GEOLOGY

Notes by-

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BUILDING STONE

Core Recovery :-

Most of drilling m/c have capacity to drill for 1.5 - 3m continuously. This is called as "run". At the end of every run core is raised to ground & is known as "Draw". After run of 1.5m the core recovered is expected as 1.5m. But in practice the core recovered is less than 1.5. This is known as "Core loss" & length of core obtained is called as "core Recovery" & expressed as a percentage.

For eg: If 1.35m core is recorved after 1.5m run,

$$\text{Core Recovery} = \frac{1.35}{1.5} \times 100 = 90\%.$$

Core Recovery: Good in Hard rock
Poor in soft natl.

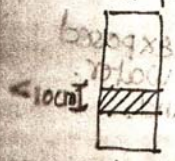
$$\text{Core Recovery} = \frac{\text{length of core recovered (Draw)}}{\text{length drilled (run)}}$$

fracture to surface :- ① Bedding Plane :- Joints.
② Mechanical Fracture.

RQD :- (Rock Quality Designation) :-

As core recovery does not take into account the frequency of joints (i.e. closely spaced joints or no joints), which is a major limitation. To overcome this, RQD is used.

∴ RQD :- Recovery is calculated by excluding the aggregate length of pieces less than 10 cm in length bet^n joints.



exclude the pieces of length < 10cm. to measure Recovery.

* JFI (Joint Frequency Index) :-
This is the No. of obtained by dividing recovery by the number of joints in the "draw".

$$\therefore \text{JFI} = \frac{\text{Recovery}}{\text{No. of Joints}}$$

* Solid core Recovery (SCR) :- only solid cores are considered.

In all above recovery it is very important to make a differen e bet^n natural joint & mechanical fracture. & mechanical fracture should not be considered as joint.

RQD < 25%. Very Poor Rock	75 < RQD ≤ 90%. Good
25% < RQD < 50%. Poor rock	RQD > 90%. Excellent
50% < RQD < 75%. Moderate	$\text{RQD} = \frac{\text{No. Draw} - \text{No. of 10cm}}{\text{Run}}$

[PWD - Dapodi, Pune] ⇒ PWD Workshop ; Visit

* Corelogs :-

For obtaining information from core, it is necessary to arrange the core properly in the core boxes according to depth & details of drill water, Easy or difficulty of drilling is, joint are very important data for deciding Quality of rock. Therefore cores are recorded in standard form & called as "Core logging" & the record is "Core Log".

[Note :- Typical core log & core specimens are available at PWD workshop - Dapodi, Pune].

During core logging, every piece is examined & information regarding its dimension, type of rock, structural features etc, drill water, loss of drill water, results of percolation test etc. defines the quality of rock.

खडकांबद्दलची माहिती

Litholog :- Litholog is a readily intelligible form of information contained in the core log.

From core log, geological conditions of the core are sketched meter by meter. & known as litholog.

Eg. of core log

Project :- Feature :- Drill Hole No :-
Location :- Surface RL : Sheet No :-

Run (m) from - to	Serial No. of pieces	Core recoved	% age Recovery	Piece No.	Length cm	Nature of fracture at lower end of piece (Mechanical or Joint)	Angle of Joint with Vertical	Petrological description (Geology)	other Test Percolation, drill water

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Typical Bore Hole