

Bowser-Morner has over 85 years of experience in laboratory testing and has built a reputation on providing accurate, timely, quality analyses performed in strict accordance with ASTM test methods.

Bowser-Morner offers complete **Limestone** services including:

- Quantitative Chemical Analysis
- Geotechnical & Construction Materials Testing
- Environmental Permitting
- Subsurface Exploration Services



Our accredited Construction Materials Laboratories actively participate in the **AASHTO** proficiency testing programs of AMRL (soils, aggregate and bituminous) and CCRL (cement and concrete).



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Quantitative Chemical Analysis of LIMESTONE



**BOWSER
MORNER**®

Quality Since 1911

Two analytical methods are used in the quantitative chemical analysis of **Limestone**, wet chemistry methods and where applicable, more automated analysis using Inductively Coupled Plasma (ICP) for shorter turn-around time.



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Chemical Analysis of **Limestone** Includes:

Calcium and Magnesium Carbonate Oxides (SiO_2 , Al_2O_3 , Fe_2O_3 , P_2O_5 , SO_3 , K_2O , Na_2O , MnO_2)

Loss on Ignition (LOI)

Moisture Content

Acid Insoluble

Available Alkalies

Calcium Oxide (Rapid Sugar Test)

Total Neutralization Potential (TNP)

Calcium Carbonate Equivalence (CCE)



Bowser-Morner is proud to have **A2LA** accreditation to perform chemical analyses of Metals, **Limestones** and Ores, and Petroleum Products (Certificate Number: 0071.03).

Bowser-Morner processes thousands of **limestone** samples each year. Our continuing quality assurance evaluations provide data that indicate we maintain a higher precision of results than the ASTM C25 standard for **limestone** analysis.



The chart below is an example of how the precision of our results is determined:

Chemical Analysis of Dolomitic Limestone (NIST 88b)

Chemical Constituent	Al as % Al_2O_3	Ca as % CaCO_3	Mg as % MgCO_3
Repeatability	0.064	0.062	0.094
Repeatability (C 25)	0.165	0.660	1.364
Bias (Study)	+0.05	+0.41	-0.28
Bias (C 25)	± 0.30	± 0.54	± 0.63
Est. Uncertainty	0.26	0.59	0.54

Members of Bowser-Morner's team actively participate in ASTM Subcommittee groups in an effort to support efficient and accurate test methods.

Combine our chemical and physical laboratory capabilities and we are the perfect partner for Quality Assurance support for your Quality Control programs. Add in our fleet of subsurface exploration rigs, including our four **Sonic** rigs, and we can assist **limestone** quarries with their inventory assessments.

With our in-house quality assurance plan, years of experience, ASTM participation, modern equipment and methodologies, Bowser-Morner offers reliable data and services that meet or exceed our clients expectations.

Call or E-mail: sales@bowser-morner.com so we can discuss your next project.