Annex 5: Statistical data analysis

Group 1: Particle size distribution
Particle size clay
Dot plot of sample A

1 - Particle size clay - Sample A
Dot plot of sample B

1 - Particle size clay - Sample B
Dot plot of sample C

1 - Particle size clay - Sample C
Dot plot of sample D

1 - Particle size clay - Sample D
Histogram of the means of sample D
Box plot of the means of samples A, B and C

1 - Particle size clay - mean
Box plot of the means of sample D

1 - Particle size clay - mean
Histogram of the standard deviations of samples A, B and C

Sample A:
- N: 33
- NA: 0
- Z: 0
- E: 0
- U: 33
- a: 0.4604
- m: 0.4041
- s: 0.2867
- Particle size clay: 18.2%, 30.3%, 27.3%

Sample B:
- N: 29
- NA: 0
- Z: 0
- E: 0
- U: 27
- a: 0.5976
- m: 0.4041
- s: 0.7595
- Particle size clay: 18.5%, 29.6%, 29.6%, 14.8%, 3.7%, 3.7%

Sample C:
- N: 32
- NA: 0
- Z: 0
- E: 0
- U: 32
- a: 1.04
- m: 0.8027
- s: 0.9323
- Particle size clay: 31.2%, 28.1%, 21.9%, 6.2%, 3.1%, 6.2%, 3.1%
Histogram of the standard deviations of sample D

1 - Particle size clay - Sample D - stdev

N: 31 NA: 0 Z: 0 E: 0,1 U: 30

tag: 0.7073 m: 0.5508 s: 0.6012

36.7% 46.7% 10% 3.3% 3.3% 2.779(59)
Box plot of the standard deviations of samples A, B and C

Sample A:
- Mean standard deviation: 0.9018 (SD: 26; Median: 1; Q1: 8; Q3: 109.7)
- Data points: 79, 21, 14, 69, 80, 48, 3, 67, 42, 23, 63, 71, 55, 37, 40, 31, 36, 53, 59, 32, 81, 11, 38, 85, 7, 64, 61

Sample B:
- Mean standard deviation: 0.8598 (SD: 85; Median: 1.069)
- Data points: 64, 21, 40, 26, 81, 3, 63, 42, 69, 55, 36, 34, 23, 7, 31, 67, 14, 53, 10, 48, 82, 61, 37, 32, 71

Sample C:
- Mean standard deviation: 1.929 (SD: 61; Median: 2.26; Q1: 3.215; Q3: 3.25; 3.803)
- Data points: 55, 79, 21, 34, 36, 80, 3, 59, 63, 64, 40, 53, 38, 23, 26, 31, 7, 10, 11, 81, 71, 42, 48, 32, 8, 67, 14

1 - Particle size clay - stdev
Box plot of the standard deviations of sample D

1.159(42); 1.528(60); 2.397(11)

Particle size clay - stdev
Mandel’s h and k plot of sample A

Step: 2; Nlab: 33; Mgen: 5.195; Fval: 31.05; Pval: 0; sRep: 0.5357; sLab: 1.695; sRpr: 1.778; CV: 34.22
Mandel's h and k plot of sample B
Mandel's h and k plot of sample C
Mandel’s h and k plot of sample D

1 - Particle size clay - sample D

Step: 3; Nlab: 32; Mgen: 26.01; Fval: 99.67; Pval: 0; sRep: 0.6346; sLab: 3.64; sRpr: 3.694; CV: 14.2
Particle size sand
Dot plot sample A

1 - Particle size sand - Sample A
Dot plot sample B

1 - Particle size sand - Sample B
Dot plot sample C

1 - Particle size sand - Sample C
Histogram of the means of samples A, B and C
Box plot of the means of samples A, B and C

1 - Particle size sand - mean
Box plot of the means of sample D

1 - Particle size sand - mean
Histogram of the standard deviations of samples A, B and C

1 - Particle size sand - Sample A - stdev

N: 32 NA: 0 Z: 0 E: 0 U: 32
a: 0.8367 m: 0.573 s: 0.7401

1 - Particle size sand - Sample B - stdev

N: 32 NA: 0 Z: 0 E: 0 U: 32
a: 1.289 m: 0.9133 s: 1.549

1 - Particle size sand - Sample C - stdev

N: 33 NA: 0 Z: 0 E: 0 U: 33
a: 1.2 m: 0.8327 s: 1.167
Histogram of the standard deviations of sample D

1 - Particle size sand - Sample D - stdev

N: 30 NA: 0 Z: 0 E: 0, U: 29
a: 0.9939 m: 0.7909 s: 0.9403

4.933(60)
Box plot of the standard deviations of samples A, B and C

Sample A:
- 2.022(82); 2.646(60); 3.347(53)
- Data points: 21;23;63;69;80;34;37;67<55;31;10;81;14<26;32;8;59>79;40;48;36;11;42>64;61;71;85;7
- Outliers: 0.3
- Upper limit: 32

Sample B:
- 2.517(60); 2.759(11); 4.924(59)
- Data points: 67;53;10;31;21;26;69;79<34;71;36;8;42;81<55;48;82>14;32;3;7;23;7>40;61;63;64;80
- Outliers: 0.3
- Upper limit: 31

Sample C:
- 2.542(71); 3.958(37); 4.004(23); 4.332(82)
- Data points: 36;34;21;68;48;32;69;67;31<7;79;81;8;53;55<10;3;42>63;64;80;11;14;40;60>85;61;38;59
- Outliers: 0.4
- Upper limit: 33

1 - Particle size sand - stdev
Box plot of the standard deviations of sample D

1 - Particle size sand - stdev
Mandel’s h and k plot of sample B

1 - Particle size sand - sample B
Step: 3; Nlab: 32; Mgen: 45.68; Fval: 450.1; Pval: 0; sRep: 1.147; sLab: 14.04; sRpr: 14.08; CV: 30.83
Mandel’s $h$ and $k$ plot of sample C

1 - Particle size sand - sample C

Step: 1; Nlab: 34; Mgen: 43.64; Fval: 79.87; Pval: 0; sRep: 1.637; sLab: 8.396; sRpr: 8.554; CV: 19.6
Mandel's h and k plot of sample D
Particle size silt
Dot plot of sample A

1 - Particle size silt - Sample A
Dot plot of sample B

1 - Particle size silt - Sample B
Dot plot of sample C

1 - Particle size silt - Sample C
Dot plot of sample D

1 - Particle size silt - Sample D
Histogram of the means of samples A, B and C

1 - Particle size silt - Sample A - mean

N: 35 NA: 0 Z: 0 E: 0 U: 35
a: 10.5 m: 9.767 s: 3.856

1 - Particle size silt - Sample B - mean

N: 35 NA: 0 Z: 0 E: 0 U: 35
a: 43.99 m: 46.07 s: 12.21

1 - Particle size silt - Sample C - mean

N: 35 NA: 0 Z: 0 E: 0 U: 35
a: 34.22 m: 33.67 s: 7.649
Histogram of the means of sample D
Box plot of the means of samples A, B and C

1 - Particle size silt - mean

Sample A:
- Mean: 4.533(64)
- Values: 11, 81, 58, 53, 67, 48, 32, 40, 61, 82, 10, 71, 63, 7, 3, 26, 56, 69, 42, 36, 34, 8
- Range: 8 - 69

Sample B:
- Mean: 10.93(21)
- Values: 64, 60, 23, 58, 82, 79, 59, 48, 14, 10, 26, 67, 34, 32, 40, 63, 7, 42, 56, 8, 69, 36, 3, 61, 31, 37, 38, 55
- Range: 3 - 79

Sample C:
- Mean: 56.46(55)
- Values: 81, 53, 21, 64, 7, 82, 11, 48, 60, 85, 36, 42, 58, 79, 14, 80, 69, 40, 71, 61, 10, 59, 38, 23, 26, 32, 8, 34, 3, 56, 37, 31, 63, 67
- Range: 8 - 85

O: 0.1 / U: 35
O: 1.5 / U: 35
O: 3.0 / U: 35
Box plot of the means of sample D

1 - Particle size silt - mean
Histogram of the standard deviations of samples A, B and C

1 - Particle size silt - Sample A - stdev
N: 33 NA: 0 Z: 0 E: 0 U: 33
a: 0.6941 m: 0.5774 s: 0.4714

1 - Particle size silt - Sample B - stdev
N: 32 NA: 0 Z: 0 E: 1 U: 31
a: 1.357 m: 0.6503 s: 1.618

1 - Particle size silt - Sample C - stdev
N: 33 NA: 0 Z: 0 E: 0 U: 33
a: 1.158 m: 0.8021 s: 1.021
Histogram of the standard deviations of sample D
Box plot of the standard deviations of samples A, B and C

A

1.701(26); 2.082(60)

B

3(60); 3.727(11); 3.921(59)

C

3.418(23); 4(60); 4.255(85)

1 - Particle size silt - stddev
Box plot of the standard deviations of sample D

O: 0.4 / U: 33

2.261(59); 2.574(11); 3.426(85); 3.606(60)

1 - Particle size silt - stdev
Mandel's h and k plot of sample A

1 - Particle size silt - sample A

Step: 1; Nlab: 34; Mgen: 10.47; Fval: 67.8; Pval: 0; sRep: 0.8227; sLab: 3.882; sRpr: 3.968; CV: 37.89
Mandel’s h and k plot of sample B

1 - Particle size silt - sample B

Step: 2; Nlab: 33; Mgen: 43.84; Fval: 218.1; Pval: 0; sRep: 1.465; sLab: 12.46; sRpr: 12.54; CV: 28.62

Mandel’s h

Mandel’s k

Laboratory
Mandel's h and k plot of sample C

Step 4: Nlab: 31, Mgen: 34.26; Fval: 181.7; Pval: 0; sRep: 1.013; sLab: 7.859; sRpr: 7.924; CV: 23.13

1 - Particle size silt - sample C

E: k85;k60;k23
Mandel's h and k plot of sample D

Step: 4, Nlab: 30, Mgen: 37.12, Fval: 74.69, Pval: 0, sRep: 0.9863, sLab: 4.888, sRpr: 4.987, CV: 13.43

- Particle size silt - sample D

S: 11

E: k60; h55; k85; h38