

Leveraging International Earth Science Standards to Enhance Mineral Exploration Success in British Columbia



Lithology (and other) Classification(s)
Mention "Portrayal" Yesterday, Today and Tomorrow

Clinton Smyth
csmyth@georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
Administered by a strong internationally-accredited body

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
A Fundamental element of 21st Century Workflow: INTEROPERABILITY

www.geofacets.com

The GeoSciML / CGI Simple Lithology Classification
Logic-based, facilitating the reasoning required by "Intelligent Systems"

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
Needs government and industry support

www.georeferenceonline.com

Vocabulary Standards and Exploration: Geophysics
Lithological Classification (problematic) of Rock Properties Database

www.georeferenceonline.com

Lithology Classification
Philosophical, Psychological, Political and Utilitarian Context (1)

- Knowledge Communication
- Classification
- Optimisation
- Freedom

The GeoSciML / CGI Simple Lithology Classification
Administered by a strong internationally-accredited body

Constituted January, 2013

www.georeferenceonline.com

OneGeology Portal
Making Geological Map Data for the Earth Accessible

www.onegeology.org

The GeoSciML / CGI Simple Lithology Classification
Enables Global Interoperability while permitting Local Specialisation

www.georeferenceonline.com

Vocabulary Standards and Exploration: Geochemistry
Lithological Classification (problematic) of Stream Sed Geochemistry

www.georeferenceonline.com

Lithology Classification
Philosophical, Psychological, Political and Utilitarian Context (2)

- Interoperability
- Translatability between multiple Classification Systems
- Standard Classifications
- Priorities: Standardised Classifications of Rocks and Minerals

The GeoSciML / CGI Simple Lithology Classification
A Fundamental element of OneGeology

www.onegeology.org

Vocabulary Software Tools: Taxonomy Editors
TLE: TreeList Editor - Easy-to-Use by Anyone Interested in Nomenclature

www.georeferenceonline.com

Vocabulary Standards and Exploration: MINFILE
Lithological Classification (problematic) of Mineral Occurrences

www.georeferenceonline.com

Historical Lithology Classification Systems
Inadequate / Inappropriate for 21st Century Needs

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
Essential to integration of Geological Maps at Different Scales

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
A Fundamental element of 21st Century Workflow: INTEROPERABILITY

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
Accompanied by ~ 20 other related earth-science-related vocabularies:

www.georeferenceonline.com

Introduction to EarthResourceML
GeoSciML-based - Born in Australia - Growing up in Europe

www.georeferenceonline.com

Vocabulary Standards and Exploration: Deposit Models
Host Rock (problematic) Associations of Deposit Models

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
Eminently suitable for 21st Century needs:

- Administered by a strong internationally-accredited body (CGI)
- A fundamental element of OneGeology, an international project with a long life
- Written into EU Draft Legislation for the delivery of geology data by all EU countries (the INSPIRE program)
- Logic-based, facilitating the reasoning required by "Intelligent Systems"

Accompanied by ~ 20 other related earth-science-related vocabularies:

A. Needs ongoing revision and refinement: NOW 38
B. Needs government and industry support:

The GeoSciML / CGI Simple Lithology Classification
Examples of Legend/Portrayal Harmonisation (BC Assessment and MINFILE Data)

www.onegeology.org

The GeoSciML / CGI Simple Lithology Classification
Written into EU Draft Legislation

www.georeferenceonline.com

The GeoSciML / CGI Simple Lithology Classification
Need to (constantly) revise the Classification

www.georeferenceonline.com

Summary: Vocabulary Standardisation
A Critical Pillar to Computational Intelligence

- Justification: Knowledge Interoperability
- Resources Required
- January 2013 Status

Conclusion

"Geologists owe it to themselves and to workers in other sciences to use standard nomenclature."

R. B. Travis
Preface to "Classification of Rocks", Quarterly of the Colorado School of Mines, Volume 50, Number 1, (1955)

Thank You to Geoscience BC for Financial Support

www.geosciencebc.com

http://similar2.com/RockClassifications/Default.htm

STANDARDISE