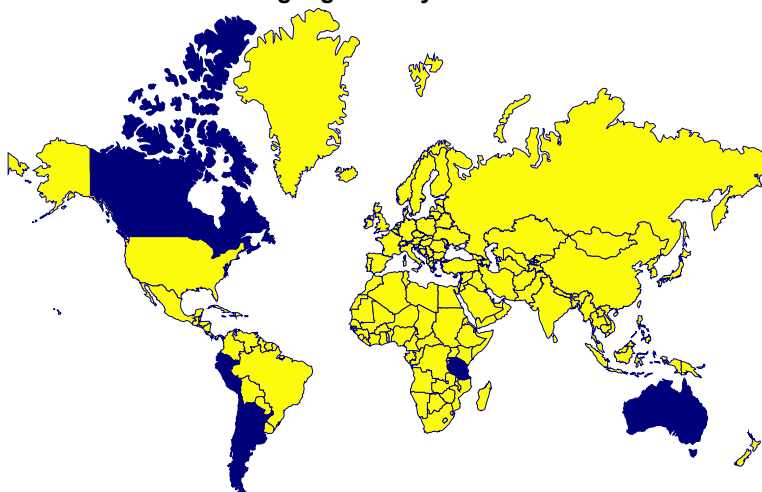




Fee Schedule 2001

USA and International

This US\$ Fee Schedule is applicable for US based clients, and for samples received from, and billed to any of the other countries highlighted in yellow.



A Batch Fee of US\$20 is applicable for every Certificate of Analysis requested. All prices quoted in this Fee Schedule are exclusive of any applicable local taxes.

Please refer to the ALS Chemex Schedule of Services for a complete description of methods quoted in this Fee Schedule. Prices are in effect as of April 1, 2001 and are subject to change without notice. For terms and conditions, please refer to page 31 of the Schedule of Services.



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Sample Preparation

Sample logging		
LOG-21	Sample logging, bar codes attached by client	No Charge
LOG-22	Sample logging, bar codes supplied by ALS Chemex	\$0.50 / sample
Sample preparation packages		
PREP-21	Rock, Drill core, Cuttings with a particle size < 20 mm Dry and pulverize entire sample, includes LOG-22 .	\$6.00 + \$1.00/Kg
PREP-22	Rock, Drill core, Cuttings with a particle size >20 mm Dry, crush and pulverize entire sample, includes LOG-22	\$7.50 + \$1.10/Kg
PREP-31	Rock, Drill core, Cuttings - Fine crush entire sample and pulverize a 250g split, includes LOG-22	\$4.50 + \$0.20/Kg
PREP-32	Rock, Drill core, Cuttings – Fine crush entire sample and pulverize a nominal 1.5 kg split, includes LOG-22	\$6.50 + \$0.20/Kg
PREP-41	Soils, Sediments - Dry and sieve sample (default mesh size 180 µm), discard plus fraction. Includes LOG-22	\$1.75 + \$0.50/Kg
Drying charges (for excessively wet samples)		
DRY-21	Higher temperature drying - Default procedure for fast drying of rock and drill core sample	\$1.00 + \$0.10/Kg
DRY-22	Dry at a maximum temperature of 60°C – Default for soils	\$1.00 + \$0.10/Kg
DRY-23	Air drying of samples	\$1.50 + \$0.15/Kg
Crushing		
CRU-21	Crush entire sample to nominal 6 mm	\$1.50 + \$0.10/Kg
CRU-31	Crush entire sample to better than 70% 2 mm	\$1.50 + \$0.15/Kg
CRU-32	Crush entire sample to better than 90% 2 mm	\$2.00 + \$0.30/Kg
Splitting		
SPL-21	Split sample using riffle splitter	\$1.00 + \$0.05/Kg
SPL-22	Split sample using a rotary splitter	\$2.00 + \$0.10/Kg
Pulverization (For grinding media other than Chrome or Carbon steel, please contact us)		
PUL-31	Pulverize nominal 250 grams to > 85% 75 µm	\$2.50/sample
PUL-32	Pulverize nominal 1,000 grams to > 85% 75µm	\$3.50/sample
PUL-21	Pulverize entire sample to > 85% 75 µm	\$5.50 + \$1.00/Kg
Screening (Many other screen sizes are available – please contact our offices)		
SCR-41	Dry, screen sample to 180 µm – keep both fractions	\$2.00 + \$0.50/Kg
SCR-42	Dry, screen sample to 180 µm – discard plus fraction	\$1.50 + \$0.50/kg
SCR-43	Dry, screen sample to 500 µm – discard plus fraction	\$1.00 + \$0.50/Kg
SCR-45	Dry, screen sample to 840 µm – discard plus fraction	\$1.00 + \$0.50/Kg
SCR-31	Wet screen sample to 75 µm, dry, disaggregate	\$5.00 + \$0.50/Kg
Miscellaneous		
CMP-21	Compositing – volumetric method	\$1.25/sample
CMP-22	Compositing – gravimetric method	\$1.50/sample
WSH-21	Wash crusher - barren material after every sample	\$1.50/sample
WSH-22	Wash pulverizer with Si sand after every sample	\$2.00/sample
TRA-21	Transfer samples to drying tray or new bag	\$0.75/sample
Sample storage and handling charges		
STO-21	90 day initial storage charge for big samples	\$0.60/sample
STO-22	Monthly storage of reject fractions after 90 days	\$0.20/sample
STO-23	Monthly storage charge for pulps after 90 days	\$0.10/sample
STO-24	Monthly storage charge for screen reject fractions	\$0.10/sample
RET-21	Random retrieval of archived materials	\$40.00/hour
DIS-21	Disposal of samples – Cost recovery	Fees will vary by laboratory
RTN-21	Return of samples – Cost recovery	
PKP-21	Sample pick-up costs	

Precious Metals

Gold by Fire Assay		
Au-MS21	30g FA – ICP-MS finish 1 ppb to 2 ppm	\$11.00
Au-MS22	50g FA – ICP-MS finish 1 ppb to 2 ppm	\$12.00
Au-AA21	30g FA – Extraction/AA finish 1 ppb to 1 ppm	\$11.00
Au-AA-22	50g FA – Extraction/AA finish 1 ppb to 1 ppm	\$12.00
Au-AA-23	30g FA – AA finish 5 ppb to 10 ppm	\$10.00
Au-AA-24	50g FA – AA finish 5 ppb to 10 ppm	\$11.00
Au-AA-25	30g FA – AA finish 10 ppb to 100 ppm	\$11.00
Au-AA26	50g FA – AA finish 10 ppb to 100 ppm	\$12.00
Au-GRA21	30g FA – Gravimetric finish 50 ppb to 1,000 ppm	\$12.00
Au + Ag-GRA21	30g FA for Au and Ag – Gravimetric finish	\$16.00
Au-GRA22	50g FA – Gravimetric finish 50 ppb to 1,000 ppm	\$13.00
Au-SCR21	100 µm Dry screen Fire Assay 0.05 to 1,000 ppm	\$30.00
Au-SCR22	75 µm Wet screen Fire Assay 0.05 to 1,000 ppm	\$36.00
Au-GRA23	Concentrates – FA Gravimetric 1 to 15,000 ppm	\$50.00
Au-GRA24	Bullion analysis – Fineness from 1 to 1,000	\$75.00
Gold by Aqua regia digestion		
Au-ZF41	25g ZARG – Proprietary digest/extraction/Zeeman	\$10.00
Au-ZF42	50g ZARG – Proprietary digest/extraction/Zeeman	\$12.00
Au-GF41	25g Aqua regia digestion – Graphite Furnace AA	\$8.00
Au-GF42	50g Aqua regia digestion – Graphite Furnace AA	\$10.00
Au-AA41	25g Aqua regia digestion- AA finish	\$6.00
Au-AA42	50g Aqua regia digestion – AA finish	\$8.00
RST-21	Roasting of sulfidic, carbonaceous or organic material prior to aqua regia digestion	\$2.00
Gold by Cyanide extraction		
Au-AA11	500g bottle roll to 1 ppb	\$15.00
Au-AA12	BLEG 1-3 Kg bottle roll, extraction to 0.1 ppb	\$20.00
Au-ZF13	BLEG 3-10 Kg carbon stripping, GFA to 0.05 ppb	\$26.00
Au-AA13	Ore grade 30g test tube shake, AA finish	\$8.00
Au-AA14	Ore grade 1 Kg sample – AA finish	\$10.00
Au-AA15	Ore grade 1-3 Kg “Leachwell” reagent AA	\$14.00
Metallurgical samples		
Au-AA16	Au in liquor by extraction - AA	\$12.00
Au-AA27	Au in liquor by evaporation in lead boat FA-AA	\$12.00
Au-AA44	Carbons – Ash, aqua regia AA in duplicate	\$24.00
Silver – various techniques		
Ag-AA45	Silver by aqua regia AA to 0.2 ppm	\$3.50
Ag-AA61	Silver by four acid digestion AA to 0.5 ppm	\$4.50
Ag-AA46	Ore grade – aqua regia AA	\$6.00
Ag-AA62	Ore grade – four acid digestion AA	\$7.00
Ag-GRA21	High grade – 30g fire assay gravimetric	\$12.00
Ag-GRA22	High grade – 50g fire assay gravimetric	\$13.00
Ag-GRA23	Concentrates – fire assay – gravimetric	\$50.00
Ag-GRA24	Bullion – fire assay - gravimetric	\$75.00
Platinum, Palladium and other precious metals		
PGM-MS23	Pt, Pd, Au package 30g fire assay ICP-MS	\$13.00
PGM-MS24	Pt, Pd, Au package 50g fire assay ICP-MS	\$14.00
Rh-MS25	Rh by 30g fire assay, gold collection ICP-MS	\$12.00
PGM-MS26	Nickel sulfide fusion PGM package	\$85.00
PGM-MS27	Ore grade Pt, Pd, Au package 30g FA – ICP-MS	\$14.00

Copper

Copper – Trace level analysis		
Cu-AA45	Copper by aqua regia digest AA	\$3.50
Cu-AA61	Copper by four acid digestion AA	\$4.50
Copper – Ore grade analysis		
Cu-AA46	Copper by aqua regia digest AA	\$6.00
Cu-AA62	Copper by four acid digestion AA	\$7.00
Cu-ICP81	Copper by sodium peroxide fusion – ICP	\$12.00
Cu-AA04	Copper nonsulfide by citric acid leach	\$10.00
Cu-AA05	Copper nonsulfide by sulphuric acid leach	\$10.00
Cu-AA17	Copper by cyanide leach AA	\$8.00
Cu-PKG06	Copper sequential analysis package	\$18.00
Copper – Concentrates		
Cu-VOL61	Volumetric copper concentrate method	\$115.00
Cu-ELE61	Electrogravimetric copper concentrate method	\$115.00
ME-PKG07	Copper cathode analysis package (22 elements)	\$120.00

Exploration Geochemistry

Ultra-Trace Level Methods using ICP-MS and ICP-AES		
ME-MS41	50 element aqua regia digestion ICP-AES/MS package	\$14.00 – complete package, or \$12.00 + \$0.20 per element
ME-MS61	47 element four acid ‘near total’ digestion ICP-AES/MS package	\$17.00 – complete package, or \$14.00 + \$0.20 per element
ME-MS61m	ME-MS61 plus Hg by cold vapour - AA	\$21.00 – complete package
ME-MS81	38 element lithium meta-borate fusion ICP-MS package	\$20.00 – complete package, or \$18.00 + \$0.20 per element
Trace Level Methods using ICP-AES		
ME-ICP41	34 element aqua regia digestion ICP-AES package	\$7.00 – complete package, or \$5.00 + \$0.20 per element.
ME-ICP41m	ME-ICP41 plus Hg by cold vapour - AA	\$9.50 – complete package
ME-ICP61	27 element four acid ‘near total’ digestion ICP-AES package	\$9.00 – complete package, or \$7.00 + \$0.20 per element
ME-ICP61m	ME-ICP61 plus Hg by cold vapour - AA	\$13.00 – complete package
Add-on ICP/AA packages to aqua regia Gold methods		
ME-AA43	15 element AA add-on package	\$1.00 + \$1.25 per element
ME-ICP43	17 element ICP add-on package	\$5.00 – complete package, or \$4.00 + \$0.20 per element
Single element aqua regia digestion AA methods		
AA45	Grassroots exploration sensitivities	\$2.00 + \$1.50 per element
AA47	Basic sensitivities	\$2.00 + \$1.25 per element
Single element multi-acid ‘near total’ digestion AA methods		
AA61	Grassroots exploration sensitivities	\$3.00 + \$1.50 per element
AA63	Basic sensitivities	\$3.00 + \$1.25 per element
Single element methods – miscellaneous techniques		
MS62	Trace level ICP-MS analysis	\$5.00 + \$1.00 per element
XRF05	Trace level XRF analysis	\$5.00 + \$1.00 per element
Hg-CV41	Cold vapour Hg analysis	\$4.00
OA-ELE05	Soil pH (1:1 ratio)	\$4.00
OA-ELE06	Soil Conductivity	\$4.00
U-DNC05	Uranium - delayed neutron counting	\$6.00
OA-GRA05	LOI at 1000°C	\$8.00

Exploration Geochemistry (continued)

Single element methods – miscellaneous techniques (continued)		
F-ELE81	Fluorine – fusion-electrochemistry	\$7.00
Br-NAA05	Bromine by NAA	\$12.00 with a \$100.00 minimum
Cl-NAA06	Chlorine by NAA	\$12.00 with a \$100.00 minimum
I-NAA07	Iodine by NAA	\$12.00 with a \$100.00 minimum
Whole Rock Geochemistry		
ME-XRF-06	Whole rock package – lithium borate fusion - XRF	\$25.00 complete package, or \$20.00 + \$2.00 per element
ME-ICP06	Whole rock package – lithium borate fusion – ICP-AES	\$25.00 complete package, or \$10.00 + \$2.00 per element
C-IR07	Total carbon (Leco)	\$8.00
C-GAS05	Inorganic carbon	\$10.00
OA-VOL05	Ferrous iron - titrimetric	\$10.00
OA-IR05	H ₂ O- Moisture by furnace-IR	\$8.00
OA-IR06	H ₂ O+ Water of crystallization by furnace-IR	\$8.00
S-IR08	Total Sulphur (Leco)	\$8.00
Rare Earth Geochemistry		
ME-MS82	Complete rare earth package	\$20.00 complete package
Geochronology		
GMS01	U-Pb age determination	\$2,800.00
GMS02	Pb isotopic analysis (galena)	\$175.00
GMS03	Pb isotopic analysis (trace)	\$385.00
Selective leaches		
ME-MS05	Cold hydroxylamine leach	\$25.00 complete package
ME-MS06	Hot hydroxylamine leach	\$25.00 complete package
ME-MS07	Sodium pyrophosphate leach	\$25.00 complete package
ME-MS08	Regoleach – Precious metals	\$30.00 complete package
ME-MS09	MMI-A – Base metals	\$22.00 complete package
ME-MS10	MMI-B – Precious metals	\$22.00 complete package
ME-MS11	MMI-C – Base metals in carbonates	\$22.00 complete package
ME-MS12	MMI-D – Diamond exploration	\$22.00 complete package
ME-MS13	MMI-F – pathfinder elements	\$22.00 complete package
Hydro-geochemistry		
ME-PKG01	21 element package by a combination of AA and ICP methods	\$20.00 complete package
ME-MS14	57 element ICP-MS package	\$30.00 complete package
Diamond exploration geochemistry		
ME-MS63	25 element double multi-acid digestion – ICP-MS	\$20.00 complete package
ME-MS81d	40 element lithium borate fusion – ICP-MS package	\$22.00 complete package
ME-MS12	MMI-D for diamond exploration	\$22.00 complete package

Evaluation of Ores and High Grade Materials

Ore grade assays – multi-element procedures		
AA46	Elements are quantified using an aqua regia digestion and AA	\$3.00 + \$3.00 per element
AA62	Elements are quantified using a multi-acid digestion and AA	\$4.00 + \$3.00 per element
ICP81	Elements are determined using peroxide fusion – ICP	\$6.00 + \$3.00 per element
XRF07	Elements are quantified using XRF	\$6.00 + \$3.00 per element
AA81	Elements are quantified using fusion - AA	\$6.00 + \$3.00 per element
Ore grade assays – single element procedures		
OA-GRA09	Bulk-density	\$8.00
C-IR07	Carbon (Total)	\$8.00
C-GAS05	Carbon (Inorganic)	\$10.00
C-CAL05	Carbon (Organic)	N/C (Requires C-GAS05+C-IR07)
Cu-AA05	Copper (non-sulfide)	\$10.00
Fe-VOL05	Iron (Ferrous) volumetric procedure	\$10.00
OA-IR5	H ₂ O Moisture – Furnace – IR	\$8.00
OA-IR6	H ₂ O ⁺ Water of Crystallization – Furnace – IR	\$8.00
OA-GRA05	LOI at 1000 degrees C	\$8.00
Pb-AA06	Lead (non-sulfide)	\$10.00
S-IR08	Sulfur (Leco)	\$8.00
S-CAL06	Sulfide sulfur	N/C (Requires S-IR08+S-GRA06)
S-GRA06	Sulfate sulfur - gravimetric	\$18.00
S-GRA07	Elemental Sulfur - gravimetric	\$20.00
Sb-AA08	Antimony - KClO ₃ -HCl digest - AA	\$10.00
Zn-AA07	Zinc (non-sulfide)	\$10.00

Acid Generation Potential Evaluation

Static tests		
ABA-PKG01	NNP, MPA, Paste pH, Sulfur	\$52.00
ABA-PKG02	NNP, MPA, Paste pH, Sulfur, Sulfate, Sulfide	\$74.00
ABA-PKG03	NNP, MPA, Paste pH, Sulfur, Sulfate, Sulfide and Total Sulfate	\$82.00
ABA-PKG04	NNP, MPA, Paste pH, Sulfur, Sulfate, Sulfide and CO ₂	\$82.00
ABA-PKG05	NNP, MPA, Paste pH, Sulfur, Sulfate, Sulfide and Total Sulfate and CO ₂	\$90.00
Kinetic tests		
ABA-PKG10	Weekly maintenance + leachate analysis	\$120.00 / week

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Commercial and Industrial Mineral Analysis

Mineral Concentrate Analysis (Buyer/Seller)		
Au-GRA25	Gold in copper concentrates	\$160.00
Ag-GRA25	Silver in copper concentrates	\$160.00
Au-GRA26	Gold in lead concentrates	\$160.00
Ag-GRA26	Silver in lead concentrates	\$160.00
Au-GRA27	Gold in Zinc concentrates	\$160.00
Ag-GRA27	Silver in Zinc concentrates	\$160.00
Cu-VOL64	Copper in copper concentrates	\$115.00
Pb-VOL65	Lead in lead concentrates	\$115.00
Zn-VOL81	Zinc in zinc concentrates	\$115.00
Mineral Sands Analysis		
ME-ICP82	Analysis of production Rutile, synthetic Rutile and Leucosene	\$42.00 1st Element + \$13.00 Each Additional Element
ME-ICP83	Zircon analysis	\$42.00 1st Element + \$13.00 Each Additional Element
ME-ICP84	Ilmenite analysis	\$42.00 1st Element + \$13.00 Each Additional Element
ME-ICP94	Analysis of intermediate plant products	\$32.00 1st Element + \$7.00 Each Additional Element
Sn-MS85	Tin Oxide	\$25.00
Th-MS86	Thorium Oxide	\$25.00
U-MS87	Uranium Oxide	\$25.00
As-MS88	Arsenic Oxide	\$25.00
OA-MIN05	Free quartz analysis	\$20.00
OA-VOL06	Ferrous Iron	\$32.00
S-IR09	Sulfur	\$25.00
OA-RAD05	Radioactivity	\$44.00
OA-GRA10	Moisture determination	\$16.00
OA-GRA	LOI at 1050°C	\$18.00
Industrial Minerals		
ME-ICP85	Silicates analysis package	\$39.00
ME-ICP86	CaO, MgO, Al ₂ O ₃ , Fe ₂ O ₃ , SiO ₂ , LOI for Limestone, Dolomite, Magnesite and Magnesia	\$39.00
OA-VOL07	Neutralizing value for Limestone, Dolomite, Magnesite and Magnesia	\$27.00
ME-PKG82	CaO, MgO, Fe ₂ O ₃ and insolubles for Limestone, Dolomite, Magnesite and Magnesia	\$34.00
ME-ICP87	Iron ore analysis for Fe, SiO ₂ , Al ₂ O ₃ , TiO ₂ , CaO, MgO, MnO, P, LOI	\$39.00
ME-ICP88	Bauxite analysis for Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , TiO ₂ , LOI	\$39.00
ME-ICP89	Phosphate rock analysis for P ₂ O ₅ , Fe ₂ O ₃ , Al ₂ O ₃ , SiO ₂ , CaO, MgO, TiO ₂ , Na ₂ O, K ₂ O, MnO, LOI	\$39.00
ME-ICP90	Manganese ore analysis for Mn, Fe ₂ O ₃ , SiO ₂ , Al ₂ O ₃ , P	\$39.00
ME-PKG84	Baryte analysis for BaSO ₄ , SrSO ₄ , SiO ₂ , Fe, Mn, SG	\$39.00
ME-ICP91	Cement products for CaO, SiO ₂ , Fe ₂ O ₃ , Al ₂ O ₃ , Mn ₂ O ₃ , MgO, Na ₂ O, K ₂ O, SO ₃	\$39.00

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Commercial and Industrial Mineral Analysis (cont.)

Industrial Minerals (continued)		
CI-VOL66	Cement products for Chloride	\$33.00
ME-PKG85	Silica sand and quartz analysis for SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , TiO ₂	\$52.00
ME-PKG86	Glass sand products for SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , TiO ₂ , Cr ₂ O ₃	\$91.00
ME-ICP05	Gypsum for CaSO ₄ .2H ₂ O, CaCO ₃ , MgCO ₃ , NaCl, KCl	\$39.00
ME-ICP92	Gypsum for CaSO ₄ .2H ₂ O, CaCO ₃ , MgCO ₃ , NaCl, KCl, SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , TiO ₂ , MnO, SrO, BaO, V ₂ O ₅	\$112.00
ME-MS42	Coal and fly ash for trace elements - As, Hg, Se, Sb	\$22.00 Digestion + \$6.50 Each Element
ME-MS83	Coal and fly ash for trace elements - Ba, Be, Cd, Co, Cr, Cu, Li, Mn, Mo, Ni, Pb, Sn, Sr, Th, Ti, U, V, Y, Zn	\$22.00 Digestion + \$6.50 Each Element
ME-MS84	Coal and fly ash for trace elements - B, Cr, Ga, Mo, P, V, W	\$32.00 Ashing/Fusion + \$6.50 Each Element
ME-PKG08	Sulfuric acid for total acidity, As, Se, Fe, Pb	\$67.00
ME-ICP93	Nickel laterites for Ni, Co, Fe, SiO ₂ , Al ₂ O ₃ , CaO, MgO, Na ₂ O, K ₂ O, TiO ₂ , P ₂ O ₅ , MnO, Cr ₂ O ₃ , LOI	\$39.00

Pricing of other procedures and/ or volume discount information can be obtained from your nearest ALS Chemex office. For updated contact information visit our website at www.alschemex.com, where you will also be able to download electronic versions of our Schedule of Services and this Fee Schedule. At this site, Fee Schedules that are applicable for local sample submissions and processing in Canada, South America, Tanzania and Australia are also available.

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