

Random Samples

KM 64-113

Overview

- Why random samples?
- What are random samples?
- Use in base sampling
- Example application

Why Random Samples?

- Avoid bias or favoritism
- Objective sampling instead of subjective
- More statistically accurate

What is a Random Sample?

- Selection of a sample where each possible sample has an equal chance of being selected
- Selection of one sample does not affect the selection of any other sample

Selecting Sample Location

- Take 1 sample per 2,000 tons of CSB
 - Determine the number of samples
 - Select random number
 - Determine point within the length that will be sampled
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Example

- 1 gradation test for each 2,000 tons of base stone
 - Project calls for 16,000 tons of CSB
 - 8 gradation tests to be conducted on the materials
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Example

- Enter the random number table “blindly”
- Select 8 consecutive numbers from the random number table
- Use the random numbers to determine the accumulated tonnage to select sample

Random Number Table

	A	B	C	D	E	F
1	0.482	0.408	0.415	0.804	0.954	0.410
2	0.094	0.099	0.715	0.116	0.555	0.037
3	0.602	0.137	0.538	0.928	0.491	0.308
4	0.333	0.368	0.937	0.638	0.120	0.456
5	0.998	0.104	0.533	0.394	0.466	0.387
6	0.058	0.723	0.676	0.450	0.555	0.037
7	0.320	0.551	0.016	0.875	0.954	0.410
8	0.902	0.023	0.504	0.644	0.555	0.037
9	0.473	0.194	0.596	0.245	0.685	0.622
10	0.028	0.060	0.924	0.094	0.633	0.745

“Blindly” select 1st random number

Select 7 more consecutive numbers

