		0.75	0.28	0.043			15.6		

Code		Product		Unit
Ferrotitanium				
NCS HC15601	(a)	CRM	Ferrotitanium	50 g
VS-F30/3	(b)	CRM	Ferrotitanium	100 g
DH-SL24-14	(c)	RM	Ferrotiitanium	50 g
ECRM-D 589-1	(d)	CRM	Ferrotitanium	100 g
NCS HC19604	(e)	CRM	Ferrotitanium	100 g
NCS HC19605	(f)	CRM	Ferrotitanium	100 g
ECRM-B 584-1	(g)	CRM	Ferrotitanium	100 g
VS-F43	(h)	CRM	Ferrotitanium	100 g

	Al	Al (sol)	C	Co	Cr	Cu	Fe	Mn	Mo	N	Ni	O2	P	S	Si	Sn	Ti
(a)			0.057		0.039	0.037	26.57	0.106	0.028		0.29		0.0071	0.0047	1.47	70.02	
(b)	3.63		0.308		0.58	0.113	19.74	0.335	0.92	0.68	0.60	(3.5)	0.0044	0.012	0.40	0.100	70.0
(c)			0.132	0.115	0.506	0.146	16.93	0.151	0.934	0.64	0.663			0.0152		0.55	68.4
(d)			0.13	0.11		0.15	16.9	0.15		0.65			0.01	0.016	0.41	68.4	
(e)			0.041					1.59					0.051	0.011	3.46	0.056	43.81
(f)			0.032			0.025		0.81					0.032	0.009	4.2	0.061	38.81
(g)		(6)	0.044					1.13					0.032	0.03	1.8	37.17	
(h)			0.098		0.354	0.336		1.22	0.0036	0.085			0.038	0.0058	2.5	0.013	31.9

	V	Zn	Zr
(a)	0.011		
(b)	0.56		0.397
(c)	2.32		0.866
(d)			(0.89)
(e)	0.158		
(f)	0.303		
(h)	0.152	0.032	0.059

Ferroalloys

Code	Product			Unit
NCS HC18604	(a)	CRM	Ferrotitanium	50 g
NCS HC26609	(b)	CRM	Ferrotitanium	50 g
VS-F42	(c)	CRM	Ferrotitanium	100 g
ECRM-F 510-1	(d)	CRM	Ferrotitanium	100 g
NM 341	(e)	CRM	Ferrotitanium	100 g
BS-FETI1	(f)	RM	Ferrotitanium	100 g
BS-FETI2	(g)	RM	Ferrotitanium	100 g

	B	C	Ca	Co	Cr	Cu	Mg	Mn	Mo	N	Nb	Ni	P	S	Si	Sn	Ti
(a)		0.065				0.117		2.67					0.043	0.013	4.68	27.93	
(b)		0.048				0.102		2.36					0.035	0.02	5.61	27.47	
(c)		0.55			2.22	1.32		1.1	0.106				0.05	0.023	6.74	27.13	
(d)		0.058											(0.035)		4.65	26.95	
(e)															2.55	24.91	
(f)	0.6	0.57	1.12	0.028	0.33	0.6	(0.4)	7.7	0.06	0.143	0.05	0.17	0.05	0.009	2.9	0.11	19.9
(g)	1.1	0.46	0.96	0.04	0.3	0.43	(0.4)	7.91	0.15	0.16	0.03	0.16	0.053	0.012	3.2	0.16	19.4

	V	Zn	Zr
(c)	0.33	0.129	
(f)	0.69	(0.04)	3.6
(g)	0.81	(0.02)	3.6

Ferrotungsten

Code	Product			
ECRM-B 555-1	(a)	CRM	Ferrotungsten	100 g
ECRM-B 590-1	(b)	CRM	Ferrotungsten	100 g
VS-F33/1	(c)	CRM	Ferrotungsten	100 g
VS-F18/2	(d)	CRM	Ferrotungsten	100 g

	As	Bi	C	Cr	Cu	Fe	Mn	Mo	P	Pb (ppm)	S	Sb (ppm)	Si	Sn	W	Zn
(a)			0.025			(15.2)			(0.02)		(0.018)		1.75	0.034	79.9	
(b)			0.025		0.0484		0.136	0.101					1.05	0.045	79.55	
(c)	0.002			0.048	0.06		0.089	5.39	0.017		0.022	6	0.62	0.0017	78.9	
(d)	0.028	(0.0001)	0.075		0.105		0.095	0.56	0.042	1.4	0.071	69	0.35	0.038	74.7	(0.0001)

Ferrovanadium

Code			Product	Unit
ECRM-F 511-1	(a)	CRM	Ferrovanadium	100 g
VS-F40	(b)	CRM	Ferrovanadium	100 g
ECRM-D 591-1	(c)	CRM	Ferrovanadium	100 g
NM 351	(d)	CRM	Ferrovanadium	100 g
ECRM-B 577-1	(e)	CRM	Ferrovanadium	100 g
BS-FEV45	(f)	RM	Ferrovanadium	100 g
VS-F19/3	(g)	CRM	Ferrovanadium	100 g
BS-FEV42	(h)	RM	Ferrovanadium	100 g
VS-F32/3	(i)	CRM	Nitrated ferrovanadium	100 g

	Al	As	B	C	Ca	Cr	Cu	Fe	Mg	Mn	Mo	N	Ni	O	P	S	Si
(a)				0.049											(0.016)	0.018	0.341
(b)				0.096		0.185	0.81			1.49					0.022	0.014	1.31
(c)		0.0022	(0.0018)	0.141	(0.0328)		0.0596	14.59	(0.044)	0.307		(0.308)	0.0141	(0.516)	0.0299	0.0153	0.847
(d)																	
(e)				0.089			0.054			0.158			0.053		0.035	0.034	1.79
(f)				0.24	(0.009)	5.82	0.41	33.8	(0.014)	4.14	0.01	0.26	4.28		0.12	0.33	4.86
(g)	(0.005)	0.0009		0.418		1.21	0.204			3.30					0.059	0.0102	1.47
(h)				0.3	(0.042)	5.21	0.31	39.45	(0.06)	3.37	0.024	0.2	3.85		0.12	0.31	3.81
(i)	(0.05)	(0.001)		(0.4)			(0.2)	(40)		3.14		7.51			(0.05)	(0.008)	(1.2)

	Ti	V
(a)		80.7
(b)		80.1
(c)	(0.044)	79.72
(d)		52.1
(e)		50.16
(f)	0.022	45.27
(g)		42.6
(h)	0.033	42.35
(i)		40.2

Fertilizers

Code	Product			Unit
BCR-032	(a)	CRM	Moroccan phosphate rock - Trace elements	100 g
BCR-033	(b)	CRM	Super-phosphate - Constituents	100 g
BCR-113	(c)	CRM	Potassium chloride - Elemental composition	100 g
BCR-114	(d)	CRM	Potassium sulphate - Elemental composition	100 g
BCR-178	(e)	CRM	Calcium ammonium nitrate - Elemental composition	100 g
NIST-695	(f)	CRM	Multi-nutrient fertiliser - Elements	70 g

	Al	**Al2O3**	**As**	**As (ppm)**	**B (ppm)**	**CO2**	**Ca**	**Ca (ppm)**	**CaO**	**Cd (ppm)**	**Cl**	**Co**	**Co (ppm)**	**Cr**	**Cr (ppm)**	**Cu**	**Cu (ppm)**
(a)		0.55		(9.5)	(22.6)	0.51			5.176	(20.8)			(0.59)		(0.0257)	(33.7)	
(b)		1.10							31.48								
(c)							0.103				47.80						
(d)							0.94				1.85						
(e)							8.882										
(f)	(0.61)		0.0200		(0.111)			2.26		16.9	(4.6)	0.00653		0.0244		0.1225	

	F	**Fe**	**Fe2O3**	**Hg (ppm)**	**K**	**K (ppm)**	**K (sol)**	**Mg**	**MgO**	**Mn**	**Mn (ppm)**	**Mo (ppm)**	**N (NH4)**	**N (NO3)**	**N (ppm)**	**N (tot)**	**Na**
(a)	0.404		0.0231	(0.0551)					0.0403		(0.00188)						
(b)	1.65		0.40						0.21								
(c)					50.25		50.13	0.024								1.53	
(d)					41.80		41.76									1.10	
(e)													13.044	13.015		26.019	
(f)		3.99		1.955		11.65		1.79		0.305		20.0			(13.9)	0.405	

	Ni	**Ni (ppm)**	**P (ppm)**	**P2O5**	**Pb**	**SO3**	**SO4**	**Se (ppm)**	**SiO2**	**Ti**	**Ti (ppm)**	**V**	**V (ppm)**	**Zn (ppm)**
(a)		(0.00346)		3.298		0.184			0.209		(0.0171)		(0.0153)	(0.0253)
(b)				19.34			42.80		2.92					
(d)							53.3							
(f)	0.0135		(7.2)		0.0273			(2.1)		(0.0310)		0.0122		0.325

Code	Product			Unit
NIST-120c	(a)	CRM	Phosphate rock, Florida - Constitutents	90 g
NIST-694	(b)	CRM	Phosphate rock, western - Constituents	90 g
NIST-193	(c)	CRM	Potassium nitrate - Nitrogen and potassium	90 g
NIST-200B	(d)	CRM	Potassium dihydrogen phosphate - Phosphorous and potassium	90 g
NIM-GBW06503	(e)	CRM	Potassium sulphate - Potassium (NCS GC76503)	40 g

	Al2O3	As2O3	CO2	CaO	CdO	CoO	Cr2O3	CuO	Eu2O3	F	Fe2O3	K	K2O	MgO	MnO	MoO3	N
(a)	1.3	(0.0009)	3.27	48.02		(0.001)	(0.01)	(0.0016)	(0.0005)	3.82	1.08		0.147	0.32	0.027	(0.002)	
(b)	1.8			43.6	0.015		(0.1)			3.2	0.79		0.51	0.33	0.0116		
(c)												(38.66)				(13.85)	
(d)												28.735					
(e)												44.79					

	Na2O	NiO	P	P2O5	PbO	S	SO4	SiO2	SrO	TiO2	U	U3O8	V2O3	V2O5	ZnO
(a)	0.52	(0.004)		33.34	(0.003)	(0.37)	(1.07)	5.5	(0.1)	0.103		0.0135	0.016		(0.009)
(b)	0.86			30.2				11.2		(0.11)	0.01414			0.31	(0.19)
(d)			22.769												

Flux

Code	Product			Unit
VS-W6	(a)	CRM	Welding Fluxes	100 g
VS-W7	(b)	CRM	Welding Fluxes	100 g
VS-W8	(c)	CRM	Electro Slag Additive	100 g

	Al2O3	C	CaF2	CaO	Fe	Fe2O3	K2O	MgO	MnO	Na2O	P	S	SiO2
(a)	3.00		7.71	12.72		1.30		1.60	38.5		0.069	0.0092	39.2
(b)	29.8		28.5	24.0		0.56	0.94	11.4	0.40	1.41	0.011	0.031	23.4
(c)	26.5	0.039	68.6	52.7	0.147						0.013	0.013	1.77

Glass and quartz

Code	Product			Unit
NIST-610	(a)	CRM	Glass - Trace elements	4wafers
NIST-611	(b)	CRM	Glass - Trace elements	4wafers
NIST-612	(c)	CRM	Glass - Trace elements	4wafers
NIST-613	(d)	CRM	Glass - Trace elements	4wafers
NIST-614	(e)	CRM	Glass - Trace elements	4wafers
NIST-615	(f)	CRM	Glass - Trace elements	4wafers
NIST-616	(g)	CRM	Glass - Trace elements	4wafers
NIST-617	(h)	CRM	Glass - Trace elements	4wafers

	Ag	**As**	**Au**	**B**	**Ba**	**Cd**	**Ce**	**Co**	**Cr**	**Cu**	**Dy**	**Er**	**Eu**	**Fe**	**Ga**	**Gd**	**K**
(a)	268	340	(25)	(351)	453	244		(390)	415	(444)				458		(461)	
(b)	268	340	(25)	(351)	453	244		(390)	415	(444)				458		(461)	
(c)	22.0	37.4	(5)	(32)	38.6	29.9	(39)	(35.5)	35.0	(37.7)	(35)	(39)	(36)	51		(39)	(64)
(d)	22.0	37.4	(5)	(32)	38.6	29.9	(39)	(35.5)	35.0	(37.7)	(35)	(39)	(36)	51		(39)	(64)
(e)	0.42		(0.5)	(130)		(0.55)		(0.73)		1.37			(0.99)	(13.3)	(1.3)	30	
(f)	0.42		(0.5)	(130)		(0.55)		(0.73)		1.37			(0.99)	(13.3)	(1.3)	30	
(g)			(0.18)	(0.20)						(0.80)				(11)	(0.23)	29	
(h)			(0.18)	(0.20)						(0.80)				(11)	(0.23)	29	

	La	**Li**	**Mn**	**Nd**	**Ni**	**Pb**	**Rb**	**Sb**	**Sc**	**Se**	**Sm**	**Sr**	**Th**	**Ti**	**Tl**	**U**	**Yb**
(a)		(488)	457		458.7	426	425.7	415.3		115.2		515.5	(457.2)	(437)	(61.8)	461.5	
(b)		(488)	457		458.7	426	425.7	415.3		115.2		515.5	(457.2)	(437)	(61.8)	461.5	
(c)	(36)	(40)	37.7	(36)	38.8	38.57	31.4	34.9		16.1	(39)	78.4	37.79	(50.1)	(15.7)	37.38	(42)
(d)	(36)	(40)	37.7	(36)	38.8	38.57	31.4	34.9		16.1	(39)	78.4	37.79	(50.1)	(15.7)	37.38	(42)
(e)	(0.83)				(0.95)	2.32	0.855	(106)	(0.59)			45.8	0.748	(3.1)	(0.269)	0.823	
(f)	(0.83)				(0.95)	2.32	0.855	(106)	(0.59)			45.8	0.748	(3.1)	(0.269)	0.823	
(g)	(0.034)					1.85	(0.100)	(0.078)	(0.026)			41.72	0.0252	(2.5)	(0.0082)	0.0721	
(h)	(0.034)					1.85	(0.100)	(0.078)	(0.026)			41.72	0.0252	(2.5)	(0.0082)	0.0721	

	Zn
(a)	(433)
(b)	(433)

Code	Product			Unit
NIST-89	(a)	CRM	Lead-barium glass - Constituents	45 g
NIST-93a	(b)	CRM	Borosilicate glass - Constituents	unit
NIST-620	(c)	CRM	Soda-lime flat glass - Constituents	set (3)
NIST-621	(d)	CRM	Soda-lime container glass - Constituents	set (3)
NIST-1830	(e)	CRM	Soda-lime float glass - Constituents	3 platelets
NIST-1831	(f)	CRM	Soda lime sheet glass - Constituents	3 platelets
NIST-1411	(g)	CRM	Soft borosilicate glass - Constituents	set (10)

	Al2O3	**As2O3**	**As2O5**	**B2O3**	**BaO**	**CaO**	**Cl**	**Fe2O3**	**FeO**	**K2O**	**LOI**	**MgO**	**MnO**	**Na2O**	**P2O5**	**PbO**	**SO3**
(a)	0.18	0.03	0.36		1.40	0.21	0.05	0.049		8.40	0.32	0.03	0.08	5.70	0.23	17.50	0.03
(b)	2.28			12.56		0.01	0.060	0.028	0.016	0.014		0.005		3.98			
(c)	1.80	0.056				7.11		0.043		0.41		3.69		14.39		0.28	
(d)	2.76	0.030			0.12	10.71		0.040		2.01		0.27		12.74		0.13	
(e)	0.12					8.56		0.121	0.032	0.04		3.90		13.75		0.26	
(f)	1.21					8.20		0.087	0.025	0.33		3.51		13.32		0.25	
(g)	5.68			10.94	5.00	2.18		0.050		2.97		0.33		10.14			

	SiO2	**SrO**	**TiO2**	**ZnO**	**ZrO2**
(a)	65.35		0.01		0.005
(b)	80.8		0.014		0.042
(c)	72.08		0.018		
(d)	71.13		0.014		0.007
(e)	73.07		0.011		
(f)	73.08		0.019		
(g)	58.04	0.09	0.02	3.85	

Code	Product			Unit
SGTGLASS4-P	(a)	CRM	Fluoride opal glass - Constituents	25 g
SGTGLASS6-P	(b)	CRM	Soda-lime-silica glass - Constituents	25 g
SGTGLASS7-P	(c)	CRM	Soda - lime - silica glass - Constituents	25 g
SGTGLASS8-P	(d)	CRM	Lead oxide - potassium oxide - silica glass - Constituents	25 g
SGTGLASS10-P	(e)	CRM	Amber soda - lime - silica container glass - Constituents	25 g
SGTGLASS11-P	(f)	CRM	Green soda - lime- silica container glass - Constituents	25 g

	Al2O3	As (tot)	B2O3	BaO	CaO	Cr2O3	F	Fe (tot)*	Fe2O3	K2O	LOI	MgO	Mn3O4	Na2O	PbO	S (tot)	SO3
(a)	3.02		0.19		4.24		4.96		0.099	0.57	0.22	(0.05)		15.45		(0.05)	
(b)	1.70				9.97		4.96	0.034		(0.1)		(0.1)		14.65		<0.20	
(c)	1.50				11.03			0.044		0.43	0.07	0.14		13.90		0.19	
(d)	0.05	0.32	0.36		(0.02)			0.010		11.85	0.21	(0.02)		0.23	30.59		
(e)	1.62			0.02	10.7	0.020			0.325	0.35		1.81	(0.038)	12.2		0.05	
(f)	1.83			0.03	10.3	0.205			0.342	0.69		2.14	(0.034)	13.6		0.06	

	SiO2	TiO2	ZnO	ZrO2
(a)	64.49	0.041	3.28	
(b)	73.06	0.02	3.28	
(c)	72.64	0.042		
(d)	56.34	0.02		
(e)	72.7	0.097	(0.024)	
(f)	70.7	0.068	(0.015)	

				Unit
SV 4001	(a)	CRM	Lead Glass	100 g
SV 4002	(b)	CRM	Lead Glass	100 g
SV 4003	(c)	CRM	Lead Glass	100 g
SV 4004	(d)	CRM	Flat glass of Float type (RMI)	100 g
SV 4005	(e)	CRM	Flat glass of Fourcault type (RMII)	100 g
SV 4006	(f)	CRM	Bottle Glass, green (RMIII)	100 g
SV 4007	(g)	CRM	Bottle Glass, brown (amber) (RMIV)	100 g

	Al2O3	As2O3	B2O3	BaO	CaO	Cr2O3	F	Fe2O3	K2O	MgO	Na2O	PbO	SO3	SiO2	TiO2	ZnO	ZrO2
(a)	1.87	0.43	1.09	0.014	1.8	(0.0026)	(0.85)	0.038	10.43	1.11	5.73	6.53		69.55	0.023	(0.0021)	(0.012)
(b)	0.151	0.311	0.82	1.07	2.8	(0.001)	(0.56)	0.021	13.53	(0.02)	2.57	10.76		66.07	0.023	1.043	0.033
(c)	0.119	0.161	(0.02)	(0.003)	(0.014)	(0.0006)	(0.42)	0.017	12.34	(0.006)	1.85	23.97		59.49	0.019	1.55	(0.025)
(d)	(0.61)			0.014	8.61	(0.0009)		0.042	0.30	3.99	13.50		0.24	72.4	0.037	(0.012)	
(e)	1.03			0.016	6.03	(0.00078)		0	0.564	4.12	15.11		0.33	72.7	0.037	(0.0082)	
(f)	2.12			0.051	9.89	0.115		0.287	0.938	2.82	13.30		0.13	70.1	0.047	(0.013)	
(g)	1.49			(0.025)	7.33	0.004		0.30	0.70	4.74	13.42		0.038	71.8	0.033	(0.0087)	

Code	Product			Unit
EC 1.1	(a)	CRM	Soda lime-magnesia-silica glass - Constituents	75x75x6 mm
NCS DC61103	(b)	CRM	Soda lime - Silica glass (NIM-GBW03117)	50 g
NCS DC61104	(c)	CRM	Borosilicate glass - Constituents (NIM-GBW03132)	50 g
BAM-S106	(d)	CRM	Water in soda lime glass - (15 x 15 x 1)mm3	sample
BAS-BCS-CRM 313/2	(e)	CRM	High purity silica	100 g

	Al2O3	B2O3	BaO	CaO	F	Fe2O3	K2O	LOI	MgO	MnO	Na2O	SO3	SiO2	SrO	TiO2	cH2O
(a)				7.7		0.077	0.43		4.01		14.22	0.27	71.94		0.029	
(b)	2.56			6.37		0.18	1.10	0.44	3.98		13.77	0.17	71.25		0.057	
(c)	14.5	8.87		16.54	0.54	0.34	0.59		4.4							
(d)				(7)					(4)		(15)		(70)			0.033
(e)	0.068		0.00067	0.0160		0.0229	0.0108		0.0037	0.00032	0.0058		99.73	0.00024	0.0243	

cH2O unit is mol/L

Code	Product			Unit
BCR-664	(a)	CRM	Glass - Trace elements	plate
BCR-545	(b)	CRM	Welding dust loaded on filter	Each
BAM-S004	(c)	CRM	Glass - hexavalent chromium	50 g
BCR-126A	(d)	CRM	Lead glass - Constituents	300 g
IRMM-435	(e)	CRM	Pharmaceutical glass - Leaching	20 vials
IRMM-541	(f)	CRM	Uranium-doped oxide glass	disc

	Al2O3	As	Ba	BaO	CaO	Cd	Cl	Co	Cr	Cr (tot)	Cr(VI)	Cr(tot)	Cr2O3	CuO	Fe2O3	K2O	Li2O
(a)		0.00059	0.00291			0.00057	0.00684	0.000277	0.000265								
(b)											4.02	3.95					
(c)	(2.15)			(1.2)	(9.4)					0.0471	0.0094		(0.07)	(0.04)	(0.06)	(0.16)	
(d)					1.033										0.0055	10	0.495
(e)																	
(f)																	

	MgO	Na	Na2O	Pb	PbO	SO2	Sb	Sb2O3	Se	SiO2	U	ZnO
(a)				0.00531			0.00243		0.00086			
(c)	(0.9)		(14.5)			(0.17)				(70.9)		(0.33)
(d)	0.512		3.58		23.98			0.29		57.8		1.02
(e)		0.000141	0.000191									
(f)											0.00494	

Glass and quartz

Code	Product													Unit
DG DGG1	(a)	CRM	Floatglass No.I, 80x50x10mm											Each
DG DGG2	(b)	CRM	Floatglass No.II, 80x50x10mm											Each
DG DGG3	(c)	CRM	Floatglass No.III - only as powder											100 g
		Al2O3	**B2O3**	**BaO**	**CaO**	**Fe2O3**	**K2O**	**MgO**	**Na2O**	**SO3**	**SiO2**	**TiO2**		
	(a)	(1.23)			(6.73)	(0.191)	(0.338)	(4.18)	(14.95)	(0.436)	(71.72)	(0.137)		
	(b)	(0.10)			(10.05)	(0.021)		(3.40)	(13.78)	(0.27)	(72.26)	(0.033)		
	(c)	(2.76)	(12.7)	(0.1)	(0.2)	(0.096)	(0.94)	(0.033)	(3.43)		(78.56)	(0.026)		
NIST-1834	(a)	CRM	Fused ore glass - Constituents											disc
		Ba	**Ca**	**Cr**	**Fe**	**K**	**Li**	**Mg**	**Na**	**P**	**Si**	**Sr**	**Ti**	**Zr**
	(a)	0.062	0.095	(0.02)	0.32	0.42	(4.6)	0.088	(0.14)	0.152	20.19	0.153	1.11	(0.047)
IRMM-540R	(a)	CRM	Uranium-doped oxide glass											disc
		U												
	(a)	0.0015												
BAS-BCS-CRM 516	(a)	CRM	Standard Glass Sand (SGT Glass Sand 10)											100 g
BAS-BCS-CRM 528	(b)	CRM	Standard Glass Sand (SGT Standard glass sand 11)											100 g
NIST-1413	(c)	CRM	Glass sand (high alumina) - Constituents											75 g
UN SPS	(d)	CRM	Glass sand											100 g
IPT-61	(e)	CRM	Glass Sand (0.01% Fe)											100 g
IPT-62	(f)	CRM	Glass Sand (0.07% Fe)											100 g
NIST-81a	(g)	CRM	Glass sand - Constituents											75 g
NIST-165a	(h)	CRM	Glass sand (low iron) - Constituents											75 g
		Al2O3	**BaO**	**CaO**	**Cr2O3**	**Fe2O3**	**K2O**	**LOI**	**MgO**	**Mn3O4**	**Na2O**	**PbO**	**SiO2**	**TiO2**
	(a)	0.513	0.0040	0.0243	0.0081	0.0596	0.127	0.24	0.0387	0.0012	0.0195	0.0127	98.73	0.172
	(b)	2.447	0.0298	0.237	0.0008	0.1111	0.875	0.271	0.0887		0.101	0.0006	95.62	0.0486
	(c)	9.9	0.12	0.74		0.24	3.94		0.06					
	(d)	0.248		0.029		0.037	0.058	0.167	0.0071					
	(e)	0.054		(0.004)		0.014	(0.007)	(0.06)	(0.003)					
	(f)	0.11		(0.004)		0.072	(0.007)	0.1	(0.004)					
	(g)	0.66			0.0046	0.082								
	(h)	0.059				0.012								

Code	Product			Unit
NIST-623	(a)	CRM	Borosilicate glass	2.2 kg
NIST-622	(b)	CRM	Soda lime silica (durability)	2.2 kg

	Durability
(a)	0.34
(b)	7.67

Durability unit is mL of N/50 H2 SO4

NIST-731L1	(a)		Borosilicate glass - thermal expansion	5 cm
NIST-731L2	(b)		Borosilicate glass - thermal expansion	10 cm
NIST-731L3	(c)		Borosilicate glass - thermal expansion	15 cm

SARM 49	(a)	CRM	Quartz	100 g
SEI-CJR404	(b)	CRM	Quartz powder, 100 g/Satz	Each
NIST-1878a	(c)	CRM	Respirable alpha quartz	5 g
UG-QLO-1	(d)	CRM	Quartz Latite	30 g

	Al2O3	As	B	Ba	Br	CaO	Ce	Cl	Co	Cr	Cs	Cu	Dy	Er	Eu	F	Fe (tot)*
(a)				0.000017		(0.01)											
(b)	0.0011					0.00002											
(c)																	
(d)	16.2	(0.00035)	0.0036	0.137	(0.00021)	3.17	0.0054	0.022	0.00072	0.00032	0.00018	0.0029	0.00038	0.00023	0.000143	0.028	4.35

	Fe2O3	FeO	Ge	K2O	La	Li	Lu	MgO	MnO	Mo	Na2O	Nb	Nd	P2O5	Pb	Rb	S
(a)	(0.05)			(0.01)				(0.05)	(0.01)		(0.05)						
(b)	0.00006			0.00004				<0.00001			0.0001						
(d)	1.02	2.97	(0.00013)	3.6	0.0027	0.0025	0.000037	1		0.00026	4.2	0.001	(0.0026)	0.25	0.002	0.0074	(0.003)

	SiO2	Sm	Sn	Sr	Ta	Tb	Th	TiO2	Tm	U	V	W	Y	Yb	Zn	Zr
(a)	99.6			(0.0005)				(0.01)								
(b)	>99.99							0.0006								
(d)	65.6	0.00049	0.00023	0.034	0.000082	0.000071	0.00045	0.62	0.000037	0.00019	0.0054	0.000058	0.0024	0.00023	0.0061	0.0185

BAM-RS 1	(a)	CRM	Silicium Dioxide, SiO2	100 g

	Ca	Cd	Cr	Cu	Fe	Ge	Hg	K	Li	Mg	Mn	Na	Ni	Pb	SiO2	Ti	Zn
(a)	0.000042	<0.000005	0.0000062	<0.00001	0.000062	<0.0001	<0.000005	0.000048	0.000025	<0.00005	<0.00002	<0.0002	<0.00002	<0.000015	99.99	0.00013	<0.00013

	Zr
(a)	<0.00001

Graphite

Code	Product			Unit
CGL-USZ32-2000	(a)	CRM	Graphite - BJBCh (CGL 003)	100 g
CGL-USZ33-2000	(b)	CRM	Graphite - ZBCh (CGL 004)	100 g
NCS DC60119	(c)	CRM	Graphite ore - Constituents (NIM-GBW03118)	50 g
NCS DC60120	(d)	CRM	Graphite ore - Constituents (NIM-GBW03119)	50 g
NCS DC60121	(e)	CRM	Graphite ore - Constituents (NIM-GBW03120)	50 g

	% Ash	% Vol.	Al2O3	C	CO2	CaO	Co	Fe2O3	H2O+	K2O	MgO	MnO	Na2O	Ni	P2O5	Rb	S
(a)			9.33	14.43	4.1	7.05		3.48		2.54	1.94	0.03	0.47	0.007		0.014	
(b)			8.46	13.38	2.45			3.61		2.09		0.07	0.51				
(c)			12.93		3.60	9.37	2.91	6.73	2.60	2.54	6.10	0.084	1.60		0.13	1.18	
(d)			13.03		0.67	5.34	9.91	6.99	2.80	2.17	5.35	0.054	1.56		0.14	2.59	
(e)	20.78	2.72	5.60		0.28	0.74	76.50	1.48	1.98	0.99	0.50	0.022	0.23		0.16	0.14	

	SiO2	TiO2	Zn	Zr
(a)	52.2	0.57	0.018	0.012
(b)	52.84	0.49		
(c)	49.84	0.57		
(d)	49.34	0.64		
(e)	10.34	0.55		

Gypsum

Gypsum

Code	Product			Unit
NCS DC60112	(a)	CRM	Gypsum - Constituents (NIM-GBW03109A)	50 g
NCS DC60113	(b)	CRM	Gypsum - Constituents (NIM-GBW03110)	50 g
NCS DC60115	(c)	CRM	Gypsum - Constituents (NIM-GBW03111A)	50 g
DT GYPA	(d)	CRM	Gypsum	100 g
DT GYPB	(e)	CRM	Gypsum	100 g
DT GYPC	(f)	CRM	Gypsum	100 g
DT GYPD	(g)	CRM	Gypsum	100 g
NCS DC62106B	(h)		Gypsum	20 g

	Al2O3	As	Ba	Br	CO2	CaO	Cd	Ce	Cl	Co	Cr	Cs	Eu	Fe2O3	H2O	H2O+	Hf
(a)	0.34				(4.02)	39.24			0.033					0.16		0.39	
(b)	1.92				(8.63)	28.50			0.019					0.63		14.27	
(c)	0.14				(5.44)	32.30			0.0032					0.11		17.95	
(d)		0.000019	(0.0028)	(0.00005)	0.47	32.9	0.000051	(0.00007)	0.0012	(0.00002)	(0.0002)	(0.000015)	0.000006	0.05	19.4	0.000026	
(e)	0.17	(0.00002)	0.0025	0.00004	5	32.8		0.000124	0.0034	(0.00007)	(0.0002)	(0.00002)	0.000007	0.07	17.8	(0.000032)	
(f)	0.79	0.00024	0.0053	0.00017	11.2	30.4		0.0005	0.0156	0.00012	0.0004	0.000041	0.000012	0.4	14.37	(0.000036)	
(g)	2.03	0.0003	0.0106	0.00013	3.6	28.2		0.0009	0.0234	0.00024	0.0009	0.00013	0.000017	1.08	16.76	0.00006	
(h)																	

	K2O	LOI	La (ppm)	Lu (ppm)	MgO	Mn	Na2O	P2O5	Rb	SO3	Sb (ppm)	Sc (ppm)	SiO2	Sm (ppm)	SrO	Ta (ppm)	Th (ppm)
(a)	0.094	4.55			1.74		0.065			51.91			1.68		(0.27)		
(b)	0.38	(23.55)			4.92		0.021			32.55			7.21		(0.071)		
(c)	0.026	23.60			2.47		0.014			40.72			0.63		(0.096)		
(d)	0.021		0.24	(0.006)	0.18	0.0019	0.009	0.011	(0.00008)	46.2	0.04	0.09	0.45	0.041	0.11	(0.1)	
(e)	0.05		0.56	0.007	1.8	0.0009	0.021	0.01	(0.0004)	41	0.024	0.16	1.05	0.074	0.14	0.15	
(f)	0.36		3	(0.05)	5.35	0.0065	0.022	0.018	0.0011	33	0.16	0.8	3.5	0.45	0.35	0.51	
(g)	0.54		5	0.067	1.73	0.02	0.07	0.025	0.0025	36.7	0.28	2	8.7	0.83	0.18	0.15	1.3

	Ti	TiO2	U	V	Yb	Zn	Zr
(a)		0.016					
(b)		0.10					
(c)		0.010					
(d)	(0.0078)		0.00001		0.000002	0.0007	(0.0009)
(e)	0.0074		0.000023		0.000003	0.0007	(0.0016)
(f)	0.023		0.000072		0.000017	0.0015	0.0028
(g)	0.0473		0.000065	0.0017	0.000044	0.0016	0.0029

Gypsum

Code	Product			Unit
LGC2700	(a)	CRM	Natural gypsum - Major oxides and trace elements	75 g
LGC2701	(b)	CRM	Natural anhydrite - Major oxides and trace elements	75 g
LGC2702	(c)	CRM	Blended gypsum - Major oxides and trace elements	75 g
LGC2703	(d)	CRM	Desulfurised gypsum - Major oxides and trace elements	75 g

	Al2O3	As (ppm)	Ba (ppm)	CaO	Co (ppm)	Cr (ppm)	Cu (ppm)	Fe2O3	Hg (ppb)	K2O	LOI	MgO	MnO	Na2O	Ni	Ni (ppm)	P2O5
(a)	2.872	(2.4)	(170)	26.31	(3.8)	(15)	(5.0)	1.150	1.35	0.830	19.78	(3.2)	(0.030)	0.183	9.5	0.0367	
(b)	0.045	(0.16)		40.82	(0.35)	(4.4)	(3.5)	0.0280	(2.33)	0.0105	0.452	(0.080)	(0.0025)	(0.023)	(1.9)	0.0069	
(c)	1.121	(2.4)	(43)	31.47	(1.8)	(9.0)	(4.4)	0.392	420	0.196	21.32	(0.92)	(0.011)	0.031		4.8	0.0177
(d)	0.459	(3.5)		32.45	(0.92)	(7.9)	(2.8)	0.142	646	0.0340	21.21	(0.16)	(0.0040)	(0.022)	3.2	0.0120	

	Pb (ppm)	SO3	Se (ppm)	SiO2	SrO	TiO2	Tl (ppm)	V	V (ppm)	Zn	Zn (ppm)
(a)	(4.2)	34.67		10.93	(0.20)	0.1480	(0.18)	21.3		19.3	
(b)	(1.6)	57.8		0.112	(0.18)	(0.0066)		(2.6)		(1.6)	
(c)		41.26	(5.2)	3.01	(0.13)	0.0550	(0.18)		10.5		11.7
(d)	(3.6)	44.84	(11)	0.90	(0.012)	0.0325	(0.076)	6.0		9.5	

Gypsum byproducts

Code	Product			Unit
DT FGD1	(a)	RM	Gypsum byproduct	100 g
DT FGD2	(b)	RM	Gypsum byproduct	100 g
DT TIG1	(c)	RM	Gypsum byproduct	100 g
DT GYP-4	(d)		Gypsum by-product	100 g

	As	CO2	CaO	Ce	Cl	Co	Cr	Cr2O3	Dy	Eu	F	Fe2O3	H2O	Hf	K2O	La	MgO
(a)		0.02	32.7	0.00005	(0.01)	0.000002	0.00012	0.0002		0.000002	0.0095	0.014	20.7		0.007	0.000035	0.007
(b)	0.000048	0.62	32.8	0.00017	(0.0115)	0.000007	0.00102	0.0015	0.000048	0.000009	0.032	0.043	20.38	0.000006	0.01	0.000218	0.019
(c)	0.000022	1.41	32.3	0.0006	0.04	0.000026	0.0246	0.036	0.000042	0.000008	0.023	0.26	20.3	0.0003	0.008	0.00027	0.12
(d)																	

	Mn	Na2O	P2O5	SO3	Sb	Sc	Se	SiO2	Sm	SrO	Ta	Tb	Th	Ti	TiO2	U	V
(a)	0.0002	0.005	0.03	46.4	0.000003	0.0000023	0.00008	0.13	0.000007	0.012			0.000003	0.0075		0.00015	
(b)	0.00025	0.02	0.05	45.6	0.0000024	0.0000166	0.0003	0.21	0.000052	0.024		0.000007	0.000038	0.0075		0.00011	0.00051
(c)	0.0036	0.036	0.04	43.4	0.000005	0.00171		0.11	0.000065	0.42	0.00031	(0.0002)	0.000214	0.6154	0.82	0.00025	0.056

	V2O5	Yb	Zn	Zr
(a)	0.00003		0.00017	
(b)	0.00009	0.000027	0.00023	(0.001)
(c)	0.1	0.000031	(0.0032)	(0.008)

Heavy minerals

Rutile

Code	Product			Unit
NIST-670	(a)	CRM	Rutile Ore - Constituents	90 g
DH-SX58-04	(b)	RM	Rutile	100 g
DH-SX58-05	(c)	RM	Rutile	100 g
DH-SX58-03	(d)	RM	Rutile	100 g
IGS-32	(e)	CRM	Rutile	45 g

	Al2O3	C (tot)	CO2	CaO	Cr2O3	Fe2O3	K2O	MgO	Ti
(a)					0.23	0.86			
(b)	0.249		0.017	0.011	0.164	0.989			
(c)	0.5	0.23		0.035	0.117	3.53		0.032	
(d)	0.668		0.025	0.131	0.213	1.22	0.067		
(e)									(57.19)

Zirconium materials

				Unit
SEI-CJR051	(a)	CRM	Zirconia powder	50 g
SEI-CJR052	(b)	CRM	Zirconia powder	50 g
SEI-CJR053	(c)	CRM	Zirconia powder	50 g
SEI-CJR054	(d)	CRM	Zirconia powder	50 g

	Al2O3	CaO	Fe2O3	HfO2	K2O	MgO	Na2O	Nb2O5	SiO2	TiO2
(a)			0.0017	1.96		0.0004	0.015		(0.005)	(0.0005)
(b)		0.019	(0.0004)	1.81	0.0013	0.0042	0.021		0.019	0.0012
(c)		0.021	0.03	1.67	(0.0007)	0.002	0.028	0.054	0.036	0.127
(d)	0.136	0.535	0.132	1.6	(0.0003)	0.208	0.0027	0.427	0.3	0.136

Heavy minerals

Code	Product			Unit
BAS-BCS-CRM 358	(a)	CRM	Zirconia	100 g
VS-K7	(b)	CRM	Zr-Concentrate	100 g
ASCRM008	(c)	CRM	Zirkonsand	100 g
BAS-BCS-CRM 388	(d)	CRM	Zircon	100 g
IGS-35	(e)	CRM	Zircon	50 g
VS-K8	(f)	CRM	Zr-Concentrate	100 g
SARM 13	(g)	CRM	Zirconium Concentrate	100 g

	Al2O3	**BaO**	**CaO**	**Fe2O3**	**HfO2**	**MgO**	**P2O5**	**S**	**SiO2**	**SrO**	**Th**	**ThO2**	**TiO2**	**U**	**U3O8**	**Y2O3**	**ZrO2**
(a)	0.08	0.1	1.5	0.064	1.63	3.42			0.2	0.07			0.2			92.7	
(b)	(0.1)		5.39	0.73					0.65							92.2	
(c)			0.012	0.063		0.004	0.09		32.66				0.097				
(d)	0.291		(0.04)	0.049	1.3	(0.05)	0.12		32.7			0.018	0.232		0.034	0.136	66.2
(e)					1.368								0.27			65.86	
(f)	1.16			0.081			0.11	0.0064	32.3				0.163			65.9	
(g)	0.61		(0.14)	0.187	1.29	(0.044)	0.23		32.56		(0.03)		0.295	(0.0328)		64.01	

	ZrO2**
(c)	66.62

CERAM-2CAS15	(a)	RM	Zircon	100 g
SARM 62	(b)	CRM	Zircon (RBM)	100 g
BAS-BCS-RM 204A	(c)	RM	Zircon	100 g
CERAM-AN46	(d)	RM	Zircon Batt	100 g

	Al2O3	**CaO**	**Fe (tot)***	**Fe2O3**	**HfO2**	**K2O**	**MgO**	**Na2O**	**P2O5**	**SiO2**	**SnO2**	**ThO2**	**TiO2**	**U3O8**	**ZrO2**	**ZrO2 (+HfO2)**	**ZrO2****
(a)	0.36	0.52		0.08		0.02	0.11	0.03		34.1			0.18			64.6	
(b)	0.88	(0.11)	0.07		1.31		(0.04)		0.12	32.8		0.0158	0.13	0.0354	64.2		
(c)		0.15		0.18		0.017	0.012	0.014	0.77	37.6	1.69		2.22			53.8	
(d)	30.5	0.21		0.85		1.01	5.36	0.15		45.5			0.5			15.7	

Industrial materials

Silicon nitride

Code	Product			Unit
ERM-ED101	(a)	CRM	Silicon nitride powder (BAM-S001)	50 g
NIST-656	(b)	CRM	Silicon nitride	2 x 10 g

	Al	C	Ca	Co	Fe	Mg	N	Na	W	a-phase*	a-phase**	amorph.*	amorph.**	b-phase	b-phase*	b-phase**
(a)	0.0469	(0.162)	0.00141	0.00435	0.00795	0.00043	38.1	0.000759	0.00413					(7.43)		
(b)										87.5	16.3	9.5	8.6		3.0	75.1

Vanadium pentoxide

NCS HC26612	(a)	CRM	Vanadium pentoxide	50 g
SARM 38	(b)	CRM	Vanadium pentoxide	100 g
VS-P30	(c)	CRM	Vanadium pentoxide	100 g

	As	C	CaO	Fe	Fe2O3	K	K2O	MgO	MnO	Na	Na2O	P	P2O5	S	Si	SiO2	TiO2
(a)				0.16			0.15				1.11	0.027		0.014	0.17		
(b)	(0.001)		(0.019)		0.119		0.06	0.0037			0.22		(0.008)	(0.0045)		0.11	
(c)		0.007	0.88	0.51		0.053			2.58	0.032		0.0064		0.0072		0.43	0.21

	V	V2O5
(a)		98.09
(b)	55.84	95.52
(c)		94.3

Zeolite

CGL-USZ49-2009	(a)	CRM	Zeolite, spiked - MGL-ZEO-S (CGL 010)	70 g

	Al2O3	As (ppm)	Ba (ppm)	CaO	Ce (ppm)	Co (ppm)	Cr (ppm)	Cs (ppm)	Cu (ppm)	Fe2O3(T)	Ga (ppm)	K2O	LOI	La (ppm)	MgO	MnO	Na2O
(a)	12.98	60.5	371	1.34	74.8	20.3	12.7	4.73	79.3	1.27	13.8	3.19	8.80	37.2	0.573	0.033	3.44

	Nb (ppm)	Nd (ppm)	Ni (ppm)	P2O5	Pb (ppm)	Rb (ppm)	Sc (ppm)	SiO2	Sr (ppm)	TiO2	U (ppm)	V (ppm)	Y (ppm)	Zn (ppm)	Zr (ppm)
(a)	14.1	27.3	14.6	0.032	84.2	106	3.27	67.64	635	0.158	3.09	42.3	18.6	79.3	177

Code		Product											Unit
Yttrium oxide													
NCS DC93001	(a)	CRM	Yttrium oxide										10 g
NCS DC93002	(b)	CRM	Yttrium oxide										10 g
		Er2O3	**Eu2O3**	**Gd2O3**	**Ho2O3**	**La2O3**	**Lu2O3**	**Nd2O3**	**Pr6O11**	**Sm2O3**	**Tb4O7**	**Tm2O3**	**Yb2O3**
	(a)		0.000248	0.000215	0.000231	0.001754	0.000202	0.000244	0.000212	0.000216	0.000205	0.000203	0.000221
	(b)	0.002162	0.00226	0.002122	0.002125	0.000288	0.002017	0.002152	0.001884	0.002107	0.002085	0.002034	0.002104

Auto catalysts						
NIST-2556	(a)	CRM	Used auto catalyst - recycled pellet			70 g
NIST-2557	(b)	CRM	Used auto catalyst - recycled monolith			70 g
ERM-EB503A	(c)	CRM	Pt, and Pd in unused automobile catalyst - powder			100 g
ERM-EB504	(d)	CRM	Pt, Pd and Rh in used automobile catalyst - powder			250 g
		Pb (ppm)	**Pd (ppm)**	**Pt (ppm)**	**Rh (ppm)**	
	(a)	6228	326.0	697.4	51.2	
	(b)	1131	233.2	1131	135.1	
	(c)		2780	1880		
	(d)		279	1777	338	

Ceramics																
SARM 69	(a)	CRM	Ceramic - 1													100 g
		Al2O3	**Ba (ppm)**	**CaO**	**Co (ppm)**	**Cr (ppm)**	**Cu (ppm)**	**Fe (tot)**	**K2O**	**MgO**	**MnO**	**Ni (ppm)**	**Sc (ppm)**	**SiO2**	**TiO2**	**Zn (ppm)**
	(a)	14.4	518	2.37	28	223	46	7.18	1.96	1.85	0.129	53	20	66.6	0.777	68

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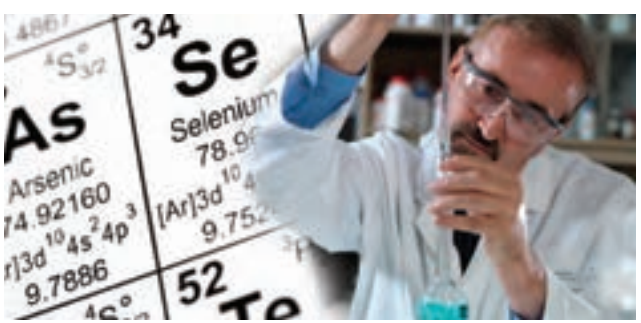
The A+ line is the foundation for our extensive offering of single-element, multi-element, and custom blended inorganic standards that are ideally suited for analysis by ICP, ICP-MS, AA, IC, and XRF.



Applications

Our standards are found in many different types of labs around the world, including those engaged in:

- Industrial and manufacturing QC
- Chemical production
- Power production
- Pharmaceutical
- Environmental
- Government
- Agriculture
- University research
- Cosmetics
- Food

Additional inorganic standards

- Atomic absorption
- Ion chromatography
- Speciation
- Isotopic
- Wet chemistry
- QC check samples for water
- Environmental
- Stock multis
- Tuning solutions
- Internal standards
- Method specific

Instrumentation supplies and consumables

We carry most supplies and consumables for the instrumentation above in an effort to offer you single-source shopping.

Ask about our ICP-MS Maintenance Kit, the best tool for cleaning ICP-MS cones and lenses.

ISO Certifications

Our combined accreditation to ISO 9001, ISO/IEC 17025 and ISO Guide 34 offers our customers the assurance that our certified reference materials are manufactured and tested to the fullest extent by a company firmly committed to quality at all levels.

 3391/LB/1112

LGC Standards

Excellence through measurement

Petroleum calibration standards & reference materials from LGC Standards

Our VHG range offers the most comprehensive selection of petroleum standards in the industry. Our petroleum standards are suitable for analysis by ICP, ICP-MS, AA, RDE, and XRF.

Common applications for our single-element, multi-element, and custom- blended products include:

- Used oil analysis for predictive engine failure analysis
- QC analysis of motor oils and additives formulations
- Crude and refined oils
- Environmental analysis of waste oils
- Sulfur in fuels
- Food oils
- Coolants

Wear metals testing

Our V21 and V23 multi-element products have been developed to help those testing lubricants and other machine oils avoid expensive damage and downtime to engines.

Other popular petroleum standards

- Acid number
- Base number
- Fuel dilution
- Moisture (water in oil)
- Sulfur in petroleum products
- Viscosity
- Physical tests (CP, CFPP, FP, PP)

Matrix oils and solvents

We offer a variety of solvents for the preparation of working standards for hydrocarbon/petrochemical analysis.

For ICP or ICP-MS, V-Solv™ - our high purity, low odor, low toxicity solvent - is perfect for use as a matrix blank or as a diluent for calibration standards and samples.

Instrumentation supplies and consumables

We carry most supplies and consumables for the instrumentation above in an effort to offer you single-source shopping.

Quality

We start with the highest purity elements, compounds, and solvents available. We adhere to stringent manufacturing procedures. All of our standards undergo rigorous QC testing, and are shipped with a comprehensive Certificate of Analysis (CoA).

ISO certifications

VHG Labs is now part of LGC Standards and holds accreditation to ISO 9001, ISO/IEC 17025 and ISO Guide 34, offering our customers the assurance that our certified reference materials are manufactured and tested to the fullest extent by a company firmly committed to quality at all levels.

3391/LB/1112

Magnesite

Code	Product			Unit
DH-SX42-09	(a)	RM	Magnesite	100 g
BAS-BCS-CRM 389/1	(b)	CRM	High Purity Magnesia	100 g
BAS-BCS-CRM 319/1	(c)	CRM	Magnesia	100 g
CERAM-AN37	(d)	RM	Magnesite	100 g
CERAM-AN36	(e)	RM	Magnesite	100 g
DH-SX42-07	(f)	RM	Magnesite	100 g
ECRM-F 778-1	(g)	CRM	High carbon magnesia - powder	100 g

	Al2O3	B2O3	C (tot)	CO2	CaO	Cr2O3	Fe2O3	K2O	MgO	Mn3O4	MnO	Na2O	P2O5	SO3	SiO2	TiO2	V2O5
(a)	0.098		0.031	0.13	0.866	0.016	0.515		98.03	0.107			0.027	0.012	0.222	0.007	0.003
(b)	0.104				0.88		0.607		97.89		0.1		0.0295		0.274	0.0052	
(c)					3	0.0035	0.291		95.38		0.108				1.093	0.0070	
(d)	1.06	0.11			1.46	0.005	1.8	<0.01	94	0.12		<0.05	0.016		1.39	0.03	
(e)	0.42	0.11			0.94	0.004	4.66	<0.01	93.2	0.11		<0.05	0.008		0.48	0.01	
(f)	2.39		0.539	0.54	2.23	0.036	1.49	0.072	83.65	0.074		0.385	0.087	0.037	7.73	0.149	
(g)	0.56				1.23	0.15	0.96		81.02		0.014		(0.009)		1.05	(0.013)	

	ZnO	ZrO2
(a)	0.003	
(f)		0.011

DH-SX42-03	(a)	RM	Magnesite	100 g
DH-SX42-08	(b)	RM	Magnesite	100 g
CGL-USZ37-2003	(c)	CRM	Magnesite - GM (CGL 005)	100 g
UN MK	(d)	CRM	Magnesite	100 g
SARM 43	(e)	CRM	Magnesite	100 g
CERAM-AN43	(f)	RM	Magnesite	100 g
ECRM-D 779-1	(g)	CRM	Magnesite	100 g

	Al	Al2O3	B	B2O3	Ba	C	C (tot)	CO2	Ca	CaO	Ce	Co	Cr	Cr2O3	Cu	Fe	Fe2O3
(a)		1.27					0.396	0.104		1.29				0.119		2.75	
(b)		41.66				0.353		0.58		2.06				0.04		1.49	
(c)		0.04						48.31		1.69						0.05	
(d)		0.414								0.581							
(e)		(0.06)			(0.0025)					0.89	(0.002)	0.0004	(0.0195)		(0.0015)	0.26	
(f)				0.005													
(g)	0.105		0.0116						1.691				(0.003)			3.73	

Magnesite

Code	Product																Unit
		FeO	**K**	**K2O**	**L.O.I.**	**Mg**	**MgO**	**Mn**	**Mn3O4**	**MnO**	**Na**	**Na2O**	**Ni**	**P**	**P2O5**	**S**	**SO3**	**Si**	
	(a)			0.019			76.81		0.090			0.375			0.059		0.070		
	(b)			0.037			47.83		0.070						0.077	0.007			
	(c)			0.011	51.35		45.8												
	(d)			0.013			45.22			0.16		0.024			0.055				
	(e)	(0.1)		(0.04)			44.11			(0.1)		(0.05)	0.0252		(0.02)				
	(f)			0.06															
	(g)		(0.002)			(54.57)		0.503			(0.0058)			0.0267			0.182		
		SiO2	**Sr**	**Ti**	**TiO2**	**V2O5**	**Zn**	**ZnO**	**ZrO2**										
	(a)	15.94			0.054														
	(b)	5.09			0.066	0.001		0.006	0.091										
	(c)	0.25																	
	(d)	0.593			0.019														
	(e)	5.99	0.0008		(0.01)		(0.0010)												
	(g)			0.0081															
BAM-RS 6A	(a)	CRM	Magnesium oxide 100 - 350µm particle size																100 g
BAM-RS 6B	(b)	CRM	Magnesium oxide 50 - 100µm particle size																100 g
		Al	**Ba**	**C**	**Ca**	**Co**	**Cr**	**Cu**	**Fe**	**Mg**	**Mn**	**Mo**	**Ni**	**Pb**	**Sr**	**Ti**	**V**	**Zn**	
	(a)		(0.001)	(0.005)	0.0994	(0.0005)	0.00092	(0.0006)	0.0072	60.19	0.00054	(0.001)	0.00039	(0.0005)	0.0002	0.00013	0.00084	(0.0006)	
	(b)	0.0049	(0.002)	(0.021)	0.0956	(0.0005)	0.00081	(0.0006)	0.0071	60.17	0.00052	(0.001)	0.00033	(0.0005)	0.00021	0.00012	0.00078	(0.0006)	
		Zr																	
	(a)	(0.002)																	
	(b)	(0.0105)																	

Chrome Magnesite

Code	Product			Unit
NIM-GBW07201	(a)	CRM	Chromite V	200 g
NIM-GBW07202	(b)	CRM	Chromite V	200 g
N 97	(c)	CRM	Chrome magnesite	75 g
N 96	(d)	CRM	Chrome magnesite	75 g
N 8-4-01	(e)	CRM	Chrome magnesite	75 g
BAS-BCS-CRM 369	(f)	CRM	Chrome magnesite	100 g

	Al2O3	CaO	Cr2O3	Fe2O3	K2O	Li2O	MgO	Mn3O4	MnO	Na2O	SiO2	TiO2
(a)	12.2	0.36	49.44	(1.84)	0.11		15.66		0.28			
(b)	13.37	0.66	48.97	(3.86)	0.01		16.95		0.12			
(c)	16.12	0.52	22.37	11.90			46.98				2.71	
(d)	12.92	1.59	22.37	11.9			46.98				4.05	
(e)	6.08	1.56	28.51	11.58			48				2.93	
(f)		1.17	17.2	10.3	0.03	0.03	53.5	0.14	0.11	0.05	2.59	0.14

VS-K5	(a)	CRM	Chrome magnesite	100 g
BAS-BCS-CRM 370	(b)	CRM	Chrome magnesite	100 g
N 95	(c)	CRM	Chrome magnesite	75 g
BAS-BCS-CRM 396	(d)	CRM	Chrome magnesite, low silica	100 g
N 8-4-02	(e)	CRM	Chrome magnesite	75 g

	Al2O3	B	CaO	Cr2O3	Fe2O3	K2O	Li2O	MgO	Mn3O4	MnO	Na2O	SiO2	TiO2
(a)	4.28		1.15	22.6	8.47			54.8					
(b)	12.3		1.54	13.4	7.23	0.03	0.03	61.8	0.270	0.11	0.06	3.01	0.13
(c)	16.12		0.52	40	14.73			21.26					
(d)	5.73	0.09	1.12	15.6	10.9	(0.03)	(0.05)	64.6	0.172	0.17	(0.06)	1.37	0.26
(e)	2.21		2.45	5.56	8.72			76.2				2.93	

Microanalytical Reference Materials

Mounted

Code	Product			Unit
UG-BCR-2G	(a)	CRM	Basalt glass in epoxy mount	Each
UG-BHVO-2G	(b)	CRM	Basalt glass in epoxy mount	Each
UG-BIR-1G	(c)	CRM	Basalt glass in epoxy mount	Each
UG-GSC-1G	(d)	CRM	Synthetic basalt glass in epoxy mount	Each
UG-GSE-1G	(e)	CRM	Synthetic basalt glass in epoxy mount	Each
UG-TB-1G	(f)	CRM	Basalt glass in epoxy mount	Each

	Al	Al2O3	As (ppm)	B	Ba	Be (ppm)	Ca	CaO	Ce	Cl	Co	Cr	Cs (ppm)	Cu	Dy (ppm)	Eu (ppm)	F
(a)	7.14	13.5			0.0683		5.09	7.12	0.0053		0.0037	0.0018	(1.1)	(0.0019)		2	(0.044)
(b)	7.16	13.5			0.013		8.17	11.4	0.0038		0.0045	0.028		0.0127		(0.037)	
(c)		15.5	(0.44)	(0.000033)	(0.0006)	(0.58)		13.3	0.0002	(0.0026)	0.0052	0.037		0.0125	4	0.55	(0.0044)

	Fe (tot)	Fe2O3	FeO	Ga	Gd	Gd (ppm)	Hf	Hf (ppm)	Ho	Ho (ppm)	K	K2O	La	Li	Lu	Lu (ppm)	Mg
(a)	9.65	13.8		0.0023	0.00068		(0.00048)			(1.33)	1.49	1.79	0.0025	(0.0009)		(0.51)	2.16
(b)	8.63	12.3		0.00217	(0.00063)		0.00041		(0.000104)		0.43	0.52	0.0015	(0.0005)	(0.000028)	4.36	
(c)	11.3	2.06	8.34	(0.0016)		2		0.6				0.03	0.000063	0.00036		(0.3)	

	MgO	Mn	MnO	Mo	Na	Na2O	Nb	Nd	Ni	P	P2O5	Pb	Pr	Rb	Sb (ppm)	Sc	Si
(a)	3.59	0.152		0.0248	2.34	3.16		0.0028		0.15	0.35	(0.0011)	(0.00068)	0.0048		0.0033	25.3
(b)	7.23	0.129			1.64	2.22	(0.0018)	0.0025	0.0119	0.12	0.27			0.00098		0.0032	23.3
(c)	9.7		0.175			1.82	(0.00006)	0.00025	0.017		0.021	(0.0003)			(0.58)	0.0044	

	SiO2	Sm	Sm (ppm)	Sn	Sr	Ta	Tb	Tb (ppm)	Th	Ti	TiO2	Tm (ppm)	U (ppm)	V	Y	Yb	Yb (ppm)
(a)	54.1	(0.00067)			0.0346			(1.07)	0.00062	1.35	2.26	(0.54)	1.69	0.0416	0.0037	0.00035	
(b)	49.9	(0.00062)		(0.00019)	0.0389	(0.00014)	(0.00009)		(0.00012)	1.63	2.73			0.0317	0.0026	(0.002)	
(c)	47.96		(1.1)		0.011						0.96			0.031	0.0016	1.7	

	Zn	Zr
(a)	0.0127	0.0188
(b)	0.0103	0.0172
(c)	0.007	0.0018

Code	Product		Unit
Pressed powders			
UG-MACS-3	(a)	Synthetic Calcium Carbonate, pressed pellet	Each
UG-MASS-1	(b)	Synthetic Polymetal Sulfide, pressed pellet	Each

Accessories for Laser Ablation		
UG-CM-V1	Cetac Laser Ablation system sample mount	Each
UG-NWM-V1	New Wave Laser Ablation system sample mount	Each
UG-RMKIT-1	MRM Starter Kit	set
UG-SH-V1	Sample holder for epoxy mounts	Each

Ores

Antimony Ore

Code	Product			Unit
CAN-CD-1	(a)	CRM	Antimony Ore	200 g
NCS DC70012	(b)	CRM	Antimony ore - Constituents (NIM-GBW07279)	50 g
NCS DC70013	(c)	CRM	Antimony ore - Constituents (NIM-GBW07280)	50 g

	Al2O3	C	Ca	CaO	Cu	F	Fe	Fe (tot)*	H2O	K	K2O	Mg	MnO	Na	Na2O	P	Pb
(a)		(0.2)	(1.4)		(0.01)		(2.8)		(0.2)	(1.8)		(0.6)		(0.1)		(0.02)	
(b)	9.69			0.18		0.064		2.91			2.7	0.75	0.046		0.08	(0.035)	
(c)					0.12											0.037	

	S	Sb	Si	SiO2	TiO2
(a)	(3.1)	3.57	(32.9)		
(b)	2.25	6.26		71.03	0.44
(c)	1.02	1.81			

Arsenic Ore

NCS DC70010	(a)	CRM	Arsenic ore - Constituents (NIM-GBW07277)	50 g
NCS DC70011	(b)	CRM	Arsenic ore - Constituents (NIM-GBW07278)	50 g

	As	CaO	Cu	F	Fe (tot)*	K2O	Mg	MnO	Na2O	P	Pb	S	Sb	SiO2	TiO2	Zn
(a)	9.33	27.56	0.014	0.029	1.24	0.51	8.59	0.06	0.32	(0.022)	0.016	4.6	0.037	13.74	0.096	0.033
(b)	5.35										0.01	2.81	0.016			0.023

Borate Ore

				Unit
NIST-1835	(a)	CRM	Borate ore - Constituents	60 g

	B2O3	BaO	CaO	F	Fe2O3	K2O	MgO	MnO	Na2O	SO3	SiO2	SrO	TiO2
(a)	18.739	0.0497	21.622	0.348	1.141	1.261	3.411	0.0333	3.484	1.477	18.408	0.9418	0.1332

Code		Product		Unit
Chrome Ore				
CGL-USZ36-2002	(a)	CRM	Chromium ore - HHH (CGL 119)	200 g
IGS-30	(b)	CRM	Chromite	55 g
CRPG-CHR-BKG	(c)	CRM	Chromitite	30 g
CRPG-CHR-PT+	(d)	CRM	Chromitite	30 g

	Al2O3	As	Au (ppm)	Au(ppm)	CO2	CaO	Co	Cr	Cr2O3	Cu	Fe	Fe2O3	Fe2O3(T)	H2O-	Ir (ppm)	LOI	MgO
(a)	8.24			0.03	0.47	0.24	0.01		54.37			14.73		0.11		1.07	16.09
(b)								23.95			11.21					(16.62)	
(c)	12.91		0.028			0.07	0.0167	19.80	29.05	0.0052			13.87		0.02	(5.25)	23.47
(d)	7.43	0.0436	4.3			0.23	0.0177	13.91	20.33	0.0380			13.41		6.2	(9.08)	27.97

	MnO	Ni	Os (ppm)	P2O5	Pd (ppm)	Pt (ppm)	Rh (ppm)	Ru (ppm)	SO3	SiO2	Ti	TiO2	V	Zn
(a)	0.15	0.09		0.02					0.07	4.73		0.11	0.04	0.023
(b)											0.14			
(c)	0.14	0.2006	0.02		0.07	0.05	0.009	0.067		15.27		0.14		0.0205
(d)	0.15	0.5862	1.9		80.8	58	4.7	9.2		21.75		0.07		0.0192

Copper Ore				
VS-2891-84	(a)	CRM	Copper Concentrate	50 g
CGL-USZ6-88	(b)	CRM	Copper concentrate - CuB (CGL 203)	100 g
CAN-CCU-1D	(c)	CRM	Copper Concentrate	200 g
NCS DC29109	(d)	CRM	Copper Ore	50 g
GSJ-JCU-1	(e)	CRM	Cu mineral - Constituents	100 g
IM MR3	(f)	CRM	Copper Ore	200 g
IM MR2	(g)	CRM	Copper Ore	200 g
IM MR1	(h)	CRM	Copper Ore	200 g
NCS DC29108	(i)	CRM	Copper Ore	50 g
CGL-USZ3-85	(j)	CRM	Copper-molybdenum ore - CuMo (CGL 103)	100 g

	Ag	Al	Al2O3	As	Au	Ba	Bi	C	Ca	CaO	Cd	Ce	Cl	Co	Cr	Cs	Cu
(a)	0.07077										0.029					40.4	
(b)	0.0066															32	
(c)	0.01207	0.191		(0.0545)	0.001401	(0.001241)	(0.0003)	(0.088)	0.195		0.02459	(0.0002)	(0.006)	0.033	(0.0006)	(0.000008)	23.95
(d)	0.00599		(3.83)	0.046						(20.66)	0.000568					3.84	
(e)			0.29	(0.0173)		(0.00035)		(3.06 tot)			(0.00036)			(0.0324)	(0.001)	3.73	
(f)	0.0044		(4.4)	0.0057						(13)						1.87	
(g)	0.0029		(4.9)	0.013						(25)						1.61	
(h)	0.0058		(4.7)	0.028						(3.8)						1.23	
(i)	0.00149		(4.57)	0.00766						(28.88)						0.9	
(j)	0.00025		16.35	0.0189		0.0893				0.29		0.0045		0.0013	0.0021	0.00023	0.817

Ores

Code	Product																Unit
		F	**Fe**	**Fe (tot)***	**Fe2O3**	**FeO**	**H2O**	**H2O+**	**H2O-**	**Hg (ppm)**	**In**	**K**	**K2O**	**La**	**Li**	**Mg**	**MgO**	**Mn**	
	(a)		(5.78)																
	(b)					19.8													
	(c)	(0.02)	29.26				(2.03)			(7)	(0.0007)	(0.0316)		(0.0003)		0.508	0.00994		
	(d)			(24.33)				(1.13)	(0.45)	(0.043)			(0.48)				(1.76)		
	(e)			17.5				(1)	(0.54)				0.015		(0.00029)		2.13		
	(f)		1.1														(5.3)		
	(g)		0.88														(8.2)		
	(h)		1.41														(9.6)		
	(i)			(21.21)				(0.87)	(0.05)	(0.028)			(0.45)				(1.73)		
	(j)				3.95								3.68				0.71		
		MnO	**Mo**	**Na2O**	**Ni**	**P2O5**	**Pb**	**Rb**	**Re**	**S**	**S (tot)**	**Sb**	**Se**	**SiO2**	**Sr**	**Te**	**Ti**	**TiO2**	
	(a)						2.25		0.00282	(15.98)				(21.74)					
	(b)		0.14				0.014			33.94			0.0077			0.0008			
	(c)		(0.00181)		(0.00076)		0.262			32.76		0.00619	(0.0244)	3.036	(0.00049)	(0.00367)	(0.0066)		
	(d)	(0.485)		(0.01)		(0.094)	0.024			(8.58)		0.0071		(32.76)			(0.21)		
	(e)	0.59		0.052	(0.0425)	(0.005)	(0.0004)	(0.00019)		(7.00 tot)		(0.00038)		(28.68)	(0.0075)		0.013		
	(f)						0.16							(49)					
	(g)						0.085							(22)					
	(h)						0.15							(60)					
	(i)	(0.399)		(0.06)		(0.046)	0.008			(1.65)		0.00117		(36.18)			(0.18)		
	(j)	0.02	0.017	1.59				0.0081			2.09	0.0024		67.02	0.0172		0.47		
		Tl	**V**	**Zn**															
	(a)			2.89															
	(b)			0.15															
	(c)	(0.000263)		2.63															
	(d)			0.083															
	(e)		(0.0009)	0.0679															
	(f)			0.047															
	(g)			0.025															
	(h)			0.04															
	(i)			0.02															
	(j)			0.0097															

Code	Product			Unit
NCS DC29107	(a)	CRM	Copper Ore	50 g
CGL-USZ4-85	(b)	CRM	Tailings of copper-molybdenum ore floatation - CuMoH (CGL 201)	100 g
NIST-331A	(c)	CRM	Copper ore mill tails - Copper, molybdenum and rhenium	40 g
NCS DC28054	(d)	CRM	Copper ore	50 g
NCS DC28055	(e)	CRM	Copper ore	50 g
NCS DC28056	(f)	CRM	Copper ore	50 g
NCS DC28057	(g)	CRM	Copper concentrate	20 g
NCS DC28058	(h)	CRM	Copper concentrate	20 g
NCS DC28059	(i)	CRM	Copper concentrate	20 g

	Ag (ppm)	Ag(g/t)	Al	Al2O3	As	Au (g/t)	Au(g/t)	Ba	Bi	C	Ca	CaO	Cd	Ce	Co	Cr	Cs
(a)	6.1			(5.86)	0.00414							(27.25)					
(b)																	
(c)			(7.92)			(0.121)		0.0259		(0.0565)	(1.552)		(0.00001)	(0.00096)	0.00126	0.00139	(0.0001)
(d)		126.1			0.209		0.05		0.283				0.0021				
(e)		85.9			4.68		0.04		0.023				0.0067				
(f)		109.9			2.14		0.05		0.19				0.0064				
(g)		12.0			0.034		6.16						(0.001)				
(h)		17.1			0.012		4.68						(0.001)				
(i)		14.8			0.020		5.10						(0.001)				

	Cu	F	Fe	Fe (tot)*	Ga	H2O+	H2O-	Hg	Hg (ppm)	K	K2O	La	Li	Mg	MgO	Mn	MnO
(a)	0.29			(7.36)		(0.92)	(0.22)	(0.000015)			(1.65)				(1.58)	(0.36)	
(b)	0.115			3.9													
(c)	0.0789		(4.207)		(0.00163)				0.00184	(0.967)		(0.0004)	(0.0003)	(1.623)		0.0497	
(d)	6.78	1.15	15.39												12.51	0.124	
(e)	12.79	0.028	3.22												0.18	0.110	
(f)	8.46	0.53	10.44												7.04	0.169	
(g)	10.71	0.036	29.34												4.01	0.084	
(h)	20.56	0.056	24.70												7.63	0.013	
(i)	16.60	0.052	26.39												5.81	0.044	

	Mo	Na	Na2O	Ni	P	P2O5	Pb	Rb	S	S (tot)	Sb	Sc	SiO2	Sr	Ti	TiO2	V
(a)			(0.44)			(0.07)	0.00345		(0.68)		0.00234		(46.48)			(0.318)	
(b)	0.007									2.03							
(c)	(0.00032)	(3.15)		(0.00081)	(0.055)		(0.0006)	(0.0025)	(0.087)			(0.00114)		0.02528	(0.228)	(0.0121)	
(d)				(0.005)			0.106		0.082								
(e)				0.017			0.037		1.54		0.25						
(f)				0.011			0.087		0.86		0.22						
(g)				0.072			0.019		25.05								
(h)				0.093			0.015		22.87								
(i)				0.082			0.017		23.92								

Code	Product			Unit
		Y	**Zn**	
	(a)		0.01	
	(c)	(0.0008)	0.00718	
	(d)		0.456	
	(e)		0.64	
	(f)		0.503	
	(g)		0.052	
	(h)		0.194	
	(i)		0.131	

Code		Product		Unit
Gold Ore				
CGL-USZ29-2000	(a)	CRM	Gold ore - B-7/1 (CGL 114)	250 g
CAN-DS-1	(b)	CRM	Gold ore - Trace elements	unit
CGL-USZ38-2005	(c)	CRM	Gold-bearing complex ore - AHMH-1 (CGL 120)	250 g
NCS DC29103	(d)	CRM	Gold ore	500 g
CAN-MA-1B	(e)	CRM	Gold Ore	200 g
CGL-USZ39-2005	(f)	CRM	Gold-bearing complex ore - AHMH-2 (CGL 121)	250 g
CGL-USZ23-98	(g)	CRM	Tailings of gold ore processing - TsBH Au (CGL 205)	250 g
CGL-USZ20-98	(h)	CRM	Gold-quartz ore (CGL 109)	250 g
CAN-MA-3A	(i)	CRM	Gold Ore	200 g

	Ag	**Al**	**Al2O3**	**As**	**Au**	**Ba**	**Be (ppm)**	**Bi**	**C**	**Ca**	**CaO**	**Cd**	**Ce**	**Co**	**Cr**	**Cs**	**Cu**
(a)	0.000605				0.004226												
(b)	0.000047	4.48		0.696	0.003259	0.0221	(0.819)	(0.00001)	(3.126)	(6.248)		(0.000098)	(0.004)	0.00095	(0.0059)	(0.0007)	0.00271
(c)			2.03		0.003128	0.02					0.56					0.43	
(d)	0.0018		(9.21)		0.002						(2.82)					0.12	
(e)	(0.0004)				0.0017												
(f)	0.004933				0.001092												
(g)	0.002148				0.001072												
(h)	0.000305		1.7		0.001005						0.77						
(i)	(0.00024)				0.000856												

	Eu	**Fe**	**Fe (tot)***	**Fe2O3**	**Ga**	**H2O+**	**H2O-**	**Hf**	**Hg**	**In**	**K**	**K2O**	**La**	**Li**	**Mg**	**MgO**	**Mn**
(b)	(0.0001)	(3)			(0.001)			(0.0004)	0.0082	(0.00005)	(1.1)		(0.002)	(0.002)	2.76	0.0437	
(c)				14.71								0.64				1.01	
(d)			(6.36)			(0.52)	(0.03)					(2.79)				(2.1)	
(h)				1.92								0.37					

	MnO	**Mo**	**Na2O**	**Ni**	**P**	**P2O5**	**Pb**	**S**	**Sb**	**Si**	**SiO2**	**Sr**	**TiO2**	**Tl**	**V**	**W**	**Zn**
(b)				0.00487	0.034		0.00138	(2.609)	(0.0107)	(25.68)				0.002	(0.01471)	0.0206	
(c)	0.03	0.11	0.17	0.002827		0.05					77.37	0.008871	0.15		0.003933	0.01	0.006529
(d)	(0.142)		(1.58)			(0.088)	0.61	(1.57)			(68.6)		(0.4)			0.1	
(h)	0.025		0.07			0.037					92.57		0.08				

Ores

Code	Product			Unit
CGL-USZ40-2005	(a)	CRM	Gold-bearing complex ore - AHMH-3 (CGL 122)	250 g
CGL-USZ30-2000	(b)	CRM	Gold ore - B7/2 (CGL 115)	250 g
NCS DC29102	(c)	CRM	Gold ore	500 g
CGL-USZ31-2000	(d)	CRM	Gold ore - B7/3 (CGL 116)	250 g
CAN-MA-2C	(e)	CRM	Gold Ore	400 g
UN AUM	(f)	CRM	Gold Ore	200 g
CGL-USZ21-98	(g)	CRM	Gold ore - ZB2 (CGL 110)	250 g
CGL-USZ41-2006	(h)	CRM	Gold-copper ore - OTH (CGL 123)	100 g
CAN-CH-4	(i)	CRM	Gold Ore	200 g

	Ag	Al	Al2O3	As	Au	Ba	BaO	C	Ca	CaO	Cd	Co	Cr	Cu	Fe	Fe (tot)'	Fe2O3
(a)	0.002706				0.000738												
(b)	0.000118				0.000592												
(c)	0.00374		(5.53)		0.00043					(1.61)				0.3		(5.5)	
(d)	0.000107				0.000328												
(e)	(0.000051)				0.000302												
(f)			14.06	0.08765	0.00025		0.066			4.09			0.0047	0.00359		5.55	
(g)					0.000106												
(h)			14.58		0.000091	0.0249				3.14		0.00243	0.00993	0.75			
(i)		7.73		0.00088	0.000088	(0.0425)		0.12	1.96		0.000114	0.0026	0.0114	0.2	5.42		

	Ga	H2O+	H2O-	K	K2O	Mg	MgO	Mn	MnO	Mo	Na	Na2O	Ni	P	P2O5	Pb	S
(c)		(0.45)	(0.10)		(1.68)		(1.32)		(0.098)			(1.04)			(0.058)	1.61	(2.35)
(f)	0.00129				1.92		1.81		0.082			3.08					
(h)					2.81		5.52		0.12	0.00518		2.36	0.00254		0.27	0.0027	
(i)				1.81		1.43		0.043			3.26		0.0051	0.061		0.63	

	SO3	Sb	Se	SiO2	Sr	Ti	TiO2	V	Y	Zn	Zr
(c)				(76.87)			(0.28)			0.22	
(f)				66.15	0.01877		0.39	0.00964	0.00142		0.0081
(h)	3.87			52.09	0.0259		0.93	0.0335		0.0136	0.00783
(i)		0.77	0.00021	63.1	(0.0209)	0.31				0.02	

Code	Product			Unit
UG-DGPM-1	(a)	CRM	Disseminated Gold Ore	30 g
NCS DC29101	(b)	CRM	Gold ore	500 g
CGL-USZ34-2002	(c)	CRM	Epithermal gold - EAu-1 (CGL 117)	250 g
NCS DC93006	(d)	CRM	Gold Ore	1000 g
CGL-USZ35-2002	(e)	CRM	Epithermal gold - EAu-2 (CGL 118)	250 g
NCS DC93007	(f)	CRM	Gold Ore	750 g
CAN-GTS-2A	(g)	CRM	Gold Tailings	400 g
NCS DC93008	(h)	CRM	Gold Ore	500 g
NCS DC93009	(i)	CRM	Gold Ore	500 g
NIST-886	(j)	CRM	Gold ore, refractory - Trace elements	200 g

	Ag (g/t)	Al	Al2O3	As	Au (g/t)	Ba	C	Ca	CaO	Cd	Co	Cr	Cu	Fe	Fe (tot)*	Fe2O3	H2O+
(a)			9.56	0.018	0.73				(0.22)							1.92	
(b)			(16.7)		0.64				(0.98)						(3.05)	(0.49)	
(c)	1.7		4.79	0.12	0.79				2.53				0.001484		2.18		
(d)	43.4				57.2												
(e)	1.25				0.57												
(f)	26.2				37.3												
(g)	(0.64)	6.96		0.0124	2.72	0.0186	2.011	4.01		(0.000058)	0.00221	(0.027)	0.00886	7.56			
(h)	63.1				20.9												
(i)	7.8				2.5												
(j)	8.25																

	H2O-	K	K2O	Mg	MgO	Mn	MnO	Na	Na2O	Ni	P	P2O5	Pb	S	Sb	Si	SiO2
(a)			2.74		(0.56)										0.0014	79.82	
(b)	(0.08)		(0.28)		(0.06)		(0.015)		(10.12)			(0.099)		(1.88)		(64.42)	
(c)	0.10		1.48		0.37		0.017		0.055			0.125	0.002		0.14	84.7	
(g)		2.021		2.412		0.151		0.617		0.00771	0.0892			0.348	(0.000133)	23.65	
(j)														1.466			

	Sr	Th	Ti	TiO2	W	Zn
(a)					(0.0076)	
(b)				(0.72)		
(c)				0.17		0.0025
(g)	0.00928	0.0001244	(0.00005)			0.0208

Ores

Graphite Ore

Code			Product	Unit
NCS DC60119	(a)	CRM	Graphite ore - Constituents (NIM-GBW03118)	50 g
NCS DC60120	(b)	CRM	Graphite ore - Constituents (NIM-GBW03119)	50 g
NCS DC60121	(c)	CRM	Graphite ore - Constituents (NIM-GBW03120)	50 g

	% Ash	% Vol.	Al2O3	CO2	CaO	Co	Fe2O3	H2O+	K2O	MgO	MnO	Na2O	P2O5	S	SiO2	TiO2
(a)			12.93	3.60	9.37	2.91	6.73	2.60	2.54	6.10	0.084	1.60	0.13	1.18	49.84	0.57
(b)			13.03	0.67	5.34	9.91	6.99	2.80	2.17	5.35	0.054	1.56	0.14	2.59	49.34	0.64
(c)	20.78	2.72	5.60	0.28	0.74	76.50	1.48	1.98	0.99	0.50	0.022	0.23	0.16	0.14	10.34	0.55

Iron Ore

Code			Product	Unit
VS-P21/2	(a)	CRM	Iron Powder	100 g
VS-P16/3	(b)	CRM	Iron Powder	100 g
ECRM-F 685-1	(c)	CRM	Prereduced iron ore - powder	100 g
NIST-691	(d)	CRM	Iron ore, reduced - Constituents	100 g
NCS DC28029	(e)	CRM	Iron Ore	100 g
NCS DC16002	(f)	CRM	Iron concentrate	100 g

	Al	Al2O3	As	C	C (tot)	Ca	CaO	Cd	Co	Cr	Cu	Fe	Fe (tot)	FeO	Ins.res.	K	K2O
(a)				0.0085								99.1			0.146		
(b)				0.108								98.2			0.155		
(c)	0.3197			1.487		0.1395			0.0133			91.103				0.0418	
(d)		1.22	(0.0014)		0.12		0.63	(0.0005)	0.03	(0.03)	0.032		90.8			(0.06)	
(e)		0.095	0.00012				0.025		0.0008	0.0062	0.0007			28.63		0.0068	
(f)		0.069										71.79		28.69			

	Mg	MgO	Mn	MnO	Mo	N	Na	Na2O	Ni	O2	P	Pb	S	Si	SiO2	Sn	Ti
(a)			0.329							0.344	0.0098		0.0143	0.060			
(b)			0.038							1.15	0.0110		0.0198	0.073			
(c)	0.2394		0.0415				0.0773		0.0175		0.017		0.0031	0.795		0.2199	
(d)		0.52		0.043	(0.002)	(0.005)		0.186	(0.3)		0.006	(0.002)	0.008		3.7	(0.001)	
(e)		0.042	0.043					0.0008	0.0022		0.0013	0.0002	0.0028		0.158	0.028	
(f)		0.038	0.053								0.0022		0.055		0.36		

	TiO2	V	Zn
(c)		0.1436	
(d)	0.27	(0.0135)	(0.004)
(e)			0.0026

Code	Product			Unit
NCS DC11015	(a)	CRM	Iron Ore	70 g
NCS DC13019C	(b)	CRM	Magnetit, Concentrate	100 g
IMZ-324	(c)	CRM	Iron Ore	100 g
IMZ-323	(d)	CRM	Iron Ore	100 g
IMZ-320	(e)	CRM	Iron Ore	100 g
IMZ-325	(f)	CRM	Iron Ore	100 g
IMZ-261	(g)	CRM	Iron ore	100 g
VS-P25/1	(h)	CRM	Iron ore pellets	150 g
NCS DC11016	(i)	CRM	Iron Ore	70 g
VS-P22/2	(j)	CRM	Iron ore pellets	150 g
SEI-804-2	(k)	CRM	Iron ore (Iscor hematite)	100 g
NCS DC73009	(l)	CRM	Iron ore	50 g

	Al	Al2O3	As	Ba	C	Ca	CaO	Co	Cr	Cu	Fe	Fe (tot)	FeO	H2O+	K2O	L.O.I.	Mg
(a)		0.31					0.19			0.0021	69.58		29.37		0.035		
(b)		0.174					0.196					68.96	28.98		0.0068		
(c)		0.11		0.0024	0.052		0.107	0.003	0.0025	0.0014	68.93		28.27		0.026	2.91	
(d)		0.23		0.002	0.027		0.109	0.0026	0.002	0.0007	68.35		27.65		0.027	2.49	
(e)		0.12	0.0015	0.0019	0.033		0.13	(0.003)	0.003	0.0015	67.76		27.37		0.049	2.87	
(f)		0.2		0.0021	0.094		0.17	0.002	0.0023	0.001	67.73		28.03		0.027	2.53	
(g)		0.59					0.30				67.54						
(h)							0.14				67.3						
(i)		0.94					0.31			0.0015	67.03		27.22		0.063		
(j)		0.25					0.144				67.3		(1)				
(k)	0.51		0.0019			0.049			0.0244		66.93					0.0099	
(l)		0.99					0.14			(0.0015)	66.87		23.14	(0.44)	0.03		

	MgO	Mn	MnO	Na2O	Ni	P	Pb	S	Si	SiO2	Ti	TiO2	V	Zn
(a)	0.26		0.061	0.017		0.0064	(0.0004)	0.048		2.67		0.117		0.0039
(b)	0.268		0.049	0.006		0.01	0.0052	0.0277		3.98		0.0174		0.003
(c)	0.24	0.026		(0.04)	0.0013	0.014	0.0002	0.044		3.96		0.028		(0.003)
(d)	0.28	0.043		0.035	0.0002	0.018	0.0015	0.052		4.31		0.017	(0.002)	0.0021
(e)	0.3	0.029		0.037	(0.0013)	0.022	0.0015	0.012		5.3		0.016	0.0015	0.002
(f)	0.27	0.031		(0.03)		0.016	0.0017	0.077		5.01		0.018	0.0018	(0.003)
(g)	1.37	0.16				(0.019)		0.080		3.16				
(h)	0.25									3.37				
(i)	0.45		0.081	0.047		0.0093	(0.0003)	0.044		4.47		0.267		0.0047
(j)	0.24					0.0084		(0.001)		3.35				
(k)		0.016			0.0028	0.05		0.0132	1.17		0.023		0.0031	
(l)	0.22	0.071		0.012		(0.011)		0.0055		5.05	0.059			

Ores

Code	Product			Unit
NIST-690	(a)	CRM	Iron ore, Canada - Constituents	100 g
NCS DC11014	(b)	CRM	Iron Ore	70 g
SARM 12	(c)	CRM	Iron Ore (Magnetite)	100 g
NCS DC28028	(d)	CRM	Iron ore	100 g
NCS DC28027	(e)	CRM	Iron Ore	100 g
DH-SX11-13	(f)	RM	Iron Ore	100 g
BAS-BCS-CRM 517	(g)	CRM	Brazilian Iron Ore	100 g
SEI-805-2	(h)	CRM	Iron Ore (Brazilian Hematite)	100 g
DH-SX11-37	(i)	RM	Iron Ore	100 g
ECRM-B 682-2	(j)	CRM	Iron ore - powder	100 g
CAN-MW-1	(k)	CRM	Iron Ore	200 g

	Al	Al2O3	As	C	C (tot)	CO2	Ca	CaO	Cl (sol)	Co	Cr	Cr2O3	Cu	Fe	Fe (tot)	FeO	K
(a)		0.18						0.2							66.85		
(b)		0.19						0.11					0.0011		66.65	25.52	
(c)	0.41						0.78						0.0502	66.63		0.0108	
(d)		1.36	0.0012					0.028		0.0008	0.003		0.0014	66.47		0.58	
(e)		1.42	0.0004					0.02		0.0009	0.0015		0.0085	66.34		0.07	
(f)		1.11			0.035			0.03				0.01		66.33		0.04	
(g)	0.508			0.061			0.033		0.00075				0.0088	66.3		0.0105	
(h)													0.0098	66.22			
(i)		0.442			0.101	0.089		1.93				0.017		66.15		0.32	
(j)	0.325												0.0005	66.12			
(k)	0.2						0.038							66.08		0.011	

	K2O	L.O.I.	Mg	MgO	Mn	MnO	Na	Na2O	Ni	P	P2O5	Pb	S	Si	SiO2	Ti	TiO2
(a)	0.003			0.18		0.23		0.003		0.011			0.003		3.71	0.022	
(b)	0.0066			0.2		0.069		0.0027		0.013		0.0034	0.06		6.63	0.008	
(c)			1.69		0.17		0.0091		0.0281	0.0477			0.0695	0.16		0.43	
(d)	0.014			0.091	0.137			0.005	0.0019	0.055		0.0013	0.0066		1.79	0.046	
(e)	0.013			0.063	0.48			0.0055	0.0008	0.034		0.0013	0.0071		1.02	0.057	
(f)	0.01			0.04	0.432			<0.003			0.084		0.002		1.8	0.046	
(g)		1.898	0.0311		0.679		0.0097			0.0408		0.0028	0.009	0.519		0.0332	
(h)		1.72			0.596					0.047			0.0077				
(i)	0.011			0.164	0.038			0.02			0.113		0.003		2.365	0.032	
(j)			0.0133		0.0311					0.0529		(0.0004)	0.0140	0.833		0.0441	
(k)			0.02		(0.016)		(0.011)			0.011			(0.011)	2.1		(0.08)	

Code	Product				Unit
		V	**V2O5**	**Zn**	
	(b)			0.003	
	(d)			0.0044	
	(e)			0.0032	
	(f)		0.007		
	(g)	0.004		0.0047	
	(h)	0.0039		0.0047	
	(j)	0.0015			

VS-P1/4	(a)	CRM	Iron Ore	100 g
BS-105	(b)	RM	Iron Ore Powder	100 g
NCS DC18014	(c)	CRM	Iron Ore	100 g
JK 28	(d)	CRM	Iron Ore Powder	150 g
DH-SX11-36	(e)	RM	Iron Ore	100 g
ECRM-F 604-1	(f)	CRM	Iron ore, powder	100 g
ECRM-D 630-1	(g)	CRM	Iron ore, Bomi hill concentrate, powder	100 g
DH-SX11-14	(h)	RM	Iron Ore	100 g
DH-SX11-28	(i)	RM	Iron Ore	100 g
IMZ-322	(j)	CRM	Iron Ore	100 g
DH-SX11-24	(k)	RM	Iron Ore	100 g

	Al	**Al2O3**	**As**	**Ba**	**C**	**C (tot)**	**CO2**	**Ca**	**CaO**	**Co**	**Cr**	**Cr2O3**	**Cu**	**Fe**	**Fe (tot)**	**Fe2O3**	**FeO**
(a)		0.28							0.17					66.0		26.1	
(b)	0.1		0.0013					0.5		(0.0004)	0.013		0.001		65.95		
(c)		1.39							0.15					65.87		0.43	
(d)	0.35							0.21						65.86		91.5	2.4
(e)		0.345				0.016	0.03		0.37			0.025		65.74			
(f)	0.93							0.107						65.69			
(g)		0.88							0.10					65.63			
(h)		0.271			0.125				0.421			0.006		65.55		27.2	
(i)		1.23				0.030	0.075		2.08					65.52		0.144	
(j)		0.095		0.0013	0.047				0.26	0.0008	0.0019			65.5		26.82	
(k)		1.26				0.068	0.098		2.05			0.003		65.47		0.109	

Code	Product																Unit
		K	**K2O**	**L.O.I.**	**Mg**	**MgO**	**Mn**	**MnO**	**Na**	**Na2O**	**Ni**	**P**	**P2O5**	**Pb**	**S**	**Si**	**SiO2**	**Sn**	
	(a)					0.38						0.0157			0.029		7.38		
	(b)	0.014			0.19		0.09		0.017		0.004	0.008		(0.0003)	(0.001)	2.14	(0.001)		
	(c)		0.197			0.023		0.042				0.073			0.021		3.15		
	(d)	0.99			0.18		0.045		0.078			0.045			0.004	1.96			
	(e)		0.033			0.083	1.21			0.025			0.017		0.002		3.35		
	(f)				0.049		0.092					0.053			0.015	1.27			
	(g)					0.47	0.060					0.043			0.032		5.88		
	(h)		0.061			0.565	0.029			0.078			0.028		0.019		7.47		
	(i)		0.024			0.11	0.044			0.011			0.094		0.004		2.55		
	(j)		0.058	2.25		0.46	0.026			0.069	0.0014	0.015		0.0011	0.047		7.56		
	(k)		0.031			0.135	0.034			0.014			0.081		0.004		2.54		
		Ti	**TiO2**	**V**	**V2O5**	**Zn**	**ZnO**												
	(b)	0.008		0.003		(0.001)													
	(c)		0.061																
	(d)	0.11																	
	(e)		0.023		0.006		0.003												
	(f)	0.06																	
	(g)		0.066																
	(h)		0.06		0.002														
	(i)		0.043		0.005														
	(j)		0.012	0.0002		0.0029													
	(k)		0.045																

Code	Product			Unit
IMZ-310	(a)	CRM	Iron Ore	100 g
NIST-693	(b)	CRM	Iron ore, Nimba - Constituents	100 g
NCS DC15006	(c)	CRM	Magnetite	100 g
VS-P29	(d)	CRM	Non-fluxed Iron ore pellets	100 g
IMZ-321	(e)	CRM	Iron Ore	100 g
NCS DC11012	(f)	CRM	Iron Ore	70 g
DH-SX11-23	(g)	RM	Iron Ore	100 g
DH-SX11-18	(h)	RM	Iron Ore	100 g
DH-SX11-16	(i)	RM	Iron Ore	100 g
DH-SX11-35	(j)	RM	Iron Ore	100 g
NCS DC73008	(k)	CRM	Iron ore	50 g

	Al2O3	As	Ba	C	C (tot)	CO2	CaO	Cl	Co	Cr	Cr2O3	Cu	Fe	Fe (tot)	FeO	H2O+	K2O
(a)	1.02	0.005	0.003	0.158			0.3	0.07	0.003	0.005		0.0011	65.25		1.61	0.022	
(b)	1.04						0.016							65.11		0.0028	
(c)	0.27						0.52					0.002	64.97		29.83	0.028	
(d)	0.38						0.45						64.95		0.48		
(e)	0.2		0.0019	0.18			0.15	0.083	0.0009	(0.002)			64.94		25.94	0.029	
(f)	1.18	0.0006					1.36					0.008	64.89		25.63	0.154	
(g)	1.619				0.058		0.034						64.8		0.133	0.008	
(h)	1.785				0.085	0.033	0.052						64.72			0.02	
(i)	0.722				0.016	0.026	1.149				0.038		64.69			0.023	
(j)	1.49				0.069	0.007	0.011						64.69		0.06	0.016	
(k)	1.08						0.24					0.0015	64.49		22.22	(0.44)	0.046

	L.O.I.	MgO	Mn	MnO	Na2O	Ni	NiO	P	P2O5	Pb	S	SiO2	Ti	TiO2	V	V2O5	Zn
(a)	1.2	0.25	0.058		0.054	0.002		0.034		0.0013	0.011	6.58		0.035	0.0015	0.0019	
(b)		0.013		0.091	0.0028			0.056			0.005	3.87		0.035			
(c)		0.42		0.053	0.015			0.022			0.76	6.8		0.055			
(d)		0.149						0.0123			0.0118	6.13					
(e)	1.99	0.44	0.017		0.077	0.0024		0.015			0.026	8.33		0.016	0.0005	(0.003)	
(f)		1.72		0.119	0.064			0.0064		0.0008	0.409	3.51		0.084		0.013	
(g)		0.037	0.049		0.006				0.123		0.011	2.67		0.047		0.005	
(h)		0.057	0.713		0.014				0.141		0.009	1.56		0.075		0.017	
(i)		0.4	0.198		0.016		0.011		0.058			4.67		0.078		0.009	
(j)		0.033	1.52						0.14		0.006	0.696		0.052			
(k)		0.3	0.072		0.023			(0.012)			(0.007)	8.07	0.06				

	ZnO
(g)	0.0009
(h)	0.005
(i)	0.001

Ores

Code	Product			Unit
NCS DC14001B	(a)	CRM	Iron ore - Constituents	100 g
NCS DC14028B	(b)	CRM	Magnetite concentrate	100 g
DH-SX11-25	(c)	RM	Iron Ore	100 g
NCS DC14049	(d)	CRM	Iron Ore	100 g
NCS DC11017	(e)	CRM	Iron Ore	70 g
DH-SX11-15	(f)	RM	Iron Ore	100 g
IMZ-330	(g)	CRM	Iron Ore	100 g
IMZ-331	(h)		Iron Ore	
VS-P28	(i)	CRM	Fluxed Iron ore pellets	100 g
NCS DC14004B	(j)	CRM	Pellet Iron Ore	100 g
VS-5403-90	(k)	CRM	Iron Ore	50 g
NCS DC73007	(l)	CRM	Iron ore	50 g

	Ag	**Al2O3**	**As**	**Ba**	**C**	**C (tot)**	**CO2**	**CaO**	**Cr**	**Cr2O3**	**Cu**	**Fe**	**Fe (tot)**	**FeO**	**H2O+**	**K2O**	**L.O.I.**
(a)		1.26						0.15				64.48		0.34		0.096	
(b)		1.06						1.10			0.0060	64.54		21.36		0.009	
(c)		1.2				0.671	0.93	2.53		0.002		64.05		0.193		0.033	
(d)		2.04						0.084				63.86		0.24		0.33	
(e)		1.13	(0.0006)					1.05			0.0045	63.33		1.76		0.115	
(f)		2.68						0.494		0.005		63.17				0.008	
(g)		0.13		(0.003)	0.016			1.04	0.003		0.0017	63.09		1.19		0.18	0.04
(h)																	
(i)		0.37						4.09				63.01		1.16			
(j)		1.32						1.16			0.071		62.79	0.72		0.25	
(k)	0.00059	0.73					0.39	0.89			0.32	62.74		25.74			
(l)		1.02						0.18			(0.0015)	62.51		21.54	(0.41)	0.037	

	MgO	**Mn**	**MnO**	**Na2O**	**Ni**	**P**	**P2O5**	**Pb**	**S**	**SiO2**	**Ti**	**TiO2**	**V2O5**	**Zn**
(a)	0.041	0.087		0.013		0.049			0.018	3.40		0.057		
(b)	1.81	0.155		0.008		0.016			0.356	3.94	0.249			
(c)	0.421	0.068		0.016			0.087		0.01	2.52		0.045	0.008	
(d)	0.056	0.17		0.027		0.037			0.02	4.62		0.12		
(e)	1.3		0.086	0.07		0.011		(0.0006)	0.003	5.56		0.151		0.0058
(f)	0.244	0.074		0.02			0.101			5.79		0.128	0.01	
(g)	0.23	0.012		0.073	(0.002)	0.013		0.0016	0.003	8.26		0.01		0.002
(i)	0.194					0.0121			0.087	5.11				
(j)	1.58	0.13		0.112		0.016			0.012	5.31		0.113		0.042
(k)	0.65	0.162							3.89	7.14		0.055		0.029
(l)	0.28	0.061		0.016		0.11			0.0058	10.93	0.059			

Code	Product			Unit
ECRM-F 611-1	(a)	CRM	Iron ore sinter, powder	100 g
CGL-USZ27-99	(b)	CRM	Iron ore - TTH (CGL 113)	200 g
IMZ-332	(c)	CRM	Iron Ore	100 g
IMZ-333	(d)	CRM	Iron Ore	100 g
NCS DC18011	(e)	CRM	Iron Ore	100 g
SEI-801-6	(f)	CRM	iron ore (Indian hematite)	100 g
NCS DC14033	(g)	CRM	Hematite	100 g
NCS DC28024	(h)	CRM	Iron Ore	100 g
NCS DC73006	(i)	CRM	Iron ore	50 g
ECRM-S 688-1	(j)	CRM	Iron ore	100 g

	Al	**Al2O3**	**As**	**B**	**Ba**	**Be**	**C**	**Ca**	**CaO**	**Ce**	**Co**	**Cr**	**Cu**	**Fe**	**Fe (tot)**	**FeO**	**Ga**
(a)	0.69							2.85						62.22			
(b)		1.37							0.56		0.013		0.03		62.20	21.06	
(c)		0.32			0.0036		0.012		0.39			0.005	0.0021	62.1		1.61	
(d)		0.33			0.003		0.011		0.34			0.006	0.002	61.87		1.65	
(e)		3.05							0.051					61.8		0.3	
(f)	1.09							(0.014)				(0.005)	(0.002)	61.75			
(g)		0.48							0.11		0.0048		0.061		61.73	1.51	
(h)		2.12	0.0011						0.118		0.0009	0.0054	0.0014	61.53		0.24	
(i)		1.68							0.52				0.0028	61.46		(0.35)	
(j)	0.679		(0.0011)	(0.0005)		(0.0001)		1.449		(0.0055)	0.0096	(0.00217)	0.0023	61.38		(0.0036)	

	Gd	**H2O+**	**H2O-**	**Hf**	**Hg**	**Ho**	**K**	**K2O**	**L.O.I.**	**La**	**Lu**	**Mg**	**MgO**	**Mn**	**MnO**	**Na**	**Na2O**
(a)												0.32		1.97			
(b)			(0.25)					0.07	(1.46)				2.78		0.105	(0.04)	
(c)								0.117	0.11				0.71	0.026		0.05	
(d)								0.11	0.13				0.73	0.034		0.057	
(e)													0.102		0.17		
(f)												(0.032)		0.707			
(g)								0.056					0.055	0.027		0.0056	
(h)								0.026					0.109	0.276		0.034	
(i)		(0.046)						0.098					0.77	0.072		0.08	
(j)	(0.00035)			(0.00004)	(0.00005)	(0.00007)	0.18			(0.0026)	(0.00003)	1.061		0.0457		0.333	

Code	Product																	Unit
		Nb	**Nd**	**Ni**	**P**	**P2O5**	**Pb**	**Pr**	**Rb**	**S**	**SO3**	**Sb**	**Sc**	**Se**	**Si**	**SiO2**	**Sm**	**Sn**	
	(a)				0.03					(0.008)					2.07				
	(b)			0.008		(0.016)					7.14					3.37			
	(c)			0.002	0.01		0.0016			0.003						9.63			
	(d)			0.002	0.008		0.0015			0.001						10.07			
	(e)				0.076					0.022						4.52			
	(f)			0.0033	0.06					0.0093					1.95				
	(g)			0.0023	0.024					0.036						9.82			
	(h)			0.0027	0.068		0.0008			0.038						3.43			
	(i)				0.019					(0.0067)						6.65			
	(j)	(0.00016)	(0.0026)	0.0136	0.338		0.00025	(0.0007)	(0.0009)	(0.0468)		(0.00001)	(0.0007)	(0.00007)	3.383		(0.00046)	(0.00033)	
		Sr	**Ta**	**Tb**	**Th**	**Ti**	**TiO2**	**Tm**	**U**	**V**	**Y**	**Yb**	**Zn**	**Zr**					
	(a)					0.033													
	(b)						0.101						(0.013)						
	(c)						0.027			(0.001)			0.0023						
	(d)						0.026			0.001			0.0014						
	(e)						0.134												
	(f)					0.051				(0.003)									
	(g)					0.041													
	(h)					0.052							0.002						
	(i)					1.12													
	(j)	(0.0019)	(0.00001)	(0.00006)	(0.0014)	0.408		(0.00003)	(0.0002)	0.135	(0.0019)	(0.0002)	0.0015	(0.0015)					

Code	Product			Unit
ECRM-D 631-1	(a)	CRM	Venezuela iron ore, powder	100 g
NCS DC28020	(b)	CRM	Pellet	100 g
ECRM-D 678-1	(c)	CRM	Kiruna D Iron Ore, powder	100 g
CAN-SCH-1	(d)	CRM	Iron Ore	200 g
ECRM-D 680-1	(e)	CRM	Iron ore, purple ore, powder	100 g
NCS DC28021	(f)	CRM	Iron Pellets	100 g
IMZ-262	(g)	CRM	Iron ore	100 g
ECRM-F 606-1	(h)	CRM	Iron ore, powder	100 g
NIST-692	(i)	CRM	Iron ore, Labrador - Constituents	100 g
NCS DC14010B	(j)	CRM	Iron Ore	100 g
VS-P3	(k)	CRM	Pellet	100 g
VS-P23/1	(l)	CRM	Iron-vanadium pellets	150 g

	Al	Al2O3	As	Ca	CaO	Co	Cu	F	Fe	Fe (tot)	FeO	K	K2O	Mg	MgO	Mn	MnO
(a)		1.06			0.75				61.09						0.54	0.044	
(b)		1.25			1.08					60.77	0.97				1.99	0.11	
(c)	0.276			3.93				0.289	60.75			0.111		0.573		0.075	
(d)	0.509			0.029					60.73			0.027		0.02		0.777	
(e)	0.659		0.0571	0.45					59.976			0.0781		0.137		0.0249	
(f)		2.16			1.75					59.95	4.2				1.82	0.113	
(g)		0.71			0.42				59.73						0.83	0.044	
(h)	0.34			1.04					59.66					0.32		2.59	
(i)		1.41			0.023					59.58			0.039		0.035	0.46	
(j)		2.3			1.82		0.048		58.84		18.69		0.214		1.18	0.6	
(k)		2.50			4.47	0.020			58.72		2.53				2.48	0.232	
(l)					4.45				58.7								

	Na	Na2O	P	Pb	S	Si	SiO2	Ti	TiO2	V	V2O5	Zn
(a)			0.114		0.033		3.20		0.109			
(b)			0.021		0.019		8.25	0.063				
(c)	0.107		1.608		0.021	1.727		0.127		0.115		
(d)	0.019		0.054		0.007	3.78		0.031				
(e)	0.1283		0.0175	0.3166	0.544	4.205		0.0447				
(f)			0.019		0.048		7.89	0.084				
(g)			(0.016)		(0.005)		12.28					
(h)			0.026		0.033	1.04		0.019				
(i)		0.008	0.039		0.005		10.14		0.045			
(j)		0.057	0.022		0.088		7.73		0.46		0.149	
(k)			0.0027		0.0050		3.74				0.56	
(l)							3.75					

Ores

Code	Product			Unit
IMZ-311	(a)	CRM	Iron Ore	100 g
NCS DC14043	(b)	CRM	Hematite	100 g
IMZ-312	(c)	CRM	Iron Ore	100 g
SEI-831-2	(d)	CRM	Iron ore (Taharoa iron sand)	100 g
NCS DC73005	(e)	CRM	Iron ore	50 g
NCS DC11018	(f)	CRM	Iron Ore	70 g
IMZ-313	(g)	CRM	Iron Ore	100 g
VS-P5/6	(h)	CRM	Iron ore agglomerate	150 g
NCS DC18012	(i)	CRM	Iron Ore	100 g
NCS DC14045	(j)	CRM	Iron Ore	100 g
VS-5405-90	(k)	CRM	Hematit	50 g
NCS DC19014	(l)	CRM	Iron Ore	100 g

	Al2O3	**As**	**Ba**	**C**	**CaO**	**Cl**	**Co**	**Cr**	**Cr2O3**	**Cu**	**Fe**	**Fe (tot)**	**FeO**	**Ge**	**H2O+**	**K2O**	**L.O.I.**
(a)	1.03	0.0006	0.004	0.015	0.048	0.25	(0.0006)	0.004		0.0012	58.65		0.78			0.065	0.98
(b)	1.52				0.56					0.066	57.78		1.48			0.22	
(c)	1	(0.0007)	0.0022	0.024	0.057	0.31	0.0003	0.006		0.0014	57.69		(0.72)			0.032	1.2
(d)								0.028		0.0068		56.64				(0.11)	
(e)	0.99				1.36					0.068	56.6		20.5		(1.63)	0.071	
(f)	2.2	0.0014			9.89					0.0044	56.02		7.78			0.038	
(g)	1.13	(0.0008)	0.0017	0.031	0.079	(0.29)	0.0024	0.0067		0.0015	55.85		0.68			0.030	-1.31
(h)	2.57				9.30						55.8		9.81				
(i)	5.54				0.42						55.51		9.04			0.069	
(j)	3.74	0.105			0.079					0.017	55.25					0.17	
(k)	2.04										54.83			0.00051		0.33	
(l)	2.57				0.419				1.88		53.92						

	MgO	**Mn**	**MnO**	**Na2O**	**Ni**	**P**	**Pb**	**S**	**SiO2**	**Ti**	**TiO2**	**V**	**V2O5**	**Zn**
(a)	0.06	0.018		0.23	0.003	0.048	0.0014	0.015	13.58		0.039	0.0014		0.0017
(b)	0.54	0.104		0.023		0.046		0.187	11.18	0.07				
(c)	0.21	0.025		0.27	0.0022	0.027	0.0011	0.011	14.67		0.039	0.0019		0.0022
(d)		0.501			0.0077	0.153		0.0049						
(e)	3.62	0.076		0.058		0.017		2.44	11.48	0.043				
(f)	2.87		0.355	0.057		0.058	0.0031	0.023	4.5		0.108			0.065
(g)	0.31	0.03		0.23	0.0024	0.031	0.0009	0.0085	17.29		0.044	(0.001)		0.0028
(h)	1.95		0.86			0.029		0.035	5.71		0.29			
(i)	0.67		0.455			0.376		0.023	7.62		0.129			
(j)	0.24	0.49		(0.009)		0.21	0.119	0.047	3.84	0.069				0.63
(k)	0.29	0.62				0.034	0.23	0.018	16.23		0.092			0.089
(l)	3.81		0.335			0.006		0.064	3.27		11.85		0.56	

Code	Product			Unit
NCS DC18013	(a)	CRM	Iron Ore	100 g
ECRM-F 603-1	(b)	CRM	Iron ore, powder	100 g
NCS DC18015	(c)	CRM	Iron Ore	100 g
NCS DC14044	(d)	CRM	Iron ore	100 g
NCS DC18016	(e)	CRM	Iron Ore	100 g
IMZ-263	(f)	CRM	Iron ore	100 g
ECRM-F 677-1	(g)	CRM	Iron ore, powder	100 g
NCS DC14011A	(h)	CRM	Iron Ore	100 g
NCS DC73004	(i)	CRM	Iron ore	50 g

	Al	**Al2O3**	**As**	**Ca**	**CaO**	**Cu**	**Fe**	**FeO**	**H2O+**	**K**	**K2O**	**Mg**	**MgO**	**Mn**	**MnO**	**Na**	**Na2O**
(a)		4.39	0.11		0.087	0.171	53.8	1.06			0.099		0.054		0.1	0.008	
(b)	4.2			(0.91)			53.65					(0.2)		0.44			
(c)		2.59			9.25		53.28	5.88					2.61		0.539		
(d)		4.93	0.046		0.7	0.015	52.6	1.7			0.15		0.29	0.403		0.013	
(e)		3.02			11.18		52.31	7.69			0.134		2.69		0.215	0.043	
(f)		1.14			0.17		52.10						0.17	0.045			
(g)	0.32			0.038			51.54			0.008		0.012		0.016		0.007	
(h)		2.46	0.024		4.28	0.59	49.86	(20.2)			0.32		2.3	0.143		0.144	
(i)		2.58			0.91	0.0014	49.5	7.66	(2.1)		0.91		0.98	0.198		0.035	

	Ni	**P**	**Pb**	**S**	**Si**	**SiO2**	**Ti**	**TiO2**	**Zn**
(a)		0.074	0.106	0.234		5.03		0.253	0.253
(b)		0.084		0.097	1.28		0.137		
(c)		0.076		0.065		6.37		0.7	
(d)		0.374	0.051	0.069		8.78	0.092		0.24
(e)		0.074		0.038		7.1		0.9	
(f)		(0.026)		0.036		22.78			
(g)	(0.0015)	0.017		(0.005)	11.78		0.013		
(h)		0.057		2.11		9.79		0.15	0.03
(i)		0.138		0.065		16.3	0.083		

Ores

Code	Product			Unit
ECRM-F 610-1	(a)	CRM	Laterite,powder	100 g
IMZ-264	(b)	CRM	Iron ore	100 g
VS-P7/4	(c)	CRM	Iron ore	75 g
NCS DC19013	(d)	CRM	Iron Ore	100 g
NCS DC11010	(e)	CRM	Iron Ore	60 g
ECRM-F 612-1	(f)	CRM	Iron ore sinter, powder	100 g
NCS DC73003	(g)	CRM	Iron ore	50 g
VS-P8/3	(h)	CRM	Iron ore	75 g
VS-5407-90	(i)	CRM	Iron Ore	50 g
NCS DC14012A	(j)	CRM	Iron Ore	100 g
IMZ-265	(k)	CRM	Iron ore	100 g
ECRM-F 601-1	(l)	CRM	Iron ore, powder	100 g

	Al	**Al2O3**	**As**	**Ba**	**BaO**	**CO2**	**Ca**	**CaO**	**Co**	**Cr**	**Cr2O3**	**Cu**	**Fe**	**FeO**	**Ge**	**H2O+**	**K2O**
(a)	1.96								0.075	1.84			47.46				
(b)		1.14						0.23					44.25				
(c)		4.75	0.142		0.142			1.55					43.4			0.354	
(d)		4.1						0.124					42.89				
(e)		2.29	0.0026					11.21				0.023	42.59	15.6		0.191	
(f)	3						12.06						42.4				
(g)		2.27						2				0.028	40.51	(14.5)		(1.37)	0.27
(h)		10.35						0.89	(0.06)		2.53		38.2				
(i)		2.62		0.74		4.16		5.78					38.15		0.00219	0.51	
(j)		3.29						7.63				0.089	37.79	(18.53)		0.72	
(k)		3.12						1.51					37.44				
(l)	2.33						4.05						36.76				

	LOI	**Mg**	**MgO**	**Mn**	**MnO**	**Na2O**	**Ni**	**NiO**	**P**	**Pb**	**S**	**Si**	**SiO2**	**Ti**	**TiO2**	**V2O5**	**Zn**
(a)		1.86		0.581			1.48		0.007		0.189	3.16		0.015			
(b)			0.22	0.043					0.025		0.055		33.56				
(c)			0.75		2.46	0.117			1.13	0.011	0.133		13.75		0.192	0.125	0.032
(d)			0.517		1.67				0.099				22.06		0.26		
(e)			3.74		0.197	0.161			0.026	0.0023	1.56		16.73		0.113	0.019	
(f)		1.2		0.363					0.885		0.053	5.94		0.151			
(g)			2.22	0.122		0.16			0.032		0.94		33.93	0.067			
(h)	10.4		2.17		0.432			0.67	0.165		0.031		16.57		0.85		
(i)			0.23	10.42		0.15				0.15	0.024		12.46		0.083	0.2	
(j)			3.62	0.15		0.54			0.078		0.601		16.54		0.171	0.023	
(k)			0.52	0.056					(0.039)		0.045		36.99				
(l)		1.21		0.37					0.59		0.065	8.95		0.114			

Code	Product			Unit
VS-P20-2	(a)	CRM	Iron ore	100 g
NCS DC11013	(b)	CRM	Iron Ore	70 g
VS-P24-1	(c)	CRM	Iron ore	125 g
VS-P24-2	(d)	CRM	Iron ore	125 g
VS-P9-2	(e)	CRM	Siderite iron ore	125 g
ECRM-D 627-2	(f)	CRM	Minette CaO-rich, powder	100 g
ECRM-F 607-1	(g)	CRM	Iron ore	100 g
ECRM-F 609-1	(h)	CRM	Iron ore, powder	100 g

	Al	Al2O3	As	C (carb)	Ca	CaO	Cr	Cu	Fe	Fe(magn)	FeO	K2O	Mg	MgO	Mn	MnO	Na2O
(a)		0.64				2.44			34.7	27.6				3.34			
(b)		0.74	0.0003			0.99		0.0031	34.07		20.15	0.165		2.86		0.093	0.065
(c)						2.25			33.96					8.28			
(d)		1.52				2.12			33.73					8.29			
(e)		0.64		10.6		2.55			33.01		40.0			10.9			
(f)		4.45	0.020			15.67	0.018		31.77					1.57	0.250		
(g)	2.48				13.74				30.89				0.77		0.254		
(h)	2.26				6.87				30.52				2		0.472		

	P	Pb	S	Si	SiO2	Ti	TiO2	Zn
(a)					38.0			
(b)	0.054	0.028	0.118		48.27		0.043	0.0045
(c)					4.94			
(d)	0.0055		0.0065		5.46			
(e)	0.0056		0.205		2.29			
(f)	0.661		0.114		9.24		0.225	
(g)	0.529		0.05	3.07		0.123		
(h)	0.608		1	7.83		0.118		

Ores

Code	Product			Unit
NCS DC73002	(a)	CRM	Iron ore	50 g
IMZ-266	(b)	CRM	Iron ore	100 g
ECRM-F 679-1	(c)	CRM	Iron ore, powder	100 g
ECRM-B 651-1	(d)	CRM	Lincolnshire iron ore - powder (BAS-CRM 301/1)	100 g
NCS DC73001	(e)	CRM	Iron ore	50 g
IMZ-267	(f)	CRM	Iron ore	100 g
NCS DC62001B	(g)		Iron ore	20 g
NCS DC14007A	(h)		Hematite	100 g

	Al	Al2O3	Ca	CaO	Cr	Cu	Fe	FeO	H2O+	K	K2O	Mg	MgO	Mn	Na	Na2O	P
(a)		3.43		2.17		0.0023	30.34	5.8	(2.08)		0.85		1.41	0.2		0.18	0.094
(b)		3.13		3.42			29.04						0.95	0.078		0.030	
(c)	1.99		18.07		0.012		24.2			0.157		0.7		0.295	0.054	0.557	
(d)	2.25		16.15				23.85			0.27		1.04		0.97	0.05	0.35	
(e)		3.57		2.84		0.0028	20.17	(7.5)	(1.18)		0.53		1.68	0.168		0.28	0.045
(f)		4.05		4.73			19.57						1.22	0.16		0.030	
(g)																	
(h)																	

	S	Si	SiO2	Ti	Zn
(a)	0.066		43.68	0.091	
(b)	0.10		44.94		
(c)	0.099	3.43		0.106	0.021
(d)	0.4	3.46		0.1	
(e)	0.051		60.86	0.085	
(f)	0.17		53.72		

CAN-TPO-1	(a)	CRM	Iron sulphide concentrate and tailings	25 g

	Co	Cu	Fe	Ni	S	SiO2
(a)	0.021	0.118	3.85	0.617	18.03	25.52

Code	Product			Unit
Iron ore sinter				
DH-SX56-01	(a)	RM	Iron Ore Sinter	100 g
DH-SX56-31	(b)	RM	Iron Ore Sinter	100 g
NCS DC14203	(c)	CRM	Sintering Ore	100 g
DH-SX56-23	(d)	RM	Iron ore sinter	100 g
DH-SX56-19	(e)	RM	Iron Ore Sinter	100 g
DH-SX56-16	(f)	RM	Iron Ore Sinter	100 g
SEI-851-5	(g)	CRM	Sintered ore	100 g
ECRM-B 683-1	(h)	CRM	Iron ore sinter - powder	100 g
DH-SX56-32	(i)	RM	Iron Ore Sinter	100 g

	Al	**Al2O3**	**C**	**C (tot)**	**CO2**	**Ca**	**CaO**	**Cr**	**Cr2O3**	**Cu**	**CuO**	**F**	**Fe**	**Fe(tot)**	**FeO**	**K**	**K2O**
(a)		0.704	0.023		0.051		6.5		0.022		0.003		60.48		10.32	0.046	
(b)		1.43					6.28							58.54	5.41	0.247	
(c)		1.37					8.17			0.0063			57.63		10.8	0.065	
(d)		1.16		0.049	0.062		8.77		0.037				57.37		6.56	0.042	
(e)		1.38	0.037		0.043		8.78		0.031				57.33			0.042	
(f)		1.33					9.51		0.045				57.29		6.58	0.045	
(g)								0.0163		0.0034				56.67			
(h)	1.3					5.7		0.018		(0.0022)		0.02	56.06			0.148	
(i)		1.281					10.79							55.03	4.06	0.174	

	Mg	**MgO**	**Mn**	**Na**	**Na2O**	**Ni**	**NiO**	**P**	**P2O5**	**PbO**	**S**	**Si**	**SiO2**	**SrO**	**Ti**	**TiO2**	**V**
(a)		1.75	0.324		0.1		0.024		0.055		0.007		4.03	0.004		0.629	
(b)		2.01	0.945						0.107				5.08			0.076	
(c)		1.65	0.174		0.046			0.102			0.025		5.38		0.113		
(d)		1.66	0.311		0.042				0.123	0.002			6.07			0.084	
(e)		1.72	0.287		0.026		0.008		0.129		0.009		6.05			0.102	
(f)		1.49	0.477						0.14				5.18			0.101	
(g)			0.241			0.0058		0.060			0.016					0.0084	
(h)	1.04		0.462	0.045				0.148				3.38			0.097	0.026	
(i)		2.070	0.708						0.104		0.059		5.55			0.068	

	V2O5	**Zn**	**ZnO**
(a)	0.25		0.003
(b)			0.040
(d)	0.017		0.085
(e)	0.019		0.008
(f)	0.018		0.013
(g)		0.0075	
(h)		0.01	
(i)			0.026

Ores

Code	Product			Unit
NCS DC14204	(a)	CRM	Sintering Ore	100 g
BS-104A	(b)	RM	Iron Ore Sinter Powder	100 g
DH-SX56-04	(c)	RM	Iron Ore Sinter	100 g
NCS DC14205	(d)	CRM	Sintering Ore	100 g
NCS DC14202	(e)	CRM	Sintering Ore	100 g
NCS DC14206	(f)	CRM	Sintering Ore	100 g
NCS DC14201	(g)	CRM	Sintering Ore	100 g
DH-SX56-24	(h)	RM	Iron Ore Sinter	100 g
ECRM-B 676-1	(i)	CRM	Iron ore sinter - powder	100 g
NCS DC14003D	(j)	CRM	Sintered Iron Ore	100 g

	Al	Al2O3	C	CO2	Ca	CaO	Cr2O3	Cu	F	Fe	Fe (tot)	FeO	K	K2O	Mg	MgO	Mn
(a)		1.49				9.29		0.014		54.62		9.26		0.046		1.74	0.193
(b)						10.4					54.6		0.12			1.3	
(c)		1.163	0.128	0.305		11.28	0.023			54.41		7.43		0.065		1.467	0.744
(d)		2.69				10.28		0.0087		53.99		9.34		0.078		2.31	0.19
(e)		2.54				11.33		0.012		52.77		6.55		0.078		2.02	0.199
(f)		2.44				9.46		(0.007)		51.13		9.22		0.08		4.4	0.179
(g)		2.14				12.84		0.0079		50		8.77		0.086		2.69	0.183
(h)		1.338	0.043			15.48	0.023			49.86				0.233		3.36	1.17
(i)	3.4				12.78				0.1	39.76			0.43		1.16	0.83	
(j)		1.79				12.06		0.029		51.69		6.88		0.17		4.12	0.369

	MnO	Na	Na2O	NiO	P	P2O5	S	Si	SiO2	SrO	Ti	TiO2	V	V2O5	ZnO
(a)			0.019		0.039		0.024		7.94		0.092				
(b)	1.05	0.02			0.044		0.014		7.96			0.1			
(c)			0.081			0.248	0.03		6.84			0.116		0.043	0.019
(d)			0.037		0.061		0.017		6.61		0.099				
(e)			0.033		0.06		0.033		7.51		0.062				
(f)			0.04		0.066		0.059		8.58		0.094				
(g)			0.089		0.175		0.128		8.58		0.091				
(h)			0.053	0.003		0.082	0.051		6.84	0.013		0.082		0.005	0.004
(i)		0.095			0.59		0.12	6.4			0.19		0.07		
(j)			0.098		0.057		0.044		7.39		0.084				

Code		Product		Unit
Iron oxide				
DH-P0401	(a)	RM	Iron-Oxide (Fe2O3)	50 g
DH-P0402	(b)	RM	Iron-Oxide (Fe2O3)	50 g
DH-P0403	(c)	RM	Iron-Oxide (Fe2O3)	50 g
ECRM-D 686-1	(d)	CRM	Iron oxide recovered from pickling bath (Ruthner) - powder	2 x 50 g
SEI-009-3	(e)	CRM	Pure iron oxide (Fe3+)	50 g

	Al	**Al2O3**	**As**	**BaO**	**Bi**	**C**	**C (tot)**	**CO2**	**Ca**	**CaO**	**Cl**	**Cl (tot)**	**Co**	**Co3O4**	**Cr**	**Cr2O3**	**Cu**
(a)				0.00031				0.007		0.00046				0.00307		0.00234	
(b)		0.0805					0.0107			0.0041				0.0117		0.0575	
(c)		0.0924				(0.0113 tot)					0.0046		0.1373		0.0112	0.0591	
(d)	0.0407								0.0097		0.095		0.0019		0.0182	0.0038	
(e)	(0.0003)		(0.0001)		(0.0001)	(0.02)			(0.0001)				(0.0001)		0.00097	(0.0001)	

	CuO	**Fe (tot)**	**K**	**K2O**	**L.O.I.**	**Mg**	**MgO**	**Mn**
(a)							0.00037	
(b)	0.0133			0.0012			0.0012	
(c)	0.0132			0.002			0.0013	
(d)		69.44	0.0024			0.0027		0.231
(e)		69.84	(0.0002)		(0.4)	(0.00003)		(0.00006)

Lead Ore

Code			Product	Unit
CAN-CPB-2	(a)	CRM	Lead flotation concentrate - Trace elements	200 g
BAS-BCS-CRM 362	(b)	CRM	Mine Tailings Sample	100 g
CERAM-AN28	(c)	RM	Lead Bisilicate	100 g
NIM-GBW07235	(d)	CRM	Lead ore - Constituents (NCS DC70003)	50 g
NIM-GBW07236	(e)	CRM	Lead ore - Constituents (NCS DC70004)	50 g
IND-RPZ-PC	(f)	CRM	Lead Ore	120 g
VS-2038-81	(g)	CRM	Lead Concentrate	100 g
NCS DC35003	(h)	CRM	Lead concentrate	100 g

	Ag	Al	Al2O3	As	Au	Ba	Bi	C	Ca	CaO	Cd	Ce	Co	Cr	Cs	Cu	Dy
(a)	(0.03573)	0.074		(0.04)	(0.000002)	(0.0007)	(0.02112)		(0.0776)		0.0167		(0.0004)	(0.006)		0.1213	
(b)			0.667	0.0030						44.21	0.020			0.0011		0.0056	
(c)			2.4							0.04							
(d)	0.00147		12.88	0.00851			0.00156			19.51	0.00032	0.00783		(0.0029)	(0.0006)	0.2	0.0003
(e)	0.00056		8.95	0.00432			0.00125			34.56	0.00026	0.00668		(0.0041)	(0.00023)	0.035	0.00031
(f)	0.0660		0.22	0.06				3.45		4.06	0.015					0.66	
(g)	0.0415				0.000021												
(h)	0.21		0.14	1.27			0.151									0.487	

	Er	Eu	F	Fe	Fe2O3	Ga	Gd	Ge	Hg (ppm)	Ho	In	K	K2O	LOI	La	Li	Lu
(a)				7.065					(10.03)			(0.02)					
(b)					0.483								0.14	32.81			
(c)					0.03								0.04				
(d)	0.00015	0.00012	0.27		4.37	0.00167	0.00037	0.00009		0.000061	0.000012		1.42		0.00405	(0.0019)	0.000024
(e)	0.00016	0.000082	0.23		3.79	0.00117	0.00036	0.000093		0.000065	0.000009		0.82		0.00312	(0.0018)	0.000025
(f)				5.03													
(h)				10.68													

	Mg	MgO	Mn	Mn3O4	MnO	Na2O	Ni	Pb	PbO	S	S (tot)	SiO2	Sn	SrO	TiO2	Zn	ZnO
(a)	0.0683		(0.0395)														
(b)		0.068		0.829		0.084	0.0012	2.30	2.63		1.48	9.03		0.034	0.047	2.03	2.59
(c)		<0.01															
(d)		1.62			1.4												
(e)		2.06			1.53												
(f)		2.30	0.39				0.00052	52.13		16.76		1.26	0.012			7.05	
(h)		0.043															

	pH
(b)	8.14

Code	Product			Unit
NCS DC29111	(a)	CRM	Lead-Zinc ore	50 g
NCS DC29112	(b)	CRM	Lead-Zinc ore	50 g
NCS DC29113	(c)	CRM	Lead-Zinc ore	50 g
NCS DC29114	(d)	CRM	Lead-Zinc ore	50 g
NCS DC29115	(e)	CRM	Lead-Zinc ore	50 g

	Ag	Al2O3	As	CaO	Cd	Cu	Fe (tot)	H2O+	H2O-	Hg (ppm)	K2O	MgO	MnO	Na2O	P2O5	Pb	S
(a)	0.00129	(9.96)	0.009	(1.15)	0.019	0.02	(2.62)	(1.22)	(0.34)	(12.6)	(2.81)	(0.86)	(0.195)	(0.71)	(0.052)	0.48	(3.13)
(b)		(7.83)	0.082	(1.22)		0.1	(11.61)	(1.37)	(0.36)	(0.233)	(2.14)	(0.84)	(1.32)	(0.13)	(0.073)	2.93	(8.17)
(c)		(3.97)	0.04	(23.25)		0.075	(8.65)	(0.92)	(0.13)	(0.074)	(0.91)	(2.59)	(0.507)	(0.1)	(0.086)	2.19	(6.02)
(d)		(1.42)	0.138	(2.38)	0.066	0.071	(11.48)	(0.28)	(0.19)	(270)	(0.13)	(3.14)	(0.296)	(0.04)	(0.07)	22.96	(15.92)
(e)	0.00053	(3.25)	0.0095	(0.67)	0.119	0.021	(3.93)	(0.69)	(0.29)	(84.8)	(0.95)	(0.62)	(0.191)	(0.2)	(0.056)	1.25	(16.3)

	Sb	SiO2	TiO2	Zn
(a)	0.0009	(69.88)	(0.45)	4.94
(b)	0.011	(59.4)	(0.39)	0.51
(c)	0.00383	(31.99)	(0.3)	1.54
(d)	0.044	(20.2)	(0.63)	16.22
(e)	0.00205	(41.23)	(0.16)	30.19

Code	Product			Unit
Lithium Ore				
NIST-181	(a)	CRM	Lithium ore, Spodumene - Lithium oxide	45 g
NIST-182	(b)	CRM	Lithium ore, Petalite - Lithium oxide	45 g
NIST-183	(c)	CRM	Lithium ore, Lepidolite - Lithium oxide	45 g
NCS DC86314	(d)	CRM	Lithium ore	100 g
NCS DC86304	(e)	CRM	Lithium ore	100 g
NCS DC86303	(f)	CRM	Lithium ore	100 g

	Al2O3	BeO	CaO	CeO2	Cs2O	Dy2O3	Er2O3	Eu2O3	F-	Fe (tot)*	FeO	Gd2O3	H2O+	H2O-	Ho2O3	K2O	La2O3
(a)																	
(b)																	
(c)																	
(d)	24.53	0.0164	0.063	(0.000188)	0.3	0.00005	0.000024	0.00001	5.08	0.3	(0.043)	0.000056	(2.77)		0.0000094	7.75	0.000116
(e)	19.12	0.026	0.076	0.00026	0.117	0.000064	0.000026	0.000013	3.12	0.301	(0.02)	0.000075		2.29	(0.000013)	4.8	(0.00021)
(f)		0.018	0.335	0.0009	0.037	0.00025	0.00012	(0.000014)	0.667	0.394	(0.062)	0.00021		1.06	0.000045	3.17	0.00051

	Li2O	Lu2O3	MgO	MnO	Na2O	Nb2O5	Nd2O3	P2O5	Pr6O11	REE(ox)	Rb2O	Sc2O3	SiO2	Sm2O3	Sn	Ta2O5	Tb4O7
(a)	6.39																
(b)	4.34																
(c)	4.12																
(d)	3.89	0.0000036	0.027	0.4	1.08	0.0081	0.000166	0.13	0.000046	0.00107	1.24	0.000031	53.92	0.000052	0.0152	0.00001	
(e)	2.29	0.0000034	0.036	0.252	2.33	0.00611	0.00028	0.237	0.000063	0.00152	0.735	0.000044	64.64	0.000064	0.00971	0.012	0.000013
(f)	0.46	0.000018	0.054	0.07	4.19	0.0027	0.0005	0.173	0.00013	0.0047	0.145	0.000098	74.37	0.00016	(0.0036)	0.00494	0.000043

	TiO2	Tm2O3	W	Y2O3	Yb2O3
(d)	0.029	0.0000038	0.0079	0.000306	0.000022
(e)	0.028	0.000004	0.00437	0.00034	0.000023
(f)	0.018	0.000018	0.00089	0.00169	0.00013

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2621/CB/0312

Manganese Ore

VS-P13	(a)	CRM	Manganese Ore	100 g
NIST-25d	(b)	CRM	Manganese ore - Constituents	100 g
SARM 16	(c)	CRM	Manganese Ore (Wessels)	100 g
SEI-861-2	(d)	CRM	Manganese ore	100 g
ECRM-D 633-1	(e)	CRM	Manganese ore, powder	100 g
BAS-BCS-CRM 176/2	(f)	CRM	Manganese Ore	100 g
NM 662	(g)	CRM	Manganese Ore	100 g
NCS DC25008	(h)	CRM	Manganese Ore	50 g
NCS DC28045	(i)	CRM	Manganese Ore	80 g
VS-P12	(j)	CRM	Manganese Ore	100 g

	Al	Al2O3	As	As2O3	B	BaO	Ca	CaO	Cr	Cu	Fe	Fe (tot)	Fe2O3	H2O	K2O	L.O.I.	MgO
(a)										0.022							
(b)		(5.33)				(0.21)		(0.052)					(3.91)	(1)	(0.928)		
(c)		(0.3)				0.6		4.7			11.48				0.02	0.76	
(d)	1.57						0.063			0.0064	(5.7)					(3.3)	
(e)				(0.004)		1.13		2.02			1.64					0.58	
(f)		5.2		0.22		0.19		0.09			6.86				1.3	0.04	
(g)		1.65									10.045						
(h)		6.81			0.0018			0.071			3.21					0.077	
(i)		2.35	0.042			0.058		0.195	0.038	0.022	2.75				1.48	0.182	
(j)		1.87				0.53		2.02				1.56				1.16	

	Mn	Mn (tot)	MnO	MnO2	Na2O	Ni	O	O*	P	P2O5	Pb	S	Si	SiO2	TiO2	V	Zn
(a)	58.8		90.4						0.197		0.0014	0.07		2			
(b)	51.78						(14.283)			0.251				2.54	(0.136)		
(c)	49.17				(0.03)				0.033			0.17		5.04		0.0364	
(d)	48.7							13.55	0.086			0.0084	2.62				
(e)	47.85								0.17			0.227		10.39	0.079		
(f)	47.5				0.11				0.087			0.018		2.53	0.3		
(g)	47.43									0.295				4.96			
(h)	45.47								0.094					9.51	0.087		
(i)	44.97			67.67	0.034	0.079			0.23		0.011	0.0086		16	0.105	0.018	0.07
(j)		43.24		52.4					0.209			0.029		15			

SARM 17	(a)	CRM	Manganese Ore (Mamatwan)	100 g

NCS DC28044	(b)	CRM	Manganese Ore	80 g
NCS DC11023	(c)	CRM	Manganese ore	70 g
VS-5404-90	(d)	CRM	Manganese Ore	50 g
NCS DC28043	(e)	CRM	Manganese Ore	80 g
NCS DC11022	(f)	CRM	Manganese ore	70 g
DH-SX43-03	(g)	RM	Manganese Ore	100 g
NCS DC11021	(h)	CRM	Manganese ore	70 g
NCS DC11020	(i)	CRM	Manganese ore	70 g
NCS DC28042	(j)	CRM	Manganese Ore	80 g

	Al2O3	As	Ba	BaO	C (tot)	CO2	CaO	Co	Cr	Cu	Fe	Ge	K2O	MgO	Mn	MnO2	Na2O
(a)	0.24			(0.08)			(14.4)				4.27		0.09	3.03	38.81	0.09	
(b)	2.08	0.039		0.41			3.3		0.0018	0.0086	6.9		0.49	1.29	36.31	45.02	0.076
(c)	3.8	0.112		1.62			2.34		0.0053	0.011	10.25		0.396	0.78	35.54	52.73	0.053
(d)	5.28						4.68	0.0086			6.68	0.00034	0.83	0.45	34.12	48.66	0.38
(e)	6.4	0.089		1.11			1.15		0.013	0.015	10.68		0.65	0.7	30.99	45.61	0.058
(f)	6.49	0.062		1.04			1.82		0.018	0.018	10.22		0.89	0.65	29.48	41.76	0.062
(g)	2.17		0.119		0.072	0.062	0.06				30.01		0.244	0.032	29.05	0.017	
(h)	6.99	0.052		0.8			2.31		0.019	0.021	11.01		1.01	0.774	26.53	36.6	0.064
(i)	7.69	0.034		0.54			2.36		0.026	0.021	9.66		1.11	1.72	22.31	30.34	0.056
(j)	2.8	0.032		0.164			6.2		0.0023	0.0071	10.62		0.83	3.14	22.18	18.35	0.049

	Ni	P	P2O5	Pb	S	SO3	SiO2	TiO2	V	Zn
(a)		0.018			(0.01)		4.69			0.0043
(b)	0.01	0.105		0.0083	0.021		17.7	0.085	0.0075	0.027
(c)	0.023	0.105		0.058	0.052		13.03	0.143	0.016	0.066
(d)	0.013	0.027		0.15	0.023		15.69	0.27		0.16
(e)	0.083	0.171		0.11	0.1		17.3	0.215	0.019	0.235
(f)	0.072	0.15		0.107	0.082		19.84	0.224	0.02	0.143
(g)			0.199			0.018	3.63	0.07		
(h)	0.073	0.163		0.124	0.084		22.1	0.247	0.02	0.164
(i)	0.089	0.171		0.12	0.109		28.11	0.27	0.02	0.17
(j)	0.0044	0.074		0.0066	0.044		24.73	0.123	0.0044	0.012

NCS DC11019	(a)	CRM	Manganese ore	70 g
VS-5406-90	(b)	CRM	Manganese Ore	50 g

NCS DC28041	(c)	CRM	Manganese Ore	80 g
UG-NOD-P-1	(d)	CRM	Manganese Nodule	30 g
VS-5374-90	(e)	CRM	Manganese Nodules	50 g
GSJ-JMN-1	(f)	CRM	Mn nodule - Constituents	100 g
UG-NOD-A-1	(g)	CRM	Manganese Nodule	30 g
VS-5373-90	(h)	CRM	Ferro-Manganese Nodules	50 g
VS-5375-90	(i)	CRM	Manganese Nodules	50 g
VS-5376-90	(j)	CRM	Manganese Nodules	50 g
IGS-29	(k)	CRM	Pyrolusite	40 g

	Al2O3	**As**	**Au (ppm)**	**B**	**Ba**	**BaO**	**Be**	**Bi**	**C**	**C (org)**	**CO2**	**CaO**	**Cd**	**Ce**	**Cl**	**Co**	**Cr**
(a)	5.66	0.031				0.43						12.83				0.012	
(b)	9.78				2.65						1.29	1.96					
(c)	8.25	0.013				0.064						2.07					
(d)	4.8				0.335							3.1		(0.029)		0.224	
(e)	5.68	0.006	0.005		0.18					0.18	0.43	2.82	0.0017	0.02	0.7	0.22	0.0018
(f)	4.3	0.00754	(0.00095)	(0.0138)	0.1714		(0.00078)	(0.00043)	(0.0905)			2.91	(0.00155)	0.0277		0.1732	0.00266
(g)	3.87				0.167							15.4		(0.073)		0.311	
(h)	5.21	0.011	0.008		0.19					0.18	0.39	2.77	0.0009	0.05	0.8	0.31	0.0017
(i)	5.46	0.017	0.01		0.17					0.22	0.6	3.01	0.0005	0.09	0.9	0.47	0.0019
(j)	6.71	0.014			0.16		0.0019				0.5	5.13		0.1		0.27	0.0067
(k)					0.59												

	Cs	**Cu**	**Dy**	**Er**	**Eu**	**Fe**	**Fe (tot)***	**Ga**	**Gd**	**Ge**	**H2O+**	**Hf**	**Ho**	**K2O**	**L.O.I.**	**La**	**Li**
(a)		0.014				8.89								1.04			
(b)						2.43				0.00049				4.99			
(c)						0.85								3.74			
(d)		1.15	(0.0027)	(0.0012)	(0.00075)		8.3		(0.0028)					1.2		(0.0104)	
(e)		1.01					9.28							1.27	15.3	0.009	0.014
(f)	0.00006	1.1132	(0.00283)	0.00146	0.00076		14.4	(0.00371)	(0.00298)		(7.9)	(0.00062)	(0.00058)	0.94		0.0122	(0.00717)
(g)		0.11	(0.0023)	(0.0012)	(0.0005)		15.6		(0.0026)					0.6		(0.012)	
(h)		0.51					17.21							1.18	14.8	0.015	0.007
(i)		0.22					24.87							0.83	13.8	0.014	0.004
(j)		0.13					22.13							1.18	11.4	0.012	0.0019
(k)																	

	Lu	MgO	Mn	MnO	MnO (tot)	MnO2	Mo	Na2O	Nb	Nd	Ni	P	P2O5	Pb	Pd	Pr	Pt
(a)		0.611	18.36			25.59		0.045			0.049	0.202		0.08			
(b)		0.74	15.98			14.4		0.7				0.043		0.23			
(c)		0.6	14.45			20.66		0.48				0.011		0.0025			
(d)	(0.00018)	3.3		37.6			0.076	2.2		(0.012)	1.34		0.46	0.056			
(e)		3.4			35.09	41.7	0.052	2.94	0.002	0.008	1.37		0.68	0.04		0.00001	
(f)	0.00021	3.12		33.09			0.0318	2.8	(0.00276)	0.0137	1.2632		0.54	0.043		(0.00314)	(0.000011)
(g)	(0.00022)	4.76		23.9			0.0448	1		(0.0094)	0.636		1.4	0.0846			
(h)		2.74			29.91	35.8	0.0043	2.61	0.0048	0.015	0.84		0.65	0.017		0.000019	
(i)		2.24			25.16	31.1	0.033	2.4	0.009	0.014	0.422		0.8	0.098	0.0000003	0.000021	
(j)		2.29			19.85	24.2	0.035	2.24	0.006	0.01	0.34		1.61	0.105			
(k)						93.31											

	Rb	S	Sb	Sc	SiO2	Sm	Sn	Sr	Ta	Tb	Th	TiO2	Tl	Tm	U	V	W
(a)		0.114			21.94							0.206				0.014	
(b)		0.22			47.66							0.31					
(c)		0.012			56.03							0.177					
(d)					13.9	(0.003)		0.068				0.5				0.057	
(e)	0.0021	0.1		0.0011	16.6	0.0022		0.064			0.0017	0.74			0.0004	0.043	
(f)	0.00109	(0.094)	0.00375	(0.0013)	14.11	0.00302	(0.00044)	0.0792	(0.000064)	0.00048	0.00117	1.06		0.00021	0.0005	0.0424	(0.00453)
(g)					3.81	(0.0021)		0.175				0.53				0.077	
(h)	0.0016	0.12		0.0012	16.2	0.004		0.09			0.0031	1.47			0.0005	0.04	
(i)	0.001	0.16		0.0013	14.5	0.003		0.11			0.0038	1.91			0.0008	0.048	
(j)	0.0019	0.16		0.0019	22.3	0.0027		0.11			0.0028	1.56	0.01		0.0006	0.054	

	Y	Yb	Zn	Zr
(a)			0.118	
(b)			0.018	
(c)			0.015	
(d)		(0.0013)	0.16	
(e)	0.011	0.0013	0.12	0.032
(f)	0.0111	0.00138	0.1068	0.0344
(g)		(0.0014)	0.059	
(h)	0.016	0.0021	0.077	0.06
(i)	0.014	0.0014	0.058	0.06
(j)	0.016	0.0006	0.06	0.055

NCS DC47004	(a)	CRM	Manganese ore - Constituents (NIM-GBW07261)	100 g

NCS DC47005	(b)	CRM	Manganese ore - Constituents (NIM-GBW07262)	100 g
NCS DC47006	(c)	CRM	Manganese ore - Constituents (NIM-GBW07263)	100 g
NCS DC47007	(d)	CRM	Manganese ore - Constituents (NIM-GBW07264)	100 g
NCS DC47008	(e)	CRM	Manganese ore - Constituents (NIM-GBW07265)	100 g
NCS DC47009	(f)	CRM	Manganese ore - Constituents (NIM-GBW07266)	100 g

	Al2O3	BaO	CaO	Cu	Fe (tot)	K2O	MgO	Mn	MnCO3	MnO2	Na2O	Ni	P	S	SiO2	TiO2	Zn
(a)	2.20	0.68	1.06	0.013	1.22	1.00	0.64	45.39		67.25	0.044	0.019	0.054	0.007	16.16	0.063	0.027
(b)	3.00	0.47	3.60	0.014	2.24	0.46	1.44	36.99		54.38	0.048	0.019	0.081	0.013	22.24	0.10	0.029
(c)	8.55	0.18	0.083	0.036	11.24	0.93	0.11	32.54		48.01	0.039	0.099	0.207	0.019	14.50	0.43	0.064
(d)	8.97	0.23	0.051	0.028	20.99	0.72	0.10	25.00		36.93	0.030	0.073	0.275	0.032	10.46	0.54	0.048
(e)	1.68	0.13	14.73	0.009	1.40	0.46	3.50	22.54	22.46		0.024	0.041	0.043	0.21	14.07	0.10	0.018
(f)	2.49	0.15	19.78	0.014	2.07	0.70	3.82	15.74	15.69		0.040	0.050	0.061	0.27	15.82	0.15	0.020

Mercury ore

CGL-USZ43-2006	(a)	CRM	Mercury ore - Hg (CGL 125)	100 g

	CaO	Co	Cr	Cu	Fe2O3	FeO	Hg	K2O	MgO	MnO	Na2O	Ni	SiO2	Sr	TiO2	V
(a)	17.39	0.0047	0.21	0.00077	4.66	0.49	0.0689	0.03	9.93	0.29	0.07	0.1	41.01	0.0382	0.018	0.0038

Molybdenum Ore

NIST-423	(a)	CRM	Molybdenum oxide concentrate	60 g

Ores

NIST-333A	(b)	CRM	Molybdenum sulfide concentrate	60 g
CGL-USZ5-88	(c)	CRM	Molybdenum concentrate - MoB (CGL 202)	100 g
NIM-GBW07238	(d)	CRM	Molybdenum ore - Constituents (NCS DC70006)	50 g
IGS- 27	(e)	CRM	Molybdenum-Tungsten ore	65 g
NIM-GBW07239	(f)	CRM	Molybdenum ore - Constituents (NCS DC70007)	50 g

	Ag	Al2O3	As	Bi	C	Ca	CaO	Cd	Ce	Cr	Cu	Dy	Er	Eu	F	Fe	Fe2O3
(a)	(0.0029)			(0.006)	(0.025)					(0.0034)	0.0640					(1.708)	
(b)	(0.0013)		(0.015)	(0.003)		(0.12)				(0.005)	0.0640					(1.022)	
(c)											1.35						
(d)		3.46	0.00016	0.00022			31.44	0.000012	0.00208	(0.0024)	0.00936	0.00018	0.0001	0.000059	4.08	21.34	
(e)																1.76	
(f)		7.27	0.0001	0.0001			23.03	0.000009	0.00603	(0.0035)	0.00486	0.00058	0.00032	0.00015	1.33	14.66	

	Ga	Gd	Ge	Ho	In	K	K2O	La	Li	Lu	Mg	MgO	Mn	MnO	Mo	Na	Na2O
(a)											(0.10)		(0.009)		58.68	(0.2)	
(b)						(0.06)					(0.02)		(0.002)		54.86	(0.01)	
(c)															51.6		
(d)	0.00251	0.00019	0.0019	0.000036	0.00029		0.046	0.00071	(0.00032)	0.000016		0.86		1.4	1.51	0.075	
(e)															0.29		
(f)	0.00231	0.00058	0.00124	0.00012	0.00013		0.82	0.00374	(0.0013)	0.000041		1.83		1.49	0.11	0.77	

	Nd	Ni	P	Pb	Pr	Re	S	Sb	Sc	Se	SiO2	Sm	Sn	Tb	Te	Th	TiO2
(a)				(0.0433)		(0.004)	(0.063)	(0.0024)									
(b)				(0.0111)		(0.035)	(37.7)	(0.01)									
(c)			0.014			0.05					4.5						
(d)	0.00113	0.00178		0.00187	0.0003	(0.000035)	1.64	0.00012	0.00034	0.00021	34.1	0.00021	0.00867	0.000034	0.00004	0.00023	0.13
(e)																	
(f)	0.00298	0.00209		0.00261	0.00074	(0.000012)	0.48	0.000026	0.00084	0.000027	46.67	0.00064	0.00332	0.000098	0.000014	0.00097	0.36

	Tl	Tm	V	W	Y	Yb	Zn
(a)			(0.0023)				(0.017)
(b)			(0.0014)				(0.002)
(d)	0.000006	0.000014		0.36	0.00114	0.0001	0.00655
(e)				0.036			
(f)	0.000021	0.000044		0.1	0.00342	0.00028	0.012

Nickel Ore

VS-1702-86	(a)	CRM	Nickel concentrate	100 g
IGS- 21	(b)	CRM	Nickel ore (Norite)	50 g

	Cu	Fe	Ir	Ni	Os	Pd	Pt	Rh	Ru
(a)			0.000011	5.4	0.000006	0.003	0.00086	0.000098	0.000034
(b)	0.798	23.4		1.97					

NIST-671	(a)	CRM	Nickel oxide 1	25 g
NIST-672	(b)	CRM	Nickel oxide 2	25 g
NIST-673	(c)	CRM	Nickel Oxide 3	25 g
BAM-RS 5	(d)	CRM	Nickel oxide, powder with 5 - 20µm particle size	100 g

	Al	As	B	Ba	Bi	C	Ca	Cd	Co	Cr	Cu	Fe	Ga	In	K	Li	Mg
(a)	0.009	(0.005945)			0.000007			(0.00007)	0.31	0.025	0.2	0.39	(0.00008)			0.03	
(b)	0.004				0.00003			(0.00017)	0.55	0.003	0.018	0.079	(0.00004)			0.02	
(c)	0.001	(0.4 ppm)			0.000006			(0.000005)	0.016	0.0003	0.002	0.029	(0.00001)			0.003	
(d)		<0.00002	(0.0002)	<0.0001	(0.0001)	0.0014	0.00022	<0.00002	<0.0002	0.00161	0.000153	0.0041	<0.00005	(0.0001)	<0.0002	(0.0002)	<0.0001

	Mn	Mo	Na	NiO	Pb	S	Sb	Se	Si	Sn	Sr	Te	Ti	Tl	V	W	Zn
(a)	0.13			76.6	0.0016		(0.00004)	0.0002	0.047	(0.00027)		(0.00002)	0.024	(0.00001)		(0.016)	
(b)	0.095			77.1	0.0038		(0.00005)	0.00004	0.11	(0.0004)		(0.00002)	0.009	(0.00001)		(0.014)	
(c)	0.0037			77.7	0.00035		(0.00005)	0.00002	0.006	(0.00005)		(0.00004)	0.003	(0.00001)		(0.00017)	
(d)	<0.0001	<0.0005	<0.0002		<0.0002	(0.0004)	(0.00001)	<0.0001	(0.0005)	(0.0001)	(0.0001)	(0.00002)	(0.0002)	<0.00005	<0.0001	(0.0001)	0.00034

	Zr
(d)	(0.0001)

Niobium ore

DH-SX18-03	(a)	RM	Niobium Concentrate	100 g
DH-SX18-05	(b)	RM	Niobium Dolomite	100 g
DH-SX18-01	(c)	RM	Niobium Ore	100 g

Ores

DH-SX18-02	(d)	RM	Niobium Ore	100 g
DH-SX18-06	(e)	RM	Niobium Dolomite	100 g

	Al2O3	BaO	CO2	CaO	CeO2	F	Fe	K2O	La2O3	MgO	MnO	Na2O	Nb2O5	Nd2O3	P2O5	S	SiO2
(a)	0.291	0.201	0.097	13.02	0.556	3.65	3.5	0.233	0.153	0.136	0.325	5.28	60.62	0.207	0.102	0.051	1.91
(b)	2.07	0.055	27.13	27.16	0.128		7.37	1.03	0.059	12.48	0.794	0.173	0.973	0.059	5.78	0.899	7.82
(c)	2.61	0.154	29.95	26.86	0.096		5.68	1.38	0.042	13.53	0.825	0.142	0.696	0.051	3.84	0.68	8.75
(d)	2.67	0.162	30.16	26.96	0.098		5.72	1.41	0.041	13.51	0.827	0.109	0.2	0.049	3.92	0.616	8.91
(e)	0.945	0.046	36.82	27.77	0.086		5.44	0.525	0.04	16.16	1.12	0.061	0.095	0.038	1.75	0.798	3.38

	SrO	Ta2O5	ThO2	TiO2	U3O8	V2O5	Y2O3	ZnO	ZrO2
(a)	1.2	0.273	0.77	4.26	0.202	0.073	0.085	0.001	0.847
(b)	0.164	(0.004)	0.032	0.295	(0.007)	0.046	0.035	0.017	0.218
(c)	0.123	0.005	0.018	0.266	0.002	0.028	0.017	0.043	0.094
(d)	0.116	0.002	0.01	0.237	0.002	0.027	0.016	0.039	0.074
(e)	0.274	(0.001)	0.01	0.089	(0.002)	(0.009)	(0.009)	0.013	0.027

Platinum ore

NCS DC73397-500	(a)	CRM	Platinum group ore	500 g
NCS DC73398-500	(b)	CRM	Platinum group ore	500 g
NCS DC73399-500	(c)	CRM	Platinum group ore	500 g

		Au (ppb)	Ir (ppb)	Os (ppb)	Pd (ppb)	Pt (ppb)	Rh (ppb)	Ru (ppb)
	(a)	(2.3)	0.16	0.25	0.66	0.66	0.066	0.43
	(b)		28	43	570	1900	7.3	74
	(c)		2.1	(2)	1670	5700	1.5	(2)

NIM-GBW07288	(a)	CRM	Platinum group (NCS DC73352)	1000 g
NIM-GBW07289	(b)	CRM	Platinum group (NCS DC73353)	1000 g
NIM-GBW07290	(c)	CRM	Platinum group (NCS DC73354)	1000 g
NIM-GBW07291	(d)	CRM	Platinum group (NCS DC73355)	1000 g
NIM-GBW07292	(e)	CRM	Platinum group (NCS DC73356)	1000 g
NIM-GBW07293	(f)	CRM	Platinum group (NCS DC73357)	1000 g
NIM-GBW07294	(g)	CRM	Platinum group (NCS DC73358)	1000 g

	Au(µg/g)	Ir(µg/g)	Os(µg/g)	Pd(µg/g)	Pt(µg/g)	Rh(µg/g)
(a)	0.90	(0.04)	(0.05)	0.26	0.26	
(b)	10	(0.05)	(0.05)	2.3	1.6	
(c)	1.1	4.3	9.6	4.6	6.4	1.3
(d)	4.3	4.7	2.4	60	58	4.3
(e)		136	353	11.3	20	10
(f)	(45)	28	15.6	568	440	22
(g)	(1.8)	1.2	0.64	15.2	14.7	1.1

Rare-Earth ore

NCS DC86310	(a)	CRM	Rare earth ore	100 g
NCS DC86311	(b)	CRM	Rare earth ore	100 g
NCS DC86312	(c)	CRM	Rare earth ore	100 g
NCS DC86317	(d)	CRM	Rare earth ore	100 g

NCS DC86318	(e)	CRM	Rare earth ore	100 g
CGL-USZ25-2006	(f)	CRM	Rare-earth ore - TRM-2 (CGL 111)	100 g
CGL-USZ42-2006	(g)	CRM	Rare-earth ore - TRLK (CGL 124)	100 g
CGL-USZ44-2007	(h)	CRM	Rare-earth ore - TRHB (CGL 126)	100 g

	Al2O3	As	Ba	CO2	CaO	Ce	CeO2	Co	Cr	Cs	CsO2*	CsO2	Cu	Dy	Dy2O3	Dy2O3*	
(a)	14.72				(0.03)		0.00219				17.9					56.9	
(b)	14.60				(0.03)		0.00341				17.9				0.037		
(c)	19.02				0.029		0.023				5.66				0.021		
(d)	16.59				(0.11)		0.021					0.0148			0.12		
(e)	(14.26)				0.29		0.053					0.00126			0.37		
(f)	2.47	0.0156	0.0917	1.04	25.51	0.00029		0.00325					0.0128	0.0206			
(g)	2.72	0.0224	0.0307	29	32.68	2.76		7.89					0.0027	0.005763			
(h)	10.93	0.00437	0.0095		2.03	0.1000				0.0200	0.000105			0.0013	0.00000165		

	Er	Er2O3	Eu	Eu2O3	Eu2O3*	F	F-	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Gd2O3	Gd2O3*	H2O+	Hf	Ho
(a)		0.00366			0.37		0.034		1.16	0.053				32.9	3.61		
(b)		0.022			1.83		0.034		1.13	(0.04)				0.03	3.66		
(c)		0.011			76.6	0.014			3.45	(0.07)			0.026		6.64		
(d)		0.068		0.000956			0.15	0.71		0.18			0.091		4.63		
(e)		0.20		0.00219			0.017	2.24		0.20			0.25		3.60		
(f)	0.00795		0.0212						13.45	0.14		0.0553				0.00366	
(g)			0.008722						5.71							0.000786	
(h)			0.00083						3.38		0.0064	0.0117				0.0400	0.0037

	Ho2O3	Ho2O3*	K	K2O	LOI	La	La2O3	La2O3*	Li	Li2O	Li2O*	Lu	Lu2O3	Mg	MgO	Mn	MnO
(a)		12.1		4.94	3.70			5.67		0.015					0.080	0.016	
(b)		76.3		4.87	3.78			30.8		0.015					0.080	0.016	
(c)		42.3		2.09	6.82		13.7				40				0.226	0.068	
(d)	(0.023)			4.03	5.42		0.25			0.0396			0.00645		0.13	0.10	
(e)	(0.064)			5.52	5.43		0.23			0.0121			0.030		(0.11)	0.052	
(f)			0.91		6.78	0.000193						0.000764		0.5		0.14	
(g)			1.55		30.56	0.000211			0.0022					2.78		1.67	
(h)				3.7	1.64	0.0434			0.0037							0.06	

	Mo	Na	Na2O	Nb	Nd	Nd2O3	Ni	P	P2O5	Pb	Pr	Pr6O11	RE2O3	REE(tot)	REE(ox)	Rb	Rb2O
(a)			0.157			0.00279			(0.003)			0.000632	0.086			0.069	
(b)			0.155			0.022			(0.002)			0.0045	0.493			0.068	
(c)			0.062			0.186			(0.03)			0.054	0.787			0.011	
(d)			0.13			0.24			(0.0073)			0.066			1.83	0.12	
(e)			0.66			0.40			(0.020)			0.089			4.30	0.0404	
(f)		0.92			0.000088		0.0071	19.26			0.28			7.56		0.043	
(g)	0.0034	0.25		0.0031	0.000065		0.0013	0.22		0.1600	0.2200			8.27		0.0067	
(h)			3.46		0.0434					0.0149	0.0122					0.0641	

	S	Sc2O3	Sc2O3*	Si	SiO2	Sm	Sm2O3	Sr	Ta	Tb	Tb4O7	Tb4O7*	Th	Th*	Ti	TiO2	Tm2O3
(a)			9.26		74.61		0.00153					8.03		40.0		0.022	
(b)			8.96		74.28		0.015					56.2		38.8		(0.02)	
(c)			11.6		66.77		0.033					40.5		23.8		0.532	
(d)		0.00101			70.92		0.066				0.019		0.00210			(0.018)	0.00829
(e)		0.00072			66.90		0.20				0.055		0..670			0.17	0.031
(f)	4.58			14.86		0.0900		2.24		0.00546					0.15		
(g)				11.86		0.0539		0.4900							0.2		
(h)					71.38	0.0120		0.0158	0.0123	0.0025			0.0202			0.31	

	Tm2O3*	U	V	W	Y	Y2O3	Yb	Yb2O3	Zn	Zr
(a)	5.60					0.057		0.0036		
(b)	32.6					0.312		0.021		
(c)	15.1					0.125		0.0097		
(d)						0.80		0.051		
(e)						2.16		0.21		
(f)			0.0139		0.0959		0.00545		0.0600	
(g)			0.1150		0.0167		0.001785		0.0469	
(h)		0.0057		0.0088	0.1102		0.0123		0.0534	1.5800

Silver ore

CGL-USZ9-91	(a)	CRM	Silver ore - AAg-700 RS-3 (CGL 106)	250 g
NCS DC90006	(b)	CRM	Ag in Silver ore	50 g
NCS DC90005	(c)	CRM	Ag in Silver ore	50 g
NCS DC90004	(d)	CRM	Ag in Silver ore	50 g
CGL-USZ17-94	(e)	CRM	Silver-bearing complex ore - TsAg (CGL 108)	250 g
CGL-USZ8-91	(f)	CRM	Silver ore - AAg-300 RS-2 (CGL 105)	250 g
NCS DC90003	(g)	CRM	Ag in Silver ore	50 g

Ores

		Ag	Al2O3	As	Bi	CaO	Cd	Cu	Fe(tot)	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	Pb	SO3	Sb
	(a)	0.074						2.25								0.041		
	(b)	0.0732																
	(c)	0.0559																
	(d)	0.0446																
	(e)	0.034792	5.82			3.87		0.44	7.425		1.56	0.45	(2.39)	(0.13)	0.12	10	21.25	
	(f)	0.0331	2.11	0.53	0.11	0.25	0.002	0.83		48.4	0.53	1.48	2.77		0.54	0.13	6.85	0.5
	(g)	0.0298																

	SiO2	TiO2	Zn
(a)			0.2
(e)	42.08	0.3	8.72
(f)	17.8	0.12	0.59

NCS DC29106	(a)	CRM	Gold and Silver Ore	50 g
CGL-USZ7-91	(b)	CRM	Silver ore - AAg-150 RS-1 (CGL 104)	250 g
NCS DC29105	(c)	CRM	Gold and Silver Ore	50 g
NCS DC90002	(d)	CRM	Ag in Silver ore	50 g
NCS DC29104	(e)	CRM	Gold and Silver Ore	50 g
NCS DC90001	(f)	CRM	Ag in Silver ore	50 g

	Ag	Al2O3	As	CaO	Cd	Cu	Fe (tot)*	Fe(tot)	H2O+	H2O-	Hg	K2O	MgO	MnO	Na2O	P2O5	Pb
(a)	0.0199	(11.7)	0.078	(1.95)		0.68		(23.6)	(1.62)	(0.35)	(0.0018)	(2.82)	(1.2)	(0.382)	(0.41)	(0.145)	0.01
(b)	0.0169				0.0015	0.46										0.101	
(c)	0.01381	(12.88)	0.073	(2.11)		0.5		(19.82)	(1.65)	(0.32)	(0.00101)	(3.08)	(1.24)	(0.382)	(0.92)	(0.186)	0.02
(d)	0.0112																
(e)		(14.61)	0.027	(3.25)		0.19	(11.51)		(2.42)	(0.30)	(0.000385)	(3.31)	(2.7)	(0.248)	(1.18)	(0.152)	0.00838
(f)	0.00469																

	S	Sb	SiO2	TiO2	Zn
(a)	(7.06)	0.05	(38.68)	(0.496)	0.011
(b)					0.42
(c)	(3.96)	0.032	(42.74)	(0.555)	0.00676
(e)	(1.49)	0.012	(51.38)	(0.682)	0.00849

Tantalum ore

CAN-TAN-1	(a)	CRM	Tantalum Ore	200 g
NCS DC86305	(b)	CRM	Tantalum ore	100 g
NCS DC86306	(c)	CRM	Tantalum ore	100 g
NCS DC86315	(d)	CRM	Tantalum ore	100 g

	Al2O3	BeO	CaO	CeO2	Cs2O	Dy2O3	Er2O3	Eu2O3	F	F-	Fe	Fe(tot)	FeO	Gd2O3	H2O+	Ho2O3	K
(a)											(0.2)					(1.5)	
(b)	14.28	0.033	0.107	0.00036	0.064	0.000065	0.000027	0.000016	1.32			0.324	(0.019)	0.000084	1.52	0.000013	
(c)	14.25	0.033	0.105	0.00165	0.066	0.00011	0.000056	0.000018	1.33			0.377	(0.026)	0.00012	1.52	0.000022	
(d)	14.58	0.00125	0.71	0.00165	0.000814	0.000472	0.000265	0.000013		0.019		0.68	0.26	0.000347	0.56	0.000088	

	K2O	La2O3	Li2O	Lu2O3	Mg	MgO	Mn	MnO	Na	Na2O	Nb2O5	Nd2O3	P2O5	Pr6O11	REE(ox)	Rb2O	Sc2O3
(a)					(0.02)		(0.02)		(4.6)								
(b)	2.04	0.00033	0.79	0.0000028		0.05		0.115		3.62	0.00423	0.00034	0.347	0.000086	0.00186	0.244	0.000064
(c)	2.01	0.00069	0.779	0.000015		0.048		0.144		3.68	0.43	0.00064	0.348	0.00022	0.0045	0.241	0.00061
(d)	4.11	0.000765	0.0106	0.000037		0.093		0.45		4.4	0.52	0.000784	(0.04)	0.000191	0.0081	0.0244	0.000214

	Si	SiO2	Sm2O3	Sn	Ta	Ta2O5	Tb4O7	TiO2	Tm2O3	W	Y2O3	Yb2O3
(a)	(33.4)			(0.01)	0.2365	0.288						
(b)		75.06	0.000077	(0.0052)		0.00886	0.000014	0.027	0.04	0.00164	0.00037	0.000024
(c)		74.98	0.00014	(0.0063)		0.07	0.000022	0.032	0.11	0.02	0.00053	0.000093
(d)		72.34	0.000248	(0.000265)		1.02	0.000072	0.039	0.000038	0.000214	0.00299	0.000237

Tin Ore

BCR-010	(a)	CRM	Tin ore powder - Tin	225 g
NIM-GBW07231	(b)	CRM	Tin concentrate	100 g
BAS-BCS-CRM 355	(c)	CRM	Tin Ore	100 g
NCS DC35012	(d)	CRM	Tin concentrate	70 g
NCS DC35009	(e)	CRM	Tin ore	60 g
NCS DC35011	(f)	CRM	Tin concentrate	100 g
NCS DC35008	(g)	CRM	Tin ore	60 g
NIM-GBW07232	(h)	CRM	Tin concentrate	100 g

Ores

	Al	Al2O3	As	Bi	Ca	Cu	F	Fe	Ni	Pb	S	Sb	Si	SiO2	Sn	Ti	W
(a)																	
(b)			0.574					21.33		2.89	0.183	0.024			45.8		
(c)	4.12		0.14	0.015	2.63	0.085	2.02	17.08	0.004	0.012	0.5		7.14		31.42	0.37	0.35
(d)			0.097			0.109									3.98		
(e)		6.7	2.17	0.12		1.09				0.095				4.99	0.93		
(f)			0.046			0.077									0.737		
(g)			0.084			0.037		22.62		2.07		0.013			0.125		
(h)			0.306			0.043		9.53		1.62	0.09	0.016		0.93			

	WO3	Zn
(b)		0.264
(c)		0.059
(e)		1.49
(g)		0.51
(h)	0.182	0.12

Titanium Ore

IGS-32	(a)	CRM	Rutile	45 g
VS-P31	(b)	CRM	Ilmenite concentrate	100 g

	Al2O3	Cr2O3	Fe	P2O5	SiO2	Ti	TiO2
(a)						(57.19)	
(b)	1.99	2.59	24.4	0.25	1.24		56.5

Tungsten Ore

NIST-2430	(a)	CRM	Scheelite ore - Tungsten oxide	100 g
NIST-277	(b)	CRM	Tungsten concentrate - Tungsten oxide	100 g
VS-2040	(c)	CRM	Tungsten ore	100 g
CGL-USZ26-99	(d)	CRM	Tungsten-molybdenum ore - WMo (CGL 112)	100 g
VS-2042	(e)	CRM	Tungsten ore	100 g
VS-1710-79	(f)	CRM	Tungsten ore	100 g
VS-1712-79	(g)	CRM	Tungsten ore	100 g
VS-1714-79	(h)	CRM	Tungsten ore	100 g
VS-1715-79	(i)	CRM	Tungsten ore	100 g

	Ag	Al2O3	As	Ba	Be	Bi	CO2	CaO	Co	Cr	Cs	Cu	Fe	Fe (tot)*	FeO	H2O-	K2O
(a)			0.002			0.078											
(b)																	
(c)						0.0058						0.053	0.94				
(d)		14.14	0.09	(0.051)		0.0067	(0.56)	1.95	0.0011	(0.015)	(0.0073)	0.022		5.59	3.72	(0.18)	4.32
(e)						0.0032						0.105	4.417				
(f)						0.146											
(g)	0.01503				0.021	1.30						0.077					
(h)	0.00103					0.089											
(i)					0.013	0.054						0.020					

	Li	MgO	MnO	Mo	Na2O	Ni	P	Pb	Rb	S	SO3	Sb	SiO2	Sn	Sr	TiO2	V
(a)				0.22			0.017			0.26							
(b)																	
(c)				0.016													
(d)	(0.04)	2.04	0.12	0.079	2.13	0.0035		0.0076	0.106		(0.51)	(0.002)	64.87	(0.016)	0.0078	0.82	0.01
(e)				0.039													
(f)																	
(g)				0.26				0.77						0.89			
(h)				0.041										0.0113			
(i)				0.026				0.049						0.068			

	WO3	Zn	Zr
(a)	70.26		
(b)	67.4		
(c)	0.49		
(d)	0.41	0.017	0.017
(e)	0.38		
(f)	71.6		
(g)	6.00	0.28	
(h)	1.04		
(i)	0.60	0.038	

VS-2039	(a)	CRM	Tungsten ore	100 g

VS-1713-79	(b)	CRM	Tungsten ore	100 g
VS-2041	(c)	CRM	Tungsten ore	100 g
VS-1711-79	(d)	CRM	Tungsten ore	100 g
CAN-CT-1	(e)	CRM	Tungsten Ore	200 g
CAN-BH-1	(f)	CRM	Tungsten Ore	200 g
NIM-GBW07240	(g)	CRM	Tungsten ore (NCS DC70008)	50 g
NIM-GBW07241	(h)	CRM	Tungsten ore - Constituents (NCS DC70009)	50 g
CAN-TLG-1	(i)	CRM	Tungsten Ore	200 g
CAN-PM-2A	(j)		Tungsten-Molybdenum ore	200 g

	Ag	Al2O3	As	Be	Bi	CaO	Cd	Ce	Cr	Cs	Cu	Dy	Er	Eu	F	Fe	Fe2O3
(a)					0.023						0.027					2.47	
(b)	0.00055			0.0058	0.015												
(c)					0.0058						0.053					0.94	
(d)				0.0022	0.0044												
(e)																	
(f)																	
(g)	0.00083	8.24	0.18		0.011	37.73	0.00261	0.001	(0.00065)	(0.0036)	0.79	0.000046	0.000023	0.000015	9.91	7.79	
(h)	0.00018	11.15	0.00696		0.068	4.17	0.000094	0.00603	(0.003)	(0.0041)	0.096	0.00207	0.00131	0.000017	4.84	5.6	
(i)																	
(j)																	

	Ga	Gd	Ge	Ho	In	K2O	La	Li	Lu	MgO	MnO	Mo	Na2O	Nd	Ni	Pb	Pr
(a)												0.0026					
(b)												0.011					
(c)												0.016					
(d)												0.0026					
(e)																	
(g)	0.00178	0.000064	0.00025	0.000011	0.00087	1.94	0.0005	(0.02)	0.000006	1.45	0.97	0.00042	0.16	0.0004	0.00041	0.26	0.00011
(h)	0.00165	0.00148	0.00112	0.00045	0.00013	1.58	0.00018	(0.03)	0.00024	0.14	0.09	0.098	0.12	0.000329	0.00028	0.00812	0.00079
(i)																	

	Rb	Re	S	Sb	Sc	Se	SiO2	Sm	Sn	Tb	Te	Th	TiO2	Tl	Tm	W	WO3
(a)																0.22	
(b)									0.028							0.17	
(c)																0.076	
(d)									0.0071							0.036	
(e)																1.04	
(g)	(0.08)	(0.000012)	3.12	0.00051	0.00018	0.000039	13.27	0.000079	0.14	0.000015	0.000066	0.00022	0.079	0.0005	0.000004	0.02	
(h)	(0.05)	(0.000008)	1.9	0.00031	0.00054	0.000096	71.27	0.00125	0.17	0.00033	0.00029	0.00283	0.044	0.00018	0.00022	0.22	
(i)																0.083	

	Y	Yb	Zn
(a)			
(b)			
(c)			
(d)			
(g)	0.00028	0.000028	0.29
(h)	0.0128	0.00149	0.01

Uranium ore

SARM 79-100	(a)	CRM	Uranium ore	100 g
SARM 79-500	(b)	CRM	Uranium ore	500 g
SARM 86-100	(c)	CRM	Uranium ore	100 g
SARM 86-500	(d)	CRM	Uranium ore	500 g
SARM 97	(e)	CRM	Witwatersrand uranium ore	100 g
SARM 98	(f)	CRM	Witwatersrand uranium ore	100 g

	U (ppm)
(a)	499
(b)	499
(c)	1206
(d)	1206
(e)	101
(f)	205

Zinc Ore

IM KC8	(a)	CRM	Zinc concentrate	150 g
NIST-113B	(b)	CRM	Zinc concentrate	100 g
CAN-CZN-4	(c)	CRM	Zinc Concentrate	200 g
IM TC9	(d)	CRM	Zinc Oxide, sintered	220 g
NCS DC35004	(e)	CRM	Zink Concentrate	80 g
NCS DC29115	(f)	CRM	Lead-Zinc ore	50 g
IM RG8	(g)	CRM	Galmei Ore	130 g
NCS DC29111	(h)	CRM	Lead-Zinc ore	50 g
IM RB7	(i)	CRM	Blackjack / Zinc Blende	170 g
NIM-GBW07237	(j)	CRM	Zinc ore - Constituents (NCS DC70005)	50 g
GSJ-JZN-1	(k)	CRM	Pb-Zn mineral - Constituents	100 g

	Ag	Al	Al2O3	As	Au	Ba	Bi	C	C (tot)	Ca	CaO	Cd	Ce	Cl	Co	Cr	Cu
(a)			0.03								2.37	0.4					
(b)	0.04607									0.8196		0.7804				0.2953	
(c)	0.00514	0.0715		0.0356	(0.000004)		(0.001)	(0.09)		(0.0419)		0.2604		(0.003)	0.00935	0.403	
(d)											6.96	0.0049		0.033			
(e)				0.024								0.042				0.135	
(f)	0.00053		(3.25)	0.0095							(0.67)	0.119				0.021	
(g)			0.9								26.45	0.047					
(h)	0.00129		(9.96)	0.009							(1.15)	0.019				0.02	
(i)											24.35	0.033					
(j)	0.00135		2.8	0.00124			0.00564				1.91	0.00293	0.00023			(0.0062)	0.71
(k)			(6.32)	(0.0099)		(0.0208)			(1.28)		(18.1)	(0.0114)			(0.0024)	(0.0021)	(0.0029)

	Dy	Er	Eu	F	Fe	Fe (tot)	Fe2O3	Fe2O3(T)	Ga	Gd	Ge	H2O+	H2O-	Hg	Hg (ppm)	Ho	In
(a)					0.88												
(b)					2.077									(0.000055)			
(c)				(0.004)										0.000454		(0.02)	
(d)				0.055	5.64												
(e)					4.13												
(f)						(3.93)						(0.69)	(0.29)		(84.8)		
(g)					6.34												
(h)						(2.62)						(1.22)	(0.34)		(12.6)		
(i)					8.28												
(j)	0.000049	0.000028	0.000006	1.2			3.5		0.0008	0.000031	0.00014					0.000013	0.000023
(k)								(11.8)				(1.71)	(0.61)				

	K2O	LOI	La	Li	Lu	Mg	MgO	Mn	MnO	Mo	Na2O	Nd	Ni	P2O5	Pb	PbO	Pr
(a)							1.21								2.2		
(b)						0.446									2.731		
(c)						(0.0352)		(0.009)					(0.0016)		0.1861		
(d)							3.5								3.77		
(e)															0.35		
(f)	(0.95)						(0.62)		(0.191)		(0.2)			(0.056)	1.25		
(g)							12.16								0.84	(0.72)	
(h)	(2.81)						(0.86)		(0.195)		(0.71)			(0.052)	0.48		
(i)							15.26								(0.26)		
(j)	0.99		0.00013	(0.0086)	0.000008		0.082		0.026	0.00028	0.56	0.000092	0.00055		0.25	0.00003	
(k)	(0.83)	(6.61)		(0.00195)			(1.94)		(1.49)		(0.45)		(0.0006)	(0.005)	(0.161)		

	Rb	S	S (tot)	Sb	Sc	Se	Si	SiO2	Sm	Sn	Sr	Tb	Te	Th	TiO2	Tl	Tm
(a)		29.58						0.14									
(b)		30.032															
(c)		33.07		(0.001)		0.00867	0.295			(0.05)							
(d)		0.52						5.47									
(e)								19.89		0.06							
(f)		(16.3)		0.00205				(41.23)							(0.16)		
(g)		0.57						2.64									
(h)		(3.13)		0.0009				(69.88)							(0.45)		
(i)		(10.3)						(0.8)									
(j)	(0.0073)	2.87		0.00011	0.000033	0.00023		82.95	0.000036	0.00061		0.00001	0.000017	(0.00011)	0.017	0.000049	0.000005
(k)	(0.0042)		(1.30)	(0.0031)				(43.95)			(0.0358)				(0.20)		

	V	W	Y	Yb	Zn	ZnO
(a)					59.52	
(b)					56.49	
(c)					55.24	
(d)					53.4	
(e)					42.98	
(f)					30.19	
(g)					5.4	(4.36)
(h)					4.94	
(i)					3.07	
(j)		0.00034	0.00045	0.000042	2.75	
(k)	(0.0024)				(2.22)	

BCR-109 (a) CRM Zinc ore concentrate - Trace elements 200 g

BCR-110 (b) CRM Zinc ore concentrate - Trace elements 75 g

	Cd	Cu	F	Fe	Hg(ppm)	Mg	Pb
(a)		0.946	0.0081	14.51	0.96	0.02	0.738
(b)	1.051	1.628	0.0055	0.55	1.484	0.136	9.78

Zirconium ore

NCS DC86307	(a)	CRM	Zirconium Ore	100 g
NCS DC86308	(b)	CRM	Zirconium Ore	100 g
NCS DC86316	(c)	CRM	Zirconium ore	100 g

	CaO	CeO2	Dy2O3	Er2O3	Eu2O3	F	F-	Fe(tot)*	FeO	Gd2O3	H2O+	HfO2	Ho2O3	K2O	La2O3	Lu2O3	MgO
(a)		0.00707	0.00028	0.00018	0.00012	0.08		4.8	1.83	0.00034	1.35	0.00421	0.000059	3.37	0.00366	0.000038	2.1
(b)	2.64	0.00747	0.00046	0.00046	0.00012	0.082		4.69	1.82	(0.00041)	1.29	0.025	0.00013	3.31	0.00379	0.00015	2.01
(c)	0.63	0.0146	0.00149	0.00164	0.000055		0.027	0.38	0.1	0.000992	0.49	0.084	0.000366	3.9	0.00692	0.000611	0.079

	MnO	Na2O	Nd2O3	P2O5	Pr6O11	REO	Sc2O3	SiO2	Sm2O3	Tb4O7	Th	TiO2	Tm2O3	W	Y2O3	Yb2O3	ZrO2
(a)	0.085	3.83	0.00275	0.163	0.00077	0.018	0.00141	66.02	0.00047	0.000053	0.00078	0.42	0.000031		0.00195	0.00022	0.187
(b)	0.083	3.74	0.00269	0.167	0.00078	0.022	0.00148	65.66	0.00049	0.000074	0.00152	0.41	0.000092		0.00419	0.00078	1.25
(c)	0.021	4.2	0.00534	0.04	0.00157	0.0515	0.00107	70.73	0.00101	0.000202	0.0202	0.64	0.000284	0.000501	0.0142	0.00259	4.68

Paint

Paint

Code	Product			Unit
NIST-2570	(a)	CRM	Lead paint film (white/blank) - Lead	2 sheets
NIST-2571	(b)	CRM	Lead paint film (yellow) - Lead	2 sheets
NIST-2572	(c)	CRM	Lead paint film (orange) - Lead	2 sheets
NIST-2573	(d)	CRM	Lead paint film (red) - Lead	2 sheets
NIST-2574	(e)	CRM	Lead paint film (gold) - Lead	2 sheets
NIST-2575	(f)	CRM	Lead paint film (green) - Lead	2 sheets
NIST-2576	(g)	CRM	Lead paint film (blue) - Lead	2 sheets
		Pb (mg/cm2)		
	(a)	0.001		
	(b)	3.58		
	(c)	1.527		
	(d)	1.040		
	(e)	0.714		
	(f)	0.307		
	(g)	5.59		
NIST-2580	(a)	CRM	Powdered paint - Lead	30 g
NIST-2581	(b)	CRM	Powdered paint - Lead	35 g
NIST-2582	(c)	CRM	Powdered paint - Lead	20 g
NIST-2589	(d)	CRM	Powdered paint - Lead	35 g
		Pb		
	(a)	4.34		
	(b)	0.449		
	(c)	0.02088		
	(d)	9.99		
NIST-RM 8680	(a)		Paint on fiberboard - Lead	sheet
	(a)		Lead reference values (mg/cm2) are individually assigend to the reference materials and can be found on the report of investigation.	
ASI-PB-2M-PEF6	(a)	RM	Lead in Alkyd paint coating on PE film (Set of 6 - No QC)	set
ASI-PB-2M-PEF7	(b)	RM	Lead in Alkyd paint coating on PE film (Set of 7)	set
ASI-PB-2M-PEFQC	(c)	RM	Lead in Alkyd paint coating on PE film (QC Only)	Each

	QC	**Sample 1**	**Sample 2**	**Sample 3**	**Sample 4**	**Sample 5**	**Sample 6**
(a)		0.00	0.375	0.75	2.00	5.50	12.00
(b)	(0.80)	0.00	0.375	0.75	2.00	5.50	12.00
(c)	(0.80)						

Plastics

Acrylonitrile-Butadiene-Styrene

Code	Product			Unit
NMIJ CRM 8102-A	(a)	CRM	ABS resin - Cd, Cr, Pb (low concentration) - pellets	25 g
NMIJ CRM 8103-A	(b)	CRM	ABS resin - Cd, Cr, Pb (high concentration) - pellets	25 g
NMIJ CRM 8112-A	(c)	CRM	ABS resin - Cd, Cr, Hg, Pb (low concentration) - pellets	25 g
NMIJ CRM 8113-A	(d)	CRM	ABS resin - Cd, Cr, Hg, Pb (high concentration) - pellets	25 g
NMIJ CRM 8115-A	(e)	CRM	ABS resin - Cd, Cr, Hg, Pb (low concentration) - disc (30 mm x 2 mm)	disc
NMIJ CRM 8116-A	(f)	CRM	ABS resin - Cd, Cr, Hg, Pb (high concentration) - disc (30 mm x 2 mm)	disc
BAM-H010	(g)	CRM	Acrylonitrile-Butadiene-Styrene-Copolymerisate (ABS) - Pb, Br, Cd, Cr (granulate)	100 g

	Br (ppm)	**Cd (ppm)**	**Cr (ppm)**	**Hg (ppm)**	**Pb (ppm)**
(a)		10.77	27.87		108.9
(b)		106.9	269.5		1084
(c)		9.383	94.47	94.10	94.98
(d)		89.8	905	(915)	905
(e)		9.341	94.27	93.81	94.21
(f)		90.8	912	(903)	916
(g)	240	93	470	(415)	479

Polyester

JSAC 0601-3	(a)	CRM	Plastics (polyester) - Pb, Cd, Cr, Hg	50 g
JSAC 0602-3	(b)	CRM	Plastics (polyester) - Pb, Cd, Cr, Hg	50 g
JSAC 0631	(c)	CRM	Plastics (polyester) for fluorescent X-ray analysis	disc
JSAC 0632	(d)	CRM	Plastics (polyester) for fluorescent X-ray analysis	disc

	(ppm)	**Cd (ppm)**	**Cr (ppm)**	**Hg (ppm)**	**Pb (ppm)**
(a)	12.1	5.0	11.3	1.3	
(b)		50.4	112.6	12.1	112.0
(c)		22.5	25.8	19.7	24.5
(d)		46.1	93.3	59.4	92.9

Plastics

Code	Product					Unit
JSAC 0611	(a)	CRM	Plastics (polyester) for fluorescent X-ray Analysis - Pb, Cd, Cr (40 mm x 4 mm)			disc
JSAC 0612	(b)	CRM	Plastics (polyester) for fluorescent X-ray Analysis - Pb, Cd, Cr (40 mm x 4 mm)			disc
JSAC 0613	(c)	CRM	Plastics (polyester) for fluorescent X-ray Analysis - Pb, Cd, Cr (40 mm x 4 mm)			disc
JSAC 0614	(d)	CRM	Plastics (polyester) for fluorescent X-ray Analysis - Pb, Cd, Cr (40 mm x 4 mm)			disc
JSAC 0615	(e)	CRM	Plastics (polyester) for fluorescent X-ray Analysis - Pb, Cd, Cr (40 mm x 4 mm)			disc
		Cd (ppm)	**Cr (ppm)**	**Pb (ppm)**		
	(a)	(1)	(1)	(1)		
	(b)	4.5	25.5	26.1		
	(c)	10.0	52.0	54.6		
	(d)	23.8	98.6	106.8		
	(e)	43.4	212.8	202.2		
JSAC 0621	(a)	CRM	Polyester with Hg for XRF, Ø40x4mm (Set only)			disc
JSAC 0622	(b)	CRM	Polyester with Hg for XRF, Ø40x4mm (Set only)			disc
JSAC 0623	(c)	CRM	Polyester with Hg for XRF, Ø40x4mm (Set only)			disc
JSAC 0624	(d)	CRM	Polyester with Hg for XRF, Ø40x4mm (Set only)			disc
JSAC 0625	(e)	CRM	Polyester with Hg for XRF, Ø40x4mm (Set only)			disc
		Hg (ppm)				
	(a)	(1)				
	(b)	10.0				
	(c)	49.0				
	(d)	121.1				
	(e)	244.4				
JSAC 0651	(a)	CRM	Polyester with Br for XRF, Ø40x4mm (Set only)			disc
JSAC 0652	(b)	CRM	Polyester with Br for XRF, Ø40x4mm (Set only)			disc
JSAC 0653	(c)	CRM	Polyester with Br for XRF, Ø40x4mm (Set only)			disc
JSAC 0654	(d)	CRM	Polyester with Br for XRF, Ø40x4mm (Set only)			disc
JSAC 0655	(e)	CRM	Polyester with Br for XRF, Ø40x4mm (Set only)			disc
		Br (ppm)				
	(a)	(1)				
	(b)	105.8				
	(c)	292.6				
	(d)	595				
	(e)	993				

Polyethylene

Code	Product			Unit
IARM-MAT-PE-HIGH	(a)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PE-LOW	(b)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PE-BLANK	(c)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc

	Br	Cd	Cr	Hg	Pb
(a)	0.11	0.0300	0.1000	0.1099	0.1199
(b)	0.0500	0.0100	0.0400	0.0200	0.0400
(c)	0	0	0	0	0

Code	Product			Unit
VDA 001	(a)	CRM	Polyethylene - Cadmium (Set only)	bottle
VDA 002	(b)	CRM	Polyethylene - Cadmium (Set only)	bottle
VDA 003	(c)	CRM	Polyethylene - Cadmium (Set only)	bottle
VDA 004	(d)	CRM	Polyethylene - Cadmium (Set only)	bottle

	Cd (mg/kg)
(a)	40.9
(b)	75.9
(c)	198
(d)	407

Code	Product			Unit
ERM-EC680K	(a)	CRM	Polyethylene - Trace elements (low level)	100 g
ERM-EC681K	(b)	CRM	Polyethylene - Trace elements (high level)	100 g
ERM-EC590	(c)	CRM	Polyethylene - Polybrominated biphenylether and biphenyls	20 g
ERM-EC591	(d)	CRM	Polypropylene - Polybrominated biphenylether and biphenyls	20 g

	Br	Cd	Cl	Cr	Hg	Pb	S	Sb
(a)	0.0096	0.00196	0.01022	0.00202	0.000464	0.00136	0.0076	0.00101
(b)	0.077	0.0137	0.08	0.01	0.00237	0.0098	0.063	0.0099
(c)	0.213							
(d)	0.208							

Plastics

Code	Product			Unit
JSM P 700-1	(a)	CRM	Plastic (polyethylene) for chemical analysis	50 g
JSM P 701-1	(b)	CRM	Plastic (polyethylene) for chemical analysis	50 g
JSM P 702-1	(c)	CRM	Plastic (polyethylene) for chemical analysis	50 g
JSM P 703-1	(d)	CRM	Plastic (polyethylene) for chemical analysis	50 g

	Al	As	Br	Ca	Cd	Cl	Cr	F	Fe	Hg	Mg	Na	P	Pb	S	Si	Ti
(a)		0.00091	(0.02)		0.0005	(0.004)	0.00049			0.00053				0.0005	(0.006)		
(b)		0.01873	(0.05)		0.01135	(0.06)	0.01148			0.01116				0.01113	(0.04)		
(c)	0.0012			0.0013		(0.0017)	0.0012		0.0015		0.0015	0.0012	0.0011		(0.0014)	(0.0008)	0.0009
(d)	0.022			0.023		(0.018)	0.020	(0.018)	0.021		0.029	0.024	0.017		(0.021)	0.018	0.017

	Zn
(c)	0.0010
(d)	0.020

JSM P 710-1A	(a)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each
JSM P 710-1B	(b)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each
JSM P 710-1C	(c)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each
JSM P 710-1D	(d)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each
JSM P 710-1E	(e)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each
JSM P 710-1F	(f)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each
JSM P 710-1G	(g)	CRM	Plastic (polyethylene) - Trace elements (30 mm x 30 mm x 3 mm)	Each

	As	Br	Cd	Cr	Hg	Pb
(a)	<0.0001	(0.001)	<0.0001	<0.0001	<0.0001	<0.0001
(b)	0.0009	(0.002)	0.0005	0.0005	0.0005	0.0005
(c)	0.0086	(0.035)	0.0050	0.0052	0.0051	0.0050
(d)	0.0187	(0.05)	0.0114	0.0115	0.0112	0.0111
(e)	0.0478	(0.15)	0.0264	0.0265	0.0254	0.0270
(f)	0.0907	(0.27)	0.0522	0.0515	0.0546	0.0532
(g)	0.1950	(0.62)	0.1110	0.1100	0.1090	0.1120

ASI-PLPE3-1/50	(a)	RM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE3-2/50	(b)	RM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE3-3/50	(c)	RM	RoHS/WEEE compliant polymer standard	50 g

	Br	Cd	Cr	Hg	Pb
(a)	0.0000	0.0000	0.0000	0.0000	0.0000
(b)	0.0250	0.0050	0.0500	0.0500	0.0500
(c)	0.0500	0.0100	0.1000	0.1000	0.1000

Code	Product			Unit
ASI-PLPE9-1/50	(a)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-2/50	(b)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-3/50	(c)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-4/50	(d)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-5/50	(e)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-6/50	(f)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-7/50	(g)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-8/50	(h)	CRM	RoHS/WEEE compliant polymer standard	50 g
ASI-PLPE9-9/50	(i)	CRM	RoHS/WEEE compliant polymer standard	50 g

	Br	Cd	Cr	Hg	Pb
(a)	0.0000	0.0000	0.0000	0.0000	0.0000
(b)	0.0025	0.0025	0.0050	0.0100	0.1000
(c)	0.0400	0.0100	0.0750	0.0075	0.0250
(d)	0.0100	0.0125	0.1250	0.0500	0.0050
(e)	0.0250	0.0075	0.1000	0.0250	0.1250
(f)	0.0500	0.0010	0.0650	0.0800	0.0750
(g)	0.0200	0.0005	0.0250	0.1000	0.0100
(h)	0.0300	0.0050	0.0500	0.0030	0.0500
(i)	0.0050	0.0150	0.0100	0.1200	0.0350

ASI-PLPEQC(50G)	(a)	CRM	ROHS-QC-Standard for PE, 5 elements: Br,Cr,Pb+Hg 500ppm,Cd 50ppm	50 g

	Br	Cd	Cr	Hg	Pb
(a)	0.0250	0.0050	0.0500	0.0500	0.0500

Polypropylene

NMIJ CRM 8133-A	(a)	CRM	PP resin - Cd, Cr, Hg, Pb (high concentration)- pellets	25 g
NMIJ CRM 8136-A	(b)	CRM	PP resin - Cd, Cr, Hg, Pb (high concentration) - disc (30 mm x 2 mm)	disc

	Cd (ppm)	Cr (ppm)	Hg (ppm)	Pb (ppm)
(a)	94.26	895.2	941.5	949.2
(b)	93.7	890.6	952	943.5

Polystyrene

NMIJ CRM 8108-B	(a)	CRM	Polybrominated diphenyl ethers in polystyrene - disc (30 mm x 2 mm)	5 discs
NMIJ CRM 8110-A	(b)	CRM	Polybrominated diphenyl ethers in polystyrene - disc (30 mm x 2 mm)	5 discs

	deca-BDE
(a)	0.0312
(b)	0.0886

Polyvinylchloride

Code			Product	Unit
IARM-MAT-PVC-HIGH	(a)	RM	Heavy metals in polyvinylchloride, Ø31x13mm (Set only)	disc
IARM-MAT-PVC-LOW	(b)	RM	Heavy metals in polyvinylchloride, Ø31x13mm (Set only)	disc
IARM-MAT-PVC-BLANK	(c)	RM	Heavy metals in polyvinylchloride, Ø31x13mm (Set only)	disc
NMIJ CRM 8109-A	(d)	CRM	Polybrominated diphenyl ethers in poly(vinyl chloride) - disc (30 mm x 2 mm)	disc
NMIJ CRM 8123-A	(e)	CRM	PVC resin - Cd, Cr, Hg, Pb (high concentration)- pellets	25 g

	Br	Cd	Cr	Hg	Pb	deca-BDE
(a)	0.1099	0.0301	0.1000	0.1100	0.1199	
(b)	0.0499	0.0100	0.0400	0.0200	0.0399	
(c)	0	0	0	0	0	
(d)						0.0333
(e)		0.009562	0.0949	0.0937	0.09655	

Code			Product	Unit
ASI-PLPVC3-1/50	(a)	CRM	RoHS/WEEEE compliant polymer standards for PVC	50 g
ASI-PLPVC3-2/50	(b)	CRM	RoHS/WEEEE compliant polymer standards for PVC	50 g
ASI-PLPVC3-3/50	(c)	CRM	RoHS/WEEEE compliant polymer standards for PVC	50 g

	Br	Cd	Cr	Hg	Pb
(a)	0.0000	0.0000	0.0000	0.0000	0.0000
(b)	0.0250	0.0050	0.0500	0.0500	0.0500
(c)	0.0500	0.0100	0.1000	0.1000	0.1000

Code	Product			Unit
ASI-PLPVC9-1/50	(a)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-2/50	(b)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-3/50	(c)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-4/50	(d)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-5/50	(e)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-6/50	(f)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-7/50	(g)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-8/50	(h)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g
ASI-PLPVC9-9/50	(i)	CRM	RoHS/WEEE compliant polymer standard for PVC	50 g

	Br	Ca	Cd	Cl	Cr	Hg	Pb
(a)	0.0000	0.0000	0.0000	40.00	0.0000	0.0000	0.0000
(b)	0.0025	0.5000	0.0025	35.00	0.0050	0.0100	0.1000
(c)	0.0400	1.5000	0.0100	15.00	0.0750	0.0075	0.2500
(d)	0.0100	0.2500	0.0125	40.00	0.1250	0.0500	0.0050
(e)	0.0250	0.0000	0.0075	10.00	0.1000	0.0250	0.1250
(f)	0.0500	3.0000	0.0010	10.00	0.0650	0.0800	0.0750
(g)	0.0200	2.0000	0.0005	40.00	0.0250	0.1000	0.0100
(h)	0.0300	0.0000	0.0050	12.50	0.0500	0.0030	0.0500
(i)	0.0050	0.0000	0.0150	35.00	0.0100	0.1200	0.0350

ASI-PLPVCQC(50G)	(a)	CRM	RoHS/WEEE compliant polymer QC standard for PVC	50 g

	Br	Ca	Cd	Cl	Cr	Hg	Pb
(a)	0.0250	0.0000	0.0050	35.00	0.0500	0.0500	0.0500

Packaging directive

IARM-MAT-PACK-HIGH	(a)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PACK-LOW	(b)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc

	Cd	Cr	Hg	Pb
(a)	0.0100	0.0101	0.0102	0.0101
(b)	0.0061	0.0031	0.0033	0.0030

Refractories and Carbides

Refractory

Code	Product			Unit
DH-SX26-12	(a)	RM	Refractory	100 g
DH-SX26-13	(b)	RM	Refractory	100 g
NIST-77A	(c)	CRM	Refractory	75 g
DH-SX26-02	(d)	RM	Refractory	100 g
DH-SX26-09	(e)	RM	Refractory	100 g
NIST-78A	(f)	CRM	Refractory	75 g
IPT-57	(g)	CRM	Burnt Refractory, aluminous	80 g
VS-K10/3	(h)	CRM	Refractory, corundum	125 g

	Al2O3	C	C (tot)	CO2	CaO	Cr2O3	CuO	Fe2O3	K2O	L.O.I.	Li2O	MgO	MnO	Na2O	P2O5	SiO2	SrO
(a)	36.45	0.437		0.54	1.8	0.385		3.1	0.759			13.13	0.125				
(b)	42.78	1.779		0.53	2.31	0.14	0.004	2.57	0.404			21.03					
(c)	60.2				0.05			1.0	0.09	(0.22)	0.025	0.38		0.07	0.092	35.0	0.009
(d)				0.004	0.438			1.087	0.24			0.161					
(e)	63.82		0.739	0.17	2.25			1.75	0.526			4.17	0.282				
(f)	71.7				0.11			1.2	1.22	(0.42)	0.12	0.7		0.078	1.3	19.4	0.25
(g)	71.5				0.05			1.25	0.83	0.2	0.008	0.13					
(h)	97	(0.05)			(0.03)			1.82	(0.03)								

	TiO2
(c)	2.6
(f)	3.2

Code	Product			Unit
A FF8	(a)	CRM	Schamotte	100 g
NIST-76A	(b)	CRM	Refractory	75 g
IPT-51	(c)	CRM	Burnt Refractory, silico-aluminous	80 g
DH-SX26-11	(d)	RM	Refractory	100 g
A FF10	(e)	CRM	Schamotte	100 g
IPT-63	(f)	CRM	Burnt Refractory, silicous	80 g

	Al2O3	C (tot)	CaO	Fe2O3	K2O	L.O.I.	Li2O	MgO	MnO	Na2O	P2O5	SiO2	SrO	TiO2
(a)	36.91		0.36	2.93	1.69			0.54		0.09		53.79		2.54
(b)	38.7		0.22	1.6	1.33	(0.34)	0.042	0.52		0.07	0.12	54.9	0.037	2.0
(c)	40.3		0.06	1.19	0.69	0.16	0.018	0.2						
(d)	36.82	0.033	0.054	0.509	0.362			0.17	0.011					
(e)	24.04		0.36	1.70	1.73			0.31		0.12		69.66		1.49
(f)	0.48		2.21	0.52	0.043	0.17	(0.0005)	0.18	0.008					

Code	Product			Unit
VS-K6	(a)	CRM	Magnesite refractory	100 g
BAS-BCS-CRM 389/1	(b)	CRM	High Purity Magnesia	100 g
ECRM-F 778-1	(c)	CRM	High carbon magnesia - powder	100 g

	Al2O3	CaO	Cr2O3	Fe2O3	MgO	MnO	P2O5	SiO2	TiO2
(a)	0.54	2.92		2.23	92.4			2.02	
(b)	0.104	0.88		0.607	97.89	0.1	0.0295	0.274	0.0052
(c)	0.56	1.23	0.15	0.96	81.02	0.014	(0.009)	1.05	(0.013)

SEI-JR101	(a)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR102	(b)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR103	(c)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR104	(d)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR105A	(e)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR106	(f)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR107	(g)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR108	(h)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR109	(i)	CRM	Clay refractories (No. 1) (set only)	20 g
SEI-JR110	(j)	CRM	Clay refractories (No. 1) (set only)	20 g

	Al2O3	CaO	Fe2O3	K2O	MgO	MnO	Na2O	SiO2	TiO2
(a)	8.1	1.06	0.31	0.16	0.21	0.11	1.013	88.57	0.302
(b)	13.79	0.04	3.97	0.14	0.67	0.01	0.303	80.47	0.454
(c)	18.07	0.07	0.4	0.35	0.01	0	0.124	80.32	0.370
(d)	22.52	0.25	3.24	3.04	0.07	0.01	0.300	67.35	2.943
(e)	25.35	0.4	0.76	0.81	0.22	0.11	0.651	69.17	2.249
(f)	29.91	0.14	1.92	1.81	0.98	0.02	0.599	63.61	0.679
(g)	37.08	0.71	2.2	2.57	0.49	0.01	0.218	55.32	1.053
(h)	40.08	0.27	1.54	0.8	0.27	0.02	0.207	55.31	1.155
(i)	41.24	0.14	0.89	0.79	0.12	0.01	0.307	54.23	1.961
(j)	46.68	0.1	0.84	0.34	0.16	0.01	0.085	49.54	1.666

Code	Product			Unit
SEI-JR121	(a)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR122	(b)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR123	(c)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR124	(d)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR125	(e)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR126	(f)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR127	(g)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR128	(h)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR129	(i)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR130	(j)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR131	(k)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR132	(l)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR133	(m)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR134	(n)	CRM	Clay refractories (No. 2) (set only)	20 g
SEI-JR135	(o)	CRM	Clay refractories (No. 2) (set only)	20 g

	Al2O3	CaO	Cr2O3	Fe2O3	K2O	L.O.I.	MgO	MnO	Na2O	P2O5	SiO2	TiO2	ZrO2
(a)	6.07	1.96	0.01	0.4	0.23	(0.05)	0.12	0.02	3.207	0.324	86.30	0.056	1.119
(b)	10.2	0.43	0.81	0.24	2.05	(0.12)	0.65	0.2	1.041	4.898	78.24	1.037	0.203
(c)	13.3	0.13	0.01	4.13	0.1	(0.03)	1.32	0.01	0.296	0.807	79.16	0.459	0.008
(d)	16.5	1.09	0.11	2.6	1.79	(0.1)	0.1	0.24	0.313	0.191	73.92	2.746	0.112
(e)	18.7	0.13	0.01	0.5	0.69	(0.07)	0.08	0	0.072	0.046	79.27	0.309	0.023
(f)	21.3	0.45	0.65	3.34	3.13	(0.17)	0.12	0.03	0.284	0.497	66.96	2.848	0.049
(g)	23	0.18	0.27	0.92	0.54	(0.07)	0.15	0.17	1.756	1.785	68.59	2.194	0.046
(h)	26	2.8	0.85	4.45	1.84	(0.02)	3.1	0.24	0.374	3.362	54.38	1.379	1.014
(i)	30.1	0.15	0.1	1.46	1.92	(0.11)	2.23	0.01	0.234	0.201	62.26	0.966	0.112
(j)	32.7	1.95	1.05	0.53	1.42	(0.11)	0.61	0.37	2.320	0.919	53.47	3.358	0.835
(k)	36.6	0.78	0.07	2.2	2.61	(0.17)	1.02	0.03	0.768	1.611	52.71	1.162	0.264
(l)	39.1	1.29	0.11	1.64	0.79	(0.15)	0.34	0.11	2.162	2.386	50.61	0.298	0.752
(m)	39	0.1	1.27	3.69	0.91	(0.08)	2.03	0.01	0.335	0.344	50.10	1.932	0.573
(n)	44.3	0.2	0.24	1.07	0.37	(0.14)	0.2	0.24	0.132	3.834	47.28	1.740	0.358
(o)	48.9	2.36	0.42	3.05	2.77	(0.18)	1.24	0.04	2.879	0.487	37.26	0.076	0.203

Code	Product			Unit
SEI-JR201	(a)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR202	(b)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR203	(c)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR204	(d)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR205	(e)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR206	(f)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR207	(g)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR208	(h)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR209	(i)	CRM	Silica refractories (No.1) (set only)	20 g
SEI-JR210	(j)	CRM	Silica refractories (No.1) (set only)	20 g

	Al2O3	CaO	Fe2O3	K2O	MgO	MnO	Na2O	SiO2	TiO2
(a)	9.71	2.77	1.46	0.14	0.73	0.14	0.316	84.36	0.032
(b)	7.59	0.81	3.97	0.02	0.02	0	1.014	85.72	0.567
(c)	5.09	3.97	1.78	0.24	0.47	0.11	0.616	87.33	0.182
(d)	4.49	1.79	2.08	0.9	0.31	0.1	0.315	89.64	0.150
(e)	3.08	3.11	1.24	0.5	0.09	0.06	0.932	90.40	0.325
(f)	1.77	1.2	3.2	0.5	0.07	0.01	0.180	92.88	0.018
(g)	1..70	2.51	0.96	0.21	0.16	0.04	0.047	94.05	0.079
(h)	0.46	4.19	0.06	0.02	0.05	0	0.634	94.43	0.005
(i)	0.87	1.89	0.37	0.17	0.1	0.06	0.033	96.22	0.050
(j)	0.16	0.3	0.83	0	0.78	0	0.021	97.69	0.005

Code	Product			Unit
SEI-JR301	(a)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR302	(b)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR303	(c)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR304	(d)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR305	(e)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR306	(f)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR307	(g)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR308	(h)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR309	(i)	CRM	Alumina refractories (No.1) (Set only)	20 g
SEI-JR310	(j)	CRM	Alumina refractories (No.1) (Set only)	20 g

	Al2O3	**B2O3**	**CaO**	**Fe2O3**	**K2O**	**MgO**	**MnO**	**Na2O**	**SiO2**	**TiO2**
(a)	46.8	(0.87)	0.79	3.52	2	0.69	0.01	0.170	43.91	1.031
(b)	53.9		0.87	4.49	0.66	0.69	0.2	0.565	37.70	0.597
(c)	59.2		1.03	1.47	0.2	0.85	0	0.699	36.16	0.164
(d)	63		0.18	3.46	0.38	0.37	0.05	0.276	27.55	4.340
(e)	68.6		0.65	2.81	3.11	0.3	0.01	0.808	20.03	3.300
(f)	74.1		0.62	1.95	1.75	0.1	0.01	0.994	17.35	2.685
(g)	80.1		0.15	2.97	2.36	0.61	0.01	1.084	10.87	1.229
(h)	86.5		0.09	0.41	0.1	0.05	0.11	0.263	10.25	1.795
(i)	89.8		1.02	1.27	0.92	0.28	0.003	0.422	2.124	3.856
(j)	94.7		0.03	0.02	1.32	0.97	0.04	0.081	0.412	2.064

Code	Product			Unit
SEI-JR401	(a)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR402	(b)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR403	(c)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR404	(d)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR405	(e)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR406	(f)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR407	(g)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR408	(h)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR409	(i)	CRM	Magnesite refractories (No.1) (Set only)	20 g
SEI-JR410	(j)	CRM	Magnesite refractories (No.1) (Set only)	20 g

	Al2O3	B2O3	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SiO2	TiO2
(a)	8.1	(0.01)	0.2	(0)	3.89	(0)	81.24	(0.01)	(0.006)	(0.035)	6.424	(0.017)
(b)	1.99	(0.12)	3.57	(0)	5.05	(0)	83.77	(0.01)	(0.010)	(0.077)	5.462	(0.026)
(c)	4.06	(0.03)	0.61	(0.01)	1.55	(0)	85.48	(0.01)	(0.004)	(0.044)	8.144	(0.003)
(d)	6.01	(0.01)	1.78	(0)	2.9	(0)	88.02	(0.03)	(0.009)	(0.053)	1.223	(0.007)
(e)	1.37	(0.01)	1.69	(0.01)	1.34	(0.01)	91.95	(0.07)	(0.009)	(0.120)	3.479	(0.054)
(f)	1.13	(0.01)	4.8	(0)	0.87	(0)	91.85	(0.01)	(0.002)	(0.041)	1.196	(0.004)
(g)	0.1	(0.02)	0.67	(0.08)	2.14	(0)	94.55	(0.01)	(0.004)	(0.044)	2.432	(0.003)
(h)	2.55	(0.09)	0.67	(0)	0.13	(0)	96.16	(0.01)	(0.001)	(0.015)	0.460	(0.004)
(i)	0.2	(0.03)	0.74	(0.01)	0.49	(0)	98.03	(0.01)	(0.002)	(0.023)	0.534	(0.003)
(j)	0.05	(0.02)	0.59	(0)	0.05	(0)	99.08	(0.01)	(0.001)	(0.045)	0.188	(0.003)

Code	Product			Unit
SEI-JR501	(a)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR502	(b)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR503	(c)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR504	(d)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR505	(e)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR506	(f)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR507	(g)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR508	(h)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR509	(i)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR510	(j)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR511	(k)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g
SEI-JR512	(l)	CRM	Chromium Magnesite refractories (No.1) (Set only)	20 g

	Al2O3	CaO	Cr2O3	Fe2O3	L.O.I.	MgO	MnO	NiO	P2O5	SiO2	TiO2	V2O5	ZnO
(a)	2.92	0.92	2.82	4.8	(0.13)	87.6	0.02	(0.018)	(0.036)	0.926	0.006	(0.019)	(0.006)
(b)	11.98	0.2	7.49	1.02	(0.06)	76.28	0.01	(0.026)	(0.025)	3.118	0.013	(0.024)	(0.004)
(c)	7.14	3.81	13.6	3	(0.11)	63.11	0.03	(0.036)	(0.032)	9.096	0.047	(0.037)	(0.013)
(d)	17.56	2.6	18.35	4.11	(0.12)	54.85	0.01	(0.015)	(0.034)	2.189	0.013	(0.016)	(0.011)
(e)	7.76	0.49	21.74	17.76	(0.08)	50.14	0.1	(0.078)	(0.023)	1.823	0.118	(0.075)	(0.021)
(f)	14.69	0.46	28.19	7.49	(0.07)	46.65	0.07	(0.094)	(0.018)	2.165	0.0134	(0.086)	(0.010)
(g)	25.02	1.61	32.03	12.98	(0.11)	22.36	0.11	(0.202)	(0.010)	5.698	0.166	(0.130)	(0.037)
(h)	3.98	1.03	38.18	22.7	(0.05)	30.86	0	(0.010)	(0.016)	3.081	0.014	(0.008)	(0.005)
(i)	20.28	2.86	42.57	10.15	(0.13)	20.45	0.08	(0.044)	(0.013)	1.964	1.203	(0.118)	(0.037)
(j)	12.21	0.29	50.38	14.99	(0.25)	16.86	0.17	(0.193)	(0.016)	4.914	0.133	(0.111)	(0.041)
(k)	6.68	0.07	52.51	27.22	(0.48)	10.62	0.12	(0.108)	(0.004)	2.909	0.105	(0.054)	(0.052)
(l)	29.25	4.06	4.98	26.01	(0.02)	24.81	0.02	(0.018)	(0.019)	10.57	0.047	(0.012)	(0.013)

Code	Product			Unit
SEI-JR601	(a)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR602	(b)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR603	(c)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR604	(d)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR605	(e)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR606	(f)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR607	(g)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR608	(h)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR609	(i)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g
SEI-JR610	(j)	CRM	Zircon-Zirconia refractories (No.1) (Set only)	20 g

	Al2O3	CaO	Cr2O3	Fe2O3	HfO2	K2O	LOI	MgO	Na2O	P2O5	SiO2	TiO2	ZrO2
(a)	0.11	5.58	0	0.1	1.59	0	(0.079)	0.06	0.004	0.007	0.263	0.168	92.01
(b)	0.07	0.22	0.01	1.62	1.52	0	(0.252)	5.3	0.766	1.338	0.334	0.164	88.25
(c)	5.29	0.95	0.02	2.86	1.45	0.65	(0.115)	0.96	0.187	0.837	0.966	0.932	84.70
(d)	6.93	0.09	3.06	0.43	1.35	1.94	(0.235)	0.01	1.087	1.992	3.045	0.134	79.26
(e)	4.84	1.94	1.55	0.17	1.31	0.54	(0.314)	1.99	0.457	0.352	10.78	0.127	75.36
(f)	0.53	0.02	0	0.93	1.26	0.01	(0.328)	0.32	2.028	0.019	22.03	0.117	72.35
(g)	3.53	0.04	0	0.12	1.21	0.04	(0.569)	0.03	0.026	0.085	32.75	0.135	61.31
(h)	0.7	0.52	0.49	0.09	1.21	0.01	(0.062)	3.12	0.031	0.117	34.62	0.102	58.84
(i)	0.88	0.3	0.01	0.15	1.12	0.02	(0.122)	0.15	0.942	0.081	40.50	0.153	55.56
(j)	0.45	3.07	0	0.3	0.98	0.01	(0.074)	0.54	0.043	0.113	45.66	0.099	48.70

Code	Product			Unit
SEI-JR701	(a)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR702	(b)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR703	(c)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR704	(d)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR705	(e)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR706	(f)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR707	(g)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR708	(h)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR709	(i)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g
SEI-JR710	(j)	CRM	Alumina-Zirconia-Silica refractories (No.1)	20 g

	Al2O3	**CaO**	**Cr2O3**	**Fe2O3**	**HfO2**	**K2O**	**L.O.I.**	**MgO**	**MnO**	**Na2O**	**P2O5**	**SiO2**	**TiO2**	**ZrO2**
(a)	10.09	2.07	1.01	2	0.85	0.02	(0.09)	0.47	(0)	1.846	(0.027)	28.44	4.961	48.06
(b)	38.14	1.55	0.11	0.37	2.08	0.57	(0.18)	1.97	(0)	2.024	(0.028)	9.99	0.210.	42.54
(c)	46.34	0.03	0	0.05	0.72	0	(0.09)	0.01	(0)	0.535	(0.035)	14.64	0.072	37.35
(d)	19.58	0.15	0.51	0.55	0.68	1.4	(0.07)	0.51	(0.08)	0.228	(0.130)	42.61	1.025	33.46
(e)	64.14	0.19	2.01	0.14	0.48	0.01	(0.16)	0.46	(0)	0.300	(0.017)	1.999	2.021	27.96
(f)	25.95	1.58	0.01	0.13	1.19	0.95	(0.72)	0.15	(0)	3.496	(0.016)	39.33	3.778	22.72
(g)	55.78	1.08	0.18	1.81	0.36	0.15	(0.01)	0.84	(0)	0.199	(0.055)	21.17	0.289	18.16
(h)	79.52	1.17	0.29	0.8	1.03	0.74	(0.13)	1.64	(0)	0.089	(0.002)	0.546	1.020	12.84
(i)	50.35	0.52	2.91	0.47	0.18	0.21	(0.2)	1.2	(0)	1.038	(0.009)	34.38	0.091	8.322
(j)	82.29	0.22	1.02	1.15	1.51	0.63	(0.09)	0.04	(0)	1.419	(0.042)	5.624	3.002	2.965

Code	Product			Unit
SEI-JR801	(a)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR802	(b)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR803	(c)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR804	(d)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR805	(e)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR806	(f)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR807	(g)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR808	(h)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR809	(i)	CRM	Alumina-Magnesite refractories (No.1)	20 g
SEI-JR810	(j)	CRM	Alumina-Magnesite refractories (No.1)	20 g

	Al2O3	**CaO**	**Cr2O3**	**Fe2O3**	**K2O**	**L.O.I.**	**MgO**	**MnO**	**Na2O**	**P2O5**	**SiO2**	**TiO2**	**ZrO2**
(a)	93.49	0.14	(0.003)	2.009	0.01	(0.14)	3.26	(0.002)	0.199	0.002	0.355	0.217	(0.008)
(b)	84.25	2	(0)	1.03	0.46	(0.06)	6.13	(0)	0.159	0.957	3.329	1.484	(0.002)
(c)	74.23	0.57	(0)	4.9	0	(0.36)	16.2	(0)	0.869	0.017	0.583	2.516	(0.004)
(d)	64.66	4.76	(0.01)	4.02	0.04	(0.01)	20.84	(0.02)	0.089	0.111	5.178	0.132	(0.002)
(e)	58.03	0.25	(0)	0.73	0.01	(0.17)	36.04	(0)	0.540	0.682	2.498	1.059	(0.00)
(f)	48.85	0.97	(0)	0.16	0	(0.21)	49.43	(0.02)	0.049	0.048	0.514	0.004	(0.001)
(g)	39.96	2.75	(0)	0.32	0.15	(0.57)	55.07	(0)	0.329	0.530	0.586	0.198	(0.001)
(h)	28.68	0.99	(0)	0.56	0.69	(0.84)	67.01	(0.01)	0.409	0.229	0.799	0.714	(0.001)
(i)	19.86	4.47	(0.001)	0.11	0.98	(0.48)	70.11	(0.006)	0.049	1.068	0.363	2.888	(0.001)
(j)	10.08	0.18	(0.004)	3.11	0.16	(0.22)	78.96	(0.016)	0.759	0.513	4.211	1.916	(0.004)

Code	Product			Unit
SEI-JR1001	(a)	CRM	Carbon refractories	50 g
SEI-JR1002	(b)	CRM	Carbon refractories (set only)	50 g
SEI-JR1003	(c)	CRM	Carbon refractories (set only)	50 g
SEI-JR1004	(d)	CRM	Carbon refractories (set only)	50 g
SEI-JR1005	(e)	CRM	Carbon refractories (set only)	50 g
SEI-JR1006	(f)	CRM	Carbon refractories (set only)	50 g
SEI-JR1007	(g)	CRM	Carbon refractories (set only)	50 g
SEI-JR1008	(h)	CRM	Carbon refractories (set only)	50 g
SEI-JR1009	(i)	CRM	Carbon refractories (set only)	50 g

	Al	C	C (free)	Ca	Fe	Mg	N	O	Si (free)	SiC	Ti
(a)	0.008	29.81	0.04	<0.001	0.044	<0.001	0.03	0.048	0.06	99.58	0.0035
(b)		5.03	4.98							0.06	
(c)		10.06	10.01								
(d)		20.04	19.92								
(e)		29.93	29.81								
(f)		49.99	49.97								
(g)		36.75	10.01							89.29	
(h)		14.12	5.21							29.74	
(i)		39.43	37.67							6.18	

Code	Product			Unit
SEI-JR1101	(a)	CRM	Sulfur impure refractories (Set only)	40 g
SEI-JR1102	(b)	CRM	Sulfur impure refractories (Set only)	40 g
SEI-JR1103	(c)	CRM	Sulfur impure refractories (Set only)	40 g
SEI-JR1104	(d)	CRM	Sulfur impure refractories (Set only)	40 g
SEI-JR1105	(e)	CRM	Sulfur impure refractories (Set only)	40 g
SEI-JR1106	(f)	CRM	Sulfur impure refractories (Set only)	40 g

	S
(a)	0.106
(b)	0.293
(c)	1.02
(d)	1.48
(e)	2.89
(f)	4.93

Carbides

Code		Product		Unit
BAM-S003	(a)	CRM	Silicon carbide powder	50 g
ECRM-F 780-1	(b)	CRM	Silicon carbide refractory with 63.5% silicon and 26.4% carbon - powder	100 g
ECRM-B 781-1	(c)	CRM	Silicon carbide refractory with 35.6% silicon and 48.3% carbon - powder	100 g
NMIJ CRM 8001-A	(d)	CRM	Fine silicon carbide powder for fine ceramics	50 g
NMIJ CRM 8002-A	(e)	CRM	Fine silicon carbide powder for fine ceramics	50 g
VS-K9/2	(f)	CRM	Silicon carbide	150 g
BAS-BCS-CRM 360	(g)	CRM	Sialon Bonded Silicon Carbide	100 g

	Al	Al (tot)	B	C (free)	C (tot)	Ca	Cr	Cu	Fe	Fe (tot)	K	Mg	Mn	Mo	N	Na	Ni
(a)			0.0063	0.0493	29.89	0.00294	0.00035	0.00015	0.0149			0.00063	0.000144		(0.0093)	0.00177	0.00329
(b)		1.86			26.381	0.84				1.30	(0.0112)	0.051	0.029		0.325	(0.0502)	
(c)	4.39 (tot)		(0.0149)	(37.22)	48.251	(0.0433)	(0.024)			(0.8061)	(0.3765)	(0.0421)	(0.0274)	(0.0264)	(0.0282)	(0.0308)	(0.021)
(d)	0.00832				29.80				0.00467								
(e)	0.0189				29.93		0.00619	0.00115	0.0130				0.00016	0.0109			
(f)	(0.002)								(0.06)								
(g)		6.52			23.53	0.115											

	O	P	Si	Si (tot)	SiC	SiO2	Ti	V	Y	Zr
(a)	0.091		(0.0481)			(0.0600)	0.0079	0.00414		0.00252
(b)				63.5						
(c)		(0.0117)		35.56		(4.66)	(0.032)	(0.0216)		
(d)				68.31			0.000637		0.000031	
(e)				68.01			0.00477		0.000058	
(f)					99.6					
(g)				60.8			0.025			

BAS-BCS-CRM 352/1	(a)	CRM	Tungsten Carbide						100 g
ECRM-B 783-1	(b)	CRM	Tungsten carbide - powder						100 g
NIST-276b	(c)	CRM	Tungsten carbide - Carbon						75 g
NIST-887	(d)	CRM	Cemented carbide (W83-Co25-Ti4) - Cobalt						100 g
NIST-888	(e)	CRM	Cemented carbide (W64-Co25-Ti4) - Cobalt and tantalum						100 g
NIST-889	(f)	CRM	CEM carbide (W75-Co9-Ta5-Ti4) - Cobalt, tantalum and titanium						100 g

	C (free)	Co	Fe	Mo	Nb	Ni	O	Ta	Ti
(a)			0.0029				(0.11)		
(b)	(0.04)		0.0022				(0.01)		
(c)									
(d)		10.35	(0.05)	(0.05)	(0.05)	(0.01)		(0.01)	(0.05)
(e)		24.7	(0.05)	(0.05)	(0.05)	(0.05)		4.77	(0.04)
(f)		9.5	(0.05)	(0.05)	(0.05)	(0.05)		4.6	4.03

Rocks and Stones

Andalusite

Code	Product							Unit
SARM 34	(a)	CRM	Andalusite					100 g
		Fe2O3	**K2O**	**MgO**	**Na2O**	**SiO2**	**TiO2**	
	(a)	0.75	0.238	0.131	0.093	39.04	0.168	
CERAM-2CAS12	(a)	RM	Sillimanite					100 g
BAS-BCS-CRM 309	(b)	CRM	Sillimanite					100 g
SARM 44	(c)	CRM	Sillimanite Schist					100 g
SEI-CJR304	(d)	CRM	Sillimanite (only available as set with part number SEI-CJR303-R041)					Each

	Al2O3	**Ba**	**CaO**	**Ce**	**Co**	**Cr**	**Cu**	**Fe2O3**	**FeO**	**Ga**	**K2O**	**Li2O**	**MgO**	**MnO**	**Mo**	**Na2O**	**Nb**
(a)	32		0.2					1.03			2.25	0.03	0.28			0.34	
(b)			0.22					1.51			0.46	(0.01)	0.17	(0.03)		0.34	
(c)	58.8	(0.005)	0.14	(0.022)	(0.0008)	(0.0384)	(0.001)	2.06	(1)	(0.0055)	(0.18)		(0.1)	(0.03)	(0.0015)	(0.05)	0.0096
(d)	55.94		0.427					0.585			0.329		0.451			0.273	

	Ni	**P2O5**	**Pb**	**Rb**	**SiO2**	**Sr**	**Th**	**TiO2**	**V**	**Y**	**Zn**	**Zr**	**ZrO2***
(a)					52.5			1.16					
(b)					34.1			1.92					
(c)	(0.0015)	(0.1)	(0.003)	0.0013	34.84	0.0005	0.005	1.83	0.0395	0.0084	0.0271	0.0406	
(d)					35.9			1.33					0.105

Igneous rocks

Code		Product		Unit
SARM 39	(a)	CRM	Kimberlite	100 g
NCS DC71312	(b)	CRM	Kimberlite (NIM-GBW07124)	70 g
VS-2114-81	(c)	CRM	Kimberlite (MY-4)	40 g

	Al2O3	As	B	Ba	Be	Bi	CO2	CaO	Cd	Ce	Cl	Co	Cr	Cr2O3	Cs	Cu	Dy	
(a)	4.29			0.17				9.69		(0.0085)		0.0077		0.19		0.0058		
(b)		0.00035	(0.00318)	(0.0000177)		0.00013	(0.00001)	(16.78)	12.64	0.000046	0.0127	(0.04)	0.004	0.0795		0.00052	0.00262	0.00026
(c)	2.66			0.025			5.71	6.47				0.0073	0.068			0.0035		

	Er	Eu	F	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Ge	H2O+	Hf	Hg	Ho	K2O	La	Li	Lu	
(a)					9.29	(4)	(0.001)							1.04				
(b)	(0.00012)	0.00016	(0.11)	(6.53)		3.71	0.00071	0.00047	0.000089	(4.47)	0.00049	0.000001	0.000049	0.49	0.00698	0.00757	0.000016	
(c)				7.57		2.24	0.00068							0.412				

	MgO	Mn	MnO	Mo	Na2O	Nb	Nd	Ni	P2O5	Pb	Pr	Rb	S	SO3	Sb	Sc	Se	
(a)	26.24		0.17	(0.0005)	(0.5)	0.011		0.0994	1.46	(0.0025)		0.0052	(0.15)					
(b)	17.56	(0.09)		0.00014	(0.1)	0.00604	0.0049	0.0516	0.3	0.00207	0.00138	0.00284		0.68	(0.000022)	0.00109	0.00001	
(c)	26.96		0.111	0.00013	0.087	0.0038		0.106	0.216	0.00062			0.032			0.00019		

	SiO2	Sm	Sn	Sr	Ta	Tb	Th	TiO2	Tm	U	V	W	Y	Yb	Zn	Zr		
(a)	33.44			0.14			(0.001)	1.58			0.0109		0.0017		0.007	0.0239		
(b)	35.88	0.00065	0.00017	0.0262	0.00039	0.000054	0.00108	0.71	0.000017	0.00022	0.0086	0.00024	0.00116	0.00011	0.019	0.0182		
(c)	37.66		0.00025	0.028				0.97			0.0047		0.00091		0.0063	0.0083		

GSJ-JP-1	(a)	CRM	Peridotite - Constituents	20 g
VS-2111-81	(b)	CRM	Peridotite (MY-1)	40 g

	Al2O3	As	Au (ppm)	B	Ba	Be	C	CO2	Ca	CaO	Cd (ppm)	Ce	Cl	Co	Cr	Cs	Cu	
(a)		0.000034	(0.00023)	(0.00014)	(0.00195)	(0.00001)	(0.0764)		0.39	0.55	(0.011)	(0.000019)	(0.0097)	0.0116	0.2807	(0.000015)	0.000672	
(b)	1.84				0.0066			0.69		1.26				0.0159	0.32	0.014		

	Dy (ppm)	Er (ppm)	Eu (ppm)	F	Fe	Fe (tot)*	Fe2O3	FeO	Ga	Gd (ppm)	Ge	H2O+	H2O-	Hf	Hg (ppm)	Ho (ppm)	Ir	
(a)	(0.022)	(0.016)	(0.004)	(0.0014)	5.85	8.37	1.98	5.99	(0.00007)	(0.015)	(0.000049)	2.39	0.44	0.00002	(0.0053)	(0.018)	(0.0002)	
(b)						11.58		8.83	0.00059		0.00016							

	K	K2O	La	Li	Lu (ppm)	Mg	MgO	Mn	MnO	Mo (ppm)	Na	Na2O	Nb	Nd (ppm)	Ni	Os (ppm)	P2O5	
(a)	0.002	0.003	0.0000084	(0.000179)	(0.0044)	26.9	44.6	0.094	0.121	(0.087)	0.02	0.021	0.000148	(0.072)	0.246	(0.0079)	(0.002)	
(b)		0.044					37.12		0.183	1.3		0.105			0.16			

	Pb	Pd (ppm)	Pr	Pt (ppm)	Rb	Re (ppm)	Ru (ppm)	S	Sb (ppm)	Sc	Si	SiO2	Sm (ppm)	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	
(a)	(0.000012)	(0.0013)	(0.000002)	(0.0049)	(0.00008)	(0.000015)	(0.0065)	(0.00269)	(0.034)	0.000724	19.81	42.38	0.019	(0.05)	(0.000332)	(0.02)	(0.003)	
(b)	0.00067							0.03		0.00113		45.54		3.2				

	Th	TiO2	Tl (ppm)	Tm (ppm)	U	V	W	Y	Yb	Zn	Zr							
(a)	0.000019	(0.006)	(0.003)	(0.041)	0.0000036	0.00276	(0.000085)	0.000154	0.0000022	0.00418	0.000592							
(b)		0.107				0.0039			0.00015	0.0137	0.0021							

Code	Product			Unit
DH-SX10-02	(a)	RM	Dunite	100 g
SARM 6	(b)	CRM	NIM-D Dunite	100 g
UG-DTS-2	(c)	CRM	Dunite	Each
VS-2112-81	(d)	CRM	Dunite (MY-2)	40 g
VS-4233-88	(e)	CRM	Dunite	100 g

	Al	**Al2O3**	**Ba**	**C**	**CO2**	**Ca**	**CaO**	**Co**	**Cr**	**Cr2O3**	**Cu**	**Fe**	**Fe2O3**	**FeO**	**Ge**	**H2O**	**H2O+**
(a)				0.332	0.767		4.36			0.037		5.4		0.623			
(b)		(0.3)					0.28			10.42			0.71	14.63			
(c)	0.24	0.45	(0.0016)			0.09	0.12	0.012	1.55		(0.0003)	5.43	7.76	(4.27)	(0.00007)		
(d)					0.46			0.0129			0.0027		10.06			11.35	
(e)		0.97			(1.61)		1.52	0.012	0.41		0.0033		8.91	(5.54)	0.00011	(0.4)	(4.82)

	K2O	**L.O.I.**	**Li**	**Mg**	**MgO**	**Mn**	**Mn3O4**	**MnO**	**Mo**	**Na**	**Na2O**	**Ni**	**NiO**	**P2O5**	**Pb**	**Rb**	**S**
(a)	4.8				23.79		0.061				0.068		0.022	0.922			
(b)	(0.01)				43.51			0.22			(0.04)						
(c)				29.8	49.4	0.083				(0.02)		0.3780			(0.0004)	(0.0002)	
(d)					42.4			0.176	0.00014			0.133					
(e)	0.01	6.31	0.0002		41.86			0.13			0.035	0.22		(0.01)		(0.041)	

	Sb	**Sc**	**Si**	**SiO2**	**Sn**	**Sr**	**TiO2**	**V**	**Zn**
(a)				41.87			0.0929		
(b)				38.96			(0.02)		
(c)	(0.00006)	(0.0003)	18.4	39.4				0.0022	0.0045
(d)				35.07	0.00022			0.00069	0.0082
(e)		0.0009		39.58		0.0018	0.018	0.0033	0.0030

Code	Product			Unit
GSJ-JB-2	(a)	CRM	Basalt - Constituents	20 g
UG-BCR-2	(b)	CRM	Basalt	30 g
CGL-USZ46-2008	(c)	CRM	Basalt - MBL-1 (CGL 007)	100 g
GSJ-JB-1B	(d)	CRM	Basalt - Constituents	100 g
GSJ-JB-3-020	(e)	CRM	Basalt - Constituents	20 g
UG-BHVO-2	(f)	CRM	Basalt	50 g

	Ag (ppm)	Al	Al2O3	As	Au (ppm)	B	Ba	Be (ppm)	Bi (ppm)	C	Ca	CaO	Cd (ppm)	Ce	Cl	Co	Cr
(a)	(0.072)	7.75	14.64	0.000287	0.00564	0.00302	0.0222	(0.26)	(0.033)	(0.0218)	7.02	9.82	0.14	0.000676	0.0281	0.0038	0.00281
(b)		7.14	13.5				0.0683				5.09	7.12		0.0053		0.0037	0.0018
(c)			14.5				0.0772	2.81				5.41		0.0103		0.00363	0.0222
(d)			14.38	0.000124				1.3		0.0419		9.6				0.00403	0.0439
(e)	0.075	9.1	17.2	0.000184	0.00199	0.0018	0.0245	0.81	(0.023)	(0.012)	7	9.79	0.081	0.00215	(0.0259)	0.00343	0.00581
(f)		7.16	13.5				0.013				8.17	11.4		0.0038		0.0045	0.028

	Cs (ppm)	Cu	Dy	Er	Eu (ppm)	F	Fe	Fe (tot)	Fe2O3	FeO	Ga	Gd	Ge	H2O+	H2O-	Hf	Hg (ppm)
(a)	0.85	0.0225	0.000373	0.00026	0.86	0.00985	9.97	14.25	3.33	9.98	0.0017	0.000328	0.000135	0.25	0.13	0.000149	47.8
(b)	(1.1)	(0.0019)			2	(0.044)		9.65	13.8		0.0023	0.00068				(0.00048)	
(c)	1.15	0.003221	0.000467	0.000184	2.62				9.85	6.15	0.002263	0.000717	0.000129			0.000663	
(d)	1.21	0.00555						9.02	3.29	5.16				1.53	1.06		
(e)	0.94	0.0194	0.000454	0.000249	1.32	0.0253	8.27	11.82	3.2	7.85	0.00198	0.000467	0.000112	0.18	0.07	0.000267	(0.0024)
(f)		0.0127				(0.037)		8.63	12.3		0.00217	(0.00063)				0.00041	

	Ho (ppm)	I (ppm)	In	In (ppm)	K	K2O	La	Li	Lu	Lu (ppm)	Mg	MgO	Mn	MnO	Mo	Na	Na2O
(a)	0.75	(0.049)	0.094		0.35	0.42	0.000235	0.000778	0.4		2.79	4.62	0.169	0.218	0.000108	1.51	2.04
(b)	(1.33)				1.49	1.79	0.0025	(0.0009)		(0.51)	2.16	3.59	0.152		0.0248	2.34	3.16
(c)	0.78					3.99	0.005599	0.001108		0.19		6.33		0.13	0.00052	4.4	
(d)						1.32		0.00108				8.14		0.147		2.63	
(e)	0.8	(0.028)		(0.069)	0.65	0.78	0.00081	0.0000721		0.39	3.13	5.19	0.137	0.177	0.000109	2.03	2.73
(f)	(1.04)				0.43	0.52	0.0015	(0.0005)	(0.000028)		4.36	7.23	0.129			1.64	2.22

	Nb	Nd	Ni	P	P2O5	Pb	Pr	Rb	Re (ppm)	S	Sb	Sb (ppm)	Sc	Se (ppm)	Si	SiO2	Sm
(a)	(0.000158)	0.000663	0.00166	0.044	0.101	0.000536	0.000101	0.000737	(0.00038)	0.00179		0.25	0.00535	(0.19)	24.89	53.25	0.000231
(b)		0.0028		0.15	0.35	(0.0011)	(0.00068)	0.0048					0.0033		25.3	54.1	(0.00067)
(c)	0.005221	0.004662	0.0162		0.85	0.00087	0.00119	0.006305				0.28	0.00101			51.85	0.000872
(d)			0.0148		0.256	0.00068		0.00391		0.001	0.00002					51.11	
(e)	0.000247	0.00156	0.00362	0.128	0.294	0.000558	0.000311	0.00151	(0.00024)	0.000986		0.12	0.00338	(0.069)	23.82	50.96	0.000427
(f)	(0.0018)	0.0025	0.0119	0.12	0.27			0.00098					0.0032		23.3	49.9	(0.00062)

Code	Product																	Unit
		Sn (ppm)	**Sr**	**Ta (ppm)**	**Tb (ppm)**	**Th**	**Th (ppm)**	**Ti**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y**	**Yb**	**Zn**	**Zr**	
	(a)	0.95	0.0178	0.13	0.6		0.35	0.71	1.19	(0.042)	0.41	0.18	0.0575	(0.26)	0.00249	0.000262	0.0108	0.00512	
	(b)		0.0346		(1.07)	0.00062		1.35	2.26		(0.54)	1.69	0.0416		0.0037	0.00035	0.0127	0.0188	
	(c)	2.66	0.0927	3.2	0.95	0.000695			2.11	0.12	0.23	1.64	0.0105	1.15	0.002048	0.000134	0.0114	0.0287	
	(d)		0.0439						1.26				0.0214				0.008		
	(e)	0.94	0.0403	0.15	0.73	0.000127		0.86	1.44	0.048	0.42	0.48	0.0372	(1.06)	0.00269	0.000255	0.01	0.00978	
	(f)	(1.9)	0.0389	(1.4)	(0.9)		(1.2)	1.63	2.73				0.0317		0.0026	(0.002)	0.0103	0.0172	
Z BM	(a)	CRM	Basalt															50 g
NIST-688	(b)	CRM	Basalt rock - Constituents															60 g
UG-BIR-1	(c)	CRM	Basalt															30 g
CRPG-BE-N	(d)	CRM	Basalt															30 g
CGL-USZ53-2010	(e)	CRM	Basalt - MBL-D (CGL 014)															100 g
		Al2O3	**As (ppm)**	**B**	**Ba**	**Be (ppm)**	**CO2**	**CaO**	**Cd (ppm)**	**Ce**	**Cl**	**Co**	**Cr**	**Cs (ppm)**	**Cu**	**Dy (ppm)**	**Er (ppm)**	**Eu (ppm)**	
	(a)	16.25					1.35	6.47											
	(b)	17.36						(12.17)					0.0332						
	(c)	15.5	(0.44)	(0.000033)	(0.0006)	(0.58)		13.3		0.0002	(0.0026)	0.0052	0.037		0.0125	4	0.55		
	(d)	10.07	1.8		0.1025	1.9	0.74	13.87	0.12	0.0152	0.0200	0.0060	0.0360	0.8	0.0072	6.4	2.5	3.6	
	(e)	13.03			0.0474			8.88		0.006751		0.00465	0.0188		0.0064				
		F	**Fe**	**Fe (tot)**	**Fe2O3**	**Fe2O3(tot)**	**FeO**	**Ga**	**Gd (ppm)**	**Ge (ppm)**	**H2O+**	**H2O-**	**Hf (ppm)**	**Hg (ppm)**	**Ho (ppm)**	**In (ppm)**	**K2O**	**LOI**	
	(a)	0.028	9.67				7.28				3.62						0.20		
	(b)				10.35		7.64										0.187		
	(c)	(0.0044)		11.3	2.06		8.34	(0.0016)	2				0.6				0.03		
	(d)	0.1000			5.34	12.84	6.74	0.0017	9.7	(1.2)	2.24	0.50	5.6	(0.04)	1.1	(0.08)	1.39	2.45	
	(e)					12.66											1.72		
		La	**Li**	**Lu (ppm)**	**MgO**	**Mn**	**MnO**	**Mo (ppm)**	**Na2O**	**Nb**	**Nd**	**Ni**	**P2O5**	**Pb**	**Pr (ppm)**	**Rb**	**S**	**Sb (ppm)**	
	(a)				7.47		0.140		4.65				0.106						
	(b)				(8.4)	0.167			2.15				0.134			0.000191			
	(c)	0.000063	0.00036	(0.3)	9.7		0.175		1.82	(0.00006)	0.00025	0.017	0.021	(0.0003)			(0.58)		
	(d)	0.0082	0.0013	0.24	13.15		0.20	(2.8)	3.18	0.0105	0.0067	0.0267	1.05	0.0004	17.5	0.0047	0.0300	0.26	
	(e)	0.003511			8.03		0.15		3.63	0.00565	0.003633	0.0163	0.70	0.000566		0.00286			
		Sc	**SiO2**	**Sm (ppm)**	**Sn**	**Sr**	**Ta (ppm)**	**Tb (ppm)**	**Th (ppm)**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W**	**Y**	**Yb (ppm)**	**Zn**	
	(a)		49.51							1.14									
	(b)		48.4			0.01692				1.17									
	(c)	0.0044	47.96	(1.1)		0.011				0.96				0.031		0.0016	1.7	0.007	
	(d)	0.0022	38.20	12.2	0.0002	0.1370	5.7	1.3	10.4	2.61	(0.04)	0.34	2.4	0.0235	0.0029	0.0030	1.8	0.0120	
	(e)	0.001933	48.34			0.0741				2.68				0.0197		0.00236	0.0133		
		Zr																	
	(c)	0.0018																	
	(d)	0.0260																	
	(e)	0.0157																	

Code	Product			Unit
UG-W-2A	(a)	CRM	Diabase	30 g
NCS DC71311	(b)	CRM	Diabase (NIM-GBW07123)	70 g

	Al2O3	As	B	Ba	Be	Bi	CO2	CaO	Cd	Ce	Cl	Co	Cr	Cs	Cu	Dy	Er
(a)	15.45	(0.00012)	(0.0012)	0.017	(0.00013)			10.86		0.0023	(0.019)	0.0043	0.0092	(0.000099)	0.011	0.00036	(0.00025)
(b)	13.21	0.00051	0.0017	(0.0614)	0.00015	0.000039	(0.11)	7.83	0.000039	0.00781	(0.04)	0.00375	0.0111	0.00017	0.00826	0.00055	(0.00026)

	Eu	F	Fe (tot)*	Fe2O3	Fe2O3(T)	FeO	Ga	Gd	Ge	H2O+	Hf	Hg (ppm)	Ho	K2O	La	Li	Lu
(a)	(0.0001)	(0.0205)	10.83	1.53		8.34	0.0017				0.00026		(0.000076)	0.626	0.001	0.00096	(0.000033)
(b)	0.00035	(0.07)			(13.4)	7.24	0.00212	0.00072	0.00015	(2.44)	0.00092	0.017	0.00012	1.49	0.00381	0.00208	0.000034

	MgO	Mn	MnO	Mo	Na2O	Nb	Nd	Ni	P2O5	Pb	Pr	Rb	S	SO3	Sb	Sc	Se
(a)	6.37		0.167		2.2	(0.00079)	0.0013	0.007	0.14	(0.00093)		0.0021	(0.0079)		(0.000079)	0.0036	
(b)	5.08	(0.16)		0.00014	3.17	0.00253	0.00428	0.00568	0.55	0.0033	0.00106	0.00474		0.44	0.00023	0.00271	(0.000019)

	SiO2	Sm	Sn	Sr	Ta	Tb	Th	TiO2	Tm	U	V	W	Y	Yb	Zn	Zr
(a)	52.68	0.00033		0.019	(0.00005)	(0.000063)	0.00024	1.06	(0.000038)	(0.000053)	0.026		0.0023	0.00021	0.008	0.01
(b)	49.88	0.00086	0.0002	0.047	0.00018	0.00011	0.00049	2.94	0.000036	0.00012	0.0268	0.00014	0.00245	0.00022	(0.016)	0.0359

SARM 50	(a)	CRM	Dolerite	100 g
UG-DNC-1	(b)	CRM	Dolerite	30 g
CRPG-WS-E	(c)	CRM	Dolerite	30 g

	Al2O3	As (ppm)	B	Ba	Be (ppm)	CO2	CaO	Cd (ppm)	Ce	Cl	Co	Cr	Cs (ppm)	Cu	Dy	Er	Eu (ppm)
(a)							10.8		(0.003)		0.004	0.0357		0.0084			
(b)		(0.12)	(0.00009)	0.0118	(1)		11.49			(0.006)	0.0057	0.027		0.01	(0.0003)	0.59	
(c)	13.78	1		0.0338	1.14	(0.12)	8.95	(0.2)	0.0061		0.0044	0.0099	0.5	0.0065	0.0006	0.0003	2.25

	F	Fe (tot)	Fe2O3	Fe2O3(T)	FeO	Ga	Gd (ppm)	H2O+	H2O-	Hf (ppm)	Ho (ppm)	K2O	LOI	La	Li (ppm)	Lu (ppm)	MgO
(a)			11		8.49							0.61				7.57	
(b)	(0.0066)	9.97	1.79		7.32	(0.0015)	(2)				(0.62)	0.234		0.00036	5.2	(33)	10.13
(c)	(0.0540)		3.82	13.15	8.4	0.0023	7.2	(1.3)	(0.66)	5.3	1.2	1	(0.85)	0.0027	13.6	0.37	5.55

	MnO	Mo (ppm)	Na2O	Nb	Nd	Ni	P2O5	Pb (ppm)	Pr (ppm)	Rb	S	Sb (ppm)	Sc	SiO2	Sm (ppm)	Sn	Sr
(a)	0.17		2.3	(0.001)		(0.0085)	0.15	25		0.0014				51.56		0.0195	
(b)	0.15		1.89	(0.0003)	0.00052	0.0247	0.07	(6.3)	(1.2)	(0.00045)		0.96	0.0031	47.15	(1.5)	0.0144	
(c)	0.17	3.7	2.47	0.0018	0.0033	0.0055	0.3	13.8	7.8	0.0025	(0.0500)	0.08	0.0028	50.7	8.8	0.0018	0.0410

	Ta (ppm)	Tb (ppm)	Th	TiO2	Tm (ppm)	U (ppm)	V	W (ppm)	Y	Yb (ppm)	Zn	Zr
(a)			(0.0006)	0.86			0.0216		0.0023		0.0081	0.0086
(b)		(0.4)		0.48	(0.3)		0.0148		0.0018	2	0.007	0.0038
(c)	1.16	1.1	0.0003	2.4	0.43	0.65	0.0340	0.5	0.00304	2.5	0.0117	0.0195

Code	Product			Unit
CAN-WGB-1	(a)	CRM	Gabbro Rock PGE Material	400 g
CAN-WMG-1A	(b)	CRM	Mineralized Gabbro	350 g
VS-2117-81	(c)	CRM	Gabbro (MO-3)	40 g
VS-2119-81	(d)	CRM	Gabbro (MO-5)	40 g
VS-521-84N	(e)	CRM	Gabbro	100 g
VS-521-88N	(f)	CRM	Gabbro	100 g

	Ag (ppm)	Al	Al2O3	As	Au (ppm)	B	Ba	Be	Bi (ppm)	C	CO2	Ca	CaO	Cd (ppm)	Ce	Cl	Co
(a)					0.0029												
(b)	3.03	4.75		0.000599	(0.0617)		0.0216		(0.251)			10.06		(0.818)	(0.001718)	0.0191	
(c)			13.67				0.011	(0.0001)			(0.16)		15.75			0.0065	
(d)			13.35				0.044	0.000082			0.33		7.81			0.0069	
(e)	0.1		14.88	0.00018		0.0016	0.13	0.0002		0.06			10.97		0.015	(0.022)	0.004
(f)	(0.09)		14.93			(0.0015)	0.152	0.00019					10.68		0.0163	0.004	

	Cr	Cs	Cu	Dy	Er	Eu (ppm)	F	Fe	Fe2O3	FeO	Ga	Gd	Gd (ppm)	Ge	H2O	Ho	Ir (ppm)
(a)	0.0291								6.71							(0.00033)	
(b)	0.0804		0.712	0.0002291	(0.000134)	(0.733)		12.71			(0.00124)		(2.351)				
(c)	0.0014		0.36				0.072		18.54	9.05	0.0021			0.00021	(0.12)		
(d)	0.0056		0.0069				0.16		20.98	14.98	0.0013				1.25		
(e)	0.0055	0.00038	0.0068	0.0006	0.00032	5	0.12		11.66	6.86	0.0019	0.001		0.00015	0.83	0.00012	
(f)	0.0058	0.00033	0.0058	(0.00067)		3.9	0.13		11.33	6.23	0.0017			0.00013	(0.93)		

	K	K2O	La	Li	Lu (ppm)	Mg	MgO	Mn	MnO	Mo	Na	Na2O	Nb (ppm)	Nd (ppm)	Ni	P	P2O5
(a)		0.94					9.4										
(b)	0.1021		0.000847	(0.00447)	(0.196)	7.41		(0.1141)		0.000249	0.1119		(5.26)	9.41	0.248	0.0731	
(c)		0.204		0.00033			8.66		0.222	0.0002		0.72			0.0028	2.15	
(d)		0.8					7.48		0.198	(0.00027)		2.35	(9.5)		0.0063	2.21	
(e)		2.96	0.008	0.0014	(0.3)		7		0.17	0.00015		2.82	8	70	0.005	1.01	
(f)		3.09	0.0082	0.0012	(0.3)		6.81		0.167	0.00014		2.72	8.4		0.0047	1.03	

	Pb	Pd (ppm)	Pr (ppm)	Pt (ppm)	REE (ox.)	Rb	Rb (ppm)	Rh (ppm)	Ru (ppm)	S	Sb (ppm)	Sc	Se	Si	SiO2	Sm (ppm)	Sn (ppm)
(a)		0.0139		0.0061				(0.00032)	(0.0003)								
(b)	(0.00092)	0.484	(2.22)	0.899		(0.000253)				3.43	(1.55)	0.002133	0.00141	18.27		2.211	(1.91)
(c)	0.0006						(4.5)			0.124		0.0037			37.62	6.5	
(d)	0.0011									0.082		0.0017			37.66	4.4	
(e)	0.0017		15		0.047		73			0.014	(1.5)	0.0027			46.4	17	3.7
(f)	0.0015						80			(0.015)		0.0026			46.63	17	3.2

	Sr	Ta (ppm)	Tb	Te	Th	Ti (ppm)	TiO2	Tm (ppm)	U (ppm)	V	W	Y	Yb (ppm)	Zn	Zr
(b)	0.0039	(0.355)		(0.000119)	0.000107	0.419		(0.192)	(0.65)	0.0158		0.001267	(1.22)	0.0112	0.00357
(c)	0.104						1.46			0.096		(0.0016)	2.6	0.0136	(0.005)
(d)	(0.0033)						6.99			0.012		(0.0031)	(2.7)	0.012	0.01
(e)	0.23	1.1	0.00014		0.0009		1.71	0.5	2	0.024	0.0001	0.003	2.9	0.012	0.024
(f)	0.224	(0.5)			0.0008		1.72		(1.9)	0.025		0.003	2.5	0.012	0.0219

Code	Product			Unit
VS-MO8	(a)	CRM	Gabbro	40 g
GSJ-JGB-1	(b)	CRM	Gabbro - Constituents	20 g
GSJ-JGB-2	(c)	CRM	Gabbro - Constituents	100 g
CGL-USZ51-2009	(d)	CRM	Gabbro - MGR-T (CGL 012)	100 g
CGL-USZ52-2010	(e)	CRM	Gabbro - MGR-N (CGL 013)	100 g
CRPG-PM-S	(f)	CRM	Microgabbro	30 g

	Ag (ppm)	Al	Al2O3	As (ppm)	Au (ppm)	B	Ba	Be (ppm)	Bi (ppm)	C	CO2	Ca	CaO	Cd (ppm)	Ce (ppm)	Cl	Co
(a)			16.39			0.00075	0.0272	0.8			0.43		9.02			0.027	0.0048
(b)	(0.024)	9.26	17.49	1.09	0.00102	0.000403	0.00643	(0.34)	(0.014)	(0.03)		8.5	11.9	0.057	8.17	(0.0081)	0.00601
(c)			23.48	(0.96)		(0.00049)	0.00365		(0.022)	(0.088)			14.1		3	0.00258	
(d)			26.26				0.0119						13.61		7.9	0.001493	
(e)			22.57				0.004994						14.99			0.003521	
(f)			17.15	(0.2)			0.0148	0.5			(0.22)		12.48	(0.12)	6.8	0.0049	

	Cr	Cs (ppm)	Cu	Dy	Er (ppm)	Eu (ppm)	F	Fe	Fe (tot)	Fe2O(tot)	Fe2O3	FeO	Ga	Gd (ppm)	Ge	H2O	H2O (tot)
(a)	0.0126	1.1	0.004				0.039		11.53		0.85	9.61	0.0018			0.088	0.31
(b)	0.00578	0.26	0.00857	0.000156	1.04	0.62	0.0133	10.53	15.06		4.79	9.43	0.00179	1.61	0.000101		
(c)	0.0125	0.51	0.00114	(0.00006)	(0.36)	0.59			6.69		0.62	5.41	0.00159	(0.48)			
(d)	0.006997		0.004532				(0.085)		4.22			2	0.001887				
(e)	0.003572		0.0608							10.99		4.57	0.001794				
(f)	0.0314	0.35	0.0059	0.0002	1.1	1.07	(0.0100)		10.1		1.43	7.8	0.0016	2			

	H2O+	H2O-	Hf (ppm)	Hg (ppm)	Ho (ppm)	K	K2O	LOI	La (ppm)	Li (ppm)	Lu (ppm)	Mg	MgO	Mn	MnO	Mo (ppm)	Na
(a)	0.22						0.46		26	5.5			6.39		0.16	3.2	
(b)	1.28	0.13	0.88	(0.0042)	0.33	0.2	0.24		3.6	4.59	0.15	4.73	7.85	0.146	0.189	0.59	0.89
(c)	(1.46)	0.14	0.25	(0.0019)	(0.15)		0.059		1.5	(15.7)	0.062		6.18		0.13	0.42	
(d)	(0.61)	(0.13)					0.31						2.85		0.08		
(e)							0.11						4.51		0.10		
(f)	(0.7)	(0.12)	1.12		0.42		0.14	(0.3)	2.8	7.3	0.15		9.34		0.16	1.9	

	Na2O	Nb (ppm)	Nd (ppm)	Ni	P	P2O5	Pb	Pb (ppm)	Pd (ppm)	Pr (ppm)	Pt (ppm)	Rb	Re (ppm)	S	Sb (ppm)	Sc	Se (ppm)
(a)	3.27	3.7		0.0018		0.21		7.3				0.0004		0.1799		0.0031	
(b)	1.2	3.34	5.47	0.00254	0.024	0.056		1.92	(0.00018)	1.13	(0.0005)	0.000687	(0.00027)	0.191	(0.085)	0.00358	(0.15)
(c)	0.92	1.9	1.8	0.00136		0.017		1.5		(0.39)		0.00029		(0.0599)	(0.12)	0.00247	
(d)	2.42			0.002394		0.078		6				0.000658				0.001233	
(e)	1.41			0.002334			0.000468									0.003966	
(f)	2.08	2.6	5.5	0.0115		0.03		2.5		1.08		0.0001		0.1000		0.0034	

Code	Product																Unit
		Si	**SiO2**	**Sm (ppm)**	**Sn (ppm)**	**Sr**	**Ta (ppm)**	**Tb (ppm)**	**Th**	**Th (ppm)**	**Ti (ppm)**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y**	
	(a)		51.98		2.7	0.0477						1.15				0.0199	0.0018		
	(b)	20.41	43.66	1.49	0.48	0.0327	0.18	0.29	0.000048		9600	1.6	(0.066)	0.16	0.13	0.0635	(0.81)	0.00104	
	(c)		46.47	0.51	(0.48)	0.0438	0.29	0.15		0.19		0.56		(0.059)	(0.041)	0.0174	(1.6)	0.00045	
	(d)		48			0.1196						0.37				0.008528	0.000514		
	(e)		43.15			0.0778						0.94				0.0420	0.00043		
	(f)		47.00	1.75	3	0.0280	0.18	0.36		0.05	4	1.1		0.17	(0.03)	0.0192	0.3	0.0011	
		Yb	**Zn**	**Zr**															
	(a)	0.0002	0.0084	0.0048															
	(b)	0.000106	0.0109	0.00328															
	(c)	0.000039	0.00485	0.00116															
	(d)		0.005987	(0.003349)															
	(e)		0.0098																
	(f)	0.0001	0.0060	0.0039															

Code	Product			Unit
CAN-SY-4	(a)	CRM	Diorite Gneiss	100 g
CGL-USZ50-2009	(b)	CRM	Diorite - MDR (CGL 011)	100 g
CRPG-DR-N	(c)	CRM	Diorite	30 g

	Al2O3	As (ppm)	B	Ba	Be	Be (ppm)	Bi (ppm)	Br	C	CO2	Ca	CaO	Cd (ppm)	Ce	Cl	Co	Co (ppm)
(a)	20.69			0.034	0.00026			(0.0217)	(1)	3.5	(5.8)	8.05		0.0122		0.00028	
(b)		(9.97)		0.0425								6.99		0.00508		0.00849	
(c)	17.52	3	0.0014	0.0385		(1.8)	(0.005)			0.10		7.05	(0.9)	0.0046	0.0400	35	

	Cr	Cs	Cs (ppm)	Cu	Dy (ppm)	Er (ppm)	Eu (ppm)	F	Fe	Fe (tot)	Fe2O3	Fe2O3(T)	FeO	Ga (ppm)	Gd (ppm)	Ge (ppm)	H2O
(a)	0.0012		1.5	0.0007	18.2	14.2	2	(0.06)	4.2		6.21		2.86	35	14	(1.15)	
(b)	0.01	(0.000524)		0.01	(4.29)	(2.29)	(1.41)	(0.19)		8.1			4.82	19.58	(5.21)	(0.11)	
(c)	(0.0040)		6.3	0.0050	4.6	2.5	1.45	0.0500			3.70	9.70	5.40	(22)	4.7	(1.9)	

	H2O+	H2O-	Hf (ppm)	Ho (ppm)	In (ppm)	K	K2O	LOI	La	La (ppm)	Li	Lu (ppm)	Mg	MgO	Mn	MnO	Mo (ppm)
(a)			10.6	4.3		(1.41)	1.66		0.0058		0.0037	2.1	(0.3)	0.54	0.0819	0.108	
(b)	0.35		(3.69)	(0.85)			1.55		0.00244		(0.00139)	(0.3)		3.81		0.12	(0.81)
(c)	2.22	0.25	3.5	1	(0.08)		1.70	(2.26)		21.5	0.0040	0.4		4.40		0.22	0.9

	Na	Na2O	Nb (ppm)	Nd (ppm)	Ni	Ni (ppm)	P	P2O5	Pb	Pb (ppm)	Pr (ppm)	Rb	S	Sb (ppm)	Sc	Sc (ppm)	SiO2
(a)	(5.3)	7.1	13	57		9	(0.0532)	0.131		10	15	0.0055	(0.015)		0.00011	49.9	
(b)		3.33	6.92	30.48		40.94		(0.39)		8.97	(6.45)	0.00485			0.002046	57.75	
(c)		2.99	7	23.5	0.0015			0.25	0.0055		5.7	0.0073	(0.0350)	0.40		28	52.85

	Sm (ppm)	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	Th (ppm)	TiO2	Tm (ppm)	U (ppm)	V	W	Y	Y (ppm)	Yb (ppm)	Zn	Zr
(a)	12.7	(7.1)	0.1191	0.9	2.6	1.4	0.287	2.3	0.8	0.0008			119	14.8	0.0093	0.0517	
(b)	(5.61)		0.0454	(0.48)	(0.76)	3.88	1.34	(0.32)	(1.09)	0.0213	0.0266		23.62	2.05	0.009277	0.0191	
(c)	5.4	2	0.0400	0.6	0.77	5	1.09	0.39	1.5	0.0220	0.0130	0.0026		2.5	0.0145	0.0125	

Code	Product			Unit
GSJ-JA-1	(a)	CRM	Andesite - Constituents	20 g
GSJ-JA-2	(b)	CRM	Andesite - Constituents	20 g
GSJ-JA-3	(c)	CRM	Andesite - Constituents	20 g
UG-AGV-2	(d)	CRM	Andesite	30 g
VS-MO12	(e)	CRM	Andesite	40 g
VS-MO15	(f)	CRM	Andesite	40 g
CGL-USZ48-2009	(g)	CRM	Andesite - MGL-AND (CGL 009)	100 g
NCS DC71302	(h)	CRM	Rock - Constituents (NIM-GBW07110)	70 g
NCS DC73302	(i)	CRM	Rock - Constituents (NIM-GBW07104)	70 g

	Ag (ppm)	Al	Al2O3	As (ppm)	Au (ppm)	B	Ba	Be	Bi (ppm)	Br	C	C (org)	CO2	Ca	CaO	Cd (ppm)	Ce
(a)	(0.033)	8.06	15.22	2.78	0.00016	0.0021	0.0311	0.00005	(0.0091)		(0.0271)			4.07	5.7	0.11	0.00133
(b)	(0.043)	8.16	15.41	(0.85)	0.00026	0.00207	0.0321	0.000205	(0.07)		(0.0141)			4.5	6.29	(0.078)	0.00327
(c)	0.084	8.23	15.56	(4.68)	(0.00095)	0.00248	0.0323	0.00008	(0.05)		(0.0061)			4.46	6.24	(0.089)	0.00228
(d)		8.95	16.91				0.114	0.00023						3.72	5.2	0.0068	
(e)			16.74			0.00093	0.0311	0.00023					0		8.73		
(f)			19.03			0.00099	0.0225	0.00022					0.2		0.3		
(g)	(0.08)		16.72	(3.64)			0.0672	(0.000201)	(0.12)						5.58	(0.06)	0.00552
(h)	0.17		16.1	5.9696		0.00108	0.1053	0.000364	0.09	(0.000055)		(0.29)	1.03		2.47	0.61	0.0117
(i)			16.17	2.1	(0.00095)	0.00047	0.102	0.00011	0.081				3.47		5.2	0.061	0.004

	Cl	Co	Cr	Cs	Cu	Dy	Er	Eu	F	Fe	Fe (tot)	Fe2O3	FeO	Ga	Gd	Ge	H2O
(a)	0.0043	0.00123	0.000783	0.000062	0.0043	0.000455	0.000304	0.00012	0.0161	4.95	7.07	2.59	3.98	0.00167	0.000436	0.000133	
(b)		0.00295	0.0436	0.000463	0.00297	0.00028	0.000148	0.000093	(0.0223)	4.34	6.21	2.16	3.69	0.00169	0.000306	(0.000105)	
(c)		0.00211	0.00662	0.000208	0.00434	0.000301	0.000157	0.000082	(0.0286)	4.62	6.6	1.15	4.83	0.00163	0.000296		
(d)		0.0016	0.0017	(0.000116)	0.0053	0.00036	(0.000179)	(0.000154)	(0.044)	4.68	6.69			0.002	(0.000469)		
(e)	0.024	0.0044	0.0181	0.00006	0.0054				0.06		10.54	2.96	6.82	0.0019		0.095	
(f)	0.065	0.0034	0.0136	0.00014	0.0028				0.16		10.07	4.09	4.9	0.002		0.32	
(g)		0.00192	0.00959	0.000109	0.00412	(0.000255)	(0.000118)	0.000144			5.43		(1.66)	0.00211	(0.000393)		
(h)	0.016	0.00079	0.00077	0.000716	0.00091	0.000532	0.000293	0.000196	0.112			4.51	0.19	0.00198	0.000654	0.000111	
(i)	(0.0046)	0.00132	0.0032	0.00023	0.0055	0.000185	0.000085	0.000102	0.028		4.9		2.39	0.00181	0.00027	0.000093	

	H2O (tot)	H2O+	H2O-	Hf	Hg (ppm)	Ho (ppm)	I (ppm)	In (ppm)	Ir (ppb)	Ir (ppm)	K	K2O	La	Li	Lu	Mg	MgO
(a)		0.72	0.30	0.000242	(0.0117)	0.95	(0.015)	(0.0494)	(0.0028)		0.64	0.77	0.000524	0.00108	0.000047	0.95	1.57
(b)		1.12	1.25	0.000286	(0.0018)	0.5	(0.005)			(0.000013)	1.5	1.81	0.00158	0.00273	0.000027	4.58	7.6
(c)		0.2	0.11	0.000342	(0.0019)	0.51				(0.000014)	1.17	1.41	0.000933	0.00145	0.000032	2.24	3.72
(d)				(0.000508)		(0.71)					2.39	2.88	0.0038	(0.0011)	(0.000025)	1.08	1.79
(e)	0.28	0.18										1.12	0.0045	0.00092		7.38	
(f)	1.66	1.34										1.51	0.0069	0.0016		5.23	
(g)				0.00038	(0.004)	(0.46)						2.42	0.00262	(0.00132)	(0.000015)	3.52	
(h)		1.79		0.00075	0.014	1.1	0.07	0.11				5.17	0.00625	0.00175	0.000049	0.84	
(i)		(1.5)		0.00029	0.012	0.34	(0.14)	0.037				1.89	0.0022	0.00183	0.000012	1.72	

Code	Product																	Unit
		Mn	**MnO**	**Mo**	**Na**	**Na2O**	**Nb**	**Nd**	**Ni (ppm)**	**P**	**P2O5**	**Pb**	**Pd (ppm)**	**Pr**	**Pt**	**Pt (ppm)**	**Rb**	**Re (ppm)**	
	(a)	0.122	0.157	0.000159	2.85	3.84	0.000185	0.00109	(3.49)	0.072	0.165	0.000655	(0.0002)	0.000171		(0.0005)	0.00123	(0.00045)	
	(b)	0.084	0.108	0.00006	2.31	3.11	0.000947	0.00139	13	0.064	0.146	0.00192	(0.0005)	0.000384	(0.0013)		0.00729	(0.000063)	
	(c)	0.081	0.104	0.000189	2.37	3.19	0.000341	0.00123	32.2	0.051	0.116	0.00077	(0.001)	0.00024		(0.0017)	0.00367	(0.00065)	
	(d)	0.077			3.11	4.19	0.0015	0.003	19	0.21	0.48	0.0013		0.00083			0.00686		
	(e)		0.14	0.00039		3.85	0.0014		137		0.45	0.0011					0.0016		
	(f)		0.059	0.00034		4.39	0.0013		90		0.39	0.00088					0.005		
	(g)		0.081	(0.00006)		4.46	0.000323	0.00272	61.2		0.264	0.00187		(0.000677)			0.00497		
	(h)		0.089	0.000095		3.06	0.00208	0.00472	12.6		0.36	0.00977		0.00132			0.0183		
	(i)	0.0604		0.000054		3.86	0.00068	0.0019	17	0.103		0.00113		0.00049			0.0038		
		S	**Sb**	**Sc**	**Se (ppm)**	**Si**	**SiO2**	**Sm**	**Sn**	**Sr**	**Ta**	**Tb**	**Te**	**Th**	**Ti**	**TiO2**	**Tl**	**Tm**	
	(a)	0.00216	0.000022	0.00285	(0.0088)	29.9	63.97	0.000352	(0.000116)	0.0263	0.000013	0.000075		0.000082	0.51	0.85	(0.000013)	0.000047	
	(b)	(0.0008)	(0.000014)	0.00196		26.37	56.42	0.000311	0.000168	0.0248	0.00008	0.000044		0.000503	0.4	0.66	0.000032	0.000028	
	(c)	(0.0214)	(0.000032)	0.0022		29.11	62.27	0.000305	(0.000095)	0.0287	0.000027	0.000052		0.000325	0.42	0.7	(0.000023)	(0.000028)	
	(d)		(0.00006)	0.0013		27.7	59.3	(0.00057)	(0.00023)	0.0658	(0.000089)	(0.000064)		0.00061	0.63	1.05	(0.000027)	(0.000026)	
	(e)	0.006		0.0022			49.87		0.00039	0.0865						1.61			
	(f)	0.016		0.0029			40.55		0.00042	0.0554						1.68			
	(g)		(0.000027)	0.00118			59.2	0.000516	(0.000086)	0.1116	(0.000025)	0.000049		0.000646		0.71	(0.000022)	(0.000017)	
	(h)	0.023	0.000134	0.000752	0.03		63.06	0.000863	0.000312	0.0318	0.000142	0.000099	(0.0000007)		0.00167		0.8	0.000102	0.00005
	(i)	0.0192	0.000012	0.00095	(0.04)		60.62	0.00034	0.000079	0.079	0.00004	0.000041	0.0000017	0.00026	0.309		0.000016	0.000015	
		U	**V**	**W**	**Y**	**Yb**	**Zn**	**Zr**											
	(a)	0.000034	0.0105	(0.000034)	0.00306	0.000303	0.00909	0.00883											
	(b)	0.000221	0.0126	(0.000099)	0.00183	0.000162	0.00647	0.0116											
	(c)	0.000118	0.0169	(0.000807)	0.00212	0.000216	0.00677	0.0118											
	(d)	0.000188	0.012		0.002	0.00016	0.0086	0.023											
	(e)		0.0199		0.0034	0.00033	0.013	0.0152											
	(f)		0.0234		0.0039	0.00026	0.0033	0.0152											
	(g)	0.000196	0.0123	(0.00017)	0.00118	0.0001	0.00715	0.0141											
	(h)	0.000304	0.00643	0.000162	0.0028	0.000315	0.0164	0.0335											
	(i)	0.00009	0.0094	(0.000045)	0.00093	0.000089	0.0071	0.0099											

Code	Product			Unit
NCS DC71303	(a)	CRM	Rock - Constituents (NIM-GBW07111)	70 g
GSJ-JG-1	(b)	CRM	Granodiorite - Constituents	20 g
GSJ-JG-1A-020	(c)	CRM	Granodiorite - Constituents	20 g
GSJ-JG-3	(d)	CRM	Granodiorite - Constituents	100 g
UG-GSP-2	(e)	CRM	Granodiorite	30 g
VS-2125-81	(f)	CRM	Granodiorit (MK-1)	40 g

	Al	Al2O3	As (ppm)	Au (ppm)	B	Ba	Be	Bi	Br (ppm)	C	C (org)	CO2	Ca	CaO	Cd	Ce	Cl	
(a)			0.4		0.000392	0.19	0.000211	0.000005	(0.34)		(0.057)	0.15		4.72	0.000008	0.0112	0.023	
(b)	7.54	14.24	0.33	0.00011	0.000687	0.0466	0.000315	0.00005	(0.068)	(0.0216)			1.57	2.2	0.000004	0.00458	0.00581	
(c)	7.57	14.3	(0.43)	0.00021	0.000395	0.047	0.000316	(0.000043)		(0.0295)			1.52	2.13	(0.0000026)		0.0045	(0.0065)
(d)	8.19	15.48	(0.37)	0.00017	(0.000215)	0.0466	(0.00016)	(0.000005)		(0.012)			2.64	3.69	(0.0000054)		0.00403	(0.0156)
(e)	7.88	14.9				0.134	(0.00015)						1.5	2.1		0.041		
(f)		15.35			0.0027	0.14	0.00037					0.14		3.93				

	Co	Cr	Cs	Cu	Dy	Er	Eu	F	Fe	Fe (tot)	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Ge	H2O	
(a)	0.00156	0.00376	0.000097	0.00088	0.00032	0.000157	0.000191	0.084				2.64	3.08	0.00208	0.000509	0.0001	0.88	
(b)	0.000406	0.00532	0.00101	0.000252	0.000414	0.000216	0.000073	0.0498	1.52		2.18	0.38	1.61	0.00178	0.000428	0.000144		
(c)	0.00059	0.00176	0.00106	0.000167	0.000444	0.000257	0.00007	0.0439	1.4		2	0.51	1.36	0.00165	0.000408	(0.00015)		
(d)	0.00117	0.00224	0.000178	0.000681	0.000259	0.000152	0.00009	(0.0317)	2.58		3.69	1.62	1.83	0.00171	0.000292	(0.000106)		
(e)	0.00073	0.002	(0.00012)	0.0043	(0.00061)	(0.00022)	0.00023	(0.3)		3.43	4.9			0.0022	(0.0012)			
(f)	0.0013	0.0037		0.0057								5.23	2.87	0.0022		0.00018		

	H2O+	H2O-	Hf	Hg (ppm)	Ho	I (ppb)	I (ppm)	In	In (ppm)	Ir (ppb)	K	K2O	La	Li	Lu	Mg	MgO	
(a)			0.00052	0.035	0.00006		(0.078)		0.08			3.5	0.00605	0.00162	0.000024	2.81		
(b)	0.54	0.07	0.000356	0.0165	0.000081	(0.012)		(0.0000044)				3.3	3.98	0.00224	0.00866	0.000039	0.45	0.74
(c)	0.59	0.12	0.000359	(0.0041)	0.000082				(0.025)		3.29	3.96	0.00213	0.00795	0.000044	0.42	0.69	
(d)	0.67	0.17	0.000429	(0.0024)	0.000038					(0.0016)	2.19	2.64	0.00206	0.00209	0.000026	1.08	1.79	
(e)			(0.0014)		(0.0001)						4.48	5.38	0.018	(0.0036)	(0.000023)	0.58	0.96	
(f)												3.98		0.002		1.87		

	Mn	MnO	Mo	Na	Na2O	Nb	Nd	Ni	P	P2O5	Pb	Pd (ppm)	Pr	Pt (ppm)	Rb	Rb (ppm)	Re (ppb)	
(a)		0.094	0.000047		4.05	0.00106	0.00481	0.00244		0.34	0.00198		0.00132			70.1		
(b)	0.049	0.063	0.000175	2.51	3.38	0.00124	0.00193	0.000747	0.043	0.099	0.00254	(0.0002)	0.000483	(0.0005)		182	(0.098)	
(c)	0.044	0.057	0.000045	2.51	3.39	0.00114	0.00204	0.000691	0.036	0.083	0.00264	(0.0002)	0.000563	(0.0005)	0.0178			
(d)	0.055	0.071	0.000045	2.94	3.96	0.000588	0.00172	0.00143	0.053	0.122	0.00117	(0.0002)	0.00047	(0.0005)		67.3		
(e)	0.032		(0.00021)	2.06	2.78	0.0027	0.02	0.0017	0.13	0.29	0.0042		(0.0051)			245		
(f)		0.16	0.000322		3.25	0.00088		0.0015		0.228	0.016					160		

Code	Product																Unit
		Re (ppm)	**S**	**Sb**	**Sb (ppm)**	**Sc**	**Se (ppm)**	**Si**	**SiO2**	**Sm**	**Sn**	**Sr**	**Ta**	**Tb**	**Te**	**Th**	**Ti**	**TiO2**
	(a)		0.011		0.6	0.00103	0.03		59.68	0.000774	0.000144	0.1198	0.000062	0.000068	0.0000011	0.00109	0.77	
	(b)		0.00109	0.000013		0.000653	0.003	33.8	72.3	0.000462	0.00036	0.0184	0.000179	0.000078		0.00132	0.16	0.26
	(c)	(0.00015)	(0.0011)		(0.048)	0.000621		33.8	72.3	0.000453	0.000447	0.0187	0.00019	0.000081		0.00128	0.15	0.25
	(d)	(0.000033)	(0.00547)		(0.08)	0.000876		31.45	67.29	0.000339	0.00014	0.0379	0.00007	0.000046		0.000828	0.29	0.48
	(e)					0.00063		31.1	66.6	0.0027		0.024				0.0105	0.4	0.66
	(f)		0.019			0.0013			64.08		0.0008	0.048					0.517	
		Tl	**Tm**	**U**	**V**	**W**	**Y**	**Yb**	**Zn**	**Zr**								
	(a)	0.000039	0.000026	0.00014	0.0104	0.000019	0.00155	0.000156	0.00854	0.0224								
	(b)	0.000103	0.000041	0.000347	0.00252	(0.000158)	0.00306	0.000247	0.00411	0.0111								
	(c)	0.000098	0.000038	0.000469	0.00227	0.00124	0.00321	0.00027	0.00365	0.0118								
	(d)	(0.00004)	0.000024	0.000221	0.00701	(0.00141)	0.00173	0.000177	0.00465	0.0144								
	(e)	(0.00011)	(0.000029)	0.00024	0.0052		0.0028	0.00016	0.012	0.055								
	(f)				0.009				0.012	0.021								

Code	Product			Unit
NCS DC71305	(a)	CRM	Rock - Constituents (NIM-GBW07113)	70 g
GSJ-JR-1-020	(b)	CRM	Rhyolite - Constituents	20 g
GSJ-JR-2	(c)	CRM	Rhyolite - Constituents	20 g
GSJ-JR-3	(d)	CRM	Rhyolite - Constituents	100 g

	Al	Al2O3	As	Au (ppm)	B	Ba	Be	Bi	Br	C	CO2	Ca	CaO	Cd	Cd (ppm)	Ce	Cl
(a)			0.000066		0.00035	0.0506	0.000409	0.00006	(0.000025)	(0.15 Tot)	0.52		0.59		0.14	0.0163	(0.002)
(b)	6.79	12.83	0.00163	0.00025	0.0117	0.00503	0.000334	0.000056	(0.0006)	0.00708		0.48	0.67		0.026	0.00472	0.092
(c)	6.73	12.72	0.00192	0.00013	0.0145	0.00395	0.000375	0.000062		(0.0063)		0.36	0.5	0.0000023		0.00388	(0.0736)
(d)		11.9	(0.00011)		(0.00114)	0.00658	0.00076	(0.000021)		(0.023)			0.093		(0.064)	0.0327	

	Co	Cr	Cs	Cu	Dy	Er	Eu	F	Fe	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Ge	H2O	H2O+
(a)	0.00024	0.00073	0.000334	0.00109	0.000819	0.000431	0.000118	0.13			1.14	1.86	0.00205	0.000947	0.000117	1.18	
(b)	0.000083	0.000283	0.00208	0.000268	0.000569	0.000361	0.00003	0.0991	0.62	0.89	0.35	0.49	0.00161	0.000506	0.000188	1.16	
(c)	0.000046	0.00031	0.0025	0.000136	0.000663	0.000436	0.000014	0.1109	0.54	0.77	0.27	0.44	0.00179	0.000583	(0.000188)	1.19	
(d)	0.000098	0.00035	0.0001	0.00029	(0.00215)	(0.0014)	0.000053			4.72	2.61	1.86	0.00366	(0.00197)		(0.72)	

	H2O-	Hf	Hg (ppm)	Ho	I	In (ppm)	Ir (ppm)	K	K2O	La	Li	Lu	Mg	MgO	Mn	MnO	Mo
(a)		0.00108	0.005	0.000164	(0.0000093)		0.09			5.43	0.00827	0.00127	0.000067		0.16	0.14	0.000246
(b)	0.20	0.000451	(0.0034)	0.000111	(0.000008)	(0.028)		3.66	4.41	0.00197	0.00614	0.000071	0.07	0.12	0.077	0.099	0.000325
(c)	0.22 0.000335	0.000514	(0.0009)	0.000139	(0.0000067)			(0.0022)	3.69	4.45	0.00163	0.00792	0.000088	0.02	0.04	0.087	0.112
(d)	(0.24)	0.00403	(0.0034)	(0.00047)					4.29	0.0179	(0.012)	0.00028		0.05		0.083	0.000049

	Na	Na2O	Nb	Nd	Ni	P	P2O5	Pb	Pd (ppm)	Pr	Pt (ppm)	Rb	Re (ppm)	S	Sb	Sc	Se
(a)		2.57	0.00343	0.00645	0.00645		0.045	0.00333		0.00184		0.0213		0.009	0.000038	0.000515	
(b)	2.98	4.02	0.00152	0.00233	(0.000167)	0.009	0.021	0.00193	(0.0002)	0.00058	(0.0005)	0.0257	(0.000046)	0.00133	0.000119	0.000507	
(c)	2.96	3.99	0.00187	0.00204	(0.000199)	0.005	0.012	0.00215	(0.0002)	0.000475	(0.0005)	0.0303	(0.000023)	(0.00096)	0.000151	0.000559	(0.00000028)
(d)		4.69	0.051	0.0107	(0.00016)		0.017	0.00328		0.00331		0.0453		(0.0039)	(0.000017)	0.00005	

	Se (ppm)	SiO2	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	TiO2	Tl	Tm	U	V	W	Y	
(a)	0.04	72.78	0.00117	0.000335	0.0043	0.000241	0.000151	(0.0000009)		0.00271		0.3	0.000083	0.000073	0.000483	0.00038	0.00011	0.00425
(b)	(0.006)	75.45	0.000603	0.000286	0.00291	0.000186	0.000101		0.00267	0.066	0.11	0.000156	0.000067	0.000888	0.0007	0.000159	0.00451	
(c)		75.69	0.000563	0.000351	0.000811	0.000229	0.00011		0.00314	0.04	0.07	0.000185	0.000074	0.00109	0.0003	(0.00018)	0.00511	
(d)		72.76	0.00213	0.00174	0.00104	0.00368	0.000429		0.0112		0.21	(0.000093)		0.00211	0.00042	(0.00078)	0.0166	

	Yb	Zn	Zr
(a)	0.000451	0.00863	0.0403
(b)	0.000455	0.00306	0.00999
(c)	0.000533	0.00278	0.00963
(d)	0.00203	0.0209	0.1494

Code	Product																	Unit
NCS DC71313	(a)	CRM	Pegmatite															70 g
		As	**B**	**Ba**	**Be**	**Bi**	**CO2**	**CaO**	**Cd**	**Ce**	**Co**	**Cr**	**Cs**	**Cu**	**Dy**	**Er**	**Eu**	**F**
	(a)	0.00031	(0.00019)	(0.0728)	0.00013	(0.000007)	(0.05)	(0.1)	0.000015	(0.0005)	(0.00015)	0.00048	0.00018	0.00042	0.00002	(0.000012)	(0.000016)	(0.03)
		Fe (tot)*	**FeO**	**Ga**	**Gd**	**Ge**	**H2O+**	**Hf**	**Hg (ppm)**	**Ho**	**K2O**	**La**	**Li**	**Lu**	**MgO**	**Mn**	**Mo**	**Na2O**
	(a)	(0.24)	(0.04)	0.00135	0.000022	0.00015	(1.02)	(0.00008)	(0.008)	(0.000004)	6.22	(0.00033)	0.00144	0.000003	0.13	(0.01)	(0.000029)	1.6
		Nb	**Nd**	**Ni**	**P2O5**	**Pb**	**Pr**	**Rb**	**SO3**	**Sb**	**Sc**	**Se (ppm)**	**SiO2**	**Sm**	**Sn**	**Sr**	**Ta**	**Tb**
	(a)	0.00146	0.00015	(0.00016)	0.18	0.00346	0.000048	0.0155	0.07	0.000064	(0.000285)	(0.015)	76.4	(0.000024)	0.00035	0.00455	0.00013	(0.000004)
		Th	**TiO2**	**Tm**	**U**	**V**	**W**	**Y**	**Yb**	**Zn**	**Zr**							
	(a)	0.000066	0.61	(0.000002)	(0.000075)	0.00445	0.00032	0.00016	0.000021	0.00203	0.00226							

Code	Product			Unit
CGL-USZ28-99	(a)	CRM	Alkaline Granite - MGL-OShBO (CGL 002)	100 g
CGL-USZ47-2008	(b)	CRM	Granite (CGL 008)	100 g
VS-3333-85	(c)	CRM	Granite	100 g
Z GM	(d)	CRM	Granite	50 g
SARM 1	(e)	CRM	NIM-G Granite	100 g
SARM 48	(f)	CRM	Fluorspar Granite	100 g

	Ag	Al2O3	As	B	Ba	Be	Bi	CO2	CaO	Ce	Co	Cr	Cs	Cs2O	Cu	Dy	Er
(a)		16.13	(0.0003)						0.39	(0.0025)		(0.013)		0.012	0.0008		
(b)		14.07	0.000228		0.035	0.000863	0.000103		1.15	0.006438	0.000271	0.0182	0.001702		0.000736	0.000442	0.000237
(c)	(0.000006)	10.64	(0.0004)	0.0011	0.009	0.0005		(0.1)	0.32	0.009	0.00013	0.00031	0.00045		0.0012	(0.001)	(0.0006)
(d)	(0.09)	13.55	0.00041	0.0011	0.034	(0.00048)		0.28	1.07	0.0065	0.00037	0.0011	0.00081		0.0013	(0.00054)	(0.00022)
(e)		12.08						(0.1)	0.78								
(f)		11.24			(0.029)				8.9	(0.085)		0.0023			(0.001)		

	Eu	F	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Ge	H2O	H2O-	Hf	Hg (ppm)	Ho	K2O	La	Li	Li2O
(a)		1.25	0.51		0.29					(0.05)				3.52	(0.0015)	0.37	
(b)	0.000058			2.44	1.81	0.00228	0.000495	0.00015			0.000475		0.000085	4.68	0.002959	0.0124	
(c)	0.00004	0.062		4.5	1.61	0.0027		0.00022	(0.3)		0.0012			4.64	0.0045	0.0052	
(d)	0.00006	0.067		2.01	1.13	0.0015	(0.00052)	(0.00016)	0.35		0.00051	(0.0033)	(0.0001)	4.76	0.0041	0.005	
(e)		0.42		(0.6)	1.3									4.99			
(f)				0.58	(0.2)									4.26			

	Lu	MgO	MnO	Mo	Na2O	Nb	Nd	Ni	P2O5	Pb	Pr	Rb	Rb2O	S	Sb	Sc	SiO2
(a)		(0.29)	0.13		5.25	0.0071		0.001	0.028	0.0064			0.24			(0.0007)	71.61
(b)	0.000035	0.38	0.06	0.000306	3.63	0.001522	0.00271	0.000576	0.13	0.002481	0.000727	0.0275			0.000019	0.000436	72.37
(c)	0.00009	0.1	0.12	0.00017	4.24	0.0017	0.005	0.0006	0.024	0.001		0.014		(0.016)	(0.00005)	0.00046	74.76
(d)	0.00004	0.37	0.043	0.00011	3.78	0.0018	0.003	0.00068	0.062	0.003	(0.00072)	0.026			(0.000051)	0.00048	73.42
(e)		(0.06)			3.36											75.7	
(f)		0.18	0.02	(0.0005)	3.22	0.0202			(0.09)	0.0135		0.0291				67.11	

	Sm	Sn	Sr	Ta	Tb	Th	TiO2	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
(a)			(0.001)	0.0054			(0.03)								0.0086	0.0046
(b)	0.000554	0.00133	0.0111	0.000256	0.000079	0.001935	0.3	0.000172	0.000037	0.000544	0.001403	0.000056	0.002519	0.000236	0.005459	0.0169
(c)	0.001	0.0005	0.0008	0.00011	0.00004	0.008	0.26			0.00018	0.0006	(0.00011)	0.006	0.0007	0.014	0.047
(d)	0.00049	0.00044	0.0133	0.00017	0.00007	0.0036	0.212			0.00064	0.0011	0.00016	0.0026	0.00031	0.0034	0.0149
(e)							(0.09)									
(f)			0.0029			0.0113	0.1				(0.0008)		0.0436		0.0053	0.03

Code	Product			Unit
CRPG-AC-E	(a)	CRM	Granite	30 g
CRPG-GA	(b)	CRM	Granite	30 g
CRPG-GS-N	(c)	CRM	Granite	30 g
CRPG-MA-N	(d)	CRM	Granite	30 g
GSJ-JG-2	(e)	CRM	Granite - Constituents	20 g

	(ppm)	Ag (ppm)	Al	Al2O3	As (ppm)	Au (ppm)	B	Ba	Be (ppm)	Bi (ppm)	Br (ppm)	C	CO2	Ca	CaO	Cd (ppm)	Ce (ppm)
(a)		0.1		14.70	2.3		0.0021	0.0055	12	(0.4)	(0.5)		0.07		0.34	0.6	154
(b)				14.50	1.7			0.0026	3.6				0.11		2.45	0.13	0.0076
(c)	1.7			14.67	(1.6)			0.1400	5.4	(0.18)			0.18		2.50	(0.04)	135
(d)		1.8		17.62	13	(0.003)	0.0017	0.0042	300				0.13		0.59	2	0.9
(e)		(0.019)	6.6	12.47	(0.68)	(0.000059)	(0.000178)	0.0081	32.6	(0.64)		(0.0035)		0.5	0.7	(0.004)	48.3

	Cl	Co (ppm)	Cr (ppm)	Cs (ppm)	Cu	Dy (ppm)	Er (ppm)	Eu (ppm)	F	Fe	Fe (tot)*	Fe2O3	FeO	Ga	Gd (ppm)	Ge (ppm)	H2O+
(a)	0.0180	0.2	3.4	3	0.0004	29	17.7	2	0.2100		2.53	1.34	1.07	0.0039	26	(2.3)	0.22
(b)	0.0250	5	12	6	16	3.3	(1.9)	1.08	0.0500		2.83	1.36	1.32	0.0016	3.8	(1.7)	0.87
(c)	(0.0450)	65	55	5.4	0.0020	3.1	1.5		0.1050		3.75	1.92	1.65	0.0022	5.2	(1.3)	1.02
(d)	0.0140	0.5	3	640	0.0140	(0.07)	(0.04)	(0.02)	1.7		0.47	0.13	0.31	0.0059	(0.08)	(0.035)	1.08
(e)		3.62	6.37	6.79	0.000049	10.5	6.04	0.1	(0.0972)	0.68	0.97	0.33	0.57	0.00186	8.01	(1.7)	0.33

	H2O-	Hf (ppm)	Hg (ppm)	Ho (ppm)	In (ppm)	Ir (ppm)	K	K2O	LOI	La (ppm)	Li	Lu (ppm)	Mg	MgO	Mn	MnO	Mo (ppm)
(a)	0.15	27.9		6.5	(0.11)			4.49	0.37	59	0.0093	2.45		0.03		0.058	2.5
(b)	0.09	4		(0.7)	(0.03)			4.03	(0.0001)	40	0.0090	0.3		0.95		0.09	0.5
(c)	0.28	6.2		0.6	(0.03)			4.63	(1.33)	75	0.0055	0.22		2.30		0.056	1.2
(d)	0.21	0.045	(0.035)	(0.017)	(0.1)			3.18	1.82	0.5	0.4900	(0.005)		0.04		0.04	0.3
(e)	0.12	4.73	(0.0033)	1.67	(0.021)	(0.000004)	3.91	4.71		19.9	0.00422	1.22	0.02	0.037	0.012	0.016	0.37

	Na	Na2O	Nb	Nd (ppm)	Ni (ppm)	P	P2O5	Pb	Pd (ppm)	Pr (ppm)	Pt (ppm)	Rb	Re (ppm)	S	Sb (ppm)	Sc (ppm)	Si
(a)		6.54	0.0110	92	1.5		0.014	0.0039		22.2		0.0152		0.0070	0.4	0.11	
(b)		3.55	0.0012	27	7		0.12	0.0030		8.3		0.0175		0.0080	0.2	7	
(c)		3.77	0.0021	49	34		0.28	0.0053		14.2		0.0185		(0.0140)	0.7	7.3	
(d)		5.84	0.0173	0.4	3		1.39	0.0029		(0.1)		0.3600		(0.0100)	1.7	0.2	
(e)	2.63	3.54	0.00147	26.4	(4.35)	0.001	0.002	0.00315	(0.0002)	6.2	(0.0005)	0.0301	(0.000016)	(0.0007)	(0.057)	2.42	35.91

	SiO2	Sm (ppm)	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	Th (ppm)	Ti	TiO2	Tl (ppm)	Tm (ppm)	U (ppm)	V (ppm)	W (ppm)	Y	Y (ppm)	Yb (ppm)
(a)	70.35	24.2	13	0.0003	6.4	4.8	18.5		0.11	(0.9)	2.6	4.6	3	1.5	0.0184	17.4	
(b)	69.90	5	2.7	0.0310	1.3	0.6	17		0.38	0.008	(0.3)	5	38	1.5		21	2
(c)	65.80	7.5		0.0570	2.6	0.6	41		0.68		0.22	7.5	65	450		16	1.4
(d)	66.60	0.09	0.0900	0.0084	290	(0.01)	1.4		0.01	(15)	(0.007)	12.5	0.2	70		0.4	0.04
(e)	76.83	7.78	3	0.00179	2.76	1.62	31.6	0.026	0.044	1.55	1.16	11.3	3.78	23		86.5	6.85

Code	Product			Unit
		Zn	**Zr**	
	(a)	0.0224	0.0780	
	(b)	0.0080	0.0150	
	(c)	0.0048	0.0235	
	(d)	0.0220	0.0025	
	(e)	0.00136	0.00976	

BAS-BCS-RM 201A	(a)	RM	Nepheline Syenite	100 g
NIM-GBW03124	(b)	CRM	Nepheline syenite- Contituents (NCS DC60125)	50 g
NIM-GBW03125	(c)	CRM	Nepheline syenite- Contituents (NCS DC60126)	50 g
NIM-GBW07109	(d)	CRM	Rock - Constituents (NCS DC71301)	100 g
GSJ-JSY-1	(e)	CRM	Syenite - Constituents	100 g
SARM 2	(f)	CRM	NIM-S Syenite	100 g
CGL-USZ45-2007	(g)	CRM	Nepheline syenite - LNS (CGL 006)	100 g
VS-1345-78	(h)	CRM	Nepheline Syenite - SNS-2	100 g

	Ag (ppm)	**Al2O3**	**As**	**As (ppm)**	**B**	**Ba**	**Be**	**Be (ppm)**	**Bi (ppm)**	**Br**	**C (org)**	**CO2**	**CaO**	**Cd (ppm)**	**Ce**	**Cl**	**Co**
(a)													1.07				
(b)		20.05											0.52				
(c)		29.67										2.97	5.98				
(d)	(0.033)	17.72	0.000627		0.00318	0.0251	0.00172		0.37	0.000121	(0.093)	0.26	1.39	0.07	0.0242	0.059	
(e)		23.17		(0.90)	(0.00145)	0.00157		(0.80)	(0.009)				0.25		0.00026		
(f)		17.34										0.09	0.68				
(g)		22.58	0.00238			0.0447						(1.16)	2.28		0.0308	(0.001003)	
(h)		20.92				0.13	0.00096						1.47				

	Co (ppm)	**Cr**	**Cs**	**Cu**	**Dy**	**Er**	**Eu**	**F**	**Fe (tot)***	**Fe2O3**	**FeO**	**Ga**	**Gd**	**Ge**	**H2O**	**H2O+**	**H2O-**
(a)										0.12							
(b)										1.37	0.28				2.34		
(c)										0.33	1.24				1.78		
(d)	4.59	0.00036	0.000205	0.00118	0.00047	0.000248	0.000235	0.048		6.04	1.23	0.00358	0.0007	0.000095	2.38		
(e)	(0.16)	0.00020	0.000069	0.00013	0.000037	0.000030	0.000016		0.084			0.00235	0.000027				
(f)										1.11	0.3						
(g)		0.0044	(0.0034)	(0.0026)				(0.26)		2.63	0.8	0.0023				(0.69)	(0.17)
(h)		0.0012		0.0073				0.2		4.79	1.27	0.003			1.06		

Code	Product																Unit
		Hf	**Hg (ppm)**	**Ho**	**I**	**In**	**K2O**	**La**	**Li**	**Lu (ppm)**	**MgO**	**MnO**	**Mo**	**Mo (ppm)**	**Na2O**	**Nb**	**Nd**	**Ni**	
	(a)						8.9				0.025				7.53				
	(b)						5.06				0.13	0.05			8.97				
	(c)						4.72				0.92	0.031			12.59				
	(d)	0.0034	0.005	0.000096	0.000014	0.000015	7.48	0.0149	0.00329	0.43	0.65	0.12		0.26	7.16	0.00669	0.00651	0.000175	
	(e)	0.00012	(0.005)	0.094			4.82	0.00012	(0.00153)	0.076	0.016	0.0024		0.048	10.74	0.000051	0.00012	0.00011	
	(f)						15.35				0.46				0.43				
	(g)						9.1	0.0163	0.0054		0.24	0.14	(0.0011)		6.78	0.004	(0.0019)		
	(h)						5.71	0.022	0.0031		0.5	0.21			9.96	0.023			
		P2O5	**Pb**	**Pr**	**Rb**	**S**	**SO3**	**Sb**	**Sc**	**Se**	**SiO2**	**Sm**	**Sn**	**Sr**	**Ta**	**Ta (ppm)**	**Tb (ppm)**	**Te (ppm)**	
	(a)	0.025									57.3								
	(b)	0.02				(0.011)					60.64								
	(c)	0.072				(0.064)					39.42								
	(d)	0.018	0.0196	0.00225	0.013	0.011		0.000015	0.000222	0.000005	54.48	0.00097	0.00065	0.116		1.96	1.02	0.012	
	(e)	(0.014)	0.00049	0.000032	0.00663	(0.0013)		0.000015			60.02	0.000027	0.000017	0.00193		(0.013)	(0.057)		
	(f)										63.63								
	(g)	0.04	0.0114		0.0207		(0.28)				51.88			0.0174					
	(h)	0.14			0.017	0.017					53.57		0.00077	0.19	0.0011				
		Th	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U**	**V**	**W**	**W (ppm)**	**Y**	**Yb**	**Zn**	**Zr**						
	(a)		0.05																
	(b)		0.12																
	(c)		0.14																
	(d)	0.00793	0.48	0.76	0.46	0.00146	0.0179		1.24	0.00247	0.000256	0.0112	0.154						
	(e)	0.000023	(0.0015)	(0.96)	0.053	0.20	0.00021		0.06	0.00026	0.000041	0.0032	0.00702						
	(f)		(0.04)																
	(g)	0.00616	0.37			0.00124	0.003	(0.0009)		0.0023		0.0098	0.06						
	(h)	0.0035	0.86				0.0046			0.0049		0.014	0.06						

Code	Product			Unit
GSJ-JH-1	(a)	CRM	Hornblendite - Constituents	100 g
VS-2113-81	(b)	CRM	Hornblendite (MY-3)	40 g
SARM 45	(c)	CRM	Kinzingite	100 g
UG-SDC-1	(d)	CRM	Mica Schist	30 g
UL SBO1	(e)	CRM	Schist	20 g
CRPG-DT-N	(f)	CRM	Disthéne (cyanit)	30 g

	Al2O3	**As (ppm)**	**B**	**Ba**	**Be (ppm)**	**Bi (ppm)**	**C**	**CO2**	**CaO**	**Cd (ppm)**	**Ce**	**Cl**	**Co**	**Cr**	**Cs (ppm)**	**Cu (ppm)**	**Dy (ppm)**
(a)			(0.00108)	0.0106	(0.43)	(0.067)	(0.163)		15.02		0.00176		0.00515	0.0616	0.87	8.6	2.5
(b)				0.0099					11.04				0.0074	0.0015		740	
(c)											(0.01)		0.0041	0.0256		11	
(d)	15.8	0.22	0.0013	0.0630	3				1.40		0.0093	0.0032	0.0018	0.0064	4	30	6.7
(e)	18.24	(32)		0.0549	(3.2)				1.76		0.0101		0.0022	0.0116	(6.8)	33	(5.1)
(f)	59.20	(0.2)		0.013	(0.3)	(0.06)		0.62	0.04	(0.1)	0.0134	(0.003)	0.0015	0.0260	0.13	7	2.4

	Er	**Eu (ppm)**	**F**	**Fe (tot)***	**Fe2O3**	**Fe2O3(T)**	**FeO**	**Ga**	**Gd (ppm)**	**Ge (ppm)**	**H2O+**	**H2O-**	**Hf (ppm)**	**Hg (ppm)**	**Ho (ppm)**	**In**	**K2O**
(a)	0.00012	0.86		10.27	(1.39)		(8.09)	0.00079	(2.7)		(1.82)	(0.18)	1.4	(0.0019)	0.53	0.53	
(b)				18.26			9.72	0.0025								0.382	
(c)					12.6		(10)	(0.0035)								3.18	
(d)	0.00041	1.7	0.0600		2.62	6.32	3.93	0.0021	7				8.3	0.2	1.5	3.28	
(e)	(0.00034)	(1.64)		7.15			(5.61)	(0.0023)	6.2				5		(1.3)	3.55	
(f)	0.75	1.45	(0.0040)		0.55	0.66	0.11	(0.0030)	5.5	(4.9)	0.90	0.15	10		0.33	(0.01)	0.12

	LOI	**La**	**Li**	**Lu (ppm)**	**MgO**	**Mn**	**MnO**	**Mo (ppm)**	**Na2O**	**Nb**	**Nd**	**Ni**	**P2O5**	**Pb**	**Pr**	**Rb**	**S**
(a)		0.00079	(0.00121)	0.17	16.73		0.19	0.77	0.71	0.00042	0.00116	0.00582	0.099	0.00026	(0.00023)	0.00144	(0.0567)
(b)					12.7		0.144	1.3	2.14			0.0057		0.00049		0.054	
(c)					3.39		0.1		0.84	0.0027		0.008	0.08	(0.002)		0.0142	
(d)		0.0042	0.0034		1.69	0.0880			2.05	0.0021	0.0040	0.0038	0.16	0.0025		0.0127	
(e)	9.67	0.0048		0.49	(1.97)		0.18		0.66	0.0017	0.0042	0.0060	0.17	0.027		0.0163	
(f)	1.43	0.0090	(0.0026)	0.14	0.04		0.008	0.5	0.04	0.0034	0.0052	0.0014	0.09	0.0025	0.00155	0.0006	

	Sb (ppm)	**Sc**	**SiO2**	**Sm (ppm)**	**Sn (ppm)**	**Sr**	**Ta (ppm)**	**Tb (ppm)**	**Th**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y (ppm)**	**Yb (ppm)**
(a)	(0.067)	0.00776	48.18	3.1	(0.92)	0.0153	0.23	0.52	0.00014	0.67		(0.19)	0.58	0.0228		13.7	1.2
(b)		0.0058	37.95		2.9					1.91				0.0039		1.5	
(c)			49.62			0.0092			(0.0021)	1.82				0.0266		63	
(d)	0.54	0.0017	65.8	8.2	3.0	0.0180	1.2	1.2	0.0012	1.01	0.7	0.65	3.1	0.0102	0.80	4	
(e)		0.0017	55.16	7.8		0.0150	1.4	1	0.00152			(0.43)	3.1	0.0153		32	3.2
(f)	(0.25)	0.00021	36.45	8.4	2.2	0.0030	2.7	0.6	12	1.40		0.1	2.3	0.015	120	6.6	0.7

Code	Product																	Unit
		Zn	**Zr**															
	(a)	0.00618	0.00483															
	(b)	0.0137	0.0021															
	(c)	0.0074	0.0322															
	(d)	0.0103	0.0290															
	(e)	0.0082	0.0183															
	(f)	0.0028	0.0370															
NCS DC19003B	(a)	CRM	Coulsonite															100 g
NCS DC19004A	(b)	CRM	Vanadium-Titanium-Iron concentrate															100 g
		Al2O3	**CaO**	**Co**	**Cr2O3**	**Fe**	**Fe (tot)**	**FeO**	**K2O**	**MgO**	**MnO**	**Ni**	**P**	**S**	**SiO2**	**TiO2**	**V2O5**	**Zn**	
	(a)	3.36	0.055	0.015	0.042	59.51		26.53		1.34	0.43	0.014	0.0049	0.013	1.4	10.21	0.78	0.028	
	(b)	4.08	0.84	0.023	0.027		53.65	32.36	(0.011)	3.13	0.37	0.011	0.0016	0.762	3.21	12.85	0.56	0.037	
NIST-278	(a)	CRM	Obsidian rock - Constituents															35 g
		Cr	**Cu**	**Fe2O3**	**FeO**	**K2O**	**MgO**	**MnO**	**Na2O**	**Ni**	**P2O5**	**Pb**	**Rb**	**SiO2**	**Sr**	**Th**	**Ti**	**TiO2**	
	(a)	(0.00061)	0.00059	2.04	1.36	4.16	(0.23)	0.052	4.84	0.00036	0.036	0.00164	0.01275	73.05	0.00635	0.00124	0.000054	0.245	
		U																	
	(a)	0.000458																	
VS-MO7	(a)	CRM	Orthoclase															40 g
		Ba	**Be**	**CO2**	**CaO**	**Cl**	**Co**	**Cr**	**Cs**	**Cu**	**F**	**Fe (tot)***	**Fe2O3**	**FeO**	**Ga**	**H2O**	**H2O(tot)**	**H2O+**	
	(a)	(0.748)	(0.00012)	0.03	14.62	0.075	0.0049	0.0076	0.00011	0.0059	0.13	12.35	3.73	7.76	(0.0018)	0.12	0.82	0.7	
		K2O	**La**	**Li**	**MgO**	**MnO**	**Mo**	**Na2O**	**Nb**	**Ni**	**P2O5**	**Pb**	**Rb**	**S**	**Sc**	**SiO2**	**Sn**	**Sr**	
	(a)	0.75	0.0037	0.00054	6.46	0.15	(0.00024)	2.05	0.0012	0.0045	1.08	0.00076	0.0012	0.18	(0.0025)	40.79	(0.00038)	(0.1745)	
		TiO2	**V**	**Zn**	**Zr**														
	(a)	3.39	0.027	0.0065	0.0053														

Code	Product			Unit
CGL-USZ24-99	(a)	CRM	Serpentinite - MGL-GAS (CGL 001)	100 g
Z SW	(b)	CRM	Serpentinite	50 g
SARM 47	(c)	CRM	Serpentinite	100 g
CRPG-UB-N	(d)	CRM	Serpentine	30 g

	Al2O3	As	B	Ba	Be (ppm)	Bi (ppm)	CO2	CaO	Ce (ppm)	Cl	Co	Cr	Cr2O3	Cs	Cu	Dy (ppm)	Er (ppm)
(a)	(0.475)						(0.84)	(0.681)			0.0106	0.278					
(b)		(0.0005)	0.0037	0.0019			0.28	0.18			0.0102	0.24		(0.0005)	0.0007		
(c)	1.09			(0.0075)				(0.1)	(20)		0.0079		0.29		(0.0005)		
(d)	2.90	(0.0010)	0.0140	0.0027	(0.2)	(0.1)	0.39	1.20	0.8	0.0800	0.0100	0.2300		0.0010	0.0028	0.38	0.28

	Eu (ppm)	F	Fe (tot)*	Fe2O3	Fe2O3(T)	FeO	Ga	Gd	Ge (ppm)	H2O	H2O+	H2O-	Hf (ppm)	Ho (ppm)	In (ppm)	K2O	LOI
(a)			8			(0.27)						0.58				(0.018)	
(b)		0.0066		7.4		2	(0.0004)			13.6						(0.0014)	
(c)				4.14		(0.4)	(0.0005)									(0.02)	
(d)	0.08	(0.0095)		5.36	8.34	2.68	0.0003	0.0003	(0.85)		10.84	1.26	(0.1)	0.09	(0.015)	0.02	(12.06)

	La (ppm)	Li	Li2O	Lu (ppm)	MgO	MnO	Mo (ppm)	Na2O	Nb (ppm)	Nd (ppm)	Ni	P2O5	Pb	Pr (ppm)	Rb	S	Sb (ppm)
(a)					38.22	0.082		(0.038)			0.23	(0.023)					
(b)			(0.0003)		38.5	0.084		0.013		(4)	0.22	(0.0017)	(0.0006)		(0.0005)	(0.0003)	
(c)					42.09	0.06		(0.05)			0.2221	(0.02)	(0.006)				
(d)	0.35	0.0027		0.045	35.21	0.12	0.55	0.10	(0.05)	0.6	0.2000	0.04	0.0013	0.12	0.0004	(0.0200)	(0.003)

	Sc	SiO2	Sm (ppm)	Sn	Sr	Ta (ppm)	Tb (ppm)	Th (ppm)	TiO2	Tm (ppm)	U (ppm)	V	W	Y	Yb (ppm)	Zn	Zr
(a)		38.54			0.00073				(0.022)		0.8	0.00334				0.0039	
(b)	(0.0005)	39.04		(0.0005)					0.016		(5)	0.002	(0.0005)			0.0058	
(c)		36.3			(0.0003)				(0.01)			(0.0016)		(0.0005)		0.0045	
(d)	0.0013	39.43	0.2		0.0009	0.02	0.06	0.07	0.11	0.045	(0.07)	0.0075	0.0020	0.00025	0.28	0.0085	0.0004

Code	Product			Unit
CRPG-GL-O	(a)	CRM	Glauconite	30 g
CRPG-MICA-FE	(b)	CRM	Biotite	30 g
CRPG-MICA-MG	(c)	CRM	Phlogopite	30 g

	Al2O3	As (ppm)	Ba	Be (ppm)	Bi (ppm)	CO2	CaO	Cd (ppm)	Ce (ppm)	Cl	Co (ppm)	Cr	Cs (ppm)	Cu	Dy (ppm)	Er (ppm)	Eu (ppm)
(a)	7.55	(4.5)	(0.0660)	(70)			3.5		(135)		(7.5)	(0.0003)	(14.5)	(0.0018)	(6.7)	(3.5)	(1.9)
(b)	19.50	3	0.0150	4.5	(1.9)	0.19	0.43		420	0.0500	23	0.0090	180	0.005	11	(3.8)	0.7
(c)	15.20		0.4000			0.15	0.08	(0.1)	(0.35)	(0.0800)	24	0.0100	55	0.0004	(0.02)	(0.006)	(0.08)

	F	Fe2O3	Fe2O3(T)	FeO	Ga	Gd (ppm)	Ge (ppm)	H2O+	H2O-	Hf (ppm)	Ho (ppm)	In (ppm)	K2O	LOI	La (ppm)	Li	Lu (ppm)
(a)			4.9		(0.0020)	(8.2)	(1.5)			(8)	(1.4)	(0.05)	6.49	(0.4)	(68)	(0.6)	
(b)	1.6	4.64	25.65	18.91	0.0095	21	(3.2)	2.91	0.43	26	(1.6)	(0.6)	8.75	(2)	200	0.1200	0.5
(c)	2.85	1.98	9.46	6.73	0.0021	0.015		2.09	0.31	0.29	0.002	(0.01)	10.00	(1.75)	(0.32)	0.0110	(0.003)

	MgO	MnO	Mo (ppm)	Na2O	Nb	Nd (ppm)	Ni	P2O5	Pb	Pr (ppm)	Rb	S	Sb (ppm)	Sc (ppm)	SiO2	Sm	Sn
(a)	1.3	0.12	(3.2)	5.14	(0.0055)	(54)	(0.0006)		(0.0030)	(14.8)	(0.0280)		(0.5)	(8)	50.9	(0.0010)	
(b)	4.55	0.35	1.2	0.30	0.0270	180	0.0035	0.45	0.0013	49	0.2200	(0.0070)	14.8	33	34.40	0.0070	
(c)	20.40	0.26	(0.25)	0.12	0.0116	(0.08)	0.0110	0.01	0.0009	0.025	0.1300	0.0125		(0.025)	38.30		

	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	Th (ppm)	TiO2	Tl (ppm)	Tm (ppm)	U (ppm)	V	W (ppm)	Y (ppm)	Yb (ppm)	Zn	Zr
(a)	(3.8)	(0.0345)	(3.8)	(1.2)	(29)	0.8		(0.55)	(8.8)	(0.0092)	(3)	(38)	(3.8)	(0.0065)	(0.0370)
(b)		0.0005	35	2.7	150	2.50	16	(0.48)	80	0.0135	15	48	3.5	0.1300	0.0800
(c)	5	0.27	4.4	(0.002)	0.1	1.63	(0.55)	(0.002)	0.15	0.0090	(0.6)	(0.04)	(0.015)	0.0290	0.0016

Code	Product			Unit
CRPG-ISH-G	(a)	CRM	Trachyte	30 g
CRPG-MDO-G	(b)	CRM	Trachyte	30 g

	Al2O3	As (ppm)	Ba	Be	Bi (ppm)	CaO	Ce	Co (ppm)	Cr	Cs (ppm)	Cu (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Fe2O3	Fe2O3(T)	FeO
(a)	(18.6)	(4.5)	(0.0660)	(0.007)		(3.5)	(0.0135)	(7.5)	(0.0003)	(14.5)	(18)	(6.7)	(3.5)	(1.9)		(4.9)	
(b)	7.55	10.5	0.0006	0.0005	0.1	0.96	0.0054	14	0.0140	3.3	3.5	(2.7)	(1)	(1.2)	17.17	19.6	2.19

	Ga	Gd (ppm)	Ge (ppm)	H2O+	H2O-	Hf (ppm)	Ho (ppm)	In (ppm)	K2O	LOI	La	Li	Lu (ppm)	MgO	MnO	Mo (ppm)	Na2O
(a)	(0.0020)	(8.2)	(1.5)			(8)	(1.4)	(0.05)	(6.49)	(0.4)	(0.0068)		(0.6)	(1.3)	(0.12)	(3.2)	(5.14)
(b)	0.0013	(4.5)	(4.5)	5.58	2.52	1.1	(0.5)	(0.05)	7.94	(8.5)	0.0020	0.0070	(0.09)	4.46	0.008	0.03	0.04

	Nb (ppm)	Nd	Ni	P2O5	Pb	Pr (ppm)	Rb	Sb (ppm)	Sc	SiO2	Sm (ppm)	Sn (ppm)	Sr (ppm)	Ta (ppm)	Tb (ppm)	Th (ppm)	TiO2
(a)	(55)	(0.0054)	(0.0006)		(0.0030)	(14.8)	(0.0280)	(0.5)	(0.0008)	(58.0)	(10)	(3.8)	(345)	(3.8)	(1.2)	(29)	(0.8)
(b)	3.7	0.0027	0.0036	0.37	0.0003	(6.5)	0.0238	0.3	0.0008	50.9	0.055	2	19.3	0.22	(0.6)	3.4	0.07

	Tm (ppm)	U (ppm)	V	W (ppm)	Y (ppm)	Yb (ppm)	Zn	Zr
(a)	(0.55)	(8.8)	(0.0092)	(3)	(38)	(3.8)	(0.0065)	(0.0370)
(b)	(0.12)	0.8	0.0065	4.4	13.2	0.65	0.0038	0.0038

Carbonate Rocks

Code		Product		Unit
NCS DC70301	(a)	CRM	Carbonate rock - Constituents (NIM-GBW07127)	50 g
NCS DC70302	(b)	CRM	Carbonate rock - Constituents (NIM-GBW07128) 50g	50 g
NCS DC70303	(c)	CRM	Carbonate rock - Constituents (NIM-GBW07129)	50 g
NCS DC70304	(d)	CRM	Carbonate rock - Constituents (NIM-GBW07130)	50 g
NCS DC70305	(e)	CRM	Carbonate rock - Constituents (NIM-GBW07131)	50 g

	Ag (ppm)	Al2O3	As	As (ppm)	B	Ba	Be	Bi	Br	C (org)	CO2	CaO	Cd	Ce	Cl	Co	Co (ppm)
(a)	0.02	0.17	0.00005		(0.00019)	0.00097	0.000008	0.0000015	(0.00002)	(0.03)	44.39	47.89	0.00001	0.00014	0.0034	0.000045	
(b)	0.021	0.22	0.000029		(0.00022)	0.00116	0.000012	0.000002	(0.00003)	(0.03)	44.89	41.95	0.000009	0.00019	0.0034	0.00005	
(c)	0.016	0.15		0.78	(0.00013)	0.0008	0.000009	0.0000011	0.00004		43.1	55.49	0.000059	0.00022	0.005	(0.5)	
(d)	(0.013)	0.18		0.17	(0.000147)	0.00049	0.000006	0.0000016	(0.00002)	(0.01)	43.13	54.08	0.000005	0.00013	0.0028	2.6	
(e)	(0.016)	0.29	0.000096		(0.00064)	0.52	0.000008	0.0000025	0.00061	(0.07)	45.58	30.93	0.000002	0.00025	0.0343	0.000052	

	Cr	Cs	Cs (ppm)	Cu	Dy	Dy (ppm)	Er	Eu	Eu (ppm)	F	Fe (tot)*	FeO	Ga	Gd	Ge	H2O+	H2O-
(a)	0.00048	0.000007		0.00022	0.000012		0.000009	0.0000037		0.0076	0.193	0.15	0.00003	0.000013	0.000011	0.37	(0.20)
(b)	0.00056	0.000009		0.00022	0.000015		0.000012	0.0000052		0.0091	0.205	0.16	0.000033	0.000016	0.000012	0.31	(0.20)
(c)	0.00038		0.13	0.00022		0.51	0.00005		0.078	0.006	0.07	0.007	0.00003	0.000039	0.00001	0.23	(0.06)
(d)	0.0054		0.1	0.00021		0.09			0.025	0.0071	0.222	0.09	0.00003	0.00001	0.000012	0.14	(0.05)
(e)	0.00034	0.000013		0.00028	0.000017		0.00001	0.000014		0.0459	0.17	0.07	0.000031	0.000022	0.000012	0.39	(0.07)

	Hf	Hg (ppm)	Ho	Ho (ppm)	I	In	K2O	L.O.I.	La	Li	Lu	MgO	Mn	MnO	Na2O	Nb (ppm)	Nd (ppm)
(a)	0.00014	0.004		0.034	(0.00005)	(0.000003)	0.043	43.92	0.00009	0.00029	0.0000019	6.76	0.007	0.009	0.022	0.3	0.66
(b)	0.00021	0.015		0.034	(0.00003)	(0.000002)	0.052	44.75	0.00012	0.00031	0.0000022	11.62	0.007	0.009	0.029	0.46	0.86
(c)	0.00124	0.007	0.000013		(0.00005)	(0.000003)	0.012	43.3	0.00026	0.00027	0.000013	0.24	0.0232	0.03	0.014	0.34	1.80
(d)	0.00001	0.003	0.0000022		(0.00003)	(0.000002)	0.043	42.64	0.000078	(0.0003)	0.000001	1.42	0.0031	0.004	0.015	0.3	0.61
(e)	0.000013	0.006		0.034	(0.00002)	(0.000002)	0.16	45.73	0.00013	0.00031	0.0000015	20.14	0.0093	0.012	0.036	0.4	1.10

	Ni	P	P2O5	Pb	Pr (ppm)	Rb (ppm)	SO3	Sb (ppm)	Sc (ppm)	Se (ppm)	SiO2	Sm (ppm)	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	Te (ppm)
(a)	0.00058	0.0035	0.008	0.00029	0.22	1.2	0.017	0.08	0.40	0.014	0.55	0.15	(0.7)	0.0227	(0.06)	0.022	0.08
(b)	0.00043	0.0062	0.014	0.00039	0.24	1.6	0.013	0.09	0.5	0.015	0.72	0.19	(0.6)	0.0191	0.05	0.031	0.008
(c)	4.1	0.0099	0.023	0.00014	0.49	0.6	0.011	0.15	0.50	0.007	0.30	0.38	(0.7)	0.0087	(0.04)	0.085	0.009
(d)	0.00505	0.0022	0.005	0.00017	0.15	1.6	0.014	0.03	0.4	(0.016)	1.08	0.11	(0.5)	0.0173	0.03	0.0020	0.009
(e)	2.9	0.0155	0.035	0.00029	0.28	2.6	0.33	0.06	0.4	0.013	1.15	0.26	(0.7)	0.0158	0.06	0.032	0.08

	Th (ppm)	Ti	TiO2	Tl (ppm)	Tm (ppm)	U (ppm)	V	W (ppm)	Y	Yb (ppm)	Zn	Zr
(a)	0.25	0.0066	0.011	0.022	0.018	0.59	0.00048	0.17	0.00012	0.11	0.00081	0.00537
(b)	0.25	0.0132	0.022	0.023	0.020	0.39	5	0.18	0.00014	0.13	9.5	76.8
(c)	0.54	0.0042	0.007	0.04	0.092	0.66	0.00040	0.13	0.00061	0.68	0.00064	0.0443
(d)	0.24	0.0042	0.007	(0.02)	0.021	0.17	3.6	0.13	0.7	0.063	3.3	6.3
(e)	0.45	0.0078	0.013	0.04	0.017	0.70	0.00051	0.17	1.1	0.10	3.6	0.00036

Code	Product			Unit
NCS DC70306	(a)	CRM	Carbonate rock - Constituents (NIM-GBW07132)	50 g
NCS DC70307	(b)	CRM	Carbonate rock - Constituents (NIM-GBW07133)	50 g
NCS DC70308	(c)	CRM	Carbonate rock - Constituents (NIM-GBW07134)	50 g
NCS DC70309	(d)	CRM	Carbonate rock - Constituents (NIM-GBW07135)	50 g
NCS DC70310	(e)	CRM	Carbonate rock - Constituents (NIM-GBW07136)	50 g

	Ag (ppm)	Al2O3	As	B	Ba	Be	Bi	Br	C (org)	CO2	CaO	Cd	Cd (ppm)	Ce	Cl	Co	Cr
(a)	0.019	1.13	0.00037	(0.00037)	1.33	0.00003	0.0000058	(0.00005)	(0.17)	38.69	48.16		0.04	0.00081	0.0077	0.00019	0.00081
(b)	0.029	0.29	0.00013	(0.00031)	0.00188	0.000015	0.0000022	0.00004	(0.12)	42.58	53.83		0.39	0.00063	0.006	0.000034	0.00103
(c)	0.035	0.18	0.00055	(0.00023)	0.00106	0.000015	0.0000012	0.00009	(0.04)	45.62	38.08	0.000039		0.00015	0.0123	0.00005	0.00097
(d)	0.045	3.03	0.00022	(0.00148)	0.0101	0.000056	0.000005	0.00005	(0.76)	35.52	43.76	0.000015		0.0026	0.0096	0.0007	0.0034
(e)	0.022	0.1	0.00013	(0.00477)	0.00256	0.000012	0.000002	0.00005	(0.03)	(41.5)	33.07	0.000003		0.00013	0.009	0.000019	0.0006

	Cs	Cu	Dy	Er	Eu	F	Fe (tot)*	FeO	Ga	Gd	Ge	H2O+	H2O-	Hf	Hg (ppm)	Ho (ppm)	I
(a)	0.000075	0.00083	0.000052	0.000031	0.00003	0.0835	0.73	0.49	0.00016	0.000069	0.000016	0.52	(0.15)	0.00003	(0.005)	0.11	(0.00007)
(b)	0.000014	0.00029	0.000101	0.00012	0.0000078	0.0092	0.155	0.06	0.00004	0.000056	(0.000007)	0.39	(0.14)	0.0088	0.017	0.27	(0.00005)
(c)	0.00001	0.00029	0.00002	0.000015	0.0000049	0.0179	0.448	0.05	0.00004	0.000019	0.000011	0.42	(0.17)	0.00031	0.031	0.046	(0.00002)
(d)	0.000198	0.00187	0.000139	0.000075	0.000053	0.0454	1.77	0.79	0.00037	0.000181	0.000028	0.97	(0.37)	0.00012	0.026	0.25	(0.00003)
(e)	0.000008	0.00018	0.0000063	0.0000042	0.0000024	0.0581	0.057	0.03	0.000024	0.0000087	0.000068	1.83	(0.31)	0.00002	0.003	(0.019)	(0.00001)

	In	K2O	L.O.I.	La	Li	Lu	MgO	Mn	MnO	Na2O	Nb (ppm)	Nd (ppm)	Ni	P	P2O5	Pb	Pr (ppm)
(a)	(0.000003)	0.4	39.07	0.00041	0.00051	0.0000047	1.45	0.0689	0.089	0.05	1.0	3.42	0.00066	0.0527	0.0121	0.00056	0.94
(b)	(0.000003)	0.035	42.75	0.00035	0.00033	0.000053	0.75	0.0095	0.011	0.020	0.9	2.66	0.00048	0.0040	0.009	0.00040	0.74
(c)	(0.000002)	0.026	44.61	0.00009	0.0003	0.0000035	14.96	0.0209	0.027	0.030	0.4	0.89	5.6	0.0040	0.009	7.8	0.21
(d)	(0.000005)	0.88	36.57	0.00125	0.00118	0.0000091	1.36	0.0318	0.041	0.17	6.5	11.0	0.00192	0.0410	0.094	0.00059	2.84
(e)	(0.000002)	0.01	39.73	0.00008	0.00254	0.0000007	18	0.0209	0.027	0.026	0.2	0.48	0.00016	0.0542	0.124	0.0156	0.13

	Rb (ppm)	SO3	Sb (ppm)	Sc (ppm)	Se (ppm)	SiO2	Sm (ppm)	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	Te (ppm)	Th (ppm)	Ti	TiO2	Tl (ppm)	Tm (ppm)
(a)	10.6	0.98	0.09	1.1	0.018	6.27	0.74	(0.6)	0.0477	(0.11)	0.11	0.014	1.3	0.0288	0.048	0.07	0.052
(b)	1.2	0.058	0.17	1.9	0.087	1.28	0.51	(0.5)	0.0278	0.11	0.13	0.012	2.6	0.0174	0.029	0.03	0.27
(c)	1.1	0.041	0.59	0.5	0.10	1.17	0.21	(0.9)	0.0085	0.030	0.035	0.016	0.29	0.0054	0.009	0.02	0.030
(d)	19.2	1.18	0.27	3.5	0.24	11.07	2.11	(1.1)	0.0688	0.45	0.29	0.023	1.9	0.258	0.430	(0.06)	0.099
(e)	0.34	(0.01)	0.04	0.3	0.019	8.25	0.090	(0.6)	0.0243	0.030	0.016	0.007	0.15	0.0016	0.003	0.014	(0.021)

	U (ppm)	V	W (ppm)	Y	Yb (ppm)	Zn	Zr
(a)	0.94	8.8	0.19	3.1	0.30	0.00137	0.00092
(b)	3.4	6.2	0.18	8.9	2.62	8.6	0.28
(c)	1.13	0.00075	0.13	0.00018	0.19	35.7	0.0113
(d)	1.04	0.00385	0.25	8.0	0.60	0.00245	0.00470
(e)	0.23	0.00029	0.22	0.42	0.043	10.5	5.2

Rocks and Stones

Code	Product			Unit
SARM 40	(a)	CRM	Carbonatite	100 g
UG-COQ-1	(b)	CRM	Carbonatite	30 g

	Ba	Be	CaO	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Ho
(a)			49.77	(0.016)	(0.002)	(0.0035)		(0.001)					2.75	(0.4)	(0.001)		
(b)	0.1	0.00012	48.3	0.17	<0.0005	<0.001	0.00002	<0.001	0.0018	0.0007	0.0015	2.94			0.0006	0.005	0.0003

	K2O	La	MgO	MnO	Mo	Na2O	Nb	Nd	Ni	P2O5	Pb	Pr	Rb	Sc	SiO2	Sm	Sr
(a)	(0.03)		1.97	0.18	(0.001)	(0.05)	(0.001)		(0.0025)	2.05	(0.002)		(0.001)		3.08	0.0016	
(b)	0.16	0.075	1.25	0.43		0.04	0.39	0.048	0.0013	2.6		0.015		0.0003	3.47	0.0056	1.2

	Tb	Th	TiO2	U	V	Y	Yb	Zn	Zr
(a)		(0.0012)	0.05		0.0027	0.0033		0.0025	0.0087
(b)	0.0004	0.001	0.15	0.0011	0.011	0.0081	0.0006	0.0087	0.0065

Dolomite

				Unit
DH-SX09-11	(a)	RM	Dolomite	100 g
NCS DC14020A	(b)	CRM	Dolomite	70 g
NCS DC14021A	(c)	CRM	Dolomite (NIM-GBW7216A)	70 g
NCS DC14019A	(d)	CRM	Dolomite - Constituents (NIM-GBW7217A)	70 g
VS-K4	(e)	CRM	Dolomite	100 g
UL DWA1	(f)	CRM	Dolomite	50 g
BAS-BCS-CRM 512	(g)	CRM	Dolomite 1 - Constituents	100 g

	Al2O3	As (ppm)	Ba (ppm)	CO2	CaO	Ce (ppm)	Co (ppm)	Cr (ppm)	Cu (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Fe2O3	Gd (ppm)	Hf (ppm)	Ho (ppm)	Ins.Res.
(a)	0.471			43.78	41.98								0.462				
(b)	0.11				37.59								0.459				
(c)	0.0.025				35.02								0.495				
(d)	0.017				32.11								0.224				
(e)	0.47				31.2								0.56			1.30	
(f)	(0.05)	(1.3)	24		30.84	2.2	(0.2)	(4)	(4)	0.82	0.5	0.16	0.27	0.81	(0.03)	0.18	
(g)	0.055				30.61								0.030				

	K2O	LOI	La (ppm)	Lu (ppm)	MgO	MnO	Na2O	P	S	SiO2	SrO	TiO2
(a)	0.194				10.31	0.032						
(b)	0.019	45.88			15.38	0.02	0.015	0.0012	0.046	0.25		
(c)	0.0011	46.73			17.88	0.020	0.015	0.0012	0.009	0.048		
(d)	0.0010	46.98			20.37	0.032	0.023	0.0010	0.018	0.021		
(e)					20.1	0.034				0.96		
(f)	0.01	47.29	3.6	0.05	21.4	(0.06)						
(g)		46.80			21.59	0.0036				0.379	0.024	0.0020

Code	Product			Unit
ECRM-B 782-1	(a)	CRM	Dolomite - powder	100 g
DK 2A	(b)	CRM	Dolomite	60 g
DH-SX07-07	(c)	RM	Dolomite substitute	100 g
ECRM-F 702-1	(d)	CRM	Dolomite - powder	100 g
NIST-88b	(e)	CRM	Limestone, Dolomite - Constituents	75 g
NCS DC28207	(f)	CRM	Dolomite	100 g
NCS DC28208	(g)	CRM	Dolomite	100 g

	Al	**Al2O3**	**B2O3**	**BaO**	**CO2**	**Ca**	**CaO**	**Cr**	**Cr2O3**	**Fe**	**Fe2O3**	**K**	**K2O**	**LOI**	**Mg**	**MgO**	**Mn**
(a)	0.055	(0.104)	(0.0039)	(0.0008)		21.68	(30.34)	0.0006	(0.0009)	0.314	(0.45)	0.0216	(0.026)	47.25	12.84	(21.29)	0.063
(b)		0.91					29.2				1.01		0.37	44.3		19.5	
(c)		17.12					16.07		0.207		12.25		0.157			39.06	
(d)	0.21					21.48				0.440					12.37	0.098	
(e)		0.336			46.37		29.95				0.277		0.103	(46.98)		21.03	0.016
(f)		0.27					30.33				0.44			46.11		20.88	
(g)		0.23					30.80				0.32			46.20		20.79	

	Mn3O4	**MnO**	**Na2O**	**NiO**	**P**	**P2O5**	**Pb**	**PbO**	**S**	**Si**	**SiO2**	**SrO**	**Ti**	**TiO2**	**Zn**	**ZnO**
(a)		(0.081)			0.0056	(0.0218)	0.0027	(0.0029)		0.124	(0.266)		0.0025	(0.0042)	0.0066	(0.0082)
(c)	0.858		0.144	0.021		0.199			0.151		16.07			0.423		
(d)					0.024				0.027	1.04			0.013			
(e)			0.0290			0.0044					1.13	0.0076		(0.016)		
(f)		0.013			0.018				0.033		1.26					
(g)		0.019			0.0013				0.022		0.99					

Feldspar

Code		Product		Unit
BAS-BCS-CRM 375/1	(a)	CRM	Soda Feldspar	100 g
NIST-70A	(b)	CRM	Potassium feldspar - Constituents	40 g
DH-SX16-02	(c)	RM	Feldspar	100 g
NCS DC61102	(d)	CRM	Potassium feldspar (NIM-GBW03116)	50 g
IPT-72	(e)	CRM	Soda Feldspar	80 g
IPT-53	(f)	CRM	Potash Feldspar	80 g
BAS-BCS-CRM 376/1	(g)	CRM	Feldspar 1 - Constituents	100 g

	Al2O3	BaO	CaO	Cr2O3	Fe	Fe2O3	K2O	LOI	MgO	Mn2O3	MnO	Na2O	P2O5	PbO	Rb2O	SiO2	SrO
(a)			0.78			0.291	1.47		0.18			8.89	0.226			69.24	
(b)	17.9	0.02	0.11			0.075	11.8					2.55			0.06	67.12	
(c)	17.16	0.323	0.032		0.047		14.19				0.001		0.087	0.012		66.93	0.036
(d)	18.63		0.70			0.19	9.60	0.86	0.054			3.69				66.26	
(e)	20.26		0.18			0.09	1.47		(0.022)			10	1.03			66.2	
(f)	18.3		0.27			0.13	12.1		0.05			2.5	0.072			65.8	
(g)	18.63	0.021	0.421	(0.001)		0.085	11.59		(0.03)	(0.004)		3	(0.02)	0.009		65.77	

	TiO2	ZrO2
(a)	0.312	
(b)	0.01	
(c)	0.038	
(d)	0.048	
(e)	0.005	
(f)	0.013	
(g)	(0.01)	(0.01)

Z FK	(a)	CRM	Feldspar	50 g
UN ZK	(b)	CRM	Feldspar	100 g
GSJ-JF-1	(c)	CRM	Feldspar	100 g
GSJ-JF-2-020	(d)	CRM	Feldspar	20 g
VS-811-89	(e)	CRM	Fluorspar-Quartz Silt	100 g
NIST-99B	(f)	CRM	Soda feldspar - Trace elements	40 g

	Ag (ppm)	Al	Al2O3	As (ppm)	Au (ppm)	B	Ba	Be (ppm)	C	CO2	Ca	CaO	Cd (ppm)	Ce (ppm)	Co (ppm)	Cr (ppm)	Cs (ppm)
(a)			6.18				0.07					0.11				2.6	
(b)			14.19	4.8								0.43		5.7	7	38.7	
(c)	(0.017)	9.57	18.08	(0.92)	(0.00011)	(0.00018)	0.175	(1.3)	(0.002)		0.66	0.93	(0.003)	4.19	0.12	5.48	2.09
(d)	(0.19)	9.8	18.52	(0.28)	(0.00012)	(0.00016)	0.0298	(0.77)	(0.0038)		0.06	0.09	(0.003)	0.84	0.68	(2.47)	1.06
(e)			18.2			0.008	0.09	3		0.2		0.51		70	21	96	6.3
(f)		10.36					0.1409				(1.18)						

Code	Product																Unit
		Cu (ppm)	**Dy (ppm)**	**Er (ppm)**	**Eu (ppm)**	**F**	**Fe**	**Fe (tot)**	**Fe(tot)***	**Fe2O3**	**FeO**	**Ga**	**Gd (ppm)**	**Ge**	**H2O**	**H2O+**	**H2O-**	**Hf (ppm)**
	(a)	11								0.261		0.0006						
	(b)	12.2								0.88	0.73	0.00333					1.4	
	(c)	0.82	0.39	0.31	0.87	(0.0078)	0.06	0.08		0.06	(0.04)	0.00174	0.93			0.23	0.13	1.18
	(d)	0.78	(0.036)	(0.034)	0.59	(0.0016)	0.04		0.06	0.06	(0.03)	0.00179	(0.072)			0.24	0.18	0.19
	(e)	41				0.06				7.2	4.8	0.0022		0.00017	4			
	(f)						0.02787											
		Hg (ppm)	**Ho (ppm)**	**K**	**K2O**	**La (ppm)**	**Li (ppm)**	**Li2O**	**Lu (ppm)**	**Mg**	**MgO**	**Mn**	**MnO**	**Mo (ppm)**	**Na**	**Na2O**	**Nb (ppm)**	**Nd (ppm)**
	(a)				4.23		8				0.15		0.0037			0.25		
	(b)				4.06			0.06			0.067		0.025	21		4.5	33.5	
	(c)	(0.0016)	0.11	8.29	9.99	2.8	9.81		0.053	0.004	0.006	0.001	0.001	(0.30)	2.5	3.37	0.74	1.46
	(d)	(0.0017)	(0.021)	10.74	12.94	0.63	2.19		0.02		(0.004)	0.001	0.001	(0.21)	1.77	2.39	0.7	(0.33)
	(e)				3.43		60				2.22		0.042	2		2.31	14	
	(f)			3.09								(0.001747)			5.25			
		Ni (ppm)	**P**	**P2O5**	**Pb (ppm)**	**Pd (ppm)**	**Pr (ppm)**	**Pr (ppm)**	**Pt (ppm)**	**Rb**	**Rb2O**	**S**	**Sb (ppm)**	**Sc (ppm)**	**Si**	**SiO2**	**Sm (ppm)**	**Sn (ppm)**
	(a)			0.077	18					0.0132						88.2		
	(b)	29.4									0.094			3.6		74.38	16.8	
	(c)	(1.36)	0.004	0.01	33.4	(0.0002)		0.48	(0.0005)	0.0266		(0.0005)	(0.055)	2300	31.17	66.69	0.41	(0.3)
	(d)	(1.38)		(0.003)	48.7	(0.0002)	(0.088)		(0.0005)	0.0218		(0.00028)	(0.04)	0.089	30.52	65.3	0.11	(0.13)
	(e)	59		0.19	20					0.012		0.087		19		60.67	3.2	
	(f)		(0.0044)		71.2					0.00726					(32.07)			
		Sr	**Ta (ppm)**	**Tb (ppm)**	**Th (ppm)**	**Ti**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y**	**Y (ppm)**	**Yb (ppm)**	**Zn (ppm)**	**Zr**	
	(a)	0.0072					0.058									14		
	(b)		19.4		4.7		0.039							8.4		19.4		
	(c)	0.0172	0.079	0.076	1.17	0.003	0.005	1.18	(0.04)	0.33	0.000543	(0.8)		2.84	0.34	4.41	0.00386	
	(d)	0.02	(0.045)	(0.009)	0.31	0.003	0.005	1.1	(0.05)	(0.078)	0.000486	(4.3)		2.67	(0.045)	1.4	0.000673	
	(e)	0.017	1.3		11		0.94			2.5	0.016		0.0032		3.4	120	0.021	
	(f)	0.0444																

Code	Product			Unit
CRPG-AL-I	(a)	CRM	Albite	30 g
CRPG-AN-G	(b)	CRM	Anorthosite	30 g
VS-MO10	(c)	CRM	Anorthosite	40 g
VS-MO11	(d)	CRM	Anorthosite	40 g
VS-2123-81	(e)	CRM	Urtite (MSCH-3)	40 g
CRPG-DR-N	(f)	CRM	Diorite	30 g
CRPG-FK-N	(g)	CRM	Feldspar	30 g

	Al2O3	As (ppm)	Au (ppm)	B	Ba	Be (ppm)	Bi (ppm)	CO2	CaO	Cd (ppm)	Ce	Ce (ppm)	Cl	Co	Co (ppm)	Cr	Cs (ppm)
(a)	18.59	0.8			0.0085	2.7	(0.03)	0.2	0.384	(0.03)	0.0021		0.0110		0.2	0.0002	0.34
(b)	29.80	(0.2)	(0.0018)		0.0034	0.3		0.13	15.90	(0.08)		4.7	0.0300	0.0025		0.0050	0.05
(c)					0.0294	1.1		0.14	10.18				0.024		27	0.0023	0.55
(d)					0.0319	0.8		0	10.95				0.024		9.6	0.0012	0.73
(e)									3.73						8.1	0.00097	
(f)	17.52	3		0.0014	0.0385	(1.8)	(0.005)	0.10	7.05	(0.9)	0.0046		0.0400		35	(0.0040)	6.3
(g)	18.61	(0.3)			0.0200	1	(0.1)	0.09	0.11	(0.018)	0.0001		(0.0020)		14	0.0005	7

	Cu	Dy (ppm)	Er (ppm)	Eu (ppm)	F	Fe(tot)*	Fe2O3	Fe2O3(T)	FeO	Ga	Ga (ppm)	Gd (ppm)	Ge (ppm)	H2O	H2O(T)	H2O+	H2O-
(a)	0.0003	1.5	0.6	0.19	0.0045		0.03	0.075	0.04	0.0020		1.9	(1.4)			0.29	0.06
(b)	0.0019	1.2	0.75	0.37	0.0120		0.87	3.36	2.24	0.0018		0.9	(0.8)			0.61	0.11
(c)	0.0044				0.038	6.34	1.45		4.4	0.0026				0.095	0.36	0.26	
(d)	0.0026				0.042	1.74	0.53		1.09	0.0021				0.088	0.42	0.33	
(e)	0.0024						2.67		1.4	0.0048							
(f)	0.0050	4.6	2.5	1.45	0.0500		3.70	9.70	5.40		(22)	4.7	(1.9)			2.22	0.25
(g)	0.0002	0.06	0.04	0.45	0.0030		0.02	0.09	0.06	0.0023		0.06	(0.025)			0.32	0.14

	Hf (ppm)	Ho (ppm)	In (ppm)	K2O	LOI	La (ppm)	Li	Lu (ppm)	MgO	MnO	Mo (ppm)	Na2O	Nb (ppm)	Nd (ppm)	Ni	P2O5	Pb
(a)	2.6	0.28	(0.01)	0.14	(0.4)	9.5	0.0001	0.13	0.035	0.004	(0.1)	10.59	1.6	10.4	0.0002	0.038	0.00045
(b)	0.38	0.28	(0.02)	0.13	(0.65)	2.2	0.00125	0.12	1.80	0.04	0.2	1.63	0.7	2.4	0.0035	0.01	0.0002
(c)				0.5		24	0.00071		2.24	0.073	2	3.99	3.9		0.0032	0.13	0.0008
(d)				0.65		20	0.00075		0.49	0.037	1.2	4.39	2.6		0.0014	0.041	0.00068
(e)				5.16		100	0.00089		0.14	0.084	2.3	13.33	97		0.00065	0.388	0.00058
(f)	3.5	1	(0.08)	1.70	(2.26)	21.5	0.0040	0.4	4.40	0.22	0.9	2.99	7	23.5	0.0015	0.25	0.0055
(g)	0.04	(0.012)	(0.02)	12.81	(0.6)	0.95	0.00085	0.006	0.01	0.005	(0.25)	2.58	(0.3)	0.3	0.00015	0.024	0.0240

	Pr (ppm)	Rb	S	Sb (ppm)	Sc (ppm)	SiO2	Sm (ppm)	Sn (ppm)	Sr	Ta (ppm)	Tb (ppm)	Th (ppm)	TiO2	Tl (ppm)	Tm (ppm)	U (ppm)	V
(a)	(2.8)	0.00058	0.0085	0.2	1.75	69.34	2.8	(0.4)	0.0080	1.9	0.3	9.5	0.012	(0.04)	(0.1)	5.8	0.0002
(b)	(0.6)	0.0001	0.0140	0.1	10	46.30	0.7	1.4	0.0076	0.18	0.2	0.04	0.22	(0.05)	0.14	0.12	0.0070
(c)		0.00055	0.046		11	51.65		5	0.0477				0.83			0.0109	
(d)		0.00027	0.01		5	53.46		5.1	(0.0802)				0.18			0.0024	
(e)		0.0079				42.8		3.4	0.1				1.79			0.0086	
(f)	5.7	0.0073	(0.0350)	0.40	28	52.85	5.4	2	0.0400	0.6	0.77	5	1.09		0.39	1.5	0.0220
(g)	(0.09)	0.0860	0.0060	0.45	0.05	65.02	0.05	0.3	0.0039	0.25	0.01	0.15	0.02		(0.006)	0.15	0.00005

Code	Product							Unit
		W	**Y**	**Y (ppm)**	**Yb (ppm)**	**Zn**	**Zr**	
	(a)	(0.00002)		6.8	0.7	0.0006	0.0040	
	(b)	0.0105	0.0009		0.8	0.0020	0.0011	
	(c)		0.0017		2	0.0096	0.0058	
	(d)		0.0008		1.1	0.005	0.0042	
	(e)		0.0026		1.7	0.0044	0.022	
	(f)	0.0130	0.0026		2.5	0.0145	0.0125	
	(g)	0.0120	0.00005		0.04	0.0010	0.00007	

Fluorspar

NIST-180	(a)	CRM	Fluorspar, high grade - Calcium fluoride	120 g
NCS DC14026A	(b)	CRM	Fluorspar	65 g
SARM 15	(c)	CRM	Fluorspar (Zeerust)	100 g
NIST-79A	(d)	CRM	Fluorspar, customs grade - Calcium fluoride	120 g
SARM 14	(e)	CRM	Fluorspar (Buffalo)	100 g
BAS-BCS-CRM 392	(f)	CRM	Fluorspar	100 g
JK D	(g)	CRM	Fluorspar	100 g
VS-1823-80	(h)	CRM	Fluorspar concentrate	100 g
VS-1822-80	(i)	CRM	Fluorspar concentrate	100 g
NCS DC14022A	(j)	CRM	Fluorspar	65 g

	Al2O3	**CO2**	**CaCO3**	**CaF2**	**CaO**	**F**	**Fe (tot)**	**Fe2O3**	**K2O**	**MgCO3**	**Mn**	**Na2O**	**P**	**Pb**	**S**	**SiO2**
(a)				98.8												
(b)			0.44	98.55			0.044		0.024			0.005	0.0075		0.011	0.7
(c)			0.95	97.84				(0.23)		0.55	0.0213		0.007			(0.26)
(d)				97.39												
(e)			(0.3)	97.32				(0.06)		(0.03)			(0.079)			(0.57)
(f)		0.48		97.2	0.52									0.18	0.12	0.67
(g)	0.04			97.07		47.24		0.2					0.035	(0.001)	0.004	(1.5)
(h)			0.2	95.83									0.024			2.92
(i)			0.41	93.86									0.057		0.41	3.16
(j)			0.30	93.68			0.166		0.026			0.006	0.014		0.35	3.06

Code	Product			Unit
NCS DC14024A	(a)	CRM	Fluorspar	65 g
VS-3383-86	(b)	CRM	Fluorspar pellet	100 g
IPT-95	(c)	CRM	Fluorite	100 g
VS-W13	(d)	CRM	Fluorspar concentrate	100 g
NCS DC14025A	(e)	CRM	Fluorspar	65 g
JK C	(f)	CRM	Fluorspar	100 g
NCS DC14048	(g)	CRM	Fluorspar	50 g
NCS DC14047	(h)	CRM	Fluorspar	65 g
NCS DC14046	(i)	CRM	Fluorspar	65 g

	Al2O3	BaO	CaCO3	CaF2	F	Fe	Fe (tot)	Fe2O3	K2O	Na2O	P	Pb	S	SiO2
(a)			0.62	93.28			0.22		0.040	0.006	0.014		0.009	5.44
(b)	0.53			91.84		0.612					0.063		0.095	5.03
(c)				85.4				0.36						8.3
(d)			0.51	84.7		0.353					0.012		0.103	13.0
(e)			0.07	81.55			0.28		0.059	0.008	0.015		0.50	14.04
(f)	0.66	8.2		76.91	37.43			0.7			0.026	0.07	1.75	8.2
(g)			0.34	76.79			0.40		0.081	0.007	0.0021		0.11	21.1
(h)			0.06	65.8			0.49		0.093	0.009	0.0027		0.26	31.04
(i)			0.07	59.99			0.63		0.14	0.014	0.0045		0.28	36.14

Code	Product			Unit
ALCAN-CAA(FC)	(a)	CRM	Fluorspar, Final Concentrate	100 g
ALCAN-CAC(FC)	(b)	CRM	Fluorspar, Final Concentrate	100 g
ALCAN-CAJ(RF)	(c)	CRM	Fluorspar, raw	100 g
ALCAN-CAB(FC)	(d)	CRM	Fluorspar, Final Concentrate	100 g
ALCAN-CBI(FC)	(e)	CRM	Fluorspar, Final Concentrate	100 g
ALCAN-CAK(RF)	(f)	CRM	Fluorspar, raw	100 g
ALCAN-CAL(FC)	(g)	CRM	Fluorspar, Final Concentrate	100 g
ALCAN-CAG(RF)	(h)	CRM	Fluorspar, raw	100 g
VS-5133-89	(i)	CRM	Fluorspar	100 g
VS-2665-83	(j)	CRM	Carbonate Fluorspar Ore (IAR-1)	100 g

	Al	CO2	CaCO3	CaF2	F	Fe	Mg	P	Pb	S	Si	SiO2
(a)		0.37			47.2	(0.028)		0.0021			0.72	
(b)		0.53			47.2	(0.03)		0.0021			0.51	
(c)		(0.7)			46.4	(0.063)		0.025			(0.42)	
(d)		1.58			45.6			(0.0021)			1.20	
(e)		(1.98)			(45.4)	(0.077)	(0.42)	(0.0048)			(0.58)	
(f)	(0.095)	3.30			44.80	0.10		0.0052			0.47	
(g)	(0.074)	3.42			44.8	0.09		0.0048			0.34	
(h)		(5.5)			40.5			0.021			2.61	
(i)			1.1	4.17								
(j)			6.8	38				0.036		0.32		25.57

ALCAN-CAH(RF)	(a)	CRM	Fluorspar, raw	100 g
ALCAN-CAC(RF)	(b)	CRM	Fluorspar, raw	100 g
ALCAN-CAA(RF)	(c)	CRM	Fluorspar, raw	100 g
ALCAN-CAB(RF)	(d)	CRM	Fluorspar, raw	100 g
VS-4182-87	(e)	CRM	Fluorspar	100 g
VS-5132-89	(f)	CRM	Fluorspar	100 g
VS-2666-83	(g)	CRM	Fluorspar Ore (KR-1)	100 g
ALCAN-CAI(RF)	(h)	CRM	Fluorspar, raw	100 g

	Al	CO2	CaCO3	CaF2	F	Fe	Mg	P	Pb	S	Si	SiO2
(a)		(2.6)			37.2	0.43		0.048			6.4	
(b)		2.6			35.6	(0.57)		0.0041			8.5	
(c)		3.3			35.4	(0.46)		0.0038			8.3	
(d)		3.3			35.0			0.0038			8.6	
(e)			1.7	32.75				0.114		0.038		47.52
(f)			11.75	32.69								(27.68)
(g)			0.7	32.02				0.055		1.24		47.73
(h)	(1.10)	(4.9)			30.0	(0.77)	(0.48)	0.0070	(0.25)		9.3	

Rocks and Stones

Code	Product			Unit
IGS-39	(a)	CRM	Fluorite	55 g
DH-SX27-07	(b)	RM	Fluorspar	100 g
DH-SX27-12	(c)	RM	Fluorspar	100 g
DH-SX27-09	(d)	RM	Fluorspar	100 g
CGL-UST3138-81	(e)	CRM	Fluorspar - HJ (CGL 101)	100 g

	Al2O3	Ba	BaO	CO2	Ca	Cr2O3	CuO	F	Fe2O3	K2O	MgO	MnO	Na2O	NiO	PbO	SO4	SiO2
(a)		(0.4)						46.69									
(b)	0.371		<0.006	2.91	46.76			41.79	0.257	0.042	0.07	0.008	0.061		0.00019	0.042	6.16
(c)	1.01			2.11	44.18	0.106	0.199	40.6	0.373	0.125	0.739	0.237		0.153	0.102	0.103	8.91
(d)	0.31			0.027	39.98	0.004	0.052	38.1	15.72	0.029	0.017	0.077	0.03			0.027	3.93
(e)	2.35				37.32			34.92	0.34	0.99						23.01	

	SnO2	Sr	TiO2	ZnO
(a)		(0.014)		
(c)	0.054		0.069	0.103
(d)				0.004
(e)			0.047	

UN FM	(a)	CRM	Fluorspar	100 g

	Ag	Al2O3	As	BaO	Bi	CO2	Ca (tot)	CaF2	Ce	Co	Cr	Cs	Cu	Eu	F	Fe (tot)*	Gd
(a)	(0.00108)	(0.329)	(0.00194)	3.89	(0.00588)	(0.13)	35.89	(69.18)	0.00283	0.00026	0.0272	0.000081	0.00607	0.000116	34.03	0.496	(0.00054)

	H2O+	Hf	K2O	La	Lu	MgO	Mn	Mo	Na2O	Nd	Ni	P2O5	Pb	Rb	S	Sb	Sc
(a)	(0.2)	(0.00026)	0.097	0.00141	(0.000037)	(0.036)	0.0064	0.00446	(0.087)	(0.00153)	(0.0029)	(0.022)	0.00722	(0.00055)	0.91 tot	0.00021	0.000067

	SiO2	Sm	Sr	Ta	Tb	Th	TiO2	Tm	U	V	W	Y	Yb	Zn	Zr
(a)	22.59	0.00056	(0.058)	(0.000009)	(0.000159)	(0.00123)	0.018	(0.000045)	0.00029	(0.000443)	(0.0115)	0.0154	0.0003	(0.00233)	(0.0045)

Gravel

DH-SX36-09	(a)	RM	Gravel	100 g
DH-SX36-10	(b)	RM	Gravel	100 g

	Al2O3	CO2	CaO	Co3O4	Cr2O3	Fe2O3	H2O(900)	K2O	MgO	Mn3O4	Na2O	P2O5	S	SiO2	TiO2
(a)		0.010	0.047	0.0053	0.029	0.706	0.48	0.334	0.104	0.020	0.045	0.019		96.35	0.086
(b)	0.234		0.008		0.03	0.419	0.153	0.014		0.009	<0.003		0.009	98.80	

Limestone

Code			Product	Unit
AR-4012	(a)	CRM	C/S in Limestone	25 g
AR-4013	(b)	CRM	C/S in Limestone	25 g
AR-4014	(c)	CRM	C/S in Limestone	25 g
AR-4015	(d)	CRM	C/S in Limestone	25 g
AR-4022	(e)	CRM	C/S in Limestone	25 g
AR-4023	(f)	CRM	C/S in Limestone	25 g
AR-4024	(g)	CRM	C/S in Limestone	25 g

	C	**S**
(a)	11.97	0.044
(b)	2.93	0.020
(c)	5.87	0.029
(d)	1.02	0.104
(e)	7.00	0.145
(f)	11.70	0.220
(g)	11.72	0.418

Code	Product			Unit
NCS DC16006	(a)	CRM	Limestone	25 g
VS-W10	(b)	CRM	Fluxing limestone	100 g
BAS-BCS-CRM 513	(c)	CRM	Limestone	100 g
NCS DC70303	(d)	CRM	Carbonate rock - Constituents (NIM-GBW07129)	50 g
DK 1A	(e)	CRM	Limestone	60 g
ECRM-B 752-1	(f)	CRM	Limestone - powder (BAS-CRM 393)	100 g
NIM-GBW07214A	(g)	CRM	Limestone - Constituents	50 g
NM 711	(h)	CRM	Limestone	100 g
GSJ-JLS-1-020	(i)	CRM	Limestone - Constituents	20 g
DH-SX35-13	(j)	RM	Limestone	100 g
VB K1	(k)	CRM	Limestone - 8-3-03	100 g
NCS DC70304	(l)	CRM	Carbonate rock - Constituents (NIM-GBW07130)	50 g

	Ag (ppm)	**Al2O3**	**As (ppm)**	**Au (ppb)**	**B**	**Ba**	**BaO**	**Be**	**Bi**	**Br**	**C**	**C (org)**	**CO2**	**CaO**	**Cd**	**Ce**	**Cl**
(a)		0.885												65.2			
(b)		0.012												55.8			
(c)		0.108	(10)				(0.01)				(11.9)			55.59	(0.001)		
(d)	0.016	0.15	0.78		(0.00013)	0.0008		0.000009	0.0000011	0.00004			43.1	55.49	0.000059	0.00022	0.005
(e)		0.05												55.4			
(f)		0.12												55.4			
(g)		0.093												55.34			
(h)														55.1			
(i)	(0.00000013)		0.0207	(0.145)	(0.00667)		0.0476					(11.98)		43.58	55.09	0.0000159	0.0000521
(j)		0.097											43.8	55.06			
(k)		0.11											(43.54)	54.58			
(l)	(0.013)	0.18	0.17		(0.000147)	0.00049		0.000006	0.0000016	(0.00002)		(0.01)	43.13	54.08	0.000005	0.00013	0.0028

	Co (ppm)	**Cr**	**Cr2O3**	**Cs (ppm)**	**Cu**	**Dy**	**Dy (ppm)**	**Er**	**Eu**	**Eu (ppm)**	**F**	**Fe (tot)***	**Fe2O3**	**FeO**	**Ga**	**Gd**	**Ge**
(a)													0.46				
(b)																	
(c)			0.0012								(0.002)		0.0275				
(d)	(0.5)	0.00038		0.13	0.00022		0.51	0.00005		0.078	0.006	0.07		0.007	0.00003	0.000039	0.00001
(e)													0.04				
(f)													0.045				
(g)													0.085				
(h)																	
(i)	0.0825	0.000337		0.0201	0.0000268	0.00000283				0.00000072			0.00575	0.0168	0.0178		(0.000003)
(j)													0.082				
(k)		(0.0025)			(0.00055)								0.097				
(l)	2.6	0.0054		0.1	0.00021		0.09			0.025	0.0071	0.222		0.09	0.00003	0.00001	0.000012

Code	Product																Unit
		H2O+	**H2O-**	**Hf**	**Hg (ppm)**	**Ho**	**I**	**In**	**K2O**	**L.O.I.**	**La**	**Li**	**Lu**	**MgO**	**Mn**	**MnO**	**Na2O**	**Nb (ppm)**
	(a)								0.19	25.06				4.55		0.013		
	(b)													0.32				
	(c)								0.015	43.61				0.182		0.0093		
	(d)	0.23	(0.06)	0.00124	0.007	0.000013	(0.00005)	(0.000003)	0.012	43.3	0.00026	0.00027	0.000013	0.24	0.0232	0.03	0.014	0.34
	(e)								0.01	43.3				0.39				
	(f)								0.02	43.4				0.15		0.01		
	(g)								0.02	43.61				0.29		0.005		
	(h)									43.48				0.5				
	(i)	(0.14)	0.105	0.0000126	(0.0056)				0.00297		0.0000153	(0.00002)	0.0000022	0.606		0.00209		
	(j)								0.029					0.466		0.017		
	(k)								(0.028)	43.7				0.72		0.0095		
	(l)	0.14	(0.05)	0.00001	0.003	0.0000022	(0.00003)	(0.000002)	0.043	42.64	0.000078	(0.0003)	0.000001	1.42	0.0031	0.004	0.015	0.3
		Nd (ppm)	**Ni**	**P**	**P2O5**	**Pb**	**Pr (ppm)**	**Rb (ppm)**	**SO3**	**Sb (ppm)**	**Sc (ppm)**	**Se (ppm)**	**SiO2**	**Sm (ppm)**	**Sn (ppm)**	**Sr**	**Ta (ppm)**	**Tb (ppm)**
	(d)	1.80	4.1	0.0099	0.023	0.00014	0.49	0.6	0.011	0.15	0.50	0.007	0.30	0.38	(0.7)	0.0087	(0.04)	0.085
	(l)	0.61	0.00505	0.0022	0.005	0.00017	0.15	1.6	0.014	0.03	0.4	(0.016)	1.08	0.11	(0.5)	0.0173	0.03	0.0020
		Te (ppm)	**Th (ppm)**	**Ti**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y**	**Yb (ppm)**	**Zn**	**Zr**				
	(d)	0.009	0.54	0.0042	0.007	0.04	0.092	0.66	0.00040	0.13	0.00061	0.68	0.00064	0.0443				
	(l)	0.009	0.24	0.0042	0.007	(0.02)	0.021	0.17	3.6	0.13	0.7	0.063	3.3	6.3				

Code	Product			Unit
NCS DC60107A	(a)	CRM	Limestone - Constituents (NIM-GBW03105A)	50 g
NCS DC14017A	(b)	CRM	Limestone	50 g
NCS DC70307	(c)	CRM	Carbonate rock - Constituents (NIM-GBW07133)	50 g
NIST-1D	(d)	CRM	Limestone, Argillaceous - Constituents	70 g
ECRM-F 701-1	(e)	CRM	Calcite - powder	100 g
NCS DC60108A	(f)	CRM	Limestone - Constituents (NIM-GBW03106A)	50 g
DH-SX35-14	(g)	RM	Limestone	100 g
NCS DC62002C	(h)	CRM	Limestone	20 g
NCS DC73375	(i)	CRM	Limestone	70 g
DH-SX35-15	(j)	RM	Limestone	100 g
NCS DC70306	(k)	CRM	Carbonate rock - Constituents (NIM-GBW07132)	50 g

	Ag (ppm)	**Al2O3**	**As**	**B**	**Ba**	**BaO**	**Be**	**Bi**	**Br**	**C**	**C (org)**	**CO2**	**CaO**	**Cd**	**Cd (ppm)**	**Ce**	**Cl**
(a)		0.24										(43.12)	54.03			0.0028	
(b)		0.51											53.93				
(c)	0.029	0.29	0.00013	(0.00031)	0.00188		0.000015	0.0000022	0.00004		(0.12)	42.58	53.83		0.39	0.00063	0.006
(d)		0.526				0.0033	(0.00001)			11.5			52.85		(0.3)	(0.0004)	(0.013)
(e)		0.55											52.69				
(f)		0.33										(42.59)	51.61			0.0066	
(g)		0.483											51.49				
(h)		1.74											49.36				
(i)	(0.024)	0.68	0.000067	(0.0006)	0.00086		0.000013	0.0000032				39.8	51.1	(0.018)		0.00046	(0.003)
(j)		0.787											48.91				
(k)	0.019	1.13	0.00037	(0.00037)	1.33		0.00003	0.0000058	(0.00005)		(0.17)	38.69	48.16		0.04	0.00081	0.0077

	Co	**Cr**	**Cr2O3**	**Cs**	**Cu**	**Dy**	**Er**	**Eu**	**F**	**Fe**	**Fe (tot)***	**Fe2O3**	**FeO**	**Ga**	**Gd**	**Ge**	**H2O+**
(a)												0.11					
(b)																	
(c)	0.000034	0.00103		0.000014	0.00029	0.000101	0.00012	0.0000078	0.0092		0.155		0.06	0.00004	0.000056	(0.000007)	0.39
(d)			0.0012	(0.00004)		(0.00006)	(0.00004)	(0.00001)	(0.016)			0.3191		(0.0001)	(0.00005)		
(e)										0.73							
(f)												0.17					
(g)												0.422					
(h)												0.81					
(i)	(0.00007)	(0.00033)		(0.000012)	(0.00022)	0.000028	0.000015	0.0000082	0.024		0.21		(0.06)	(0.00008)	0.000036	0.000013	(0.4)
(j)												1.293					
(k)	0.00019	0.00081		0.000075	0.00083	0.000052	0.000031	0.00003	0.0835		0.73		0.49	0.00016	0.000069	0.000016	0.52

Code	Product																Unit
		H2O-	**Hf**	**Hg (ppm)**	**Ho (ppm)**	**I**	**In**	**K2O**	**L.O.I.**	**LOI**	**La**	**Li**	**Lu**	**MgO**	**Mn**	**MnO**	**Na2O**	**Nb (ppm)**
	(a)							0.084	43.12					0.81		0.0067		
	(b)							0.093						0.56		0.014		
	(c)	(0.14)	0.0088	0.017	0.27	(0.00005)	(0.000003)	0.035	42.75		0.00035	0.00033	0.000053	0.75	0.0095	0.011	0.020	0.9
	(d)				(0.1)			0.1358	41.57		(0.0004)			0.301	0.0209			
	(e)													0.60		0.028		
	(f)							0.17	42.84					2.25		0.0089		
	(g)							0.075						2.161		0.02		
	(h)							0.84		39.43				0.71			0.06	
	(i)		0.000021	0.0005	(0.04)		(0.000003)	0.15	40.2		0.00023	0.00045	0.0000023	0.71	0.003			
	(j)							0.187						0.379		0.028		
	(k)	(0.15)	0.00003	(0.005)	0.11	(0.00007)	(0.000003)	0.4	39.07		0.00041	0.00051	0.0000047	1.45	0.0689	0.089	0.05	1.0
		Nd (ppm)	**Ni**	**P**	**P2O5**	**Pb**	**Pr (ppm)**	**Rb (ppm)**	**S**	**SO3**	**Sb (ppm)**	**Sc (ppm)**	**Se (ppm)**	**SiO2**	**Sm (ppm)**	**Sn (ppm)**	**Sr**	**Ta (ppm)**
	(c)	2.66	0.00048	0.0040	0.009	0.00040	0.74	1.2		0.058	0.17	1.9	0.087	1.28	0.51	(0.5)	0.0278	0.11
	(e)			0.022	0.050				0.040					1.99				
	(h)									0.04				6.61				
	(k)	3.42	0.00066	0.0527	0.0121	0.00056	0.94	10.6		0.98	0.09	1.1	0.018	6.27	0.74	(0.6)	0.0477	(0.11)
		Tb (ppm)	**Te (ppm)**	**Th (ppm)**	**Ti**	**TiO2**	**Tl (ppm)**	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y**	**Yb (ppm)**	**Zn**	**Zr**			
	(c)	0.13	0.012	2.6	0.0174	0.029	0.03	0.27	3.4	6.2	0.18	8.9	2.62	8.6	0.28			
	(e)					0.030												
	(h)					0.08												
	(k)	0.11	0.014	1.3	0.0288	0.048	0.07	0.052	0.94	8.8	0.19	3.1	0.30	0.00137	0.00092			

Code	Product			Unit
NCS DC70301	(a)	CRM	Carbonate rock - Constituents (NIM-GBW07127)	50 g
Z KH	(b)	CRM	Limestone	50 g
Z KH2	(c)	CRM	Kalkstein/Limestone	50 g
Z KH3	(d)	CRM	Limestone	50 g
NCS DC70309	(e)	CRM	Carbonate rock - Constituents (NIM-GBW07135)	50 g
DK 1B	(f)	CRM	Limestone	60 g
VB K2	(g)	CRM	Limestone - 8-3-04	100 g
NCS DC70302	(h)	CRM	Carbonate rock - Constituents (NIM-GBW07128) 50g	50 g
NCS DC70308	(i)	CRM	Carbonate rock - Constituents (NIM-GBW07134)	50 g

	Ag (ppm)	Al2O3	As	B	Ba	Be	Bi	Br	C (org)	CO2	CaO	Cd	Ce	Cl	Co	Cr	Cs
(a)	0.02	0.17	0.00005	(0.00019)	0.00097	0.000008	0.0000015	(0.00002)	(0.03)	44.39	47.89	0.00001	0.00014	0.0034	0.000045	0.00048	0.000007
(b)		2.39			0.005					37.6	47.8				0.00053	0.0015	0.00014
(c)		2.365			0.00463					37.51	47.64		0.00181		(0.001)	0.00142	0.00122
(d)		2.4							(0.14)	37.6	47.6						
(e)	0.045	3.03	0.00022	(0.00148)	0.0101	0.000056	0.000005	0.00005	(0.76)	35.52	43.76	0.000015	0.0026	0.0096	0.0007	0.0034	0.000198
(f)		3.2									43.6						
(g)		3.93									43.19						
(h)	0.021	0.22	0.000029	(0.00022)	0.00116	0.000012	0.000002	(0.00003)	(0.03)	44.89	41.95	0.000009	0.00019	0.0034	0.00005	0.00056	0.000009
(i)	0.035	0.18	0.00055	(0.00023)	0.00106	0.000015	0.0000012	0.00009	(0.04)	45.62	38.08	0.000039	0.00015	0.0123	0.00005	0.00097	0.00001

	Cu	Dy	Er	Eu	F	Fe (tot)*	Fe2O3	FeO	Ga	Gd	Ge	H2O	H2O+	H2O-	Hf	Hg (ppm)	Ho (ppm)
(a)	0.00022	0.000012	0.000009	0.0000037	0.0076	0.193		0.15	0.00003	0.000013	0.000011		0.37	(0.20)	0.00014	0.004	0.034
(b)	0.001				0.057		0.92	0.33							0.000078		
(c)	0.0008			0.000047	0.061		0.855	(0.31)				(1.26)					
(d)					(0.061)		0.87	0.32				(1.4)					
(e)	0.00187	0.000139	0.000075	0.000053	0.0454	1.77		0.79	0.00037	0.000181	0.000028		0.97	(0.37)	0.00012	0.026	0.25
(f)							1.25										
(g)							1.39										
(h)	0.00022	0.000015	0.000012	0.0000052	0.0091	0.205		0.16	0.000033	0.000016	0.000012		0.31	(0.20)	0.00021	0.015	0.034
(i)	0.00029	0.00002	0.000015	0.0000049	0.0179	0.448		0.05	0.00004	0.000019	0.000011		0.42	(0.17)	0.00031	0.031	0.046

	I	In	K2O	L.O.I.	La	Li	Li2O	Lu	MgO	Mn	MnO	Na2O	Nb (ppm)	Nd (ppm)	Ni	P	P2O5
(a)	(0.00005)	(0.000003)	0.043	43.92	0.00009	0.00029		0.0000019	6.76	0.007	0.009	0.022	0.3	0.66	0.00058	0.0035	0.008
(b)			0.41			0.00086		0.000012	0.74		0.088						
(c)			0.437			(0.0007)		0.0000127	0.656		0.0848						
(d)			0.43	38.6			(0.0021)		0.65		0.08						
(e)	(0.00003)	(0.000005)	0.88	36.57	0.00125	0.00118		0.0000091	1.36	0.0318	0.041	0.17	6.5	11.0	0.00192	0.0410	0.094
(f)			0.96	37.7					3								
(g)			0.82	35.61					0.65		0.025						
(h)	(0.00003)	(0.000002)	0.052	44.75	0.00012	0.00031		0.0000022	11.62	0.007	0.009	0.029	0.46	0.86	0.00043	0.0062	0.014
(i)	(0.00002)	(0.000002)	0.026	44.61	0.00009	0.0003		0.0000035	14.96	0.0209	0.027	0.030	0.4	0.89	5.6	0.0040	0.009

Code	Product																Unit
		Pb	**Pr (ppm)**	**Rb (ppm)**	**SO3**	**Sb (ppm)**	**Sc (ppm)**	**Se (ppm)**	**SiO2**	**Sm (ppm)**	**Sn (ppm)**	**Sr**	**Ta (ppm)**	**Tb (ppm)**	**Te (ppm)**	**Th (ppm)**	**Ti**	**TiO2**	
	(a)	0.00029	0.22	1.2	0.017	0.08	0.40	0.014	0.55	0.15	(0.7)	0.0227	(0.06)	0.022	0.08	0.25	0.0066	0.011	
	(e)	0.00059	2.84	19.2	1.18	0.27	3.5	0.24	11.07	2.11	(1.1)	0.0688	0.45	0.29	0.023	1.9	0.258	0.430	
	(h)	0.00039	0.24	1.6	0.013	0.09	0.5	0.015	0.72	0.19	(0.6)	0.0191	0.05	0.031	0.008	0.25	0.0132	0.022	
	(i)	7.8	0.21	1.1	0.041	0.59	0.5	0.10	1.17	0.21	(0.9)	0.0085	0.030	0.035	0.016	0.29	0.0054	0.009	
		Tl (ppm)	**Tm (ppm)**	**U (ppm)**	**V**	**W (ppm)**	**Y**	**Yb (ppm)**	**Zn**	**Zr**									
	(a)	0.022	0.018	0.59	0.00048	0.17	0.00012	0.11	0.00081	0.00537									
	(e)	(0.06)	0.099	1.04	0.00385	0.25	8.0	0.60	0.00245	0.00470									
	(h)	0.023	0.020	0.39	5	0.18	0.00014	0.13	9.5	76.8									
	(i)	0.02	0.030	1.13	0.00075	0.13	0.00018	0.19	35.7	0.0113									

Code	Product			Unit
GSJ-JDO-1	(a)	CRM	Dolomitic limestone	100 g
NCS DC70310	(b)	CRM	Carbonate rock - Constituents (NIM-GBW07136)	50 g
IPT-122	(c)	CRM	Limestone, dolomitic	80 g
NCS DC70305	(d)	CRM	Carbonate rock - Constituents (NIM-GBW07131)	50 g
NIST-88B	(e)	CRM	Limestone, Dolomite - Constituents	75 g
VS-813-89	(f)	CRM	Dolomitic limestone	100 g

	Ag (ppm)	Al2O3	As	B	Ba	Be	Bi	Br	C (org)	CO2	CaO	Cd	Ce	Cl	Co	Cr	Cs
(a)		0.0174								46.50	33.96						
(b)	0.022	0.1	0.00013	(0.00477)	0.00256	0.000012	0.000002	0.00005	(0.03)	(41.5)	33.07	0.000003	0.00013	0.009	0.000019	0.0006	0.000008
(c)		1.24									32						
(d)	(0.016)	0.29	0.000096	(0.00064)	0.52	0.000008	0.0000025	0.00061	(0.07)	45.58	30.93	0.000002	0.00025	0.0343	0.000052	0.00034	0.000013
(e)		0.336								46.37	29.95						
(f)		0.43		0.0005	0.003	0.00013				45.6	29.48				0.0003	0.0006	

	Cu	Dy	Er	Eu	F	Fe (tot)*	Fe2O3	Fe2O3(T)	FeO	Ga	Gd	Ge	H2O	H2O+	H2O-	Hf	Hg (ppm)
(a)							0.0222	0.0208	(0.071)					0.395	0.145		
(b)	0.00018	0.0000063	0.0000042	0.0000024	0.0581	0.057			0.03	0.000024	0.0000087	0.000068		1.83	(0.31)	0.00002	0.003
(c)							0.65										
(d)	0.00028	0.000017	0.00001	0.000014	0.0459	0.17			0.07	0.000031	0.000022	0.000012		0.39	(0.07)	0.000013	0.006
(e)							0.277										
(f)	0.0008				0.02		0.47		0.36				0.4				

	Ho (ppm)	I	In	K2O	L.O.I.	LOI	La	Li	Lu	MgO	Mn	MnO	Na2O	Nb (ppm)	Nd (ppm)	Ni	P
(a)				0.00232						18.47		0.00657	0.0129				
(b)	(0.019)	(0.00001)	(0.000002)	0.01	39.73		0.00008	0.00254	0.0000007	18	0.0209	0.027	0.026	0.2	0.48	0.00016	0.0542
(c)				0.43	43.3					17.5		0.042					
(d)	0.034	(0.00002)	(0.000002)	0.16	45.73		0.00013	0.00031	0.0000015	20.14	0.0093	0.012	0.036	0.4	1.10	2.9	0.0155
(e)				0.103		(46.98)				21.03	0.016		0.0290				
(f)				0.35						20.75		0.05					

	P2O5	Pb	Pr (ppm)	Rb (ppm)	SO3	Sb (ppm)	Sc (ppm)	Se (ppm)	SiO2	Sm (ppm)	Sn (ppm)	Sr	SrO	Ta (ppm)	Tb (ppm)	Te (ppm)	Th (ppm)
(a)	0.0343								0.216								
(b)	0.124	0.0156	0.13	0.34	(0.01)	0.04	0.3	0.019	8.25	0.090	(0.6)	0.0243		0.030	0.016	0.007	0.15
(d)	0.035	0.00029	0.28	2.6	0.33	0.06	0.4	0.013	1.15	0.26	(0.7)	0.0158		0.06	0.032	0.08	0.45
(e)	0.0044								1.13				0.0076				

	Ti	TiO2	Tl (ppm)	Tm (ppm)	U (ppm)	V	W (ppm)	Y	Yb (ppm)	Zn	Zr
(a)		(0.00133)									
(b)	0.0016	0.003	0.014	(0.021)	0.23	0.00029	0.22	0.42	0.043	10.5	5.2
(d)	0.0078	0.013	0.04	0.017	0.70	0.00051	0.17	1.1	0.10	3.6	0.00036
(e)		(0.016)									

Code	Product			Unit
NIM-GBW07712	(a)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07713	(b)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07714	(c)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07715	(d)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07716	(e)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07717	(f)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07718	(g)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07719	(h)	CRM	Synthetic limestone for spectral analysis	70 g
NIM-GBW07720	(i)	CRM	Synthetic limestone for spectral analysis	70 g

	Ag	Al2O3	As	B	Ba	Be	Bi	CaCO3	Cd (ppm)	Ce	Co	Cr	Cu	Fe2O3	Ga	K2SO4	La
(a)	(0.000003)	1.1	0.00022	0.00022	0.0024	0.000022	0.000023	85	(0.023)	0.00028	0.00023	0.00023	0.00022	0.3	0.00028	0.2	0.00026
(b)	0.000006	1.1	0.00052	0.0005	0.0054	0.000052	0.000053	85	0.053	0.00058	0.00053	0.00053	0.00052	0.3	0.00058	0.2	0.00056
(c)	0.000011	1.1	0.00102	0.001	0.0104	0.0001	0.0001	85	0.1	0.0011	0.00103	0.00103	0.00102	0.3	0.00108	0.2	0.00106
(d)	0.000021	1.1	0.002	0.002	0.0204	0.0002	0.0002	85	0.2	0.0021	0.00203	0.00203	0.002	0.3	0.00208	0.2	0.00206
(e)	0.000051	1.1	0.005	0.005	0.0504	0.0005	0.0005	85	0.5	0.0051	0.005	0.005	0.005	0.3	0.0051	0.2	0.00506
(f)	0.0001	1.1	0.01	0.01	0.1	0.001	0.001	85	1	0.0101	0.01	0.01	0.01	0.3	0.0101	0.2	0.0101
(g)	0.0002	1.1	0.02	0.02	0.2	0.002	0.002	85	2	0.02	0.02	0.02	0.02	0.3	0.02	0.2	0.02
(h)	0.0005	1.1	0.05	0.05	0.5	0.005	0.005	85	5	0.05			0.05	0.3		0.2	
(i)	0.001	1.1				0.01	0.01	85	10				0.1	0.3		0.2	

	Li	MgCO3	Mn	Mo	Na2SO4	Nb	Ni	Pb	Sb	SiO2	Sn	Sr	Ti	V	W	Y	Yb
(a)	0.00032	8	0.0037	0.000021	0.2	0.00025	0.00021	0.00024	0.000021	5.2	0.000028	0.0170	0.0031	0.00032	0.000022	0.00021	0.000022
(b)	0.00062	8	0.0067	0.000051	0.2	0.00055	0.00051	0.00054	0.000051	5.2	0.000058	0.0200	0.0061	0.00062	0.000052	0.00051	0.000052
(c)	0.00112	8	0.0117	0.00010	0.2	0.00105	0.0010	0.00104	0.00010	5.2	0.00011	0.0250	0.0111	0.00112	0.00010	0.0010	0.00010
(d)	0.0021	8	0.0217	0.00020	0.2	0.00205	0.0020	0.00204	0.00020	5.2	0.00021	0.0350	0.0210	0.0021	0.00020	0.0020	0.00020
(e)	0.0051	8	0.0517	0.00050	0.2	0.00505	0.0050	0.0050	0.00050	5.2	0.00051	0.0650	0.0510	0.0051	0.00050	0.0050	0.00050
(f)	0.0101	8	0.102	0.0010	0.2	0.0100	0.0100	0.0100	0.0100	5.2	0.0010	0.1150	0.1010	0.0101	0.0010	0.0100	0.0010
(g)	0.02	8	0.202	0.0020	0.2	0.0200	0.0200	0.0200	0.0200	5.2	0.0020	0.2200	0.2000	0.200	0.0020	0.0200	0.0020
(h)	0.05	8	0.5	0.0050	0.2		0.0500	0.0500	0.0050	5.2	0.0050	0.5200	0.5000	0.500	0.0050	0.0050	
(i)		8	1	0.0100	0.2			0.1000	0.0100	5.2	0.0100				0.0100	0.0100	

	Zn	Zr
(a)	0.00030	0.00040
(b)	0.00060	0.00070
(c)	0.0011	0.0012
(d)	0.0021	0.0022
(e)	0.0051	0.0052
(f)	0.0101	0.0102
(g)	0.0200	0.0202
(h)	0.0500	0.0500
(i)	0.1000	

Lujavrite

Code			Product	Unit
SARM 3	(a)	CRM	NIM-L Lujavrite	100 g
VS-2124-81	(b)	CRM	Lujvrite (MSCH-4)	40 g

	Be	CaO	Co	Cr	Cu	F	Fe2O3	FeO	Ga	Ge	K2O	La	Li	MgO	MnO	Mo	Na2O
(a)						0.44	8.78	1.13			5.51			0.28	0.77	8.37	
(b)	0.00139	1.25	0.00063	0.00125	0.00111		5.52	1.14	0.0063	0.00013	6.23	0.04	0.0037	0.74	0.254	0.00028	9.26

	Nb	Ni	Pb	Rb	SiO2	Sn	Sr	TiO2	V	Y	Yb	Zn
(a)					52.4			0.48				
(b)	0.034	0.00078	0.002	0.025	56.13	0.0014	0.08	0.92	0.0086	0.0081	0.00057	0.012

Maripolite

Code			Product	Unit
VS-2122-81	(a)	CRM	Maripolite (MSCH-2)	40 g

	CO2	CaO	Cr	Cu	Fe2O3	FeO	Ga	Ge	K2O	La	Li	MnO	Mo	Na2O	Nb	Ni	Pb
(a)	0.72	1.2	0.00098	0.0021	2.05	0.88	0.008	0.00014	4.3	0.013	0.00043	0.085	0.00052	10.79	0.034	0.00065	0.0025

	Rb	SiO2	Sn	Sr	TiO2	V	Y	Yb	Zn	Zr
(a)	0.03	56.29	0.0015	0.012	0.045	0.0013	0.0064	0.0005	0.0069	0.007

Olivine

Code			Product	Unit
DH-SX49-11	(a)	RM	Olivin	100 g
DH-SX49-12	(b)	RM	Olivin	100 g

	Al2O3	C (tot)	CO2	CaO	Co3O4	Cr2O3	Fe	K2O	MgO	NiO	SiO2	TiO2
(a)				0.491	0.019	0.425	5.52	0.024	47.37	0.340	42.63	0.013
(b)	0.432	0.054	0.046	0.081	0.016	0.383	5.07	0.014	49.18	0.354	41.6	0.002

Phosphate rocks

Code			Product	Unit
SARM 32	(a)	CRM	Phosphate Rock	100 g
NIM-GBW07210	(b)	CRM	Phosphate rock - Constituents (NCS DC79001)	50 g
IPT-18B	(c)	CRM	Phosphate Rock, concentrate	100 g
NIST-120c	(d)	CRM	Phosphate rock, Florida - Constitutents	90 g
BCR-032	(e)	CRM	Moroccan phosphate rock - Trace elements	100 g
NIST-694	(f)	CRM	Phosphate rock, western - Constituents	90 g
CGL-USZ14-94	(g)	CRM	Phosphorite - BF (CGL 107)	100 g
NIM-GBW07211	(h)	CRM	Phosphate rock - Constituents (NCS DC79002)	50 g
CGL-STCMEA3530-82	(i)	CRM	Phosphorite - HF (CGL 102)	100 g
NIM-GBW07212	(j)	CRM	Phosphate rocks- Constituents	100 g

Code	Product															Unit
		Al2O3 CuO	**As (ppm)**	**As2O3**	**B (ppm)**	**CO2**	**CaO**	**CaO (+SrO)**		**CaO***	**Cd (ppm)**	**CdO**	**Cl**	**Co (ppm)**	**CoO**	**Cr (ppm)**	**Cr2O3**	**Cu (ppm)**
	(a)	(0.05)				1.61	54.44					(0.064)						
	(b)	0.58				2.15			51.32									
	(c)	0.31					52.6											
	(d)	1.3		(0.0009)		3.27	48.02							(0.001)		(0.01)	(0.0016)	
	(e)	0.55	(9.5)		(22.6)	0.51	5.176			(20.8)			(0.59)		(0.0257)		(33.7)	
	(f)	1.8					43.6				0.015					(0.1)		
	(g)	0.85				5.84	38.85											
	(h)	2.58				18.46		40.71										
	(i)																	
	(j)	4.06				16.41		19.42										
		Eu2O3	**F**	**Fe (tot)***	**Fe2O3**	**Hg (ppm)**	**I**	**K2O**	**MgO**	**MgO (s)**	**Mn (ppm)**	**MnO**	**MoO3**	**Na2O**	**Na2O (s)**	**Ni (ppm)**	**NiO**	**P2O5**
	(a)		2.49		0.14				0.5								39.96	
	(b)		3.54		1.04		0.0052	0.17	0.43			0.024		0.33			36.89	
	(c)		1.33		0.21			0.21		1.65					0.14		35.7	
	(d)	(0.0005)	3.82		1.08			0.147	0.32			0.027	(0.002)	0.52			(0.004)	33.34
	(e)		0.404		0.0231	(0.0551)			0.0403		(0.00188)					(0.00346)	3.298	
	(f)		3.2		0.79			0.51	0.33			0.0116		0.86			30.2	
	(g)			0.63				0.092	2.26								26.38	
	(h)		2.05		1.08		0.0059	0.28	8.19			0.015		0.059			20.86	
	(j)		0.51		3.08			2.63	7.12			0.026		0.14			6.06	
		PbO	**S**	**SO3**	**SO4**	**SiO2**	**SrO**	**SrO (s)**	**Ti (ppm)**	**TiO2**	**U**	**U3O8**	**V (ppm)**	**V2O3**	**V2O5**	**Zn (ppm)**	**ZnO**	
	(a)					(0.4)	0.52											
	(b)					3.26	0.077			0.037								
	(c)					1.15		0.48										
	(d)	(0.003)	(0.37)		(1.07)	5.5	(0.1)			0.103		0.0135		0.016			(0.009)	
	(e)			0.184		0.209			(0.0171)				(0.0153)			(0.0253)		
	(f)					11.2				(0.11)	0.01414				0.31		(0.19)	
	(g)					20.57												
	(h)		0.79			3.61	0.16			0.14								
	(j)					38.8	0.055			0.48								

Sedimentary stone

Code		Product		Unit
NCS DC60116	(a)	CRM	Siliceous sandstone - Constituents (NIM-GBW03112)	60 g
NCS DC60117	(b)	CRM	Siliceous sandstone - Constituents (NIM-GBW03113)	60 g
NCS DC60118	(c)	CRM	Siliceous sandstone - Constituents (NIM-GBW03114)	60 g
VS-2887-84	(d)	CRM	Sandstone Ore	50 g
VS-2888-84	(e)	CRM	Sandstone Ore	50 g
VS-8076-94	(f)	CRM	Sandstone Ore	100 g
VS-8077-94	(g)	CRM	Sandstone Ore	50 g

	Ag	Al2O3	CO2	CaO	Cr2O3	Cu	F	Fe2O3	FeO	K2O	LOI	MgO	MnO	Na2O	P2O5	Pb	Re (ppm)
(a)		0.84		0.077	0.00034			0.093		0.061	0.24	0.066	(0.0016)	0.021	(0.0041)		
(b)		2.36		0.17	0.00054			0.21		0.67	0.35	0.098	(0.0033)	0.25	(0.0076)		
(c)		5.48		0.34	0.0012			0.48		2.07	0.53	0.16	(0.010)	1.09	(0.014)		
(d)	0.00093	11.91	2.61	3.34		0.55	0.039	4.08	3.1	1.71		1.55	0.146	3.25	0.115	0.037	0.61
(e)	0.00259	(11.49)	(3.05)	(3.78)		1.55	(0.039)	(4.17)	(3.16)	(1.82)		(1.49)	(0.16)	(2.98)	(0.12)	0.103	1.65
(f)	0.000064					0.036										0.023	
(g)	0.00102					0.11										0.14	

	S	SiO2	TiO2	Zn
(a)		98.51	0.020	
(b)		95.74	0.036	
(c)		89.59	0.102	
(d)	0.22	67.77	0.54	0.011
(e)	0.6	(66.14)	(0.49)	0.023
(g)	0.33			

Code	Product			Unit
GSJ-JCH-1	(a)	CRM	Chert - Constituents	20 g

	Au (ppm)	Ba	Be (ppm)	C	CO2	CaO	Cd (ppm)	Ce	Cl	Co	Cr	Cs	Cu	Dy (ppm)	Er (ppm)	Eu (ppm)	F
(a)	(0.00017)	0.0302	(0.373)	(0.0037)	(0.055)	0.0449	(0.006)	0.000521	(0.0014)	0.00155	0.000704	0.0000243	0.00153	(0.378)	(0.233)	0.0594	(0.0134)

	Fe (tot)*	Fe2O3	FeO	Gd	H2O+	H2O-	Hf (ppm)	Hg (ppm)	Ho (ppm)	K2O	La	Li (ppm)	Lu (ppm)	MgO	MnO	Na2O	Nb
(a)	0.356	0.272	0.0867	(0.00017)	0.356	0.152	0.195	(0.00413)	(0.112)	0.221	0.000152	(6.48)	0.0344	0.0754	0.0173	0.0305	(0.00017)

	Nd	Ni	P2O5	Pb	Pd (ppm)	Pr	Pt	Rb	S	Sc (ppm)	SiO2	Sm (ppm)	Sr	Ta (ppm)	Tb (ppm)	Th (ppm)	TiO2
(a)	0.000205	0.000876	0.0167	0.0002	(0.0004)	(0.000425)	(0.5)	0.000861	(0.0004)	0.979	97.81	0.359	0.00042	(0.182)	(0.0385)	0.735	0.0316

	U	V	W	Y	Yb	Zn	Zr
(a)	0.0000736	0.00104	(0.00923)	0.000181	0.0000182	0.000793	0.00115

Code	Product			Unit
UN KB	(a)	CRM	Kieselgur (Diatomite)	100 g

	K2O	MgO	Na2O	P2O5	SiO2	TiO2
(a)	0.67	0.251	0.074	0.09	74.21	0.557

Code	Product			Unit
NIM-GBW03104	(a)	CRM	Shale - Constituents (NCS DC60106)	60 g
NIM-GBW07107	(b)	CRM	Rock - Constituents (NCS DC73305)	70 g
Z TS	(c)	CRM	Black Shale	50 g
SEI-CJR651	(d)	CRM	Aluminous Shale	100 g
SARM 41	(e)	CRM	Carbonaceous shale	100 g
UL AWI1	(f)	CRM	Shale	20 g
UG-SGR-1	(g)	CRM	Shale	30 g
UN MI	(h)	CRM	Shale	100 g
Z TB	(i)	CRM	Clay Shale	50 g
Z TB2	(j)	CRM	Clay Shale	50 g

	Ag (ppm)	Al2O3	As (ppm)	Au (ppm)	B	B (ppm)	Ba	BaO	Be	Bi	Br	C	C (free)	C (org)	C (tot)	CO2	CaO
(a)																0.13	0.22
(b)	0.047	18.82	1.4	(0.001)	0.0154		0.045		0.0003	0.000023	(0.00004)		(0.16)		(0.19)	(0.1)	0.6
(c)	(0.8)	15.96	(27.5)			74	(0.18)		(0.0004)					1.42		(0.03)	0.12
(d)		71.7														0.19	
(e)		13.5					0.082									1.5	
(f)		16.44	(15)				0.0378		(0.00027)							0.69	
(g)			67			54	0.029					(28 tot)	(3.2)			8.38	
(h)	(0.006)	14.54	(0.007)			(0.005)		0.10	(0.006)							2.13	1.96
(i)			10.5			90	0.078		0.00041							0.14	
(j)		20.5					0.0649									0.2	

	Cd (ppm)	Ce	Cl	Co	Co (ppm)	Cr	Cr (ppm)	Cs	Cu	Cu (ppm)	Dy	Er	Eu	F	Fe (tot)*	Fe2O3	FeO
(a)			0.014													5.67	(0.4)
(b)	0.033	0.0109	0.0041		21		99	0.0014		42	0.00051	0.00027	0.00017	0.129	7.6	1.39	
(c)		(0.0168)			41		280	0.0013		460			(0.00032)	0.115		7.4	0.7
(d)																1.48	
(e)		(0.006)		(0.0015)		0.0123			0.0053							4.23	(0.3)
(f)		0.008			20		119	(0.0007)		34	0.00051	0.00029	0.000147			7.21	(5.52)
(g)	(0.9)	0.0036	(0.0032)		12		30	0.00052		66	(0.00019)	0.00011	0.000056	0.196	3.03	(1.46)	(1.41)
(h)	0.0100				0.0120		0.1073			0.0438					6.41	(6)	
(i)		0.0104			14		82	0.0009		49			0.00018	0.074	6.9	5.43	
(j)					14		92	0.0011		49					6.95	5.4	

Code	Product																Unit
		Ga (ppm)	**Gd**	**Ge**	**H2O**	**H2O+**	**Hf**	**Hg**	**Ho**	**I**	**In**	**K2O**	**LOI**	**La**	**Li**	**Lu**	**MgO**	**Mn**	
	(a)				(3.71)							3.76					0.67		
	(b)	26	0.00067	0.00031		5.6	0.00029	0.000001	0.000098	0.000024	0.0000082	4.16		0.0062	0.0044	0.000041	2.01	0.0173	
	(c)	21			4.01		(0.0007)					4.86		(0.008)	0.004	(0.00036)	1.77		
	(d)											0.65					0.1		
	(e)	(20)										1.39					8.1		
	(f)	22	0.0006				0.00063		0.00011			3.06		0.0038		0.000045	(2.09)		
	(g)	(12)	(0.0002)				0.00014	(0.00003)	(0.00004)			1.66		0.002	0.0147		4.44	0.0267	
	(h)	0.010				(12)						2.15	(16)				3.28		
	(i)	25				3.78	0.0005					3.87		0.0061	0.0111	0.000045	(1.93)		
	(j)					3.6						3.86			0.0109		1.86		
		MnO	**Mo**	**N**	**Na2O**	**Nb (ppm)**	**Nd**	**Ni (ppm)**	**P**	**P2O5**	**Pb (ppm)**	**Pr**	**Rb (ppm)**	**S**	**S (tot)**	**SO3**	**Sb**	**Sc**	
	(a)	0.024			0.2					0.043						0.028			
	(b)		0.000035	0.054	0.35	14.3	0.0048	37	0.069		8.7	0.00136	205	(0.0066)			0.000018	0.00185	
	(c)	0.037	0.013		0.078	(13)	(0.0108)	170		0.28	33		230	0.022			(0.00082)	0.0022	
	(d)				0.03					0.19									
	(e)	0.06	(0.0005)		0.93	8		122		0.05	(30)		59	(0.15)					
	(f)	0.14			0.74	17	0.0037	61		(0.15)	(24)	0.00093	130				0.0016		
	(g)		0.0035		2.99	(5.2)	0.0016	(29)		0.328	38				1.53		0.00034	0.00046	
	(h)	0.25			3.33	(0.003)		0.0372		(10)	0.0945		0.0539	0.33					
	(i)	(0.052)			1.32		0.005	40		0.097	8		(180)				(0.00034)	0.0016	
	(j)	0.047			1.29			39		0.095			185						
		Se	**SiO2**	**Sm**	**Sn**	**Sr**	**SrO**	**Ta (ppm)**	**Tb (ppm)**	**Te (ppm)**	**Th**	**Ti**	**TiO2**	**Tl**	**Tm**	**U**	**V (ppm)**	**W (ppm)**	
	(a)		69.63										0.68						
	(b)	0.0000075	59.23	0.00084	0.0002	0.009		0.9	1.02	(0.023)	0.00128	0.395		0.000071	0.000043	0.00015	87	0.79	
	(c)		62.8	(0.00229)	(0.00041)	0.0088		(0.97)	(2.4)		(0.00091)		0.69			(0.0022)	960		
	(d)		21.74										3.15						
	(e)		56.67			0.0054					(0.0012)		0.55				139		
	(f)		60.46	0.0007		0.0108		1.2	0.94		0.0012		0.92		0.000042	0.0003	134		
	(g)	(0.00035)	28.24	0.00027	(0.00019)	0.042					0.00048		0.253		(0.000017)	0.00054	130	2.6	
	(h)		62.19				0.017						0.71				0.1052	(0.003)	
	(i)		60.23	0.00084	0.0006	0.016		1.4			0.0018		0.93				107	2.2	
	(j)		60.4		0.0005	0.0159							0.93				96		

Code	Product						Unit
		Y	**Yb (ppm)**	**Zn**	**Zr (ppm)**	**ZrO2***	
	(b)	0.0026	2.6	0.0055	96		
	(c)	0.015	(15)	0.0063	290		
	(d)					0.18	
	(e)	0.0017		0.0076	146		
	(f)	0.0029	3	0.0099	223		
	(g)	(0.0013)	(0.94)	0.0074	(53)		
	(h)	0.0198	(0.003)	0.30	0.1518		
	(i)	0.0039	3.3	0.0094	180		
	(j)		3.8	0.0094	180		

GSJ-JSL-1	(a)	CRM	Slate - Constituents	100 g
GSJ-JSL-2	(b)	CRM	Slate - Constituents	100 g
VB 8-3-05	(c)	CRM	Slate	100 g

	Al2O3	**As**	**Au (ppm)**	**Ba**	**Be**	**Bi**	**C**	**CO2**	**CaO**	**Cd (ppm)**	**Ce**	**Cl**	**Co**	**Cr**	**Cs**	**Cu**	**Dy**
(a)	17.6	0.00149	(0.00058)	0.0305	0.000228	(0.000053)	(0.9213)	(0.769)	1.479	(0.118)	0.00606	(0.00215)	0.00155	0.00609	0.00076	0.00408	(0.000511)
(b)	18.17	0.00114	(0.00092)	0.0302	0.000268		(1.125)	(1.236)	1.885	(0.111)	0.00696	(0.00185)	0.00157	0.00647	0.000824	0.00445	0.000471
(c)	12.91								16.44								

	Er	**Eu**	**F**	**Fe (tot)***	**Fe2O3**	**FeO**	**Ga**	**Gd**	**H2O+**	**H2O-**	**Hf**	**Hg (ppm)**	**Ho (ppm)**	**K2O**	**La**	**Li**	**Lu (ppm)**
(a)	(0.000115)	0.000122	0.0598	6.764	1.875	4.523	(0.00207)	(0.000484)	3.92	0.654	0.000463	(0.067)	0.688	2.845	0.00293	(0.00507)	0.442
(b)	(0.000224)	0.000114	0.0678	6.65	0.959	5.048	(0.00228)	(0.00049)	4.158	0.362	0.000554	(0.0353)	(0.671)	3.008	0.00327	0.00526	0.404
(c)					5.29									3.05			

	MgO	**MnO**	**Mo**	**Na2O**	**Nb**	**Nd**	**Ni**	**P2O5**	**Pb**	**Pd (ppm)**	**Pr**	**Pt (ppm)**	**Rb**	**S**	**Sb**	**Sb (ppm)**	**Sc**
(a)	2.413	0.0599	(0.823)	2.184	0.000953	0.00288	0.00376	0.202	0.00174	(0.0008)	0.000607	(0.0013)	0.0117	0.1467		(0.933)	0.00167
(b)	2.385	0.0818		1.344	0.00123	0.0032	0.00406	0.164	0.00197	(0.0013)	(0.000644)	(0.0015)	0.0118	(0.0579)	(0.907)	0.00168	
(c)	2.28	0.037		0.57										2.22			

	Se (ppm)	**SiO2**	**Sm**	**Sn**	**Sr**	**Ta**	**Tb**	**Th**	**TiO2**	**Tl (ppm)**	**Tm**	**U**	**V**	**W**	**Y**	**Yb**	**Zn**
(a)	(0.588)	59.47	0.000602	(0.00025)	0.0193	0.0000842	0.0000717	0.000997	0.725	(0.633)	(0.000027)	0.000263	0.0131	(0.000247)	0.003	0.000281	0.0108
(b)	(0.346)	59.45	0.000595	(0.000703)	0.023	0.000104	0.0000727	0.00115	0.754			0.000292	0.0122	(0.00017)	0.00313	0.000315	0.0101
(c)		37							0.75								

	Zr
(a)	0.0174
(b)	0.0191

Code	Product																	Unit
CRPG-IF-G	(a)	CRM	Iron formation															30 g
		Al2O3	**As (ppm)**	**Ba (ppm)**	**Be (ppm)**	**CO2**	**CaO**	**Ce (ppm)**	**Cl (ppm)**	**Co**	**Cr**	**Cs (ppm)**	**Cu**	**Dy (ppm)**	**Er (ppm)**	**Eu (ppm)**	**F**	**Fe2O3**
	(a)	0.15	1.5	1.5	4.7	0.3	1.55	4	(25)	0.0029	0.0004	(0.06)	0.0010	0.8	0.63	0.39	0.0050	37.2
		Fe2O3(T)	**FeO**	**Ga (ppm)**	**Gd (ppm)**	**Ge (ppm)**	**H2O+**	**H2O-**	**Hf (ppm)**	**Ho (ppm)**	**K2O**	**LOI**	**La (ppm)**	**Li (ppm)**	**Lu (ppm)**	**MgO**	**MnO**	**Mo (ppm)**
	(a)	55.85	16.78	(0.7)	0.74	(24)	0.41	0.06	(0.04)	0.2	0.012	(1.1)	2.8	(1)	0.09	1.89	0.0402	(0.7)
		Na2O	**Nb (ppm)**	**Nd (ppm)**	**Ni (ppm)**	**P2O5**	**Pb (ppm)**	**Pr (ppm)**	**Rb (ppm)**	**S**	**Sb (ppm)**	**Sc (ppm)**	**SiO2**	**Sm (ppm)**	**Sn (ppm)**	**Sr**	**Ta (ppm)**	**Tb (ppm)**
	(a)	0.032	(0.1)	1.8	22.5	0.063	(4)	0.4	(0.4)	(0.0700)	0.63	0.3	41.20	0.4	(0.3)	(0.0003)	0.2	0.11
		Th (ppm)	**TiO2**	**Tl (ppm)**	**Tm**	**U (ppm)**	**V (ppm)**	**W**	**Y (ppm)**	**Yb (ppm)**	**Zn**	**Zr (ppm)**						
	(a)	(0.1)	0.014	(0.02)	0.09	(0.02)	(2)	0.0220	9	0.6	0.0020	(1)						

Wollastonite

NCS DC60124	(a)	CRM	Wollastonite (NIM-GBW03123)											50 g
		Al2O3	**CaO**	**Fe2O3**	**FeO**	**K2O**	**L.O.I.**	**MgO**	**MnO**	**Na2O**	**P2O5**	**S**	**SiO2**	**TiO2**
	(a)	0.39	40.39	0.10	0.28	0.14	6.93	0.95	0.096	0.052	0.052	(0.010)	50.50	0.022

RoHS and WEEE

Code	Product			Unit
BAM-H010	(a)	CRM	Acrylonitrile-Butadiene-Styrene-Copolymerisate (ABS) - Pb, Br, Cd, Cr (granulate)	100 g
ERM-EC680K	(b)	CRM	Polyethylene - Trace elements (low level)	100 g
ERM-EC681K	(c)	CRM	Polyethylene - Trace elements (high level)	100 g

	Br	Br (ppm)	Cd	Cd (ppm)	Cl	Cr	Cr (ppm)	Hg	Hg (ppm)	Pb	Pb (ppm)	S	Sb
(a)		240		93			470		(415)		479		
(b)	0.0096		0.00196		0.01022	0.00202		0.000464		0.00136		0.0076	0.00101
(c)	0.077		0.0137		0.08	0.01		0.00237		0.0098		0.063	0.0099

JSAC 0601-3	(a)	CRM	Plastics (polyester) - Pb, Cd, Cr, Hg	50 g
JSAC 0602-3	(b)	CRM	Plastics (polyester) - Pb, Cd, Cr, Hg	50 g
JSAC 0631	(c)	CRM	Plastics (polyester) for fluorescent X-ray analysis	disc
JSAC 0632	(d)	CRM	Plastics (polyester) for fluorescent X-ray analysis	disc

	(ppm)	Cd (ppm)	Cr (ppm)	Hg (ppm)	Pb (ppm)
(a)	12.1	5.0	11.3	1.3	
(b)		50.4	112.6	12.1	112.0
(c)		22.5	25.8	19.7	24.5
(d)		46.1	93.3	59.4	92.9

MBH-41X ZSC1 A	(a)	CRM	RoHS-Monitors, Ø 50x20 mm	disc
MBH-41X ZSC2 A	(b)	CRM	RoHS-Monitors, Ø 50x20 mm	disc
MBH-41X ZSC3 A	(c)	CRM	RoHS-Monitors, Ø 50x20 mm	disc
MBH-41X ZSC4 A	(d)	CRM	RoHS-Monitors, Ø 50x20 mm	disc
MBH-41X ZSC6 A	(e)	CRM	RoHS-Monitors, Ø 50x20 mm	disc

	Cd	Cr	Hg	Pb
(a)	0.0288	0.0039	0.026	0.0621
(b)	0.0016	0.0036	0.0053	0.111
(c)	0.119	0.0148	0.0021	0.0273
(d)	0.0131	0.0299	0.050	0.156
(e)	0.215	0.0002	0.029	0.0077

Code	Product			Unit
NMIJ CRM 8102-A	(a)	CRM	ABS resin - Cd, Cr, Pb (low concentration) - pellets	25 g
NMIJ CRM 8103-A	(b)	CRM	ABS resin - Cd, Cr, Pb (high concentration) - pellets	25 g
NMIJ CRM 8112-A	(c)	CRM	ABS resin - Cd, Cr, Hg, Pb (low concentration) - pellets	25 g
NMIJ CRM 8113-A	(d)	CRM	ABS resin - Cd, Cr, Hg, Pb (high concentration) - pellets	25 g
NMIJ CRM 8115-A	(e)	CRM	ABS resin - Cd, Cr, Hg, Pb (low concentration) - disc (30 mm x 2 mm)	disc
NMIJ CRM 8116-A	(f)	CRM	ABS resin - Cd, Cr, Hg, Pb (high concentration) - disc (30 mm x 2 mm)	disc
NMIJ CRM 8123-A	(g)	CRM	PVC resin - Cd, Cr, Hg, Pb (high concentration)- pellets	25 g
NMIJ CRM 8133-A	(h)	CRM	PP resin - Cd, Cr, Hg, Pb (high concentration)- pellets	25 g
NMIJ CRM 8136-A	(i)	CRM	PP resin - Cd, Cr, Hg, Pb (high concentration) - disc (30 mm x 2 mm)	disc

	Cd	**Cd (ppm)**	**Cr**	**Cr (ppm)**	**Hg**	**Hg (ppm)**	**Pb**	**Pb (ppm)**
(a)		10.77		27.87				108.9
(b)		106.9		269.5				1084
(c)		9.383		94.47		94.10		94.98
(d)		89.8		905		(915)		905
(e)		9.341		94.27		93.81		94.21
(f)		90.8		912		(903)		916
(g)	0.009562		0.0949		0.0937		0.09655	
(h)		94.26		895.2		941.5		949.2
(i)		93.7		890.6		952		943.5

IARM-MAT-PACK-HIGH	(a)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PACK-LOW	(b)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PE-BLANK	(c)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PE-HIGH	(d)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PE-LOW	(e)	RM	Heavy metals in polyethylene, Ø31x13mm (Set only)	disc
IARM-MAT-PVC-BLANK	(f)	RM	Heavy metals in polyvinylchloride, Ø31x13mm (Set only)	disc
IARM-MAT-PVC-HIGH	(g)	RM	Heavy metals in polyvinylchloride, Ø31x13mm (Set only)	disc
IARM-MAT-PVC-LOW	(h)	RM	Heavy metals in polyvinylchloride, Ø31x13mm (Set only)	disc

	Br	**Cd**	**Cr**	**Hg**	**Pb**
(a)		0.0100	0.0101	0.0102	0.0101
(b)		0.0061	0.0031	0.0033	0.0030
(c)	0	0	0	0	0
(d)	0.11	0.0300	0.1000	0.1099	0.1199
(e)	0.0500	0.0100	0.0400	0.0200	0.0400
(f)	0	0	0	0	0
(g)	0.1099	0.0301	0.1000	0.1100	0.1199
(h)	0.0499	0.0100	0.0400	0.0200	0.0399

Sand

Code	Product			Unit
IPT-61	(a)	CRM	Glass Sand (0.01% Fe)	100 g
IPT-62	(b)	CRM	Glass Sand (0.07% Fe)	100 g
UN SPS	(c)	CRM	Glass sand	100 g
BAS-BCS-CRM 516	(d)	CRM	Standard Glass Sand (SGT Glass Sand 10)	100 g
SGTSAND6	(e)	CRM	Standard sand 6 - Constituents	200 g
SGTSAND8	(f)	CRM	Standard sand 8 - Constituents	200 g
BAS-BCS-CRM 528	(g)	CRM	Standard Glass Sand (SGT Standard glass sand 11)	100 g
DH-SX33-01	(h)	RM	Formsand	100 g
NIST-1413	(i)	CRM	Glass sand (high alumina) - Constituents	75 g
DH-SX45-01	(j)	RM	Filling Sand for Sliding Gates	100 g

	Al2O3	BaO	C (tot)	CaO	CeO2	Co3O4	Cr2O3	CuO	Fe (tot)	Fe (tot)*	Fe2O3	K2O	LOI	La	Li	MgO	Mn3O4
(a)	0.054			(0.004)							0.014	(0.007)	(0.06)			(0.003)	
(b)	0.11			(0.004)							0.072	(0.007)	0.1			(0.004)	
(c)	0.248			0.029							0.037	0.058	0.167			0.0071	
(d)	0.513	0.0040		0.0243			0.0081				0.0596	0.127	0.24			0.0387	0.0012
(e)	0.6			<0.02						0.032		0.4	0.14			<0.02	
(f)	2.07			0.06						0.26		1.06	0.48			0.12	
(g)	2.447	0.0298		0.237			0.0008				0.1111	0.875	0.271			0.0887	
(h)		0.015		0.72	0.003	0.02	0.538	0.012			3.84	0.169		0.0014	0.00067	0.57	
(i)	9.9	0.12		0.74							0.24	3.94				0.06	
(j)	4.92		0.607	0.025			11.53		5.14			0.633				2.4	

	Na2O	PbO	SiO2	TiO2
(d)	0.0195	0.0127	98.73	0.172
(g)	0.101	0.0006	95.62	0.0486

Code	Product			Unit
DH-SX45-02	(a)	RM	Filling Sand for Sliding Gates	100 g
NIST-89	(b)	CRM	Lead-barium glass - Constituents	45 g
DH-SX45-05	(c)	RM	Filling Sand for Sliding Gates	100 g
SEI-CJR502	(d)	CRM	Zircon Sand	100 g
SEI-CJR501	(e)	CRM	Zircon Sand	100 g
DH-SX45-07	(f)	RM	Filling Sand for Sliding Gates	100 g
DH-SX45-06	(g)	RM	Filling Sand for Sliding Gates	100 g
NIST-165a	(h)	CRM	Glass sand (low iron) - Constituents	75 g
NIST-81a	(i)	CRM	Glass sand - Constituents	75 g
CAN-PTA-1	(j)	CRM	Platiniferous Black Sand	400 g

	Al2O3	**As2O3**	**As2O5**	**BaO**	**C (tot)**	**CO2**	**CaO**	**Cl**	**Cr2O3**	**Fe (tot)**	**Fe2O3**	**K2O**	**LOI**	**MgO**	**MnO**	**Na2O**	**P2O5**
(a)	5.69				0.471		0.038		14.75	6.31		0.693		3.24			
(b)	0.18	0.03	0.36	1.40			0.21	0.05			0.049	8.40	0.32	0.03	0.08	5.70	0.23
(c)	6.62				0.659		0.031		18.41	7.90		0.502		3.98			
(d)	5.87										0.1		0.26				
(e)	0.39										0.06		0.11				
(f)	11				0.326	0.013	0.096		33.41	14.51				7.29			
(g)	12.93				0.700		<0.017		42.01	17.51				8.18			
(h)	0.059										0.012						
(i)	0.66								0.0046		0.082						
(j)																	

	PbO	**SO3**	**SiO2**	**TiO2**	**ZrO2**
(b)	17.50	0.03	65.35	0.01	0.005

Slags

Slags

Code	Product			Unit
IMZ-EZP1	(a)	CRM	Slag	100 g
IMZ-EZP2	(b)	CRM	Slag	100 g
IMZ-EZP3	(c)	CRM	Slag	100 g
JK S9	(d)	CRM	Slag Powder	100 g
JK S10	(e)	CRM	ESR-slag-low Al	100 g

	Al2O3	C	Ca	CaF2	CaO	F	FeO	MgO	MnO	P	SiO2	TiO2	V2O5
(a)	24.85		36.76			31.62		(0.85)			2.61		
(b)	41.38		24.03			(0.89)		16.89			5.81		
(c)	19.13		39.53			15.78		8.44			1.68		
(d)	31.5	0.042	39	35.5	29.1	17.3	0.04	2.2	0.04	0.005	1.4	0.05	0.11
(e)	0.54	0.022	50.8	70.7	20.3	34.4	0.1	0.3	0.03	0.002	7.8	0.05	(0.01)

				Unit
ECRM-D 826-1	(a)	CRM	Phosphate slag - powder	100 g
ECRM-D 827-1	(b)	CRM	Thomas phosphate - powder	100 g
NCS HC18809	(c)	CRM	Slag	100 g
SARM 77	(d)	CRM	Ferrochrome Slag	100 g
IM ZM6	(e)	CRM	Copper-ConverterSlag	250 g
NCS HC13805	(f)	CRM	Open Hearth Slag	100 g
NCS HC13811	(g)	CRM	Open Hearth Slag	100 g

	Ag	Al2O3	Ca (tot)	CaO	Co	Cr2O3	Cu	Fe	Fe (tot)	FeO	MgO	MnO	Mo	Ni	P2O5	P2O5(sol)	P2O5(tot)
(a)				46.48												10.73	14.65
(b)				47.38												18.79	20.70
(c)		21.94	35.21						0.30		6.55	0.18			0.024		
(d)		27.5		3.64		12.5			5.31		22.99						
(e)	0.0031				0.39		2.12	46.72					0.021	0.080			
(f)		3.92							34.33	36.55	21.15	2.01			0.87		
(g)		4.47		18.11					29.44	35.40	13.19	2.32			0.91		

	S	S (tot)	SiO2	TiO2	V
(a)			8.96		
(b)			6.21		
(c)	0.69		16.50	1.03	
(d)		0.32	26.8		
(e)	1.04				0.0064
(f)			8.91	0.32	
(g)	0.050		23.35	0.51	

Code	Product			Unit
DH-SX51-15	(a)	RM	Vacuum Ladle Slag	100 g
DH-SX59-03	(b)	RM	Cover material	100 g
DH-SX59-04	(c)	RM	Cover material	100 g
DH-SX59-05	(d)	RM	Cover material	100 g
DH-SX59-06	(e)	RM	Cover material	100 g
DH-SX66-04	(f)	RM	Tundish g. material	100 g
DH-SX66-05	(g)	RM	Tundish g. material	100 g
DH-SX66-06	(h)	RM	Tundish g. material	100 g
NCS HC35801	(i)	CRM	Sn Slag	70 g
NCS HC35802	(j)	CRM	Sn Slag	70 g

	Al2O3	BaO	C (tot)	CO2	CaO	Co3O4	Cr	Cr2O3	F	Fe	Fe2O3	FeO	H2O(900)	K2O	MgO	Mn	Mn3O4
(a)	38.33				46.80		0.008			0.320					7.89	0.077	
(b)	3.70			0.016	61.81				0.046		1.36		0.023	0.599	10.07	0.046	
(c)	12.37	0.180			39.47						0.591			0.622	14.53	0.076	
(d)	19.32				46.50						0.435			0.321	9.17	0.051	
(e)	14.34				33.29						0.598			0.210	19.38	0.052	
(f)	1.884		0.471	0.35	1.609			0.255			4.62		1.02	0.089	64.45	0.098	
(g)	1.252		0.38		1.35	0.010		0.223			4.94			0.072	62.58		
(h)	1.301		0.38		1.377			0.216			4.91		1.15	0.069	62.70	0.097	
(i)	7.36				4.12							46.18					
(j)	9.32				19.76							22.22					

	MnO	Na2O	NiO	P2O5	S	SO3	SiO2	Sn	SrO	TiO2	ZrO2
(a)					1.27		2.711		0.028	0.122	0.015
(b)		0.174		0.151	0.194		21.33			0.183	
(c)				0.019	0.074		30.68		0.025	0.038	
(d)				0.039	0.074		22.93			0.035	
(e)		0.32		0.037	0.061		30.78		0.015	0.037	
(f)		0.516	0.165	0.084		0.026	24.75			0.141	
(g)	0.105	0.347	0.220	0.041	0.019		27.08			0.090	
(h)			0.216	0.057		0.052	27.49			0.101	
(i)							19.61	11.96			
(j)							37.49	2.32			

Steelmaking slag

Code		Product										Unit
BS-101/1	(a)	RM	Steelmaking slag									100 g
BS-101/2	(b)	RM	Steelmaking slag									100 g
BS-101/3	(c)	RM	Steelmaking slag									100 g
BS-101/4	(d)	RM	Steelmaking slag									100 g
BS-101/5	(e)	RM	Steelmaking slag									100 g
		Al2O3	**CaO**	**Fe (tot)**	**K2O**	**MgO**	**MnO**	**Na2O**	**P2O5**	**S**	**SiO2**	**TiO2**
	(a)	0.61	52.4	6.3	(0.003)	9.2	3.45	0.009	0.78	0.18	23.7	0.8
	(b)	0.9	47.0	15.2	(0.006)	8.1	4.8	0.031	0.70	0.23	16.8	0.8
	(c)	1.47	53.7	11.0	(0.006)	3.1	5.2	(0.028)	0.77	0.19	18.8	0.92
	(d)	0.87	51.9	13.4	(0.007)	4.6	4.7	(0.023)	0.80	0.15	16.5	1.21
	(e)	0.57	46.0	19.2	(0.005)	5.5	5.7	(0.043)	0.71	0.12	14.9	1.1

N 141	(a)	CRM	Slag									75 g
N 142	(b)	CRM	Slag									75 g
N 143	(c)	CRM	Slag									75 g
N 144	(d)	CRM	Slag									75 g
N 145	(e)	CRM	Slag									75 g
N 146	(f)	CRM	Slag									75 g
N 147	(g)	CRM	Slag									75 g
N 148	(h)	CRM	Slag									75 g
N 149	(i)	CRM	Slag									75 g
		Al2O3	**CaO**	**Cr2O3**	**Fe**	**FeO**	**MgO**	**MnO**	**P2O5**	**S**	**SiO2**	**TiO2**
	(a)	2.74	26.22	(0.85)	21.37	22.99	(4.02)	10.85	2.14	0.08	22.47	0.63
	(b)	3.13	29.56	0.55	16.52	16.89	5.38	12.09	2.08	0.067	22.16	0.69
	(c)	(0.5)	42.9	0.97	14.53	8.62	5.29	2.84	16.71	0.083	4.88	0.15
	(d)	2.42	20.5	1.32	28.47	31.61	2.85	9.72	2.02	0.091	22.18	0.55
	(e)	2.39	20.85	0.99	27.97	30.46	2.71	9.26	2.05	0.089	22.43	0.56
	(f)	4.29	40.56	0.69	20.3	18.47	5.47	5.52	2.11	0.165	11.38	0.39
	(g)	4.4	40.29	0.48	19.59	16.11	5.2	5.45	2.44	0.146	12.87	0.50
	(h)	1.62	39.76	0.86	18.44	0.29	4.94	3.78	10.84	0.112	6.52	0.25
	(i)	3.36	9.85	53.81	14.09	8.12	2.89	3.74	(0.03)	0.040	8.42	0.22

Code	Product			Unit
N 150	(a)	CRM	Slag	75 g
N 151	(b)	CRM	Slag	75 g
N 152	(c)	CRM	Slag	75 g
N 153	(d)	CRM	Slag	75 g
N 154	(e)	CRM	Slag	75 g
N 155	(f)	CRM	Slag	75 g
N 156	(g)	CRM	Slag	75 g

	Al2O3	**CaO**	**Cr2O3**	**Fe**	**FeO**	**MgO**	**MnO**	**P2O5**	**S**	**SiO2**	**TiO2**
(a)	3.23	21.77	1.74	24.23	27.3	(14.46)	8.16	0.62	0.044	15.69	0.15
(b)	2.06	34.83	0.65	14.94	0.14	5.05	8.44	7.92	0.079	15.97	0.53
(c)	2.6	21.95	28.67	14.4	12.79	6.17	4.85	(0.12)	0.028	15.91	0.37
(d)	3.37	15.17	36.5	7.09	8.05	16.68	4.47	(0.01)	0.036	12.12	2.26
(e)	3.68	(1.15)	1.54	10.65	13.36	2.44	(28)	(0.03)	0.074	48.67	0.27
(f)	10.2	34.35	0.68	13.17	0.11	4.7	3.91	4.26	0.124	19.19	0.38
(g)	7.8	34.66	0.75	16.35	0.14	4.66	3.81	5.98	0.111	15.20	0.36

Slags

Code	Product			Unit
BAS-BCS-CRM 381	(a)	CRM	Basic Slag	100 g
ECRM-F 804-1	(b)	CRM	Basic slag - powder	100 g
ECRM-F 805-1	(c)	CRM	Basic slag - powder	100 g
ECRM-F 806-1	(d)	CRM	Basic slag - powder	100 g
ECRM-B 879-1	(e)	CRM	Basic slag - powder	100 g
JK S11	(f)	CRM	AOD-slag	100 g
VS-W4/4	(g)	CRM	Steel-smelting slag	100 g
VS-W5	(h)	CRM	Converter slag	100 g

	Al2O3	CaO	CaO(tot)	Cr2O3	F	Fe	FeO	FeO(tot)	MgO	MnO	P	P2O5	P2O5(sol)	P2O5(tot)	S	SiO2	TiO2
(a)	0.67	49		0.33		13.3	3.69		1.03	3.16			15.2	15.7	0.19	8.78	0.35
(b)	(0.79)	51.6				11.92			1.46	1.91		17.58			0.127	5.54	0.25
(c)	0.616	48.92				14.87			1.86	2.05		16.20			0.092	6.63	0.342
(d)	0.901	46.13				17.89			3.02	5.94		2.25			0.110	11.72	0.504
(e)	0.803	43.7		0.477	0.368	18.97			2.19	4.45			7.59	8.46	0.102	8.82	0.535
(f)	2.85		60.0	0.17	(7.9)			(0.2)	4.7	0.12		(0.005)			0.30	7.8	0.95
(g)	3.62	25.5				23.2	25.5		18.3	4.37	0.069				0.037	16.7	1.02
(h)	1.25	48.3				17.1	3.01		3.14	4.89					0.209	16.0	

	V2O5
(a)	0.94
(b)	0.82
(c)	0.918
(d)	0.514
(e)	0.738
(f)	(0.01)

Blast furnace slag

BS-SLAG1	(a)	RM	Iron making slag	50 g
BS-SLAG2	(b)	RM	Iron making slag	50 g
BS-SLAG3	(c)	RM	Iron making slag	50 g
BS-100A	(d)	RM	Iron making slag	100 g

	Al2O3	C	CaO	Fe	K2O	MgO	MnO	Na2O	S	SiO2	TiO2
(a)	18.5	0.07	30.2	0.28	0.36	11.01	1.11	0.20	1.8	36.7	0.42
(b)	10.3	0.2	44.6	0.23	0.17	5.87	0.19	0.16	1.14	37.0	0.20
(c)	12.9	0.03	37.3	0.25	0.81	8.3	1.72	0.26	0.81	37.44	0.63
(d)	10.13	0.07	37.6	0.3	0.49	12.9	0.35	0.18	1.2	35.2	0.50

Code	Product			Unit
N 7-1-005	(a)	CRM	Blast Furnace Slag	75 g
N 7-1-006	(b)	CRM	Blast Furnace Slag	75 g
N 7-1-007	(c)	CRM	Blast Furnace Slag	75 g
N 7-1-008	(d)	CRM	Blast Furnace Slag	75 g
N 7-1-009	(e)	CRM	Blast Furnace Slag	75 g
N 7-1-010	(f)	CRM	Blast Furnace Slag	75 g
N 7-1-011	(g)	CRM	Blast Furnace Slag	75 g
N 7-1-012	(h)	CRM	Blast Furnace Slag	75 g
N 7-1-013	(i)	CRM	Blast Furnace Slag	75 g
N 7-1-014	(j)	CRM	Blast Furnace Slag	75 g
N 7-1-015	(k)	CRM	Blast Furnace Slag	75 g

	Al2O3	CaO	Fe	K2O	MgO	MnO	Na2O	S	SiO2	TiO2
(a)	10	38.8	0.21	(0.19)	12	0.47	(0.13)	(0.85)	35.3	0.32
(b)	7.05	32.7	0.59	(0.61)	16.8	1.24	(0.35)	(0.56)	38.5	0.34
(c)	6.2	31.2	0.55	(0.38)	18.9	0.78	(0.24)	(0.57)	39.0	0.39
(d)	8.4	42.1	0.3	(0.52)	6.1	0.73	(0.33)	(0.65)	39.1	0.30
(e)	9.2	49.6	0.47	(0.19)	1.1	0.6	(0.14)	1.17	32.8	0.38
(f)	7.94	31.2	5.5	(0.59)	0.73	3.4	(0.18)	0.14	44.0	0.94
(g)	24	29.4	1.9	(0.04)	17.5	1.97	(0.19)	(0.03)	21.9	(0.09)
(h)	45.2	0.57	1.02	(0.02)	(0.21)	0.06	(0.52)	(0.009)	51.4	0.09
(i)	38.6	28.7	1.12	(0.03)	8	0.26	(0.04)	(0.03)	20.3	0.78
(j)	24	30.1	1.27	(0.07)	9.3	(0.3)	(0.07)	(0.02)	33.6	(0.07)
(k)	14.5	28	1.7	(0.08)	9.2	0.58	(0.1)	(0.02)	(44.7)	(0.08)

Code	Product			Unit
DH-SX32-18	(a)	RM	Blast Furnace Slag	100 g
DH-SX32-19	(b)	RM	Blast Furnace Slag	100 g
DH-SX32-21	(c)	RM	Blast Furnace Slag	100 g
DH-SX32-23	(d)	RM	Blast Furnace Slag	100 g
DH-SX32-24	(e)	RM	Blast Furnace Slag	100 g
DH-SX32-25	(f)	RM	Blast Furnace Slag	100 g
DH-SX32-27	(g)	RM	Blast Furnace Slag	100 g
DH-SX32-31	(h)	RM	Blast Furnace Slag	100 g
DH-SX32-33	(i)	RM	Blast Furnace Slag	100 g
DH-SX32-34	(j)	RM	Blast Furnace Slag	100 g

	Al2O3	BaO	C (tot)	CO2	Ca	CaO	Cr2O3	Fe	H2O(900)	K2O	MgO	Mn	Na2O	P2O5	S	SiO2	SrO
(a)	12.38	0.093			28.35		0.008	0.358		0.557	7.63	0.292	0.364	0.006	1.32	36.86	0.086
(b)	10.00		0.028	0.060	28.24			0.383	0.07	0.744	7.47	0.981	0.299	0.026	0.818	39.26	0.045
(c)	10.99				28.97	40.54		0.230		0.525	10.00	0.161	0.428		1.55	35.69	0.066
(d)	9.39				27.21			0.662		1.62	9.53	0.726	0.391	0.012	1.08	38.07	0.12
(e)	12.86	0.083			27.10			2.53		0.170	7.03	0.145	0.102		1.55	37.88	0.052
(f)	12.80	0.086			28.59			0.385		0.115	7.63	0.129	0.092		1.55	38.06	0.053
(g)	12.09	0.095			29.39			0.196		0.527	6.318	0.434	0.218		0.997	37.50	0.054
(h)	12.50					40.85		0.245		0.430	6.225	0.362	0.214		1.03	37.31	0.055
(i)	11.53	0.082				36.30	0.021	1.72		0.462	5.27	0.907	0.193	0.026	0.804	41.53	0.047
(j)	11.27	0.087				37.22	0.018	0.742		0.890	5.37	0.970	0.322		0.88	41.28	0.048

	TiO2	V2O5	ZrO2
(a)	0.480		0.041
(b)	0.533		
(c)	0.572		
(d)	0.393		
(e)	0.265		0.043
(f)	0.247		0.046
(g)	0.701		0.039
(h)	0.776		0.044
(i)	0.621	0.019	0.046
(j)	0.618	0.016	0.042

Code	Product			Unit
IMZ-2-71	(a)	CRM	Slag	100 g
IMZ-2-72	(b)	CRM	Slag	100 g
IMZ-2-73	(c)	CRM	Slag	100 g
IMZ-2-74	(d)	CRM	Slag	100 g
IMZ-2-75	(e)	CRM	Slag	100 g
IMZ-2-76	(f)	CRM	Slag	100 g
IMZ-2-77	(g)	CRM	Slag	100 g
IMZ-2-78	(h)	CRM	Slag	100 g

	Al2O3	CaO	Fe(calc)	FeO	K2O	MgO	Mn	Na2O	P	S	SiO2	TiO2	Zn
(a)	4.76	43.81	1.57		0.426	5.03	0.615	0.35	(0.011)	0.535	41.35	(0.188)	(0.036)
(b)	4.74	43.85	(0.930)		(0.423)	5.26	0.608	(0.342)	0.010	0.534	41.80	(0.170)	(0.050)
(c)	7.09	43.45	1.08		0.674	1.98	0.882	0.620	(0.0097)	0.572	42.50	0.258	(0.0026)
(d)	5.25	43.37	3.36		0.456	4.67	0.635	0.331	(0.011)	0.563	38.91	0.205	0.051
(e)	4.71	44.35	0.548		1.01	5.18	0.598	(0.823)	(0.01)	0.368	40.99	0.160	(0.003)
(f)	1.02	38.57	25.12	22.11		5.75	4.88	(0.017)	0.416	0.076	10.92	(0.172)	(0.0090)
(g)	1.61	35.65	23.63	(21.69)	(0.019)	6.39	4.04	(0.032)	0.392	0.065	16.32	(0.177)	(0.012)
(h)	1.49	51.70	12.37	(10.96)	(0.013)	3.24	4.47	(0.026)	0.451	0.139	17.43	(0.178)	(0.003)

NCS HC13808	(a)	CRM	Blast Furnace Slag	100 g
NCS HC13810	(b)	CRM	Blast Furnace Slag	100 g
NCS HC13824	(c)	CRM	Blast Furnace Slag	100 g
NCS HC13825	(d)	CRM	Blast Furnace Slag	100 g
NCS HC15803	(e)	CRM	Blast Furnace Slag	80 g
NCS HC18806	(f)	CRM	Blast furnace slag	100 g
NCS HC18807	(g)	CRM	Blast furnace slag	100 g
NCS HC19805	(h)	CRM	V Ti Blast furnace slag	100 g

	Al2O3	Ca (tot)	CaF	CaO	F	Fe (tot)	Fe2O3	FeO	K2O	MgO	MnO	Na2O	P	P2O5	S	SiO2	TiO2
(a)	7.73			39.33		0.71		0.63		13.92	0.100			0.026	0.606	36.10	0.37
(b)	7.08			38.57		0.64		0.58		16.97	0.089			0.037	0.536	34.08	0.36
(c)	7.73			39.33		0.71		0.64		13.92	0.100			0.026	0.606	36.10	0.84
(d)	7.84			36.50		0.78		0.60		20.77	0.077			0.049	0.535	30.95	0.36
(e)	13.93			39.66		1.76		2.16	0.42	5.61	0.175	0.26	0.0066		0.98	35.00	0.51
(f)	14.11			38.84		0.60				8.46	0.30			0.008	1.13	32.75	2.63
(g)	16.48			35.77		1.10				8.77	0.74			0.009	0.90	33.04	0.73
(h)	13.85			25.57		0.80				9.05	0.74				0.234	22.67	

	V2O5
(f)	
(g)	
(h)	0.44

Slags

Code	Product			Unit
CAN-SL-1	(a)	CRM	Blast Furnace Slag	200 g
ECRM-F 802-1	(b)	CRM	Blast furnace slag - powder	100 g
ECRM-F 803-1	(c)	CRM	Blast furnace slag - powder	100 g
SEI-905-1	(d)	CRM	Blast furnace Slag	70 g
VS-W1	(e)	CRM	Blast Furnace Slag	100 g
VS-W3	(f)	CRM	Blast Furnace Slag	100 g

	Al	Al2O3	B	Ca	CaO	Cr	F	Fe	Fe (tot)	Fe (tot)*	FeO	K	K2O	Mg	MgO	Mn	MnO
(a)		9.63			37.48					0.92			(0.51)		12.27	(0.86)	
(b)	8.53		0.0245	30.62		0.0053	0.243	0.576				0.491		2.87		0.46	
(c)		13.19			43.28			0.613							4.05	0.713	
(d)		14.2			42.1				0.17			0.308			6.8	0.22	
(e)		8.48			38.8						0.47				9.35	0.22	
(f)		14.5			31.7										12.1	0.58	

	Na	Na2O	P	P2O5	S	Si	SiO2	Ti	TiO2	V	V2O5	Zn
(a)		(0.39)			1.26		35.73		(0.38)			
(b)	0.236		0.109		0.714	15.16		0.366		0.028		0.0026
(c)				0.270	0.767		36.38		0.502			
(d)	0.143				0.558		34.2		0.56			
(e)					0.69		37.9					
(f)					0.51		30.1		9.62		0.25	

Code		Product		Unit
Converter slag				
DH-SX39-11	(a)	CRM	Converter Slag	100 g
DH-SX39-13	(b)	CRM	Converter Slag	100 g
DH-SX39-19	(c)	CRM	Converter Slag	100 g
DH-SX39-21	(d)	CRM	Converter Slag	100 g
DH-SX39-23	(e)	CRM	Converter Slag	100 g

	Al2O3	CaO	Cr	CuO	F	Fe	K2O	MgO	Mn	Na2O	Nb2O5	P2O5	S	SiO2	SrO	TiO2	V2O5
(a)	0.933	50.50	0.154			18.51		1.54	4.42		0.055	2.65	0.160	8.58		0.350	0.590
(b)	0.76	56.31	0.168			14.61		1.07	4.40		0.077	2.29	0.152	9.87		0.423	0.553
(c)	0.974	52.95	0.141			16.08		2.235	3.167		0.044	1.766	0.213	11.94	0.028	0.368	0.508
(d)	4.79	50.05	0.196	0.007	0.500	16.92	0.013	2.99	2.31	0.020	0.030	1.36	0.196	10.56		0.780	0.422
(e)	1.27	46.50	0.148		0.028	20.33	0.013	3.23	2.74	0.014	0.046	1.73	0.288	11.52		1.21	0.522

	ZnO
(a)	0.003
(b)	
(c)	
(d)	
(e)	

NCS HC13804	(a)	CRM	Converter slag		100 g
NCS HC13813	(b)	CRM	Converter slag		100 g
NCS HC13819	(c)	CRM	Converter slag		100 g
NCS HC13823	(d)	CRM	Converter slag		100 g
NCS HC14801A	(e)	CRM	Converter Slag		50 g
NCS HC14805	(f)	CRM	Converter slag (NIM-GBW01708)		50 g
NCS HC18808	(g)	CRM	Converter slag		100 g
VS-W5	(h)	CRM	Converter slag		100 g

	Al2O3	Ca (tot)	CaF	CaO	F	Fe	Fe (tot)	Fe2O3	FeO	K2O	MgO	MnO	Na2O	P2O5	S	SiO2	TiO2
(a)	1.78	37.64	1.41				13.38		13.19		9.28	35.4		1.02		14.91	0.42
(b)	1.55	34.55	1.03				12.96		9.75		9.27	3.10		0.98	0.096	18.85	0.46
(c)	1.78	37.64	1.41				13.38	12.33			9.28	1.86		1.02	0.097	14.91	0.42
(d)	1.55	34.55	1.03				12.98		9.75		9.27	3.10		0.98	0.096	18.85	0.46
(e)	0.62	40.62			2.22		13.60				6.89	1.88	0.013	0.914	0.100	21.72	0.612
(f)	3.08	25.90			0.85		18.82			0.052	11.67	1.64	0.030	0.95	0.089	12.20	0.781
(g)	1.25	24.10					24.55				11.66	3.34		2.00	0.13	13.44	2.22
(h)	1.25			48.3		17.1			3.01		3.14	4.89			0.209	16.0	

Slags

Electric furnace slag

Code		Product		Unit
NCS HC13806	(a)	CRM	Electric furnace slag	100 g
NCS HC13807	(b)	CRM	Electric furnace slag	100 g
NCS HC13820	(c)	CRM	Electric furnace slag	100 g
NCS HC13821	(d)	CRM	Electric furnace slag	100 g
NCS HC13822	(e)	CRM	Electric furnace slag	100 g

	Al2O3	Ca (tot)	CaF	F	Fe (tot)	Fe2O3	FeO	MgO	MnO	P2O5	S	SiO2	TiO2
(a)	4.00	16.22		0.17	13.11		15.25	15.18	13.16	0.125		21.35	0.18
(b)	8.72	28.87		0.82	2.26		1.89	15.60	2.39	0.030		24.77	0.25
(c)	4.00	16.22		0.17	13.12	15.27		21.18	13.16	0.125	0.036	21.35	0.18
(d)	8.73	28.87		0.82	2.21	1.89		15.67	2.39	0.030	0.25	24.77	0.25
(e)	4.10	15.53	0.52		21.08		24.03	14.06	5.11	0.41	0.085	23.49	0.44

Titanium slag

Code		Product		Unit
NCS HC18810	(a)	CRM	V Ti Slag	100 g
NCS HC18811	(b)	CRM	V Ti Slag	100 g
SARM 57	(c)	CRM	Titanium Slag (RBM)	100 g

	Al2O3	CaO	Cr2O3	Fe (tot)	Fe2O3	L.O.I.	MgO	MnO	P	S	SiO2	TiO2	V2O5
(a)	12.81	28.36		2.94			7.08	0.48	(0.006)	0.52	25.55	21.01	0.20
(b)	8.63	37.33		1.59			4.75	0.15	0.016	0.64	40.93	3.39	0.28
(c)	1.23	0.16	0.16		11.8	(3.92)	0.98	1.76					

Vanadium slag

Code		Product		Unit
NCS HC19806	(a)	CRM	Vanadium slag	60 g
NCS HC19810	(b)	CRM	V slag	80 g
NCS HC19812	(c)	CRM	V slag	80 g
VS-W9	(d)	CRM	Vanadium slag	100 g

	Al2O3	CaO	Cr2O3	Fe	Fe (M)	Fe (tot)	Ga	MgO	MnO	P	S	SiO2	TiO2	V2O5
(a)	1.16	0.57	1.40			38.48	0.020	0.29	8.70	0.081	0.150	11.80	9.39	19.03
(b)	1.25	2.04	0.93		0.22	31.26		1.9	10.67	0.046	0.052	18.25	10.02	17.2
(c)	2.05	3.19	0.94		0.24	32.16		1.86	9.05	0.064	0.066	18.26	9.15	15.79
(d)	1.76	1.61	3.32	28.9				3.53	9.73	0.015		16.63	7.39	22.2

Code		Product		Unit
Manganese slag				
NCS HC15804	(a)	CRM	Manganese-rich slag	100 g
VS-W11	(b)		Manganous charge slag	100 g
DH-SX74-02	(c)	CRM	Manganese Slag	100 g
DH-SX74-03	(d)	CRM	Silicomanganese slag	100 g
DH-SX74-04	(e)	CRM	Manganese Slag	100 g

	Al2O3	Ba	C	C (tot)	CO2	CaO	Cr2O3	CuO	Fe	Fe2O3	H2O(900)	K2O	MgO	Mn	Mn3O4	P	P2O5
(a)			0.014						0.22					44.42		0.0032	
(b)																	
(c)	5.99			11.92		0.405	0.086	7.02		3.96	0.077	0.133	0.118		0.113	14.03	
(d)	19.84	0.083			0.032	15.95	0.039	0.007	0.088		0.062	0.433	12.34	4.93			
(e)	24.61	0.109				26.16	0.035	0.007	0.086				7.04	2.66			

	S	SiO2	SnO2	SrO	TiO2	Y2O3	ZnO	ZrO2
(a)	0.32	25.16						
(c)	0.114	11.01	0.386	0.164	0.274		45.16	
(d)	0.818	43.23		1.30	0.100			
(e)	0.959	37.39		0.630	0.164	0.925		0.014

Talc

Code	Product			Unit
BAS-BCS-RM 203A	(a)	RM	Talc	100 g
SEI-CJR901	(b)	CRM	Talc (Set only)	50 g
SEI-CJR902	(c)	CRM	Talc (Set only)	50 g
SEI-CJR903	(d)	CRM	Talc (Set only)	50 g

	Al2O3	**CaO**	**Fe2O3**	**K2O**	**MgO**	**MnO**	**Na2O**	**P2O5**	**SiO2**	**TiO2**
(a)		0.25	0.22	<0.01	32.08		0.02	0.13	59.7	<0.01
(b)	0.924	0.438	1.224	0.004	31.22	0.004	0.054	0.195	59.77	0.019
(c)	0.115	0.342	0.091	0.003	31.97	(0.002)	0.006	0.046	60.77	0.004
(d)	2.447	0.998	0.564	0.007	31.84	(0.003)	0.029	0.051	55.76	0.075

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Notes

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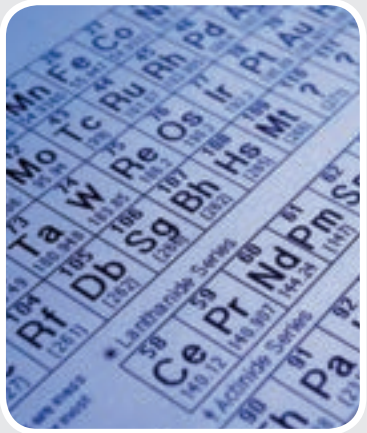

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