

ANSWERING TO THE FOLLOWING QUESTIONS:

- 1 Is it acceptable to use HQ cores (2.5 inches) on land accessible holes and NQ Cores (1.7 inches) for river accessible cores?

When dealing with highly fractured soft rocks, small diameter coring tends to produce worse quality samples. Considering the other requirements made for sampling, such as " Only double tube and triple tube core barrels must be used, in order to assure protection of the core from drilling fluid and reduction of torsional forces transmitted to the core. A sample liner inside the inner barrel must be used to reduce risk of damage of the core upon removal from the inner barrel.", it may be acceptable the diameters of 2.5 inches on land and 1.7 inches for river accessible cores.

2. Please provide methodology of recovering core without a core catcher.

The following transcription indicates that for certain types of rock, since a long time ago, core catchers tend to be used only in cases of extreme necessity when good quality samples are needed.

" The purpose of the drilling and logging is to secure evidence of the "in place" condition of the rock; therefore, care should be taken to note any core condition or damage due to the type of drill bit or core barrel used or to improper conduct of the drilling process. One common cause of core damage or breakage is due to the use of a core catcher in the coring barrel and, therefore, for most rock sampling it is recommended that it is not used unless absolutely necessary. Such factors may have a marked effect on the amount and condition of the core recovered, particularly in soft, friable or severely fractured rock" (Design of Small Dams – US Bureau of Reclamation – second edition - 1974)

Methodology for sampling without core catchers are associated with the specific type of core barrel to be used, and may be found in literature related to such products. In this specific project core catchers may be used only in cases of extreme necessity, otherwise, must be avoided