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D. Tenney

000562

ROCK CODING FOR COMPUTER PLOTTING AND MINE MODELLING

There are currently two rock coding system in place, one for core logging and one for computer mine modelling. Either may be plotted. The following would be expected from a core logging system.

1. Rocks which can be correlated from drill hole to drill hole and which can be identified in drill core, must have distinct names.
2. Identify ore bearing rocks (and minerals).
3. Identify grade.
4. Identify alteration minerals.
5. Locate faults (and areas jointing/fracturing).
6. Be logical to apply - descriptions should always mean the same thing, and a logical grouping of rock types should be maintained.

As far as I can see, the computer code satisfies more of the above requirements than the lithostratigraphic code, while essentially carrying out the same function. Accordingly, the following proposal is based upon the computer orebody modelling codes. However, the following changes to it were made:

- a) No descriptor for "horizon" was allowed. (Horizon was incorporated into rock number.)
- b) Rock codes 1, 2, 3, 10, and 11 were removed.
- c) Mineral and textural descriptors were added.
- d) Rock types in the lithostratigraphic code list but not in the computer code list were added.
- e) A grade descriptor was added.

There are six attachments:

Attachment #1	Rock Code Numbers
Attachment #2	Upper and Lower Case Mineral Identifiers
Attachment #3	Textural Codes
Attachment #4	Grade Code
Attachment #5	Rock Code Construction
Attachment #6	Examples

ATTACHMENT #1

The rock code is derived as indicated previously. A particular attempt has been made to keep the ore bearing rocks together, but also other rock types have been treated in the same way. Rock subdivisions which are not likely to be traceable from hole to hole, do not really merit a separate rock code number, and this is partially indicated by the column labelled "preferred" on the master comparison sheet. Also some rock types could be eliminated by the use of textural, mineralogical or other characters. Thus "54" chloritic phyllite could become "50L" phyllite and chlorite, and "5", buckshot facies massive sulphides, would become 1./4 if the grade were high enough.

The numbers on this list should be sufficient for any likely ore body modelling by the computer. There may in fact be too many rock units so some may be eliminated by using descriptors and a simpler rock unit name as indicated elsewhere.

ATTACHMENT #2

Upper case alphabetic characters are used to represent sulphides, sulphates and oxides. Lower case to represent silicates and carbonates. The absence of calcite is indicated by a lower case letter "x".

ATTACHMENT #3

Textural codes use miscellaneous characters from the keyboard. These can normally be plotted in the same way as alphabetic characters. However, not all rock codes need contain a textural descriptor.

ATTACHMENT #4

The grade code is self explanatory. It may be preceded by a forward slash "/" if the preceding character is numeric. Note that a grade descriptor is always required with a sulphide rock type (i.e. rock units 1 - 9).

ATTACHMENT #5

This shows the construction of the rock code with some application notes, which are self explanatory. No ambiguities can arise if slashes are used where appropriate, and a grade estimator is always appended to a sulphide rock type code number (i.e. rock units 1 - 9).

ATTACHMENT #6

Examples of the proposed code with the old name for comparison. A complete comparison is shown on the master list of rock codes.