Drill Core Logging & Sampling

Geological Objectives

1. To record geological features in a precise and concise manner. The emphasis should be on features which can be correlated between drill holes, and any features which define age relationships between rock types

2. To disregard irrelevant features which are too small to extend to other drill holes and which do nothing to increase understanding of the geological picture

Sampling Objectives

1. To outline ore bodies, keeping in mind the following factors, (a). minimum mining height (hight) and width 3.0 m, (b) optimum sample interval 1.5 m. (c) the necessity (neccesity) of knowing the grade of rock above ore zones in case of dilution from the back.

2. To keep accurate records of all economic mineralization encountered. The system should be designed so that it can be cross-checked at as many points as possible.

3. Sampling should include not only material that is presently ore but also that which might become ore in the future due to rising

metal prices.

4. Sampling should be done to achieve the above three objectives at a minimum assaying cost.

Procedure

1. Metricate. Reverse marker blocks in each core box and convert feet into meters. Mark the blocks to the nearest cm.

2. Wet down core using a brush and water. If core is oily scrub with detergent.

3. Determine major rock unit boundaries. If complicated mark with yellow chalk showing rock Type by symbol

4. Mark up sampling intervals using chalk. In marginal zones try to first identify a mining width (3m) of ore grade material and mark it up, then mark up samples on either side in the questionable material. Take samples in the hanging wall even if very low grade in order to calculate possible dilution by the hanging wall. Where contacts are sharp it is good practice to take one dead sample beyond each contact. Sample all small bands of waste or low grade material within an ore zone. Unless there is a marked change in grade, rock type

or mineralogy, try to sample at equal intervals The most convenient interval is 1.5 m that is from block to block. If core recovery is poor always sample from block to block and be sure recovery is recorded in proper column in log.

5. Using a 10× power hand lens estimate the total sulphide content and the combined Pb, Zn content of each sample interval and mark on core with chalk.

6. Test core with magnet for presence of magnetite and magnetic pyrrhotite. If hole is to be tested for dip and bearing (Sperry-Sun survey) and time permits, proposed test points should be checked carefully for magnetic minerals

7. Write up sample tag book. On the stub write hole number, meterage, estimated Pb+Zn grade, estimated total sulphide, date, width and initials. On the tag write meterage, metals to be assayed and the name of the project. Fold the tag and put it in the core box at the end of its respective sample interval. As each tag book is completed it is filed in the office.

8. Take a page one drill core log sheet and after filling in all heading information, begin logging, keeping in mind that the log is to consist of a series of descriptions of rock types or mappable rock units as defined in the legend, as they are encountered in the hole. Each rock type should be described as follows:

(1) The name of the rock type in capital letters

(2) Indented from the above shall be written the colour, texture and structure of the rock. Mineralogy

(3) Next the location and description of veins or fault zones. Give angles to core axis

(4) The foliation and/or bedding angle to the core axis at intervals throughout the section.

(5) Description of the contacts. Sharp or gradational, age relationships, angle to core axis.

(6) End of the hole should be noted.

(7) Any pertinent information such as mis-latches, caves, loss of circulation, artesian water noted in the drillers reports should be entered as a note at the end of the log.

(8) Recovery within the section should be shown in the recovery column.

9. The geologic description occupies the left half of the log sheet. In sulphide ore zones the corresponding right hand half of the sheet should contain all the sampling and assay data. An attempt should be made to keep the geologic description and the corresponding assay data together and at the same time keep the assay data from a continuous sulphide section in one block in order to facilitate grouping and averaging of the assays. When the assays come in they should be posted in the logs and the width x grade multiplications made.

10. The approximate geophysical grid location of the hole should be entered on the log plus the layout dip and bearing in pencil and the original log sent to Vancouver. One copy is sent to Toronto and one copy kept in our file. When the accurate survey data becomes available it is entered on our log copies and copies of the data sheets are sent to Vancouver and Toronto.