# Project Description

Your job in this project is to create a database and application and supporting code that will allow your customer to explore possible investment opportunities into cobalt mines inside the US borders and to provide an initial prototype of an application that will be used to display this data to potential investors.

There are three major deliverables that the client has requested:

The client has acquired data from the US Geological Survey that they wish to build the database and application off of. You will need to build a database to support this information that they have provided you with.

The client has also requested some SQL functions/procedures to be built to support some known functions based on the data that already exists and some known operations that the customer will want to accomplish. So you will need to create some SQL functions/procedures to support your database.

Lastly, the client has requested an application that will interface with your database that they can use to show to potential investors to garner support for the project. Since this project is in the initial phases, they are not expecting a grand application (after gathering more financial support, they will redesign the application by hiring a professional GUI developer) but they have requested that you build a functional application that displays certain portions of the database and serves as a prototype to show to investors.

# Project Details

The client has provided you with a set of data from the US Geological Survey that has data about cobalt reserves as well as documentation about the data contained therein.

Your first task is to ensure that the given data is in at least 3rd normal form and, once that is assured, then you are to build and ER diagram that shows the overall design of the proposed database. This ERD should match the given data (since its structure is already set by the given data and any changes made by the normalization process) and be complete with all relations, attributes, and be fully resolved.

Once the ERD has been completed, you will need to build your database to match the given design. You are encouraged (though not required) to approach the customer (me) and ensure that your customer is satisfied with your design.

Once you have built the database, you will need to insert all the data into the database. This will help to provide proof that your database is sound and correct. If your database is not able to accept **all** the data, then your database is not correct.

Next, you are to build the requested function/procedures that the client has asked for. These are to be created in the form of SQL and not in the application itself. The client has specifically requested that these be solved on the database side for portability in case the application language changes later.

You will also need to create the application that will serve as a prototype for the database. This application needs to be functional but does not need to be fancy (see the example finals that are given). This application will allow the customer to display select tables (not all) as well as the results of the requested functions/procedures. The exact form of this application is left up to you but the customer expects a certain basic level of professionalism and functionality in the product that you deliver.

# Execution details

Your manager has created a project flowchart to show the expected order of execution of events in the form of a flowchart (see Customer Specified Project Flowchart) along with descriptions of what each entity in the chart means and how it is to be executed (see Cobalt Project Requirement Details document) as well as a suggested timeline to help you plan your work (see Cobalt Timeline)