

# VHG Labs - Analytical Services Pricing

## Sample Preparation

Technique	Price	Rate
Acid Digestion	\$25.00	per sample
Ash Digestion	\$50.00	per sample
Cutting/Drilling/Grinding	\$5.00	per sample
Dilution	\$15.00	per sample
Drying	\$15.00	per sample
Fusion	\$100.00	per sample
Glove Box Work	\$25.00	per sample
Method Development	\$100.00	per hour
Microwave Bomb Digestion - Vented System	\$50.00	per sample
Microwave Bomb Digestion - Closed System	\$75.00	per sample
Non-Routine Prep	\$100.00	per hour

## Qualitative Analysis (2-5 gram sample size)

We will report elements that are present above a specified concentration range (typically 1%), if detectable by the chosen technique.

Technique	Price	Rate
ICP-OES	\$100.00	per sample

## Survey Scan (Semi-Quantitative) Analysis (2-5 gram sample size)

The survey scan analysis is a full spectrum analysis that provides basic quantitative information. Typically, data are provided for approximately 65 elements in your sample. While we don't perform multiple point calibrations for each element, we maintain good control on our semi-quantitative response curves and thus offer an uncertainty of  $\pm 50\%$  relative. Detection limits are dependent upon sample matrix, solubility, amount of sample submitted, and instrument used.

Technique	Price	Rate	Notes
GDMS - Al <sub>2</sub> O <sub>3</sub>	\$550.00	per sample	for Al <sub>2</sub> O <sub>3</sub> solid samples
GDMS - Metal	\$375.00	per sample	for metal samples
GDMS - Non-Metal	\$475.00	per sample	for non-metal samples
ICP Semi-Quantitative	\$200.00	per sample	>10 ppm
ICP Ultra Semi-Quantitative	\$275.00	per sample	>1 ppm or >5ppm for some elements
ICP-MS Survey Scan	\$350.00	per sample	ppb level
SSMS	\$495.00	per sample	
XRF	\$300.00	per sample	

## Instrument Set-Up

Set-up charges apply per job (sample group), which includes nebulizer selection, internal standard addition, and general method development. These charges are waived for qualitative analysis or survey scans.

Instrument	Price	Rate
Flame AA	\$35.00	per job
IC	\$35.00	per job
ICP-MS	\$60.00	per job
ICP-OES	\$35.00	per job

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## Quantitative Elemental Analysis (2-5 gram sample size)

Technique	Price	Rate	Notes
Flame AA	\$16.00	per element	
IC (Anions)	\$16.00	per anion	Br <sup>-</sup> , Cl <sup>-</sup> , F <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> , PO <sub>4</sub> <sup>-3</sup> , SO <sub>4</sub> <sup>-2</sup> only
ICP-MS	\$20.00	per element	
ICP-OES	\$16.00	per element	
Wet Chemistry	\$100.00	per hour	Titrimetry or Gravimetry
XRF		Inquire	

## Non-Metals & Gases (1-10 gram sample size)

Analyte	Price	Rate	Notes
Carbon	\$50.00	per sample	Carbon (<1%) - inorganic matrices
Carbon - high	\$75.00	per sample	Carbon (>1%) - inorganic matrices
Carbon & Sulfur	\$90.00	per sample	Carbon & Sulfur (<1%) - inorganic matrices
CHN Analysis	\$120.00	per sample	Carbon/Hydrogen/Nitrogen (organic matrices)
Hydrogen	\$60.00	per sample	Hydrogen (inorganic matrices)
Nitrogen	\$50.00	per sample	Nitrogen (<1%) - inorganic matrices
Nitrogen - high	\$75.00	per sample	Nitrogen (>1%) - inorganic matrices
Nitrogen & Oxygen	\$90.00	per sample	Nitrogen & Oxygen (<1%) - inorganic matrices
Oxygen	\$50.00	per sample	Oxygen (<1%) - inorganic matrices
Oxygen - high	\$75.00	per sample	Oxygen (>1%) - inorganic matrices
Sulfur	\$50.00	per sample	Sulfur (<1%) - inorganic matrices
Sulfur - high	\$75.00	per sample	Sulfur (>1%) - inorganic matrices
Total Chlorine	\$150.00	per sample	Inorganic + Organic Cl
Total Halogens	\$95.00	per sample	Total Halogens (Cl + Br + I) - excludes F

## Other Analysis

Technique	Price	Rate	Notes
Density	\$30.00	per sample	Density (Specific Gravity) measurement
KF	\$75.00	per sample	Karl Fischer
Loss on Drying	\$75.00	per sample	
Loss on Ignition	\$50.00	per sample	
pH	\$30.00	per sample	pH measurement
TOC	\$75.00	per sample	Total Organic Carbon
Viscosity	\$180.00	per sample	

## Rush Charges

VHG's standard turnaround time is 5-10 business days from receipt of samples (not including the day the sample is received). The actual turnaround time is dependent upon the volume and complexity of the samples. We also offer rush services for most analyses. Please advise if you plan to send samples for rush services.

3-day rush service: 25% premium

2-day rush service: 50% premium

Next day rush service: 100% premium

Same day rush service: 200% premium

## Return Sample/Disposal Charges

\$5.00 per sample. The customer will also be responsible for any hazardous shipping fees, if they are incurred.