

SCOPE OF ACCREDITATION

SGS Canada Inc.
SGS MINERALS SERVICES - TORONTO LABORATORY
1885 and 1905 Leslie Street
Toronto, ON
M3B 2M3

Accredited Laboratory No. 456
(Conforms with requirements of CAN-P-1579 , CAN-P-4E (ISO/IEC 17025:2005))

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CLIENTS SERVED: Mining, Exploration, Research and Industrial Clients -
Worldwide

FIELDS OF TESTING: Chemical/Physical

PROGRAM SPECIALTY Mineral Analysis
AREA:

ISSUED ON: 2010-02-12

VALID TO: 2014-07-24

METALLIC ORES AND PRODUCTS

Metallic Ores:
Rocks and Ores

Sediments

(Sand)

(Soils)

(Stone)

Mineral Analysis Testing

(see Note 1 concerning off site physical sample preparation)

Assay, Umpire Assay Work

Mineral Assaying

AAS12E	Determination of Silver in Geological Samples by Nitric and Hydrochloric Acid (aqua regia) Digest and Atomic-Absorption Spectroscopy (AAS) [Ag]
CLA 01A	Determination of Ferrous Iron in Geological Samples using Multi-acid Digestion and Potassium Dichromate Titration [FeO]
CSA 01V	Determination of Total Carbon in Geological Samples using Infrared Combustion; [IR] [C]
CSA 06V	Determination of Total Sulphur in Geological Samples using Infrared Combustion; [IR] [S]
CVA 14C	Determination of mercury in Geological Samples using Multi-acid digestion and Hydride Generation Flow Injection Mercury System (FIMS) [Hg }
FAG 303	Determination of Ore Grade Gold by Lead Fusion Fire Assay and Gravimetric Finish [Au]
FAI 313	Determination of Gold, Platinum and Palladium by Lead Fusion Fire Assay Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) [Au; Pt; Pd]
HAS 90A	Determination of Hydride Elements in Geological Samples using Sodium Peroxide Fusion and Hydride Generation Atomic Absorption Spectrometry [As; Sb; Bi]
ICM 12B	Determination of Fifty two (52) Elements in Geological Samples using a 2 Acid Digestion and a Combination of Inductively Coupled Plasma Emission Spectrometry (ICP-OES) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) [HNO ₃ ; HCL; Al; Sb; As; Ba; Be; Bi; B; Ca; Cd; Ce; Cs; Cr; Co; Cu; Ga; Ge; Hf; In; Fe; La; Pb; Li; Lu; Mg; Mn; Hg; Mo; Ni; Nb; P; K; Rb; Sc; Se; Ag; Na; Sr; S; Ta; Te; Tb; Tl; Th; Sn; Ti; U; V; W; Y; Yb, Zn; Zr]
ICM 40B	Determination of Fifty (50) Elements in Geological Samples using Multi-acid digestion and a Combination of Inductively Coupled Plasma Optical Emission

	Spectroscopy (ICP-OES) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) [HCl; HNO ₃ ; HF; HClO ₄ ; Ag; Al; As; Ba; Be; Bi; Cd; Ca; Ce; Cs; Cr; Co; Cu; Ga; Ge; Hf; In; Fe; K; La; Li; Lu; Mg; Mn; Mo; Ni; Nb; P; Pb; Rb; Sb; Sc; Se; Na; Sr; S; Ta; Te; Tb; Tl; Th; Sn; Ti; W; U; V; Yb; Y; Zn; Zr]
ICM 90A	Determination of Fifty-five (55) Elements in Geological Samples using Sodium Peroxide Fusion and a Combination of Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) [Ag, Al; As; Ba; Be; Bi; Ca; Cd; Ce; Co; Cr; Cs; Cu; Dy; Er; Eu; Fe; Ga; Gd; Ge; Hf; Ho; In; K; La; Li; Lu; Mg; Mn; Mo; Nb; Nd; Ni; P; Pb; Pr; Rb; Sb; Sc; Sm; Sn; Sr; Ta; Tb; Th; Tl; Ti; Tm; U; V; W; Y; Yb, Zn; Zr]
ICP 12B	Determination of Thirty-three Elements in Geological Samples using Nitric and Hydrochloric Acid Digestion and Inductively Coupled Plasma Emission Spectrometry [HNO ₃ ; HCL; Ag; Al; As; Ba; Be; Bi; Cd; Ca; Cr; Co; Cu; Fe; K; La; Li; Mg; Mn; Mo; Na; Ni; P; Pb; Sb; Sc; Sn; Sr; S; Ti; W; V; Y; Zn; Zr]
ICP 40	Determination of 40 Elements in Geological Samples using Multi-acid Digestion and Inductively Coupled Plasma Emission Spectrometry [HNO ₃ ; HCL;HF;HClO ₄ ; Al; Ag; As; Au; Ba; Be; Bi; Ca; Cd; Ce; Co; Cr; Cu; Eu; Fe; Ga; Ho; K; La; Li; Mg; Mn; Mo; Na; Nb; Nd; Ni; P; Pb; Sc; Sr; Sn; Ta; Ti; Th; U; V; Y; Yb; Zn]
ICP 40B	Determination of Thirty Two (32) Elements in Geological Samples using Multi-Acid Digestion and Inductively Coupled Plasma Emission Spectrometry (ICP-OES) [HCl; HNO ₃ ; HF; HClO ₄ ; Ag; Al; As; Ba; Be; Bi; Cd; Ca; Cr; Co; Cu; Fe; K; La; Li; Mg; Mn; Mo; Na; Ni; P; Pb; Sb; Sc; Sn; Sr; Ti; W; V; Y; Zn; Zr]
ICP 90Q	Determination of Six (6) Elements in Mineralized Geological Samples (Ore Grade) using Sodium Peroxide Fusion and Inductively Coupled Plasma Emission Spectrometry (ICP-OES) [Co; Cu; Pb; Mo; Ni; Zn]
IMS 95R	Determination of Seventeen (17) Rare Earth elements in geological samples using Lithium Metaborate Fusion and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) [Ce; Dy; Er; Eu; Gd; Ho; La; Lu; Nd; Pr; Sm; Tb; Th; Tm; U; V; Yb]
PHY 09V	Determination of Combined Water in Geological Samples by Gravimetric Analysis [H ₂ O +]

Notes:

1. The physical sample preparation involving accredited test methods as listed on the scope of accreditation may be performed at SGS Minerals Services - Toronto laboratory or at off site sample preparation locations that are monitored regularly for quality control and quality assurance practices.

CAN-P-1579: Requirements for the Accreditation of Mineral Analysis Testing Laboratories

CAN-P-4E (ISO/IEC 17025): General Requirements for the Competence of Testing and Calibration Laboratories (ISO/IEC 17025-2005)

S. Cross, Director, Conformity Assessment

Date: 2010-02-12

Number of Scope Listings: 17

SCC 1003-15/586

Partner File #0

Partner: None