



CSA Global
Mining Industry Consultants



TRAINING OUTLINE

INTRODUCTION TO GEOLOGICAL DATABASES



This one-day course is designed for geologists, metallurgists, and engineers interested in working with geological and drill hole databases.

You will learn the minimal essentials and gain practical insights to SQL, Access, and SQLite.

REALISE YOUR POTENTIAL

A geological database is one of the most valuable assets of a mining company. It contains the evidence required to make many strategic decisions and includes the primary data used to estimate resources and reserves.

The creation and maintenance of a successful geological database requires careful planning and consideration. Geologists, exploration managers or database administrators are responsible for collecting large volumes of data that will help to increase productivity and effectiveness.

We will demonstrate how to design, develop, maintain, and verify geological databases to ensure their physical and logical integrity.

LEARNING OUTCOMES

Upon completion of this course, you will be able to:

- Understand the fundamentals of relational "geological" databases.
- Recognise different types of database systems and their differences.
- Understand SQL language database definition, modification, and querying.
- Obtain skills designing error-free geological databases.
- Acquire skills implementing geological databases in Microsoft Access.

WHO IS THIS COURSE FOR?

This one-day course is designed for geologists, metallurgists, and engineers interested in working with geological and drill hole databases.

You will learn the fundamental concepts of relational databases, the SQL language and how to implement geological databases in Microsoft Access and SQLite. By the end of the day, you will be able to create and maintain your database.

This course will allow you to communicate with database administrators and leap into more advanced databases systems; based on SQL servers.

No previous knowledge on SQL, database design, database administration or Microsoft Access is required.

DELIVERY-MODE

- In classroom, on site or online.
- This course is presented as a one-day (8 hour) program.
- Online courses are offered in two separate sessions of 4 hours each.

The benefits of studying in a classroom setting offers participants an opportunity to share first-hand experiences, ideas and questions with peers and your expert facilitator. You'll study alongside like-minded people from industry and help to strengthen your network.

COST:

\$CAD900.00

TIME

9:00 AM – 5:00 PM

WHAT'S INCLUDED?

- Comprehensive course notes
- Booklet with exercises
- Sample data
- FREE software use
- Morning tea, lunch, and afternoon tea (optional)

WHAT DO I REQUIRE?

- Your laptop with 64 bits Windows 7 or higher, including installation of Microsoft Access.
- Internet connection.

OUR FACILITATOR

Our facilitator is an experienced practitioner with a robust mix of academic and practical expertise.



ADRIAN MARTINEZ VARGAS

**P.Geo, Ph.D. in Geological Sciences, ISMM Maa.
Specialist in Geostatistics (CFSG), Paris Mining
School. B.Eng. Geology, ISMM Maa**

Adrian is both a geologist and a geostatistician. He produces open source software for geostatistics and mineral resources in Python, Fortran, Cython, C and SQL.

He has worked as a consultant since 2002 covering many commodities including gold, copper, nickel, chromium, and raw materials for the cement industry.

Adrian has experience using multiple indicator kriging for resource estimation of gold deposits with high nugget and domaining issues; with non-linear geostatistics and with conditional simulations for resource estimation and model validation.

AGENDA

Morning

INTRODUCTION TO RELATIONAL DATABASES AND SQL

- Databases: General and practical concepts
- Introduction to SQL: The basic syntax
- Exercise 1: Hello World in SQL
- Geological database design: Applied to drill hole databases
- Exercise 2: Drill hole database design
- Exercise 3: ER model
- SQL in more detail: The data definition, data modification and data query languages
- Database administration: Keeping your data safe
- Exercise 4: SQL for DDL, DML and DQL. Database Backup.

Afternoon

INTRODUCTION TO MICROSOFT ACCESS

- Introduction to MS Access
- Exercise 5: Hello World, in MS Access
- Exercise 6: DDL in MS Access
- Getting data into Access
- Exercise 7: Importing data from CSV
- Queries in MS Access
- Exercise 8: Queries with MS Access (using graphical tools)
- Forms and reports
- Exercise 9: Building a data input form.





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