



FOR THE CONSTRUCTION OF NEW QUAYS AND SHORE REINFORCEMENTS IN THE SOUTHERN PART OF THE PORT, FOR THE PREPARATION OF A PROJECT FOR DREDGING WORKS, ENGINEERING GEOLOGICAL AND GEOTECHNICAL INVESTIGATIONS CLASSIFIED AS GEOTECHNICAL CATEGORY III, REPORT.

24094

GT-1

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EXPLANATORY NOTE

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CD-R – survey report in PDF format

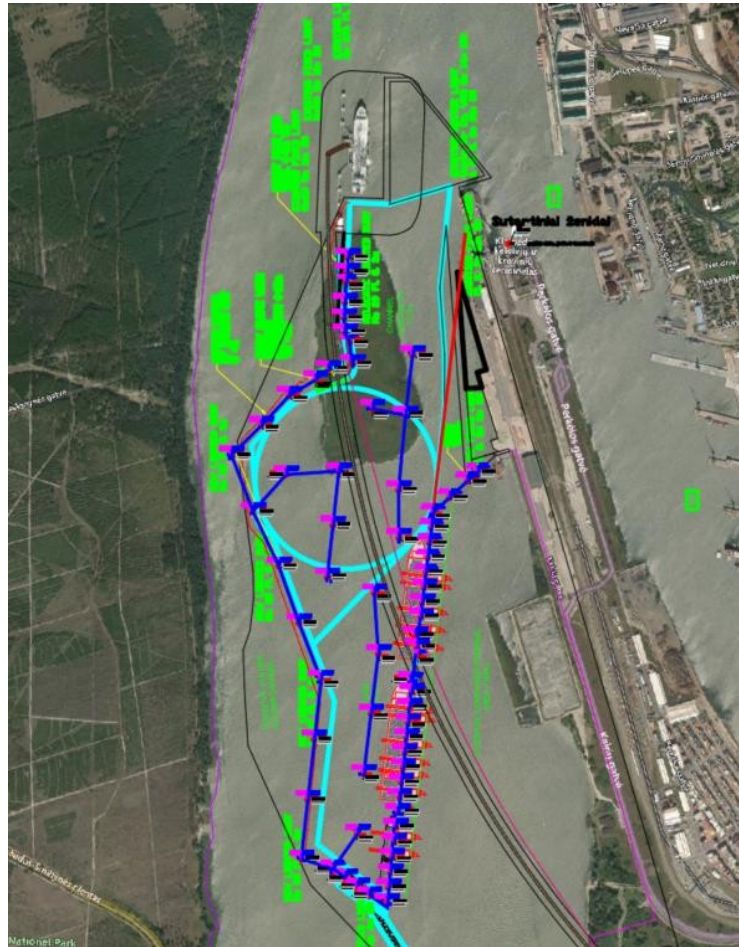
1 INTRODUCTION

The Geology Department of UAB “Sweco Lietuva,” led by Justinas Čėsna, commissioned by the Klaipėda State Seaport Authority and in accordance with the technical specifications provided by the client and the engineering geological survey work program prepared based on them, conducted design-phase engineering geological investigations for the construction of new quays and shoreline reinforcements in the southern part of the port, as well as for the preparation of a dredging project. Type of construction: new construction. The objective of the investigations was to determine the engineering geological conditions of the construction site in order to obtain engineering geological and geotechnical data on the soil, as well as information on the geological structure of the subsurface, geological processes, groundwater, and the soil properties required for the design of the structure.

The research objectives specified in the research work program have been fulfilled: the geological structure of the investigated section (distribution and thickness of geological layers) has been determined, the soils constituting the subsurface environment and the physical and mechanical properties of the soils forming the different geological strata, the absolute elevations of the top and bottom of the geological strata were determined, and the hydrogeological conditions of the construction site were clarified.

In accordance with the Technical Assignment, these design engineering geological investigations were classified as belonging to the third geotechnical category (STR 1.04.02:2011, LST EN 1997-1:2005 – LST EN 1997-2:2007

“Eurocode 7. Geotechnical design”).



1 Fig. Site plan

Fieldwork was carried out from October 17 to December 14, 2024. Sounding and drilling work was performed by specialists from UAB “SWECO Lietuva” (Appendix No. 4 to the permit to investigate the subsurface). Drilling work was also carried out by specialists from UAB “Svagilat Corporation” (Appendix No. 11 to the permit to investigate the subsurface). During the investigations, a visual inspection of the site was conducted, and preparatory work was carried out—the latest topographic and geodetic plans were reviewed, the topography of the construction site was assessed, and the condition of the surface of the investigated plot, the investigation sites, and the access roads was evaluated. The number of survey locations, their depth, and the distances between them were specified in the technical assignment by the client. Based on the technical specifications provided by the client, a program of engineering geological and geotechnical investigation works was prepared (Textual Appendix 2), which was agreed upon with the client and received a positive evaluation (Textual Appendix 3) from the Lithuanian Geological Survey under the Ministry of the Environment.

Sixty-eight (68) exploration boreholes were drilled: Borehole 1, Borehole 2, Borehole 3, Borehole 4, Borehole 5, Borehole 6, Gr. 7, Gr. 8, Gr. 9, Gr. 10, Gr. 11, Gr. 12, Gr. 13, Gr. 14, Gr. 15, Gr. 16, Gr. 17, Gr. 18, Gr. 19, Gr. 20, Gr. 21, Gr. 22, Gr. 23, Gr. 24, Gr. 25, Gr. 26, Gr. 27, Gr. 28, Gr. 29, Gr. 30, Gr. 31, Gr. 32, Gr. 33, Gr. 34, Gr. 35, Gr. 36, Gr. 37, Gr. 38, Gr. 39, Gr. 40, Gr. 41, Gr. 42, Gr. 43, Gr. 44, Gr. 45, Gr. 46, Gr. 47, Gr. 48, Gr. 49, Gr. 50, Gr. 51, Gr. 52, Gr. 53, Gr. 54, Gr. 55, Gr. 56, Gr. 57, Gr. 58, Gr. 59, Gr. 60, Gr. 61, Gr. 62, Gr. 63, Gr. 64, Gr. 65, Gr. 66, Gr. 67, Gr. 68. The depth of the boreholes ranges from 18.00 to 37.50 m. Sixty-eight (68) static cone penetration tests were also conducted at a distance of no less than two meters from the boreholes, as well as 68 dynamic cone penetration tests. A total of 337

soil samples were taken from the boreholes, which were analyzed at the soil testing laboratory of UAB “Sweco Lietuva.” Water samples were also taken from boreholes Gr. 34 (32.0 m deep), Gr. 13 (25.6 m deep), Gr. 4 (20.2 m deep), Gr. 60 (11.8 m deep), and Gr. 66 (12.2 m deep). The boreholes were drilled and samples were collected in accordance with the provisions of the Lithuanian standard LST EN ISO 22475-1:2007 “Geotechnical investigations and testing. Sampling methods and groundwater measurements. Part 1. Technical principles of execution.”

The boreholes are drilled using a Massenza MI5 rig (mounted on an IVECO truck). The borehole is drilled with hollow-core bits, and samples are collected at intervals using a soil sampler that is lowered and raised by a crane. The sample is extracted by rotation, and to maintain the highest possible sample quality, the core barrel’s extraction tube does not rotate thanks to the installed bearings. During drilling, the geological section was continuously described, and the intervals for taking undisturbed samples were indicated by the field geologist, who had previously evaluated the data obtained during the CPT test. Soil samples were taken from each engineering geological layer as much as possible to demonstrate the variation in horizontal geotechnical parameter values. Drilling and sampling equipment was selected based on the required sample categories and classes, as specified in Eurocode 7 (Part 2).

Preliminary soil identification and classification were performed in accordance with the standard “Geotechnical investigations and testing. Soil identification and classification. Part 1. Identification and description” (LST EN ISO 14688-1:2018). Sample preparation, transport, and storage were carried out in accordance with (LST EN ISO 22475-1). During drilling operations, the soil lithology, color, and mechanical composition were continuously visually monitored and described; boundaries of changes in soil lithology were recorded; and soil samples were taken from each lithological unit. The sampling intervals in the borehole were determined and adjusted based on the total number of undisturbed, remolded, and disturbed soil samples required.

Static penetration tests were performed using the “Pagani TG 73 – 200 kN” unit. Static cone penetration tests were performed in accordance with the provisions of standard LST EN ISO 22476-1:2012 “Geotechnical investigations and testing. Field tests. Part 1. Penetration test using an electric and piezoelectric cone.” During static probing, cone strength, lateral friction, pore pressure, the cone strength-to-lateral friction ratio, probing depth, speed, and probe inclination angle were automatically recorded by a personal computer every 1 centimeter. Static cone penetration test data: cone diameter – 36 mm, lateral flange surface area – 150 cm², cone angle – 60°, cross-sectional area – 10 cm², total cone length – 855 mm, weight – 3.5 kg. In cases where particularly strong, stony layers (boulders, gravel, cobbles) were encountered during the CPTU test and the load on at least one of the probe sensors approached the maximum allowable value, dynamic probing (DPSH) was performed. In accordance with the provisions of the Lithuanian standard LST EN 1997:2007, the IGS section was determined by combining the results of laboratory tests with the CPTU test data.

Field survey locations were determined and marked according to the 1994 Lithuanian Coordinate System (LKS–94), integrated into WGS–84, and elevations were measured according to the LAS-07 height system. The coordinates and absolute elevations of the survey locations are presented in Textual Appendix 9.

Geological indices specified in the description of the Lithuanian Quaternary stratigraphic scheme are used to denote the geological age and origin of soil layers. The results of fieldwork were mitigated to minimize environmental damage and restore natural conditions as much as possible—boreholes were backfilled with the excavated soil in accordance with the provisions of the Lithuanian environmental protection standard LAND 4-99.



1.1 Fig. Drilling work on the platform in the southern part of the port.

2 GENERAL INFORMATION ABOUT THE CONSTRUCTION SITE

The surveyed area belongs to the Holocene and Late Glacial periods, the Baltic Sea basin region, the Curonian Lagoon basin area, and the Dreverna marine plain micro-region. The relief type is marine, with a subtype of post-littoral marine lagoons from the Holocene period.

3 GEOLOGICAL STRUCTURE

The engineering geological conditions of the surveyed area are of medium complexity based on Appendix 1 of Construction Technical Regulation STR 1.04.02:2011 “Engineering Geological (Geotechnical) Investigations,” as the survey area is located in the Curonian Lagoon.

Marine (m IV) deposits, fluvioglacial (f III_{nm3}) deposits, glacial (g III_{nm3}) deposits, and limnoglacial (lg III_{nm3}) deposits have been identified in the survey boreholes.

Marine (m IV) sediments consist of: mud (Dy) [F] (IGS No. 1) (found in boreholes: Gr. 1, Gr. 3, Gr. 4, Gr. 6, Gr. 8, Gr. 10, Gr. 11, Gr. 22, Gr. 24, Gr. 25, Gr. 26, Gr. 31, Gr. 37, Gr. 46, Gr. 54, Gr. 56, Gr. 60, Gr. 62, Gr. 63, Gr. 65, Gr. 66, Gr. 67, Gr. 68. Silt (Dy) [F] lies at depths ranging from 0.05 m to 9.0 m, and its thickness varies significantly from 0.20 m to 1.00 m); gypsum (Gy) [F] (IGS No. 2) (found in boreholes: Gr. 15, Gr. 40, Gr. 41, Gr. 49, Gr. 56. Gy [F] lies at depths ranging from 8.1 m to 15.2 m, and its thickness varies from 0.4 m to 2.4 m); peat (Pt) [HN] (IGS No. 3) (encountered in boreholes: Borehole 11, Borehole 12, Borehole 13, Borehole 14, Borehole 16, Borehole 17, Borehole 18, Borehole 19, Borehole 20, Borehole 38, Borehole 40, Borehole 41, Borehole 57, Borehole 64. Peat (Pt) [HN] lies at depths ranging from 0.1 m to 13.0 m, with thicknesses varying from 0.2 m to 1.9 m); **very loose** – silty sand with a small amount of organic matter (osiSa) [SU*] (IGS No. 4); **very loose** – slightly silty-clayey, poorly sorted sand with a small amount of organic matter (oSaFP) [SU]

(IGS No. 5); **very loose** – poorly sorted sand (SaP) [SE] (IGS No. 6); **very loose** – slightly silty-clayey poorly sorted sand (SaFP) [SU] (IGS No. 7); **very loose** – gravelly poorly sorted sand (grSaP) [SE] (IGS No. 8); **very loose** – gravelly, slightly silty-clayey poorly sorted sand (grSaFP) [SU] (IGS No. 9); **coarse-grained** – slightly silty-clayey poorly sorted sand with a small amount of organic matter (oSaFP) [SU] (IGS No. 10); **coarse-grained** – slightly silty-clayey poorly sorted sand (SaFP) [SU]; [SU*] (IGS No. 11); **loose** – poorly sorted sand (SaP) [SE] (IGS No. 12); **loose** – gravelly sand of varying sortness (grSaG) [SI] (IGS No. 13); **medium density** – silty sand (siSa) [SU*] (IGS No. 14); **medium density** – poorly sorted sand (SaP) [SE] (IGS No. 15); **medium density** – slightly silty-clayey poorly sorted sand (SaFP) [SU] (IGS No. 16); **medium density** – gravelly sand of varying gradation (grSaG) [SI] (IGS No. 17); **dense** – silty sand (siSa) [SU*] (IGS No. 18); **dense** – poorly sorted sand (SaP) [SE] (IGS No. 19); **dense** – slightly silty-clayey poorly sorted sand (SaFP) [SU] (IGS No. 20); **dense** – gravelly sand of varying gradation (grSaG) [SI] (IGS No. 21); **very dense** – silty sand (siSa) [SU*] (IGS No. 22); **very dense** – poorly sorted sand (SaP) [SE] (IGS No. 23); **very dense** – slightly silty-clayey poorly sorted sand (SaFP) [SU] (IGS No. 24); **very dense** – gravelly sand of varying gradation (grSaG) [GI] (IGS No. 25); **moderately plastic** – sandy clay of low plasticity with a low organic matter content (osaCIL) [ST*] (IGS No. 26); **softly plastic** – sandy silt of very high plasticity with moderate organic matter content (saSiVO) [OT] (IGS No. 27); **stiffly plastic** – sandy silt of very high plasticity with moderate organic matter content (saSiVO) [OT] (IGS No. 28); **stiffly plastic** – sandy, highly plastic silt with a low organic matter content (osaSiH) [OT] (IGS No. 29); **hard** – sandy, very highly plastic silt with moderate organic matter content (saSiVO) [OT] (IGS No. 30).

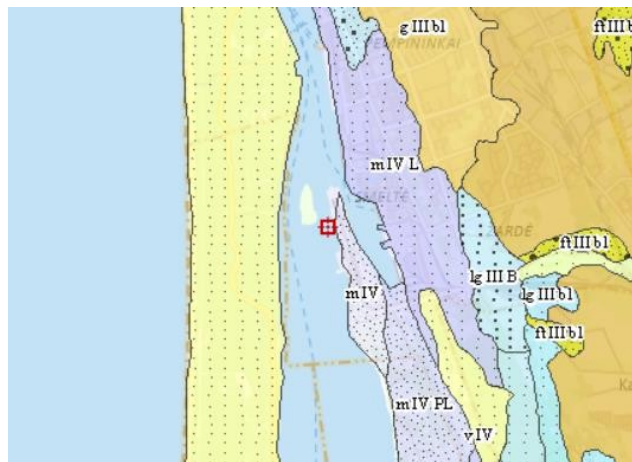
Fluvial-glacial (f III_{nm3}) deposits consist of: **dense** – silty sand (siSa) [SU*] (IGS No. 31); **dense** – poorly sorted sand (SaP) [SE] (IGS No. 32); **dense**, slightly silty-clayey poorly sorted sand (SaFP) [SU] (IGS No. 33); **dense**, gravelly poorly consolidated sand (grSaP) [SE] (IGS No. 34); **very dense** – silty sand (siSa) [SU*]; [UL*] (IGS No. 35); **very dense** – poorly sorted sand (SaP) [SE] (IGS No. 36); **very dense** – slightly silty-clayey, poorly sorted sand (SaFP) [SU] (IGS No. 37); **very dense** – gravelly, slightly silty-clayey, well-sorted sand (grSaFW) [SU] (IGS No. 38); **very dense** – gravelly, slightly silty-clayey sand of varying sortness (grSaFG) [SU] (IGS No. 39).

Glacial (g III_{nm3}) deposits consist of: **moderately plastic** – sandy, low-plasticity clay (saCIL) [TL] (IGS No. 40); **soft plastic** – low-plasticity clay (CIL) [TL] (IGS No. 41); **softly plastic** – sandy low-plasticity clay (saCIL) [TL] (IGS No. 42); **stiffly plastic** – sandy low-plasticity clay-silt (saCIL-SiL) [TL-UL] (IGS No. 43); **stiffly plastic** – low-plasticity clay (CIL) [TL] (IGS No. 44); **stiffly plastic** – sandy low-plasticity clay (saCIL) [TL] (IGS No. 45); **semi-coarse** – sandy low-plasticity silt-silt (saCIL-SiL) [TL-UL] (IGS No. 46); **semi-coarse** – sandy low-plasticity silt (saCIL) [TL] (IGS

No. 47); **hard** – sandy low-plasticity silt (saSiL) [UL]; [SU*] (IGS No. 48); **hard** – high-plasticity silt (SiH) [UA] (IGS No. 49); **hard** – low-plasticity clay-silt (CIL-SiL) [TL-UL] (IGS No. 50); **hard** – low-plasticity clay (CIL) [TL] (IGS No. 51); **hard** – sandy low-plasticity silt-silt (saCIL-SiL) [TL-UL]; [ST*] (IGS No. 52); **hard** – sandy low-plasticity silt (saCIL) [TL] (IGS No. 53).

Limnoglacial (lg III_{nm3}) deposits consist of: **semi-solid** – highly plastic clay (CIH) [TA] (IGS No. 54); **hard** – medium-plasticity clay (CIM) [TM] (IGS No. 55); **hard** – high-plasticity clay (CIH) [TA] (IGS No. 56).

The geological structure—stratigraphic geometry, depth of burial, and absolute elevations—is presented in graphical appendices No. 2 and 3.



2 Fig. Quaternary geological map of the study area and surrounding regions (“National Geological Information System”)

4 HYDROGEOLOGICAL STRUCTURE

The hydrogeological conditions of the surveyed site are characterized by analyzing observations of steady-state water levels in the borehole during the study.

Groundwater and subsurface water were encountered in all boreholes: Borehole 1, Borehole 2, Borehole 3, Borehole 4, Borehole 5, Borehole 6, Borehole 7, Well 8, Well 9, Well 10, Well 11, Well 12, Well 13, Well 14, Well 15, Well 16, Well 17, Well 18, Well

19, Gr. 20, Gr. 21, Gr. 22, Gr. 23, Gr. 24, Gr. 25, Gr. 26, Gr. 27, Gr. 28, Gr. 29, Gr. 30, Gr. 31, Gr.

32, Gr. 33, Gr. 34, Gr. 35, Gr. 36, Gr. 37, Gr. 38, Gr. 39, Gr. 40, Gr. 41, Gr. 42, Gr. 43, Gr. 44, Gr.

45, Gr. 46, Gr. 47, Gr. 48, Gr. 49, Gr. 50, Gr. 51, Gr. 52, Gr. 53, Gr. 54, Gr. 55, Gr. 56, Gr. 57, Gr.

58, Gr. 59, Gr. 60, Gr. 61, Gr. 62, Gr. 63, Gr. 64, Gr. 65, Gr. 66, Gr. 67, Gr. 68. It lies at a depth of 0.00 m to 33.40 m below ground level. The water lies in naturally formed soil. Groundwater was encountered in the study area in the following boreholes: Borehole 1, Borehole 2, Borehole 3, Borehole 4, Borehole 5, Borehole 6, Borehole 7, Borehole 8, Borehole 9,

Gr. 11, Gr. 12, Gr. 13, Gr. 14, Gr. 15, Gr. 16, Gr. 17, Gr. 18, Gr. 19, Gr. 20, Gr. 21, Gr. 22, Gr. 23,

Gr. 24, Gr. 30, Gr. 31, Gr. 32, Gr. 33, Gr. 34, Gr. 40, Gr. 41, Gr. 43, Gr. 48, Gr. 50, Gr. 51, Gr. 54,

Group 57, Group 58, Group 59, Group 60, Group 61, Group 62, Group 63, Group 64, Group 65, Group 66, Group 67, Group 68.

More detailed information is provided in the graphical appendices.

The distribution of the aquifer is discontinuous, and its thickness is variable. Groundwater interacts with atmospheric precipitation and the Curonian Lagoon, so the water level depends on seasonal variations and the amount of precipitation. For this reason, it would be difficult to predict the maximum groundwater level in the wells. More accurate forecasting of groundwater level changes requires the results of long-term observations, which are measured in installed groundwater level monitoring wells. Thus, based on the available preliminary data, the maximum groundwater level corresponds to the level of the Curonian Lagoon, which may vary depending on seasonality and precipitation. The maximum predicted groundwater depth and its elevation are shown in graphical appendices No. 2 and 3.

During the studies, the filtration properties of the soil were determined from the soil samples collected. The values of the filtration coefficients are presented in the tables of soil laboratory test data (Textual Appendix 7). The macronutrient composition of groundwater in the study area, as well as its aggressiveness toward concrete and metal, was assessed during the study using water samples collected from boreholes Gr. 34 (32.0 m deep), Gr. 13 (25.6 m deep), Gr. 4 (20.2 m deep), Gr. 60 (11.8 m deep), and Gr. 66 (12.2 m deep). Based on the results of the water sample analysis, the aggressiveness of the water toward metals (standard ISO/TR 4340:2022) is interpreted according to Langelier and Carrier. According to the Langelier LSI interpretation criteria: (LSI > 0: *The water is oversaturated with respect to calcium carbonate (CaCO₃), so deposits may form*; LSI = 0: *The water is considered neutral, neither forming deposits nor removing them*; LSI < 0: *The water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion*). LSI Interpretation of LSI values according to Carrier: (LSI: -2.0 to -0.5 indicates: *severe corrosion*; LSI: -0.5 to 0.0 indicates: *slight corrosion, but no scale formation*; LSI: 0 indicates: *balanced, but a risk of localized corrosion is possible*; LSI: 0.0 to 0.5 indicates: *slight scale formation and corrosion*; LSI: 0.5 to 2 indication: *scale formation, but no corrosion*). The Langelier Saturation Index (LSI) value for water sample No. 34 (32.0 m depth) is -0.28, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no scale formation)**. The Langelier Saturation Index (LSI) value for water sample No. 13 (25.6 m depth) is -0.43, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no scale formation)**. The Langelier Saturation Index (LSI) value for water sample No. 4 (20.2 m depth) is -0.023, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no scale formation)**. The Langelier Saturation Index (LSI) value for water sample No. 60 (11.8 m depth) is -0.58, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(severe corrosion)**. The Langelier Saturation Index (LSI) value for water sample No. 66 (12.2 m depth) is -0.33, according to which: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no deposits form)**.

Water samples for concrete (according to the TECHNICAL REGULATION FOR CONSTRUCTION STRUCTURES DESIGN" 2.05.05:2005 "CONCRETE AND REINFORCED CONCRETE STRUCTURES DESIGN" APPROVAL, Table 2) –

non-aggressive (does not fall into classes XA1, XA1, or XA3). Water samples were taken from the aforementioned wells, taking into account the distribution of the aquifer across the wells. The results of the general chemical analysis of the water are presented in Textual Appendix 10.

During construction, groundwater must be protected from any factors that could significantly alter the geochemical conditions (e.g., contamination with organic compounds, salts, and other substances).

5 SOIL COMPOSITION AND ENGINEERING GEOLOGICAL STRATA (EGS)

Based on data from drilling, probing (CPT, DPSH), and laboratory tests, the soils and rocks in the surveyed plot have been divided into 56 engineering geological layers (EGL).

The geotechnical parameter values obtained and averaged during field tests and laboratory investigations have been assigned to the engineering geological layers. Soils were identified in accordance with Lithuanian standards LST EN ISO 14688-1:2018, LST EN ISO 14688-2:2018 "Geotechnical investigations and testing. Soil identification and classification. Part 1. Identification and description." Part 2. Classification principles" and in accordance with Order No. 1-175 of the Minister of the Environment and Natural Resources dated June 13, 2019.

1 IGS consists of: silt (Dy) [F]

2 IGS consists of: gyttja (Gy) [F]

3 IGS consists of: peat (Pt) [HN]

4 IGS consists of: silty sand with a small admixture of organic matter (osiSa) [SU*] - **very loose.**

5 IGS consists of: slightly silty-clayey poorly sorted sand with a small amount of organic matter (oSaFP) [SU] - **very loose.**

6 IGS consists of: poorly sorted sand (SaP) [SE] - **very loose.**

7 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU] - **very loose.**

8 IGS consists of: gravelly poorly sorted sand (grSaP) [SE] - **very loose.**

9 IGS consists of: gravelly, slightly silty-clayey poorly sorted sand (grSaFP) [SU] – **very loose.**

10 IGS consists of: slightly silty-clayey poorly sorted sand with a small amount of organic matter (oSaFP) [SU] – **loose.**

11 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU]; [SU*] - **loose.**

12 IGS consists of: poorly sorted sand (SaP) [SE] - **loose.**

13 IGS consists of: gravelly sand of varying gradation (grSaG) [SI] – **loose.**

14 IGS consists of: silty sand (siSa) [SU*] - **medium density.**

15 IGS consists of: poorly sorted sand (SaP) [SE] - **medium density.**

16 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU] - **medium density.**

17 IGS consists of: gravelly sand of varying gradation (grSaG) [SI] - **medium density.**

- 18 IGS consists of: silty sand (siSa) [SU*] - **dense**.
- 19 IGS consists of: poorly sorted sand (SaP) [SE] - **dense**.
- 20 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU] – **dense**.
- 21 IGS consists of: gravelly sand of varying gradation (grSaG) [SI] - **dense**.
- 22 IGS consists of: silty sand (siSa) [SU*] - **very dense**.
- 23 IGS consists of: poorly sorted sand (SaP) [SE] - **very dense**.
- 24 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU] - **very dense**.
- 25 IGS consists of: gravelly sand of varying gradation (grSaG) [GI] - **very dense**.
- 26 IGS consists of: sandy clay with low plasticity and a low organic matter content (osaCIL) [ST*] – **moderately plastic**.
- 27 IGS consists of: sandy, very highly plastic silt with moderate organic matter content (saSiVO) [OT] - **softly plastic**.
- 28 IGS consists of: sandy, very highly plastic silt with a moderate organic matter content (saSiVO) [OT] - **stiffly plastic**.
- 29 IGS consists of: sandy, highly plastic silt with a low organic matter content (osaSiH) [OT] - **stiffly plastic**.
- 30 IGS consists of: sandy, very highly plastic silt with a moderate admixture of organic matter (saSiVO) [OT] - **hard**.
- 31 IGS consists of: silty sand (siSa) [SU*] - **dense**.
- 32 IGS consists of: poorly sorted sand (SaP) [SE] - **dense**.
- 33 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU] - **dense**.
- 34 IGS consists of: gravelly, poorly sorted sand (grSaP) [SE] - **dense**.
- 35 IGS consists of: silty sand (siSa) [SU*]; [UL*] - **very dense**.
- 36 IGS consists of: poorly sorted sand (SaP) [SE] - **very dense**.
- 37 IGS consists of: slightly silty-clayey poorly sorted sand (SaFP) [SU] - **very dense**.
- 38 IGS consists of: gravelly, slightly silty-clayey, well-graded sand (grSaFW) [SU] – **very dense**.
- 39 IGS consists of: gravelly, slightly silty-clayey sand of varying gradation (grSaFG) [SU] - **very dense**.
- 40 IGS consists of: sandy, low-plasticity clay (saCIL) [TL] - **moderately plastic**.
- 41 IGS consists of: low-plasticity clay (CIL) [TL] - **soft-plastic**.
- 42 The IGS consists of: sandy clay with low plasticity (saCIL) [TL] – **soft plastic**.
- 43 IGS consists of: sandy low-plasticity clay-silt (saCIL-SiL) [TL-UL] – **stiffly plastic**.
- 44 IGS consists of: low-plasticity clay (CIL) [TL] – **stiffly plastic**.
- 45 IGS consists of: sandy low-plasticity clay (saCIL) [TL] - **stiffly plastic**.

46 IGS consists of: sandy low-plasticity clay-silt (saCIL-SiL) [TL-UL] - **semi-hard**.

47 IGS consists of: sandy low-plasticity clay (saCIL) [TL] – **semi-hard**.

48 IGS consists of: sandy low-plasticity silt (saSiL) [UL]; [SU*] - **hard**.

49 IGS consists of: high-plasticity silt (SiH) [UA] - **hard**.

50 IGS consists of: low-plasticity clay-silt (CIL-SiL) [TL-UL] – **hard**.

51 IGS consists of: low-plasticity clay (CIL) [TL] - **hard**.

52 IGS consists of: sandy low-plasticity clay-silt (saCIL-SiL) [TL-UL]; [ST*] -

hard.

53 IGS consists of: sandy low-plasticity clay (saCIL) [TL] – **hard**.

54 IGS consists of: high-plasticity clay (CIH) [TA] – **semi-solid**.

55 IGS consists of: medium-plasticity clay (CIM) [TM] - **hard**.

56 IGS consists of: high-plasticity clay (CIH) [TA] - **hard**.

The geometry, depth of burial, thickness, and absolute age of the engineering geological layers are presented in graphical appendices No. 2 and 3.

6 PHYSICAL AND MECHANICAL PROPERTIES OF SOILS

1 The average value of the cone strength of the soil classified as IGS is 0.32 MPa, the average value of the lateral friction strength is 3.30 kPa, and the value of the total deformation modulus (E_0) is 0.32 MPa.

2 The average value of the cone strength of the soil classified as IGS is 1.23 MPa, the average value of the lateral friction strength 43.00 kPa, the value of the total deformation modulus (E_0) is 1.23 MPa, the value of the undrained shear strength (c_u) is 0.0163 MPa, and the oedometer deformation modulus E_{oed} is 1.73 MPa

3 Average value of conical strength of soil classified as IGS: 1.41 MPa, average value of lateral friction strength 67.00 kPa, the value of the total deformation modulus (E_0) is 1.41 MPa, and the value of the undrained shear strength (c_u) is 0.0561 MPa.

4 The average value of the cone strength of the soil classified by IGS is 0.65 MPa, the average value of the lateral friction strength 11.00 kPa, the value of the total deformation modulus (E_0) is 0.98 MPa, the value of the angle of internal friction (ϕ) is 34.0, and the cohesion (c) is 0.012 MPa.

5 The average value of the cone strength of the soil assigned to IGS is 0.78 MPa, the average value of the lateral friction strength 9.00 kPa, the value of the total deformation modulus (E_0) is 1.17 MPa, the value of the angle of internal friction (ϕ) is 31.5, and the cohesion (c) is 0.019 MPa.

6 The average value of the cone strength of the soil classified as IGS is 1.14 MPa, the average value of the lateral friction strength 14.00 kPa, the value of the total deformation modulus (E_0) is 1.71 MPa, the value of the angle of internal friction (ϕ) is 33.0, the number of blows (N_{20}) is 2, the dynamic cone strength (q_d) is 1.00 MPa, cohesion (c) – 0.005 MPa.

7 The average value of the cone strength of the soil classified by IGS is 1.08 MPa, the average value of the lateral friction strength 11.88 kPa, the value of the total deformation modulus (E_0) – 1.62 MPa, the value of the angle of internal friction (ϕ) – 31.5, cohesion (c) – 0.017 MPa.

- 8 The average value of the cone strength of the soil assigned to IGS is 1.65 MPa, the average value of the lateral friction strength
21.00 kPa, the value of the total deformation modulus (E_0) is 2.48 MPa, the value of the angle of internal friction (ϕ) is 32.0, and the cohesion (c) is 0.021 MPa.
- 9 The average value of the cone strength of the soil assigned to IGS is 0.83 MPa, the average value of the lateral friction strength
8.00 kPa, the value of the total deformation modulus (E_0) is 1.25 MPa, the value of the angle of internal friction (ϕ) is 32.5, and the cohesion (c) is 0.010 MPa.
- 10 The average value of the cone strength of the soil classified as IGS is 3.28 MPa, the average value of the lateral friction strength
30.00 kPa, the value of the total deformation modulus (E_0) is 9.84 MPa, the value of the angle of internal friction (ϕ) is 32.5, and the cohesion (c) is 0.021 MPa.
- 11 The average value of the cone strength of the soil assigned to IGS is 3.47 MPa, the average value of the lateral friction strength
37.00 kPa, the value of the total deformation modulus (E_0) is 10.41 MPa, the value of the angle of internal friction (ϕ) is 31.5, and the cohesion (c) is 0.015 MPa.
- 12 The average value of the cone strength of the soil classified as IGS is 3.62 MPa, the average value of the lateral friction strength
38.00 kPa, the value of the total deformation modulus (E_0) is 10.86 MPa, the value of the internal friction angle (ϕ) is 32.5, and the cohesion (c) is 0.017 MPa.
- 13 The average value of the cone strength of the soil classified as IGS is 3.50 MPa, the average value of the lateral friction strength
27.00 kPa, the value of the total deformation modulus (E_0) is 10.50 MPa, the value of the internal friction angle (ϕ) is 41.0, and the cohesion (c) is 0.003 MPa.
- 14 The average value of the cone strength of the soil classified as IGS is 6.51 MPa, the average value of the lateral friction strength
66.00 kPa, total modulus of deformation (E_0) – 29.49 MPa, internal friction angle (ϕ) – 32.5, cohesion (c) – 0.013 MPa.
- 15 The average value of the conical strength of the soil classified by IGS is 7.24 MPa, the average value of the lateral friction strength
66.00 kPa, the value of the total deformation modulus (E_0) is 31.81 MPa, the value of the internal friction angle (ϕ) is 32.5, the number of blows (N_{20}) is 6, the dynamic cone strength (q_{qd}) is 3.35 MPa, cohesion (c) – 0.020 MPa.
- 16 The average value of the cone strength of the soil classified by IGS is 7.12 MPa, the average value of the lateral friction strength
69.00 kPa, the value of the total deformation modulus (E_0) is 31.43 MPa, the value of the angle of internal friction (ϕ) is 36.5, and the cohesion (c) is 0.011 MPa.
- 17 The average value of the cone strength of the soil classified as IGS is 8.69 MPa, the average value of the lateral friction strength
83.00 kPa, the value of the total deformation modulus (E_0) is 36.21 MPa, the value of the internal friction angle (ϕ) is 34.0, and the cohesion (c) is 0.017 MPa.
- 18 The average value of the cone strength of the soil classified as IGS is 18.60 MPa, the average value of the lateral friction strength is 207.00 kPa, the value of the total deformation modulus (E_0) is 62.15 MPa, the angle of internal friction (ϕ) is 33.3, the cohesion (c) is 0.008 MPa, the number of blows (N_{20}) is 13, and the dynamic cone strength (q_{qd}) is 6.11 MPa
- 19 The average value of the conical strength of the soil classified by IGS is 15.67 MPa, the average value of the lateral friction strength is 127.00 kPa, the value of the total deformation modulus (E_0) is 55.03 MPa, the

value of the internal friction angle

(φ) – 34.8, cohesion (c) – 0.006 MPa, number of blows (N_{20}) – 13, dynamic cone strength (q_d) – 6.63 MPa.

20 The average value of the conical strength of the soil classified by IGS is 13.95 MPa, the average value of the lateral friction strength is 110.00 kPa, the value of the total deformation modulus (E_0) is 50.67 MPa, the value of the angle of internal friction (φ) is 33.5, the number of blows (N_{20}) is 15, the dynamic cone strength (q_d) is 6.76 MPa, and the cohesion (c) – 0.007 MPa.

21 The average value of the conical strength of the soil classified by IGS is 14.66 MPa, the average value of the lateral friction strength is 69.00 kPa, the value of the total deformation modulus (E_0) is 52.49 MPa, the value of the angle of internal friction (φ) is 38.0, cohesion (c) is 0.016 MPa, the number of blows (N_{20}) is 10, and the dynamic cone strength (q_d) is 4.39 MPa.

22 The average value of the conical strength of the soil classified by IGS is 25.50 MPa, the average value of the lateral friction strength is 228.00 kPa, the value of the total deformation modulus (E_0) is 77.76 MPa, the value of the angle of internal friction (φ) is 32.0, cohesion (c) is 0.009 MPa, the number of blows (N_{20}) is 22, and the dynamic cone strength (q_d) is 11.16 MPa.

23 The average value of the cone strength of the soil classified by IGS is 24.89 MPa, the average value of the lateral friction strength is 226.00 kPa, the value of the total deformation modulus (E_0) is 76.43 MPa, the value of the angle of internal friction (φ) is 31.5, the number of blows (N_{20}) is 22, the dynamic cone strength (q_d) is 11.03 MPa, and the cohesion (c) – 0.016 MPa.

24 The average value of the cone strength of the soil classified by IGS is 28.70 MPa, the average value of the lateral friction strength is 282.74 kPa, the value of the total deformation modulus (E_0) is 84.57 MPa, the value of the angle of internal friction (φ) is 32.5, cohesion (c) is 0.016 MPa, the number of blows (N_{20}) is 23, and the dynamic cone strength (q_d) is 12.10 MPa.

25 The average value of the conical strength of the soil classified by IGS is 23.43 MPa, the average value of the lateral friction strength is 150.00 kPa, the value of the total deformation modulus (E_0) is 73.22 MPa, the value of the angle of internal friction (φ) is 34.5, cohesion (c) is 0.032 MPa, the number of blows (N_{20}) is 20, and the dynamic cone strength (q_d) is 10.09 MPa.

26 The average value of the cone strength of the soil classified by IGS is 0.78 MPa, the average value of the lateral friction strength 18.00 kPa, the value of the total deformation modulus (E_0) – 5.46 MPa, the value of the undrained shear strength (c_u) – 0.0111 MPa. The value of the angle of internal friction (φ) is 32.5, cohesion (c) is 0.012 MPa, and the oedometer modulus of deformation E_{od} is 4.63 MPa

27 The average value of the conical strength of the soil classified by IGS is 1.32 MPa, the average value of the lateral friction strength 47.00 kPa, total deformation modulus (E_0) – 9.24 MPa, undrained shear strength (c_u) – 0.0660 MPa,

28 The average value of the cone strength of the soil assigned to IGS is 1.32 MPa, the average value of the lateral friction strength 47.00 kPa, total modulus of deformation (E_0) – 9.24 MPa, undrained shear strength (c_u) – 0.0167 MPa, internal friction angle (φ) – 32.5, cohesion (c) – 0.026 MPa, oedometer modulus of deformation E_{od} – 1.74 MPa

- 29 The average value of the conical strength of the soil classified by IGS is 2.36 MPa, and the average value of the lateral friction strength
- 37.0 kPa, total modulus of deformation (E_o) – 16.52 MPa, angle of internal friction (ϕ) – 29.0, undrained shear strength (c_u) – 0.1180 MPa, cohesion (c) – 0.023 MPa, oedometer modulus of deformation E_{oed} – 2.54 MPa.
- 30 The average value of the conical strength of the soil classified by IGS is 1.32 MPa, the average value of the lateral friction strength
- 32.00 kPa, the value of the total deformation modulus (E_o) is 9.24 MPa, the undrained shear strength (c_u) is 0.0231 MPa, number of blows (N_{20}) – 43, dynamic cone strength (q_d) – 21.03 MPa, internal friction angle (ϕ) – 29.5, cohesion (c) – 0.032 MPa, oedometer deformation modulus E_{oed} – 2.03 MPa.
- 31 The average cone strength of the soil classified by IGS is 10.66 MPa, the average lateral friction strength is 95.00 kPa, the total deformation modulus (E_o) is 41.86 MPa, number of blows (N_{20}) – 13, dynamic cone strength (q_d) – 5.73 MPa, internal friction angle (ϕ) – 32.0, cohesion (c) – 0.025 MPa.
- 32 The number of blows (N_{20}) for the soil classified as IGS is 15, the dynamic cone strength (q_d) is 6.27 MPa, the angle of internal friction (ϕ) is 34.5, and the cohesion (c) is 0.016 MPa.
- 33 Average dynamic cone strength of the soil classified by IGS: 16.73 MPa, average lateral friction strength: 214.44 kPa, total modulus of deformation (E_o): 57.65 MPa, the angle of internal friction (ϕ) is 32.5, the number of blows (N_{20}) is 12, the dynamic cone strength (q_d) is 5.18 MPa, and the cohesion (c) – 0.013 MPa.
- 34 The number of blows (N_{20}) for the soil classified by IGS is 13, the dynamic cone strength (q_d) is 5.50 MPa, the angle of internal friction (ϕ) is 36.5, and the cohesion (c) is 0.044 MPa.
- 35 The average dynamic cone strength of the soil classified by IGS is 22.40 MPa, the average lateral friction strength is 125.00 kPa, the total modulus of deformation (E_o) is 70.92 MPa, the angle of internal friction (ϕ) is 32.5, the number of blows (N_{20}) is 31, the dynamic cone strength (q_d) is 12.16 MPa, and the cohesion (c) – 0.009 MPa.
- 36 The number of blows (N_{20}) for the soil classified as IGS is 25, the dynamic cone strength (q_d) is 10.02 MPa, the angle of internal friction (ϕ) is 34.0, and the cohesion (c) is 0.010 MPa.
- 37 Number of blows for the soil classified by IGS (N_{20}) – 24, dynamic cone strength (q_d) – 9.04 MPa, angle of internal friction (ϕ) – 33.5, cohesion (c) – 0.006 MPa.
- 38 The number of blows (N_{20}) for the soil classified by IGS is 24, the dynamic cone strength (q_d) is 8.86 MPa, the angle of internal friction (ϕ) is 33.0, and the cohesion (c) is 0.034 MPa.
- 39 The number of blows (N_{20}) for the soil classified by IGS is 24, the dynamic cone strength (q_d) is 9.01 MPa, the angle of internal friction (ϕ) is 33.5, and the cohesion (c) is 0.026 MPa.
- 40 The angle of internal friction (ϕ) for the soil classified by IGS is 29.5, the number of blows (N_{20}) is 8, the dynamic cone strength (q_d) is 3.78 MPa, the undrained shear strength (c_u) is 0.0247 MPa, cohesion (c) – 0.018 MPa, oedometer modulus of deformation E_{oed} – 6.88 MPa.

41 Number of soil impacts assigned to IGS (N_{20}) – 25, dynamic cone strength (q_d) – 10.67 MPa, undrained shear strength (c_u) – 0.0609 MPa, angle of internal friction (φ) – 26.8, cohesion (c) – 0.037 MPa, oedometer modulus of deformation E_{oed} – 5.36 MPa.

42 The number of blows assigned by IGS (N_{20}) is 32, the dynamic cone strength (q_d) is 13.03 MPa, the undrained shear strength (c_u) is 0.0348 MPa, internal friction angle (φ) – 33.5, cohesion (c) – 0.011 MPa, oedometer modulus of deformation E_{oed} – 9.34 MPa.

43 The number of blows for the soil classified by IGS (N_{20}) is 36, the dynamic cone strength (q_d) is 15.15 MPa, the undrained shear strength (c_u) is 0.0458 MPa, internal friction angle (φ) – 27.5, cohesion (c) – 0.044 MPa, oedometer modulus of deformation E_{oed} – 14.86 MPa.

44 Number of blows for the soil classified by IGS (N_{20}) – 28, dynamic cone strength (q_d) – 11.68 MPa, undrained shear strength (c_u) – 0.0561 MPa, internal friction angle (φ) – 28.0, cohesion (c) – 0.017 MPa, oedometer modulus of deformation E_{oed} – 8.24 MPa.

45 The average value of the cone strength of the soil classified by IGS is 2.56 MPa, the average value of the lateral friction strength 69.00 kPa, total modulus of elasticity (E_o) – 30.72 MPa, number of blows (N_{20}) – 36, dynamic cone strength (q_d) – 14.77 MPa, undrained shear strength (c_u) – 0.0578 MPa, internal friction angle (φ) – 31.0, cohesion (c) – 0.016 MPa, oedometric modulus of deformation E_{oed} – 7.80 MPa.

46 The average value of the cone strength of the soil classified by IGS is 3.62 MPa, the average value of the lateral friction strength 109.00 kPa, total deformation modulus (E_o) – 43.44 MPa, number of blows (N_{20}) – 38, dynamic cone strength (q_d) – 17.93 MPa, undrained shear strength (c_u) – 0.0595 MPa, internal friction angle (φ) – 31.5, cohesion (c) – 0.039 MPa, oedometric modulus of deformation E_{oed} – 17.26 MPa.

47 The average value of the cone strength of the soil classified by IGS is 4.09 MPa, the average value of the lateral friction strength 134.00 kPa, total deformation modulus (E_o) – 49.08 MPa, number of blows (N_{20}) – 47, dynamic cone strength (q_d) – 18.44 MPa, undrained shear strength (c_u) – 0.0984 MPa, internal friction angle (φ) – 28.5, cohesion (c) – 0.021 MPa, oedometric modulus of deformation E_{oed} – 9.67 MPa.

48 The average cone strength of the soil classified by IGS is 23.43 MPa, the average lateral friction strength is 202.00 kPa, the total deformation modulus (E_o) is 281.16 MPa, number of blows (N_{20}) – 57, dynamic cone strength (q_d) – 22.67 MPa, undrained shear strength (c_u) – 0.1914 MPa, internal friction angle (φ) – 32.0, cohesion (c) – 0.073 MPa, oedometric modulus of deformation E_{oed} – 24.65 MPa.

49 Number of blows for the soil classified by IGS (N_{20}) – 92, dynamic cone strength (q_d) – 26.48 MPa, undrained shear strength (c_u) – 0.1622 MPa, internal friction angle (φ) – 23.0, cohesion (c) – 0.036 MPa, oedometer modulus of deformation E_{oed} – 10.51 MPa.

50 Number of blows for the soil classified by IGS (N_{20}) – 39, dynamic cone strength (q_d) – 19.17 MPa, undrained shear strength (c_u) – 0.0911 MPa, internal friction angle (φ) – 33.0, cohesion (c) – 0.032 MPa, oedometer modulus of deformation E_{oed} – 19.96 MPa.

51 Number of soil impacts assigned to IGS (N_{20}) – 79, dynamic cone strength (q_d) – 29.30 MPa, undrained shear strength (c_u) – 0.228 MPa, angle of internal friction (ϕ) – 19.0, cohesion (c) – 0.047 MPa, oedometer modulus of deformation E_{oed} – 15.10 MPa.

52 Undrained shear strength (c_u) of the soil classified as IGS – 0.0703 MPa, number of blows (N_{20}) – 91, dynamic cone strength (q_d) – 31.84 MPa, internal friction angle (ϕ) – 40.5, cohesion (c) – 0.018 MPa, oedometer modulus of deformation E_{oed} – 22.21 MPa.

53 The average cone strength of the soil classified by IGS is 10.12 MPa, the average lateral friction strength is 212.00 kPa, the total deformation modulus (E_o) is 121.44 MPa, number of blows (N_{20}) – 82, dynamic cone strength (q_d) – 27.51 MPa, undrained shear strength (c_u) – 0.3505 MPa, internal friction angle (ϕ) – 32.0, cohesion (c) – 0.021 MPa, oedometer modulus of deformation E_{oed} – 12.91 MPa.

54 Number of blows for the soil classified by IGS (N_{20}) – 47, dynamic cone strength (q_d) – 17.76 MPa, undrained shear strength (c_u) – 0.0963 MPa, internal friction angle (ϕ) – 25.0, cohesion (c) – 0.001 MPa, oedometer modulus of deformation E_{oed} – 10.95 MPa.

55 Number of blows for the soil classified by IGS (N_{20}) – 106, dynamic cone strength (q_d) – 30.18 MPa, undrained shear strength (c_u) – 0.2121 MPa, internal friction angle (ϕ) – 22.0, cohesion (c) – 0.018 MPa, oedometer modulus of deformation E_{oed} – 15.02 MPa.

56 Number of blows for the soil classified by IGS (N_{20}) – 99, dynamic cone strength (q_d) – 27.89 MPa, undrained shear strength (c_u) – 0.2179 MPa, internal friction angle (ϕ) – 19.5, cohesion (c) – 0.024 MPa, oedometer modulus of deformation E_{oed} – 15.94 MPa.

A summary table of soil test results (field and laboratory) is provided in Textual Appendix No. 8.

The following was determined during field and laboratory tests:

1. Cone strength, lateral friction strength (LST EN ISO 22476-1:2012/AC:2013)
2. Water content (LST EN ISO 17892-1:2015)
3. Soil density (LST CEN ISO/TS 17892-2:2015)
4. Density of solid particles (LST EN ISO 17892-3:2016)
5. Particle size distribution (LST EN ISO 17892-4:2017)
6. Consistency moisture, plasticity moisture (LST CEN ISO 17892-12:2005)
7. Soil shear tests (LST CEN ISO/TS 17892-10:2005/AC:2006)
8. Soil compressibility and deformation test (LST EN ISO 17892-5:2017)
9. Water permeability tests (ISO 17892-11:2019).

According to the engineering geological investigation work program, it is necessary to perform calculations of the degree of consolidation (OCR). These calculations are performed for fine-grained soils (clayey); this value indicates the ratio of maximum residual pressure to geostatic pressure in the soil.

In this case, the consolidation ratio (OCR) was calculated based on a textbook from the Faculty of Natural Sciences at Vilnius University (pp. 97–100). The book uses the formula by P. K. Robertson et al. (1990):

$OCR = k * ((q_t - \sigma_{vo}) / \sigma'_{vo})$, where:

k is the proportionality coefficient, which in this case is: for soft plastic $k=0.5$; for stiff plastic $k=0.3$; for semi-stiff $k=0.4$; for stiff $k=0.5$.

q_t – corrected cone strength, MPa. In this case, it is calculated using the formula by R. S. Olsen (1981): $q_t = q_c + u_2(1-a)$; q_c – cone strength, MPa; u_2 – pore pressure, MPa; a – cone area coefficient, which is taken as 0.9.

σ_{vo} – geostatic pressure, MPa, where geostatic pressure is calculated using the formula: $\sigma_{vo} = q_c * (\gamma / 1000) + u_0$, where γ is the unit weight, kN/m^3 , and u_0 is the pore pressure of the soil, MPa.

σ'_{vo} is the effective geostatic pressure. The effective geostatic pressure is calculated using the formula: $\sigma'_{vo} = \sigma_{vo} - u_0$.

Soft plastic – sandy clay of low plasticity with a low organic matter content (osaCIL) [ST*] (IGS No. 26) OCR – 0.45 (normally compacted); **stiff plastic** – sandy, very high-plasticity silt with moderate organic matter content (saSiVO) [OT] (IGS No. 28) OCR – 1.99 (overcompacted); **stiffly plastic** – sandy, highly plastic silt with a low organic matter content (osaSiH) [OT] (IGS No. 29) OCR – 3.00 (overcompacted); **hard** – sandy, very high-plasticity silt with moderate organic matter content (saSiVO) [OT] (IGS No. 30) OCR – 5.17 (re-graded); **stiffly plastic** – sandy, low-plasticity clay (saCIL) [TL] (IGS No. 45) OCR – 1.89 (re-sieved); **semi-hard** – sandy, low-plasticity silt-silt (saCIL-SiL) [TL-UL] (IGS No. 46) OCR – 3.49 (re-sieved); **semi-solid** – sandy low-plasticity clay (saCIL) [TL] (IGS No. 47) OCR – 5.97 (over-consolidated); **solid** – sandy low-plasticity silt (saSiL) [UL]; [SU*] (IGS No. 48) OCR – 25.56 (highly overconsolidated); **hard** – sandy low-plasticity clay (saCIL) [TL] (IGS No. 49) OCR – 25.56 (highly overconsolidated).

IGS Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,

26, 27, 28, 29, 30, 40, 41, 42. The following IGS numbers are considered suitable for foundation soils: 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 31, 32, 33, 34, 35, 36, 37, 39, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, which are characterized by strong physical and mechanical properties. Sandy loam with low organic matter content (OSiSA), sandy loam (SiSA), sandy loam with very high plasticity and moderate organic matter content (SaSiVO), high-plasticity loam (SiH), and sandy, low-plasticity silt (saSiL) must be evaluated for suitability; these layers exhibit poor dynamic properties. It should be emphasized that in each case, it is necessary to individually assess the foundation support layer based on the information provided in the textual appendices: laboratory test results, summary tables, and in the graphical appendices—borehole logs. We also recommend, in any case, evaluating the bearing capacity of the soil depending on the structural loads, as well as assessing possible settlements.

7 GEOLOGICAL PROCESSES AND PHENOMENA

No significant geological processes or phenomena (landslides, signs of suffusion) were observed during the investigations, except for ground surface disturbances (a quay and a liquefied natural gas terminal were constructed adjacent to the study area). The studies were conducted in the Curonian Lagoon and the Kiaulė Ridge. The water activity in the Curonian Lagoon has a long-term impact on the quays and underwater dredging (sediment formation on the bottom, wave action, and ice drifts during the thaw).

8 CONCLUSIONS AND RECOMMENDATIONS

1. The Geology Department of UAB "Sweco Lietuva," led by Justinas Čėsna, commissioned by the Klaipėda State Seaport Authority and in accordance with the technical specifications provided by the client and the engineering geological survey work program prepared based on them, conducted design-phase engineering geological investigations for the construction of new quays and shoreline reinforcements in the southern part of the port, as well as for the preparation of a dredging project, in accordance with the provisions of Construction Regulation STR 1.04.02:2011. A report was prepared based on the investigation data obtained.
2. The investigations were carried out in accordance with the technical specifications and the investigation program prepared, agreed upon with the client, and evaluated by the Lithuanian Geological Survey.
3. Sixty-eight (68) exploration boreholes were drilled: Borehole 1, Borehole 2, Borehole 3, Borehole 4, Borehole 5, Borehole 6, Borehole 7, Gr. 8, Gr. 9, Gr. 10, Gr. 11, Gr. 12, Gr. 13, Gr. 14, Gr. 15, Gr. 16, Gr. 17, Gr. 18, Gr. 19, Gr. 20, Gr. 21, Gr. 22, Gr. 23, Gr. 24, Gr. 25, Gr. 26, Gr. 27, Gr. 28, Gr. 29, Gr. 30, Gr. 31, Gr. 32, Gr. 33, Gr. 34, Gr. 35, Gr. 36, Gr. 37, Gr. 38, Gr. 39, Gr. 40, Gr. 41, Gr. 42, Gr. 43, Gr. 44, Gr. 45, Gr. 46, Gr. 47, Gr. 48, Gr. 49, Gr. 50, Gr. 51, Gr. 52, Gr. 53, Gr. 54, Gr. 55, Well 56, Well 57, Well 58, Well 59, Well 60, Well 61, Well 62, Well 63, Well 64, Well 65, Well 66, Well 67, Gr. 68. The depth of the boreholes ranges from 18.00 to 37.50 m. Sixty-eight (68) static cone penetration tests were also performed at a distance of no less than two meters from the boreholes, as well as 68 dynamic cone penetration tests. A total of 122 soil samples were collected from the boreholes and analyzed at the soil testing laboratory of UAB "Sweco Lietuva." Water samples were also taken from boreholes Gr. 34 (32.0 m deep), Gr. 13 (25.6 m deep), Gr. 4 (20.2 m deep), Gr. 60 (11.8 m deep), and Gr. 66 (12.2 m deep). The boreholes were drilled and samples were collected in accordance with the provisions of the Lithuanian standard LST EN ISO 22475-1:2007 "Geotechnical investigations and testing. Sampling methods and groundwater measurements. Part 1. Technical principles of execution."
4. The engineering geological conditions of the study area are of moderate complexity according to Appendix 1 of Construction Technical Regulation STR 1.04.02:2011 "Engineering Geological (Geotechnical) Investigations," as the study area is located in the Curonian Lagoon.
5. Marine (m IV) deposits, fluvioglacial (f III_{nm3}) deposits, glacial (g III_{nm3}) deposits, and limnoglacial (lg III_{nm3}) deposits have been identified in the survey boreholes.
6. It should be noted that the following were found: silt (Dy) [F] (IGS No. 1) (Found in boreholes: Gr. 1, Gr. 3, Gr. 4, Gr. 6, Gr. 8, Gr. 10, Gr. 11, Gr. 22, Gr. 24, Gr. 25, Gr. 26, Gr. 31, Gr. 37, Gr. 46, Gr. 54, Gr. 56, Gr. 60, Gr. 62, Gr. 63, Gr. 65, Gr. 66, Gr. 67, Gr. 68. Silt (Dy) [F] occurs at depths ranging from 0.05 m to 9.0 m, with thickness varying significantly from 0.20 m to 1.00 m); gypsum (Gy) [F]

(IGS No. 2) (found in boreholes: Gr. 15, Gr. 40, Gr. 41, Gr. 49, Gr. 56. Gypsum (Gy) [F] lies at depths ranging from 8.1 m to 15.2 m, and its thickness varies from 0.4 m to 2.4 m); peat (Pt) [HN] (IGS No. 3) (encountered in boreholes: Gr. 11, Gr. 12, Gr. 13, Gr. 14, Gr. 16, Gr. 17, Gr. 18, Gr. 19, Gr. 20, Gr. 38, Gr. 40, Gr. 41, Gr. 57, Gr. 64. Peat (Pt) [HN] lies at depths ranging from 0.1 m to 13.0 m, with thicknesses varying from 0.2 m to 1.9 m).

7. Based on drilling and cone penetration testing (CPT) data, the soils and rocks in the surveyed plot have been divided into 56 engineering geological layers (IGS). Soils were identified in accordance with Lithuanian standards LST EN ISO 14688-1:2018 and LST EN ISO 14688-2:2018. The geotechnical parameter values obtained from field tests and averaged were assigned to the engineering geological layers.
8. The following IGS numbers are considered unsuitable for foundations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26, 27, 28, 29, 30, 40, 41, and 42. The following IGS numbers are considered suitable for foundation soils: 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 31, 32, 33, 34, 35, 36, 37, 39, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, which are characterized by strong physical and mechanical properties. Sandy loam with low organic matter content (OSiSA), sandy loam (SiSA), sandy loam with very high plasticity and moderate organic matter content (SaSiVO), high-plasticity loam (SiH), and sandy, low-plasticity silt (saSiL) must be evaluated for suitability; these layers exhibit poor dynamic properties. It should be emphasized that in each case, it is necessary to individually evaluate the foundation support layer based on the information provided in the textual appendices: laboratory test results, summary tables, and in the graphical appendices—borehole logs. We also recommend, in any case, evaluating the bearing capacity of the soil depending on the structural loads, as well as assessing possible settlements.
9. Groundwater was encountered in all boreholes: Borehole 1, Borehole 2, Borehole 3, Borehole 4, Borehole 5, Borehole 6, Borehole 7, Borehole 8, Borehole 9, Borehole 10, Borehole 11, Borehole 12, Borehole 13, Borehole 14, Borehole 15, Borehole 16, Borehole 17, Borehole 18, Borehole 19, Gr. 20, Gr. 21, Gr. 22, Gr. 23, Gr. 24, Gr. 25, Gr. 26, Gr. 27, Gr. 28, Gr. 29, Gr. 30, Gr. 31, Gr. 32, Gr. 33, Gr. 34, Gr. 35, Gr. 36, Gr. 37, Gr. 38, Gr. 39, Gr. 40, Gr. 41, Gr. 42, Gr. 43, Gr. 44, Gr. 45, Gr. 46, Gr. 47, Gr. 48, Gr. 49, Gr. 50, Gr. 51, Gr. 52, Gr. 53, Gr. 54, Gr. 55, Group 56, Group 57, Group 58, Group 59, Group 60, Group 61, Group 62, Group 63, Group 64, Group 65, Group 66, Group 67, Gr. 68. It lies at a depth of 0.00 m to 33.40 m below ground level. The water lies in soil of natural origin.
10. Groundwater was encountered in the study area in the following boreholes: Gr. 1, Gr. 2, Gr. 3, Gr. 4, Gr. 5, Gr. 6, Borehole 7, Borehole 8, Borehole 9, Borehole 11, Borehole 12, Borehole 13, Borehole 14, Borehole 15, Borehole 16, Borehole 17, Borehole 18, Borehole 19, Borehole 20, Gr. 21, Gr. 22, Gr. 23, Gr. 24, Gr. 30, Gr. 31, Gr. 32, Gr. 33, Gr. 34, Gr. 40, Gr. 41, Gr. 43, Gr. 48, Gr. 50, Gr. 51, Gr. 54, Gr. 57, Gr. 58, Gr. 59, Gr. 60, Gr. 61, Gr. 62, Gr. 63, Gr. 64, Gr. 65, Gr. 66, Gr. 67, Gr. 68. More detailed information is provided in the graphical appendices.

11. During the tests, the filtration properties of the soil were determined from the soil samples taken. The values of the filtration coefficients are presented in the tables of soil laboratory test data (Textual Appendix 7).
12. Water samples for concrete (in accordance with the TECHNICAL REGULATION FOR CONSTRUCTION STR 2.05.05:2005 "DESIGN OF CONCRETE AND REINFORCED CONCRETE STRUCTURES" APPROVAL, Table 2) – non-aggressive (does not fall into classes XA1; XA1; XA3).
13. Based on the results of the water sample analysis, the aggressiveness of the water toward metals (standard ISO/TR 4340:2022) is interpreted according to Langelier and Carrier. The Langelier Saturation Index (LSI) value for water sample Gr. 34 (32.0 m depth) is -0.28, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no deposits form)**. The Langelier Saturation Index (LSI) value for water sample No. 13 (25.6 m depth) is -0.43, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no scale formation)**. The Langelier Saturation Index (LSI) value for water sample No. 4 (20.2 m depth) is -0.023, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no scale formation)**. The Langelier Saturation Index (LSI) value for water sample No. 60 (11.8 m depth) is -0.58, which indicates: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(severe corrosion)**. The Langelier Saturation Index (LSI) value for water sample No. 66 (12.2 m depth) is -0.33, according to which: **(the water is aggressive and tends to dissolve calcium carbonate, which may promote corrosion)**. According to Carrier: **(minor corrosion, but no deposits form)**.
14. During construction, the subsoil must be protected from any factors that could significantly alter the geochemical conditions (e.g., contamination with organic compounds, salts, and other substances).
15. The values of the soil's geotechnical properties are applicable provided that the soil is protected from disruption of its natural structure during construction.
16. **Slightly plastic** – sandy clay with low plasticity and a low organic matter content (osaCIL) [ST*] (IGS No. 26) OCR – 0.45 (normally compacted); **stiff plastic** – sandy, very highly plastic silt with a moderate admixture of organic matter (saSiVO) [OT] (IGS No. 28) OCR – 1.99 (overcompacted); **stiffly plastic** – sandy, highly plastic silt with a low organic matter content (osaSiH) [OT] (IGS No. 29) OCR – 3.00 (overconsolidated); **hard** – sandy, very high-plasticity silt with moderate organic matter content (saSiVO) [OT] (IGS No. 30) OCR – 5.17 (re-graded); **stiffly plastic** – sandy, low-plasticity clay (saCIL) [TL] (IGS No. 45) OCR – 1.89 (re-sieved); **semi-hard** – sandy, low-plasticity silt-silt (saCIL-SiL) [TL-UL] (IGS No. 46) OCR – 3.49 (re-sieved); **semi-solid** – sandy low-plasticity clay (saCIL) [TL] (IGS No. 47) OCR – 5.97 (over-consolidated); **solid** – sandy low-plasticity silt

- (saSiL) [UL]; [SU*] (IGS No. 48) OCR – 25.56 (highly overconsolidated); **hard** – sandy low-plasticity clay (saCiL) [TL] (IGS No. 49) OCR – 25.56 (highly overconsolidated).
17. No significant geological processes or phenomena (landslides, signs of suffusion) were observed during the investigations, except for ground surface disturbance (a quay and a liquefied natural gas terminal were constructed adjacent to the study area). The studies were conducted in the Curonian Lagoon and the Kiaulė Spit. The water activity in the Curonian Lagoon has a long-term impact on the quays and underwater dredging (sediment formation on the bottom, wave action, and ice drifts during the thaw).
 18. IGS 27 (*Sandy, very highly plastic silt with moderate organic matter admixture (saSiVO) [OT] – soft plastic*) could not be determined by laboratory tests: cohesion (c), angle of internal friction (ϕ'), undrained shear strength (c_u). This soil is of organic origin and has low cohesion.
 19. IGS 29 (*Sandy, highly plastic silt with a low organic matter content (osaSiH) [OT]* – *stiff plastic*) could not be determined by laboratory tests: undrained shear strength (c_u). This soil is a poorly cohesive, lean soil.
 20. The study area falls within the protection zone of a main gas pipeline. A wharf and a liquefied natural gas terminal are located near the study area, and a main gas pipeline runs through the study area. Therefore, during the works, the locations of the boreholes were coordinated with: AB Klaipėda State Seaport Authority (Textual Appendix No. 12) and AB KN ENERGIES (Textual Appendix No. 13). Consequently, the locations of some wells do not match those in the approved work program (WP). The main reason is that several boreholes were too close to the liquefied natural gas (LNG) main pipeline. To ensure work safety and protect the main pipeline, and after assessing potential hazards, the borehole locations were changed and the borehole layout plans were adjusted. It should be emphasized that during the preparation of foundations and pile foundations, it is necessary to take into account the depth of the main gas pipeline from the ground surface, ensure the protection of the main gas pipeline during work, and avoid damaging it.
 21. Generally speaking, the undrained shear strength (c_u) varies, particularly in IGS Nos. 53 and 55. Intervals of undrained shear strength (c_u): IGS 2: c_u – 16.31 kPa (single value); IGS 3: c_u – 56.10 kPa (single value); IGS 26 c_u – 11.14 kPa (single value); IGS 28 c_u – 16.71 kPa (single value); IGS 28 c_u – 11.14 kPa (single value); IGS 30 c_u – 23.07 kPa (single value); IGS 40 c_u – 24.66 kPa (single value); IGS 41 c_u – 20.07 kPa (minimum value) – 108.62 kPa (maximum value); IGS 42 c_u – 15.17 kPa (minimum value) – 77.34 kPa (maximum value); IGS 43 c_u – 45.77 kPa (single value); IGS 44 c_u – 56.10 kPa (single value); IGS 45 c_u – 30.83 kPa (minimum value) – 100.10 kPa (maximum value); IGS 46 c_u – 59.47 kPa (single value); IGS 47 c_u – 68.77 kPa (minimum value) – 150.03 kPa (maximum value); IGS 48 c_u – 189.39 kPa (minimum value) – 193.37 kPa (maximum value); IGS 49 c_u – 114.98 kPa (minimum value) – 216.05 kPa (maximum value); IGS 50 c_u – 91.11 kPa (single value); IGS 51 c_u – 227.98 kPa (single value); IGS 52 c_u – 21.48 kPa (minimum value) – 97.08 kPa (maximum value); IGS 53 c_u – 108.62 kPa (minimum

value) – 915.14 kPa (maximum value); IGS 54 c_u – 77.19 kPa (minimum value) – 121.35 kPa (maximum value); IGS 55 c_u – 87.93 kPa (minimum value) – 542.32 kPa (maximum value); IGS 56 c_u – 202.12 kPa (minimum value) – 231.17 kPa (maximum value).

22. In general terms, the study area is characterized by lithological variation. The main morainic soils indicate that they are poorly permeable, according to DPSH values (N20). Variability is also particularly evident in IGS Nos. 53 and 55 based on undrained shear strength (c_u). It is necessary to take this into account, plan accordingly, and select the appropriate technique for performing deepening works.
23. Boulders are widespread at various depths within the study area. These boulders may complicate pile installation and deepening work.
24. The Poisson's ratio has not been calculated because the design consequence class is low and this coefficient is not required.
25. Italian CPTU probing equipment is scarce and used relatively rarely. It is used only when it is necessary to measure pore pressure; for this reason, calibration is performed every 6 months on a recommended basis.

9 REFERENCES

1. Technical Regulation for Construction STR 1.04.02: 2011 "Engineering Geological and Geotechnical Investigations."
2. Law on Subsurface Resources of the Republic of Lithuania (Official Gazette, 1995, No. 63-1582; 2001, No. 35-1164).
3. LST EN ISO 17892-4:2017 Geotechnical investigations and testing. Laboratory testing of soils. Determination of particle size distribution.
4. Lithuanian Standard LST EN 1997-1:2005 – LST EN 1997-2:2007 "Eurocode 7. Geotechnical design (Parts 1 and 2)."
5. Lithuanian standards LST EN ISO 14688-1:2018 and LST EN ISO 14688-2:2018 Geotechnical investigations and testing. Identification and classification of soils. Part 1. Identification and description (ISO 14688-1:2017). Part 2. Classification principles (ISO 14688-2:2017).
6. Lithuanian Standard LST EN ISO 22476-1:2012 Geotechnical investigations and testing. Field tests. Part 1. Penetration test using an electric and piezoelectric cone (ISO 22476-1:2012).
7. Lithuanian standard LST EN ISO 22475-1:2019 Geotechnical investigations and testing. Sampling methods and groundwater measurements. Part 1. Technical principles of performance (ISO 22475-1:2019).
8. Lithuanian standard LST EN ISO 17892-2:2015 "Laboratory testing of soils. Part 2. Determination of the density of fine-grained soils."
9. Lithuanian Standard LST EN ISO 17892-1:2015 "Geotechnical investigations and testing. Laboratory soil testing. Part 1. Determination of moisture content";
10. Lithuanian Standard LST CEN ISO/TS 17892-11:2004 "Geotechnical investigations and tests. Laboratory soil tests. Part 11. Determination of permeability under constant and variable pressure."

11. Geotechnical investigations and testing. Laboratory soil testing. Part 12. Determination of limits of plasticity and plasticity (ISO/DIS 17892-12:2016).
12. LST CEN ISO/TS 17892-2:2015 Geotechnical investigations and testing. Laboratory soil testing. Determination of soil density.
13. Lithuanian Standard LST CEN ISO/TS 17892-10:2005 “Geotechnical investigations and testing. Laboratory soil testing. Part 10. Direct shear tests”;
14. Lithuanian Standard LST EN ISO 17892-5:2017 “Geotechnical investigations and tests. Laboratory soil tests. Part 5. Oedometer test on soil subjected to step loading.”
15. Lithuanian Standard LST EN ISO 22476-2:2005 “Geotechnical investigations and testing. Field tests. Part 2. Dynamic probing.”
16. Order of the LGT under the Ministry of the Environment “On the Approval of the Classification of Soils for Engineering Geological and Geotechnical Investigations” (TAR 2019-06-14, Identification Code 2019-09653).

Explanatory note prepared by: Mindaugas Gedaminskas, Engineer-Geologist, Geology Department.

Textual appendices to

Technical Construction Regulation STR 1.04.02:2011

“Engineering Geological (Geotechnical) Investigations” Appendix 2

(Technical Assignment Form)**AB Klaipėda State Seaport Authority**

.....

Name of the document's author

*(First and last name of the individual or name of the legal entity)***TECHNICAL SPECIFICATIONS**

September 19, 2024.....

Document date

Document registration number

IGG study stage (underline): exploratory, design, supplementary, monitoring.**Name of the survey object:** For the preparation of a project for the construction of new quays and shore reinforcement

and dredging works, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report.

Address of the study site (municipality, parish, settlement, street, building number):

Klaipėda State Seaport (southern part)

Client details (name (or surname), address, phone number, email address):AB Klaipėda State Seaport Authority, J. Janonio St. 24-1, LT-92251 Klaipėda, email g.sakutis@port.lt**Designer's details** (name (or surname), address, phone number, email address) AB Klaipėda State Seaport Authority, J. Janonio St. 24-1, LT-92251 Klaipėda, email g.sakutis@port.lt**Type of construction** (check one): new construction, reconstruction, major repair, other**Purpose of the structure:** 10. Hydrotechnical structures**Structure category** (check one): special, non-special, simple **Cultural Heritage Register code** (if applicable): none**Geotechnical category (in design studies)** (check one): first, second, third.**Data on structure parameters** (length, width, height, depth, area):

No data

Loads transferred to the foundation and their intensity: no data**Coordinates of the survey area boundaries:**

Number	X	Y
1	6173323	319840
2	6173323	319861
3	6172983	320154
4	6172623	320350
5	6172454	320200
6	6171108	320028
7	6171367	319645
8	6171854	319736
9	6172749	319433
10	6172999	319813

Additional geotechnical parameters and other requirements are established:

6.1. In accordance with STR 1.04.02:2011 “Engineering Geological and Geotechnical Investigations” , prepare a technical assignment for IGG investigations of geotechnical category III in accordance with STR 1.04.02:2011 and coordinate it with the Port Authority.

6.2. Prepare a work program for IGG investigations for Geotechnical Category III. Coordinate the prepared program with the Lithuanian Geological Survey and the Port Authority. Conduct IGG investigations and prepare an IGG investigation report, coordinating it with the Lithuanian Geological Survey.

6.3. If a contract for the preparation of the technical design is signed prior to the coordination of the IGG survey technical assignment and/or program, coordinate the IGG survey technical assignment and/or program with the technical design preparer.

6.4. Scope of IGG studies:

6.4.1. Conduct IGG surveys:

6.4.1.1. 34 (thirty-four) main boreholes to a depth of –35.5 m (according to BAS77) along the planned quay cordon line (currently within the water area);

6.4.1.2. 10 (ten) main boreholes are drilled on Kiaulės Nugaros Island to a depth of –35.5 m (according to BAS77).

6.4.1.3. In the planned area, 24 (twenty-four) main boreholes are being drilled to a depth of –18.0 m (according to BAS77).

6.4.2. Soil samples shall be taken from each engineering geological layer to determine physical and mechanical properties as well as grain size distribution.

Laboratory tests shall be performed for each engineering geological layer (IGS). The following physical properties of the soil shall be determined during laboratory testing: natural density, solid particle density, natural moisture content, plasticity moisture content, consistency moisture content, and mechanical

properties: shear strength, compressive strength, undrained cohesion, calculation of total cohesion and angle of internal friction, etc., as required by regulatory documents.

For cohesive (clayey) soils, perform oedometer compression tests to determine the oedometer modulus of deformation.

6.4.3. Perform tests to determine the granulometric analysis for each engineering geological layer using IGS and identify the soil in accordance with LST ISO and DIN 18196 standards.

6.4.4. Conduct tests on the macro-component composition of water and determine the aggressiveness of water and soil toward metal and concrete.

6.4.5. At the borehole locations described in 6.4.1.1 and 6.4.1.2, perform static cone penetration (CPTU) tests during IGG investigations until the load on the probe sensors exceeds the maximum allowable

(maximum cone load not less than 30 MPa, lateral friction not less than 1000 kPa) and/or heavy dynamic sounding (DPSH) or standard penetration (SPT) tests. Once the maximum cone loads are reached during the test, continue interval sounding at 1-meter intervals down to the borehole depth. Present the results in test graphs and summary tables of calculated indicators.

6.4.6. Well drilling operations are performed using mechanical column and/or auger methods. The number of wells, their layout, and the number and type of samples to be collected (disrupted or undisturbed) are justified in the project’s geological survey work program.

6.4.7. If a confined aquifer is encountered during drilling, determine the filtration coefficient and the head of the confined groundwater.

7. Other additional conditions:

7.1. When performing the work, the structural data of the quays provided in the quays’ technical passports must be taken into account.

7.2. Permits for conducting investigations and coordination documents shall be organized by the investigator.

7.3. Analyze the archival materials of the submitted engineering geological surveys.

- 7.4. Determine the levels of ground water and confined groundwater.
- 7.5. Tests of the chemical composition of groundwater, as well as assessments of corrosion aggressiveness, must be performed in a laboratory holding a permit issued by the Ministry of the Environment of the Republic of Lithuania to conduct such studies, and laboratory studies and tests of soil and/or rock samples and specimens must be performed in accredited laboratories (in accordance with STR 1.04.02:2011, Section 107). The Supplier must submit the laboratory test reports from the laboratory.
- 7.6. If cohesive (clayey) soils are not encountered during drilling, one borehole must be drilled to a depth where the cohesive (clayey) soil layer is reached, penetrating two meters into it.
- 7.7. Tests must be performed using certified equipment.
- 7.8. The IGG test report shall be submitted in two (2) hard copies and one (1) copy on a digital . Additionally, one copy of the anonymized IGG investigation report shall be submitted on a digital medium to ensure the protection of personal data in accordance with legal requirements.

List of normative documents governing the studies:

1. Technical Regulation for Construction STR 1.04.02: 2011 “Engineering Geological and Geotechnical Investigations.”
2. Law on Subsurface Resources of the Republic of Lithuania (Official Gazette, 1995, No. 63-1582; 2001, No. 35-1164).
3. LST EN ISO 17892-4:2017 Geotechnical investigations and testing. Laboratory testing of soils. Determination of particle size distribution.
4. Lithuanian Standard LST EN 1997-1:2005 – LST EN 1997-2:2007 “Eurocode 7. Geotechnical design (Parts 1 and 2).”
5. Lithuanian standards LST EN ISO 14688-1:2018 and LST EN ISO 14688-2:2018 Geotechnical investigations and testing. Identification and classification of soils. Part 1. Identification and description (ISO 14688-1:2017). Part 2. Classification principles (ISO 14688-2:2017).
6. Lithuanian Standard LST EN ISO 22476-1:2012 Geotechnical investigations and testing. Field tests. Part 1. Penetration test using an electric and piezoelectric cone (ISO 22476-1:2012).
7. Lithuanian standard LST EN ISO 22475-1:2019 Geotechnical investigations and testing. Sampling methods and groundwater measurements. Part 1. Technical principles of performance (ISO 22475-1:2019).
8. Lithuanian standard LST EN ISO 17892-2:2015 “Laboratory testing of soils. Part 2. Determination of the density of fine-grained soils.”
9. Lithuanian standard LST EN ISO 17892-1:2015 “Geotechnical investigations and testing. Laboratory soil testing. Part 1. Determination of moisture content”;
10. Lithuanian Standard LST CEN ISO/TS 17892-11:2004 “Geotechnical investigations and tests. Laboratory soil tests. Part 11. Determination of permeability under constant and variable pressure.”
12. Geotechnical investigations and testing. Laboratory soil testing. Part 12. Determination of the limits of plasticity and plasticity (ISO/DIS 17892-12:2016).
13. LST CEN ISO/TS 17892-2:2015 Geotechnical investigations and testing. Laboratory soil testing. Determination of soil density.
14. Lithuanian Standard LST CEN ISO/TS 17892-10:2005 “Geotechnical investigations and testing. Laboratory soil testing. Part 10. Direct shear tests”;
15. Lithuanian Standard LST EN ISO 17892-5:2017 “Geotechnical investigations and tests. Laboratory soil tests. Part 5. Oedometer test on soil subjected to step loading”;

16. Lithuanian Standard LST EN ISO 22476-2:2005 “Geotechnical investigations and testing. Field tests. Part 2. Dynamic probing”;

17. Order of the LGT under the Ministry of the Environment “On the Approval of the Classification of Soils for Engineering Geological and Geotechnical Investigations” (TAR 2019-06-14, Identification Code 2019-09653).

Previous geological investigations conducted on the site:

10.1. Report on geological assessment works for amber resources at the construction site of the Klaipėda International Ro-Ro Terminal, 1996. MTĮ “Geoprojektas,” Rimša V., Šlauteris A. Fund No. 4426

10.2. Report on the engineering-geological mapping of the southern part of the Klaipėda State Seaport territory at a scale of 1:5000, 2005. Damušytė A., Karmazin B., Lithuanian Geological Survey, Marcinkevičius V. Fund No. 8265

10.3. Report on Engineering-Geological Investigations for the Modernization of the Klaipėda International Ro-Ro Terminal, 1996. MTĮ “Geoprojektas,” Šlauteris A. Collection No. 4416

10.4. Report on Engineering-Geological Investigations for Preparatory Work on the Deepening and Widening of the Shipping Channel at the Klaipėda State Seaport, 2010

10.5. Report on engineering-geological and geotechnical investigations for the construction of the gas pipeline section between the planned LNG terminal and the high-pressure gas pipeline onshore, 2012. Jarašiūnas T., Pečkaitis A., Šlauteris A., UAB “Geoprojektas” ir Ko. Fund No. 16508

10.6. Section 2 of the LNG terminal connecting pipeline (transmission system) in Klaipėda City Municipality, construction project. Design engineering geological surveys. 2013 Baniulis D., Keraševičius T., UAB “Sweco hidroprojektas”. Fund No. 17558

Client

.....
first name, last name, signature, date

Project Manager

.....
first name, last name, signature, date

Research supervisor (I received the assignment).....

first name, last name, signature, date

METADATA	
Document author(s)	UAB “Sweco Lietuva”
Document title (heading)	Technical Specifications: Southern Port Area
Document registration date and number	September 19, 2024 No. T-93
Date of receipt and registration number	–
Document specification identifier	ADOC-V1.0
Purpose of signature	Signature
First name, last name, and title of the person who created the signature	Justinas Čėsna, Department Head
Date and time of signature creation	2024-09-19 07:39:58 (GMTZ)
Signature format	–
Time indicated in the timestamp	2024-09-19 10:40:22 (GMT+03:00)
Information about the certification service provider	EID-SK 2016, AS Sertifitseerimiskeskus, EE
Certificate validity period	Valid from 2023-02-28 to 2028-02-27
Purpose of the signature	Registration
First name, last name, and position of the person who created the signature	Document management system Avilys
Date and time of signature creation	2024-09-19 16:18:20 (GMT+03:00)
Signature format	–
Time indicated in the timestamp	–
Information about the certification service provider	RCSC IssuingCA, VI Registru centras - ID No. 124110246, LT
Certificate validity period	Valid from 2021-12-20 to 2024-12-19
Purpose of the signature	Approval
First name, last name, and position of the person who created the signature	Vidmantas Paukštė, Director of Infrastructure
Date and time the signature was created	2024-09-19 16:00:40 (GMT+03:00)
Signature format	–
Time indicated in the timestamp	2024-09-19 16:00:58 (GMT+03:00)
Information about the certification service provider	EID-SK 2016, AS Sertifitseerimiskeskus, EE
Certificate validity period	Valid from 2023-05-27 to 2028-05-25
Information about the methods used to ensure metadata integrity	–
Number of annexes to the main document	–
Number of documents attached to the main document	–
Name of the software used to create the electronic document	Signa Docs v1.9-SNAPSHOT
Information regarding the verification of the electronic document and electronic signature(s) (verification date)	No errors were found during the verification of the document (2025-03-26)
Date the copy of the electronic document was printed and the employee	Printed on 2025-03-26 by Justinas Čėsna

Search link	—
Additional metadata	—

Technical Construction Regulation STR 1.04.02:2011
 “Engineering Geological (Geotechnical) Investigations”
 Appendix 3

(Form for the Engineering Geological Investigation Work Program)

AB Klaipėda State Seaport Authority

Name of the document's author

(First and last name of the natural person or name of the legal entity)

ENGINEERING GEOLOGICAL SURVEY WORK PROGRAM

September 20, 2024.....

Document date

Document registration number

Name of the survey object: Engineering geological and geotechnical surveys classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; report.

Structure name: Construction of new quays in the southern part of the port.

Location of the study (address): Klaipėda State Seaport (southern part)

Developer (name (or surname), address, phone number, email):

AB Klaipėda State Seaport Authority, J. Janonio St. 24-1, LT-92251 Klaipėda, email g.sakutis@port.lt

Structure category: special, non-special, simple

Type of construction: new construction, reconstruction, major renovation, other

Geotechnical category (for design geotechnical investigations): first, second, third

Coordinates of the investigation area boundaries:

Number	X	Y
1	6173323	319840
2	6173323	319861
3	6172983	320154
4	6172623	320350
5	6172454	320200
6	6171108	320028
7	6171367	319645
8	6171854	319736
9	6172749	319433
10	6172999	319813

Purpose of the studies:

The prepared IGG survey report will be used to prepare projects for the construction of quays, shore reinforcement, and other necessary structures, as well as dredging works. The studies must provide the necessary data on the geological structure of the foundation and the subsurface, geological processes, groundwater, as well as the soil properties required for the design of the structure.

Objectives of the investigations: to determine the geological structure of the study site (distribution and thickness of geological layers), the soils comprising the subsurface, and the

. Determine the absolute elevation of the top and bottom of the geological strata. Determine the hydrogeological conditions of the construction site. Determine and select the composition, scope, and methods of engineering geological and geotechnical investigations so that sufficient data can be obtained for the preparation of the building design, taking into account the construction and usage requirements of the planned structure.

Brief analysis and evaluation of archival materials and data from engineering geological mapping and previous studies:

The relief type is marine. Subtype: Post-littoral marine lagoons. Age: Holocene.

List of reports from previous studies:

10.1. Report on geological assessment of amber resources at the construction site of the Klaipėda International Ro-Ro Terminal, 1996. MTĮ "Geoprojektas," Rimša V., Šlauteris A. Fund No. 4426

10.2. Report on the Engineering-Geological Mapping of the Southern Part of the Klaipėda State Seaport Territory, Scale 1:5000, 2005. Damušytė, A., Karmazin, B., Lithuanian Geological Survey, Marcinkevičius, V. Fund No. 8265

10.3. Report on Engineering-Geological Investigations for the Modernization of the Klaipėda International Ro-Ro Terminal, 1996. MTĮ "Geoprojektas," Šlauteris A. Fund No. 4416

10.4. Report on Engineering-Geological Investigations for Preparatory Works for the Deepening and Widening of the Shipping Channel at the Klaipėda State Seaport, 2010

10.5. Report on engineering-geological and geotechnical investigations for the construction of the gas pipeline section between the planned LNG terminal and the high-pressure gas pipeline onshore, 2012. Jarašiūnas T., Pečkaitis A., Šlauteris A., UAB "Geoprojektas" ir Ko. Fund No. 16508

10.6. Section 2 of the LNG terminal connecting pipeline (transmission system) in Klaipėda City Municipality, construction project. Design engineering geological investigations. 2013. Baniulis D., Keraševičius T., UAB "Sweco hidroprojektas". Fund No. 17558

Scope of investigations:

6.1. In accordance with the requirements of STR 1.04.02:2011 "Engineering Geological and Geotechnical Investigations," prepare the technical specifications for Category III geotechnical engineering geological (IGG) investigations in accordance with STR 1.04.02:2011 and coordinate them with the Port Authority.

6.2. Prepare a work program for IGG investigations for Geotechnical Category III. Coordinate the prepared program with the Lithuanian Geological Survey and the Port Authority. Conduct IGG investigations in accordance with the prepared program, prepare an IGG investigation report, and coordinate it with the Lithuanian Geological Survey.

6.3. If a contract for the preparation of the technical design is signed prior to the coordination of the IGG survey technical assignment and/or program, coordinate the IGG survey technical assignment and/or program with the technical design preparer.

6.4. Scope of IGG surveys:

6.4.1. Conduct IGG surveys:

6.4.1.1. 34 (thirty-four) main boreholes shall be drilled along the planned quay cordon line (currently within the water area) to a depth of –35.5 m (according to BAS77);

6.4.1.2. 10 (ten) main boreholes are drilled on Kiaulės Nugaros Island to a depth of –35.5 m (according to BAS77).

6.4.1.3. In the planned area, 24 (twenty-four) main boreholes are being drilled to a depth of –18.0 m (according to BAS77).

6.4.2. Soil samples shall be taken from each engineering geological layer to determine physical and mechanical properties as well as grain size distribution.

Laboratory tests shall be conducted for each engineering geological layer (IGS). The following physical properties of the soil shall be determined during laboratory testing: natural density, solid particle density, natural moisture content, plasticity moisture content, consistency moisture content, and mechanical properties: shear strength, compressive strength, undrained cohesion, calculation of total soil cohesion and angle of internal friction, etc., as required by regulatory documents. For cohesive (clayey) soils, perform oedometer compression tests to determine the oedometer modulus of deformation.

6.4.3. Perform tests to determine the granulometric analysis for each engineering geological layer (IGS) and classify the soil according to LST ISO and DIN 18196 standards.

6.4.4. Conduct tests on the macro-component composition of water and determine the aggressiveness of water and soil toward metal and concrete.

6.4.5. At the borehole locations described in 6.4.1.1 and 6.4.1.2, perform static cone penetration (CPTU) tests during IGG investigations until the load on the probe sensors exceeds the maximum allowable (maximum cone load not less than 30 MPa, lateral friction not less than 1000 kPa) and/or super-heavy dynamic sounding (DPSH) or standard penetration (SPT) tests.

Once the maximum cone loads are reached during the test, continue interval sounding at 1-meter intervals down to the borehole depth. Present the results in test graphs and summary tables of calculated indicators.

6.4.6. Well drilling operations are performed using mechanical column and/or auger methods. The number of wells, their layout, and the number and type of samples to be collected (disrupted or undisturbed) are justified in the project's geological survey work program.

6.4.7. If a confined aquifer is encountered during drilling, determine the filtration coefficient and the groundwater level.

7. Other additional conditions:

7.1. When performing the work, the structural data of the quays provided in the quays' technical passports must be taken into account.

7.2. Permits for conducting investigations and coordination documents shall be organized by the investigator.

7.3. Analyze the archival materials of the submitted engineering geological surveys.

7.4. Determine the levels of ground water and confined groundwater.

7.5. Tests of the chemical composition of groundwater, as well as assessments of corrosion aggressiveness, must be performed in a laboratory holding a permit issued by the Ministry of the Environment of the Republic of Lithuania to conduct such tests, and laboratory tests and analyses of soil and/or rock samples and specimens must be performed in accredited laboratories (in accordance with STR 1.04.02:2011, Section 107). The Supplier must submit the laboratory test reports from the laboratory.

7.6. If cohesive (clayey) soils are not encountered during drilling, one borehole must be drilled to a depth where the cohesive (clayey) soil layer is reached, penetrating two meters into it.

7.7. Tests must be performed using certified equipment.

7.8. The IGG test report shall be submitted in two (2) hard copies and one (1) copy on a digital medium.

Additionally, one (1) copy of the anonymized IGG test report shall be submitted on a digital medium to ensure the protection of personal data in accordance with legal requirements. **Special requirements:** During the course of the survey, the locations of boreholes may change slightly due to underground utilities in the survey area.

Survey program implementation and data submission:

Penetration tests (CPT/DPSH) are performed near the investigation boreholes. Key results: geometry of engineering geological layers (depth, thickness) and depth of groundwater table, grain size distribution, natural density, natural moisture content, density of solid particles, consistency moisture content, plasticity moisture content, cone strength, cohesion, angle of internal friction, oedometer modulus of deformation, filtration coefficient, water macrocomponent composition and aggressiveness to concrete, total modulus of deformation of soils (E_0).

The locations of the boreholes are marked on the plan (attached). The boreholes are drilled using hollow-core drills, with samples taken at intervals using a soil sampler that is lowered and raised using a crane. The sample is taken by rotation, and to maintain the highest possible sample quality class, the soil corer's sampling tube does not rotate thanks to the installed bearings. Sampling of undisturbed soil with soil samplers will be performed only at those intervals from which samples are required. Samples of disturbed soil will also be taken to determine the soil's granulometric composition and classification.

Soil sample analyses and tests will be performed in a soil testing laboratory, and test reports for the laboratory analyses will be provided in accordance with the requirements of the relevant standard.

Scope of laboratory tests:

- particle size distribution (90 to 140 tests)
- natural density (40 to 60 tests)
- natural moisture content (40 to 60 tests)
- particle density (40 to 60 tests)
- workability moisture (30 to 50 tests)
- plasticity moisture content (30 to 50 tests)
- consolidation index OCR (to be calculated from CPT data)
- percentage of organic matter in the soil
- optimal dry soil density and moisture content (1 to 2 tests)
- cone strength
- surface friction
- total cohesion (10 to 20 tests)
- angle of internal friction (10 to 20 tests)
- Oedometer modulus (5 to 10 tests)
- filtration coefficient
- macrocomponent composition of water determination of the corrosive aggressiveness of water to concrete

Undrained cohesion will be calculated from CPT data (in accordance with the “Recommendations of the Committee for Waterfront Structures, Harbours and Waterways, Eighth Edition”).

The purpose of CPT tests is to determine the soil's resistance to cone penetration and the local friction at the friction cone. The tests are performed near the exploration boreholes. The tests will be conducted in accordance with the provisions of standard LST EN ISO 22476-1:2012 “Geotechnical investigations and testing. Field tests. Part 1. Penetration test using an electric and piezoelectric cone.” During static probing, the cone strength, lateral friction, cone strength-to-lateral friction ratio, probing depth, and probe inclination angle were automatically recorded on a personal computer. Static probe data: probe diameter – 36 mm, lateral flange surface area – 150 cm², cone angle – 60°, cross-sectional area – 10 cm², total probe length – 855 mm, weight – 3.5 kg.

The research report will be prepared in accordance with the requirements set forth in Construction Technical Regulation STR 1.04.02:2011. All data obtained during field investigations and the results of laboratory tests, following their processing and interpretation, will be used to prepare the investigation report. The investigation report will present processed and systematized data, and its scope will fully comply with the technical specifications. The investigation report will use geological indices approved by the Lithuanian Geological Survey under the Ministry of the Environment. The investigation report will consist of an explanatory note and textual and graphical appendices, and will include the following data: the client of the investigation; the location, address, and coordinates of the investigation; the purpose and stage of the investigation; the building category; geotechnical category; data on the evaluation of the investigation work program; data on the types of investigation work, methods, equipment, metrological verification, investigation methodologies, and applicable regulatory documents; dates and duration of investigation stages; performers of field work, laboratory investigations, and data processing; work performed by subcontractors. An evaluation of the information received will be conducted, along with assumptions made when analyzing the test results. Layers in which the ground parameters differ only slightly may be assigned to a single engineering geological layer. The provisions of Eurocode 7 (Part 2) will also be followed—fine-grained layers whose composition and/or mechanical properties do not differ significantly may be considered a single layer if their overall behavior is reliable and corresponds to the parameters of the entire foundation.

List of normative documents governing the studies:

1. Construction Technical Regulation STR 1.04.02: 2011 “Engineering Geological and Geotechnical Investigations.”
2. Law on Subsurface Resources of the Republic of Lithuania (Official Gazette, 1995, No. 63-1582; 2001, No. 35-1164).
3. LST EN ISO 17892-4:2017 Geotechnical investigations and testing. Laboratory testing of soils. Determination of particle size distribution.
4. Lithuanian Standard LST EN 1997-1:2005 – LST EN 1997-2:2007 “Eurocode 7. Geotechnical

Design (Parts 1 and 2).”

5. Lithuanian standards LST EN ISO 14688-1:2018 and LST EN ISO 14688-2:2018 Geotechnical investigations and testing. Identification and classification of soils. Part 1. Identification and description (ISO 14688-1:2017). Part 2. Classification principles (ISO 14688-2:2017).
6. Lithuanian Standard LST EN ISO 22476-1:2012 Geotechnical investigations and testing. Field tests. Part 1. Penetration test using an electric and piezoelectric cone (ISO 22476-1:2012).
7. Lithuanian standard LST EN ISO 22475-1:2019 Geotechnical investigations and testing. Sampling methods and groundwater measurements. Part 1. Technical principles of performance (ISO 22475-1:2019).
8. Lithuanian standard LST EN ISO 17892-2:2015 “Laboratory testing of soils. Part 2. Determination of the density of fine-grained soils.”
9. Lithuanian Standard LST EN ISO 17892-1:2015 “Geotechnical investigations and testing. Laboratory soil testing. Part 1. Determination of moisture content”;
10. Lithuanian Standard LST CEN ISO/TS 17892-11:2004 “Geotechnical investigations and tests. Laboratory soil tests. Part 11. Determination of permeability under constant and variable pressure.”
12. Geotechnical investigations and testing. Laboratory soil testing. Part 12. Determination of the limits of plasticity and plasticity (ISO/DIS 17892-12:2016).
13. LST CEN ISO/TS 17892-2:2015 Geotechnical investigations and testing. Laboratory soil testing. Determination of soil density.
14. Lithuanian Standard LST CEN ISO/TS 17892-10:2005 “Geotechnical investigations and testing. Laboratory soil testing. Part 10. Direct shear tests”;
15. Lithuanian Standard LST EN ISO 17892-5:2017 “Geotechnical investigations and tests. Laboratory soil tests. Part 5. Oedometer test on soil subjected to step loading”;
16. Lithuanian Standard LST EN ISO 22476-2:2005 “Geotechnical investigations and testing. Field tests. Part 2. Dynamic probing”;
17. Order of the LGT under the Ministry of the Environment “On the Approval of the Classification of Soils for Engineering Geological and Geotechnical Investigations” (TAR 2019-06-14, Identification Code 2019-09653).

List of executors (name of legal entity or position, first name, and last name of natural person):

1. Head of the Geological Surveys Division Justinas Čėsna
2. Senior Specialist Ernestas Urbonavičius
3. Engineer-Geologist Mindaugas Gedaminskas
4. Engineer-geologist Tautvydas Verseckas
5. Engineer-Geologist Aurelija Funikovienė
6. Head of the Soil Testing Laboratory Department, Algirdas Rimkus
7. Driller Zygmuntas Mazgis
8. Driller Mindaugas Bredelis
9. Driller Valentinas Bačkauskas

ATTACHED:

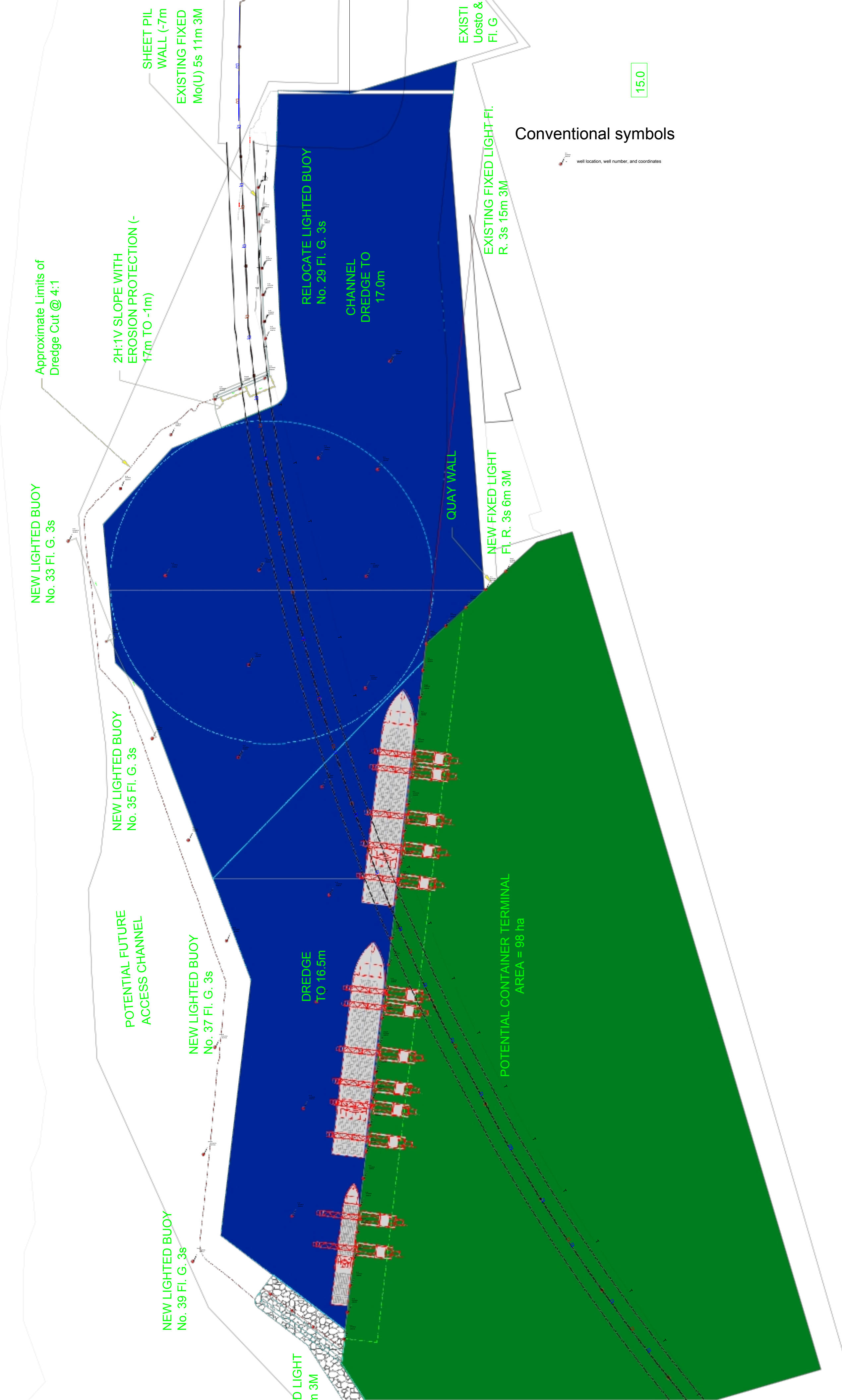
1. Technical specifications (4 pages).
2. Map with fieldwork survey locations (copy, 1 page).

Program prepared by (research supervisor): Justinas Čėsna September 20, 2024
(title, first name, last name, signature)

Research client
(title, first name, last name, signature)

Developer (coordinates the IGG control testing program).....

(position, first name, last name, signature)



Conventional symbols

well location, well number, and coordinates

15.0

(Technical Assignment Form)

AB Klaipėda State Seaport Authority

.....

Name of the document's author

(First and last name of the individual or name of the legal entity)

TECHNICAL SPECIFICATIONS

September 19, 2024.....

Document date Document registration number

IGG study stage (underline): exploratory, design, supplementary, monitoring.

Name of the survey object: For the preparation of a project for the construction of new quays and shore reinforcement and dredging works, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report.

Address of the study site (municipality, parish, settlement, street, building number):

Klaipėda State Seaport (southern part)

Client details (name (or surname), address, phone number, email address):

AB Klaipėda State Seaport Authority, J. Janonio St. 24-1, LT-92251 Klaipėda, email g.sakutis@port.lt

Designer's details (name (or surname), address, phone number, email address) AB Klaipėda State Seaport Authority, J. Janonio St. 24-1, LT-92251 Klaipėda, email g.sakutis@port.lt

Type of construction (check all that apply): new construction, reconstruction, major renovation, other

Purpose of the structure: 10. Hydrotechnical structures

Structure category (check one): special, non-special, simple **Cultural Heritage Register code** (if applicable): none

Geotechnical category (in design studies) (check one): first, second, third.

Data on structure parameters (length, width, height, depth, area):

No data

Loads transferred to the foundation and their intensity: no data

Coordinates of the survey area boundaries:

Number	X	Y
1	6173323	319840
2	6173323	319861
3	6172983	320154
4	6172623	320350
5	6172454	320200
6	6171108	320028
7	6171367	319645
8	6171854	319736
9	6172749	319433
10	6172999	319813

Additional geotechnical parameters and other requirements are established:

- 6.1. In accordance with STR 1.04.02:2011 “Engineering Geological and Geotechnical Investigations” , prepare a technical assignment for IGG investigations of geotechnical category III in accordance with STR 1.04.02:2011 and coordinate it with the Port Authority.
- 6.2. Prepare a work program for IGG investigations for Geotechnical Category III. Coordinate the prepared program with the Lithuanian Geological Survey and the Port Authority. Conduct IGG investigations and prepare an IGG investigation report, coordinating it with the Lithuanian Geological Survey.
- 6.3. If a contract for the preparation of the technical design is signed prior to the coordination of the IGG survey technical assignment and/or program, coordinate the IGG survey technical assignment and/or program with the technical design preparer.
- 6.4. Scope of IGG surveys:
 - 6.4.1. Conduct IGG surveys:
 - 6.4.1.1. 34 (thirty-four) main boreholes to a depth of –35.5 m (according to BAS77) along the planned quay cordon line (currently in the water area);
 - 6.4.1.2. 10 (ten) main boreholes are drilled on Kiaulės Nugaros Island to a depth of –35.5 m (according to BAS77).
 - 6.4.1.3. In the planned area, 24 (twenty-four) main boreholes are being drilled to a depth of –18.0 m (according to BAS77).
 - 6.4.2. Soil samples shall be taken from each engineering geological layer to determine physical and mechanical properties as well as grain size distribution. Laboratory tests shall be conducted for each engineering geological layer (IGS). The following physical properties of the soil shall be determined during laboratory testing: natural density, solid particle density, natural moisture content, plasticity moisture content, consistency moisture content, and mechanical properties: shear strength, compressive strength, undrained cohesion, calculation of total cohesion and angle of internal friction, etc., as required by regulatory documents. For cohesive (clayey) soils, perform oedometer compression tests to determine the oedometer modulus of deformation.
 - 6.4.3. Perform tests to determine the granulometric analysis for each engineering geological layer using IGS and identify the soil in accordance with LST ISO and DIN 18196 standards.
 - 6.4.4. Conduct tests on the macro-component composition of water and determine the aggressiveness of water and soil toward metal and concrete.
 - 6.4.5. At the borehole locations described in 6.4.1.1 and 6.4.1.2, perform static cone penetration (CPTU) tests during IGG investigations until the load on the probe sensors exceeds the maximum allowable (maximum cone load not less than 30 MPa, lateral friction not less than 1000 kPa) and/or super-heavy dynamic sounding (DPSH) or standard penetration (SPT) tests. Once the maximum cone loads are reached during the test, continue interval sounding at 1-meter intervals down to the borehole depth. Present the results in test graphs and summary tables of calculated indicators.
 - 6.4.6. Well drilling operations are performed using mechanical column and/or auger methods. The number of wells, their layout, and the number and type of samples to be collected (disrupted or undisturbed) are justified in the project’s geological survey work program.
 - 6.4.7. If a confined aquifer is encountered during drilling, determine the filtration coefficient and the groundwater level.
7. Other additional conditions:
 - 7.1. When performing the work, the structural data of the quays provided in the quays’ technical passports must be taken into account.
 - 7.2. Permits for conducting surveys and coordination documents shall be organized by the survey contractor.
 - 7.3. Analyze the archival materials of the submitted engineering geological surveys.

- 7.4. Determine the levels of ground water and confined groundwater.
- 7.5. Tests of the chemical composition of groundwater, as well as assessments of corrosion aggressiveness, must be performed in a laboratory holding a permit issued by the Ministry of the Environment of the Republic of Lithuania to conduct such studies, and laboratory studies and tests of soil and/or rock samples and specimens must be performed in accredited laboratories (in accordance with STR 1.04.02:2011, Section 107). The Supplier must submit the laboratory test reports from the laboratory.
- 7.6. If cohesive (clayey) soils are not encountered during drilling, one borehole must be drilled to a depth where the cohesive (clayey) soil layer is reached, penetrating two meters into it.
- 7.7. Tests must be performed using certified equipment.
- 7.8. The IGG test report shall be submitted in two (2) hard copies and one (1) copy on a digital . Additionally, one copy of the anonymized IGG investigation report shall be submitted on a digital medium to ensure the protection of personal data in accordance with legal requirements.

List of normative documents governing the studies:

1. Technical Regulation for Construction STR 1.04.02: 2011 “Engineering Geological and Geotechnical Investigations.”
2. Law on Subsurface Resources of the Republic of Lithuania (Official Gazette, 1995, No. 63-1582; 2001, No. 35-1164).
3. LST EN ISO 17892-4:2017 Geotechnical investigations and testing. Laboratory testing of soils. Determination of particle size distribution.
4. Lithuanian Standard LST EN 1997-1:2005 – LST EN 1997-2:2007 “Eurocode 7. Geotechnical design (Parts 1 and 2).”
5. Lithuanian standards LST EN ISO 14688-1:2018 and LST EN ISO 14688-2:2018 Geotechnical investigations and testing. Identification and classification of soils. Part 1. Identification and description (ISO 14688-1:2017). Part 2. Classification principles (ISO 14688-2:2017).
6. Lithuanian Standard LST EN ISO 22476-1:2012 Geotechnical investigations and testing. Field tests. Part 1. Penetration test using an electric and piezoelectric cone (ISO 22476-1:2012).
7. Lithuanian standard LST EN ISO 22475-1:2019 Geotechnical investigations and testing. Sampling methods and groundwater measurements. Part 1. Technical principles of performance (ISO 22475-1:2019).
8. Lithuanian standard LST EN ISO 17892-2:2015 “Laboratory testing of soils. Part 2. Determination of the density of fine-grained soils.”
9. Lithuanian standard LST EN ISO 17892-1:2015 “Geotechnical investigations and testing. Laboratory soil testing. Part 1. Determination of moisture content”;
10. Lithuanian Standard LST CEN ISO/TS 17892-11:2004 “Geotechnical investigations and tests. Laboratory soil tests. Part 11. Determination of permeability under constant and variable pressure.”
12. Geotechnical investigations and testing. Laboratory soil testing. Part 12. Determination of limits of plasticity and plasticity (ISO/DIS 17892-12:2016).
13. LST CEN ISO/TS 17892-2:2015 Geotechnical investigations and testing. Laboratory soil testing. Determination of soil density.
14. Lithuanian Standard LST CEN ISO/TS 17892-10:2005 “Geotechnical investigations and testing. Laboratory soil testing. Part 10. Direct shear tests”;
15. Lithuanian Standard LST EN ISO 17892-5:2017 “Geotechnical investigations and tests. Laboratory soil tests. Part 5. Oedometer test on soil subjected to step loading”;

16. Lithuanian Standard LST EN ISO 22476-2:2005 “Geotechnical investigations and testing. Field tests. Part 2. Dynamic probing”;

17. Order of the LGT under the Ministry of the Environment “On the Approval of the Classification of Soils for Engineering Geological and Geotechnical Investigations” (TAR 2019-06-14, Identification Code 2019-09653).

Previous geological surveys conducted on the site:

10.1. Report on Geological Assessment of Amber Resources at the Construction Site of the Klaipėda International Ro-Ro Terminal, 1996. MTĮ “Geoprojektas,” Rimša V., Šlauteris A. Fund No. 4426

10.2. Report on the Engineering-Geological Mapping of the Southern Part of the Klaipėda State Seaport Territory at a Scale of 1:5000, 2005. Damušytė A., Karmazin B., Lithuanian Geological Survey, Marcinkevičius V. Fund No. 8265

10.3. Report on Engineering-Geological Investigations for the Modernization of the Klaipėda International Ro-Ro Terminal, 1996. MTĮ “Geoprojektas”, Šlauteris A. Collection No. 4416

10.4. Report on Engineering-Geological Investigations for Preparatory Works for the Deepening and Widening of the Shipping Channel at the Klaipėda State Seaport, 2010

10.5. Report on engineering-geological and geotechnical investigations for the construction of the gas pipeline section between the planned LNG terminal and the high-pressure gas pipeline onshore, 2012. Jarašiūnas T., Pečkaitis A., Šlauteris A., UAB “Geoprojektas” ir Ko. Fund No. 16508

10.6. Section 2 of the LNG terminal connecting pipeline (transmission system) in Klaipėda City Municipality, construction project. Design engineering geological surveys. 2013 Baniulis D., Keraševičius T., UAB “Sweco hidroprojektas”. Fund No. 17558

Client

.....
first name, last name, signature, date

Project Manager

.....
first name, last name, signature, date

Research supervisor (I received the assignment).....

first name, last name, signature, date

METADATA	
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Klaipėda State Seaport
Authority, Public Limited Company

Sweco Lietuva, UAB
September 20, 2024, to Justinas Čėsna, Head of the Geology Department

In an email dated

RE: ENGINEERING GEOLOGICAL SURVEY PROGRAM

We hereby inform you that we have reviewed the program you prepared for the design engineering geological and geotechnical investigations and the preparation of a report required for the construction of new quays and shore reinforcement, and dredging works, and, taking into account that AB "KN Energies" in its letter No. KN-505, does not object to and approves the planned engineering geological and geotechnical investigations, we support it.

Sincerely

Director of Infrastructure

Vidmantas Paukštė

G. Sakutis, tel. +370 46 499 719, e-mail g.sakutis@port.lt

DETAILED METADATA	
Document creator(s)	KVJUD 240329870, J. Janonio St. 24, LT-92251 Klaipėda
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**LITHUANIAN GEOLOGICAL SERVICE
UNDER THE MINISTRY OF THE
ENVIRONMENT**

UAB “Sweco Lietuva”
Email justinas.cesna@sweco.lt

2024-10-
To 2024-10-03

No.
No. ŽGT-2024-4245

REGARDING THE EVALUATION OF THE ENGINEERING GEOLOGICAL SURVEY PROGRAM

The Lithuanian Geological Survey under the Ministry of the Environment (hereinafter referred to as the Survey), in accordance with Section 9.1.4 of the Survey’s Regulations, has evaluated the work program for engineering geological and geotechnical investigations classified as Geotechnical Category III (hereinafter referred to as the “Survey Program”) prepared by your company for the “Preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, and dredging works. Work program for engineering geological surveys of Geotechnical Category III.”

It has been established that the Survey Program was prepared in accordance with the provisions of Construction Technical Regulation STR 1.04.02:2011 “Engineering Geological and Geotechnical Surveys.”

Deputy Director, Acting Director

Jolanta Čyžienė

Vytautas Minkevičius tel. (8 5) 213 9053, e-mail p.vytautas.minkevicius@lgt.lt

¹ **Important information.** For the purposes of performing the functions of the Lithuanian Geological Survey under the Ministry of the Environment (hereinafter—the Survey), the following personal data may be processed: first name(s), last name(s), personal identification number, date of birth, place of residence and mailing address, details of a document confirming the identity of the natural person, telephone number, email address, education, employment status, profession, gender, nationality, and other personal data obtained in accordance with the procedures and grounds established by laws and other legal acts regulating the Service’s activities, where such personal data is required by law to carry out the Service’s activities. When processing personal data, the Service may use data from the Subsurface Register and other information systems managed by it (the Service), as well as from other state information systems and registers, to the extent necessary for the performance of the Service’s functions.

The legal basis for the processing of personal data is that the processing is necessary for compliance with a legal obligation to which the controller is subject (Article 6(1)(c) of the General Data Protection Regulation). More detailed information on the processing of personal data by the Service can be found on the website of the Lithuanian Geological Survey under the Ministry of the Environment, lgt.lrv.lt, in the section “Personal Data Protection”

Budgetary Institution
S. Konarskio St. 35,
LT-03123 Vilnius

Tel. +370 646 548 62
Email: info@lgt.lt
lgt.lrv.lt

Data is collected and stored
in the Register of Legal
Entities, code 188710780



LGT

LIETUVOS
GEOLOGIJOS
TARNYBA

Created: October 15, 2024, 5:48 p.m. Created
by: Senior Specialist Indrė Pociute

Outgoing document

Registration details		
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Document prepared by	Senior Specialist Vytautas Minkevičius	
Document reviewed by	Department Head Roma Kanopienė	
Document signed by	Director Egidijus Viskontas (from October 14, 2024, to October 18, 2024; on a business trip; acting in his absence: Deputy Director Jolanta Čyžienė)	
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Director Egidijus Viskontas (from 2024-10-14 to 2024-10-18, on a business trip; Deputy Director Jolanta Čyžienė is acting in his place)	October 15, 2024, 4:52:12 PM	Signed version 2.0. Comments:
Senior Specialist Indrė Pociute	October 15, 2024, 5:47:46 PM	Registered document: 1-7: Register of Outgoing Documents 2024: 1.22 Mr: Documents regarding correspondence with institutions, companies, and organizations of the Republic of Lithuania on informational matters related to geology

APPROVED

By Order No. 1-207 of the Director of the Lithuanian Geological
Survey under the Ministry of the Environment dated June 11, 2020



LITHUANIAN GEOLOGICAL SERVICE UNDER THE MINISTRY OF THE ENVIRONMENT

PERMIT TO EXPLORE THE SUBSURFACE

July 1, 2020 No. 1325341

Vilnius

UAB “Sweco Lietuva”

(legal entity data is collected and stored in the Register of Legal Entities, code 301135783, address: Vilnius,
Spaudos g. 6-1)

Permission is granted to conduct:

prospecting and exploration for non-metallic mineral resources,
prospecting and exploration for valuable minerals,
search for and exploration of groundwater,
prospecting and exploration for geothermal energy,
engineering geological (geotechnical) surveys, eco-
geological surveys,
hydrogeological mapping, eco-
geological mapping,
engineering geological mapping.

Director
(job title)

A.V.

(signature)

Giedrius Giparas
(First and Last Name)



Issued:
Valid until:
Certificate number:

October 16, 2024
October 15, 2027
10632074

Initial approvals:
ISO 14001 – October 4, 2011
ISO 9001 – October 4, 2011
ISO 45001 – October 12, 2020

Certificate of Conformity

Issued

SWECO Lietuva, UAB

Ozo g. 12A-1, LT-08200 Vilnius, Lithuania

LRQA confirms that the organization's management system complies with the standard(s)

ISO 14001:2015, ISO 9001:2015, ISO 45001:2018

Certification number(s): ISO 14001 – 0000300, ISO 9001 – 0000301, ISO 45001 – 0000302

This certificate is valid only in conjunction with the certificate annex listing the locations and bearing the same number corresponding to this approval

Scope of the management system:

Consulting, project management, research, planning, design, project supervision, FIDIC engineer, construction supervision, and construction management services in the fields of engineering, environmental protection, land management, and architecture.

Marta Escudero

Head of Operations, Europe Issued by

LRQA Limited



LRQA Group Limited, its affiliates and subsidiaries, and their respective officers, employees, or agents are, individually and collectively, referred to in this clause as 'LRQA'. LRQA assumes no responsibility and shall not be liable to any person for any loss, damage, or expense caused by reliance on the information or advice in this document or provided in any other manner, unless that person has signed a contract with the relevant LRQA entity for the provision of this information or advice, in which case any responsibility or liability is exclusively subject to the terms and conditions set out in that contract.

Certificate Annex

Location	Activity
SWECO Lietuva, UAB Ozo St. 12A-1, LT-08200 Vilnius, Lithuania	ISO 14001:2015, ISO 9001:2015, ISO 45001:2018 Consulting, project management, research, planning, design, project supervision, FIDIC engineer, construction supervision, and construction management services in the fields of engineering, environmental protection, land management, and architecture.
SWECO Lietuva, UAB A. Strazdo St. 22, LT-48488 Kaunas, Lithuania	ISO 14001:2015, ISO 9001:2015, ISO 45001:2018 Consulting, project management, research, planning, design, project supervision, FIDIC engineer, construction supervision, and construction management services in the fields of engineering, environmental protection, land management, and architecture.



LRQA Group Limited, its affiliates and subsidiaries, and their respective officers, employees, or agents are, individually and collectively, referred to in this clause as 'LRQA'. LRQA assumes no responsibility and shall not be liable to any person for any loss, damage, or expense caused by reliance on the information or advice in this document or provided in any other manner, unless that person has signed a contract with the relevant LRQA entity for the provision of this information or advice, in which case any responsibility or liability is exclusively subject to the terms and conditions set out in that contract.

CONE CALIBRATION CERTIFICATE

No. Z001/23

Calibrated system (Calibrated system):

Type	P-SC
Serial number	001073
Sensor	TIP RESISTANCE
Max. Capacity [MPa]:	50
Scaling Factor:	357,500
Net area ratio (a_n):	0.80
Sleeve net ratio (b_n):	0.00

Addressee (recipient):

UAB, Sweco Lithuania
22 A. Strazdo St.
Kaunas LT-48488

Applied load measurement system:

(Applied load measurement system)

Load cell:

Manufacturer: AEP transducers
Model: KAL 200 kN
Serial Number: 138913

Power press:

Manufacturer: Easydur Italiana
Model: Aura 20T
Number: 29084

measurement system is periodically checked at a SIT

calibration center. (The detection system is periodically verified at a SIT center)

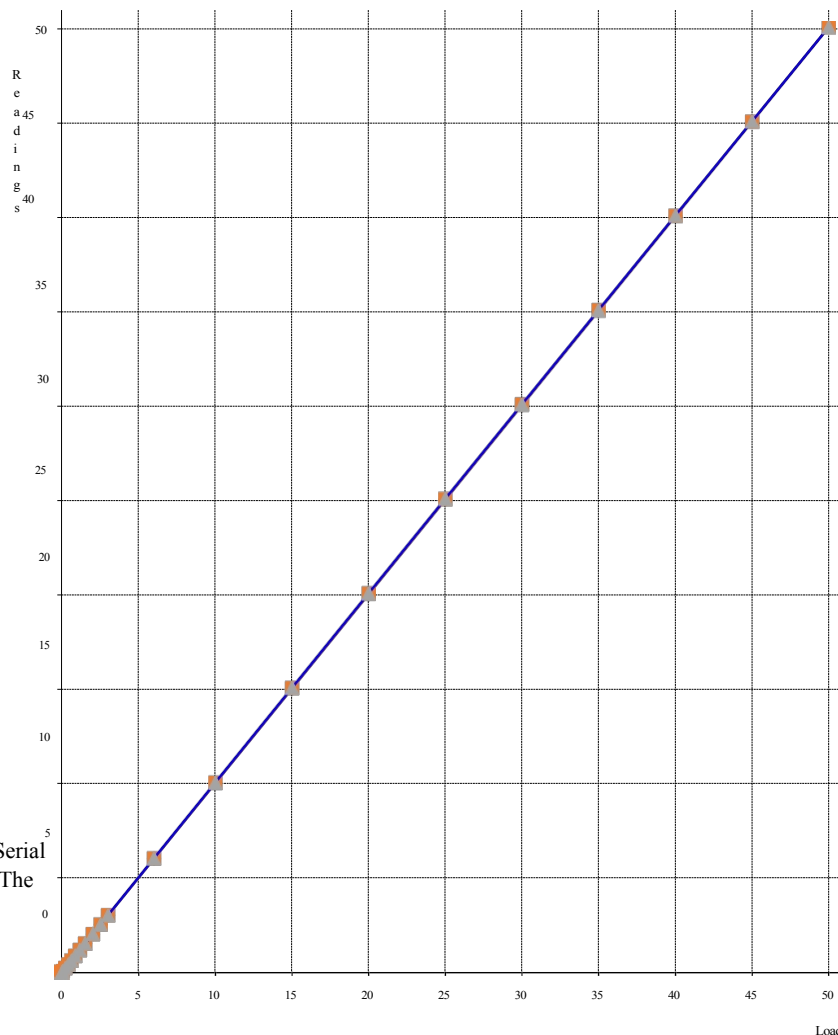
Last verification date: 11/01/2022
Certificate No. LAT 091 2022-004

Calibration temperature: 22°C
Humidity: 25%

Factory calibration in accordance with **ASTM D5778-12**

ASTM D5778-12 Validity 12 Months ISO

22476-1 (App Class 2)



	Ascending		Descending	
	Load	Readings	Load	Readings
1	0.00	0.00	0.00	0.00
2	0.03	0.03	0.03	0.03
3	0.20	0.20	0.20	0.20
4	0.40	0.40	0.40	0.40
5	0.60	0.60	0.60	0.60
6	0.85	0.85	0.85	0.85
7	1.15	1.15	1.15	1.15
8	1.50	1.50	1.50	1.50
9	2.00	2.00	2.00	2.00
10	2.50	2.50	2.50	2.50
11	3.00	3.00	3.00	3.00
12	6.00	6.00	6.00	6.01
13	10.00	10.01	10.00	10.03
14	15.00	15.02	15.00	15.04
15	20.00	20.03	20.00	20.05
16	25.00	25.03	25.00	25.05
17	30.00	30.03	30.00	30.05
18	35.00	35.02	35.00	35.04
19	40.00	40.02	40.00	40.03
20	45.00	45.01	45.00	45.02
21	50.00	50.00	50.00	50.00
Zero-load error: = 0.000 % FSO				
Zero-load thermal stability: ≤ 1,000 % FSO				
Nonlinearity: = 0.056 % FSO				
Hysteresis: = 0.046 % FSO				
Calibration error: = 0.000 % MO				
Apparent load: = 0.028 % FSO				

The adopted calibration procedure was developed in accordance with the recommendations provided by Prof. Paul W. Mayne (Georgia Institute of Technology) and Prof. Diego Lo Presti (University of Pisa)

Cone calibrated by _____

Date of issue 10/01/2023

CONE CALIBRATION CERTIFICATE

No. Z001/23

Calibrated system:

Type

P-SC

Serial number

001073

Sensor

SLEEVE FRICTION

Max. Capacity [kPa]:

1600

Scaling Factor:

59486

Addressee:

UAB, Sweco Lithuania

22 A. Strazdo St.

Kaunas LT-48488

Applied load measurement system:

(Applied load measurement system)

Load cell:

Manufacturer

AEP transducers

Model

KAL 200 kN

Serial Number

138913

Power press:

Manufacturer

Easydur Italiana

Model

Aura 20T

Serial Number

29084

The measurement system is periodically checked at a SIT

calibration center. (The detection system undergoes periodic verification at a SIT center)

Last verification date:

11/01/2022

Certificate No.

LAT 091 2022-004

Calibration temperature

22°C

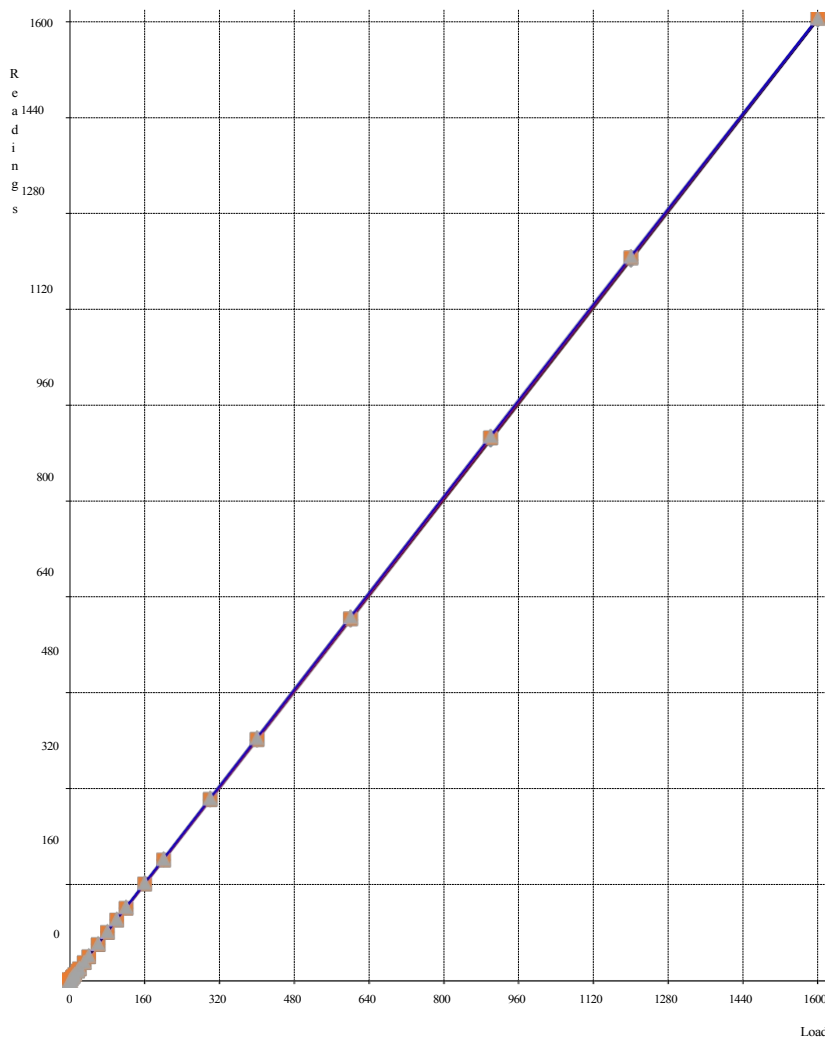
Humidity

25%

Factory calibration in accordance with **ASTM D5778-12**

ASTM D5778-12 Validity 12 Months ISO

22476-1 (App Class 2)



	Ascending		Descending	
	Load	Readings	Load	Readings
1	0.00	0.47	0.00	0.13
2	2.00	1.13	2.00	1.93
3	5.00	4.27	5.00	4.80
4	7.00	6.13	7.00	6.87
5	10.00	8.87	10.00	10.00
6	16.00	14.87	16.00	16.00
7	20.00	18.53	20.00	19.93
8	30.00	28.47	30.00	30.00
9	40.00	38.60	40.00	40.13
10	60.00	58.67	60.00	60.33
11	80.00	78.73	80.00	80.53
12	100.00	99.47	100.00	101.20
13	120.00	119.47	120.00	121.33
14	160.00	159.60	160.00	161.67
15	200.00	199.73	200.00	201.93
16	300.00	300.60	300.00	302.93
17	400.00	401.00	400.00	403.53
18	600.00	602.00	600.00	604.87
19	900.00	903.20	900.00	906.07
20	1,200.00	1,203.27	1,200.00	1,205.67
21	1,600.00	1,602.53	1,600.00	1,602.87
Zero-load error:		=	0.021	% FSO
Zero-load thermal stability:		<=	1.000	% FSO
Nonlinearity:		=	0.204	% FSO
Hysteresis:		=	0.179	% FSO
Calibration error:		=	0.000	% MO
Apparent load:		=	0.130	% FSO

The adopted calibration procedure was developed in accordance with the recommendations provided by Prof. Paul W. Mayne (Georgia Institute of Technology) and Prof. Diego Lo Presti (University of Pisa)

Cone calibrated by _____

Date of issue 10/01/2023

CONE CALIBRATION CERTIFICATE

No. Z001/23

Calibrated system:

Type **P-SC**

Serial number **001073**

Sensor **PORE PRESSURE**

Max. Capacity [kPa]: **2500**

Scaling Factor: **21514**

Sensor **TILT ANGLE**

Max. Inclination [°]: **20**

Scaling Factor: **139145**

Addressee:

UAB, Sweco Lithuania

22 A. Strazdo St.

Kaunas LT-48488

Applied load measurement system:

(Applied load measurement system)

Pressure Generator:

Manufacturer MENSOR

Model CPC 4000

Serial Number 41000V56

Sensor Description Silicon Pressure Transducer

Sensor Serial Number 41000V3Y

The measurement system is periodically checked in a SIT

calibration center. *(The detection system is periodically verified at a SIT center)*

Last verification date: 04/22/2022

Certificate No. 0284-SP-22

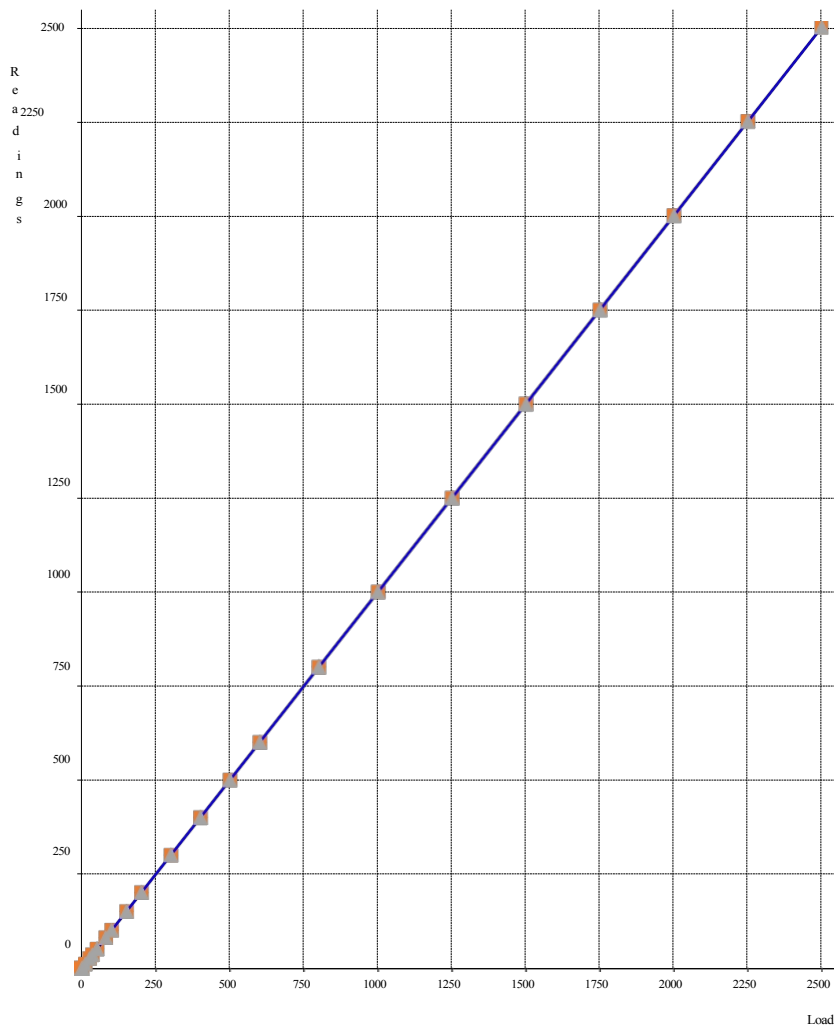
Calibration temperature 22°C

Humidity 25%

Factory calibration in accordance with **ASTM D5778-12**

ASTM D5778-12 Validity 12 Months ISO

22476-1 (App Class 2)



	Ascending		Descending	
	Load	Readings	Load	Readings
1	0.00	0.00	0.00	0.00
2	10.00	10.00	10.00	10.00
3	25.00	25.00	25.00	25.00
4	35.00	35.00	35.00	35.00
5	50.00	49.90	50.00	50.00
6	80.00	79.90	80.00	79.90
7	100.00	99.80	100.00	99.80
8	150.00	149.70	150.00	149.70
9	200.00	199.50	200.00	199.60
10	300.00	299.30	300.00	299.50
11	400.00	399.20	400.00	399.30
12	500.00	499.10	499.90	499.20
13	600.00	598.90	600.00	599.00
14	800.00	798.70	800.00	798.80
15	1,000.00	998.40	999.90	998.50
16	1,250.00	1,248.30	1,249.90	1,248.20
17	1,500.00	1,498.30	1,499.80	1,498.00
18	1,750.00	1,748.30	1,749.80	1,748.00
19	2,000.00	1,998.70	1999.80	1,998.20
20	2,250.00	2,249.20	2,250.00	2,249.10
21	2,500.00	2,500.00	2,500.00	2,500.00

Unit: kPa

Zero-load error:	=	0.000	% FSO
Nonlinearity:	=	0.068	% FSO

The adopted calibration procedure was developed in accordance with the recommendations provided by Prof. Paul W. Mayne (Georgia Institute of Technology) and Prof. Diego Lo Presti (University of Pisa)

Cone calibrated by _____

Date of issue 10/01/2023

CONE CALIBRATION CERTIFICATE No. Z001/23

Calibrated system (Calibrated system):

Type **P-SC**
Serial number **001073**
Tip net area ratio (a_n): **0.7901**
Sleeve net ratio (b_n): **0.0000**

Addressee (recipient):

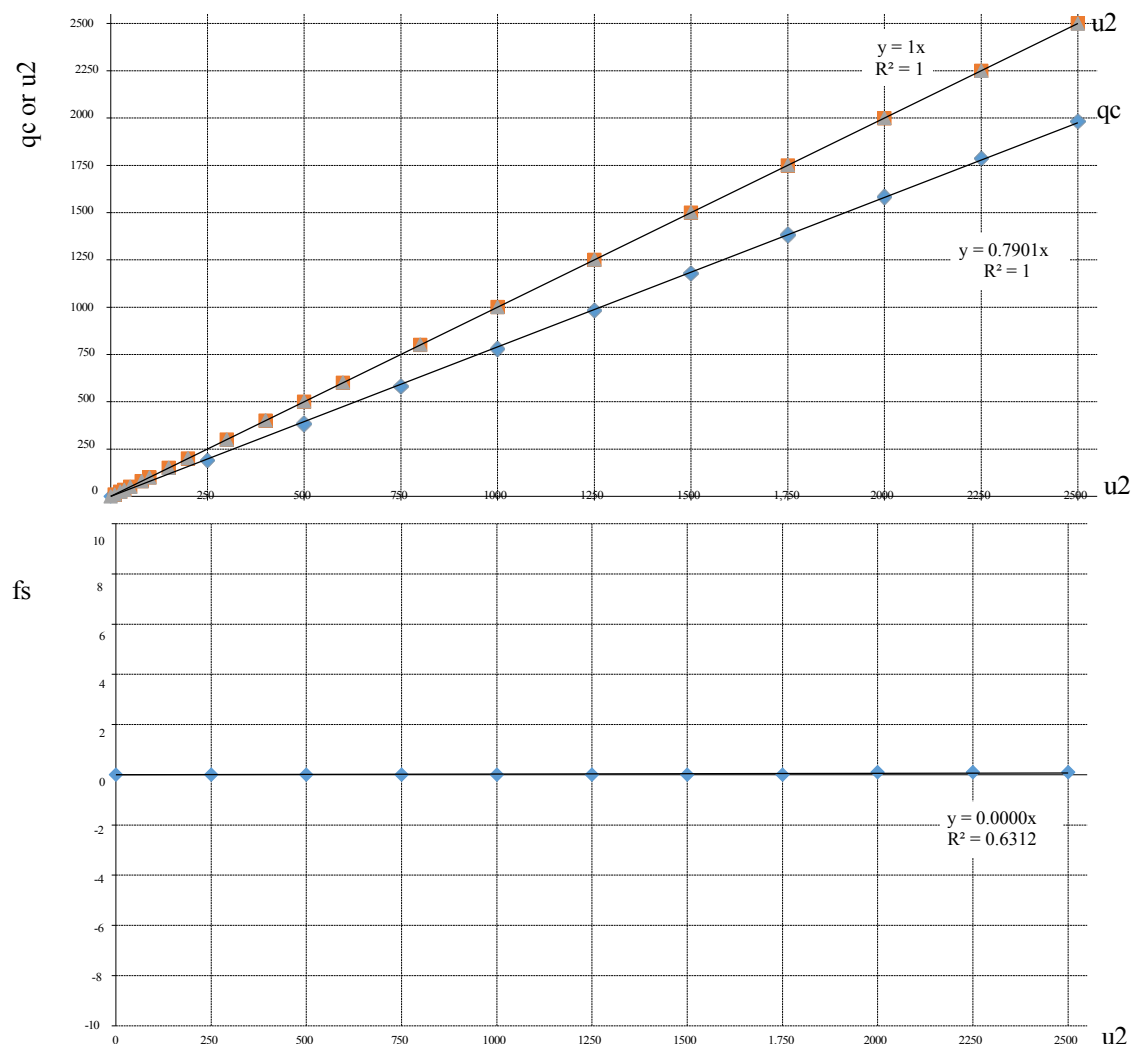
UAB, Sweco Lietuva

A. Strazdo St. 22

Kaunas LT-48488

	u2 (kPa)	qc (kPa)	fs (kPa)	u2 (psi)	qc (psi)	fs (psi)
0 (0)	0.00	0.00	0.00	0.00	0.00	0.00
250 (36.26)	250.00	190.00	0.00	249.60	27.56	0.00
500 (72.52)	500.00	383.00	0.00	499.30	55.55	0.00
750 (108.78)	750.00	582.00	0.00	749.00	84.41	0.00
1,000 (145.04)	1,000.00	780.00	0.00	998.70	113.13	0.00
1,250 (181.30)	1,250.00	982.00	0.00	1,248.60	142.43	0.00
1,500 (217.56)	1,500.00	1,180.00	0.00	1,498.70	171.14	0.00
1,750 (253.82)	1,750.00	1,382.00	0.00	1,748.80	200.44	0.00
2,000 (290.08)	2,000.00	1,583.00	0.10	1,999.00	229.59	0.01
2,250 (326.33)	2,250.00	1,785.00	0.10	2,249.70	258.89	0.01
2,500 (362.59)	2,500.00	1,983.00	0.10	2,500.40	287.61	0.01

Unit: kPa - (psi)



The adopted calibration procedure has been developed in accordance with the suggestions provided by

Prof. Paul W. Mayne (Georgia Institute of Technology) and Prof. Diego Lo Presti (University of Pisa)

Calibration temperature 22°C
Humidity 45%

Factory calibration in accordance with ASTM D5778-12
ASTM D5778-12 Validity 12 Months ISO
22476-1 (App Class 2)

Cone calibrated by _____ Date of issue 10/01/2023

Laboratory test results Appendix 7

1. CLIENT UAB "Sweco Lietuva"
- A. Strazdo St. 22 Kaunas LT-48488
- For the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, dredging works, design
2. PROJECT: engineering geological and geotechnical investigations classified as Geotechnical Category III, report
3. OBJECT Soil
4. SAMPLE
- DATE OF ACCEPTANCE: 2024-12-03
5. SITE
- LOCATION: UAB "Sweco Lietuva" Soil Testing Laboratory, A. Strazdo St. 22, Kaunas
6. TEST
- DATE OF TESTING: 2024-12-03 – 2025-03-27
7. SOIL
- SAMPLE QUANTITY Three hundred thirty-seven (337) soil samples, compliant with the requirements of standards LST EN ISO 22475-1:2006 and LST EN 1997-IR CONDITION: 2:2007

Approved by: Algirdas Rimkus, Head of the Soil Testing Laboratory

The test results apply only to the object under investigation.

The test report or parts thereof may not be reproduced without the written consent of the laboratory.

The laboratory is not responsible for the sampling stage. The results apply to the sample as received.

Method	Method description
1	LST EN ISO 17892-4:2017 Geotechnical investigations and testing. Laboratory testing of soils. Part 4. Determination of particle size distribution (ISO 17892-4:2016) 5.2. Sieve method
2	LST EN ISO 17892-4:2017 Geotechnical investigations and testing. Laboratory testing of soils. Part 4. Determination of particle size distribution (ISO 17892-4:2016) 5.3. Hydrometer method
3	Grading indices. d ₁₀ , d ₃₀ , d ₅₀ , d ₆₀ – diameters of particles below which, respectively, 10%, 30%, 50%, and 60% of the total soil mass consists of finer particles; CU – grading coefficient; CC – compaction index
4.2	LST EN ISO 17892-11:2019 Geotechnical investigations and testing. Laboratory testing of soils. Part 11. Permeability tests (ISO 17892-11:2019). k ₁₀ - filtration coefficient determined for soil at natural density under head pressure
5	LST EN ISO 17892-2:2015 Geotechnical investigations and testing. Laboratory testing of soils. Part 2. Determination of bulk density (ISO 17892-2:2014) ρ - bulk density, ρ _d - dry soil density
6	LST EN ISO 17892-3:2016 Geotechnical investigations and testing. Laboratory testing of soils. Part 3. Determination of particle density (ISO 17892-3:2015). ρ _s - particle density
7	e - porosity coefficient; n - porosity index; $e = \frac{\rho_s}{\rho_d} - 1$ $n = \frac{e}{1+e}$
8	LST EN ISO 17892-1:2015 Geotechnical investigations and testing. Laboratory testing of soils. Part 1. Determination of water content (ISO 17892-1:2014) w - water content
9	LST EN ISO 17892-12:2018 Geotechnical investigations and testing. Laboratory soil testing. Part 12. Determination of the limits of plasticity and plasticity (ISO 17892-12:2018). Sections 5.3 and 5.5. The limit of plasticity was determined using the falling cone method, employing a cone with a 30° angle and a mass of 80 g using the 4-point method. w _{<0.4} mm - calculated water content of the soil fraction finer than 0.4 mm; w _L - liquidity limit; w _P - plasticity limit; IP - plasticity index; IL - liquidity index; IC - consistency index; IA - activity index;
10	ASTM D2974 - 20e1 Standard Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils
11	LST EN ISO 17892-5:2017 Geotechnical investigations and testing. Laboratory testing of soils. Part 5. Oedometer test on soils subjected to step loading
12	LST EN ISO 17892-7:2018 Geotechnical investigations and testing. Laboratory testing of soils. Part 7. Uniaxial compression test
13	LST EN ISO 17892-10:2019 Geotechnical investigations and tests. Laboratory soil tests. Part 10. Direct shear tests

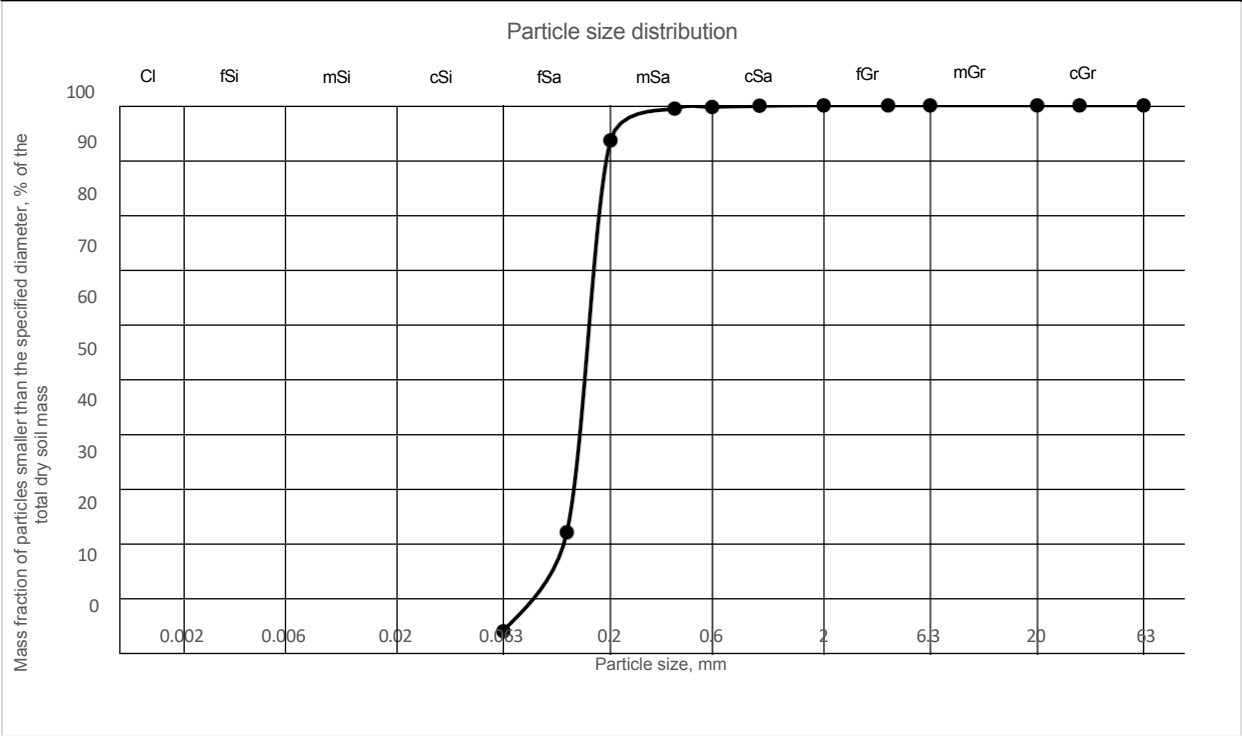
14	LST EN 13286-2:2010/AC:2013 Unbound and hydraulically bound mixtures. Part 2. Test methods for determining laboratory reference density and water content. Proctor compaction

Sample ID - sample identification code in the laboratory; Borehole - borehole (sample collection location); Sample No. - Sample number; Depth from/to – Sample collection depth interval from/to (m); D – Disrupted structure sample; U – Undisturbed structure sample

* - statement of conformity, provided based on the results of investigations of the object under study, in accordance with the soil classification for engineering geological and geotechnical investigations, approved by Order No. 1-175 of the Director of the Lithuanian Geological Survey under the Ministry of the Environment on June 13, 2019, and standard DIN 18196:2023-02 Earthworks and foundations - Soil classification for civil engineering purposes. The decision rule applied to the declaration of conformity equates the safety margin to zero ($w=0$, in accordance with ILAC-G8:09/2019, Section 4.2.1).

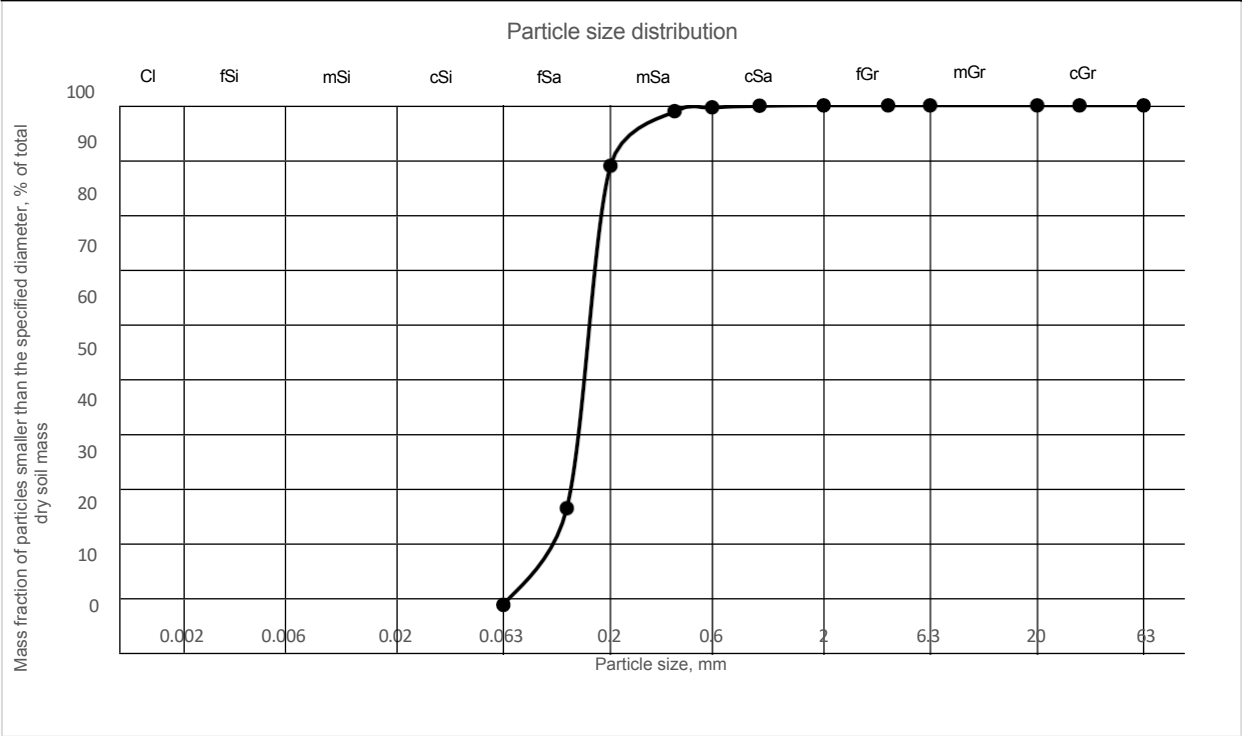
1) - Information provided by the client

Project:	Design engineering geological and geotechnical investigations classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_001	Gr.1	1	U	5.80	6.30



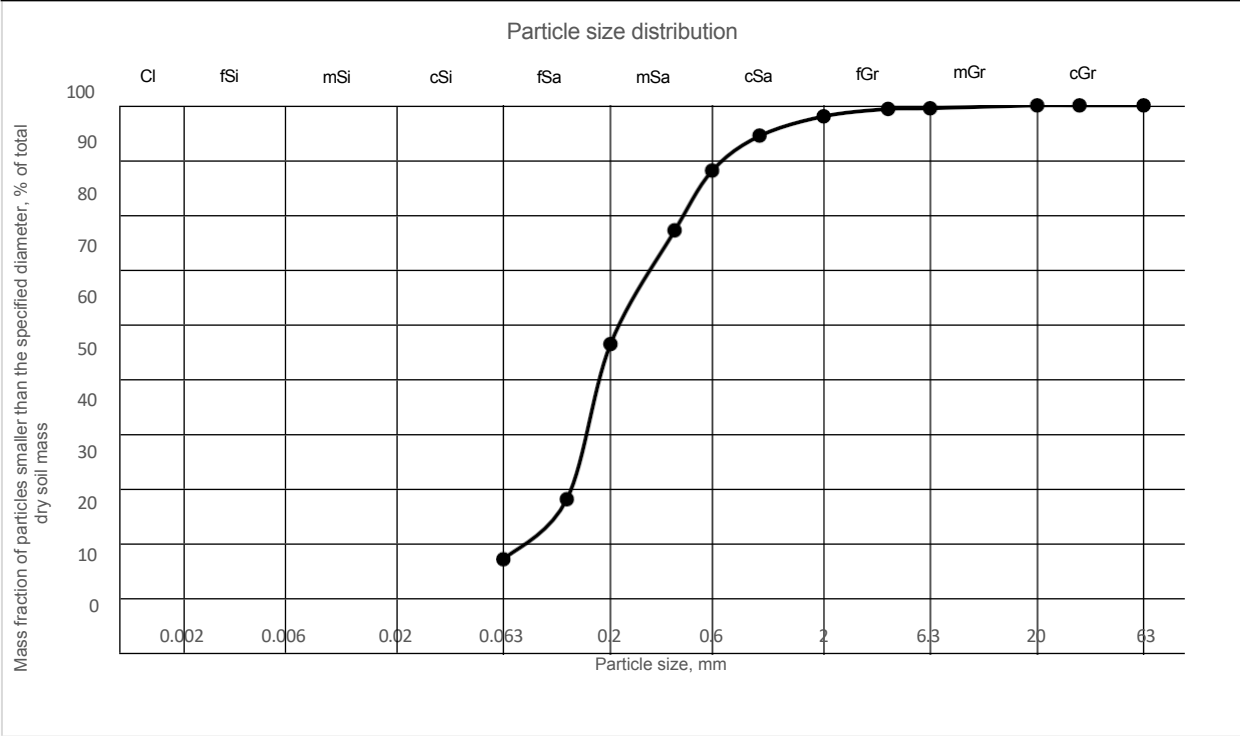
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	93.6	22.3	4.3		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0783	0.1500	2.05								-	-	-	-
		0.1315	0.1603	1.38								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
Soil classification*															
Index:		SaP		Name:			Poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_003	Gr.1	3	D	7.80	9.20



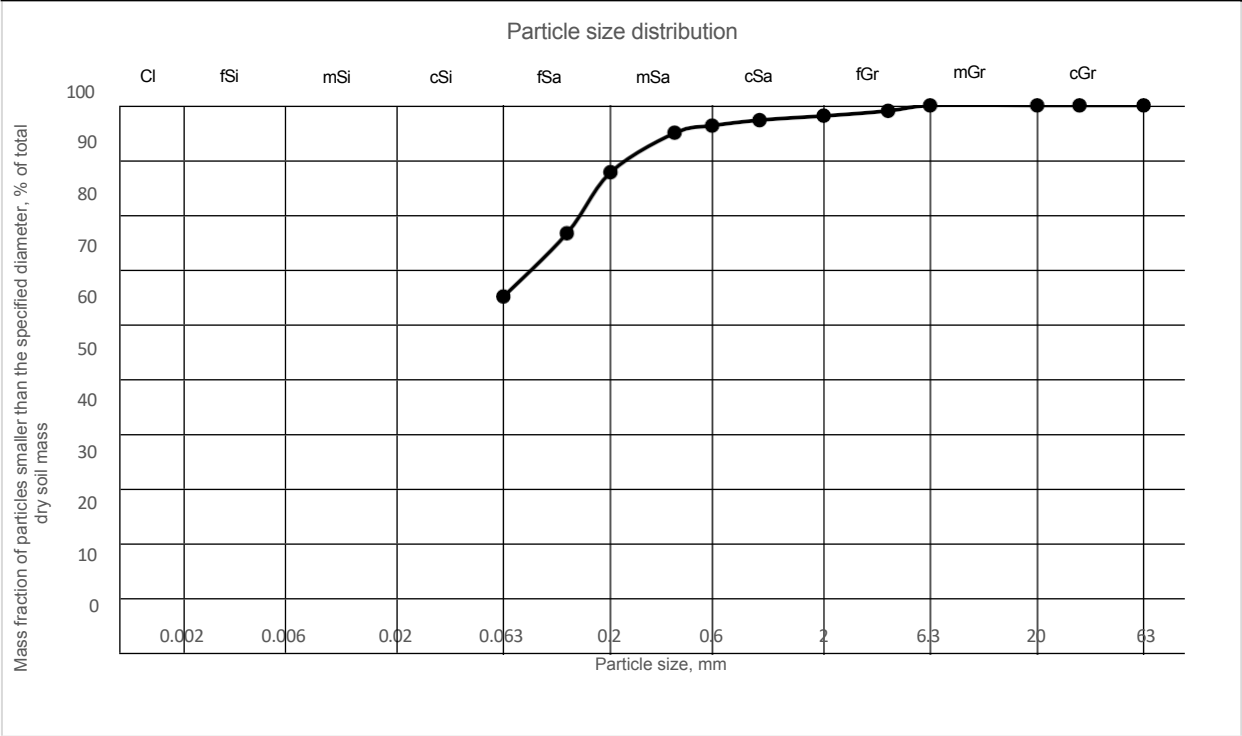
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.6	98.9	89.0	26.7	9.1	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0652	0.1490	2.46						-	-	-	-	
		0.1282	0.1607	1.57						-	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, mg/m³												
Soil classification*														
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_004	Gr.1	4	D	9.60	11.80



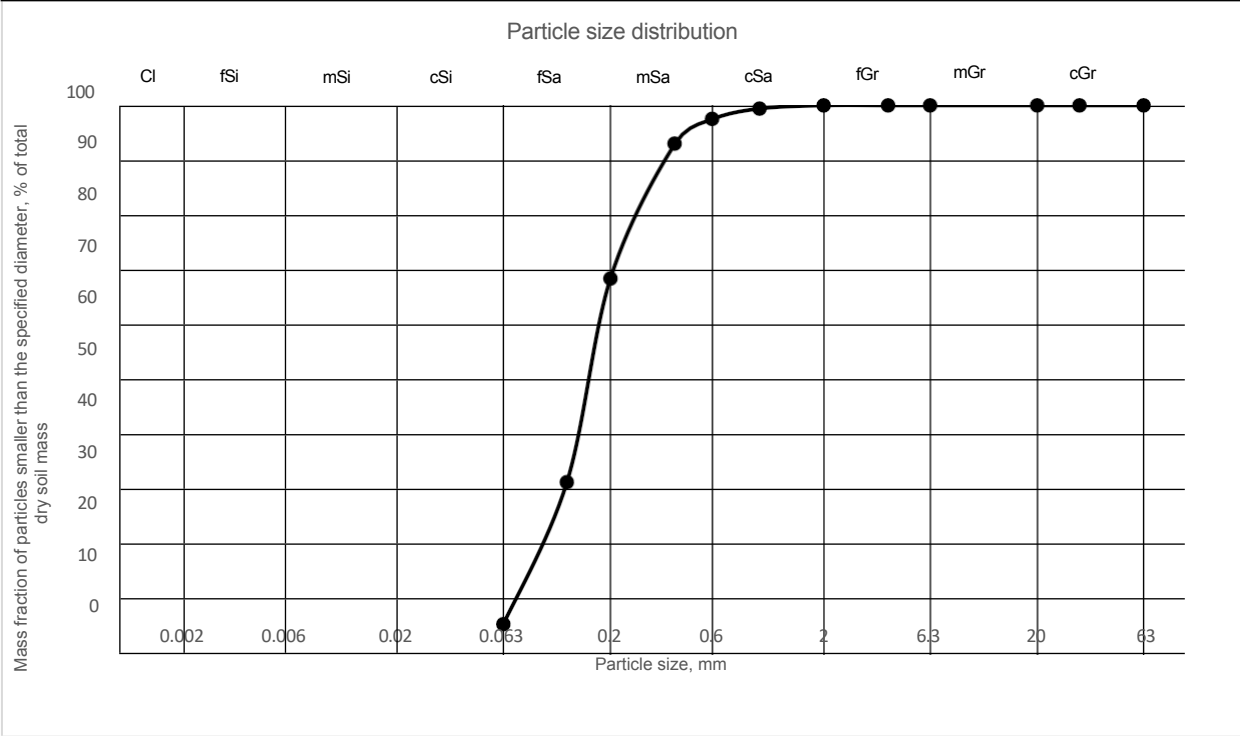
Sieve method (1)		Sieve aperture size, mm																
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063					
		100.0	100.0	100.0	99.5	99.3	98.0	94.5	88.1	77.3	56.5	28.3	17.4					
Hydrometer method (2)		Particle size, mm																
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Ductility tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1					
		-	0.1794	-							16.6	18.1	-					
		0.1285	0.2246	-							77.3	-	-					
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³																
		1.939																
		1.719																
				2.65				0.54										
Soil classification*																		
Index:		siSa		Name:			sandy loam											
Notes:																		
Soil classification DIN 18196:2023-02*																		
Index:		SU*																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_006	Gr.1	6	U	15.40	17.00



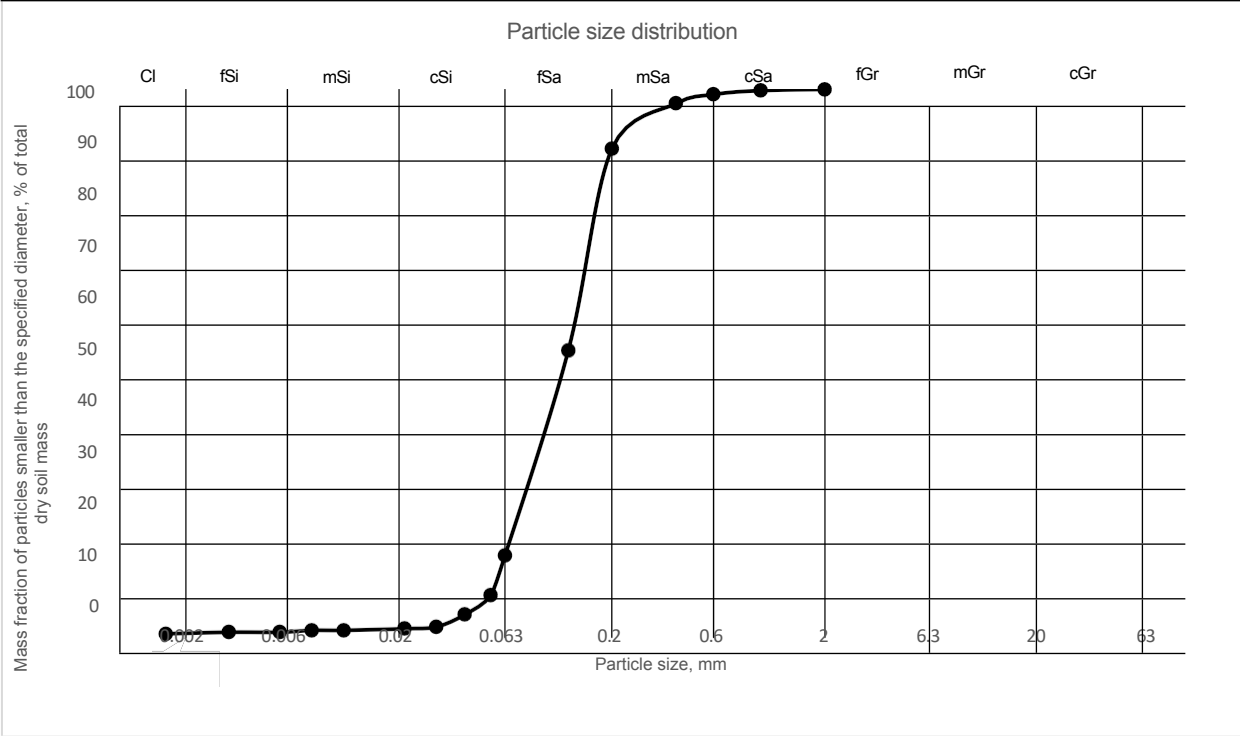
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.0	98.1	97.3	96.3	95.0	87.8	76.7	65.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_007	Gr.1	7	D	5:30 PM	7:30 PM



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.4	97.5	93.0	68.5	31.4	5.6	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0708	0.1582	2.54						-	-	-		
		0.1204	0.1796	1.14						-	-	-		
Soil density (5)		ρ, mg/m³	Particle density (6)		ps, mg/m³	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg·m ⁻³												
Soil classification*														
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand								
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

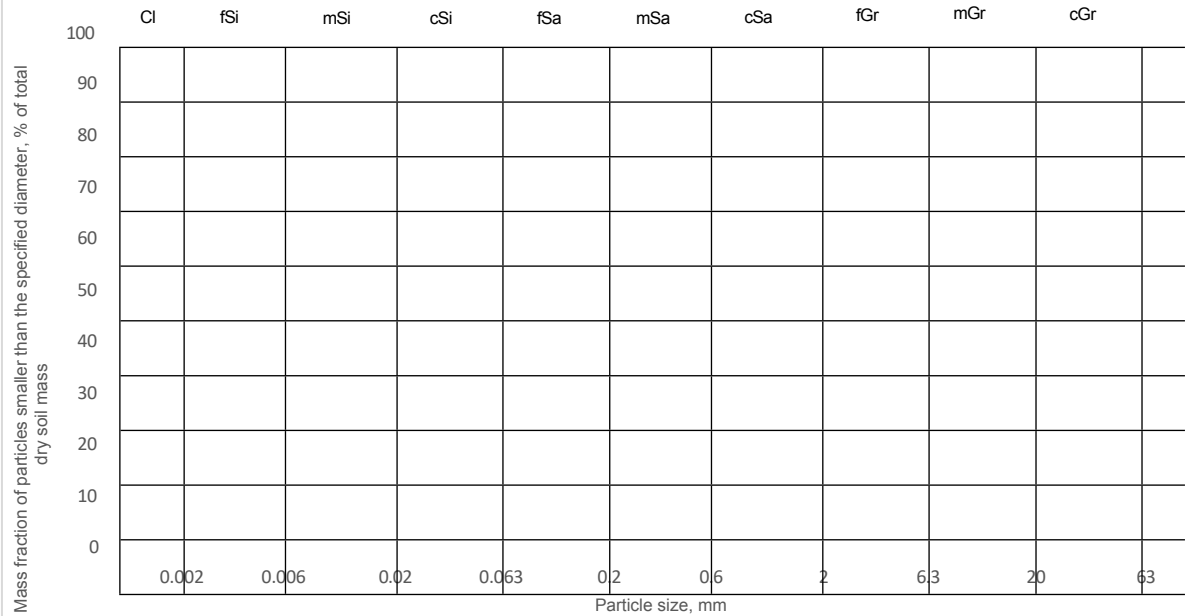
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_008	Gr.1	8	D	21.00	22.00



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.1	97.4	89.2	52.4	14.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0540	0.0408	0.0300	0.0213	0.0110	0.0078	0.0055	0.0032	0.0016		
			7.7	4.2	1.9	1.6	1.3	1.3	1.0	1.0	0.6		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0567	0.1197	2.43		-		-	-	-				
	0.0830	0.1378	0.88		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_010	Gr.1	10	U	24.70	25.80

Particle size distribution

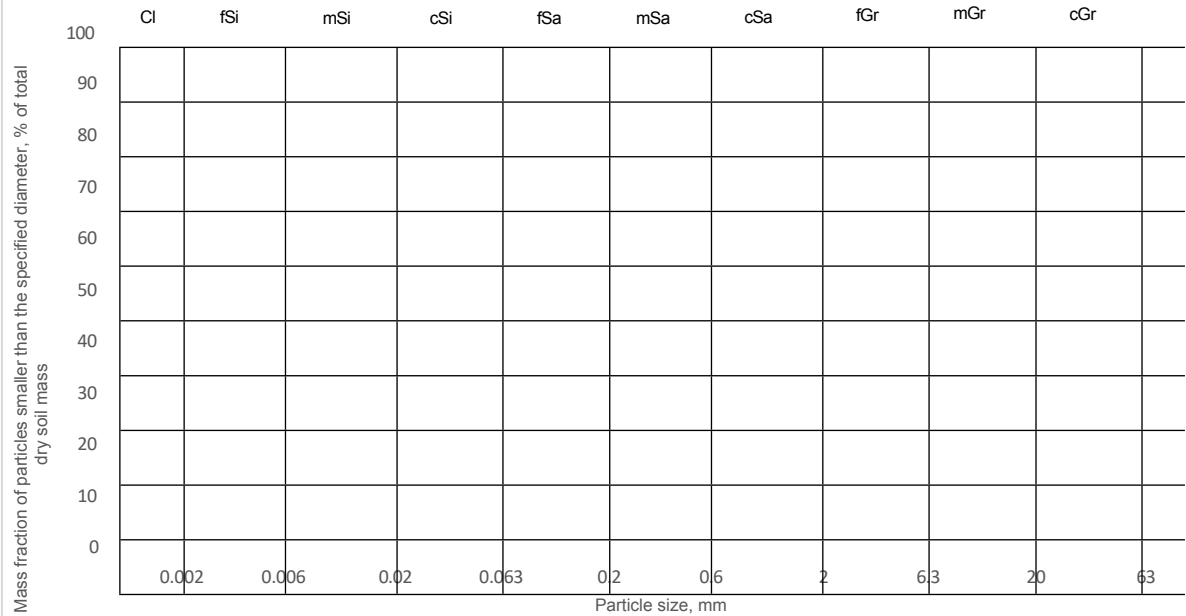


Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0399	0.0289	0.0209	0.0151	0.0084	0.0062	0.0045	0.0027	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0028	-				-	39.2	15.2			
	-	0.0047	-				-	24.0	-			
Soil density (5)	ρ, mg/m³	Particle density (6)	ps, mg/m³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg·m ⁻³		e, 1									
	2.200											
	1.850		0.47									
Soil classification*												
Index:		CIM	Name:		medium-plasticity clay, very stiff							
Notes:		heterogeneous soil										
Soil classification DIN 18196:2023-02*												
Index:		TM										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										



Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_012	Gr.1	12	U	28.30	28.80

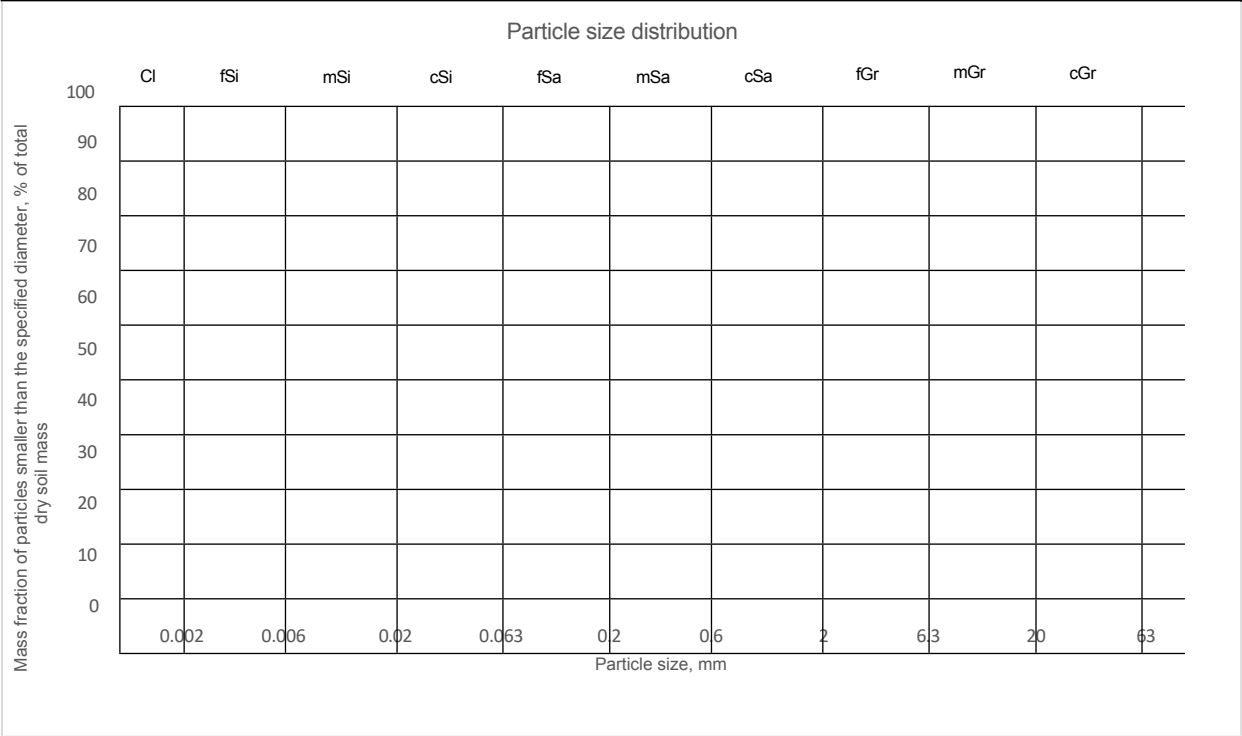
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0408	0.0295	0.0213	0.0157	0.0087	0.0064	0.0046	0.0028	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0035	-		20.9		-	-	-	-		
	-	0.0059	-				-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:			Name:									
Notes:												
Soil classification DIN 18196:2023-02*												
Index:												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										



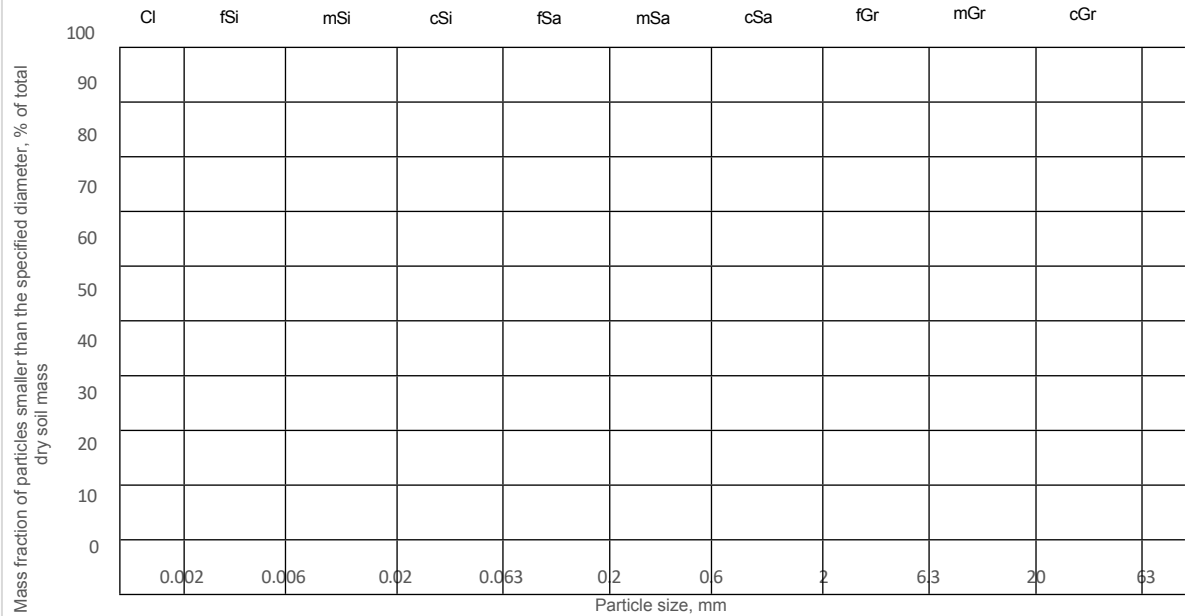
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_013	Gr.1	13	U	28.80	30.30



Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0399	0.0285	0.0206	0.0151	0.0084	0.0062	0.0045	0.0027	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	19.3	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1		
	-	0.0027	-					-	-	-		
	-	0.0043	-					-	-	-		
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:				Name:								
Notes:												
Soil classification DIN 18196:2023-02*												
Index:												
The research was conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

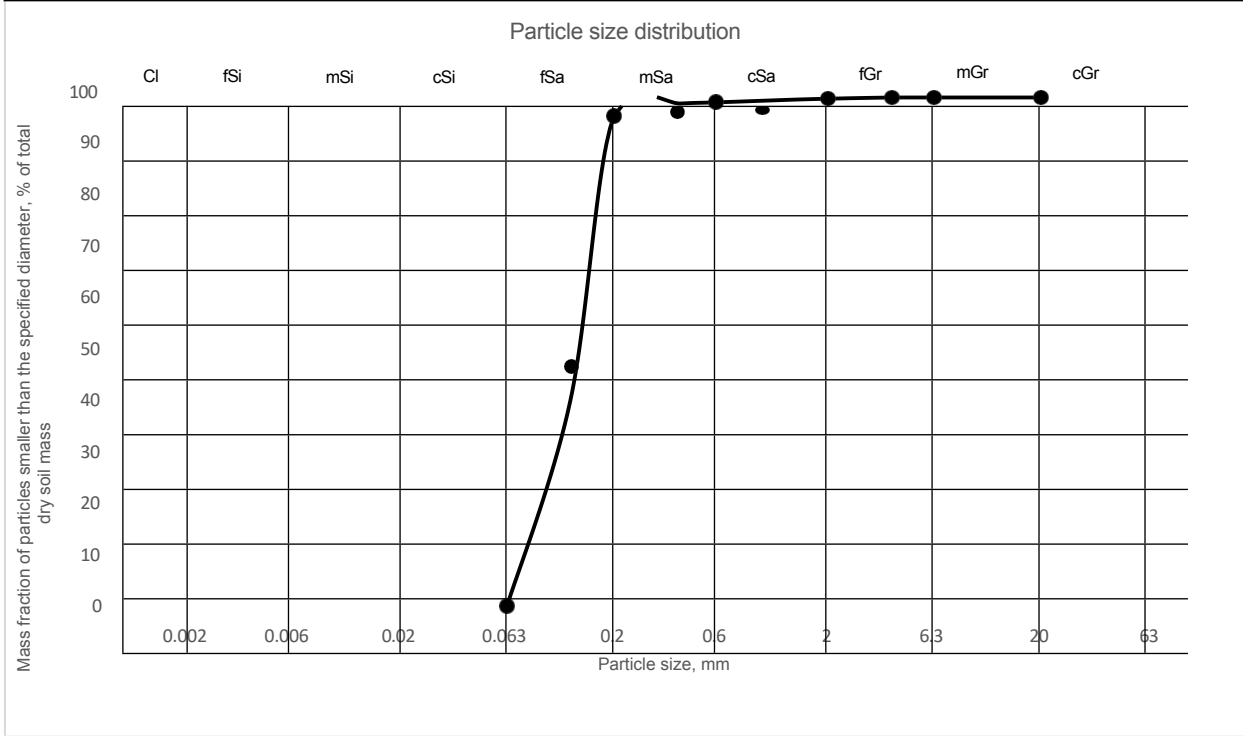
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_014	Gr.1	14	U	30.30	31.80

Particle size distribution



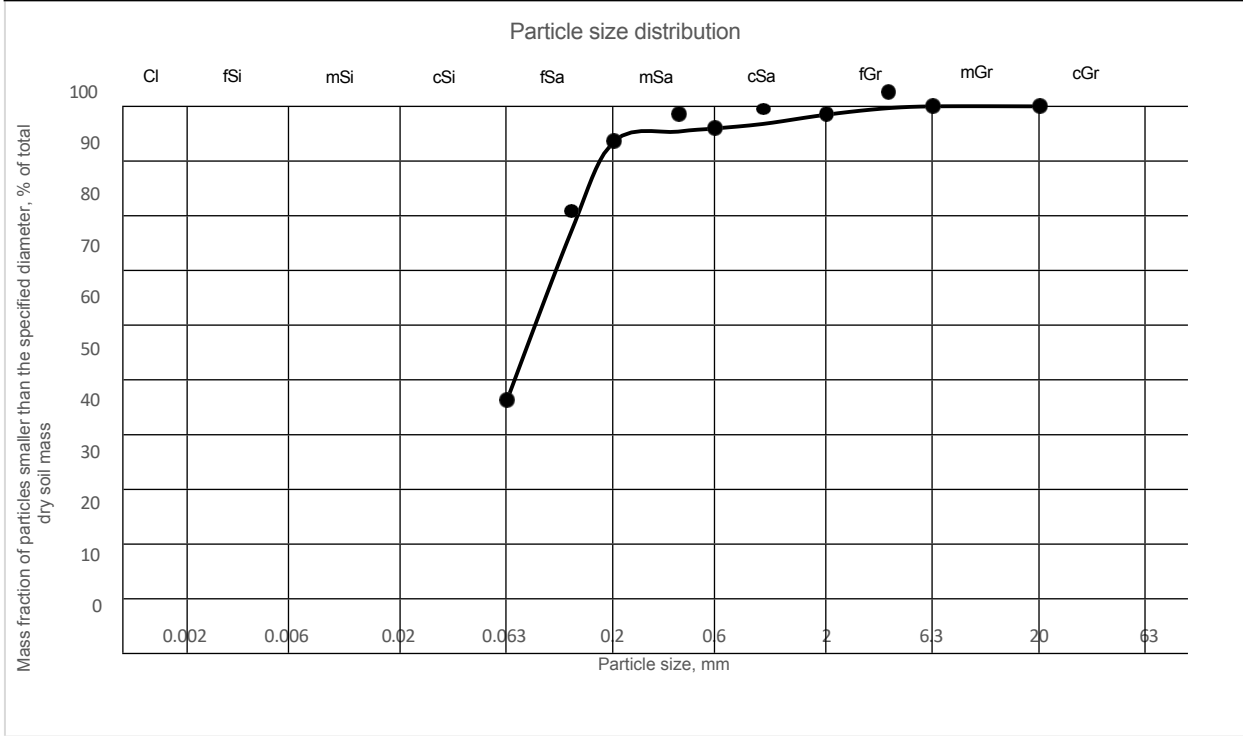
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0452	0.0322	0.0230	0.0164	0.0088	0.0064	0.0046	0.0028	0.0015	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1		Water content (8)	w, %		Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1	
	-	0.0019	-						-	42.0	17.3	
	-	0.0033	-						-	24.7	-	
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3		Porosity (7)	n, 1		Organic matter (10)	org. mat. %		Water permeability (4.2)	k10, m/s
	ρd, Mg*m-³		e, 1									
Soil classification*												
Index:		CIM		Name:		medium-plasticity clay, very stiff						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TM										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_015	Gr.19	1	D	4.10	4.30



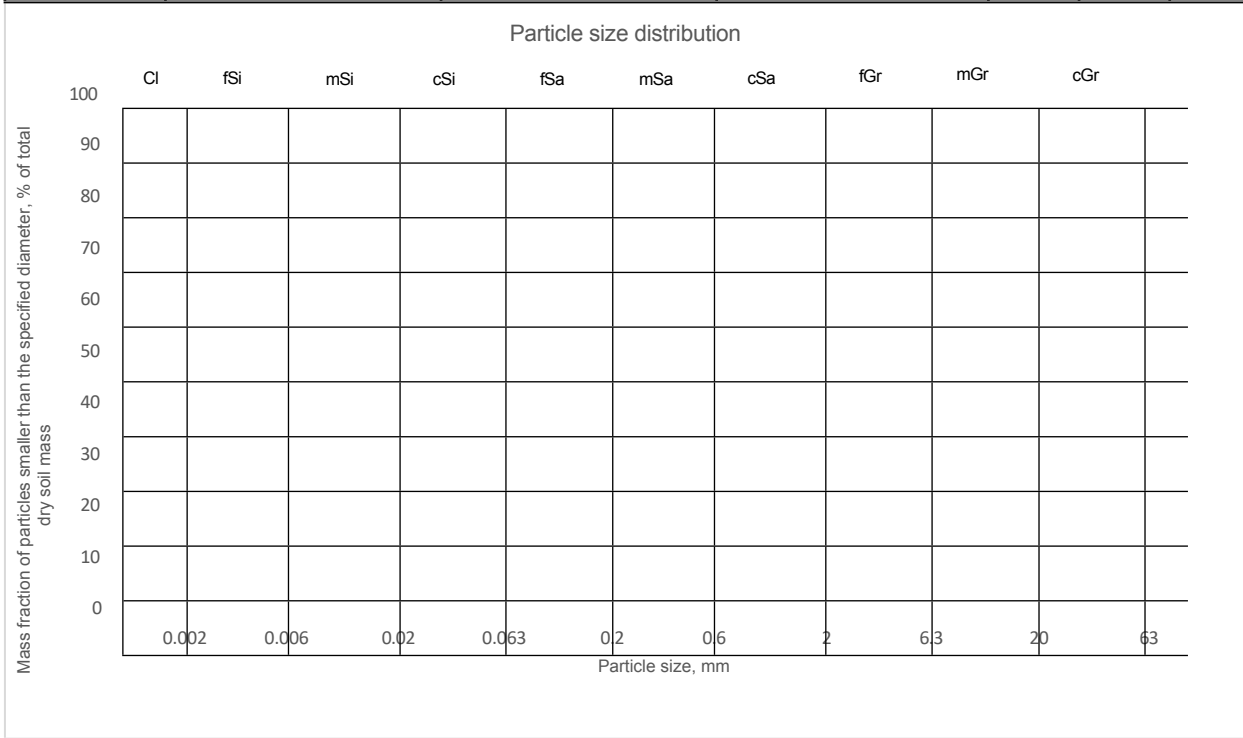
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.4	99.1	98.9	98.2	46.2	8.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0645	0.1294	2.19		-		-	-	-				
	0.0930	0.1416	0.95		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.721												
	1.160		2.64		1.28		2.8%						
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_016	Gr.19	2	D	10:00	10:30



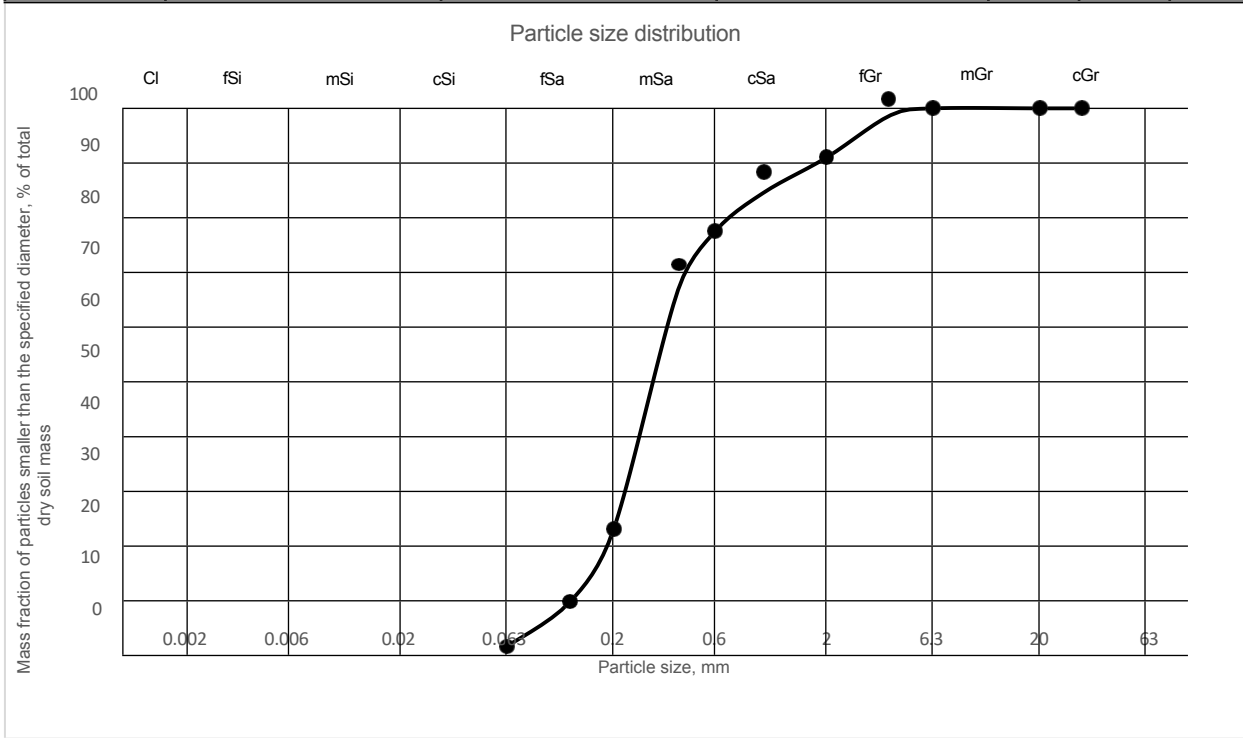
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.7	98.5	96.8	96.0	95.4	93.6	76.7	46.3
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0685	-		85.1		107.8	33.1	0.69				
	-	0.0858	-		95.4		74.7	0.31					
	Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
ρd, Mg*m-³			e, 1										
Soil classification*													
Index:		saSiVO		Name:		sandy, very high plasticity silt with moderate organic matter content, firm							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		OT											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_017	Gr.19	3	D	10.60	10.90



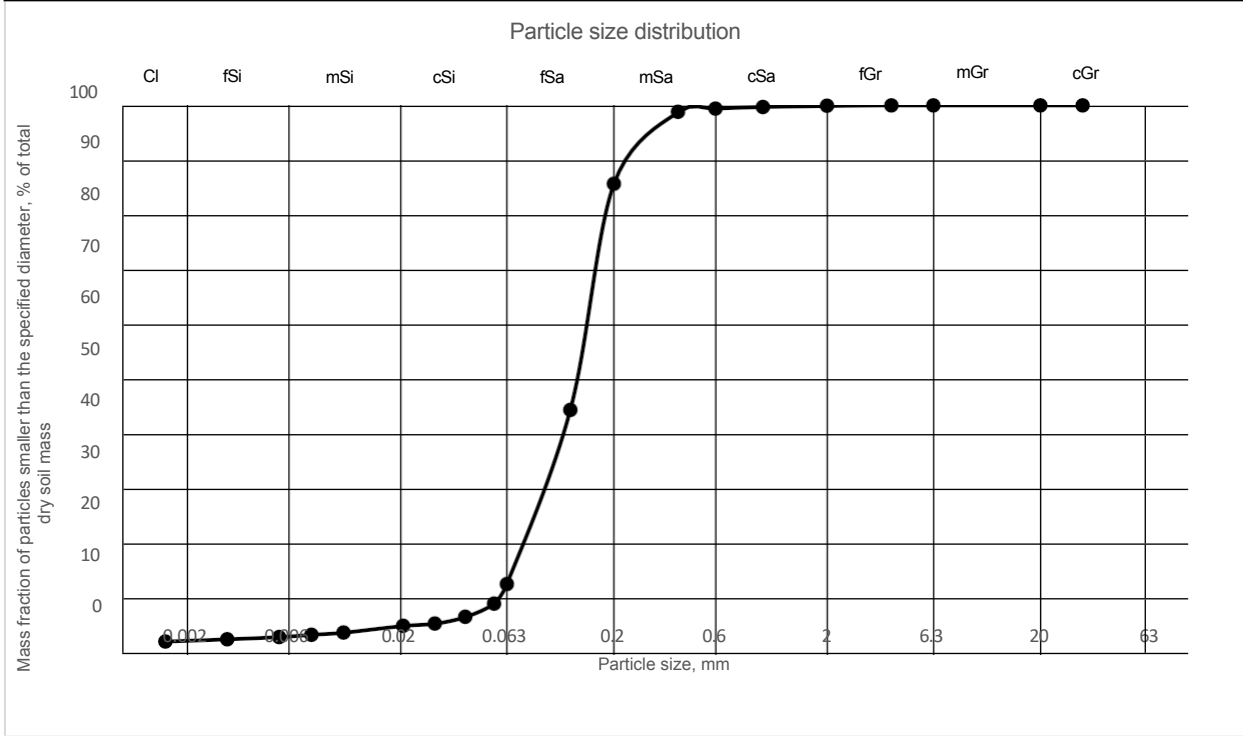
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Ductility tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
Soil classification*												
Index:	Pt	Name:				Peat						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	HN											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_018	Gr.19	4	D	12.60	12.90



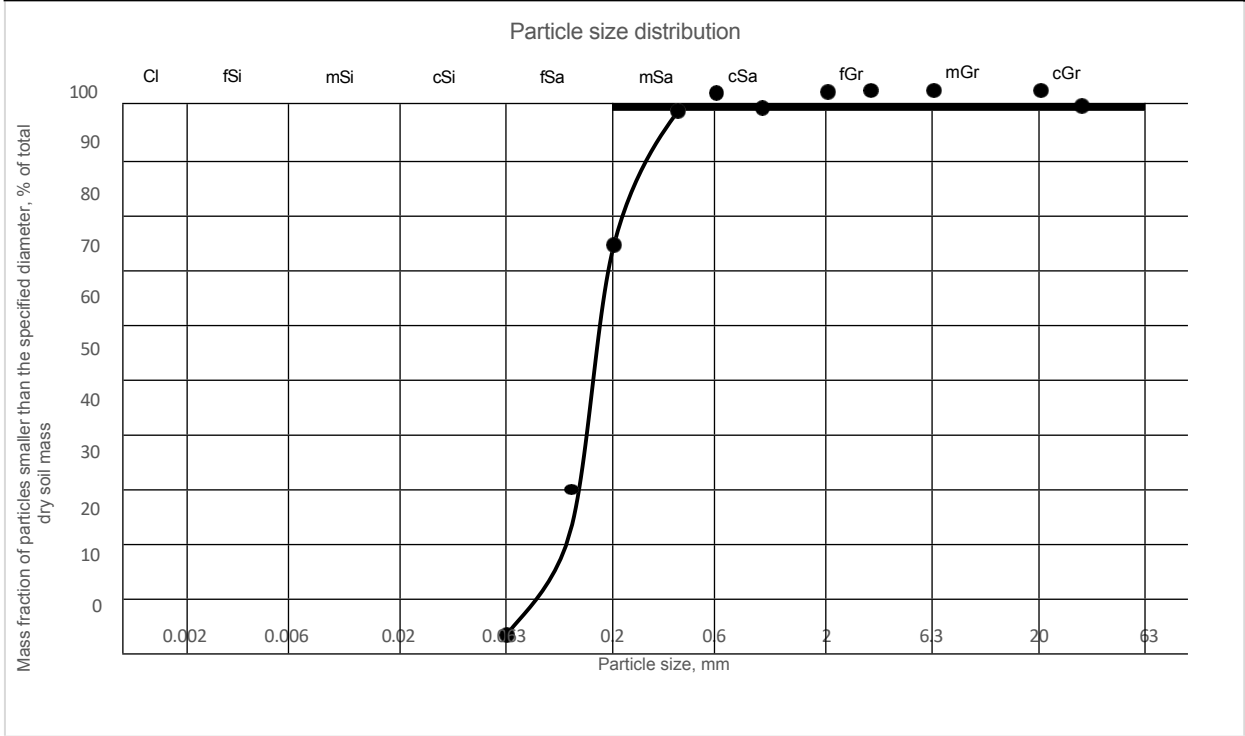
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.8	91.1	84.5	77.6	66.9	23.2	9.9	1.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1253	0.3060	2.86		-		-	-	-				
	0.2228	0.3587	1.10		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaP	Name:				Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Drill 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_019	Gr.19	5	D	32.10	32.40



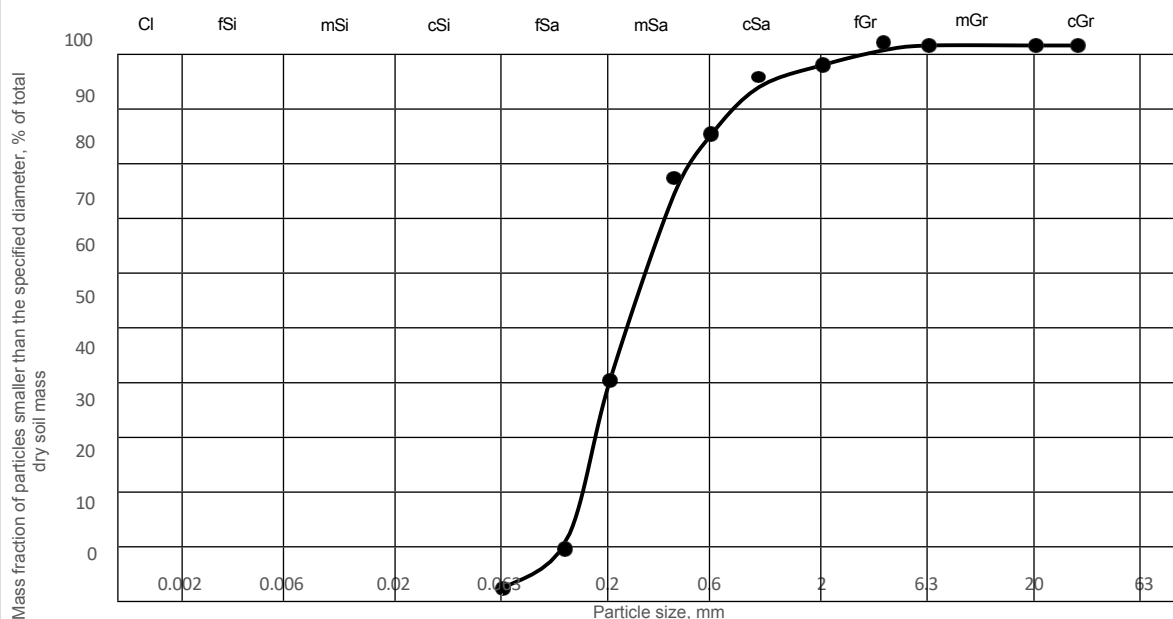
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	98.8	85.7	44.6	12.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0549	0.0403	0.0290	0.0206	0.0108	0.0076	0.0054	0.0031	0.0016		
			9.4	6.9	5.7	5.3	4.1	3.7	3.3	2.8	2.4		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0563	0.1330	2.65		-		-	-	-				
	0.0912	0.1491	0.99		-		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.969		2.65										
	1.593				0.66								
Soil classification*													
Index:	SaFP	Name:		slightly silty-clayey poorly sorted sand									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_020	Gr.20	1	D	13.40	13.70



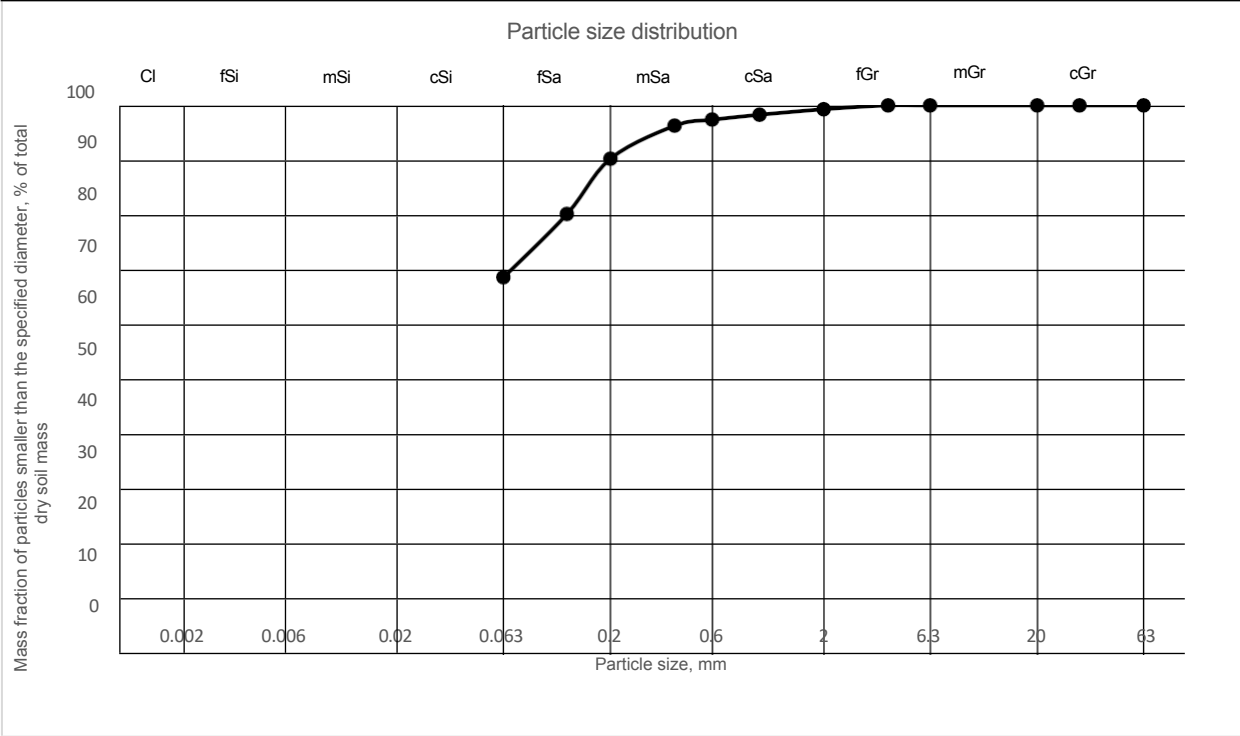
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.9	99.8	99.6	99.5	99.1	74.6	22.3	3.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0798	0.1603	2.20		-		-	-	-				
	0.1340	0.1754	1.28		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
1.876		2.62		0.85	0.8%								
1.417													
Soil classification*													
Index:	SaP	Name:			poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Particle size distribution



Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	99.3	96.5	92.4	83.8	72.9	38.8	9.6	0.9
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	0.1258	0.2512	2.45				-	-	-			
	0.1736	0.3079	0.78				-	-	-			
Soil density (5)	ρ , Mg/m³	Particle density (6)	ρ_s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρ_d , Mg*m³				e, 1							
Soil classification*												
Index:	SaP	Name:				Poorly sorted sand						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SE											
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

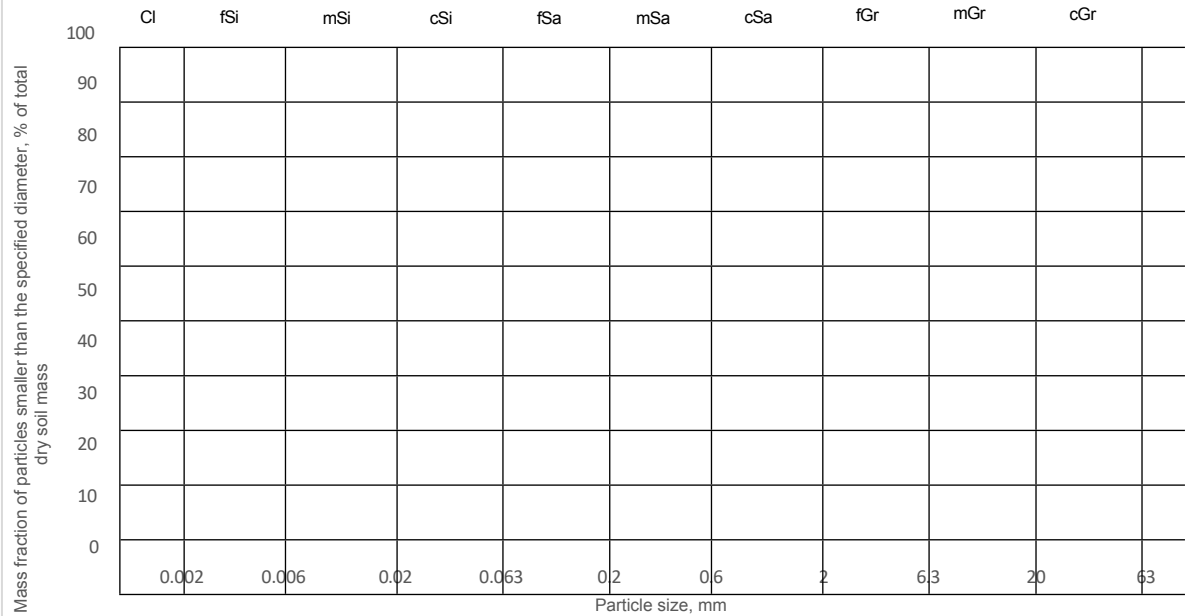
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_022	Gr.20	3	U	19.40	20.00



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.3	98.3	97.4	96.3	90.3	80.2	68.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

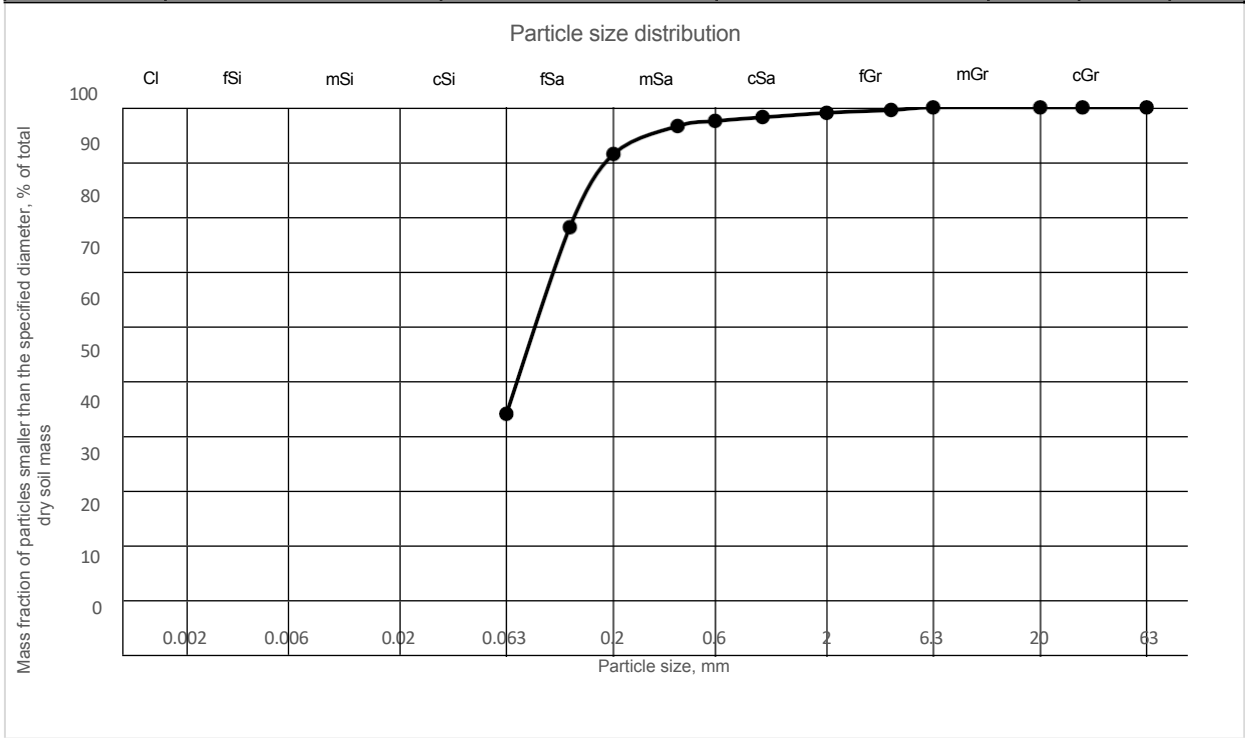
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_023	Gr.20	4	U	25.20	25.70

Particle size distribution



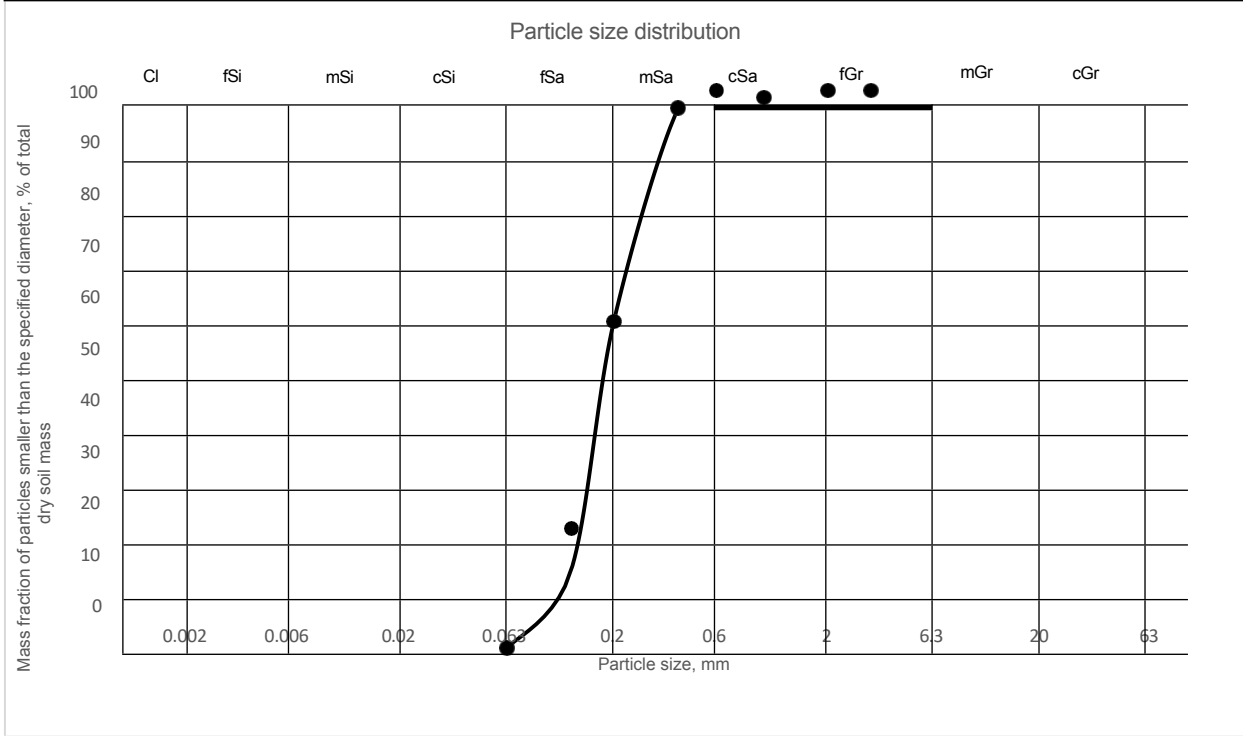
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	-	-	-	-	-	-	-	-			
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
			0.0408	0.0292	0.0206	0.0148	0.0080	0.0060	0.0045	0.0028	0.0015				
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1		
		-	0.0037	-							21.6	37.3	16.5		
		0.0020	0.0046	-							-	20.8	0.05		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s
		ρd, Mg*m ⁻³													
		2.162													
		1.778													
Soil classification*															
Index:		CIM		Name:		medium-plasticity clay									
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		TM													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_024	Gr.20	5	D	35.10	35.40



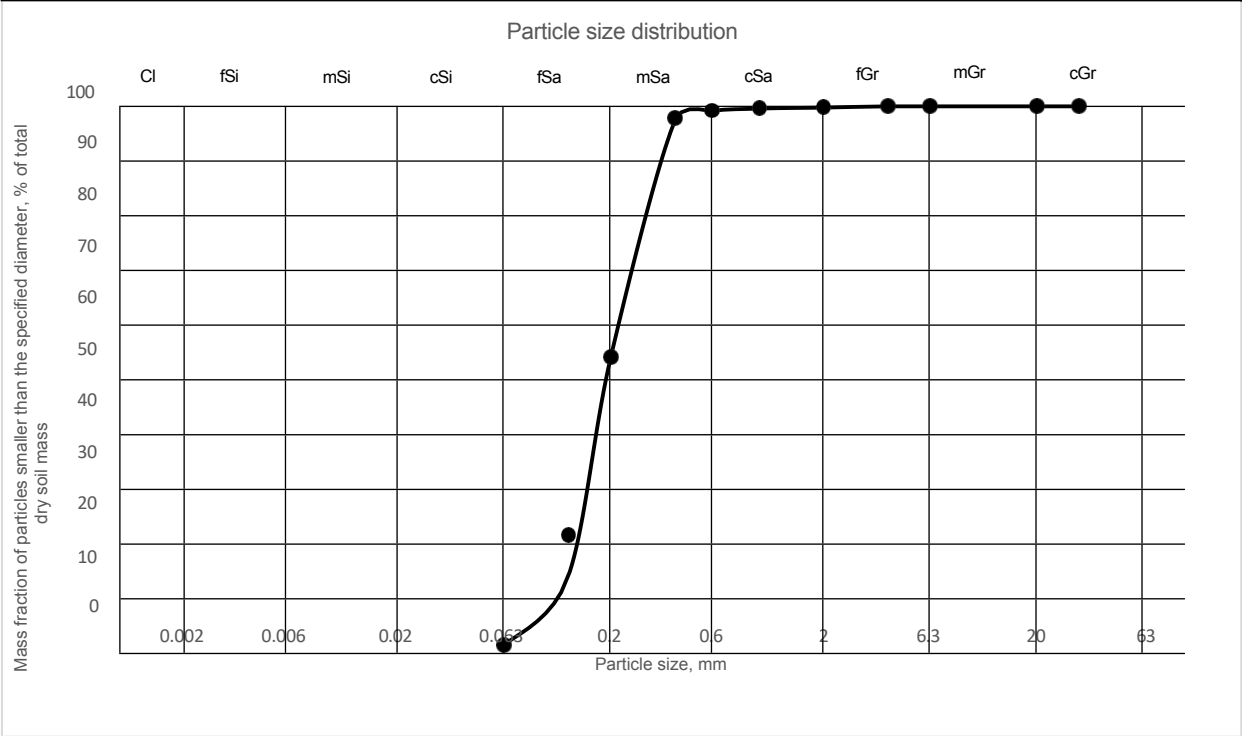
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	99.0	98.2	97.5	96.6	91.5	78.2	44.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0708	-				-	-	-				
	-	0.0866	-		-		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_025	Gr.21	1	U	17.50	17.80



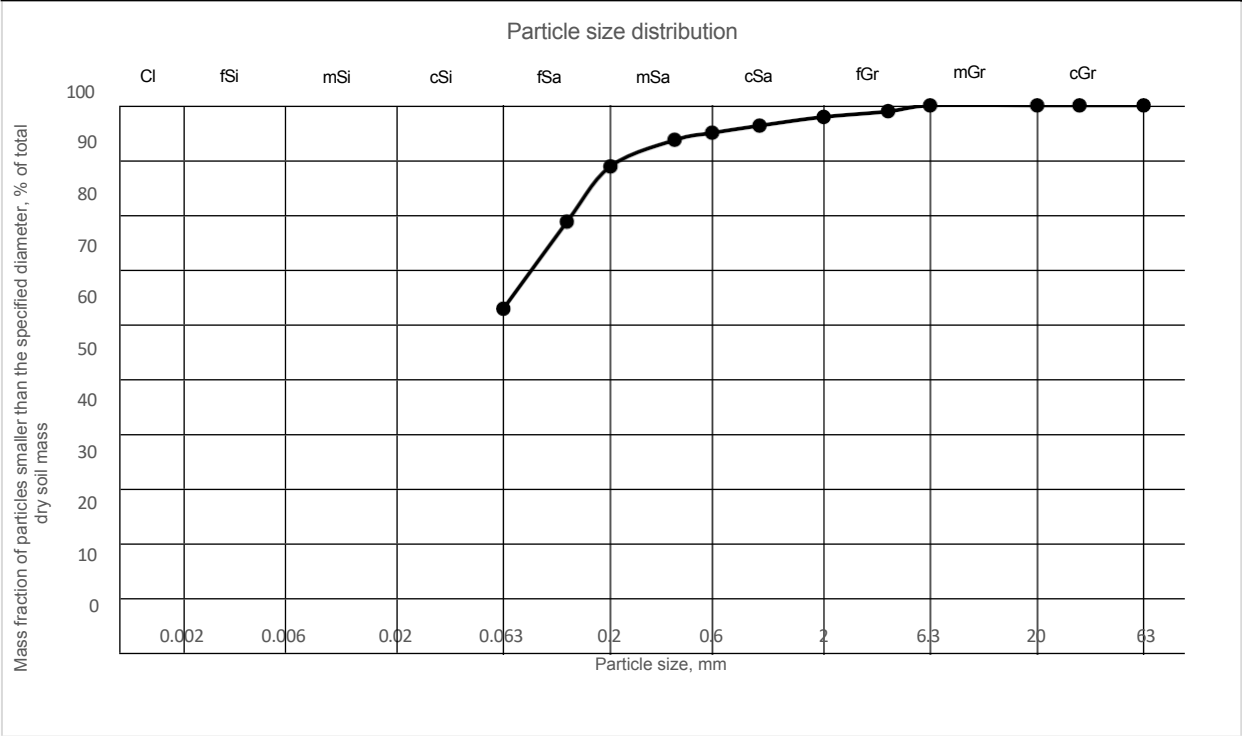
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	60.7	14.8	1.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0983	0.1792	2.02		-		-	-	-				
	0.1461	0.1986	1.09		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_026	Gr.22	1	U	20.40	20.70



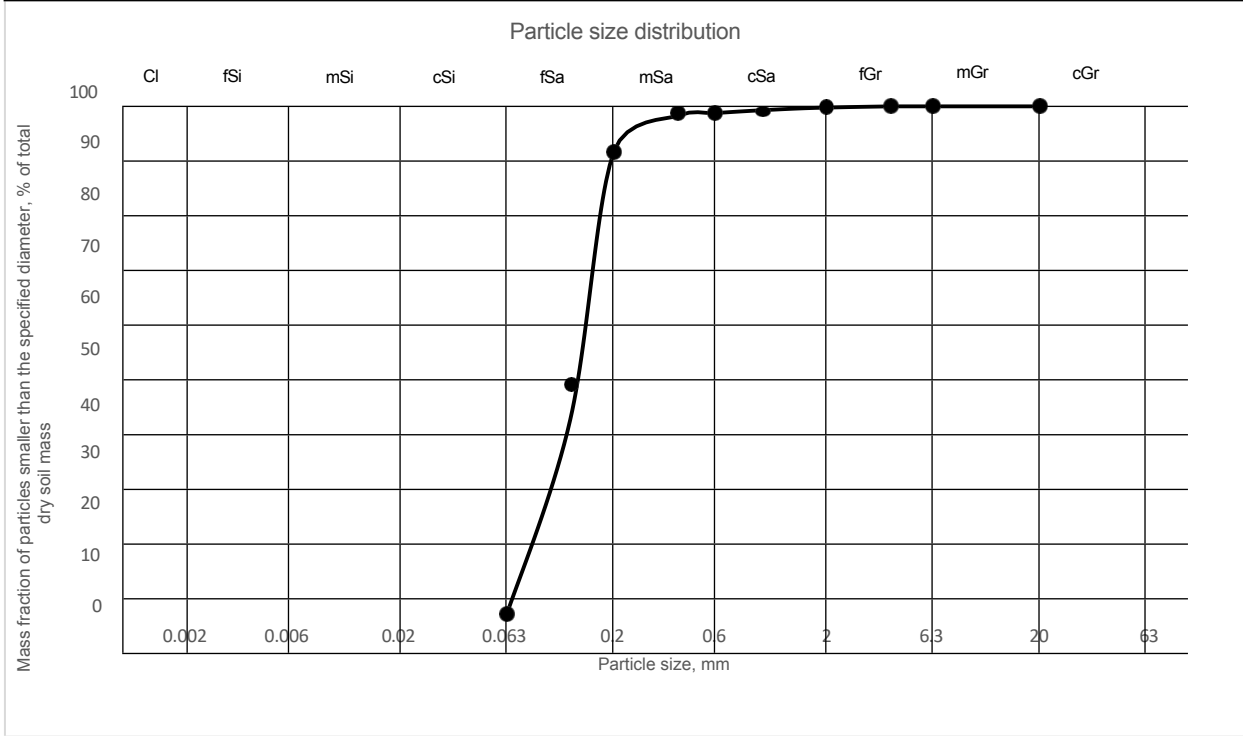
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.2	97.5	54.2	13.7	1.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1014	0.1905	2.16		-		-	-	-				
	0.1510	0.2195	1.03		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP	Name:		Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_027	Gr.22	2	U	31.10	31.50



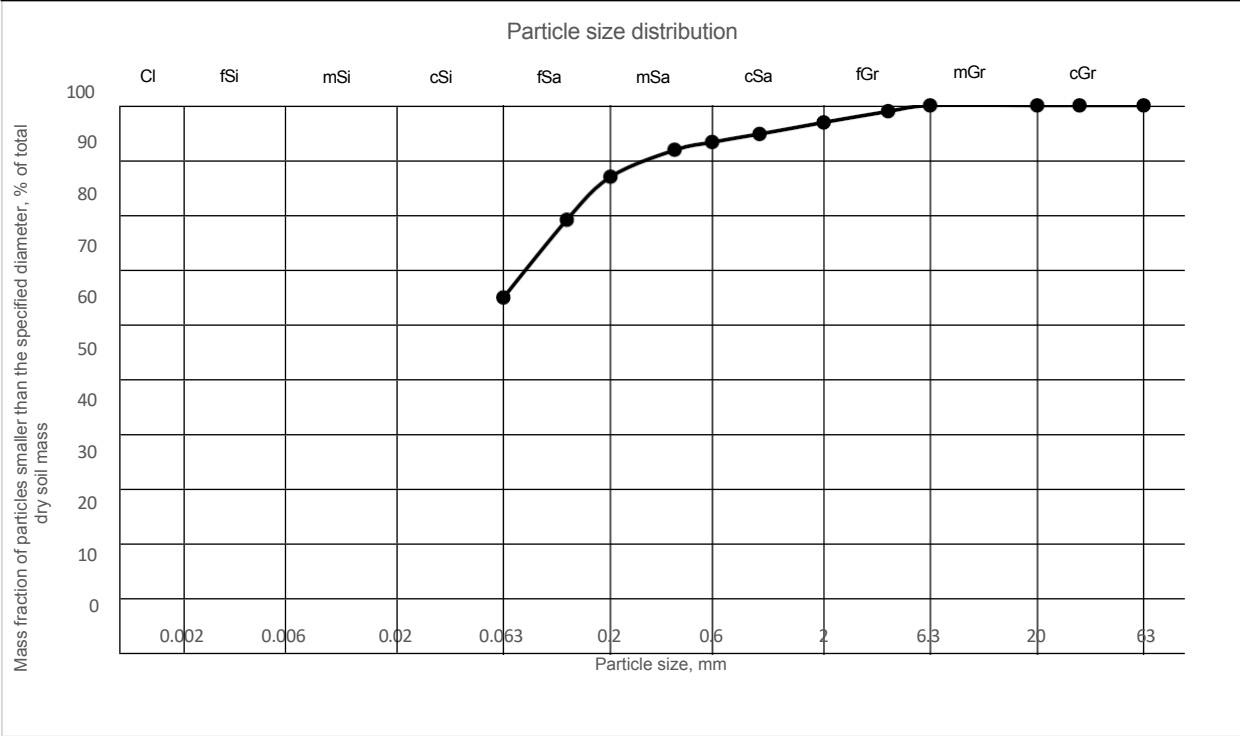
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.9	97.9	96.3	95.0	93.7	88.9	78.8	63.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1		
		-	-	-		10.1			-	-	-	-	
		-	-	-					-	-	-		
		Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3			Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)
ρd, Mg*m-³	e, 1												
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_028	Gr.23	1	U	17.80	18.40



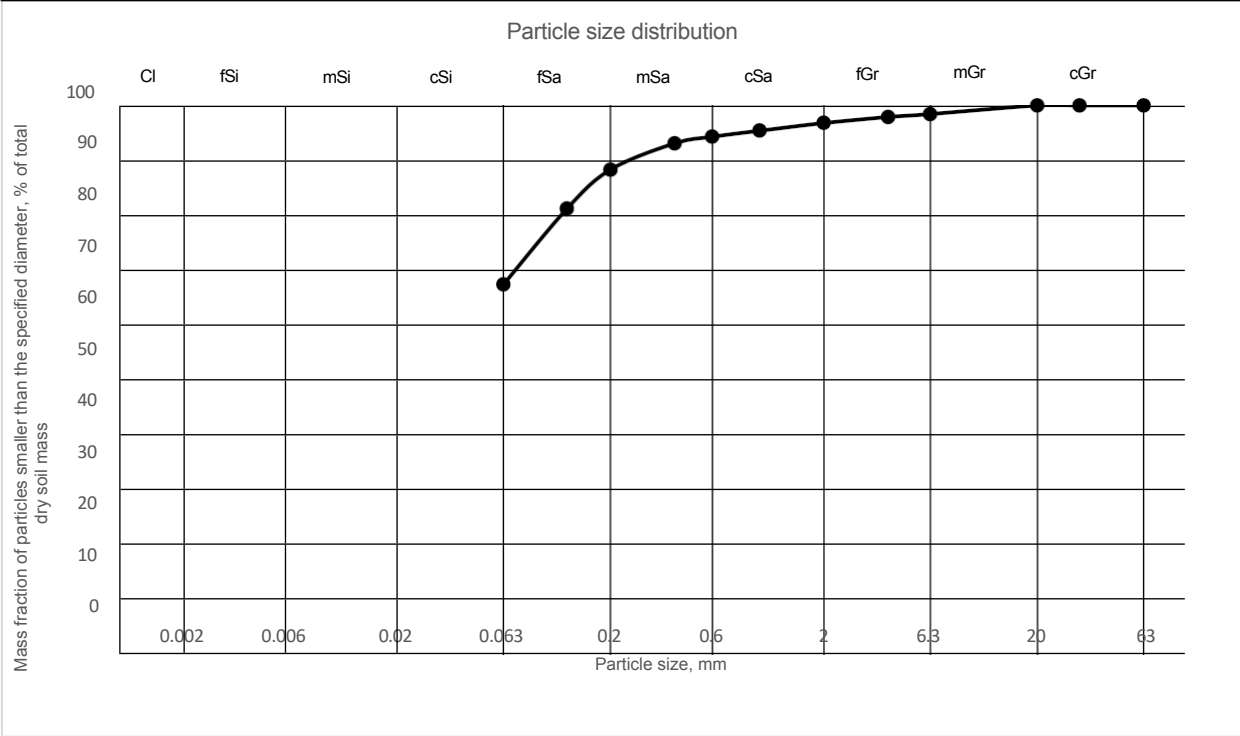
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.3	98.8	98.3	91.7	42.8	7.3
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0664	0.1340	2.22		-		-	-	-				
	0.0976	0.1475	0.97		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_029	Gr.23	2	U	18.50	18.80



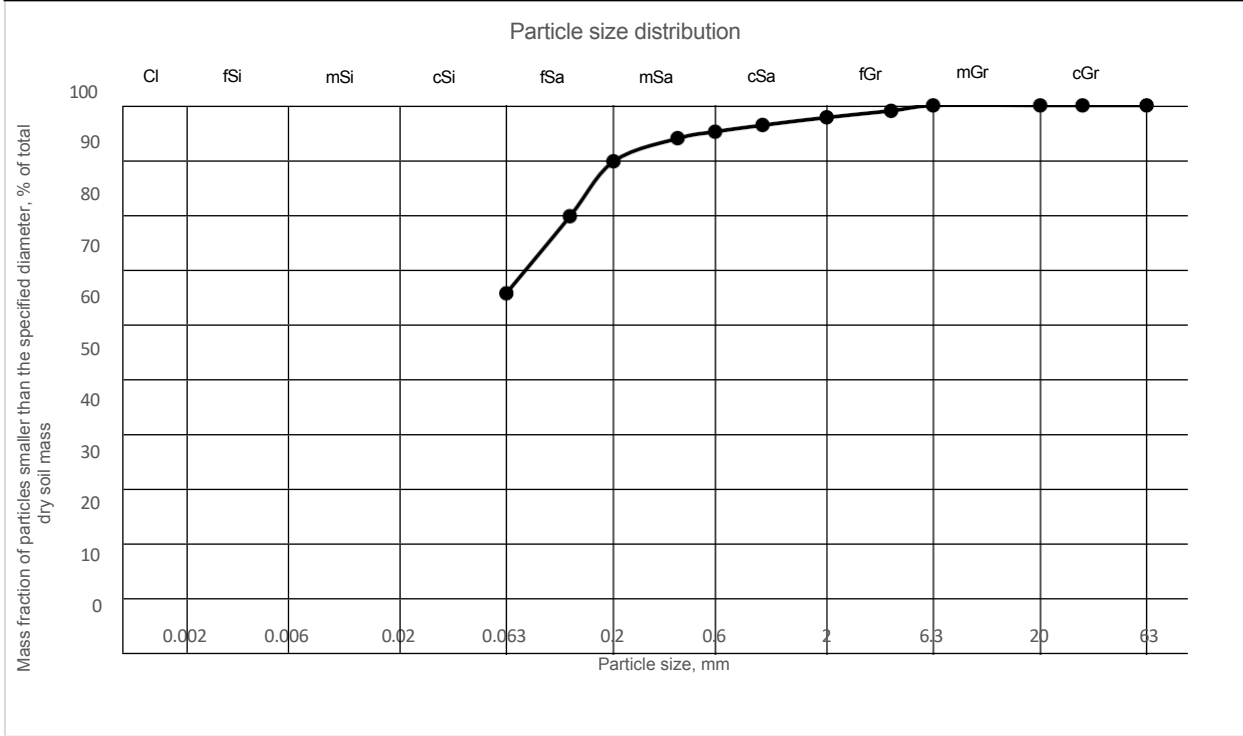
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.9	96.9	94.8	93.3	91.9	87.0	79.2	65.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		18.8		20.5	25.3	9.4	0.52			
	-	-	-				91.9	15.9	0.48				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.144												
	1.805		0.49										
Soil classification*													
Index:	saCIL	Name:			sandy clay with low plasticity, firm								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_030	Gr.23	3	U	22.60	22.90



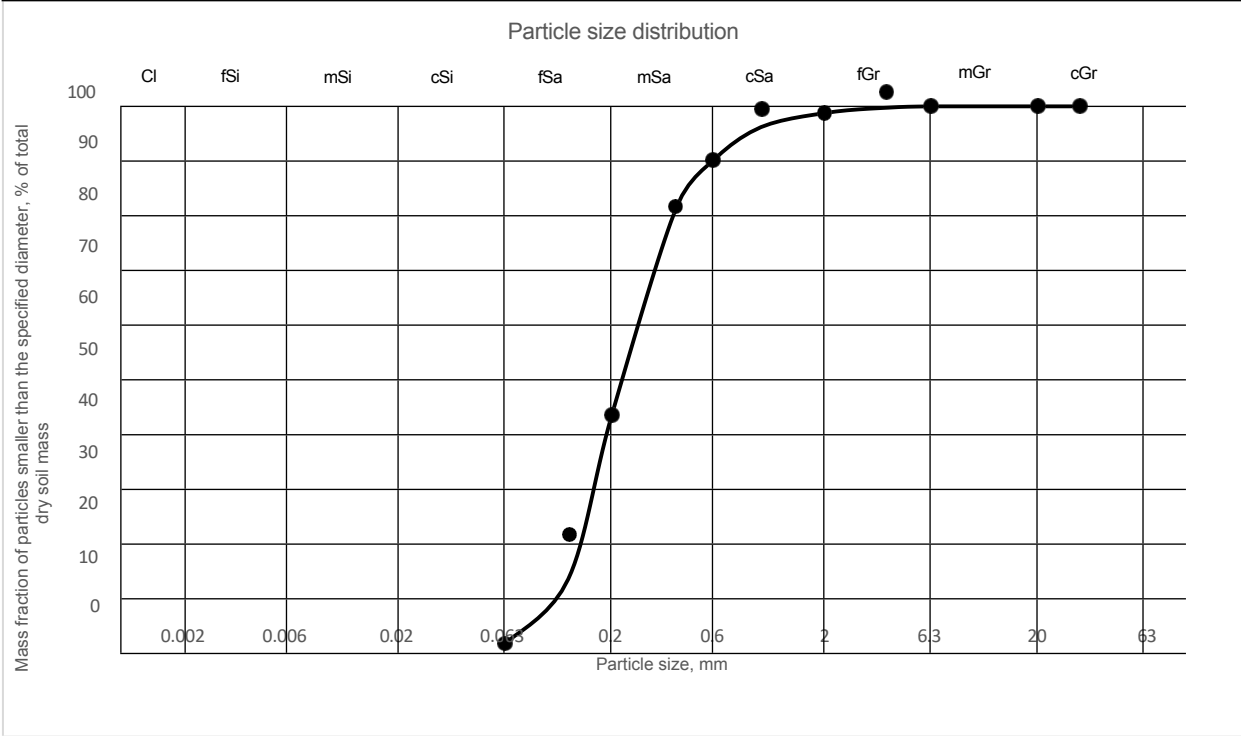
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.4	97.9	96.8	95.4	94.3	93.1	88.3	81.2	67.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		19.8		27.2	11.7	0.64				
	-	-	-		93.1		15.5	0.36					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³				e, 1								
	2.221												
	1.876												
Soil classification*													
Index:	saCIL	Name:		sandy clay with low plasticity, firm									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_031	Gr.23	4	D	31.80	32.10



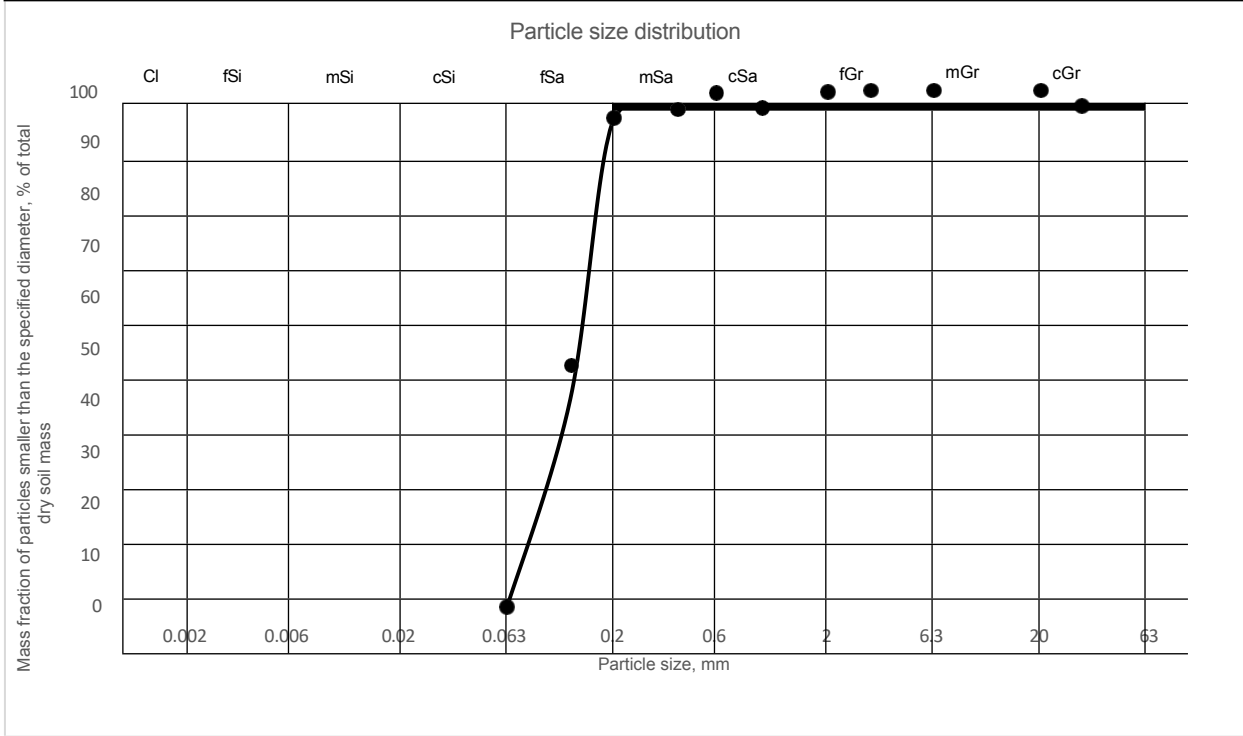
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of particles passing through the sieve relative to the total dry soil mass, %																	
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	99.0	97.8	96.4	95.2	94.0	89.8	79.8	65.8						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1							
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1								
	-	-	-						10.3	27.6	12.4								
	-	-	-						94.0	15.2	-0.39	1.39							
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		e, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
	pd, Mg*m-³																		
	2.365																		
	2.156																		
Soil classification*																			
Index:		saCIL		Name:				Sandy clay with low plasticity, very stiff											
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		TL																	
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_032	Gr.24	1	D	2.20	2.90



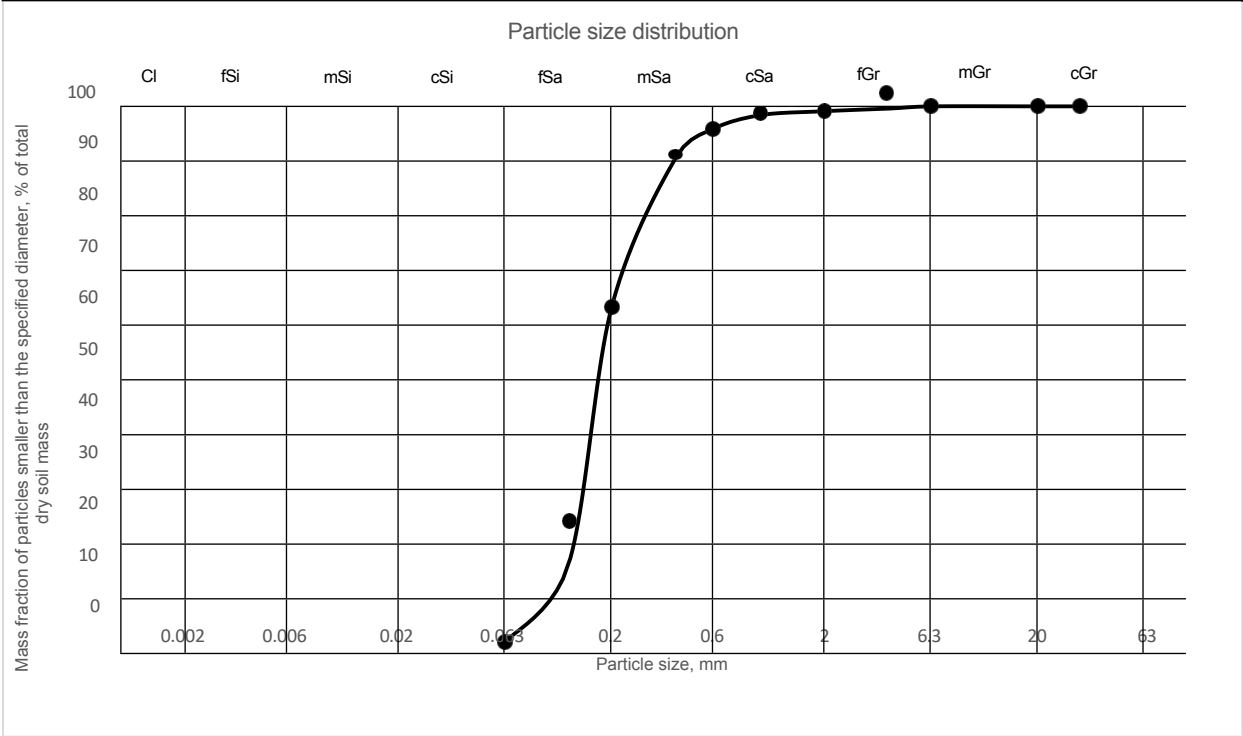
Sieve method (1)	Sieve aperture size, mm											
	Percentage of particles passing through the sieve relative to the total dry soil mass, %											
	-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	99.8	98.8	96.2	90.2	81.4	43.6	13.7	1.9
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	0.1008	0.2249	2.68				-	-	-			
	0.1615	0.2702	0.96		-		-	-				
					24.1							
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:	SaP	Name:				poorly sorted sand						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SE											
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_033	Gr.24	2	D	4.00	5.00



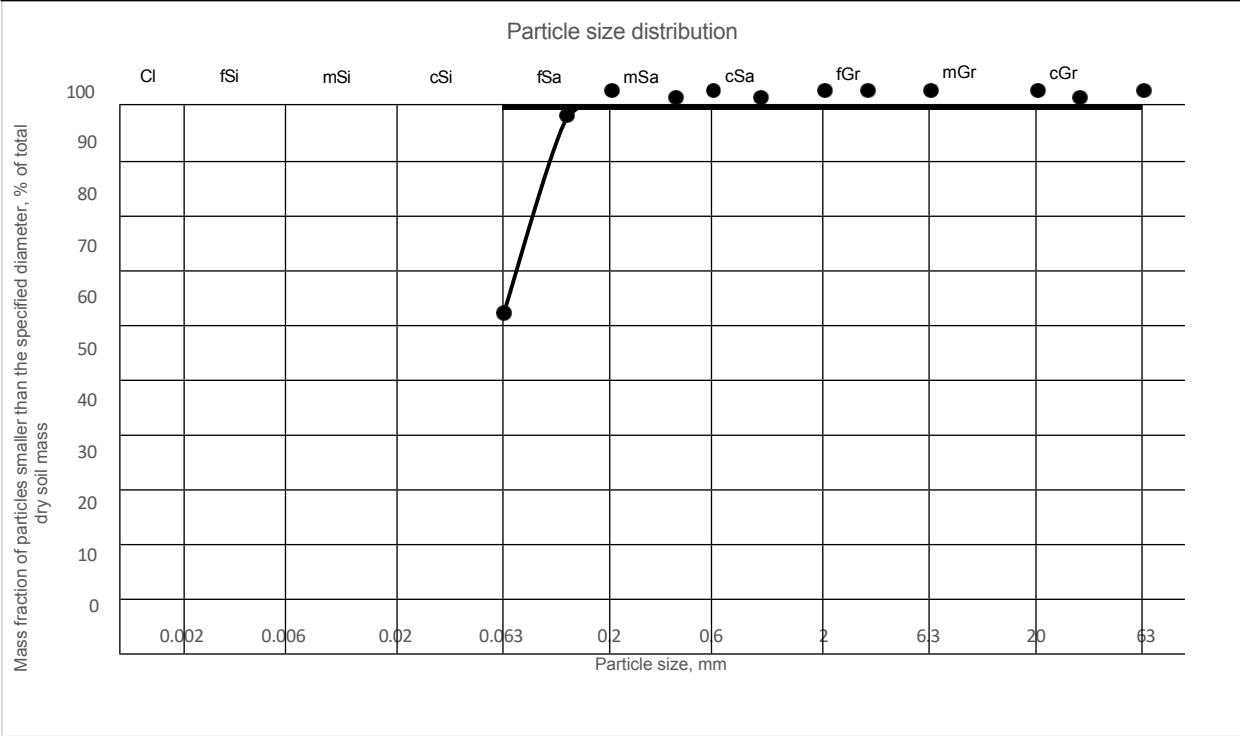
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.7	99.6	99.4	97.9	46.5	8.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0647	0.1291	2.18		-		-	-	-				
	0.0928	0.1414	0.94		-		-	-					
	40.5												
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.784												
	1.270		2.62		1.06		2.2%			1.1×10 ⁻⁵			
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_034	Gr.24	3	D	7.90	8.20



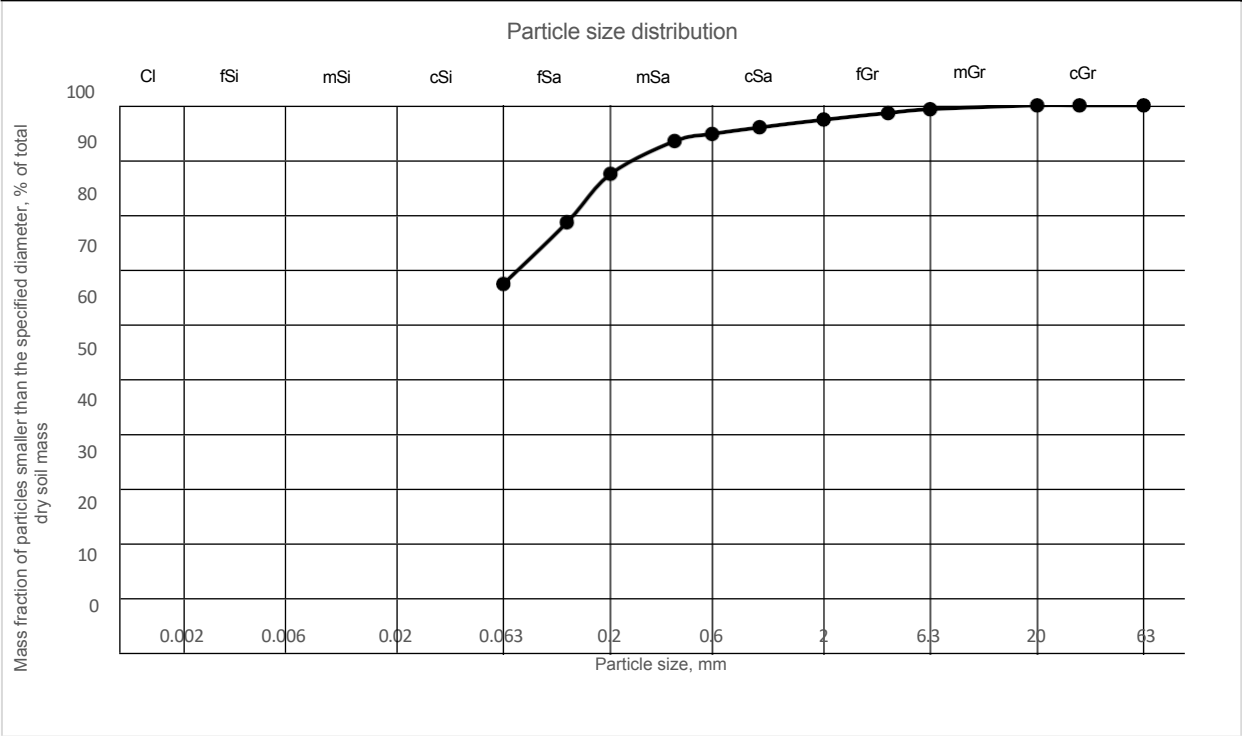
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.6	99.1	98.4	95.9	90.7	63.4	16.2	2.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w $\leq$ 0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f $\leq$ 0.4, %	wP, %	IL, 1				
	0.0923	0.1750	2.10		-		-	-	-				
	0.1434	0.1933	1.15		-		-	-					
	Soil density (5)	ρ , Mg/m ³	Particle density (6)		ρ_s , Mg*m ⁻³		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρ_d , Mg*m ⁻³		e, 1											
Soil classification*													
Index:		SaP	Name:			Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_036	Gr.24	5	U	17.50	18.50



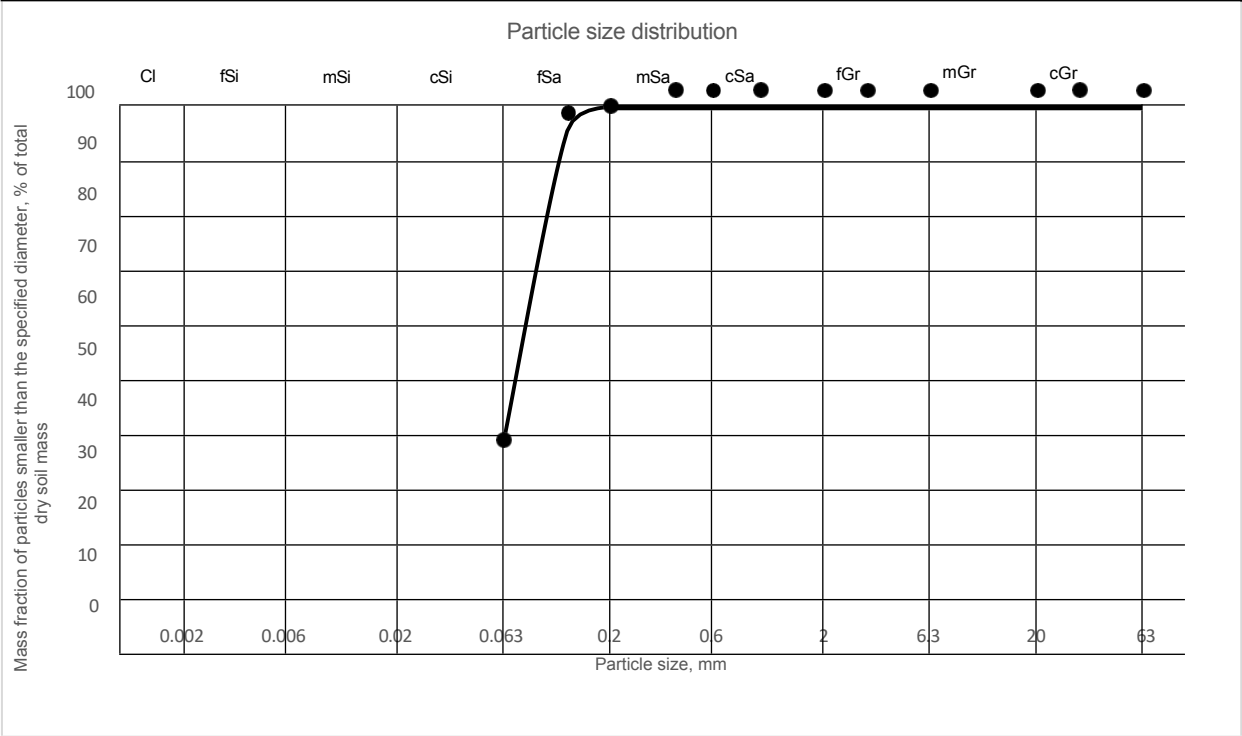
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	98.2	62.3
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		14.4		14.4	14.4	21.6	4.6	1.57		
	-	-	-		14.4		14.4	17.0	-0.57				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.268												
	1.982		0.35										
Soil classification*													
Index:	saCIL-SiL	Name:			Sandy, low-plasticity clay-silt, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL-UL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_037	Gr.24	6	U	18.90	20.50



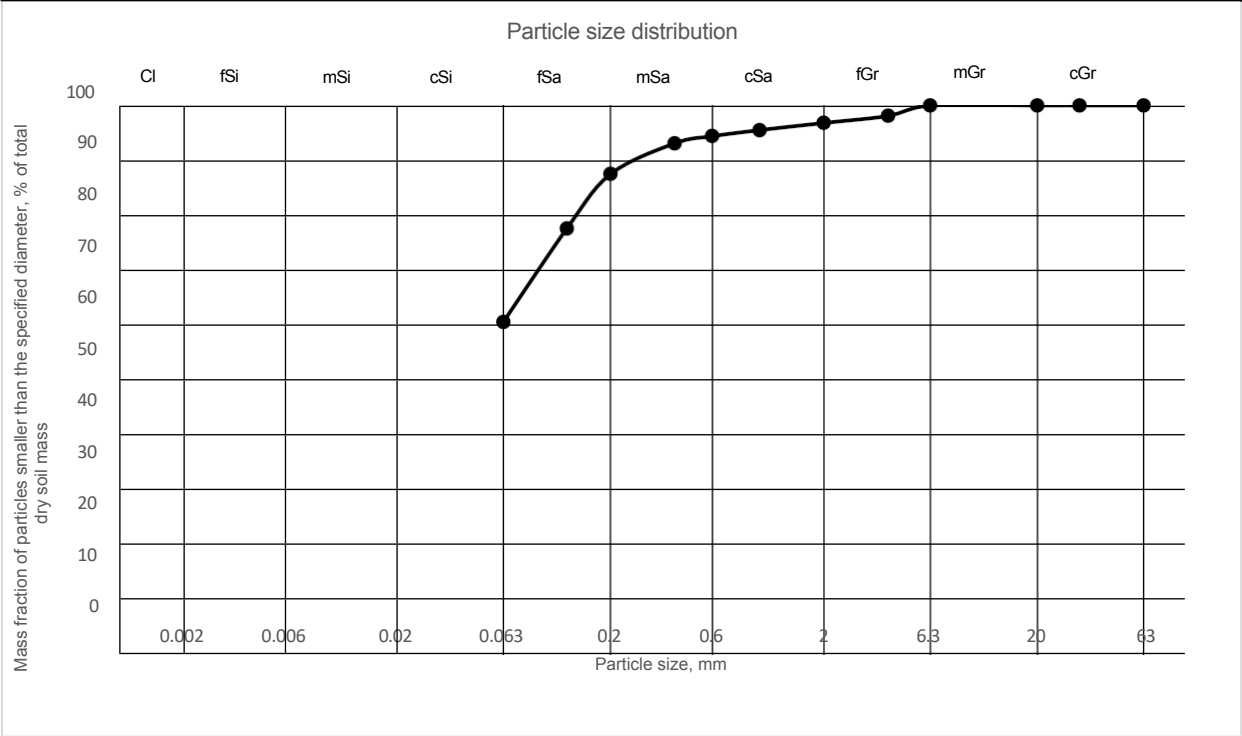
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.3	98.6	97.4	96.0	94.8	93.5	87.5	78.7	67.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w $\leq$ 0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f $\leq$ 0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ , Mg/m ³	Particle density (6)	ρ_s , Mg·m ⁻³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρ_d , mg/m ³				e, 1								
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_038	Gr.24	7	U	21.50	23.50



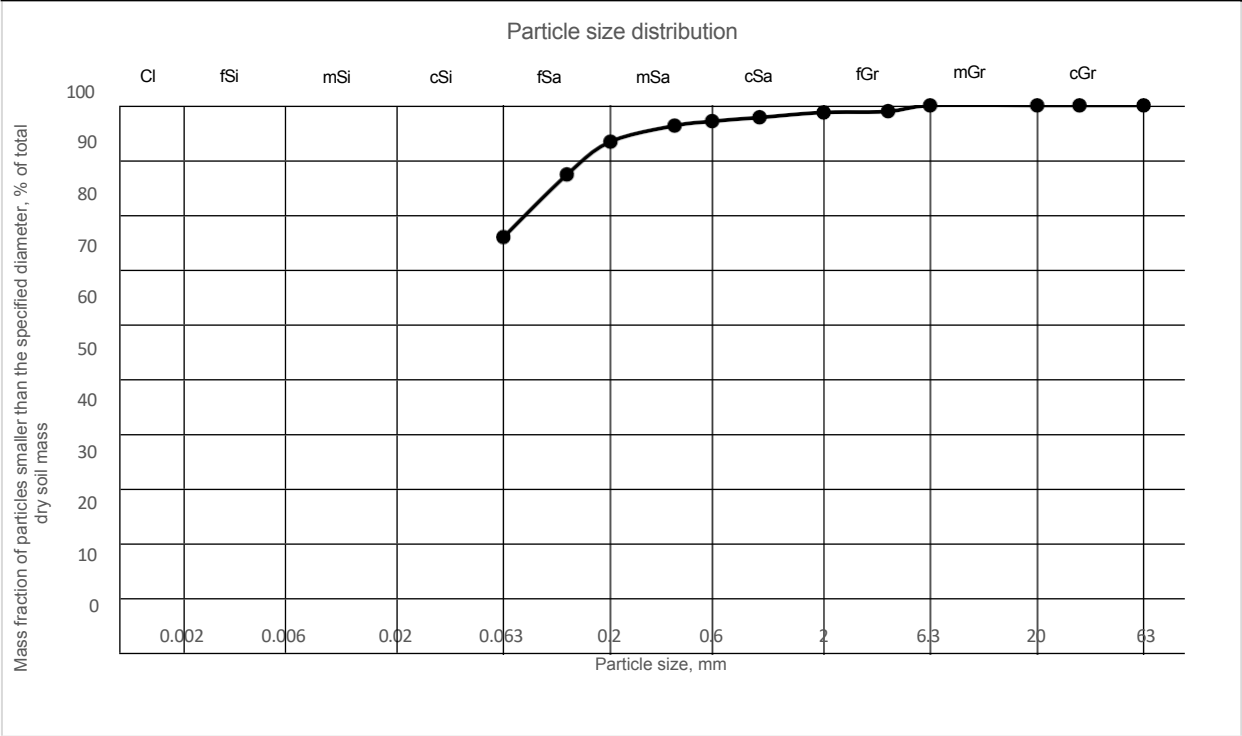
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.5	39.0
Hydrometer method (2)		Particle size, mm											
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0720	-		19.1		19.1	19.1	25.5	4.3	1.49		
	-	0.0813	-					100.0	21.2	-0.49			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.114												
	1.775												
Soil classification*													
Index:		saCIL-SiL		Name:		Sandy, low-plasticity clay-silt, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		ST*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_039	Gr.24	8	U	26.00	26.50



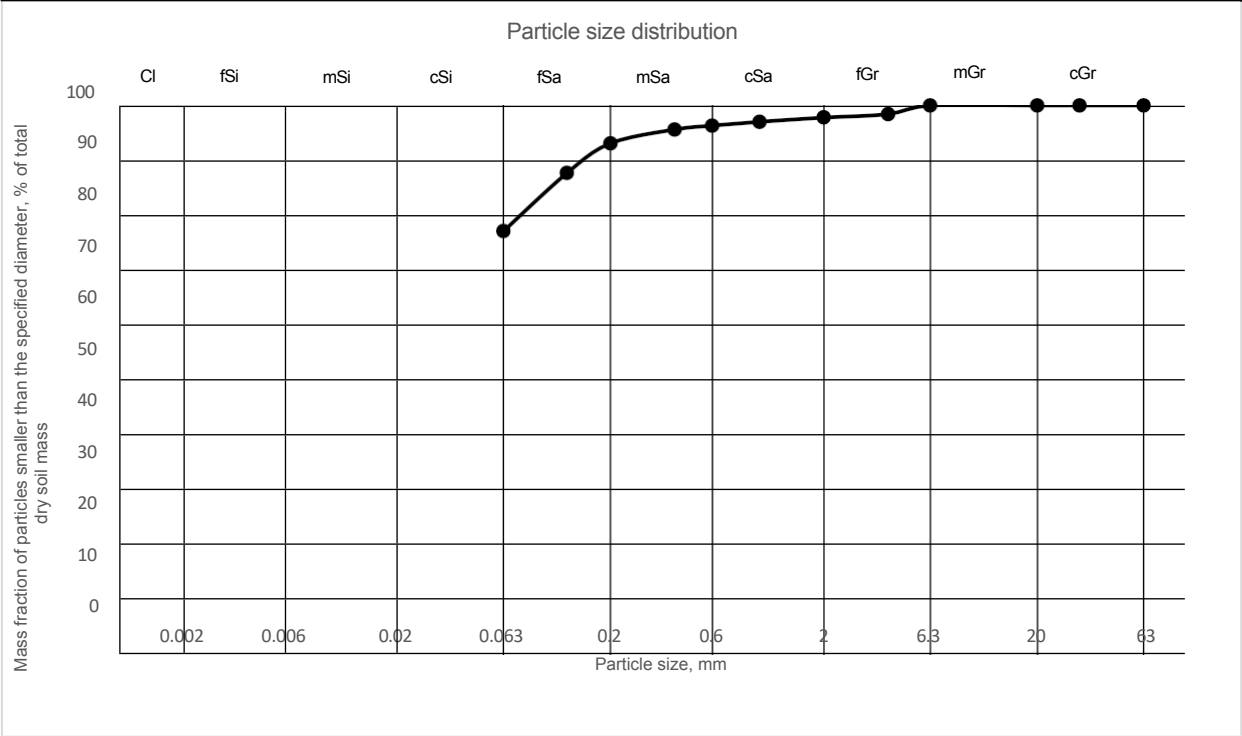
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.1	96.8	95.5	94.4	93.1	87.5	77.6	60.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_040	Gr.24	9	U	26.50	27.50



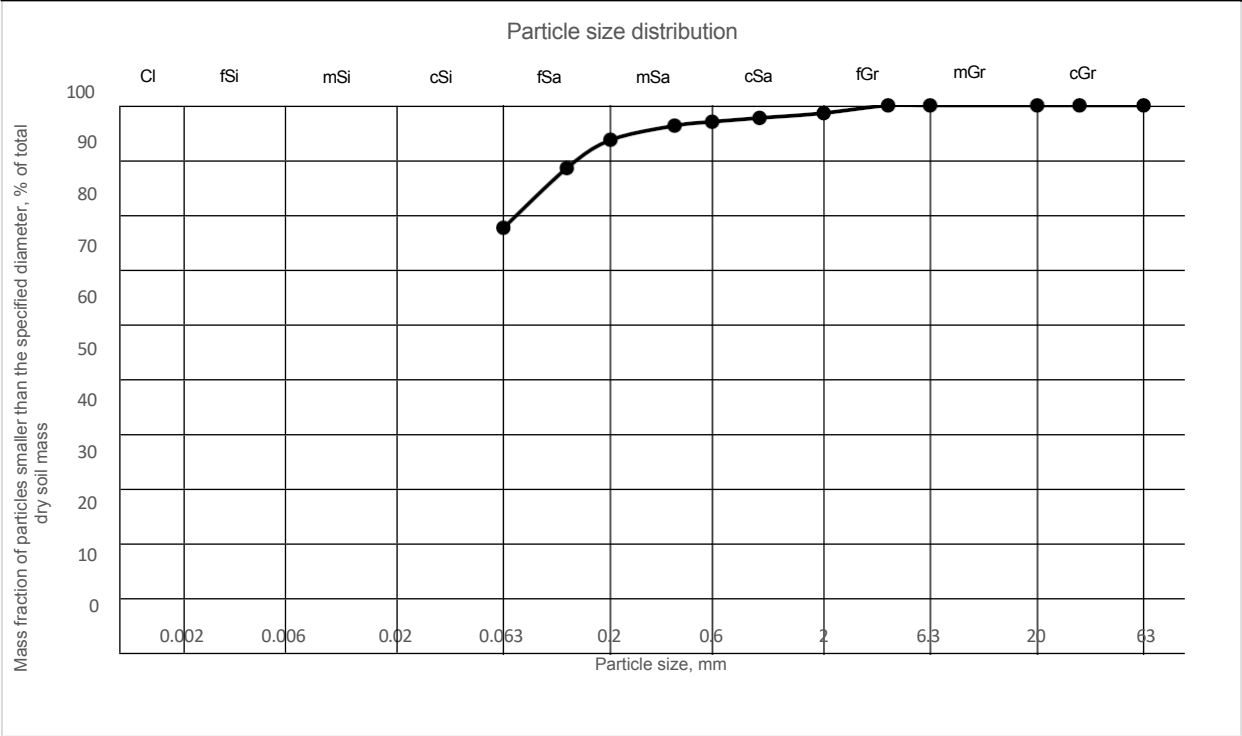
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.9	98.7	97.8	97.1	96.3	93.4	87.4	76.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	p, mg/m³	Particle density (6)	ps, mg/m³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m³				e, 1								
Soil classification*													
Index:					Name:								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_041	Gr.24	10	U	27.50	28.90



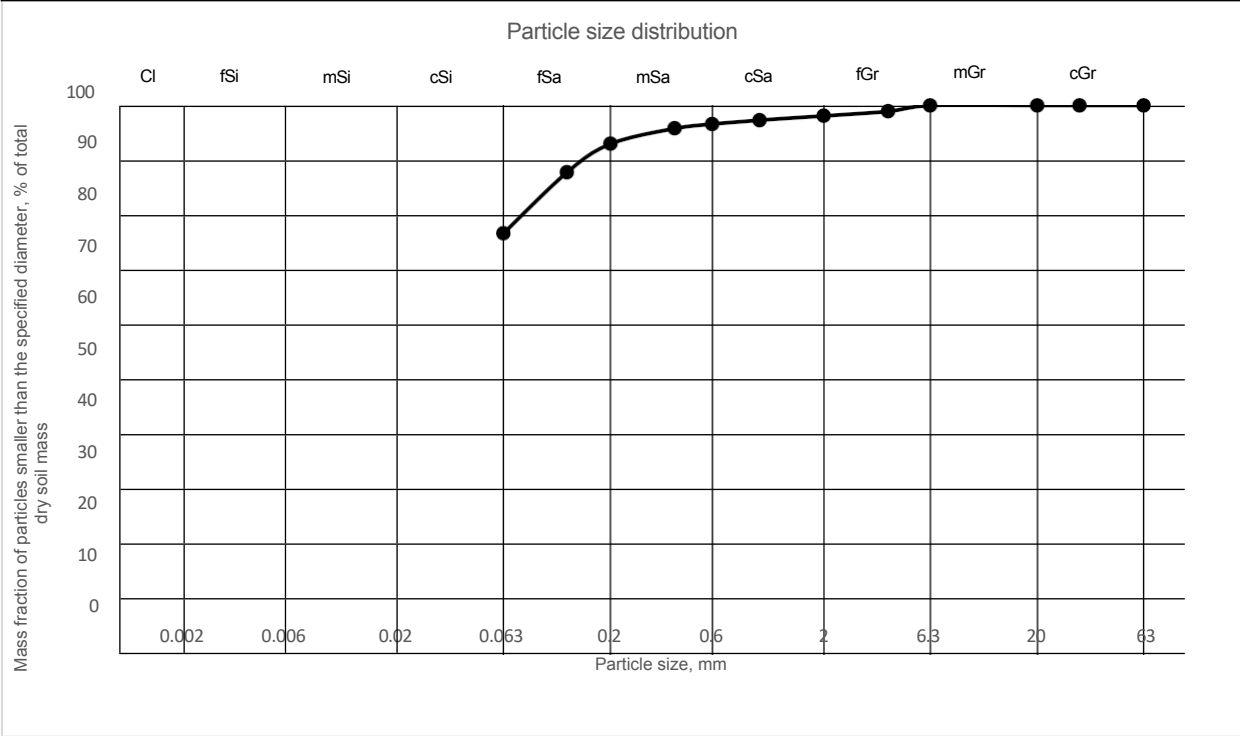
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.4	97.8	97.0	96.3	95.6	93.1	87.7	77.1
Hydrometer method (2)		Particle size, mm											
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_042	Gr.24	11	U	28.50	30.00



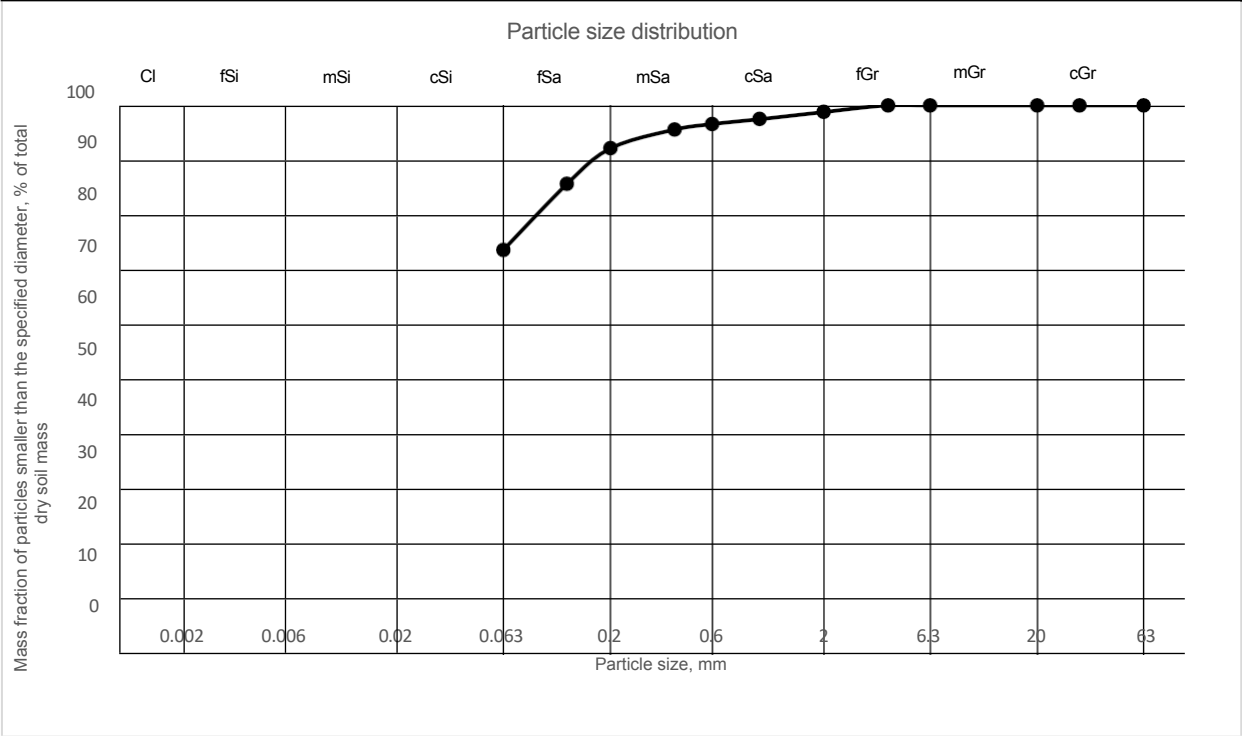
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	98.6	97.7	97.0	96.3	93.7	88.6	77.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-					
	Soil density (5)		ρ, Mg/m³		Particle density (6)		ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
ρd, Mg*m-³			e, 1										
Soil classification*													
Index:					Name:								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_043	Gr.24	12	D	31.50	33.50



Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063			
		100.0	100.0	100.0	100.0	98.9	98.1	97.3	96.6	95.8	93.0	87.8	76.7			
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1			
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1				
		-	-	-			-			-	-	-	-			
		-	-	-			-			-	-	-	-			
		Soil density (5)		ρ, mg/m³			Particle density (6)			ps, mg/m³	2.68	Porosity (7)		n, 1	Organic matter (10)	
pd, Mg·m ⁻³	e, 1															
Soil classification*																
Index:				Name:												
Notes:																
Soil classification DIN 18196:2023-02*																
Index:																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

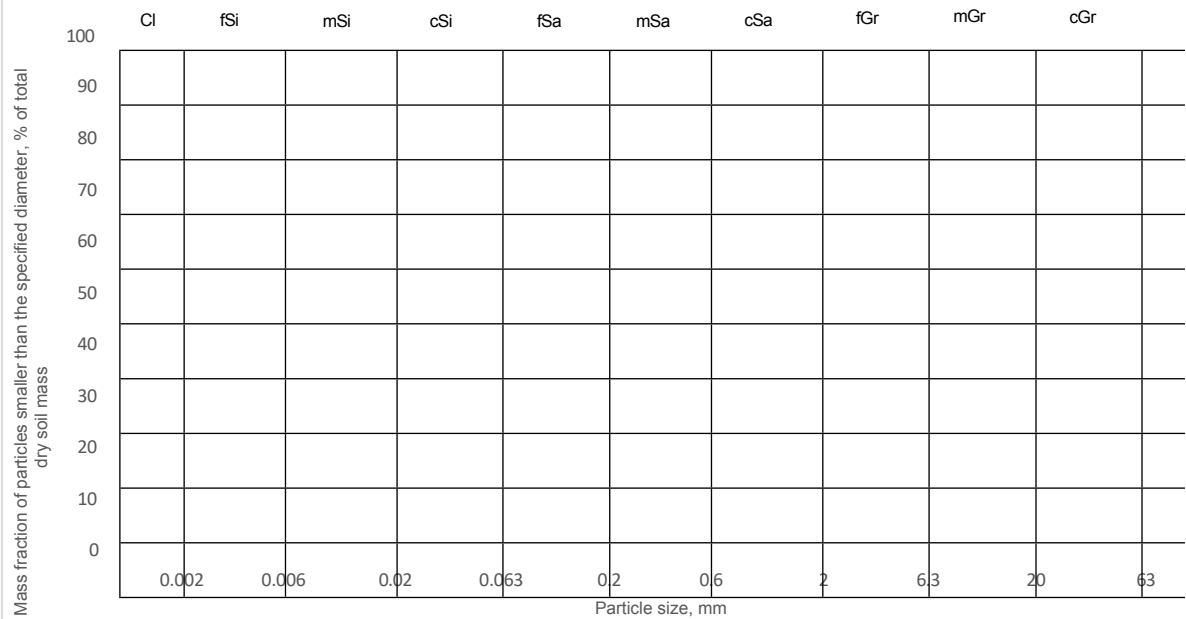
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_044	Gr.24	13	U	33.50	34.30



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	98.8	97.5	96.6	95.6	92.2	85.7	73.7
Hydrometer method (2)		Particle size, mm											
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

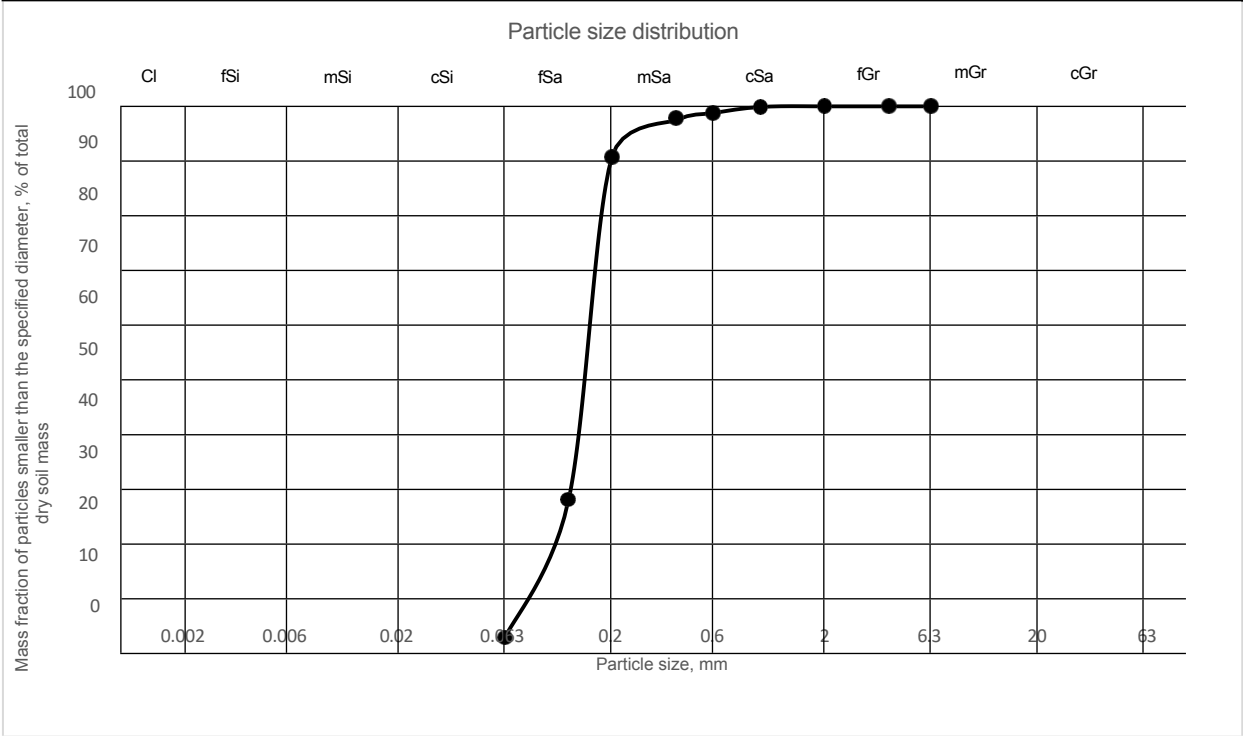
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_045	Gr.24	14	D	34.30	34.60

Particle size distribution



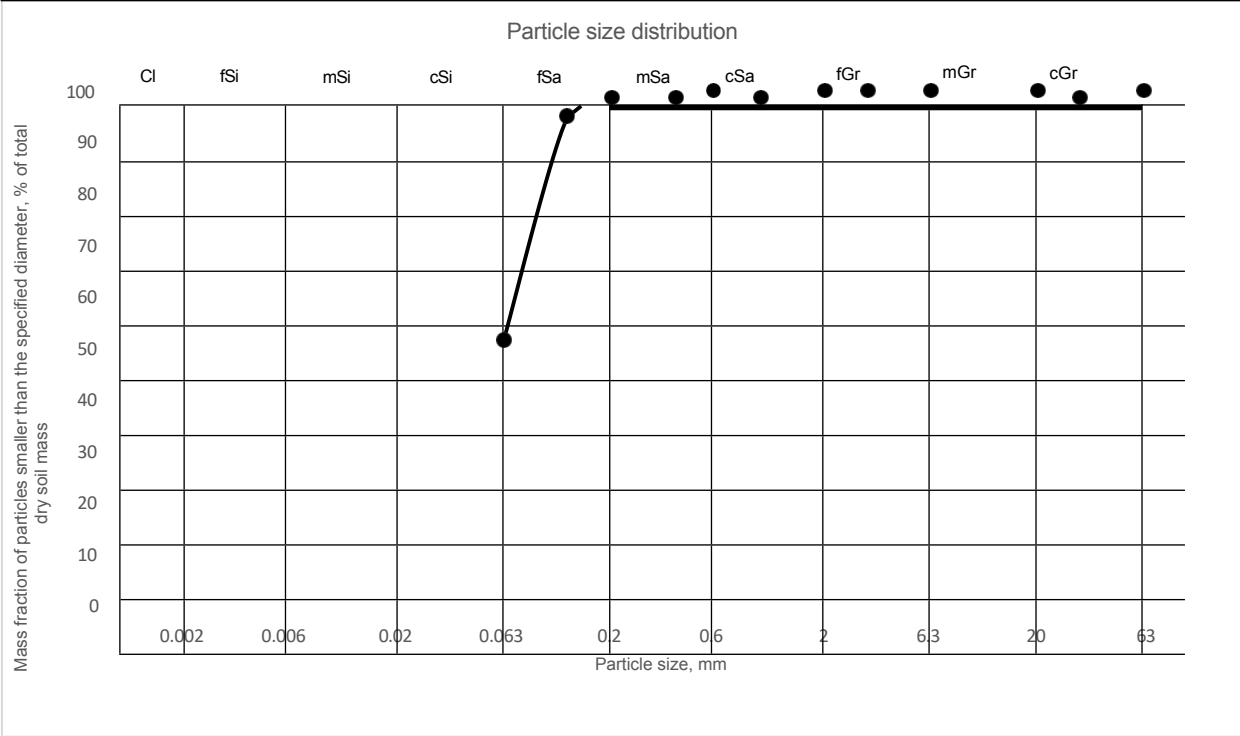
Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		-	-	-	-	-	-	-	-	-	-	-				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
			0.0463	0.0330	0.0234	0.0167	0.0088	0.0062	0.0045	0.0026	0.0015					
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1			
		-	0.0018	-							22.4	58.1	26.4			
		-	0.0022	-							-	31.7	-0.35	1.35		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m⁻³														
Soil classification*																
Index:		SiH		Name:			highly plastic clay, very stiff									
Notes:																
Soil classification DIN 18196:2023-02*																
Index:		UA														
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė														

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_046	Gr.25	1	D	15.00	15.50



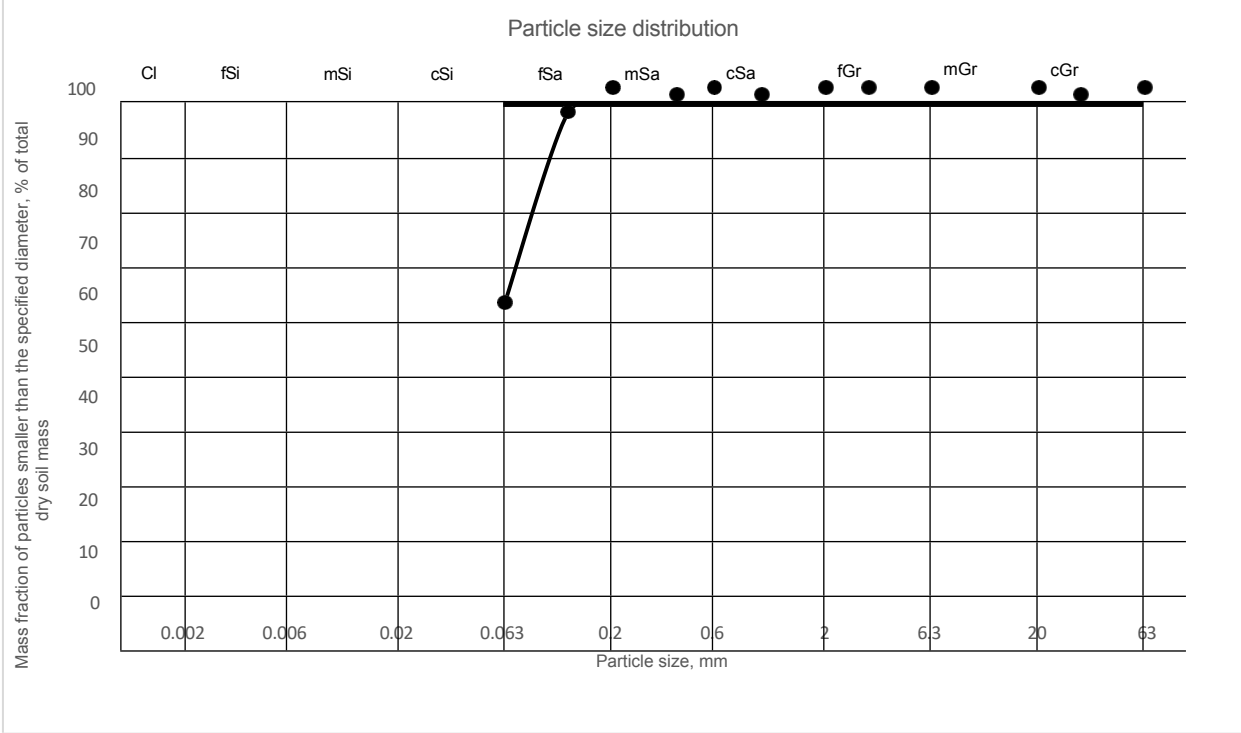
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	98.8	97.5	90.7	27.8	3.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0764	0.1476	2.08		-		-	-	-				
	0.1271	0.1590	1.33		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaP	Name:			Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_047	Gr.25	2	U	16.20	17.60



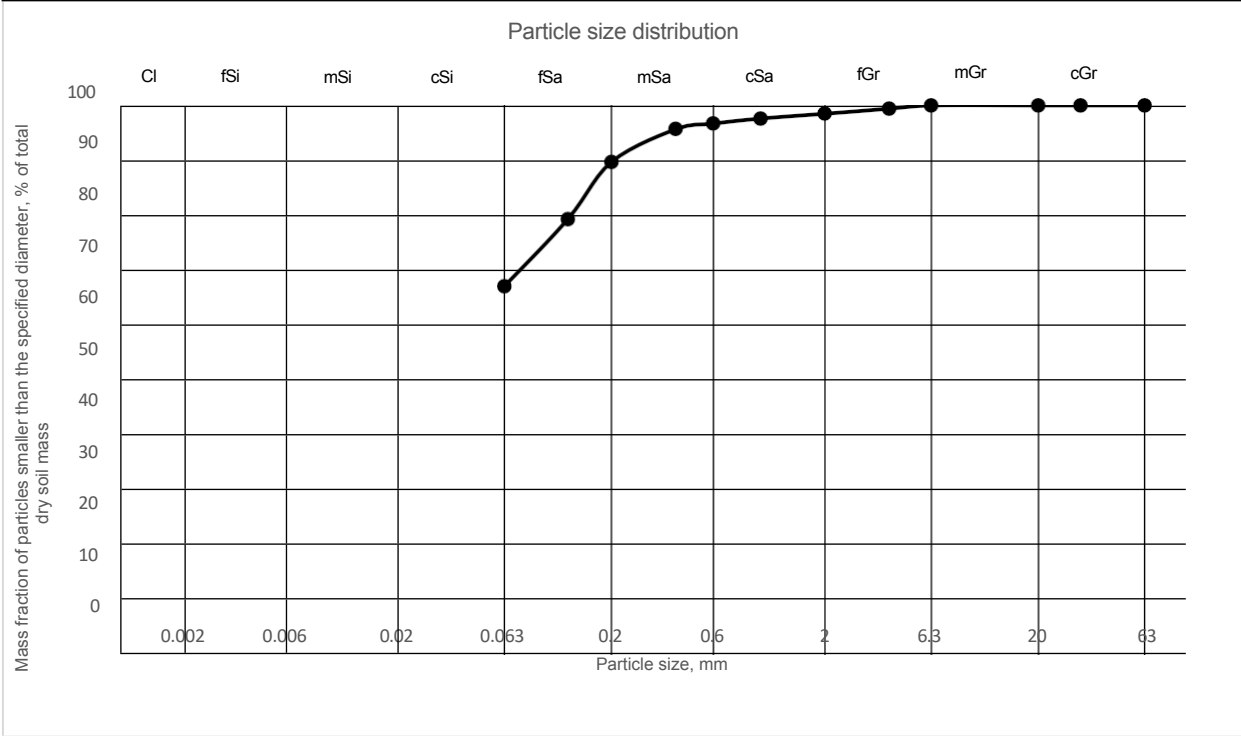
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.0	57.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		13.2		23.0	3.7	2.65				
	-	0.0658	-		100.0		19.3	-1.65					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.199												
	1.943		0.38										
Soil classification*													
Index:	saSiL	Name:		sandy, low-plasticity silt, very stiff									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	UL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_048	Gr.25	3	U	17.70	18.50



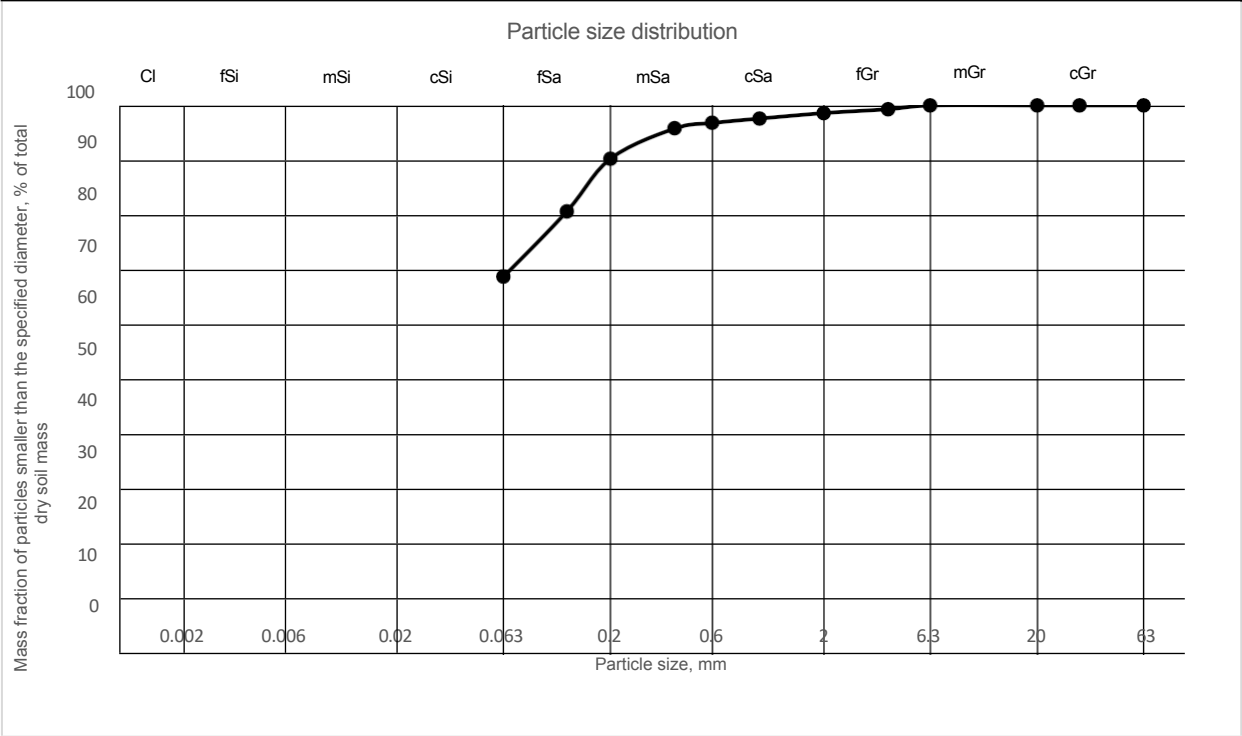
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	98.5	63.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		13.2		13.2	21.0	4.2	1.86			
	-	-	-				100.0	16.8	-0.86				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.220												
	1.961		0.38										
Soil classification*													
Index:	saCIL-SiL	Name:			Sandy, low-plasticity clay-silt, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL-UL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_049	Gr.25	4	U	18.60	19.00



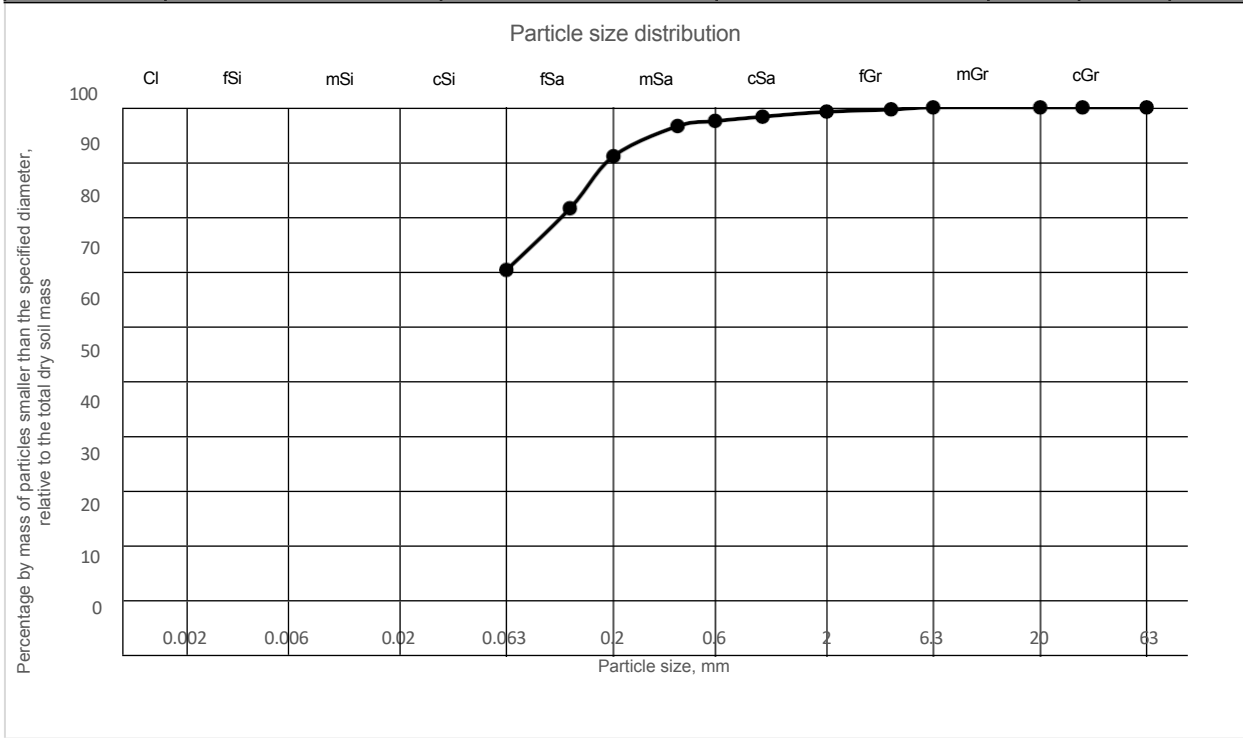
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.4	98.5	97.6	96.7	95.7	89.7	79.3	67.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		12.5		26.3	9.5	1.45				
	-	-	-		95.7		16.8	-0.45					
	Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
ρd, Mg*m-³			e, 1										
2.243													
2.002			0.34										
Soil classification*													
Index:		saCIL		Name:		Sandy clay with low plasticity, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_050	Gr.25	5	U	20.00	20.50



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.3	98.6	97.6	96.8	95.8	90.3	80.7	68.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

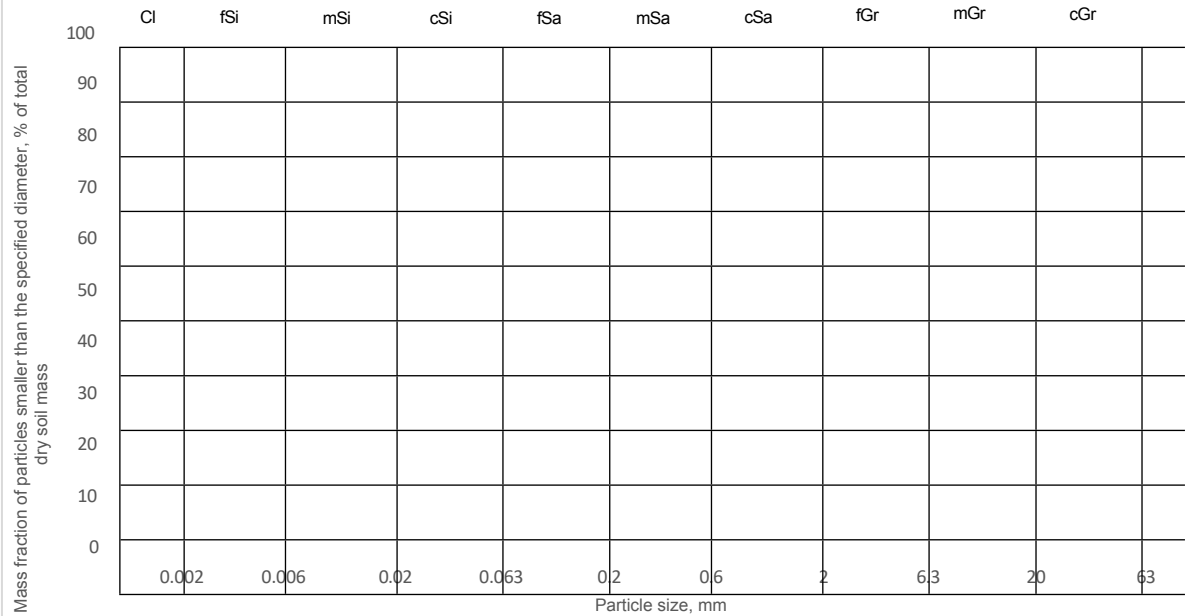
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_051	Gr.25	6	U	20.50	21.50



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.6	99.2	98.3	97.5	96.6	91.1	81.6	70.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_052	Gr.25	7	U	21.50	22.50

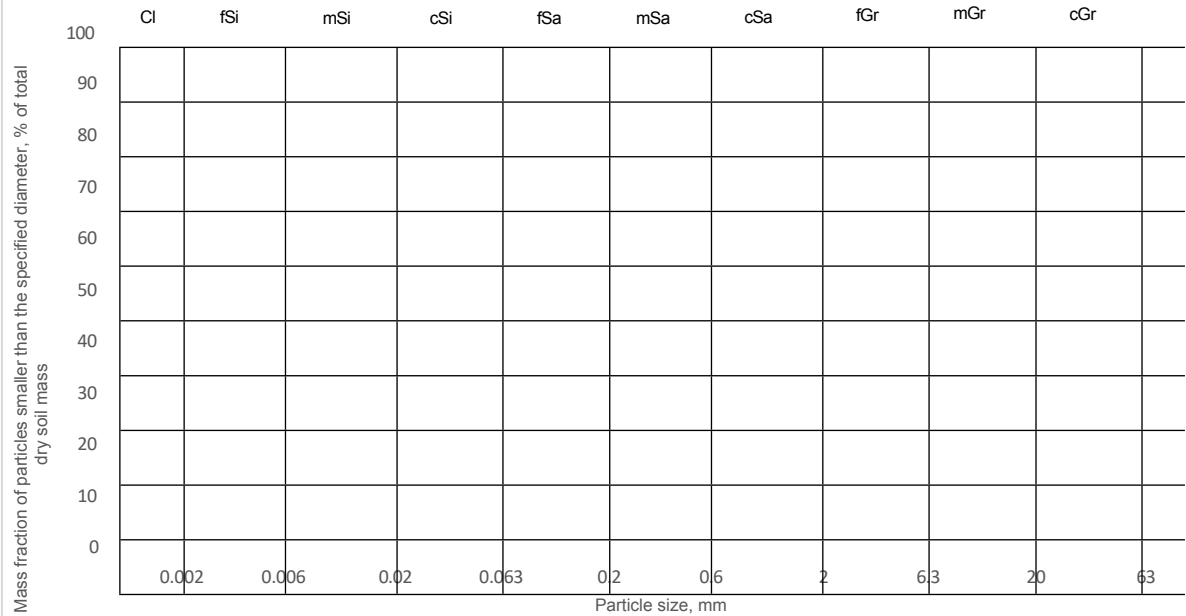
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0389	0.0279	0.0200	0.0139	0.0075	0.0055	0.0041	0.0026	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0016	-		27.0		27.0	61.5	28.7	1.20		
	-	0.0024	-				-	32.8	-0.20			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
	2.015											
	1.587		0.74									
Soil classification*												
Index:		SiH	Name:		highly plastic clay, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		UA										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_053	Gr.25	8	U	22.80	23.30

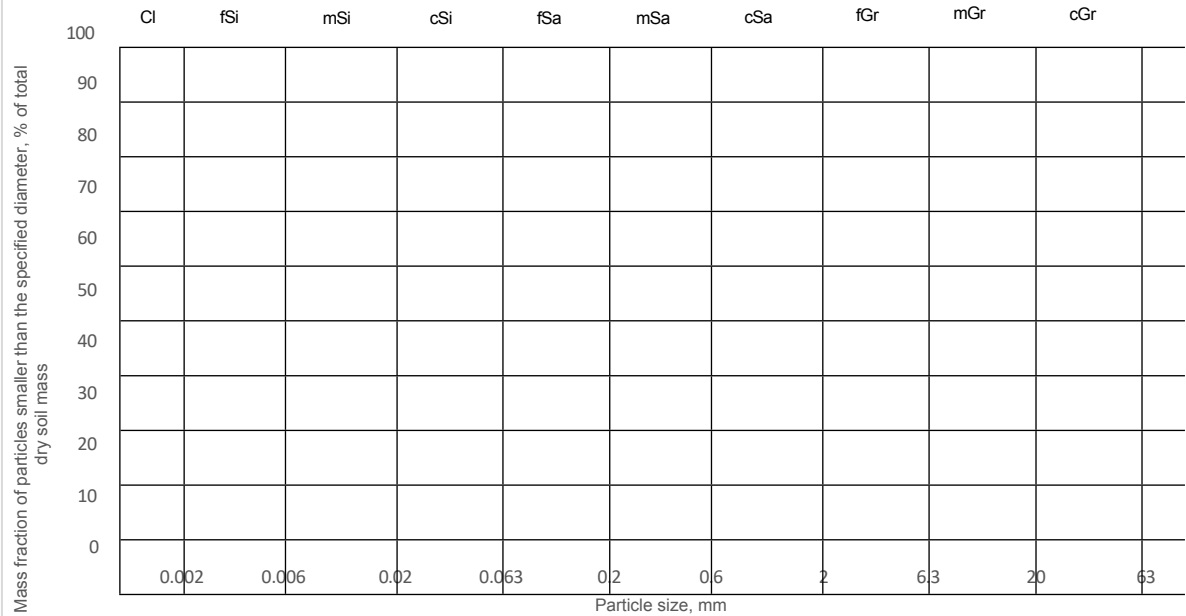
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0449	0.0318	0.0225	0.0159	0.0083	0.0060	0.0044	0.0026	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		28.3		28.3	58.4	29.2	1.03		
	-	0.0019	-				-	29.2	-0.03			
Soil density (5)	ρ, mg/m³	Particle density (6)	ps, mg/m³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg·m ⁻³				e, 1							
	2.095		0.66									
	1.633											
Soil classification*												
Index:		CIH	Name:		highly plastic clay, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TA										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_054	Gr.25	9	U	33.00	33.80

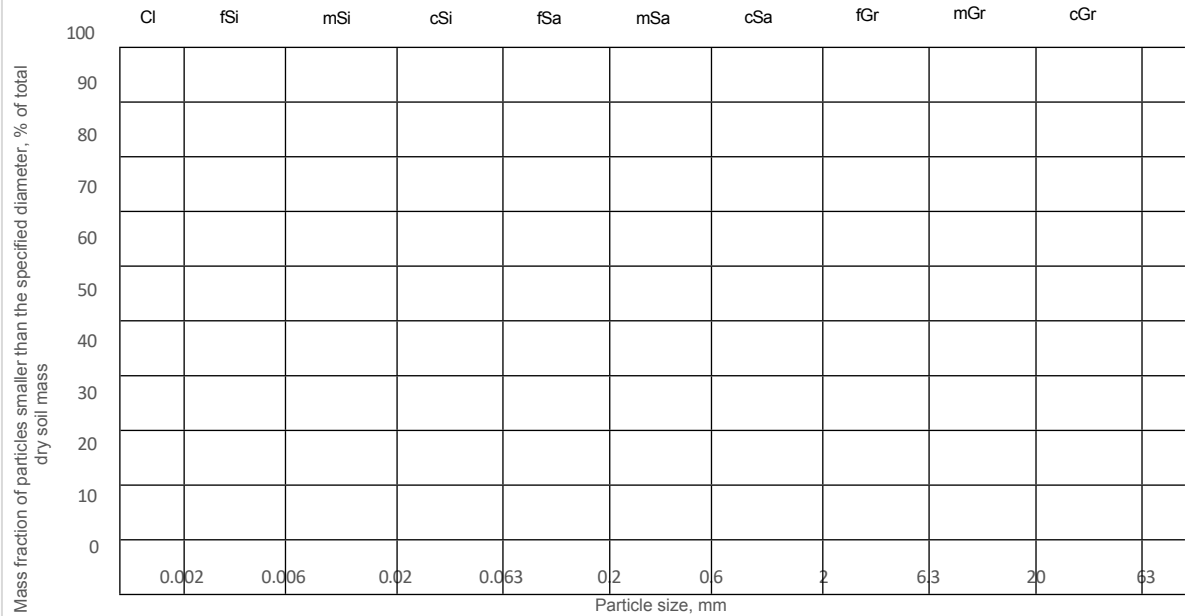
Particle size distribution



Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		-	-	-	-	-	-	-	-	-	-	-				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
			0.0459	0.0327	0.0231	0.0163	0.0086	0.0061	0.0044	0.0026	0.0014					
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1			
		-	-	-							-	59.5	25.2			
		-	-	-							-	34.3	-			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m⁻³														
		2.115														
		1.685														
Soil classification*																
Index:		SiH		Name:			highly plastic clay, very stiff									
Notes:																
Soil classification DIN 18196:2023-02*																
Index:		UA														
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

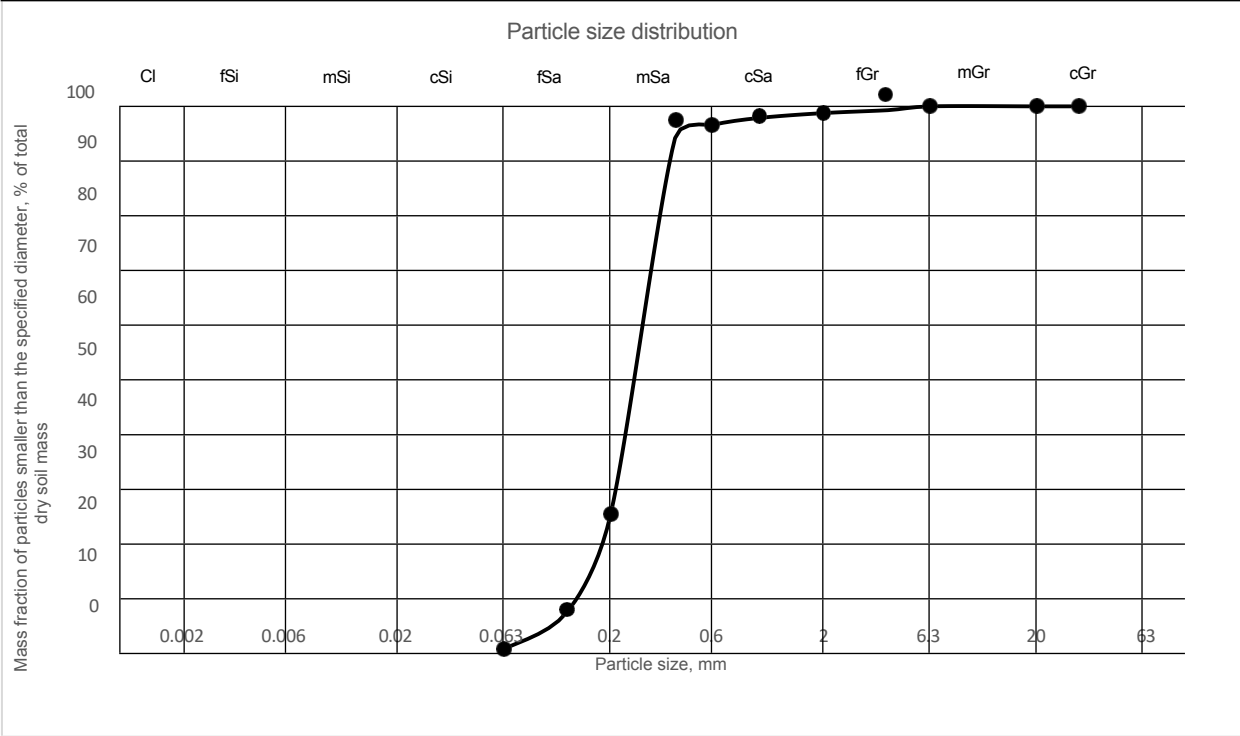
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_055	Gr.25	10	U	34.00	35.20

Particle size distribution



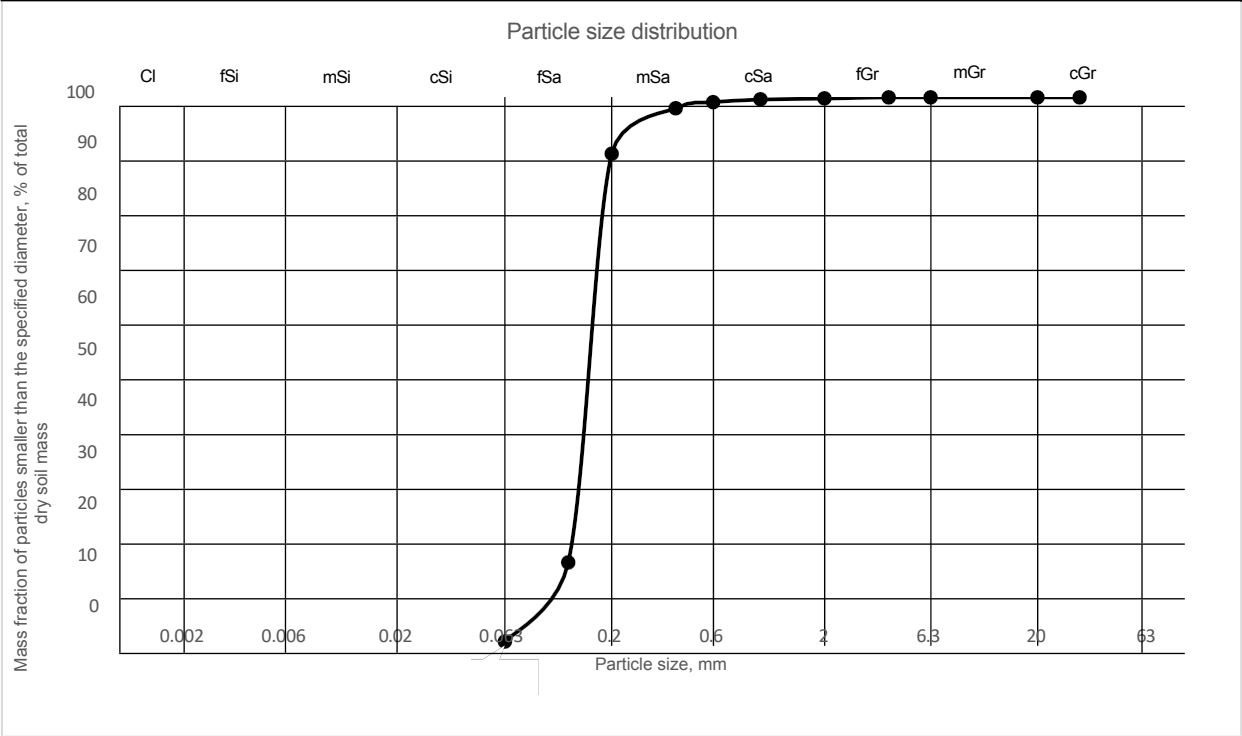
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		-	-	-	-	-	-	-	-	-	-	-	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0449	0.0321	0.0225	0.0162	0.0086	0.0062	0.0045	0.0026	0.0014		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		23.0		58.0	28.0	1.25				
	-	0.0018	-		-		30.0	-0.25					
	Soil density (5)	p, mg/m³	Particle density (6)		ps, mg/m³		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg·m ⁻³		e, 1											
2.085													
1.695													
Soil classification*													
Index:		CIH	Name:			highly plastic clay, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TA											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_056	Gr.26	1	D	2.50	2.80



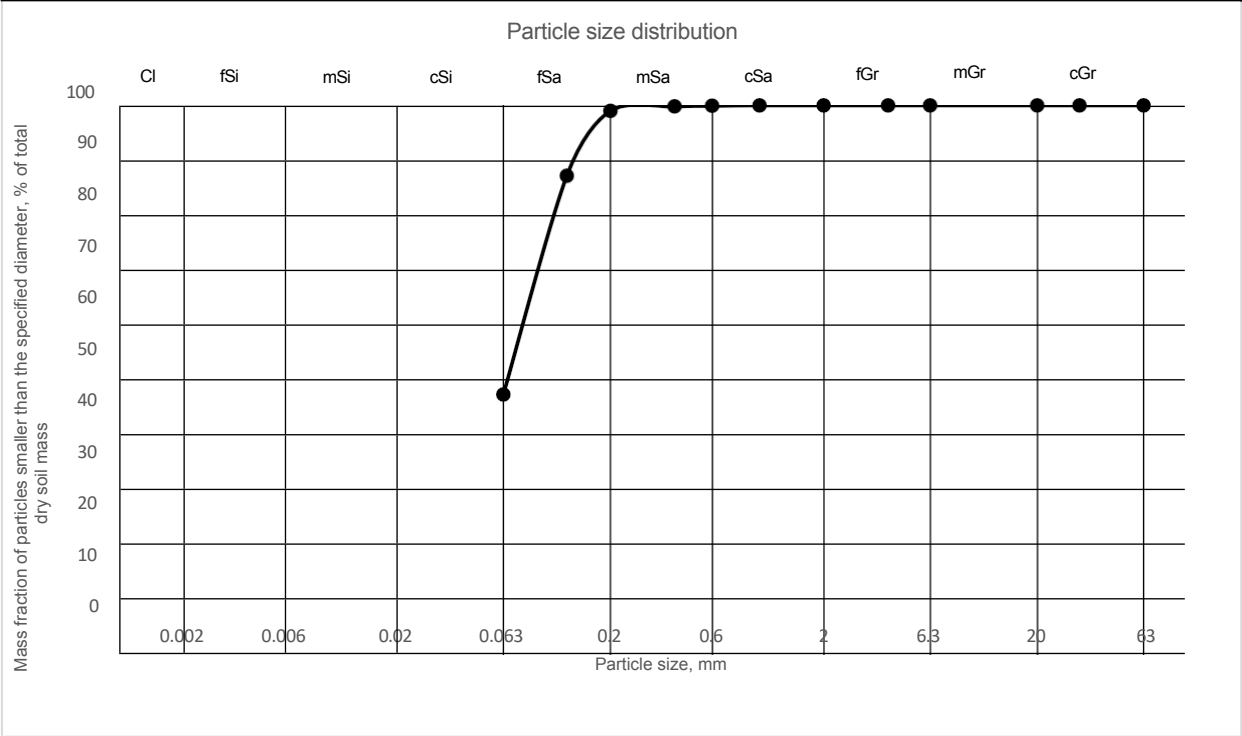
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	99.3	98.8	97.9	96.6	94.2	25.6	7.7	0.9		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		0.1328	0.2559	2.13			-			-	-	-			
		0.2091	0.2831	1.16			-			-	-				
		Soil density (5)		p, Mg/m³			Particle density (6)			ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)	
pd, Mg*m-³	e, 1			0.5%											
Soil classification*															
Index:		SaP		Name:			poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_058	Gr.26	3	D	8.70	9.20



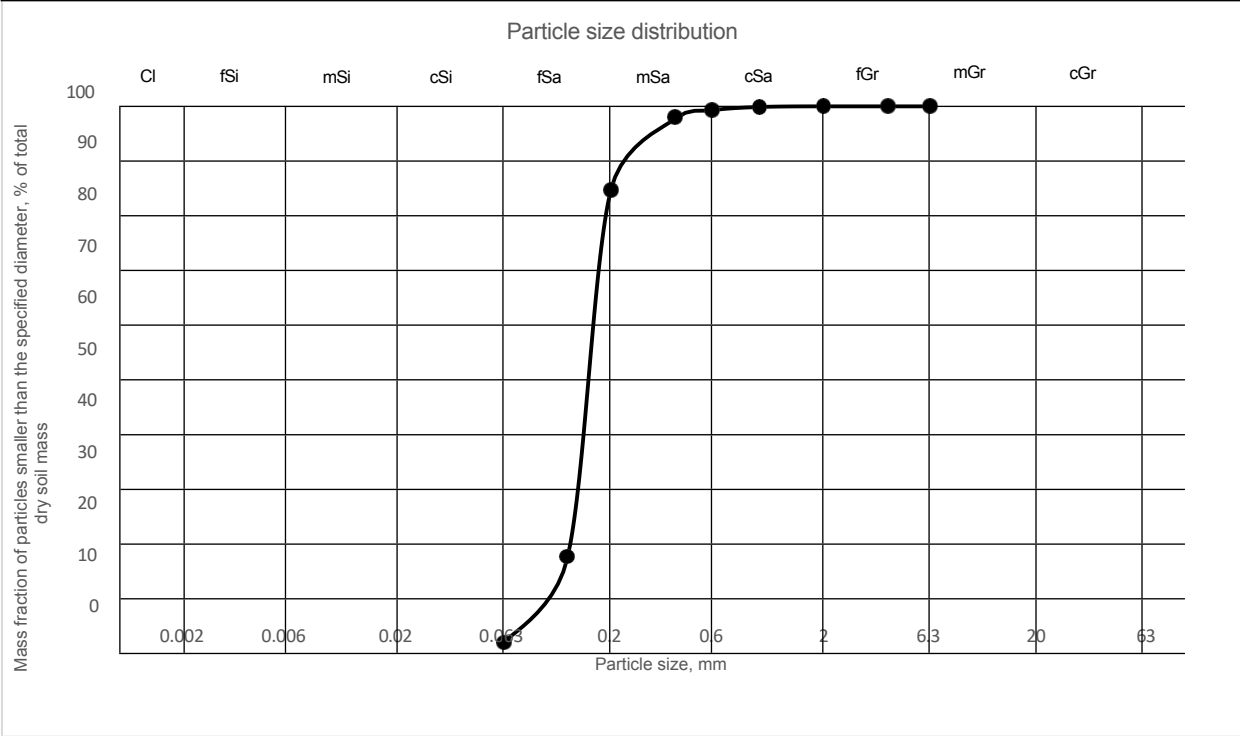
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.1	98.0	89.7	15.1	0.7		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0981	0.1557	1.69								-	-	-	
		0.1373	0.1659	1.16								-	-	-	
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³													
Soil classification*															
Index:		SaP		Name:			Poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_059	Gr.26	5	U	16.20	16.70



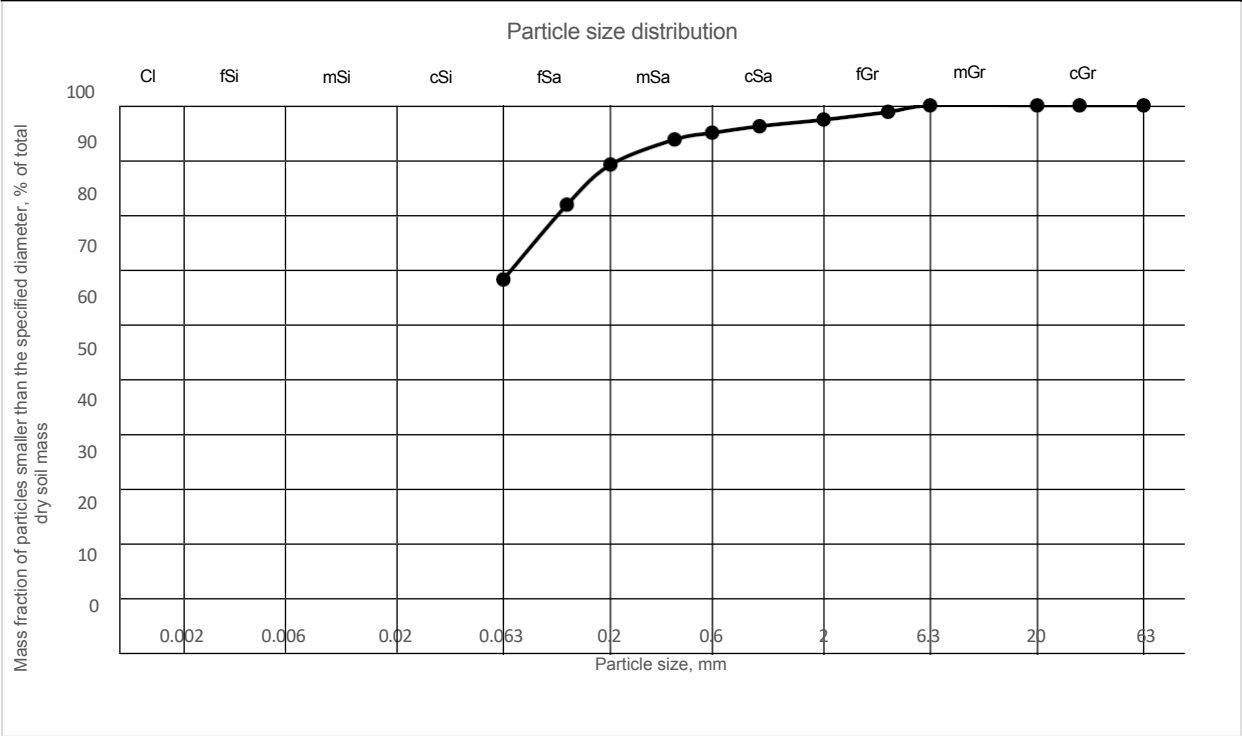
Sieve method (1)		Sieve aperture size, mm												
		Percentage of particles passing through the sieve relative to the total dry soil mass, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.0	87.2	47.4	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)			w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1	
		-	0.0659	-							12.0	20.1	3.4	2.38
		-	0.0783	-							99.8	16.7	-1.38	
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
		2.333												
		2.083												
Soil classification*														
Index:		saSiL		Name:			sandy, low-plasticity silt, very stiff							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		UL												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_060	Gr.26	4	D	14.00	2:50



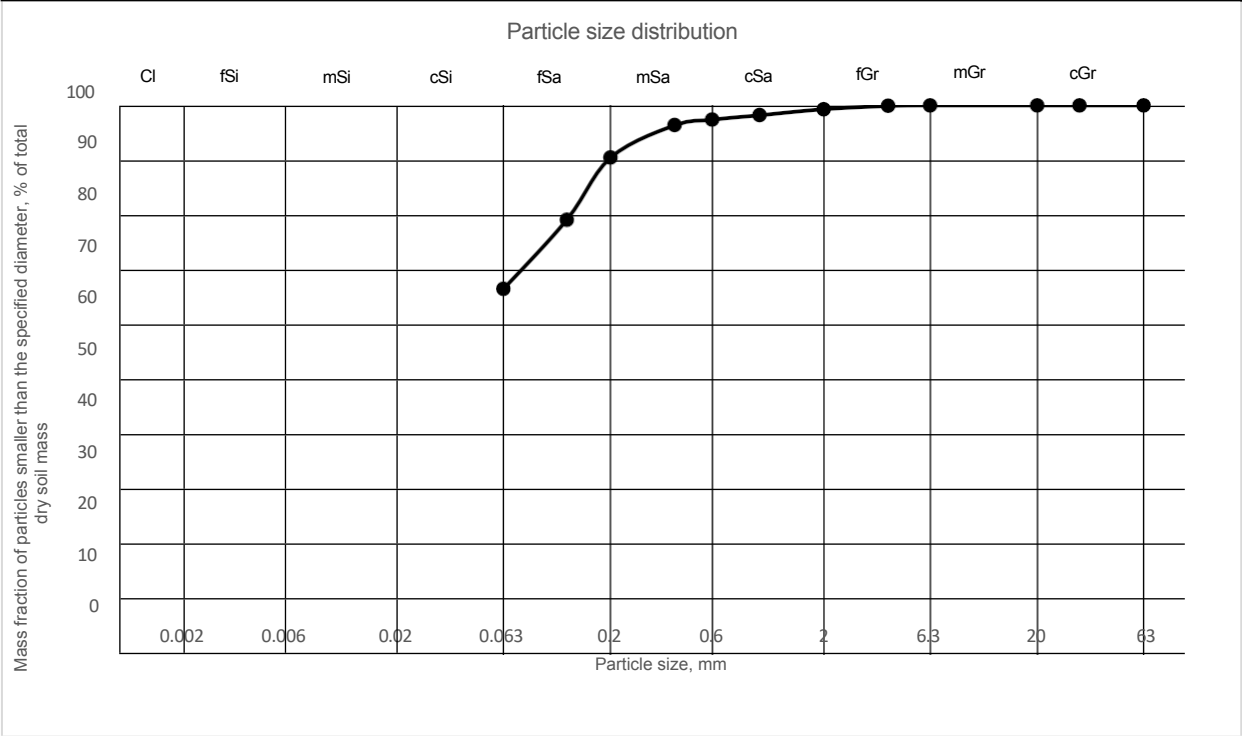
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.3	97.7	84.7	17.4	2.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0897	0.1570	1.88		-		-	-	-				
	0.1365	0.1683	1.23		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_061	Gr.26	6	U	17.80	18.50



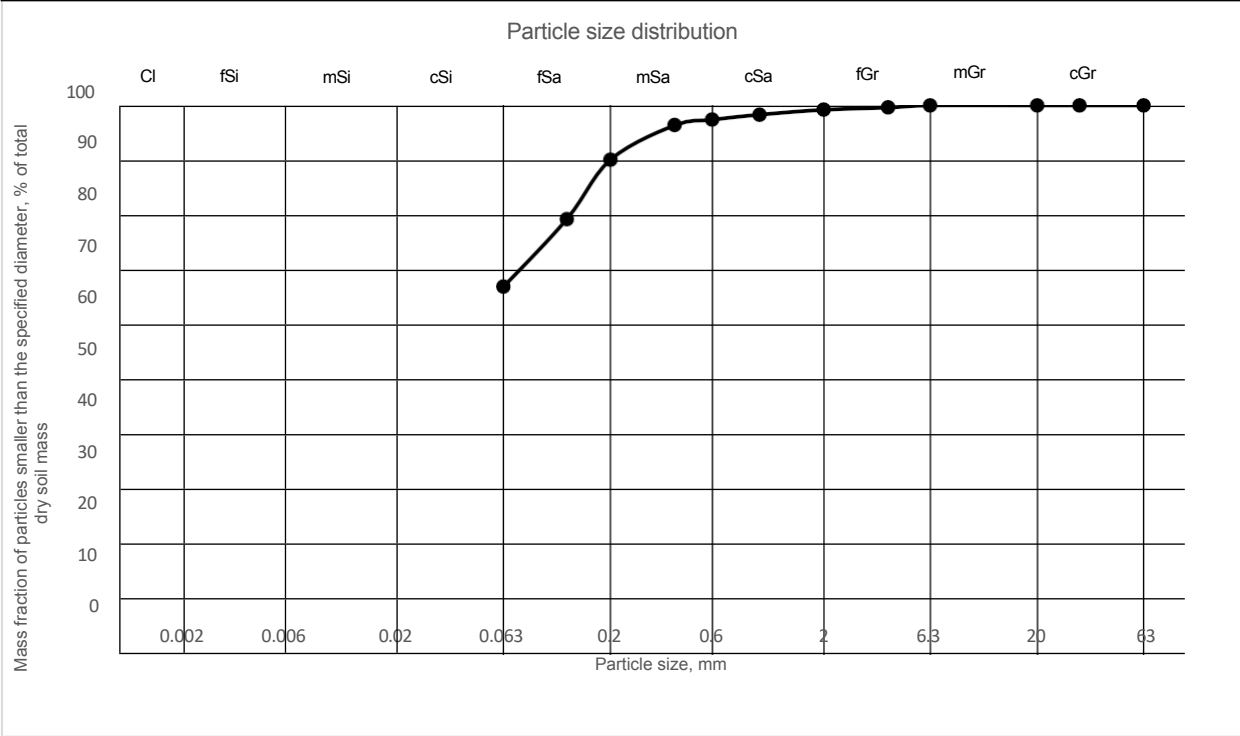
Sieve method (1)		Sieve aperture size, mm															
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %															
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063				
		100.0	100.0	100.0	100.0	98.8	97.4	96.2	95.0	93.8	89.2	81.9	68.3				
Hydrometer method (2)		Particle size, mm															
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass															
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1				
	-	-	-								22.0	22.9	8.5	0.11			
	-	-	-								93.8	14.4	0.89				
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
	pd, Mg*m-³																
	2.119																
	1.757																
2.74																	
0.56																	
Soil classification*																	
Index:		saCIL		Name:				sandy clay with low plasticity, very soft									
Notes:																	
Soil classification DIN 18196:2023-02*																	
Index:		TL															
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė															

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_062	Gr.26	7	U	18.80	20.80



Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.9	99.3	98.2	97.4	96.4	90.5	79.2	66.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
	-	-	-						-	-	-	-	
	-	-	-			-			-	-			
	Soil density (5)	p, Mg/m³	Particle density (6)			ps, Mg*m-3			Porosity (7)	n, 1	Organic matter (10)		org. mat. %
pd, Mg*m-³		e, 1											
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

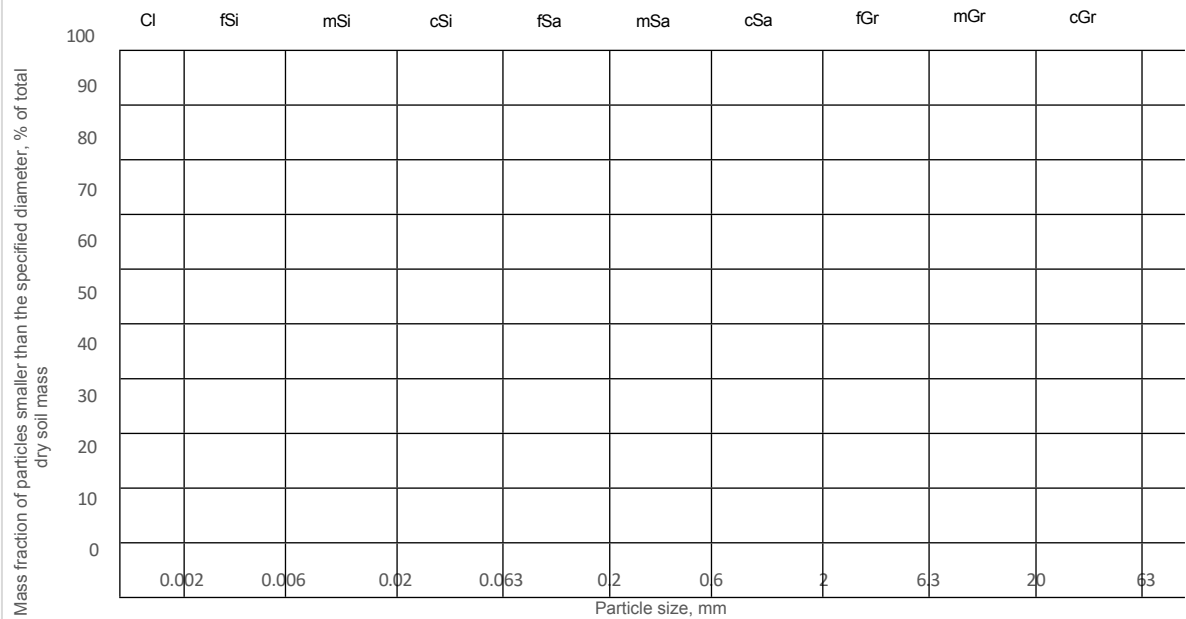
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_063	Gr.26	8	U	21.40	21.80



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.6	99.2	98.3	97.4	96.4	90.1	79.3	67.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_064	Gr.26	9	U	26.50	27.00

Particle size distribution

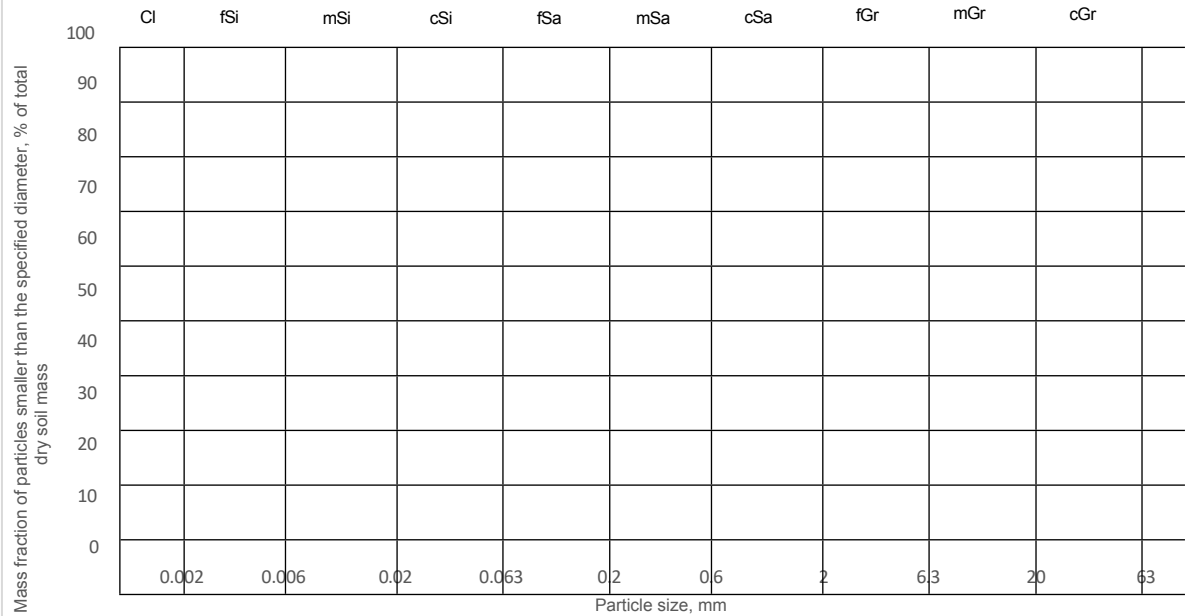


Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0445	0.0317	0.0222	0.0159	0.0084	0.0062	0.0045	0.0027	0.0015	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0019	-		27.1		27.1	60.2	26.5	1.25		
	-	0.0029	-				-	33.7	-0.25			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
	1.993											
	1.568		0.73									
Soil classification*												
Index:		SiH	Name:		high-plasticity powder, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		UA										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										



Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_065	Gr.26	10	U	29.50	29.80

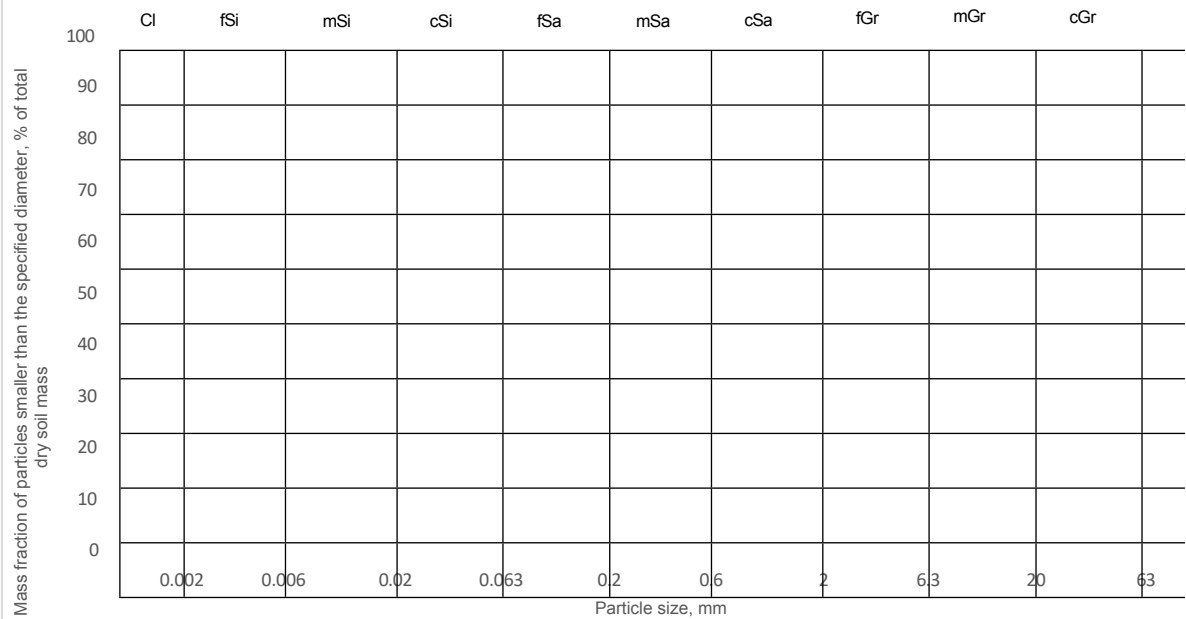
Particle size distribution



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	-	-	-	-	-	-	-		
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
			0.0404	0.0296	0.0218	0.0157	0.0087	0.0063	0.0046	0.0028	0.0015			
Composition indicators (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		-	0.0040	-						-	-	-		
		-	0.0058	-						-	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
		2.067												
		1.705												
Soil classification*														
Index:					Name:									
Notes:														
Soil classification DIN 18196:2023-02*														
Index:														
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_066	Gr.26	11	U	30.00	31.20

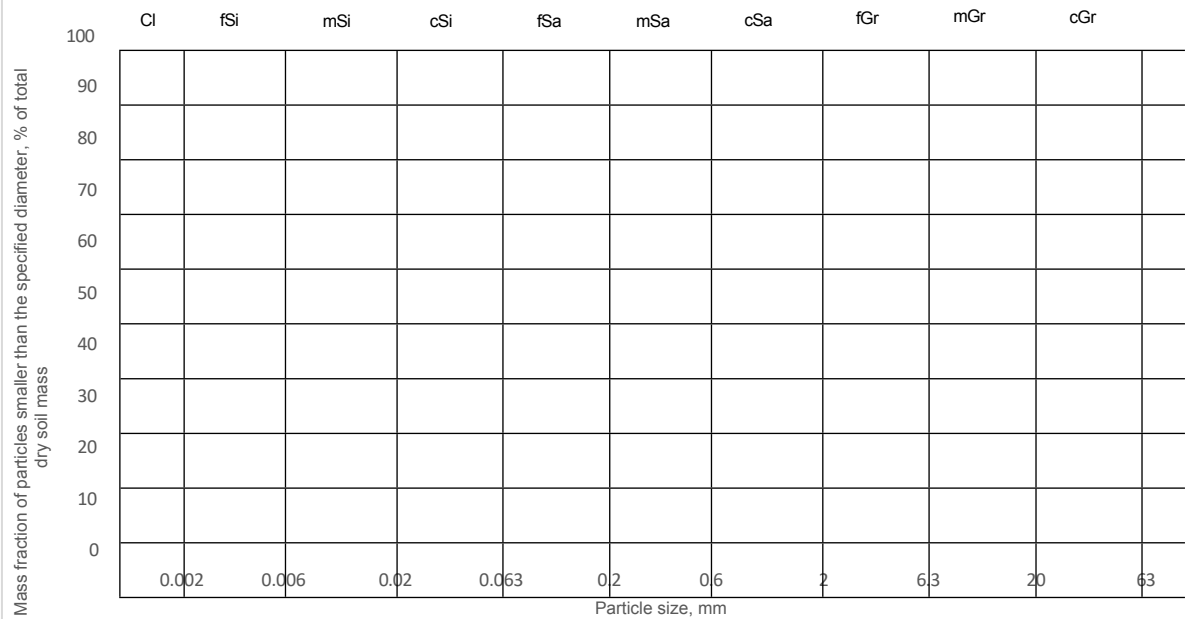
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0459	0.0331	0.0236	0.0172	0.0092	0.0067	0.0048	0.0029	0.0015	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0039	-		20.6		20.6	44.6	18.4	1.30		
	-	0.0061	-				-	26.2	-0.30			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³		e, 1									
	2.108											
	1.748		0.54									
Soil classification*												
Index:		CIM	Name:		medium-plasticity clay, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TM										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

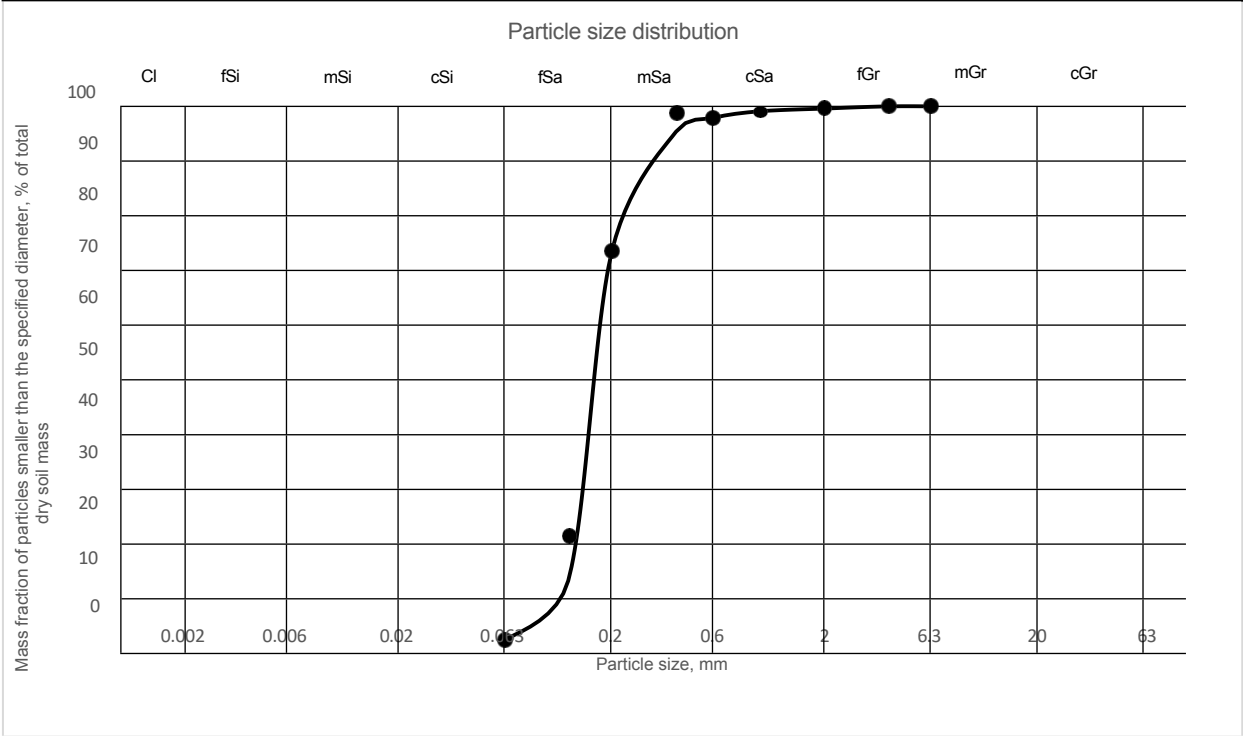
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_067	Gr.26	12	U	32.10	33.00

Particle size distribution



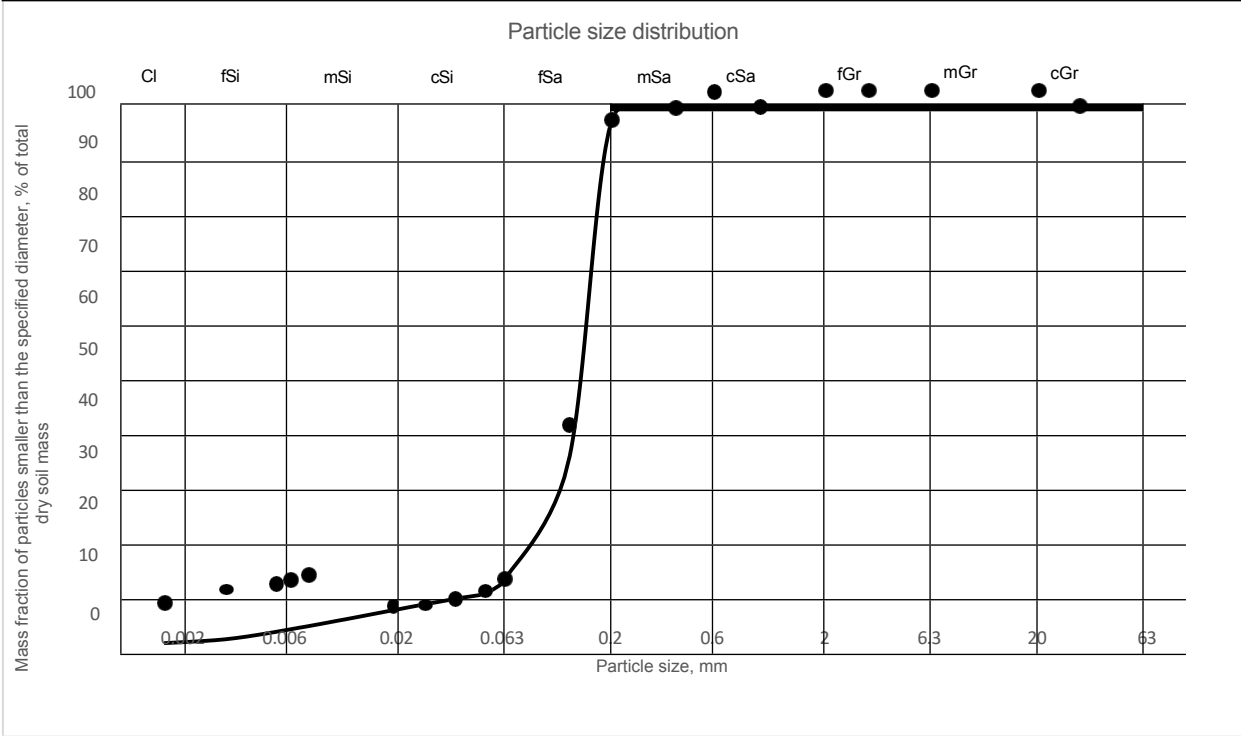
Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		-	-	-	-	-	-	-	-	-	-	-				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
			0.0450	0.0321	0.0229	0.0161	0.0086	0.0062	0.0045	0.0027	0.0014					
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1			
		-	-	-							23.2	54.3	25.9			
		-	0.0020	-							-	28.4	-0.20			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³														
		2.096														
		1.701														
Soil classification*																
Index:		CIH		Name:			highly plastic clay, very stiff									
Notes:																
Soil classification DIN 18196:2023-02*																
Index:		TA														
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_068	Gr.27	1	D	7.10	7.50



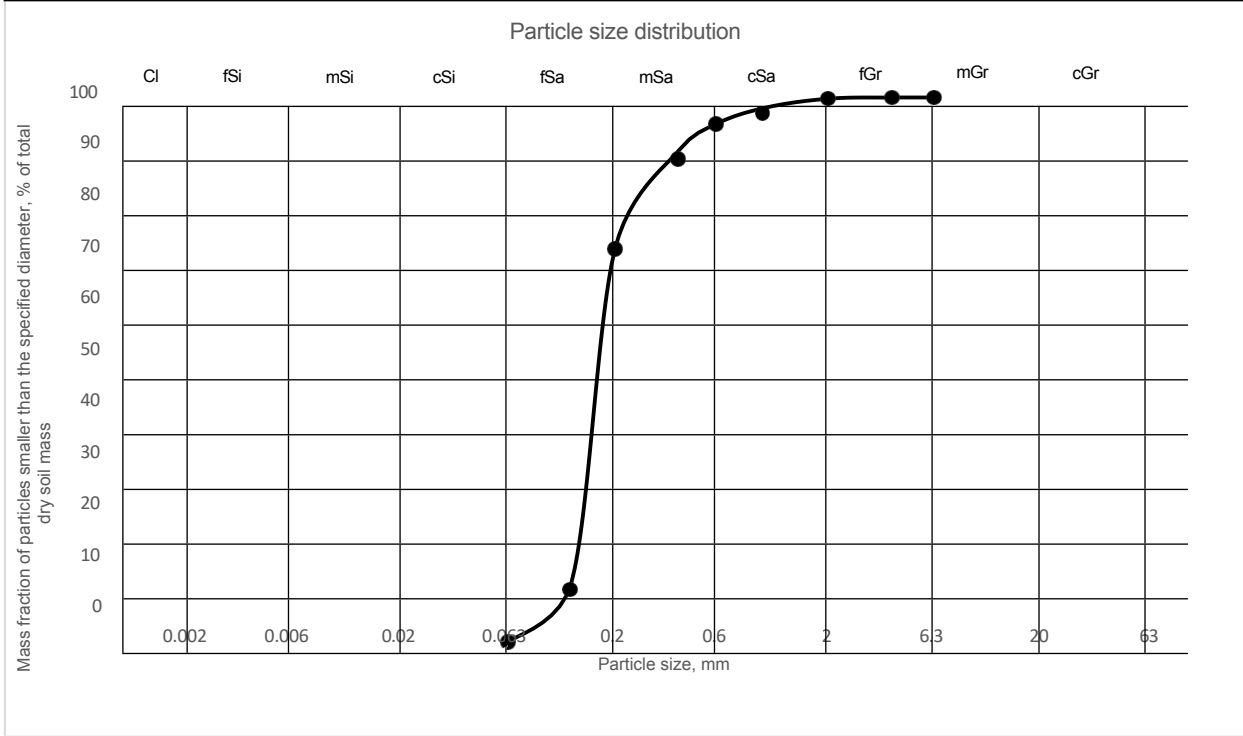
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.6	99.1	97.9	95.4	73.5	13.4	2.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1009	0.1664	1.78				-	-	-				
	0.1423	0.1800	1.12		-		-	-					
					21.8								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaP	Name:			Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_069	Gr.27	2	D	8.70	9.50



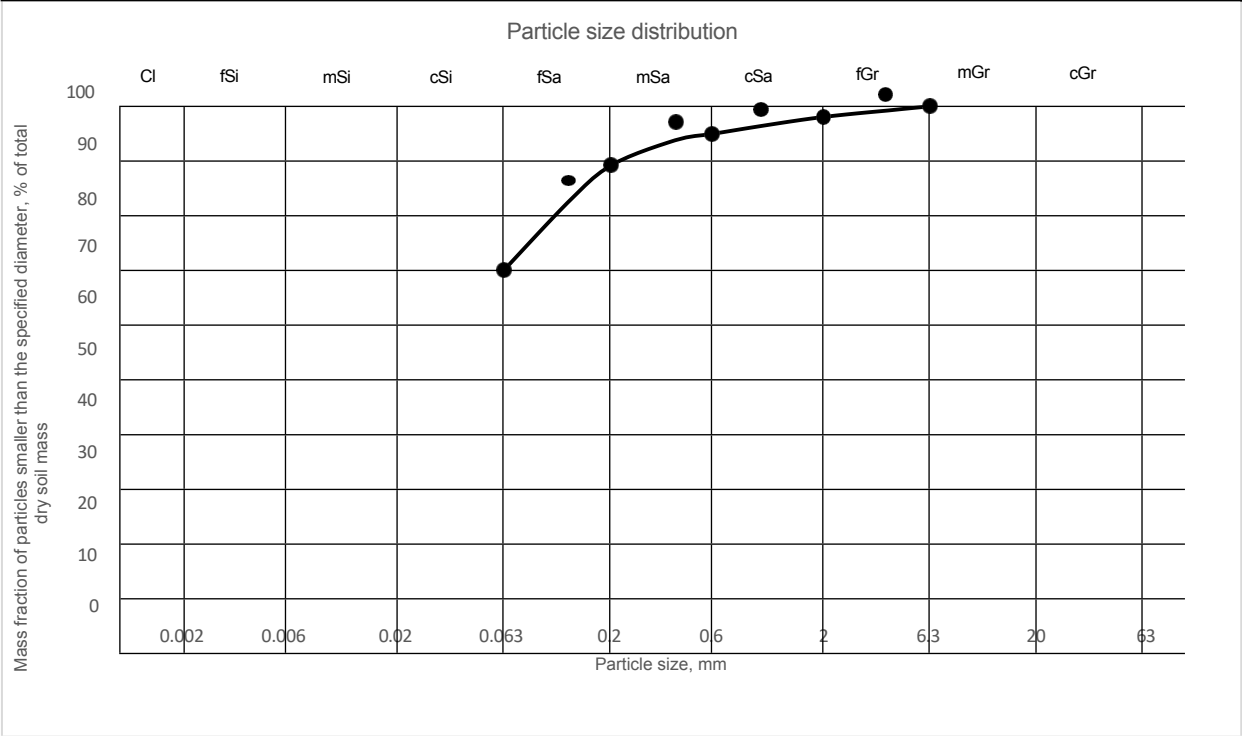
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	97.5	34.9	13.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0513	0.0370	0.0267	0.0193	0.0103	0.0074	0.0053	0.0031	0.0016		
			11.1	10.1	9.1	8.1	6.1	5.1	4.0	2.7	2.0		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0356	0.1400	4.23				-	-	-				
	0.1066	0.1509	2.11				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.998												
	1.640		0.61										
Soil classification*													
Index:	SaFP	Name:	slightly silty-clayey poorly sorted sand										
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_070	Gr.27	3	D	12:00	13:00



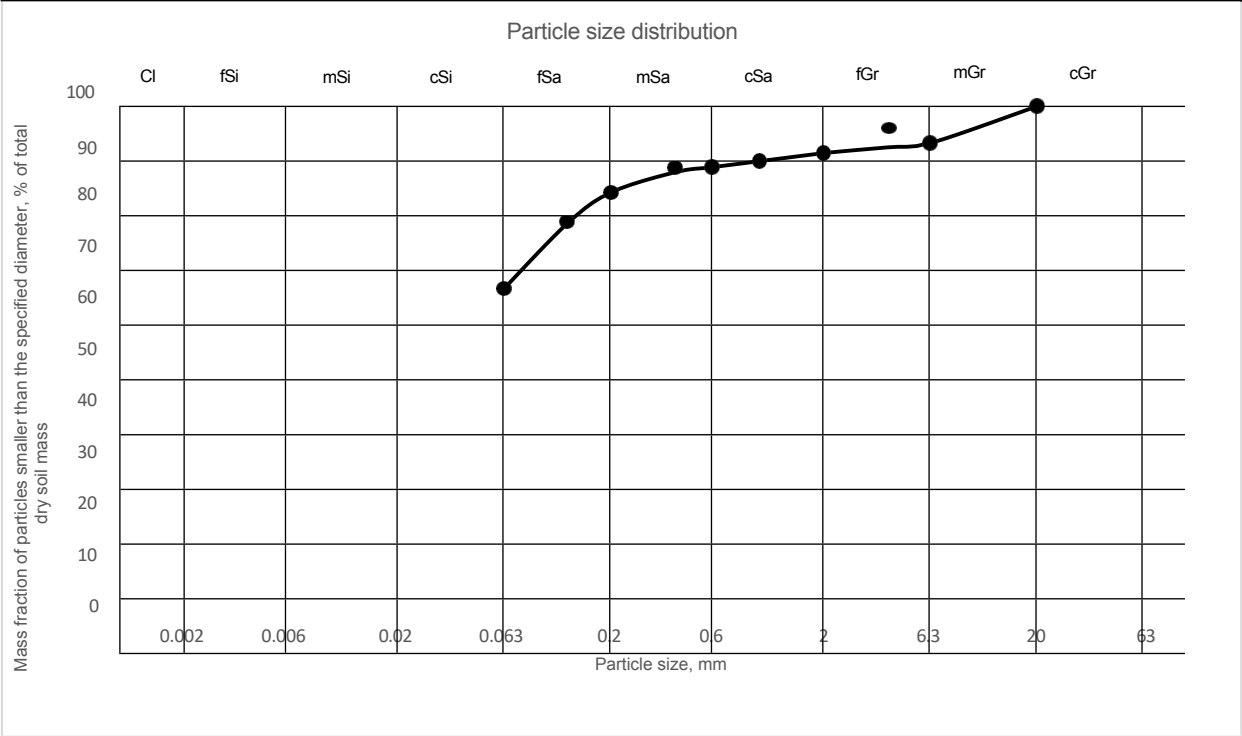
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	98.1	95.2	90.4	72.3	11.4	0.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1144	0.1684	1.59		-		-	-	-				
	0.1443	0.1819	1.00		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaP	Name:				Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_071	Gr.27	4	U	15.00	16.00



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.2	98.1	96.4	95.0	93.8	89.2	82.3	70.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-				16.6	26.6	11.1	0.90			
	-	-	-		93.8		15.5	0.10					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.152													
1.862		0.45											
Soil classification*													
Index:	saCIL	Name:				sandy clay with low plasticity, stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

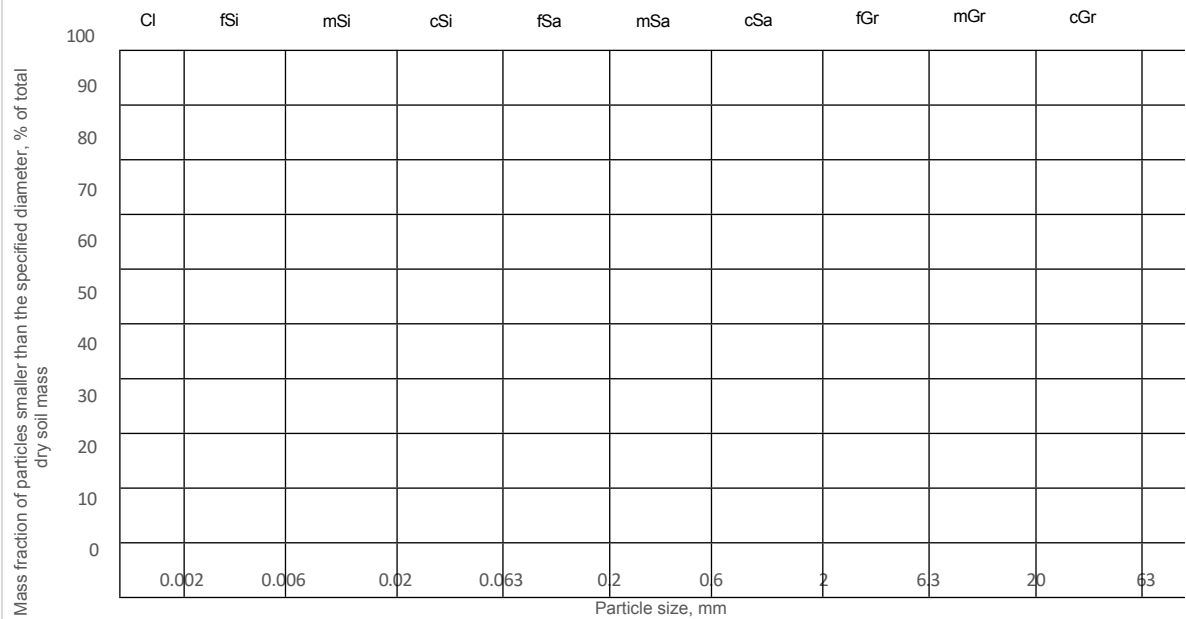
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_072	Gr.27	5	U	6:00 PM	7:00 PM



Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	93.3	92.5	91.4	90.0	88.9	88.0	84.3	78.6	66.7
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		19.0		27.4	11.5	0.73			
	-	-	-		88.0		15.9	0.27				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %		Water permeability (4.2)	k10, m/s		
	ρd, Mg*m-³		e, 1									
	2.139											
	1.833		0.47									
Soil classification*												
Index:	saCIL	Name:			sandy clay with low plasticity, firm							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	TL											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_073	Gr.27	6	U	8:00 PM	9:00 PM

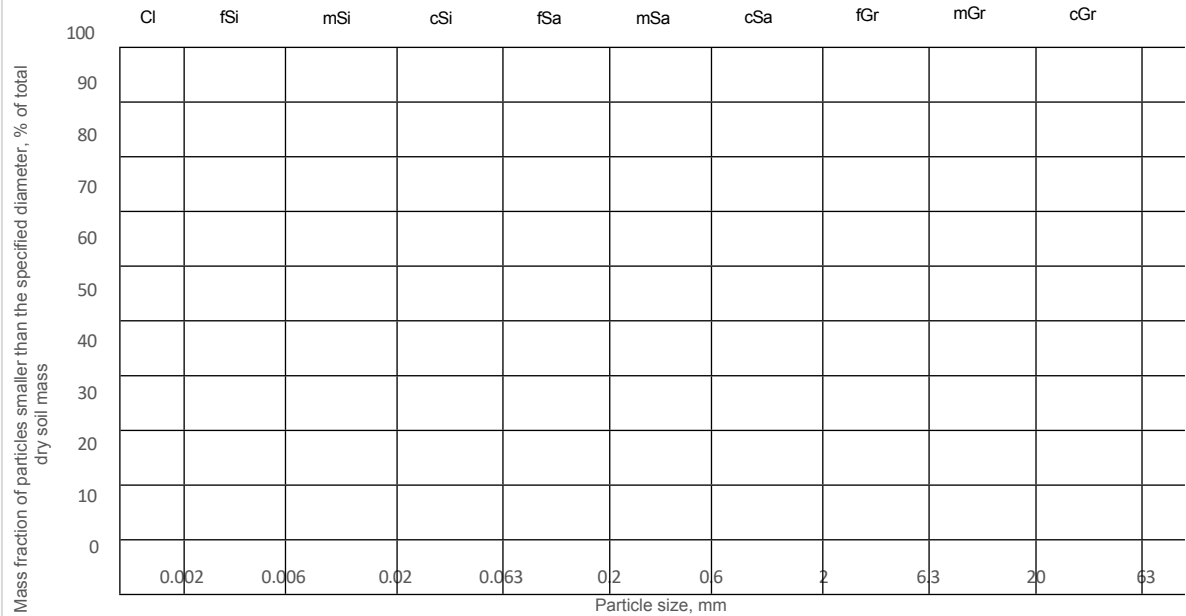
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
			0.0444	0.0314	0.0222	0.0159	0.0084	0.0062	0.0045	0.0027	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0017	-		28.7		53.3	25.7	0.96			
	-	0.0025	-		-		27.6	0.04				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³		e, 1									
	1.968											
	1.529		0.79									
Soil classification*												
Index:	CIH	Name:	highly plastic clay, stiff									
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	TA											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

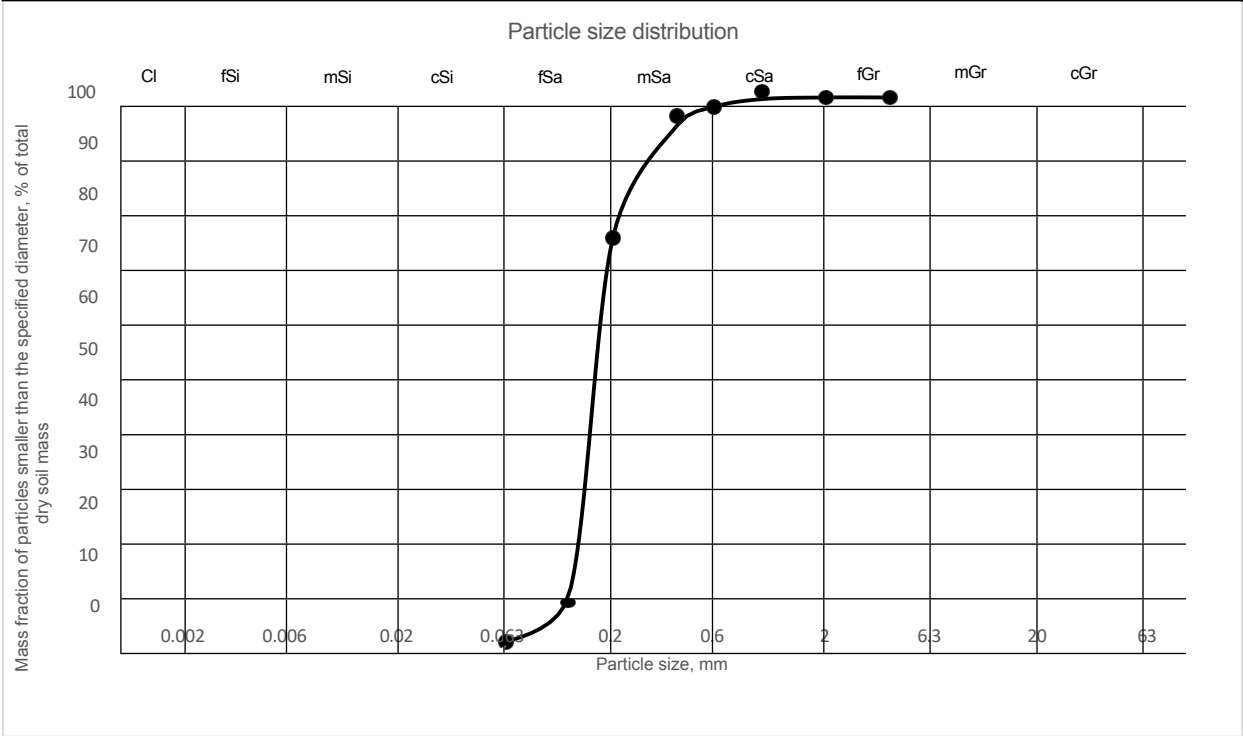
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_074	Gr.28	1	U	34.50	35.10

Particle size distribution



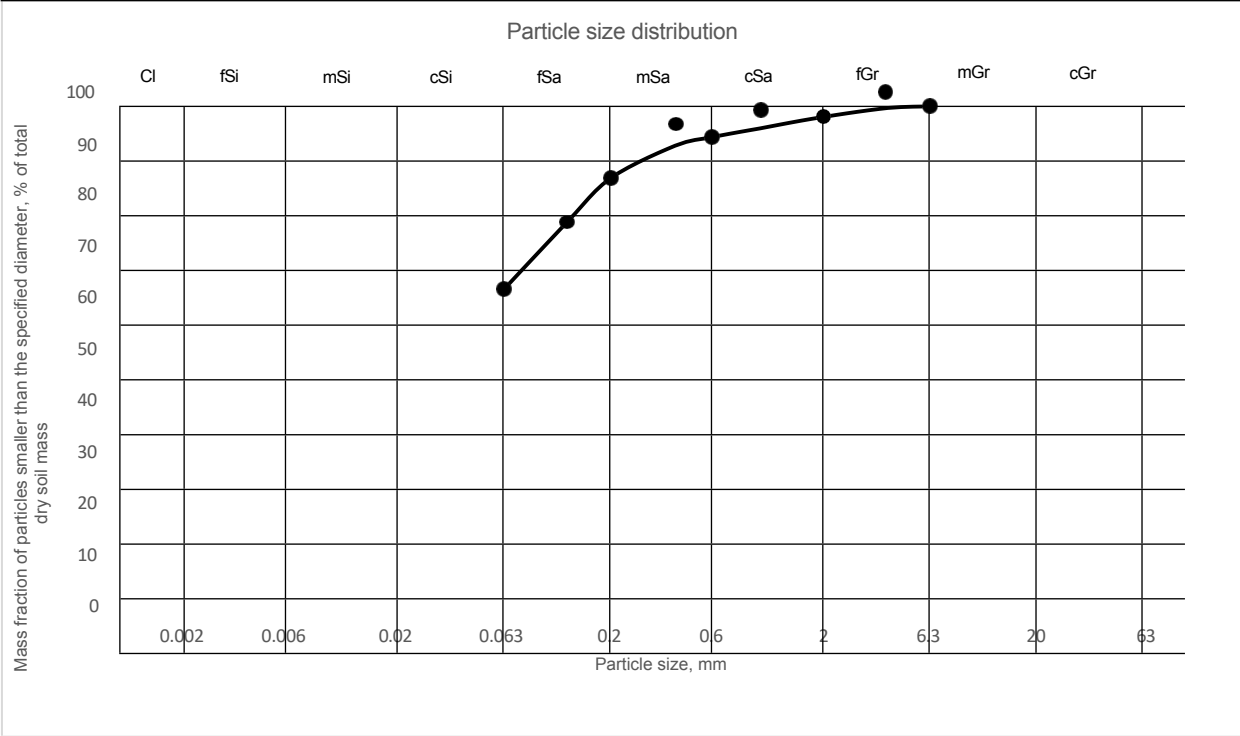
Sieve method (1)		Sieve aperture size, mm										
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
			0.0452	0.0323	0.0230	0.0163	0.0086	0.0062	0.0044	0.0026	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		25.4		54.7	25.2	1.16			
	-	0.0015	-		-		29.5	-0.16				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m ⁻³		e, 1									
	2.067											
	1.649		0.66									
Soil classification*												
Index:	SiH	Name:	highly plastic clay, very stiff									
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	UA											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_075	Gr.29	1	U	7.90	8.20



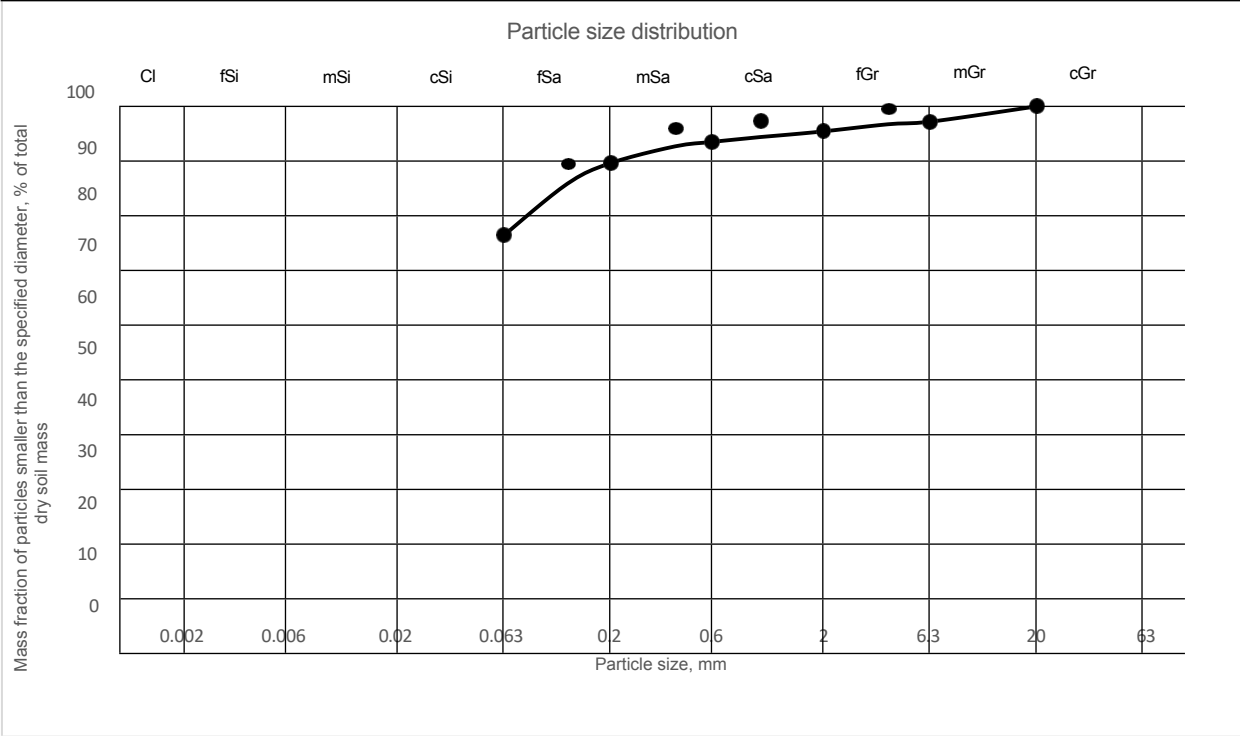
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.3	94.9	74.4	9.4	0.5
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	0.1255	0.1677	1.44				-	-	-			
	0.1451	0.1802	0.93		-		-	-				
					21.1							
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:	SaP	Name:			poorly sorted sand							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SE											
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_076	Gr.29	2	U	22.20	22.50



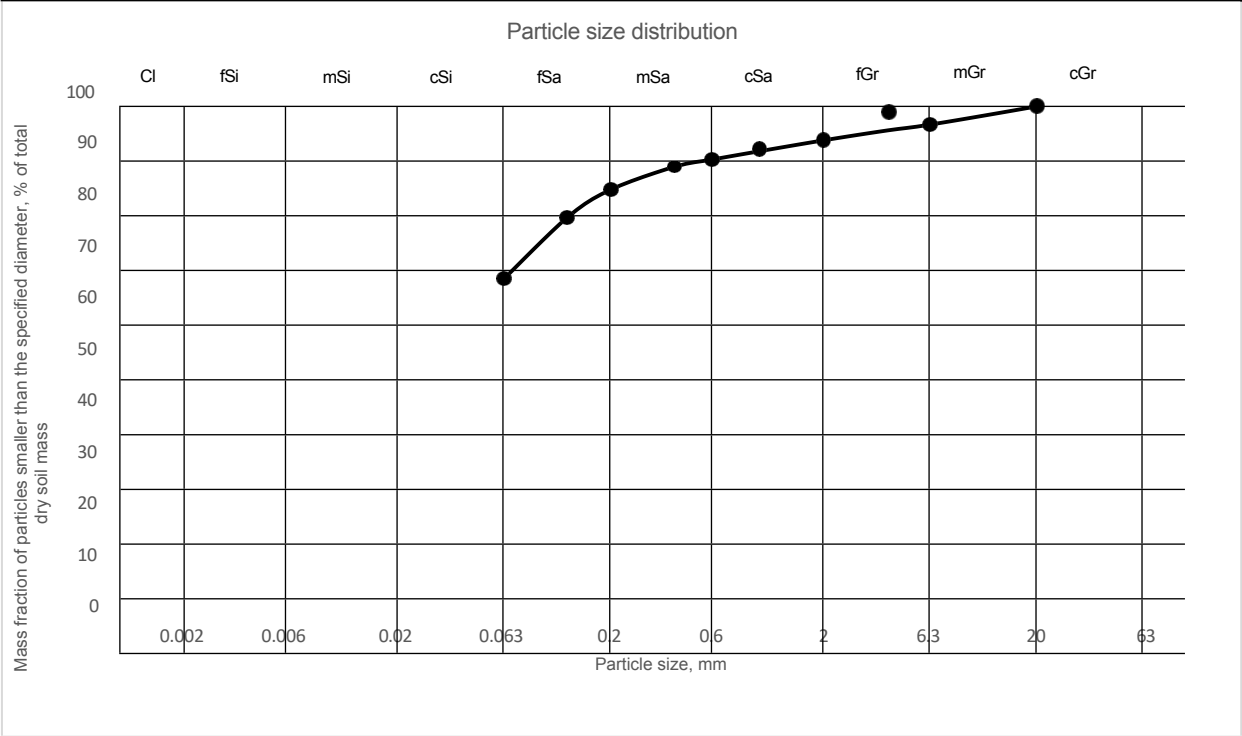
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.7	98.1	96.0	94.4	92.8	86.9	78.9	66.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.206												
	1.940		0.38										
Soil classification*													
Index:		Name:											
Remarks: Non-cohesive soil													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_077	Gr.30	1	U	16.30	16.90



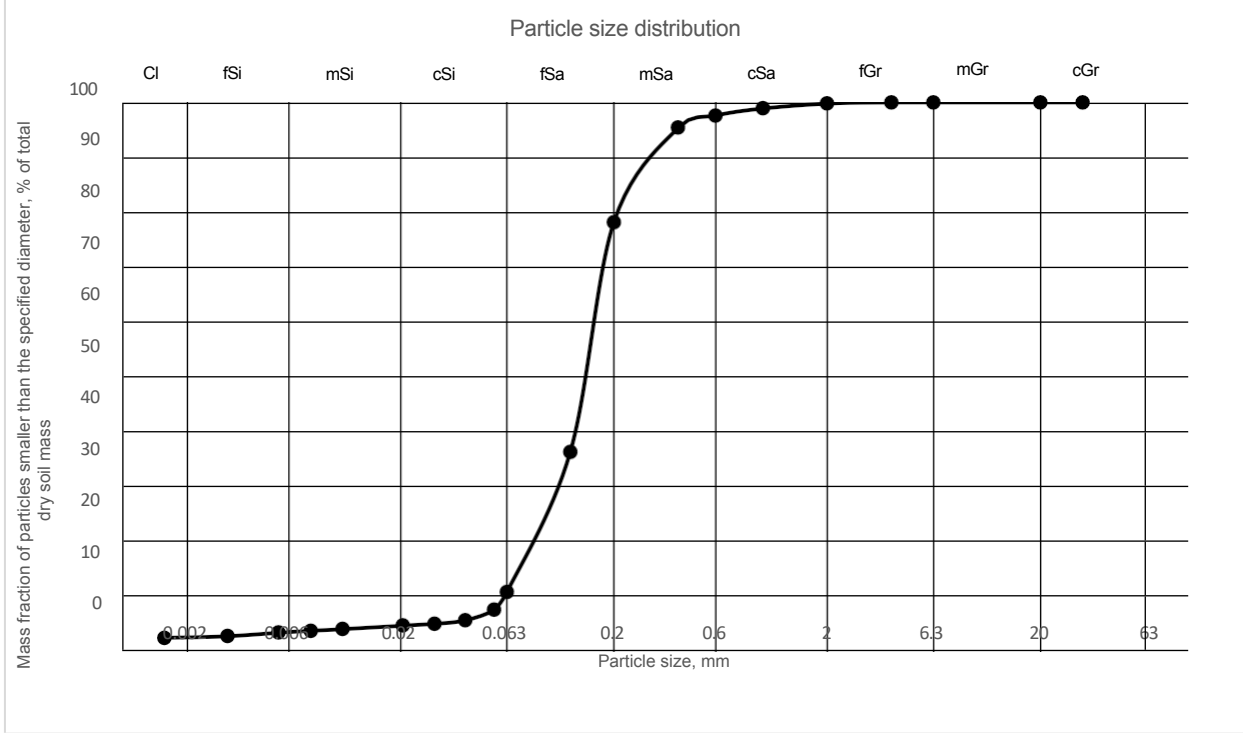
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	97.2	96.8	95.4	94.4	93.5	92.7	89.7	85.9	76.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1		w, %		Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1			
	-	-	-					18.8	22.3	9.4	0.38		
	-	-	-					92.7	12.9	0.62			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3		Porosity (7)	n, 1		Organic matter (10)	org. mat. %		Water permeability (4.2)	k10, m/s	
	ρd, Mg*m-³		e, 1										
	2.213												
	1.885		0.43										
Soil classification*													
Index:		CIL	Name:		low-plasticity clay, soft								
Notes:		Non-cohesive soil											
Soil classification DIN 18196:2023-02*													
Index:		TL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_078	Gr.30	2	U	17.60	18.20



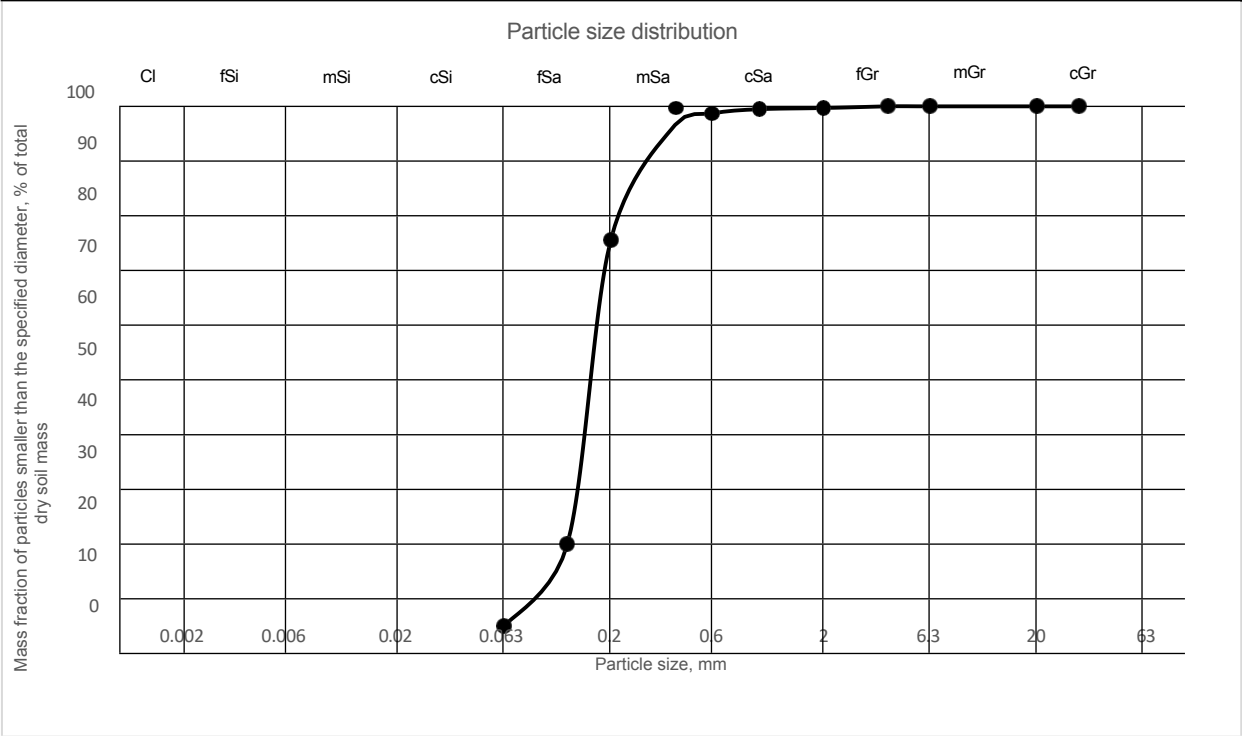
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	96.6	95.6	93.8	91.8	90.3	89.0	84.8	79.7	68.5		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1		
		-	-	-							21.8	28.1	12.9	0.49	
		-	-	-							89.0	15.2	0.51		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³													
		2.074													
		1.737													
Soil classification*															
Index:		saCIL		Name:		Sandy clay with low plasticity, soft									
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		TL													
The research was conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_079	Gr.30	3	D	26.30	26.60



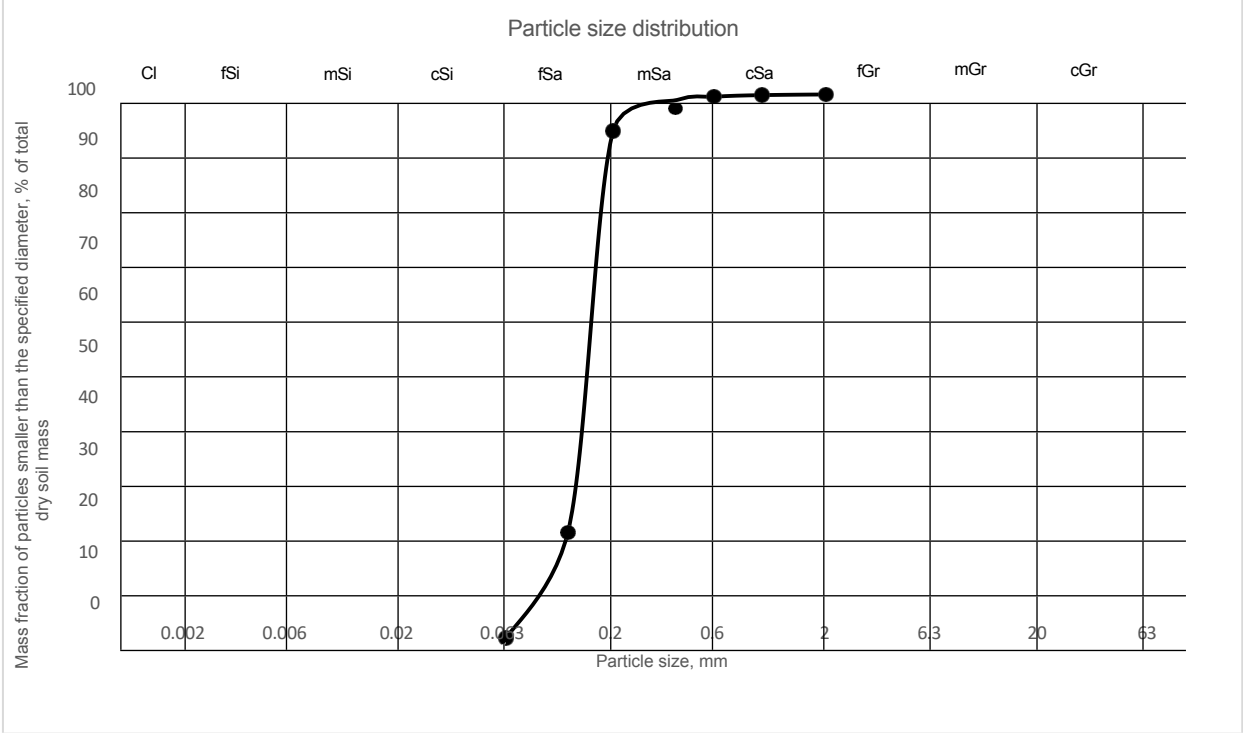
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	98.9	97.6	95.4	78.2	36.4	10.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0549	0.0403	0.0288	0.0205	0.0107	0.0076	0.0054	0.0031	0.0016		
			7.7	5.8	5.1	4.8	4.2	3.8	3.5	2.9	2.6		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0606	0.1457	2.69		-		-	-	-				
	0.1053	0.1630	1.12		-		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_080	Gr.35	1	D	7.80	8.10



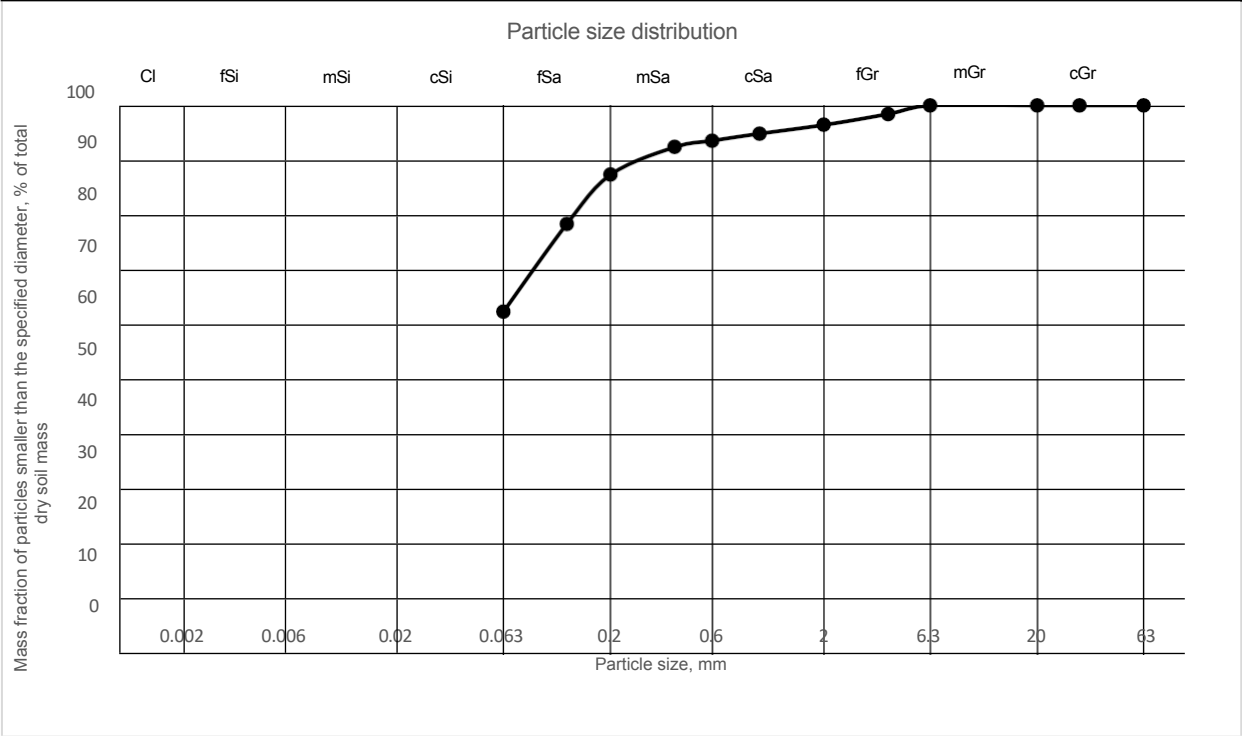
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	99.7	99.5	98.7	96.6	75.6	20.0	5.1		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0789	0.1611	2.22								-	-	-	-
		0.1360	0.1753	1.34								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
Soil classification*															
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand									
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SU													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_081	Gr.35	2	U	13.10	13.40



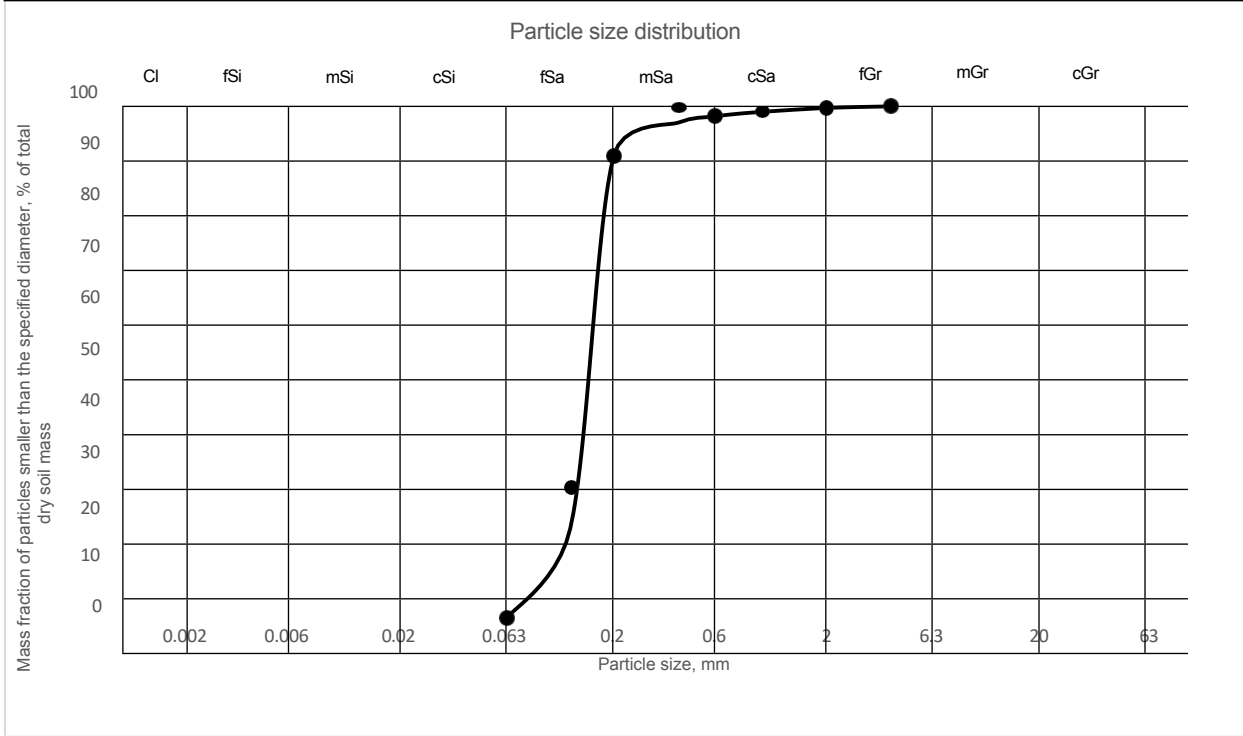
Sieve method (1)		Sieve aperture size, mm												
		Percentage of particles passing through the sieve relative to the total dry soil mass, %												
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.6	99.0	93.3	21.2	0.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
	0.0860	0.1508	1.87						-	-	-			
	0.1324	0.1610	1.27			-			-	-	-			
	Soil density (5)		p, Mg/m³			Particle density (6)			ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)	
pd, Mg*m-³			e, 1											
2.008			2.65											
1.618				0.64										
Soil classification*														
Index:		SaP		Name:			Poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_082	Gr.35	3	U	17.00	17.60



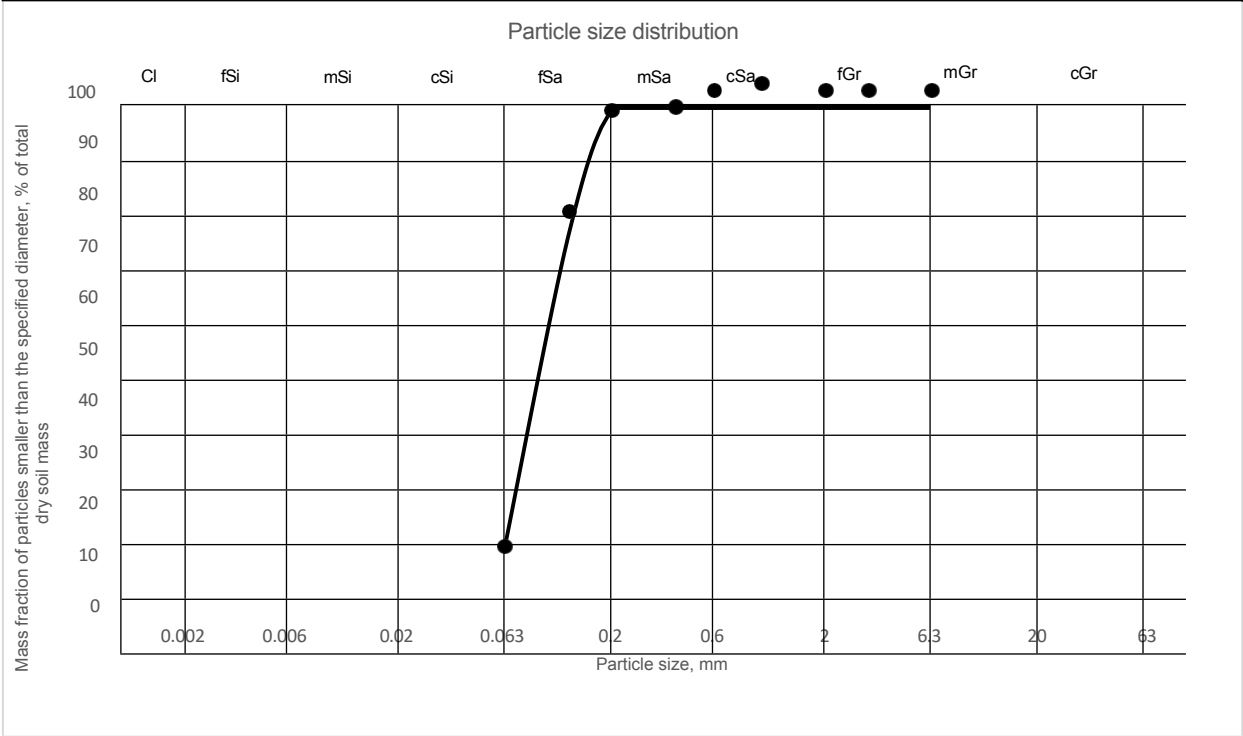
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.4	96.5	94.9	93.6	92.4	87.4	78.4	62.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.187												
	1.923		0.40										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_083	Gr.36	1	U	7.40	7.70



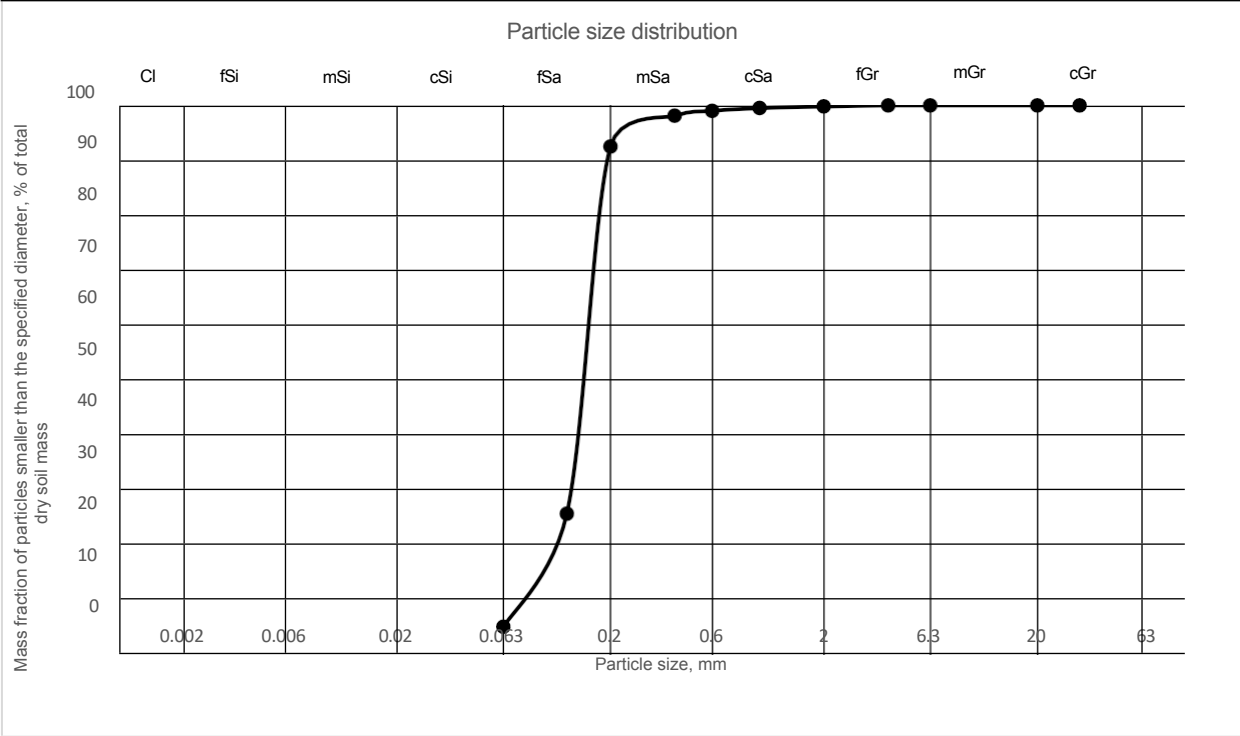
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.7	99.0	98.2	97.0	91.0	22.9	6.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0727	0.1507	2.22		-		-	-	-				
	0.1313	0.1615	1.47		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_084	Gr.36	2	D	16.80	17.10



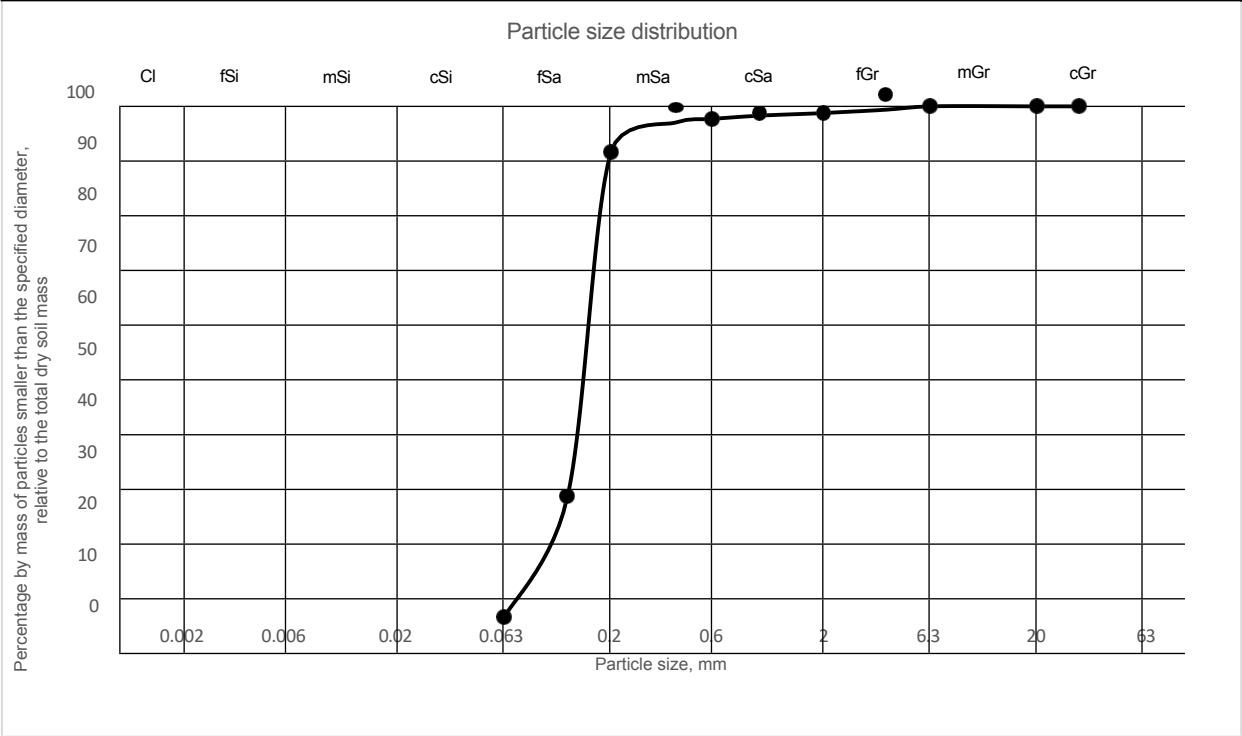
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.2	76.3	19.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0910	-		21.3		25.4	-	-				
	0.0714	0.1027	-		99.9		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.016												
	1.662		0.59										
Soil classification*													
Index:	siSa	Name:				sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_085	Gr.38	1	D	6.50	6.80



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.0	98.1	92.5	25.7	5.1	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0742	0.1483	2.15						-	-	-	-	
		0.1288	0.1591	1.41						-	-	-		
		Soil density (5)		ρ, Mg/m³						Particle density (6)		ps, Mg*m-3	Porosity (7)	
pd, Mg*m-³	e, 1			1.5%										
Soil classification*														
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

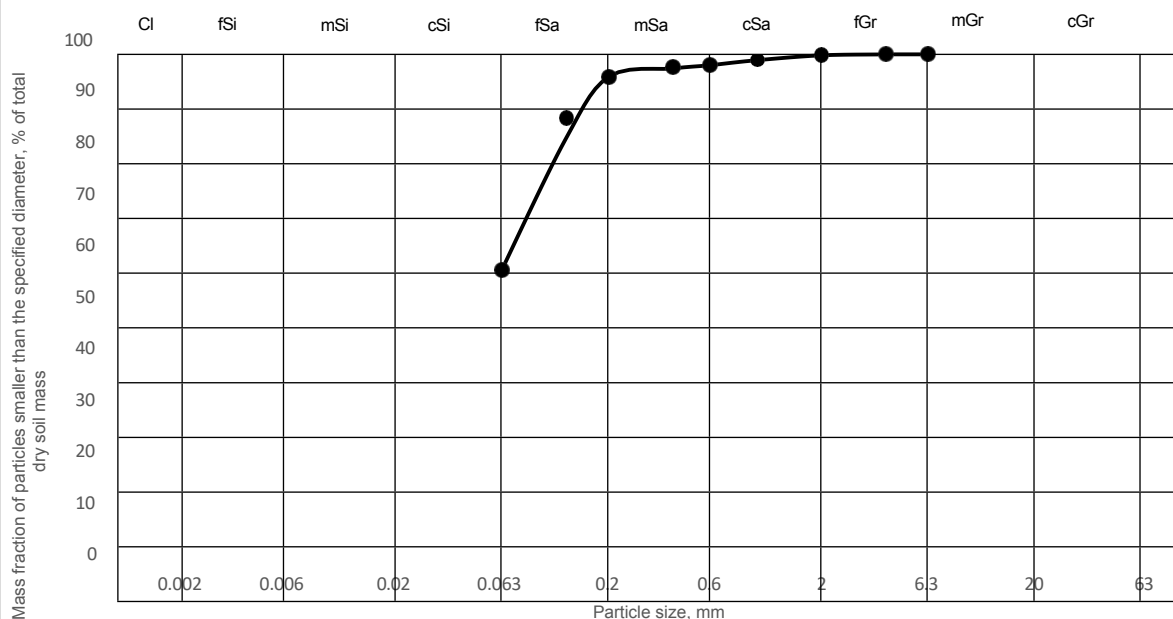
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_086	Gr.38	2	D	8.10	8.40



Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	99.4	98.8	98.3	97.7	97.0	91.6	28.5	6.7		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1											
		0.0699	0.1467	2.26											
		0.1264	0.1581	1.45											
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s	
		pd, Mg*m-³													
Soil classification*															
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SU													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_087	Gr.38	3	D	9.50	9.80

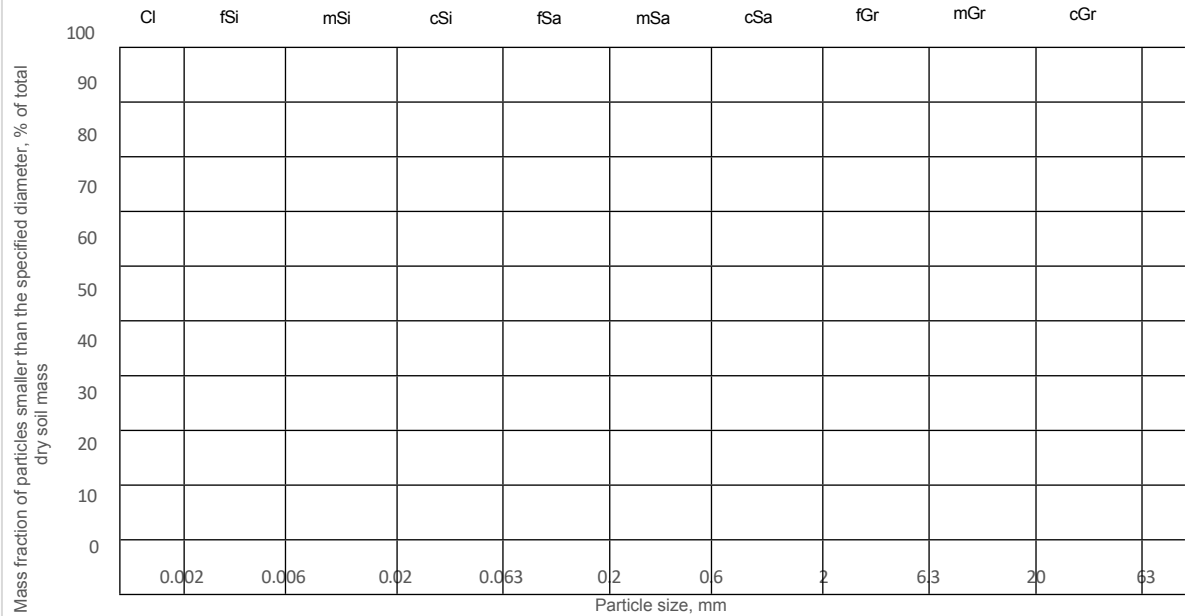
Particle size distribution



Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	99.8	98.9	98.0	97.4	95.9	84.4	60.7
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-				87.4	125.9	27.6			
	-	-	-				97.4	98.3	-0.39			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³		e, 1									
	1.407											
	0.751		2.37									
Soil classification*												
Index:	saSiVO		Name:		sandy, very highly plastic silt with moderate organic matter content, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	OT											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

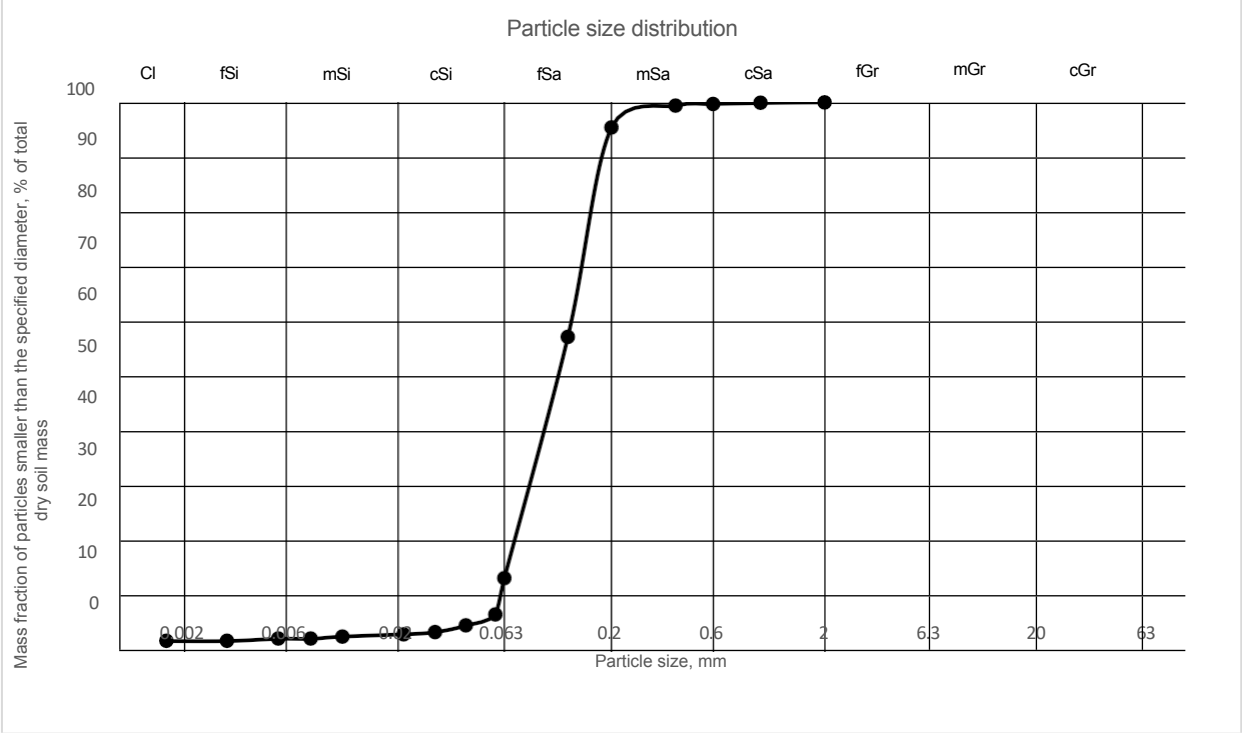
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_088	Gr.38	4	D	10.20	10.50

Particle size distribution



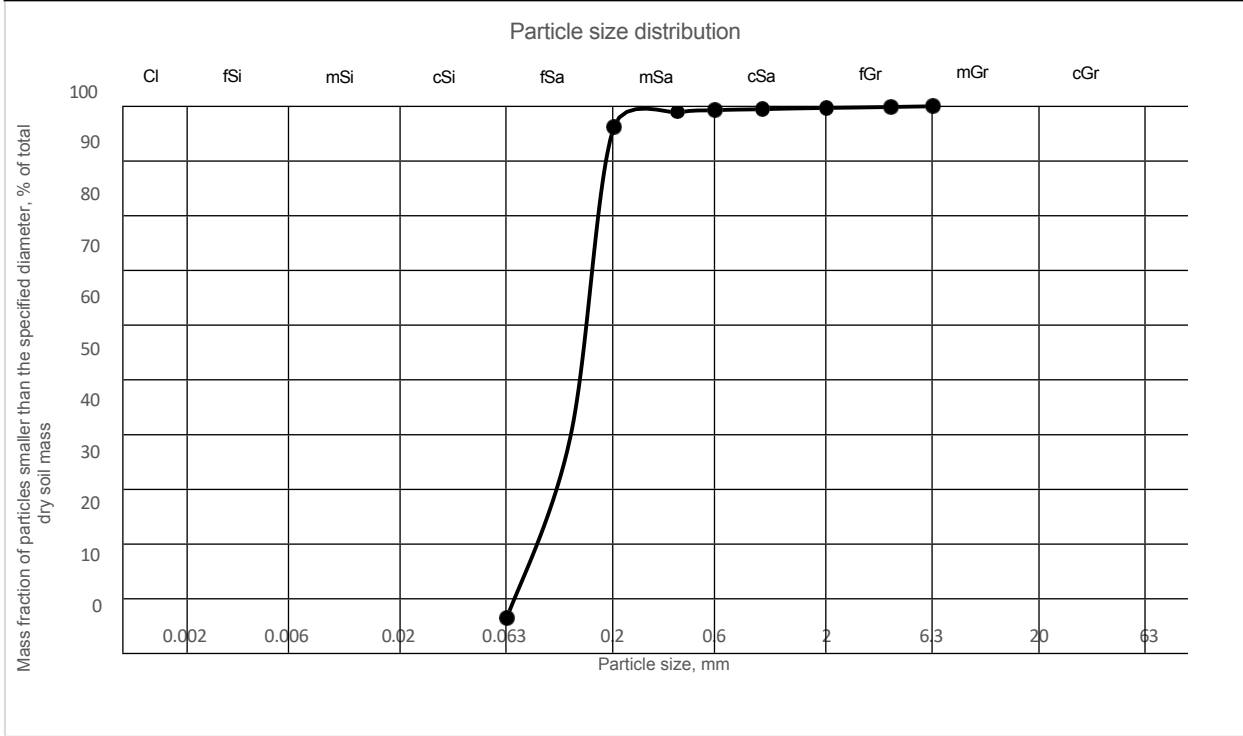
Sieve method (1)		Sieve aperture size, mm												
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %												
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1				
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1					
	-	-	-		-		-	-	-					
	-	-	-		-		-	-	-					
					112.0									
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s					
	pd, Mg*m-³				e, 1									
Soil classification*														
Index:		Pt	Name:			Peat								
Notes: sandy														
Soil classification DIN 18196:2023-02*														
Index:		HN												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_089	Gr.38	5	D	17.70	18.00



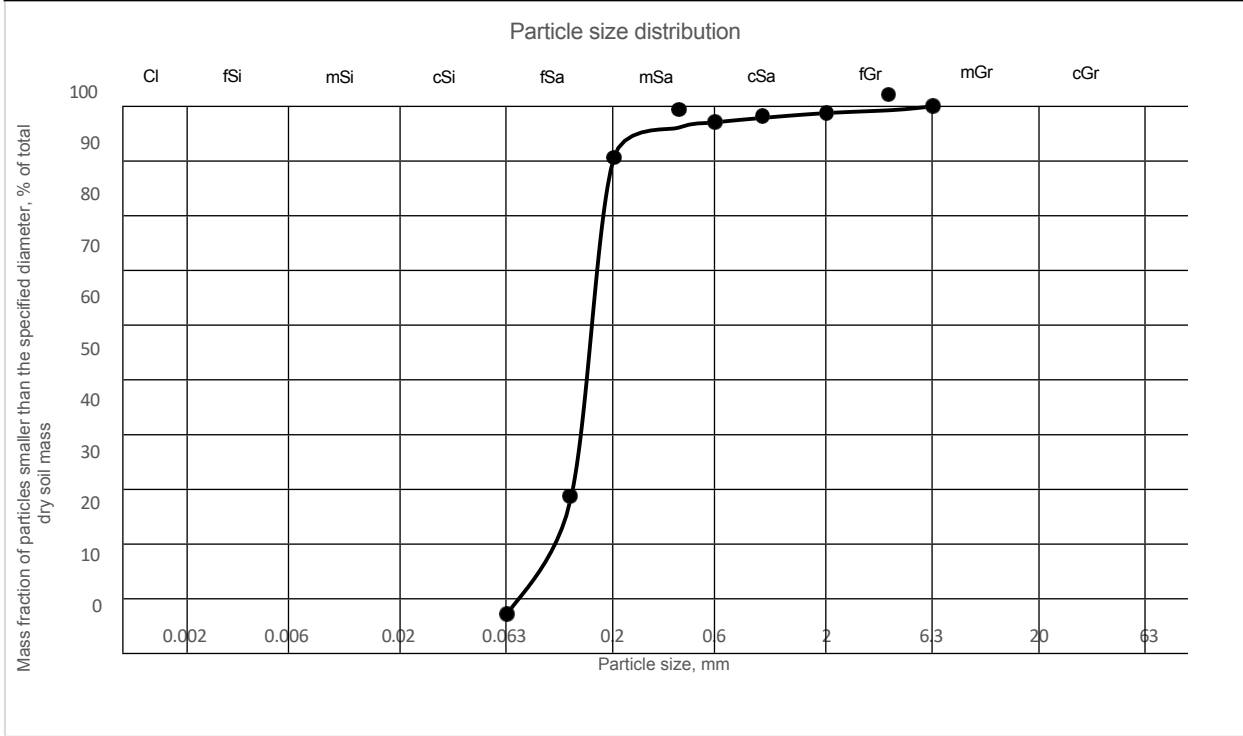
Sieve method (1)		Sieve aperture size, mm																
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063					
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	95.4	57.3	13.4					
Hydrometer method (2)		Particle size, mm																
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																
			0.0571	0.0416	0.0299	0.0213	0.0110	0.0078	0.0055	0.0032	0.0016							
			6.8	4.8	3.6	3.2	2.8	2.4	2.4	2.0	2.0							
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Ductility tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1					
		0.0599	0.1115	2.16							-	-	-					
		0.0816	0.1292	0.86							-	-	-					
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m⁻³																
		1.946																
		1.611																
Soil classification*																		
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand											
Notes:																		
Soil classification DIN 18196:2023-02*																		
Index:		SU																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_090	Gr.40	1	D	6.80	7.10



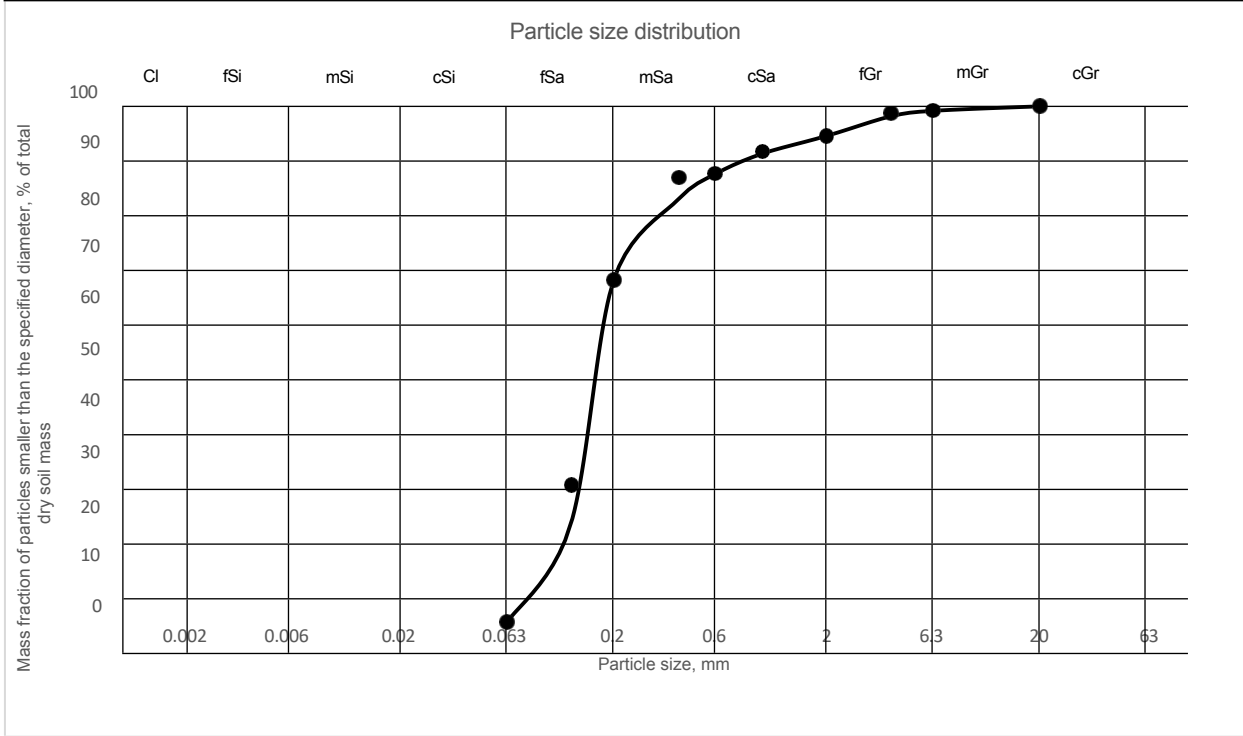
Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063			
		100.0	100.0	100.0	100.0	99.9	99.7	99.5	99.3	98.9	96.2	39.5	6.6			
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1					
	0.0676	0.1364	2.19						40.0	36.6	7.4	-0.46				
	0.1026	0.1482	1.05						98.9	29.2	1.46					
	Soil density (5)		ρ, Mg/m³						Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)	
pd, Mg*m-³																
Soil classification*																
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand									
Notes:																
Soil classification DIN 18196:2023-02*																
Index:		SU														
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_091	Gr.40	2	D	9.10	9.40



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.3	98.8	97.9	97.1	96.1	90.6	27.9	7.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0691	0.1475	2.30		32.5		34.8	6.2	0.38				
	0.1270	0.1590	1.47		96.1		28.6	0.62					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
1.891													
1.441		0.83											
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

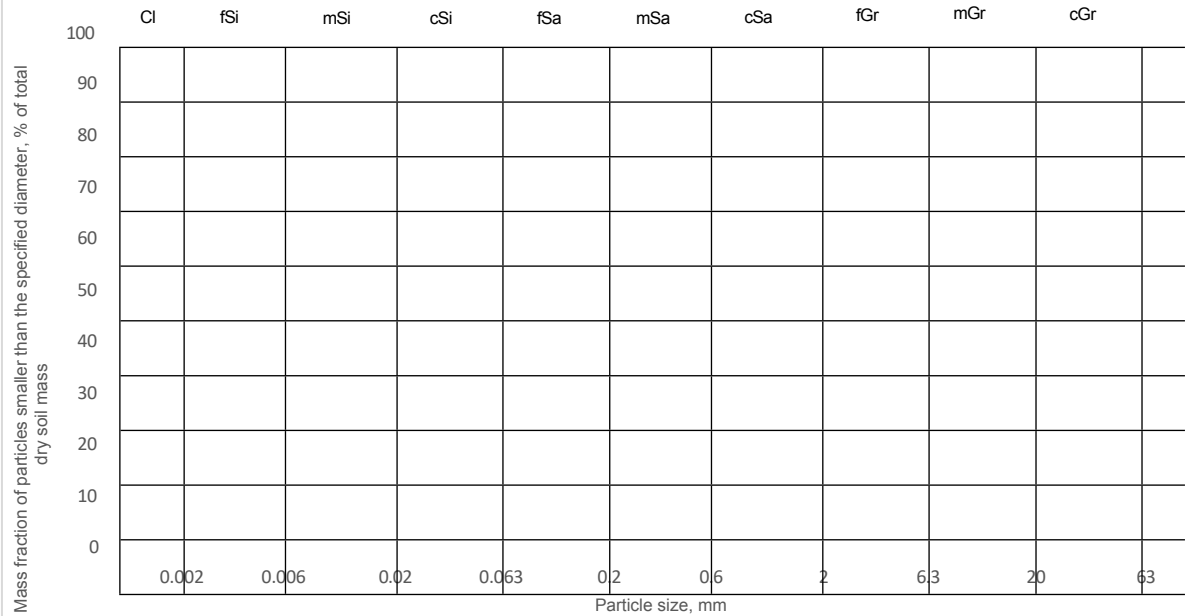
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_092	Gr.40	3	D	9.60	9.90



Sieve method (1)		Sieve mesh size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.2	98.2	94.6	91.4	87.7	83.0	68.3	23.4	5.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0742	0.1651	2.47		-		-	-	-				
	0.1339	0.1834	1.32		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
				1.4%									
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_093	Gr.40	4	D	10.60	10.90

Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		126.0		161.5	45.8	0.78			
	-	-	-		-		115.7	0.22				
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
pd, Mg*m-³		e, 1										
1.412												
0.625		2.81		23.0%								
Soil classification*												
Index:		Gy	Name:		Gitija							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		F										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Particle size distribution

Sieve aperture size, mm

Mass fraction of particles passing through the sieve relative to the total dry soil mass, %

Water content (8)

w, %
226.0

Plasticity tests (9)

$w < 0.4$, %	
$f < 0.4$ %	

wL, %
wP, %

IP, %
IL, 1

	IC,

1

Particle density (6)

ps, Mg*m-3

1 94

Porosity (7)

n,
e,

Organic matter (10

	org. mat. %
53 3%	

Water permeability (4.2)

	k10,

n/s

Soil classification*

Index

Notes:

Soil classification DIN 18196:2023-02*Index

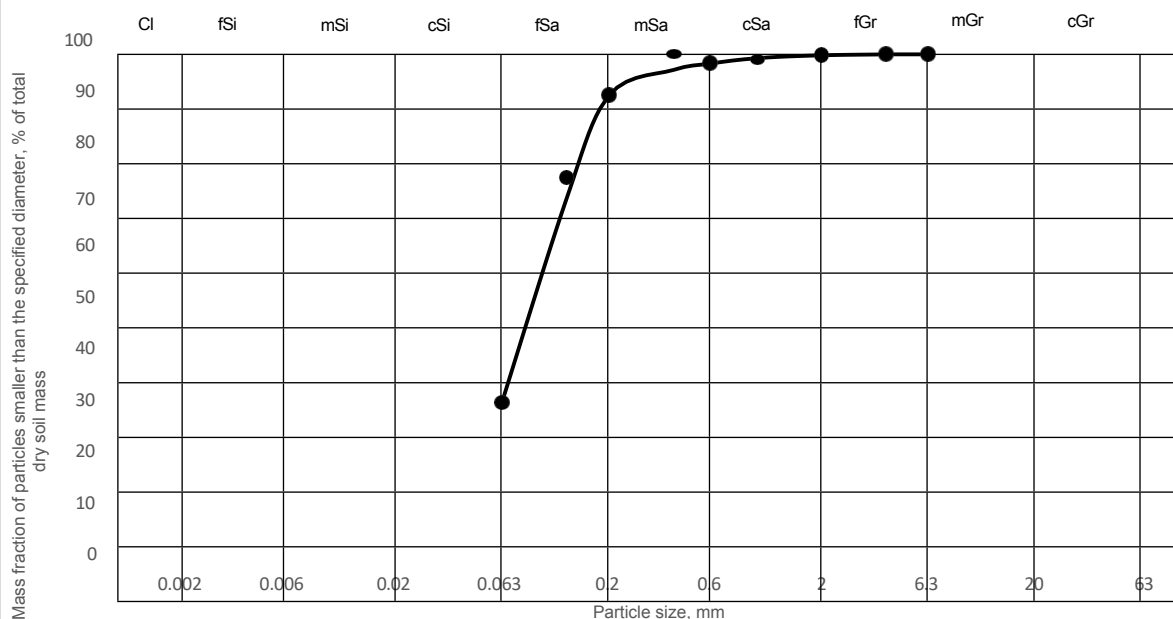
HN

Research
conducted by:

Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_095	Gr.40	6	D	11.90	12.30

Particle size distribution



Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	99.8	99.3	98.3	97.2	92.5	73.0	36.4
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											

Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1	
	-	0.0813	-				88.7	102.7	30.2	
	-	0.0981	-				97.2	72.5	0.54	

Soil density (5)	ρ , Mg/m³	Particle density (6)	ρ_s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
	ρ_d , Mg*m-³				e, 1				
			2.46				16.7%		

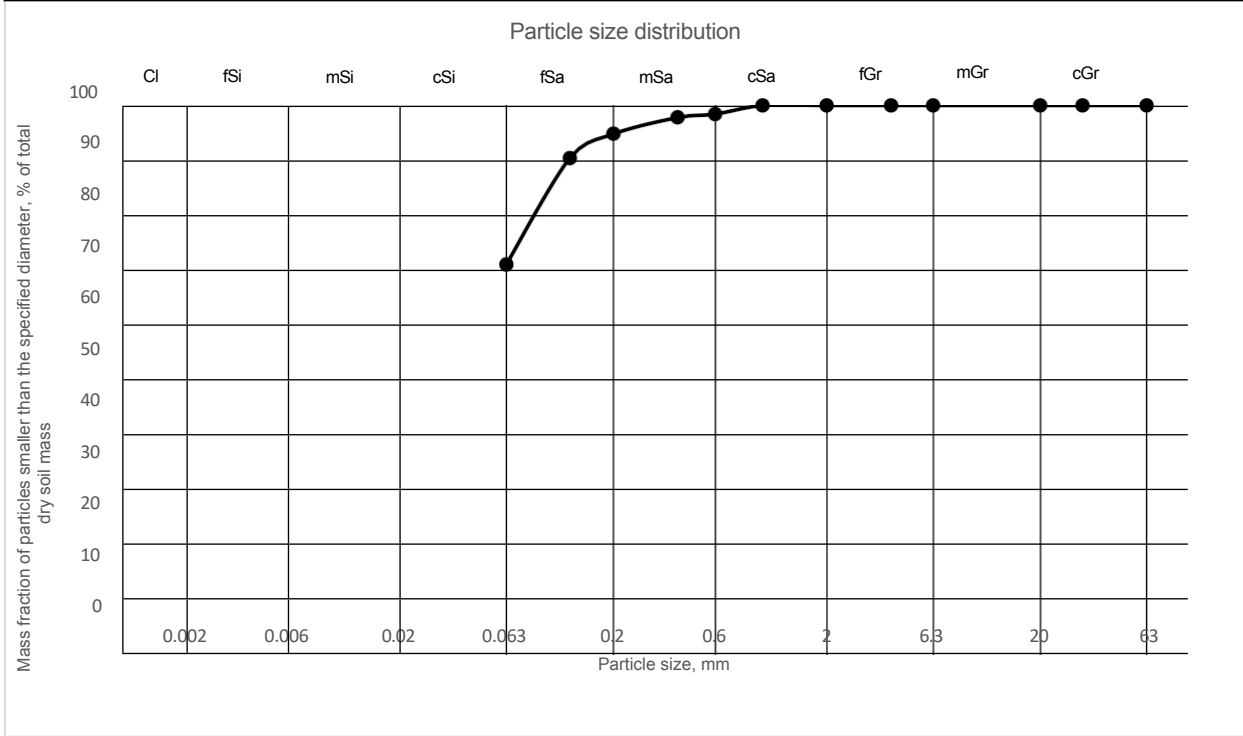
Soil classification*

Index:	saSiVO	Name:	Very high-plasticity silt with moderate organic matter content, soft

Notes:

Soil classification DIN 18196:2023-02*	
Index:	OT
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_096	Gr.40	7	D	14.00	2:30

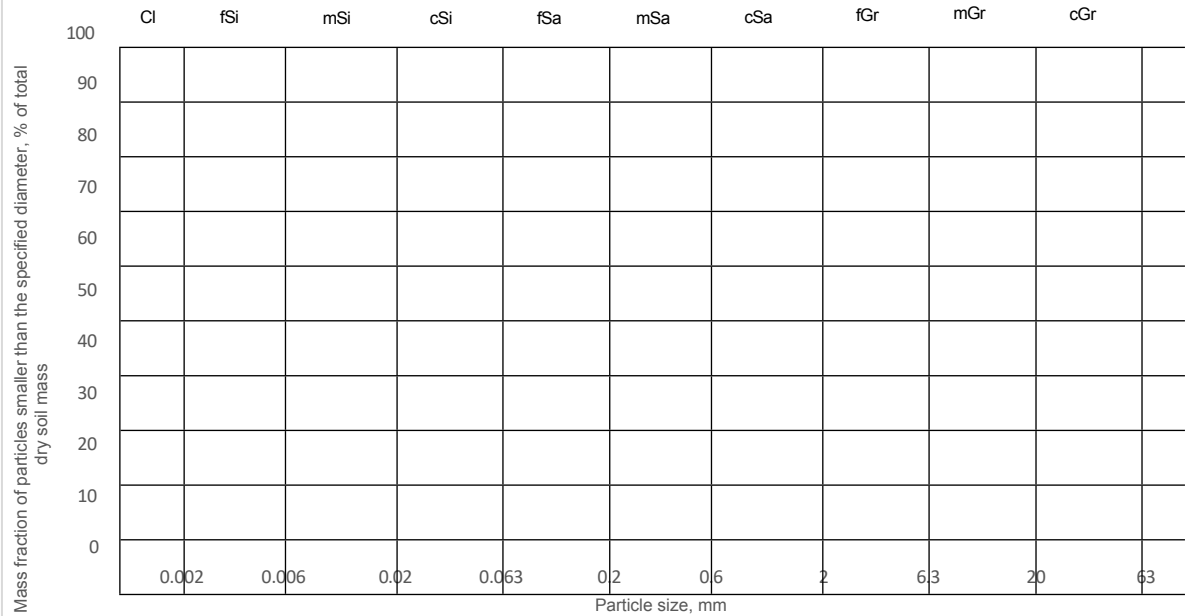


Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.4	97.8	94.8	90.4	71.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w _{<0.4} , %	w _L , %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f _{<0.4} , %	w _P , %	IL, 1				
	-	-	-		105.3		125.3	29.3	0.68				
	-	-	-		97.8		96.0	0.32					
	-	-	-										
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρ _s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρ _d , Mg*m-³				e, 1								
	1.380												
	0.680												
Soil classification*													
Index:	saSiVO	Name:			sandy, very high plasticity silt with moderate organic matter content, firm								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	OT												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												



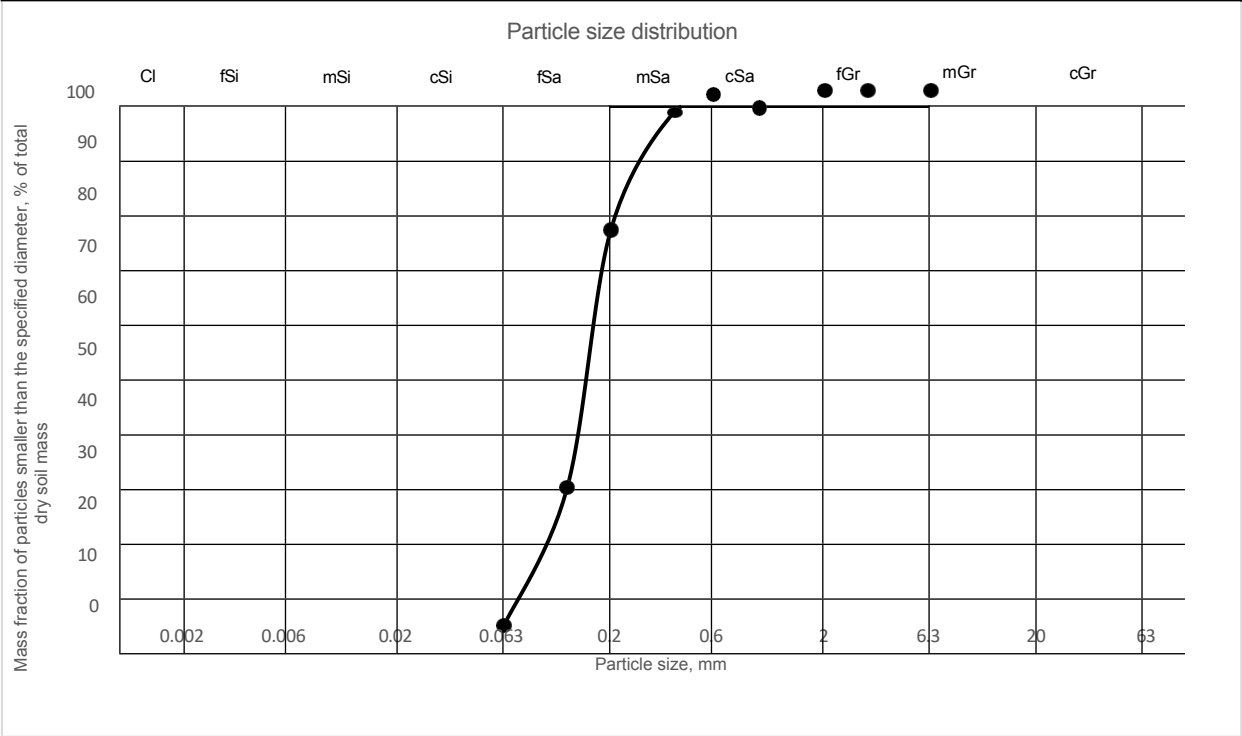
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_097	Gr.40	8	D	14.50	14.80

Particle size distribution



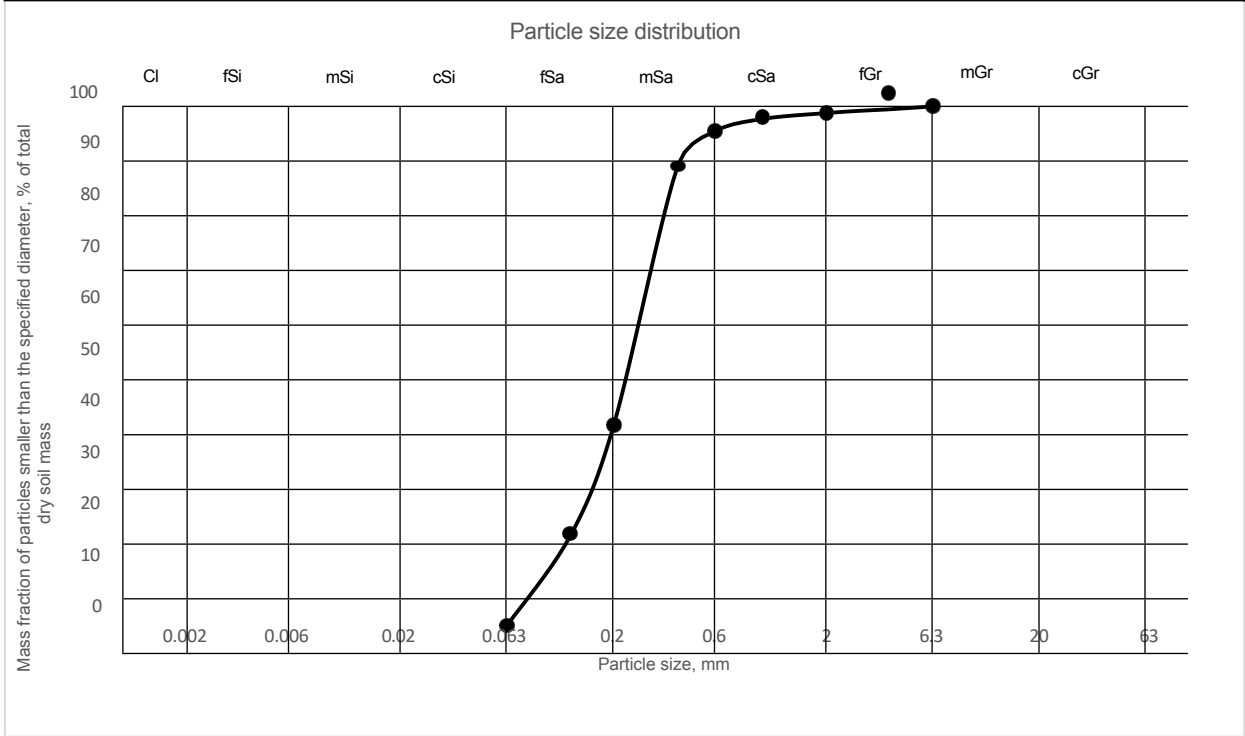
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-	-		
	-	-	-		-		-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
										23.7%		
Soil classification*												
Index:	Gy	Name:			Gitija							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	F											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_098	Gr.40	9	U	17.50	17.80



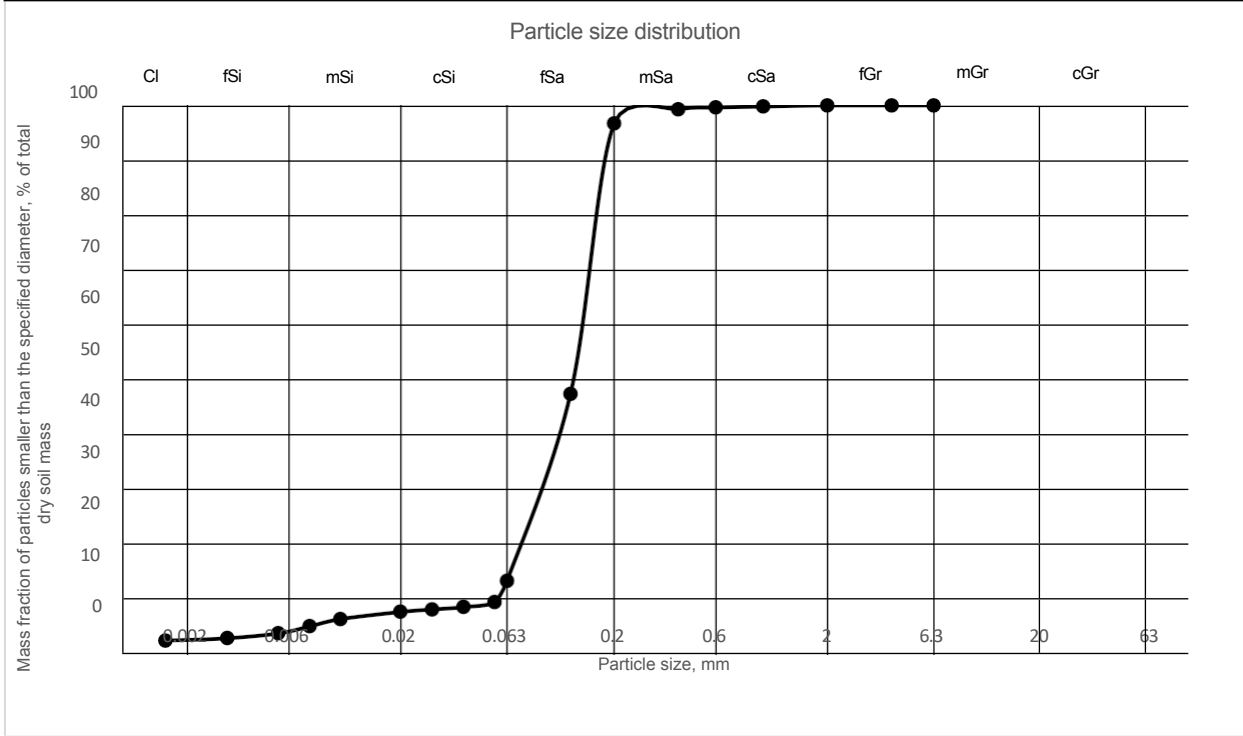
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	99.2	77.4	30.4	5.2	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0718	0.1521	2.34						-	-	-	-	
		0.1236	0.1681	1.27						-	-	-		
		Soil density (5)		ρ, Mg/m³						Particle density (6)		ps, Mg*m-3	Porosity (7)	
ρd, Mg*m-³														
Soil classification*														
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_099	Gr.41	1	D	4.20	4.70



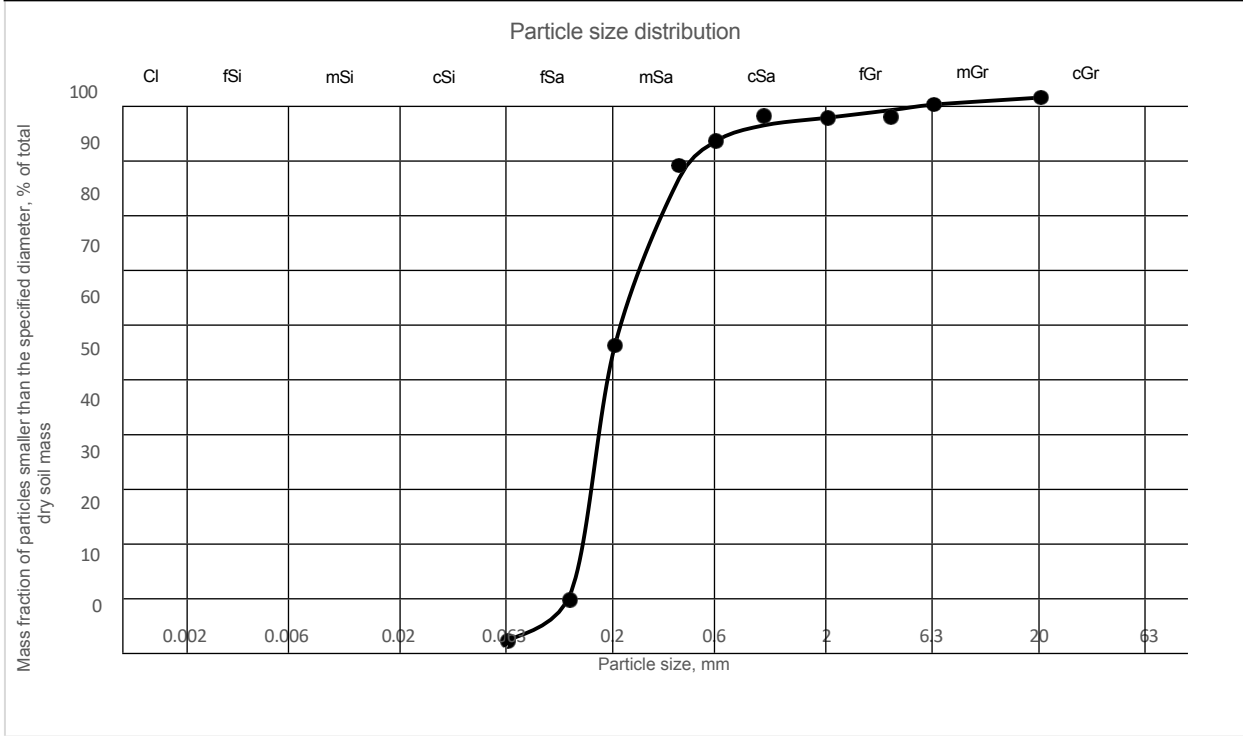
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	98.8	97.7	95.5	89.3	41.8	21.6	5.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0770	0.2254	3.39				-	-	-				
	0.1520	0.2608	1.15		-		-	-					
					25.2								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_100	Gr.41	2	D	6.30	6.70



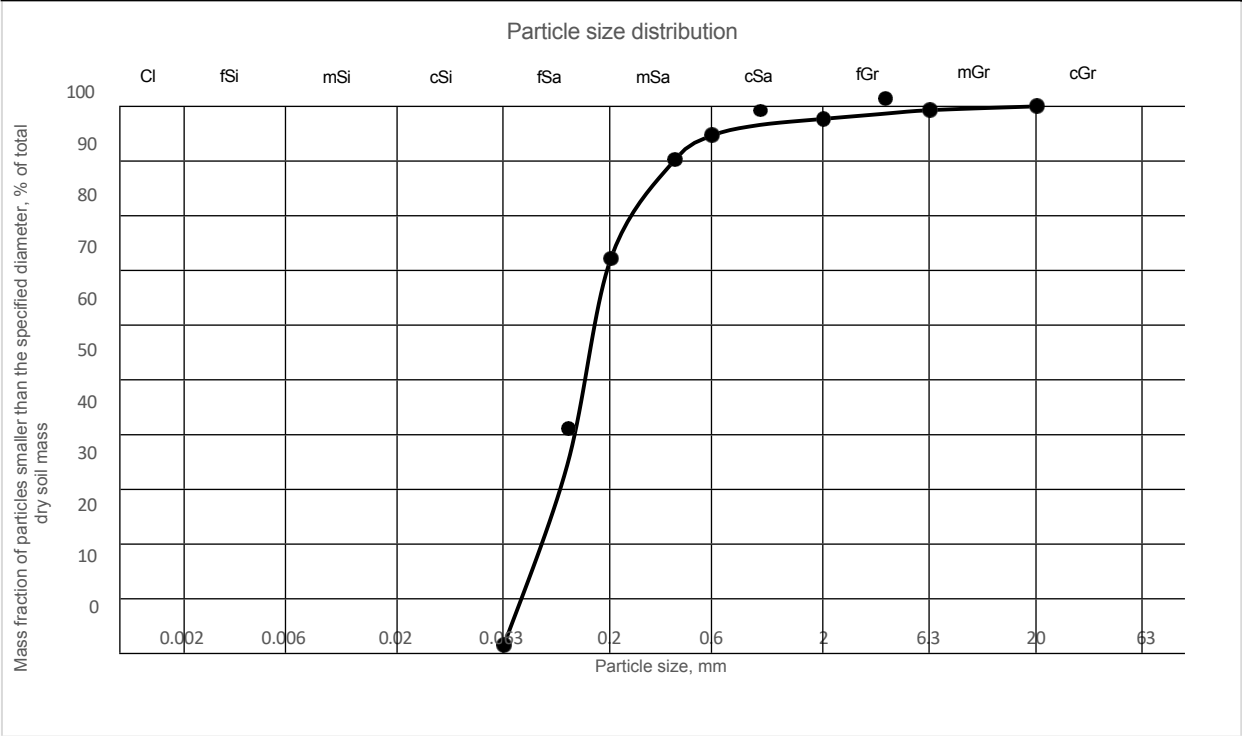
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.3	96.7	47.5	13.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0550	0.0394	0.0280	0.0199	0.0105	0.0075	0.0053	0.0031	0.0016		
			9.6	8.7	8.3	7.9	6.5	5.2	3.9	3.1	2.6		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
	0.0558	0.1280	2.52						45.4	41.6	13.2	-0.29	
	0.0879	0.1409	0.98						99.3	28.4	1.29		
Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
	pd, Mg*m-³												
Soil classification*													
Index:		oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_101	Gr.41	3	D	7.10	7.70



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.7	97.7	96.3	94.9	92.1	85.3	54.7	9.8	0.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1253	0.1904	1.80		-		-	-	-				
	0.1544	0.2255	0.84		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

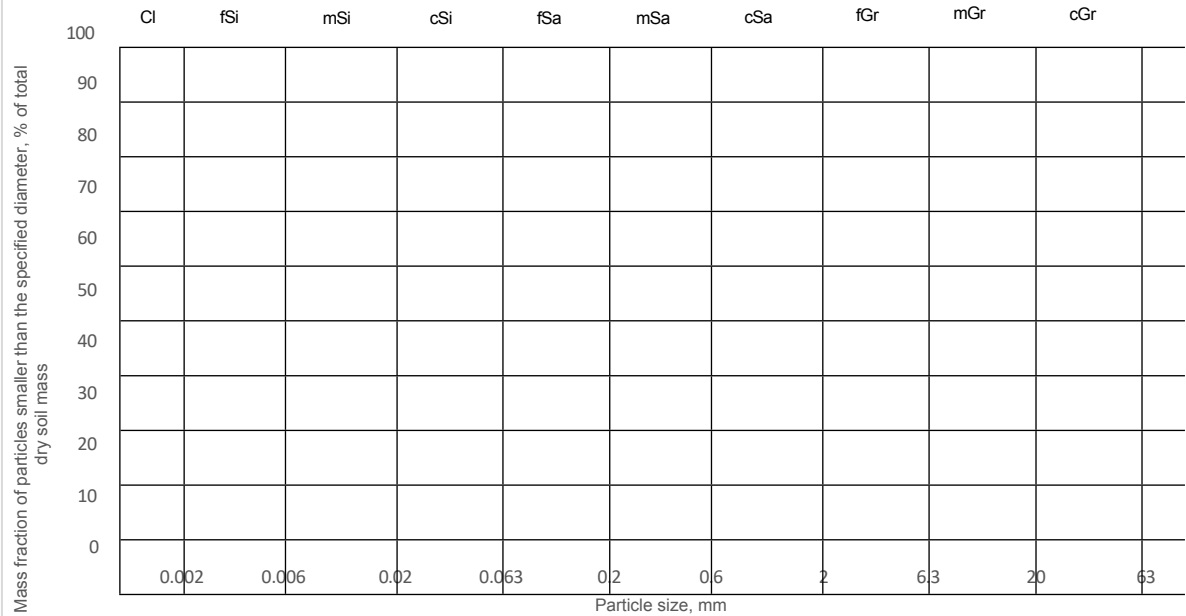
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_102	Gr.41	4	D	8.70	9.30



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.3	98.7	97.7	96.6	94.7	90.3	72.2	34.5	1.6
Hydrometer method (2)		Particle size, mm											
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0750	0.1516	2.29				-	-	-	-			
	0.1138	0.1718	1.00				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaP	Name:			Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_103	Gr.41	5	D	10.40	10.80

Particle size distribution

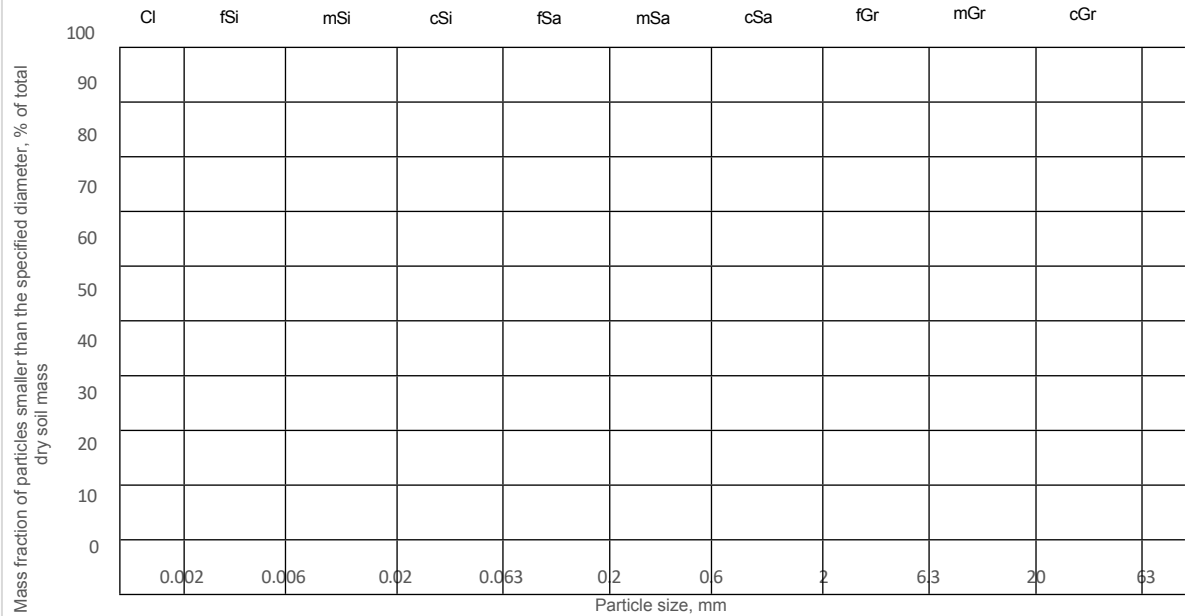


Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	-	-	-	-	-	-	-	-			
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		-	-	-			-			-	-	-			
		-	-	-			-			-	-	-			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s	
		pd, Mg*m-³													e, 1
Soil classification*															
Index:		Gy	Name:			Gitija									
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		F													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													



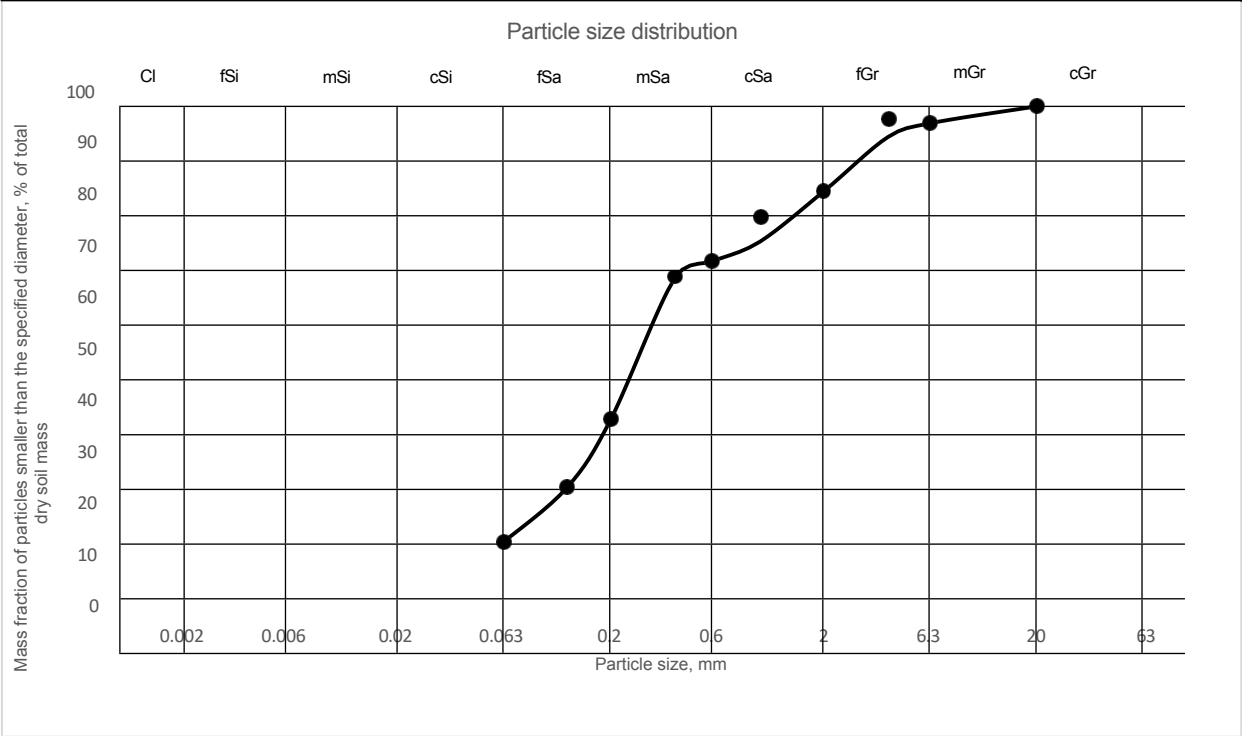
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_104	Gr.41	6	D	12.50	13.00

Particle size distribution



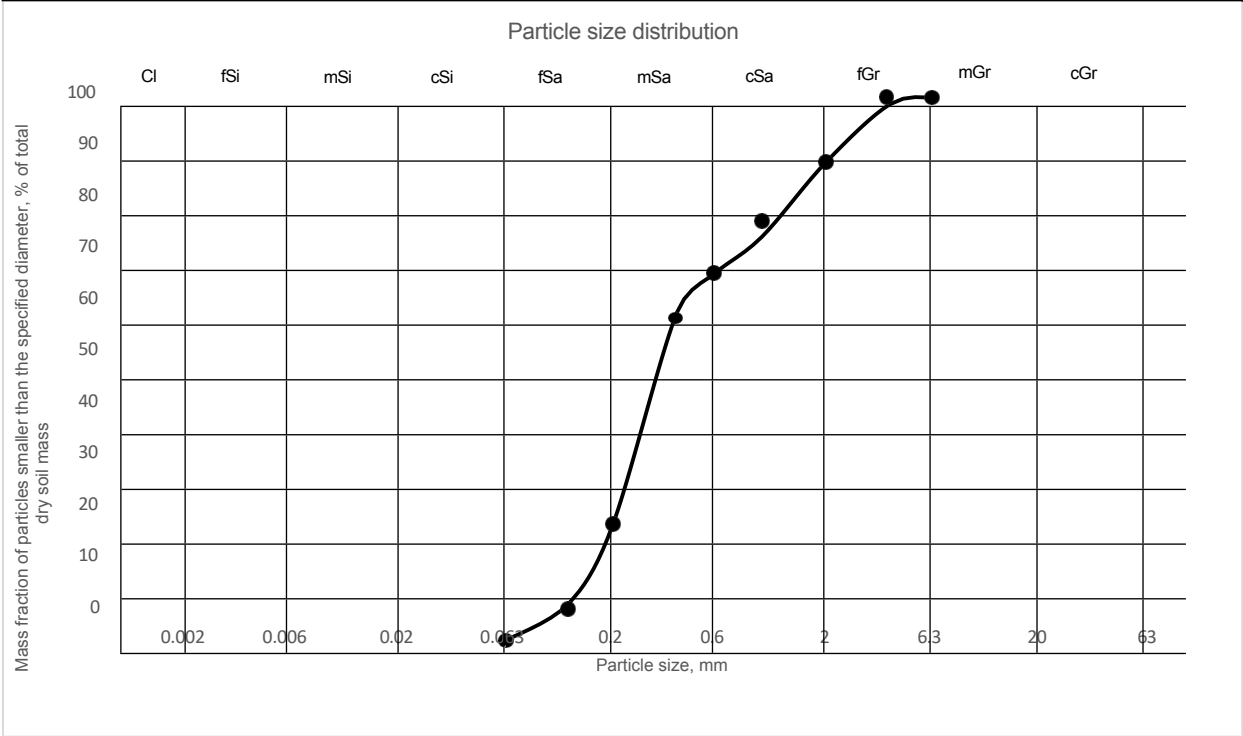
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
					183.0							
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:		Pt	Title:		peat							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		HN										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_105	Gr.41	7	D	15.00	3:30



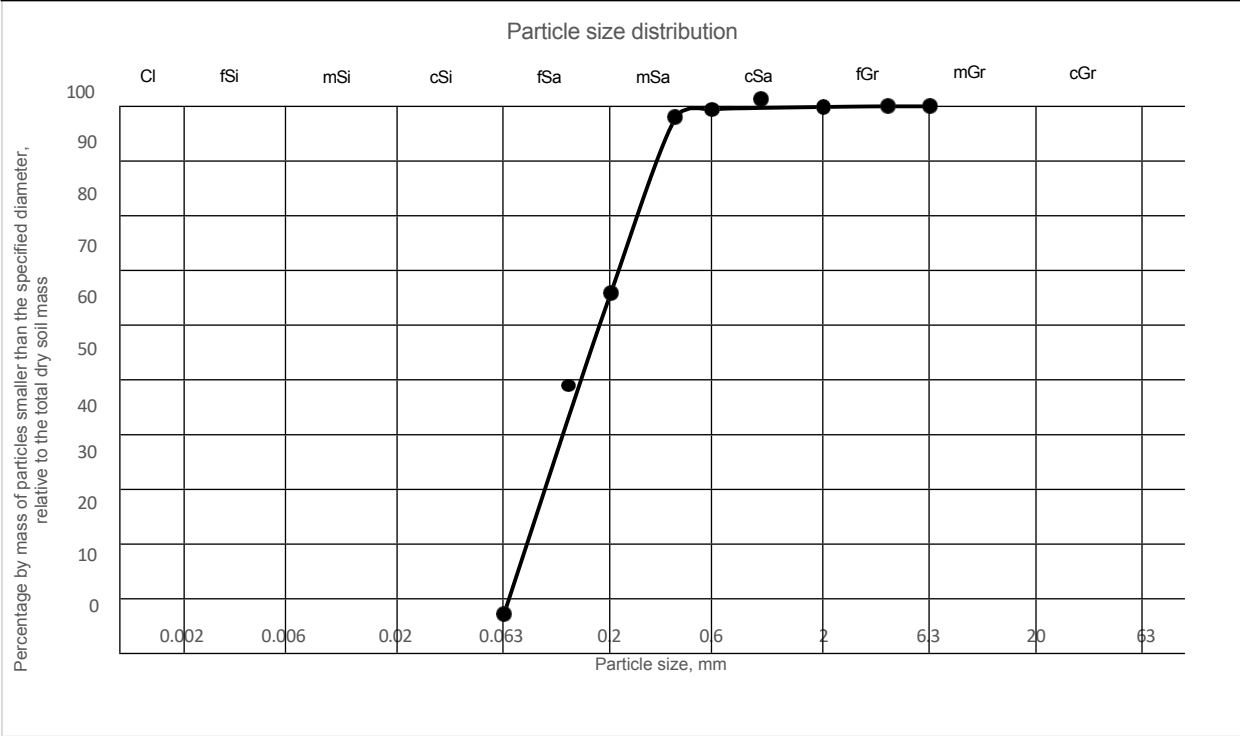
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	96.9	94.4	84.5	75.3	71.7	68.8	42.9	30.5	20.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Ductility tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.2422	-		22.7		19.1	2.6	-1.38				
	0.1212	0.3165	-		68.8		16.5	2.38					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	1.992		2.63							0.53			
	1.723												
Soil classification*													
Index:		siSa	Name:		sandy loam								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_106	Gr.41	8	D	13.20	13.70



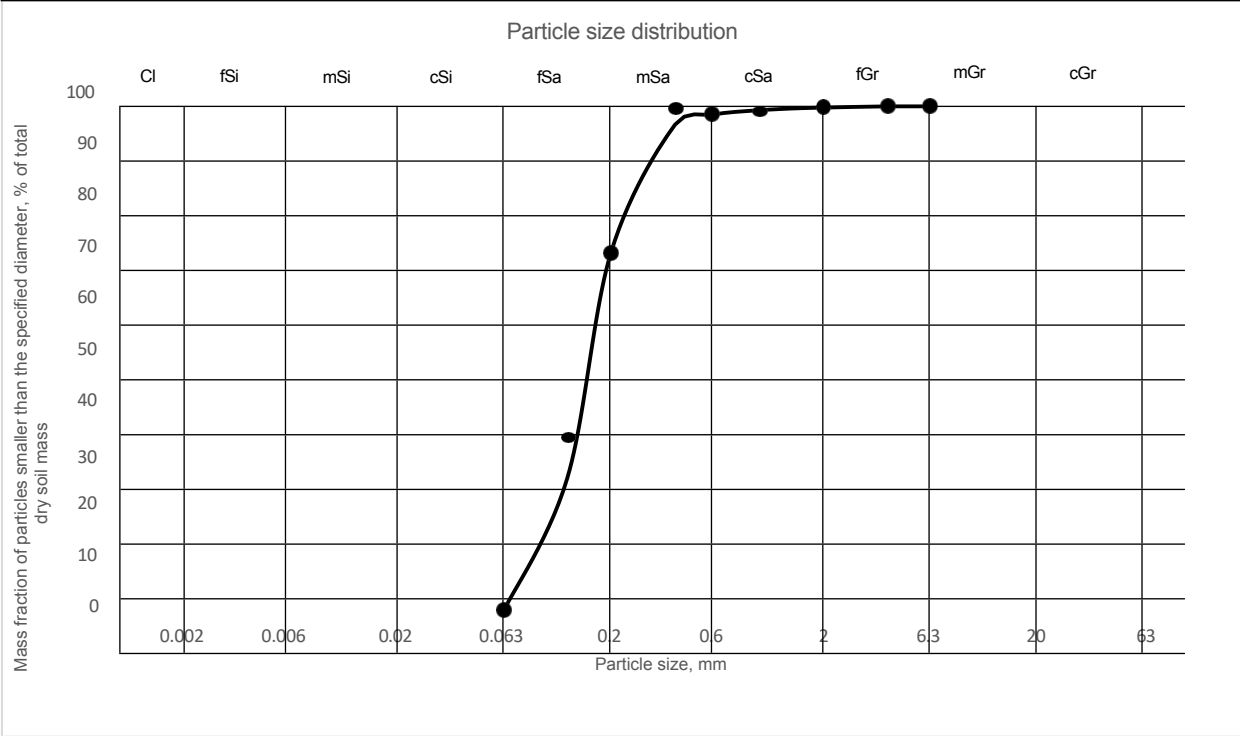
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.8	88.2	74.6	67.9	60.9	22.1	7.7	0.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1346	0.3294	2.93		-		-	-	-				
	0.2305	0.3939	1.00		-		-	-					
					17.2								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.862												
	1.589		2.63		0.66					5.2×10 ⁻⁵			
Soil classification*													
Index:	SaP	Name:				Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_107	Gr.41	9	D	16.20	16.70



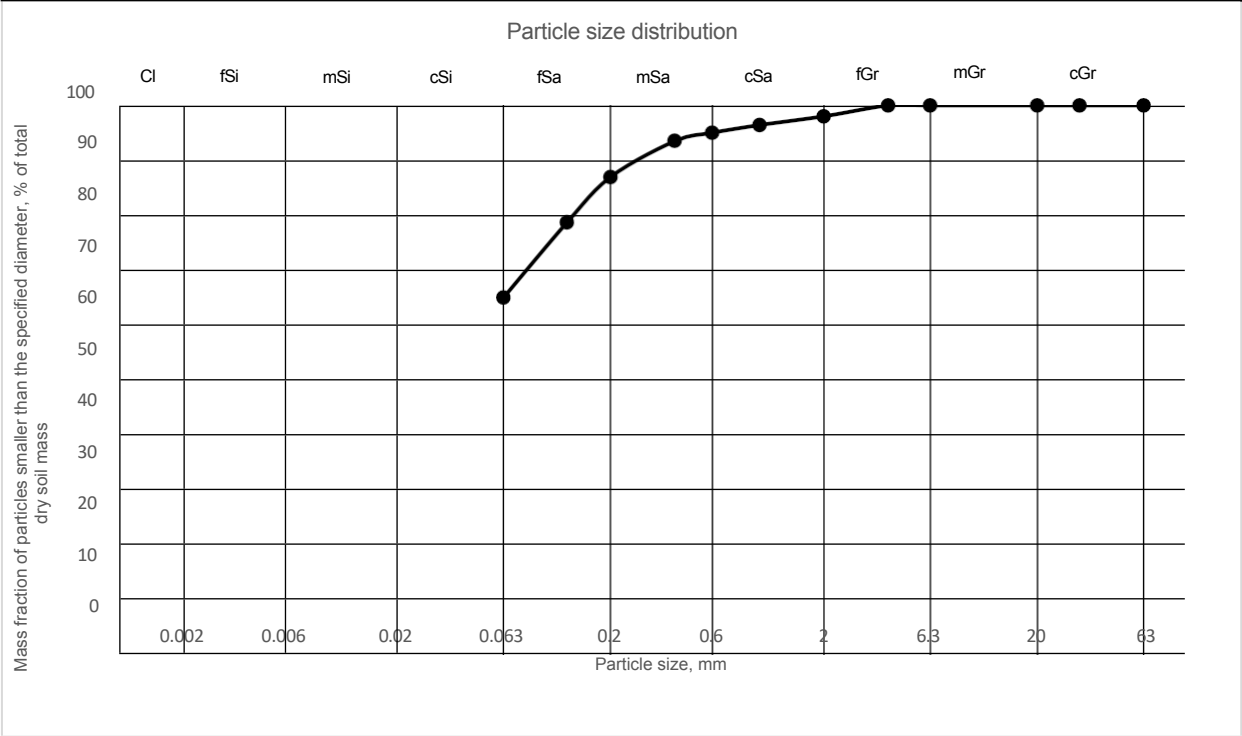
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	97.8	65.9	42.5	7.2						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1					
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1						
		0.0665	0.1453	2.67							-	-	-						
		0.0981	0.1776	0.81							-	-	-						
Soil density (5)		ρ, Mg/m³		Particle density (6)		ρs, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³																	
		1.894																	
		1.580																	
Soil classification*																			
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand													
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_108	Gr.42	1	D	5.80	6.10



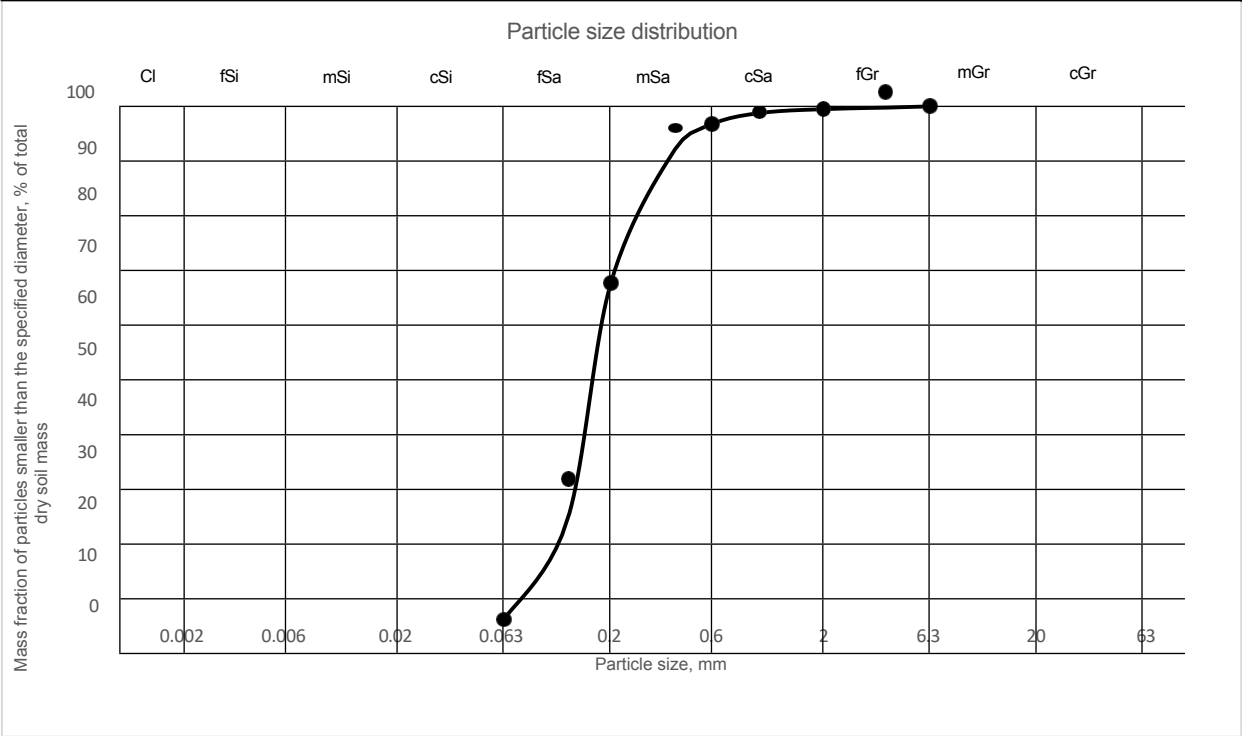
Sieve method (1)		Sieve mesh size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.3	98.5	96.7	73.2	32.1	8.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0667	0.1534	2.58				37.0	34.3	7.2	-0.38			
	0.1178	0.1720	1.21				96.7	27.1	1.38				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³												
Soil classification*													
Index:	SaFP	Name:		slightly silty-clayey poorly sorted sand									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_109	Gr.42	2	U	17.30	17.80



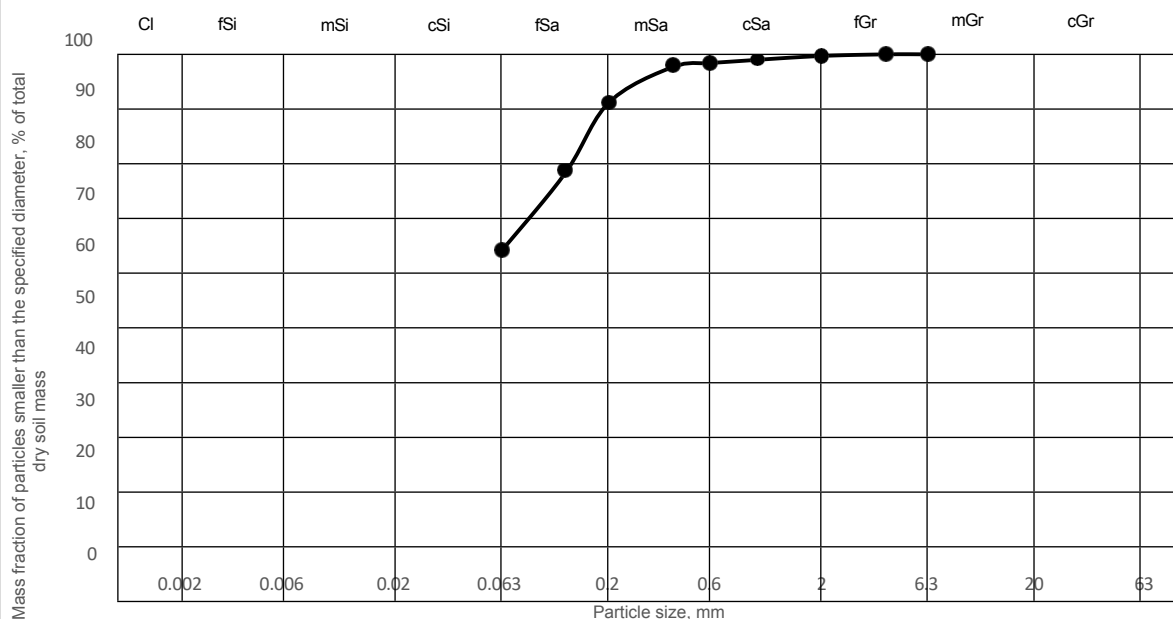
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	98.0	96.4	95.0	93.5	86.9	78.7	65.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		17.6		22.6	9.3	0.53				
	-	-	-		93.5		13.3	0.47					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.211												
	1.898		0.41										
Soil classification*													
Index:	saCIL	Name:		sandy clay with low plasticity, firm									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_110	Gr.43	1	U	7.20	7.50



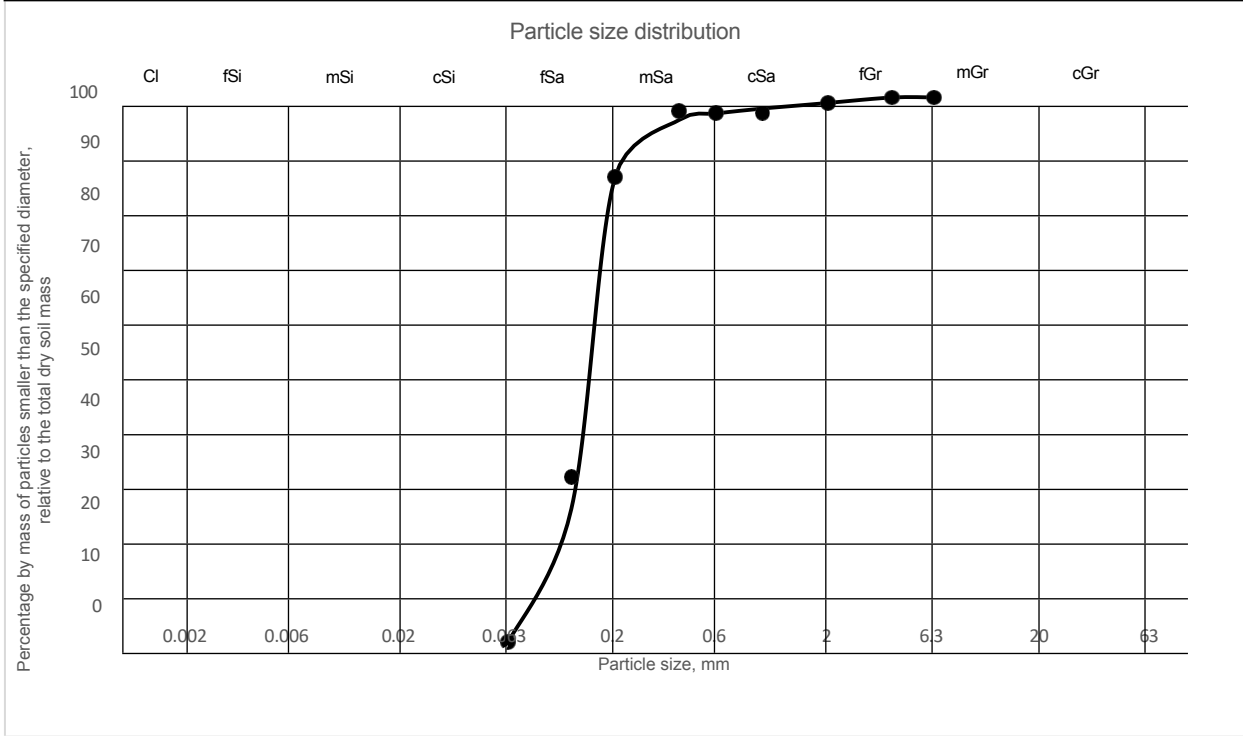
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	99.8	99.5	98.8	96.8	92.2	67.7	24.4	6.3		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		0.0725	0.1650	2.54						35.9	32.5	7.1	-0.48		
		0.1328	0.1840	1.32						92.2	25.4	1.48			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	1.7%	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³													
Soil classification*															
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SU													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Particle size distribution



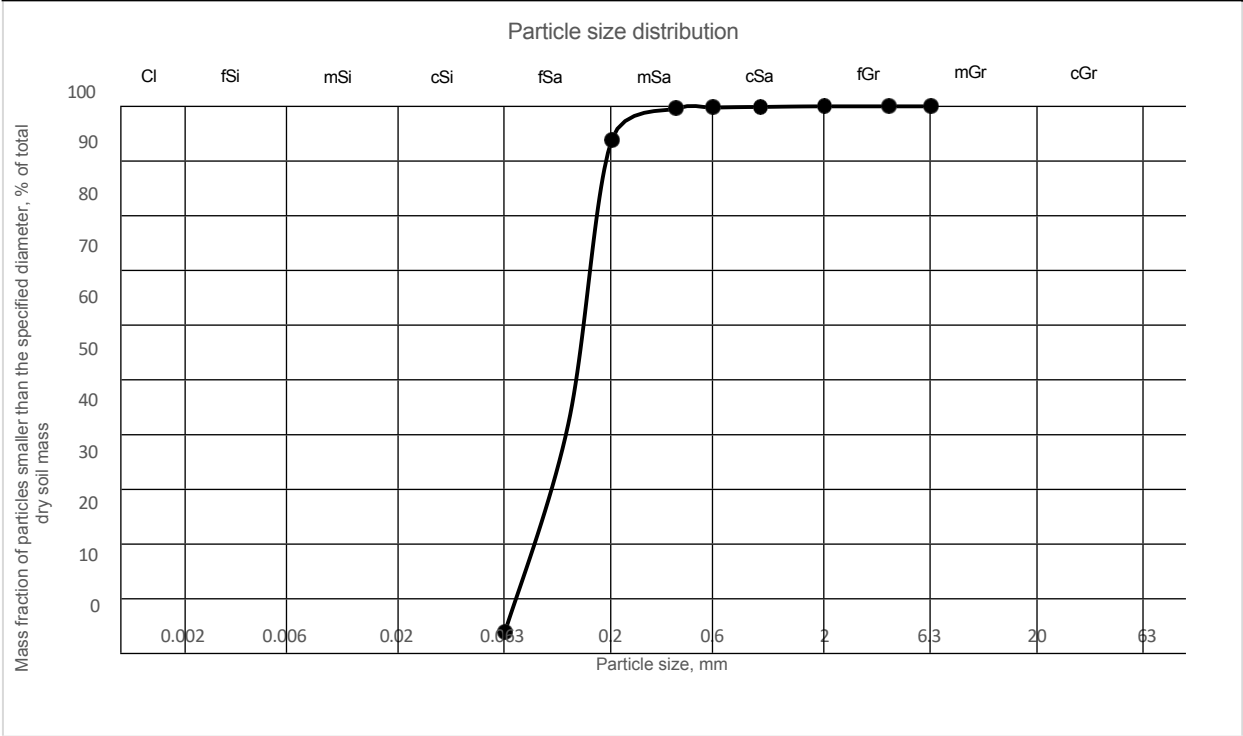
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	99.7	99.0	98.4	97.7	91.2	78.3	64.2
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-				114.6	137.6	46.5			
	-	-	-				97.7	91.1	0.51			
	-	-	-				-	-	-			
Soil density (5)	ρ , Mg/m³	Particle density (6)	ρ_s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4-2)	k10, m/s			
	ρ_d , Mg*m-³		e, 1									
Soil classification*												
Index:	saSiVO		Name:			sandy, very high plasticity silt with moderate organic matter content, soft						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	OT											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_112	Gr.43	3	D	10.80	11.10



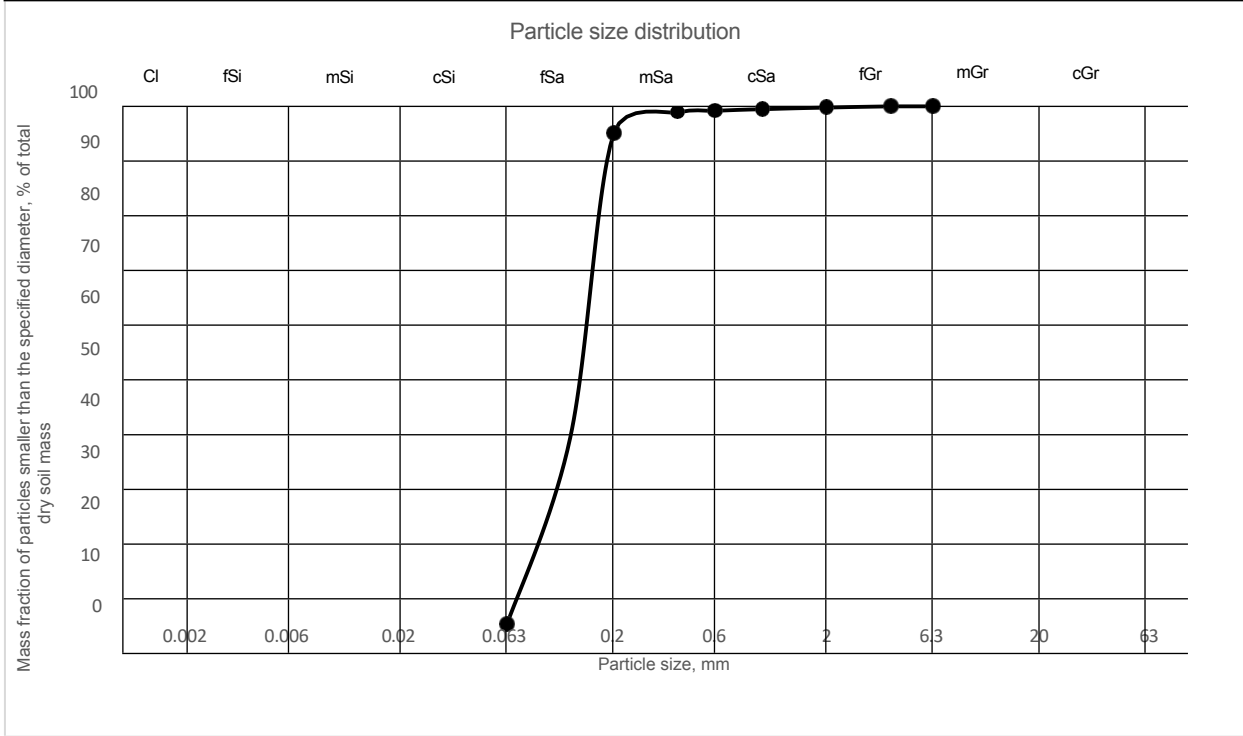
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.0	98.0	97.1	95.9	85.4	24.9	0.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0823	0.1519	2.00		-		-	-	-				
	0.1301	0.1642	1.25		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_113	Gr.43	4	U	16.90	17.20



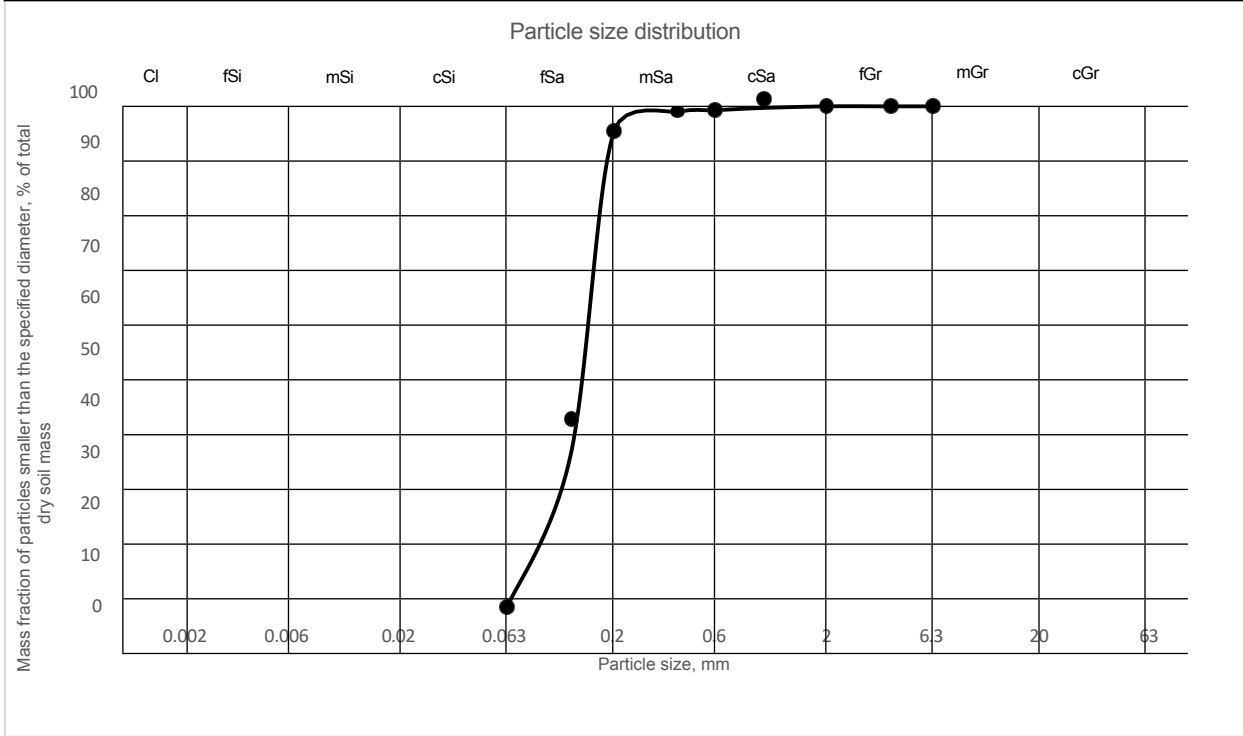
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	93.9	42.0	4.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0702	0.1344	2.10		-		-	-	-				
	0.1007	0.1471	0.98		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_114	Gr.44	1	D	3.40	3.70



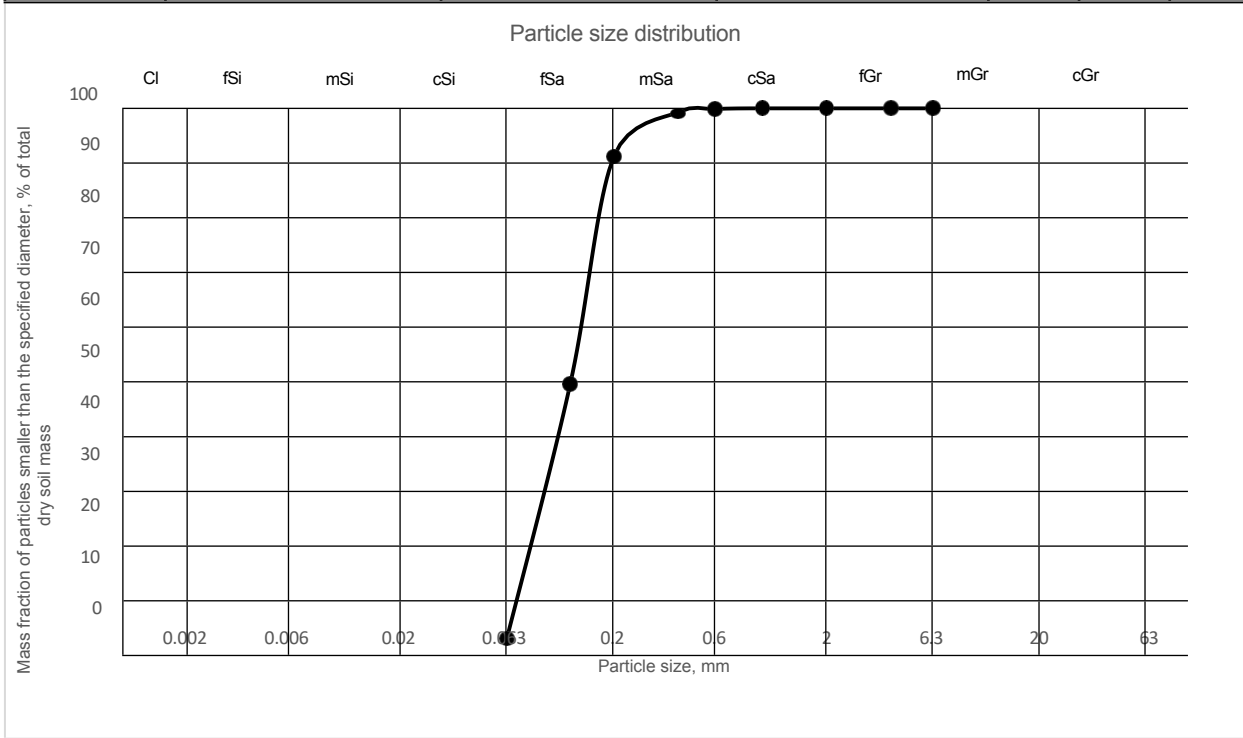
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.2	98.9	95.1	39.5	5.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0691	0.1366	2.15				27.9	33.9	5.5	1.09			
	0.1033	0.1487	1.04		27.6		98.9	28.4	-0.09				
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1		1.3%									
Soil classification*													
Index:	SaFP	Name:	slightly silty-clayey poorly sorted sand										
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_115	Gr.44	2	D	4.00	4.30



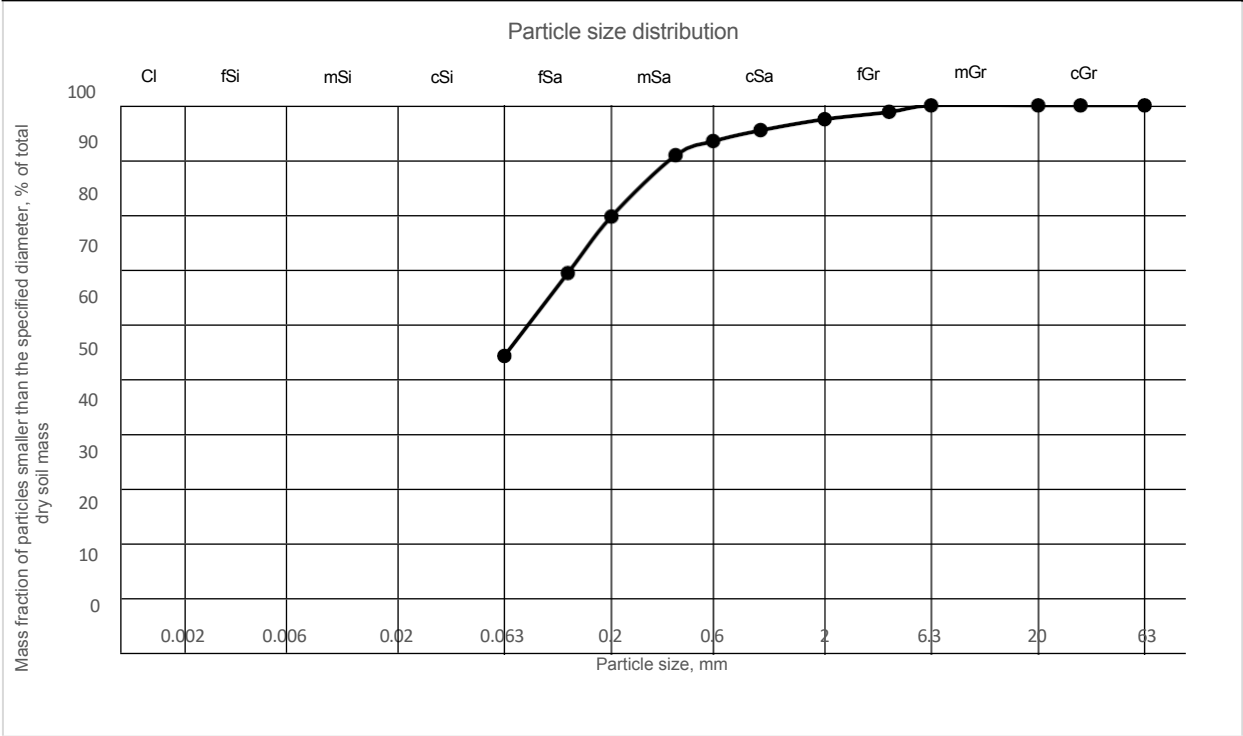
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.3	99.0	95.4	36.0	8.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0654	0.1396	2.31				40.3	43.2	10.1	0.29			
	0.1076	0.1511	1.17		99.0		33.1	0.71					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_116	Gr.44	3	U	13.90	14.20



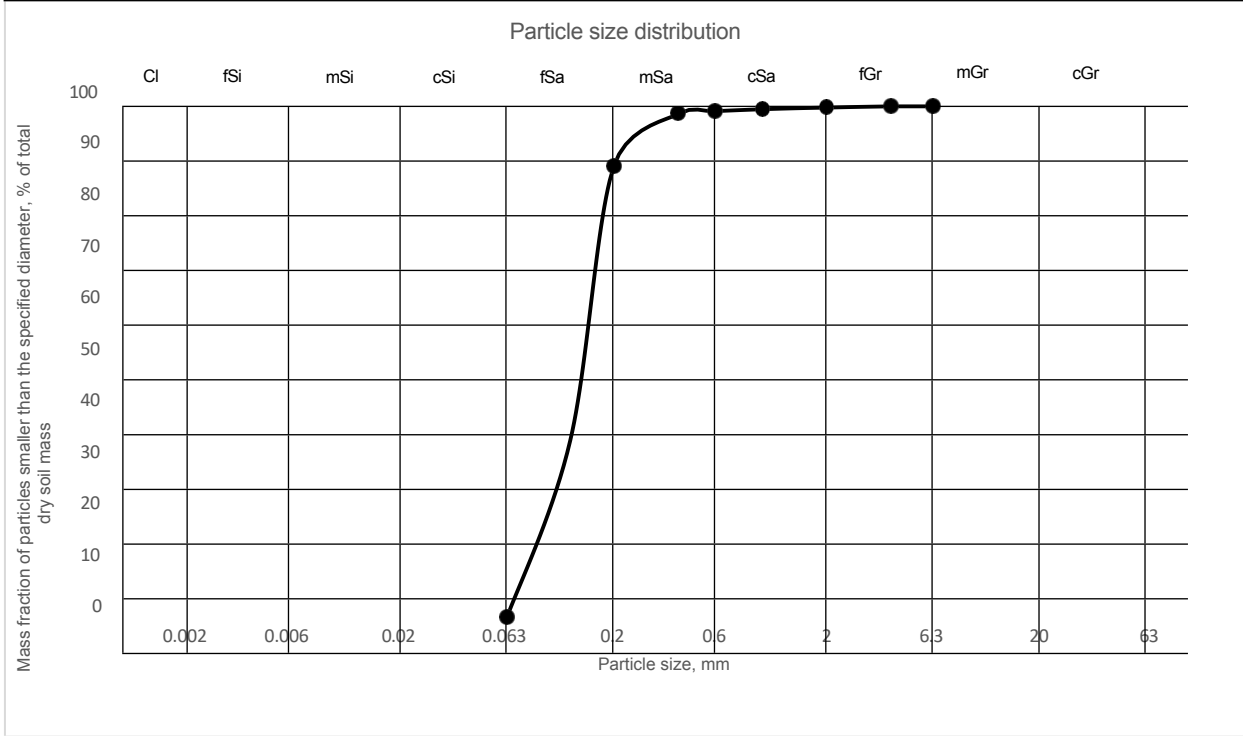
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.3	91.2	49.7	3.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0696	0.1254	2.02		-		-	-	-				
	0.0935	0.1405	0.89		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_117	Gr.44	4	U	17.00	17.50



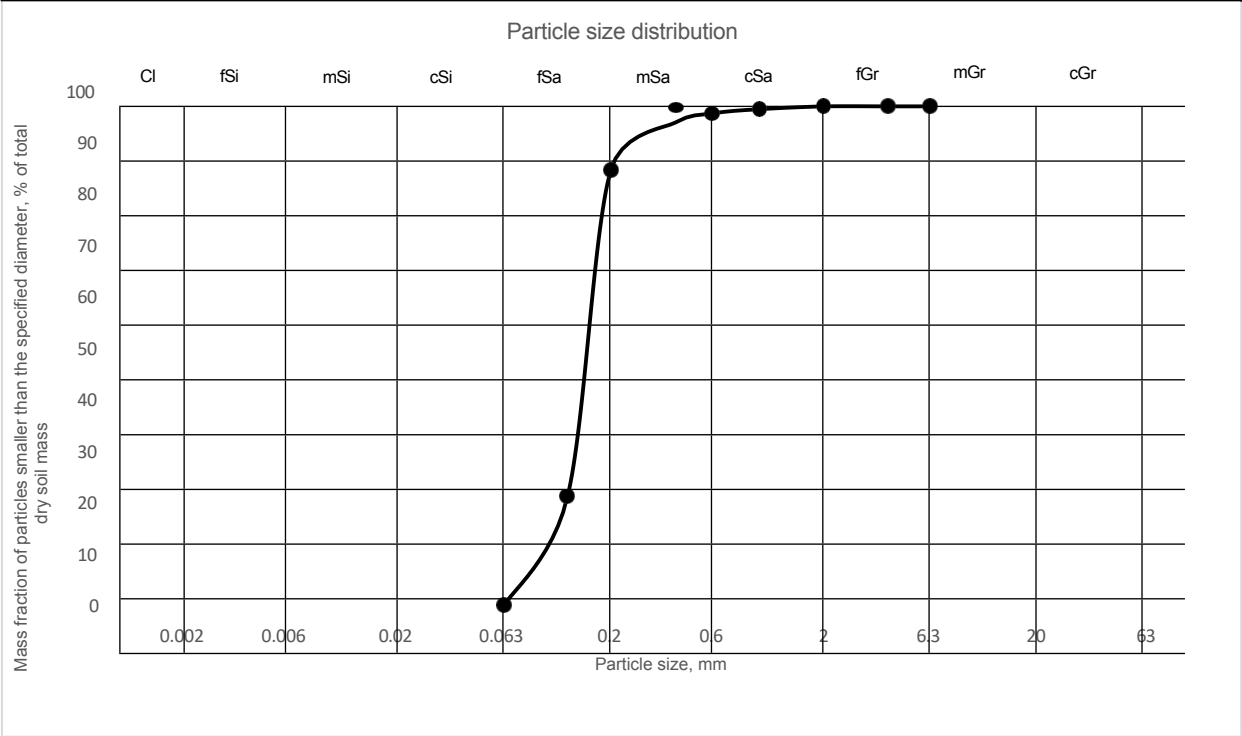
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	98.8	97.5	95.5	93.5	90.9	79.8	69.5	54.4	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1		
	-	-	-							16.1	20.2	7.7	0.54	
	-	0.0812	-							90.9	12.5	0.46		
Soil density (5)	ρ , Mg/m ³	Particle density (6)		ρ_s , Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s
	ρ_d , Mg*m ⁻³													
	2.188													
	1.909													
Soil classification*														
Index:		saCIL		Name:			sandy clay with low plasticity, firm							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		TL												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_118	Gr.45	1	D	4.30	4.60



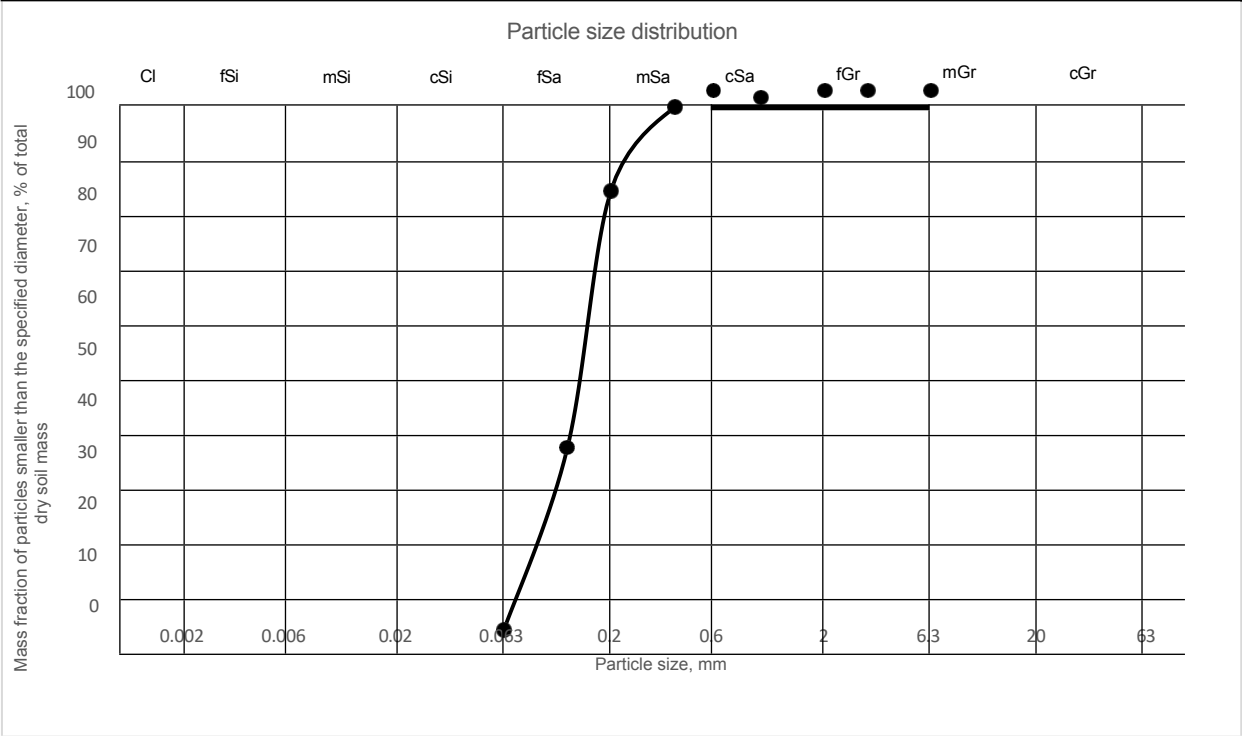
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.1	98.6	89.1	39.0	6.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0676	0.1386	2.25		-		-	-	-				
	0.1033	0.1522	1.04		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
						1.5%							
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_119	Gr.45	2	D	6.20	6.50



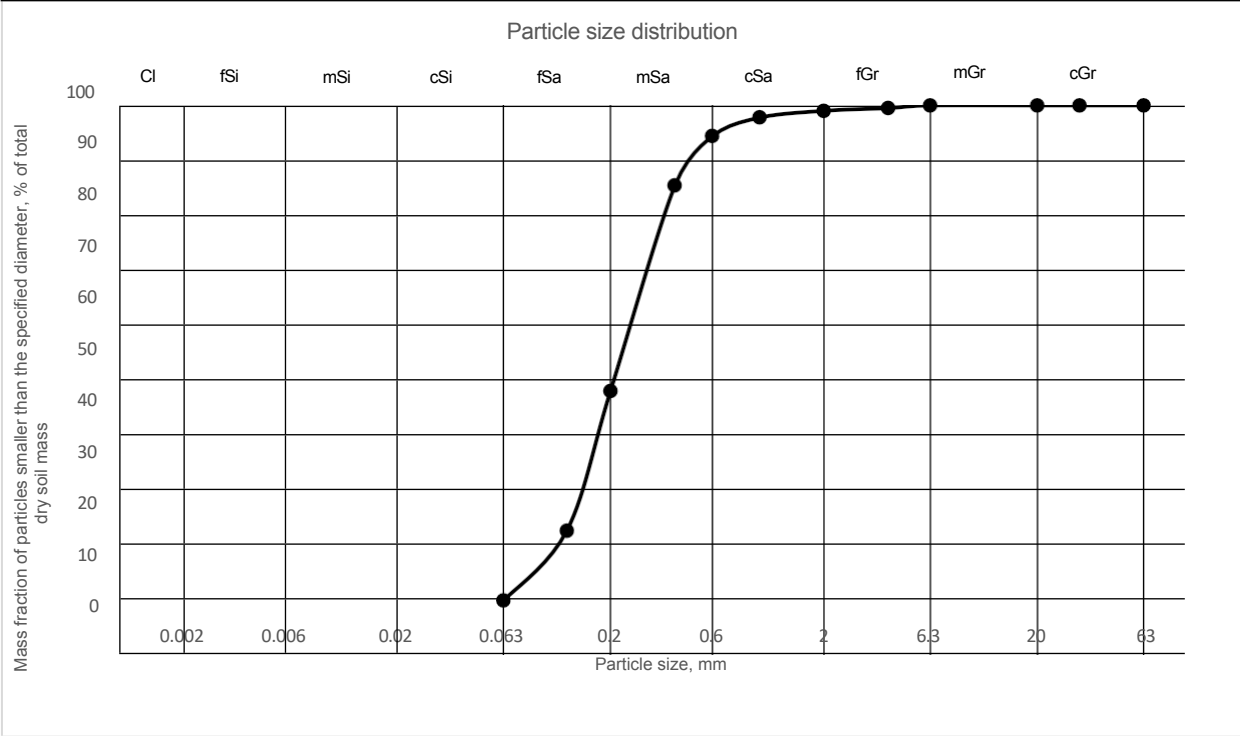
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.5	98.7	97.0	88.4	28.5	8.9	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0655	0.1480	2.44						33.0	36.8	7.2	0.53	
		0.1265	0.1600	1.53						97.0	29.6	0.47		
		Soil density (5)		ρ, Mg/m³						Particle density (6)		ρs, Mg*m-3	Porosity (7)	
ρd, Mg*m-³														
1.889														
1.431														
0.84														
Soil classification*														
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_120	Gr.45	3	D	14.10	14.40



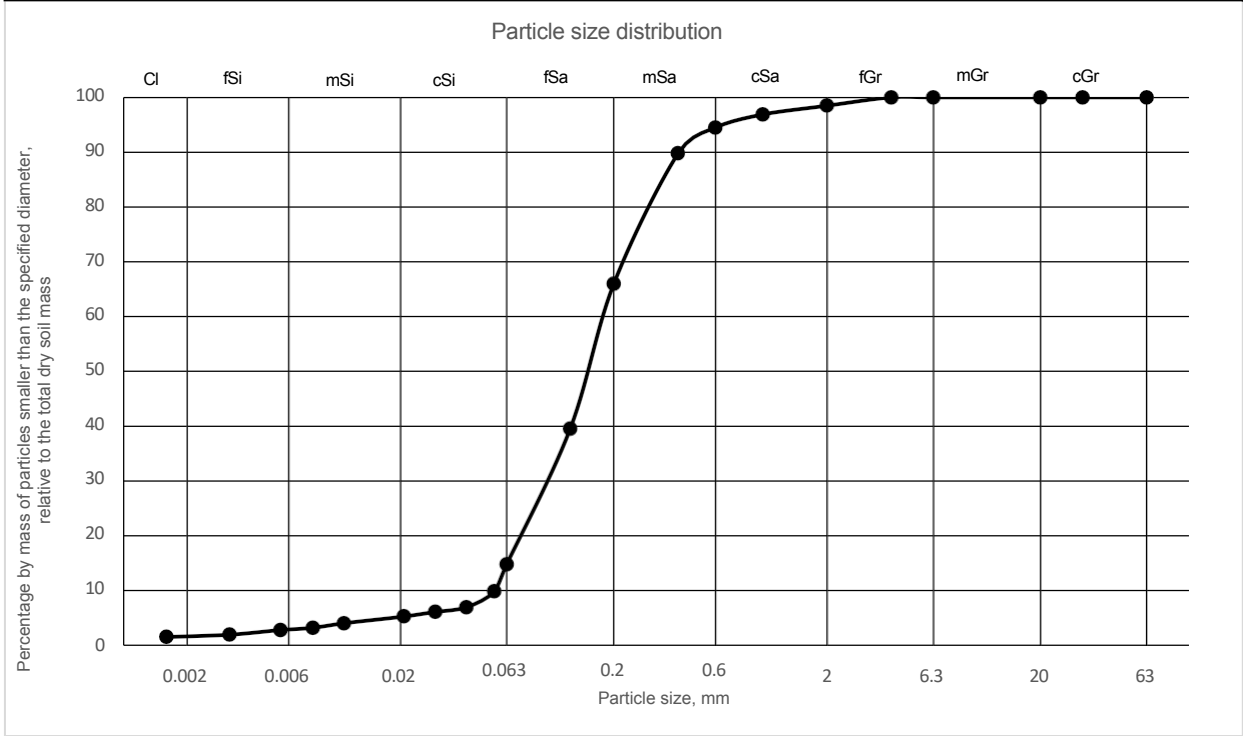
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	84.5	37.5	4.4	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0707	0.1416	2.21						-	-	-		
		0.1070	0.1565	1.03						-	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
Soil classification*														
Index:		SaP		Name:			poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_121	Gr.46	1	D	10:40	11:30



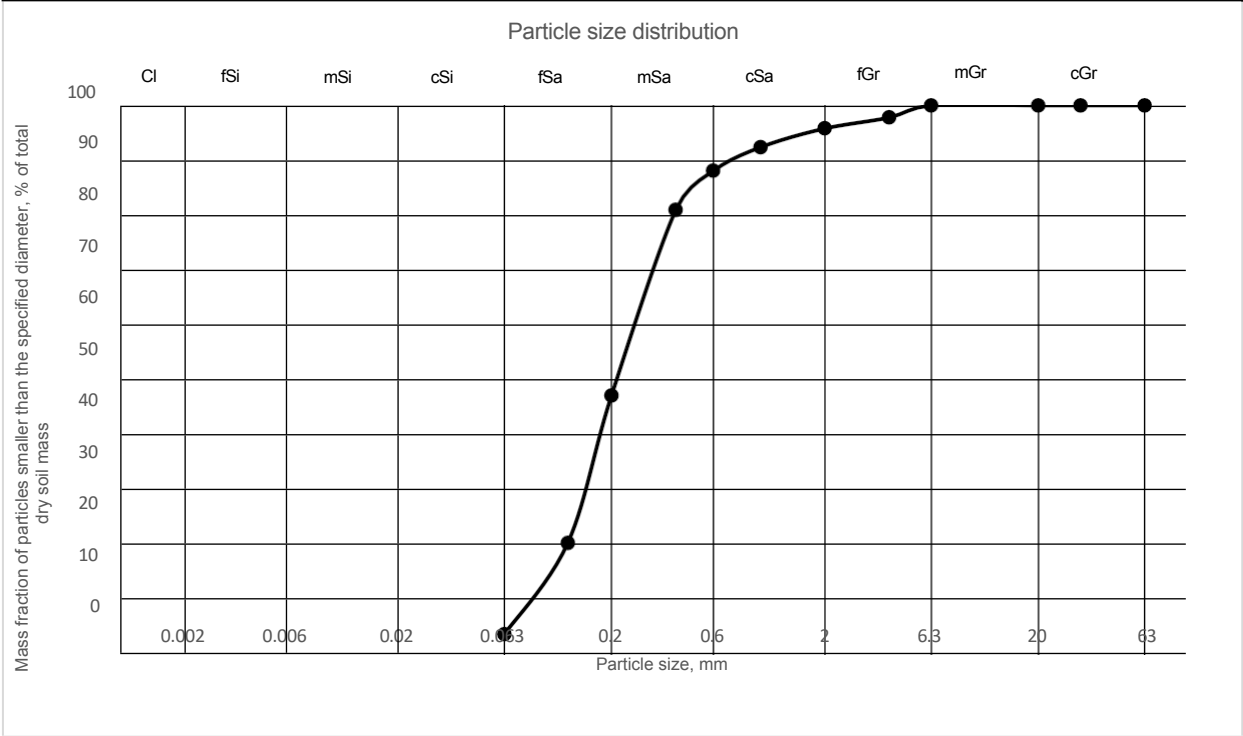
Sieve method (1)		Sieve aperture size, mm												
		Percentage of particles passing through the sieve relative to the total dry soil mass, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	99.5	99.0	97.8	94.4	85.4	48.0	22.6	9.9	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0633	0.2076	3.94						41.6	35.5	6.6	-0.92	
		0.1433	0.2498	1.30						85.4	28.9	1.92		
Soil density (5)		ρ, Mg/m³		Particle density (6)	ps, Mg*m-3		Porosity (7)	n, 1		Organic matter (10)		org. mat. %	Water permeability (4.2)	k10, m/s
		ρd, Mg*m-³			e, 1									
Soil classification*														
Index:		oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_122	Gr.46	2	D	11.30	12.50



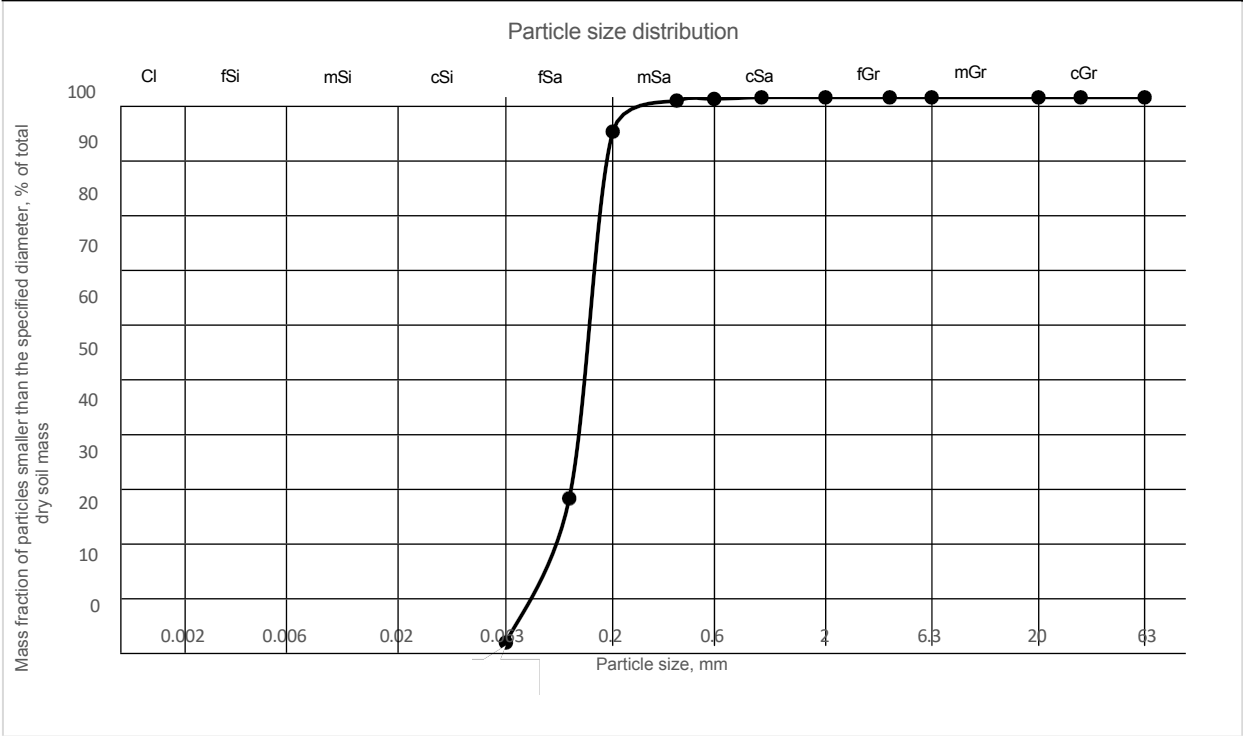
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	98.5	96.9	94.5	89.8	66.0	39.6	14.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0552	0.0407	0.0291	0.0208	0.0109	0.0078	0.0055	0.0032	0.0016		
			10.0	7.1	6.2	5.4	4.2	3.3	2.9	2.1	1.7		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w < 0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0552	0.1504	3.25		53.2		60.0	12.7	0.53				
	0.0958	0.1797	0.92		89.8		47.3	0.47					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_123	Gr.46	3	D	12.60	13.10



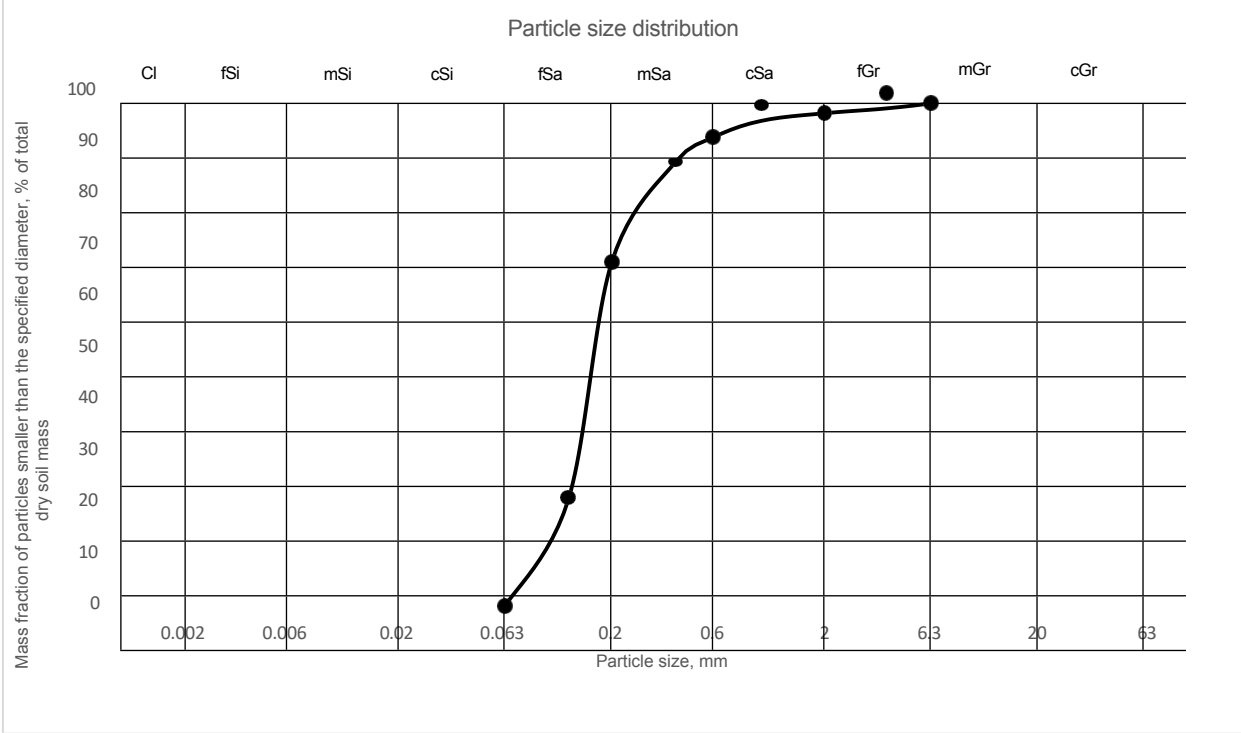
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	97.8	95.8	92.4	88.1	81.0	47.2	20.4	3.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0814	0.2118	3.20		-		-	-	-				
	0.1479	0.2600	1.03		-		-	-					
					19.5								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
										0.7%			
Soil classification*													
Index:	SaP	Name:		poorly sorted sand									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_124	Gr.46	4	D	17.80	18.30



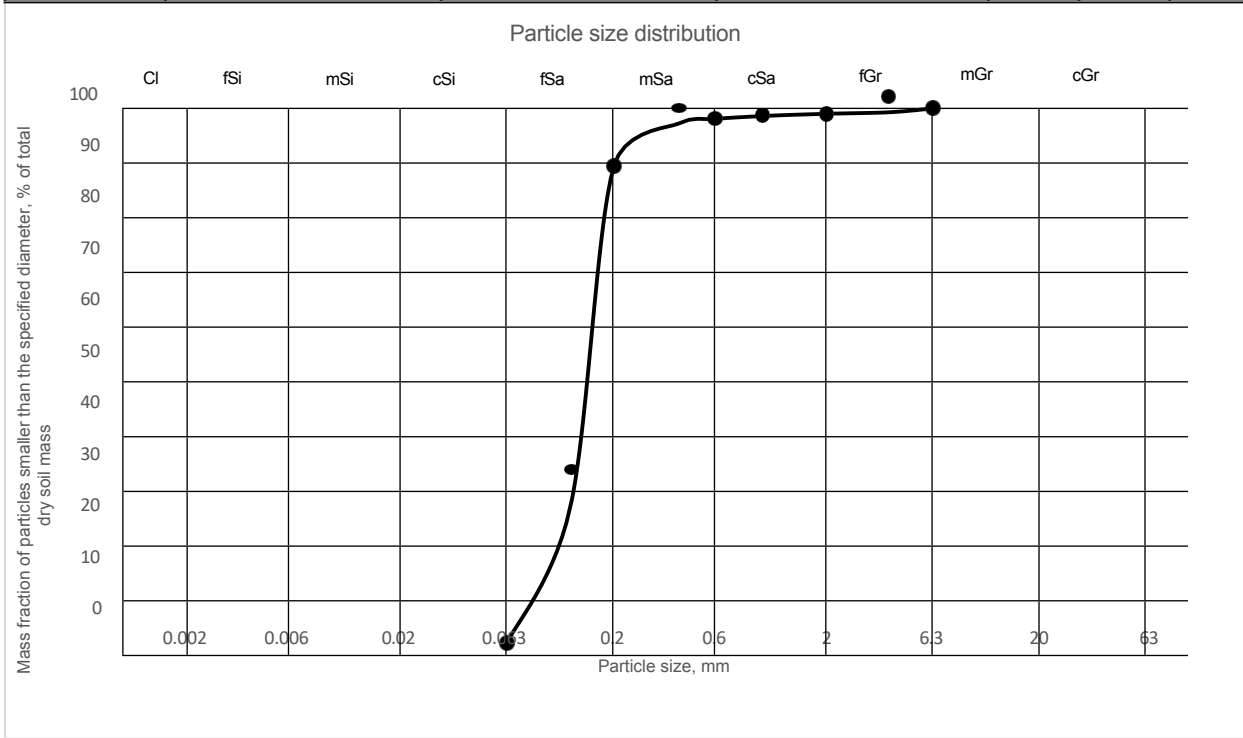
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.4	93.7	26.8	0.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0807	0.1471	1.96		-		-	-	-				
	0.1278	0.1578	1.28		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
1.996													
1.636		0.63											
Soil classification*													
Index:	SaP	Name:		poorly sorted sand									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_125	Gr.47	1	D	11:00	11:30



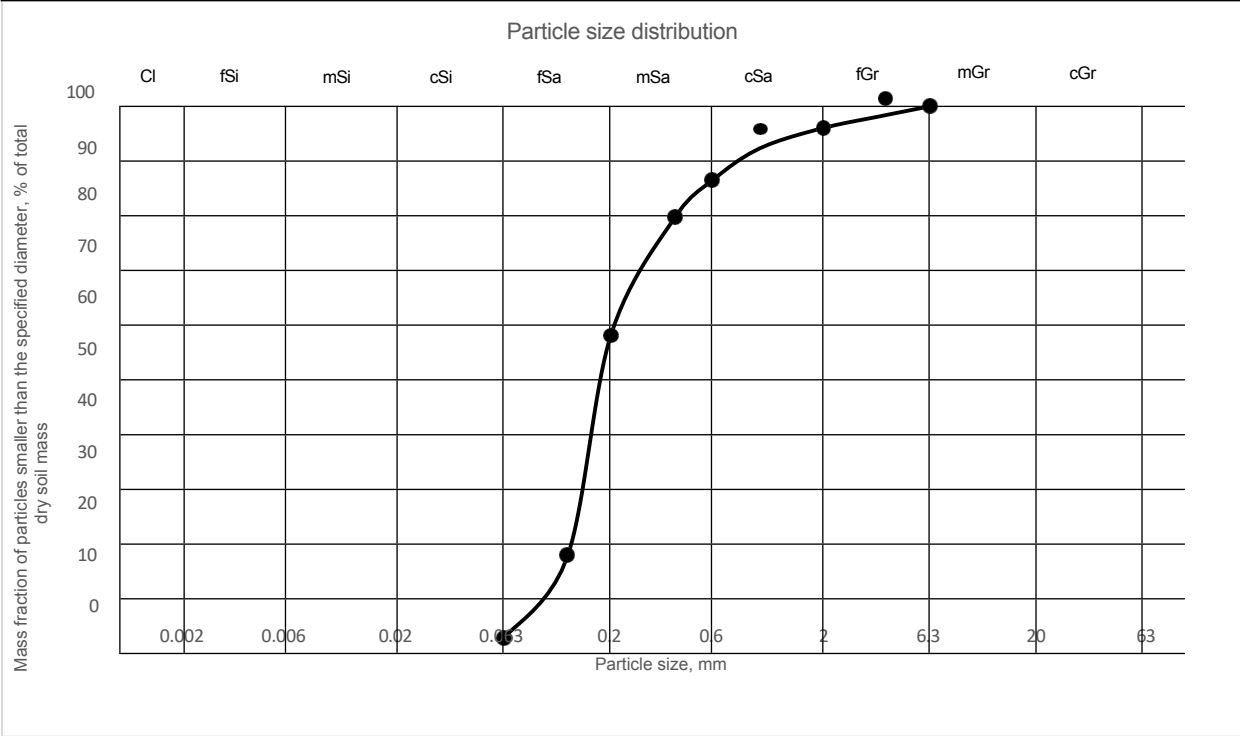
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.1	98.2	96.8	93.8	89.4	71.0	27.6	8.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0671	0.1593	2.64		-		-	-	-				
	0.1283	0.1775	1.38		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_126	Gr.47	2	D	11.40	12.50



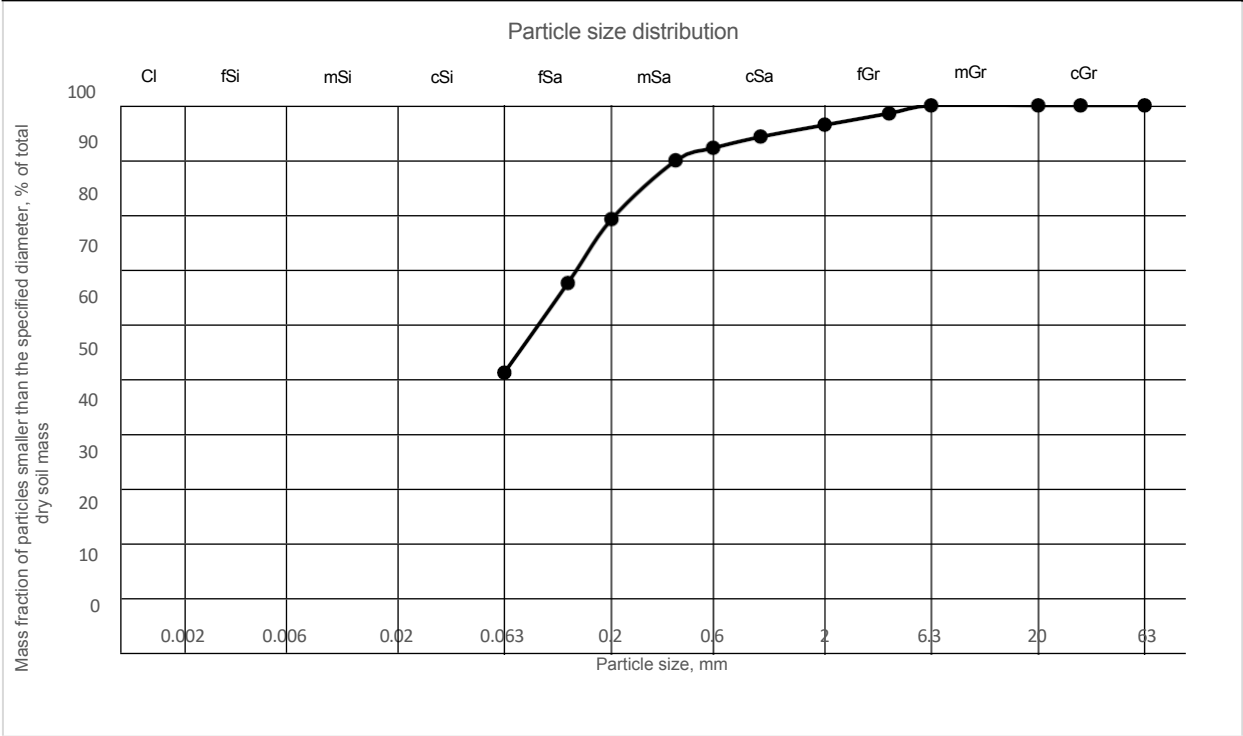
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	99.3	99.0	98.6	98.1	97.2	89.4	27.1	2.4
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	0.0778	0.1486	2.06				-	-	-			
	0.1278	0.1602	1.31		-		-	-	-			
					22.8							
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:	SaP	Name:				Poorly sorted sand						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SE											
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_127	Gr.47	3	D	12.50	13.00



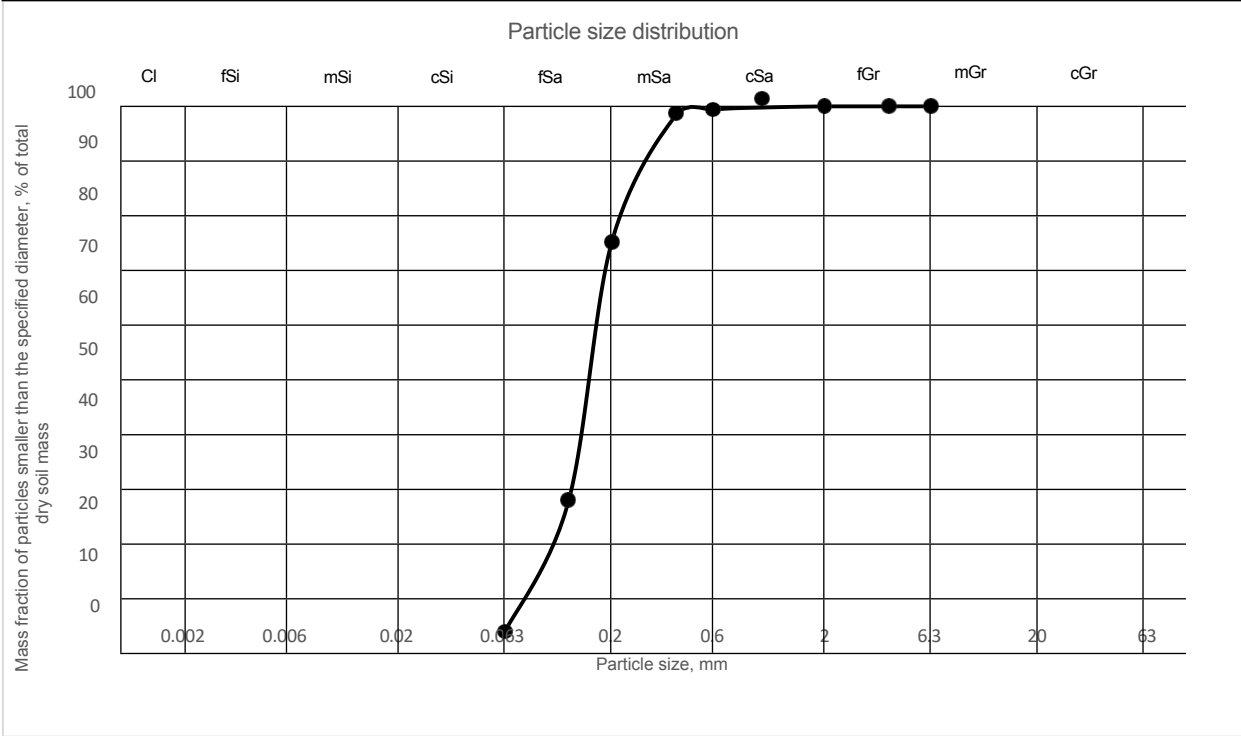
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.5	96.1	92.3	86.5	79.8	58.1	17.7	2.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0874	0.1819	2.43		-		-	-	-				
	0.1442	0.2123	1.12		-		-	-					
					18.3								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_128	Gr.47	4	D	17.80	18.30



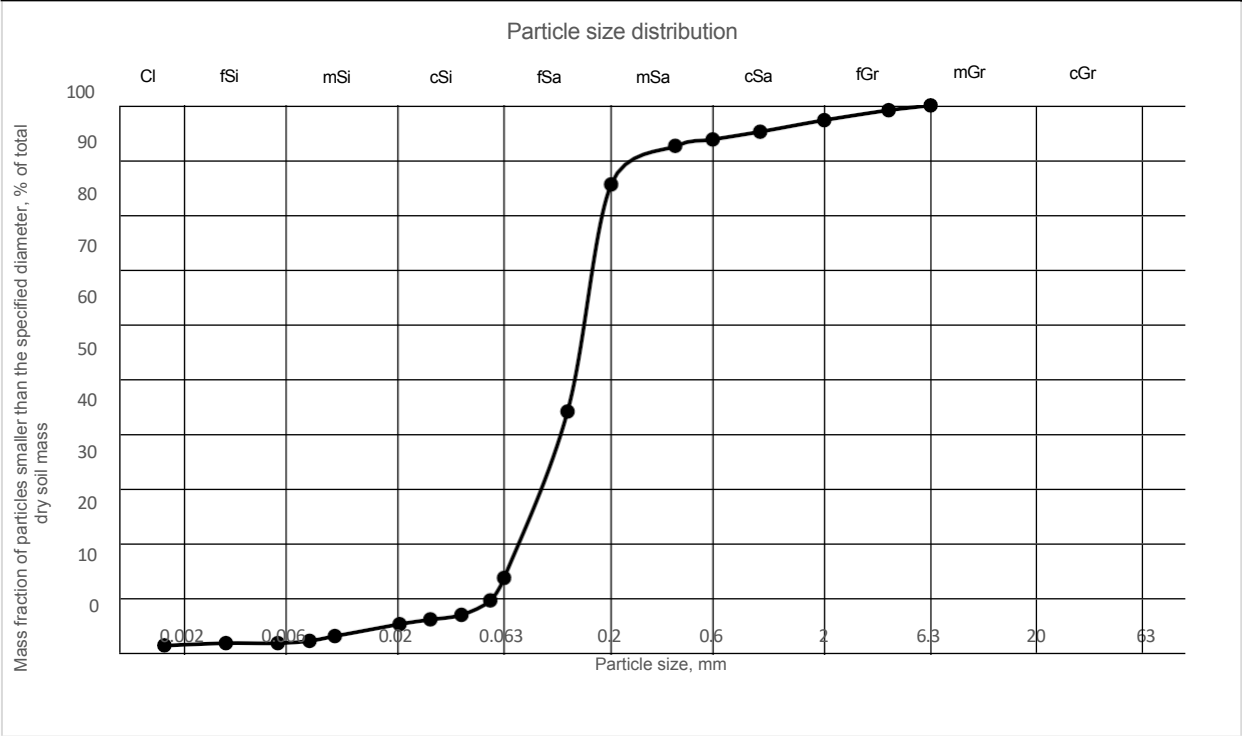
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.5	96.5	94.3	92.2	90.0	79.3	67.7	51.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		14.3		19.2	7.3	0.67				
	-	0.0906	-		90.0		11.9	0.33					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.190												
	1.940		0.39										
Soil classification*													
Index:	saCIL	Name:			sandy clay with low plasticity, firm								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_129	Gr.48	1	D	2.80	3.10



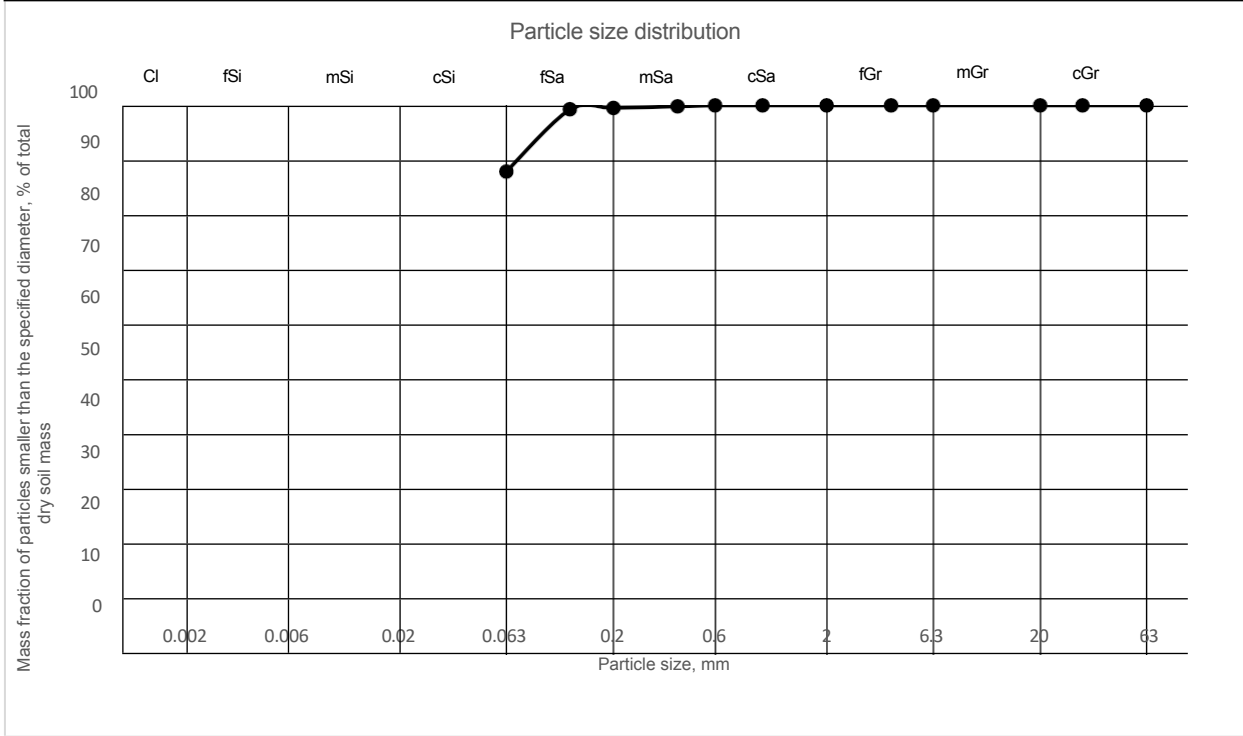
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	98.4	75.2	27.7	4.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0748	0.1559	2.30		-		-	-	-				
	0.1279	0.1721	1.27		-		-	-					
					24.0								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
										0.7%			
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_130	Gr.48	2	D	7.30	7.60



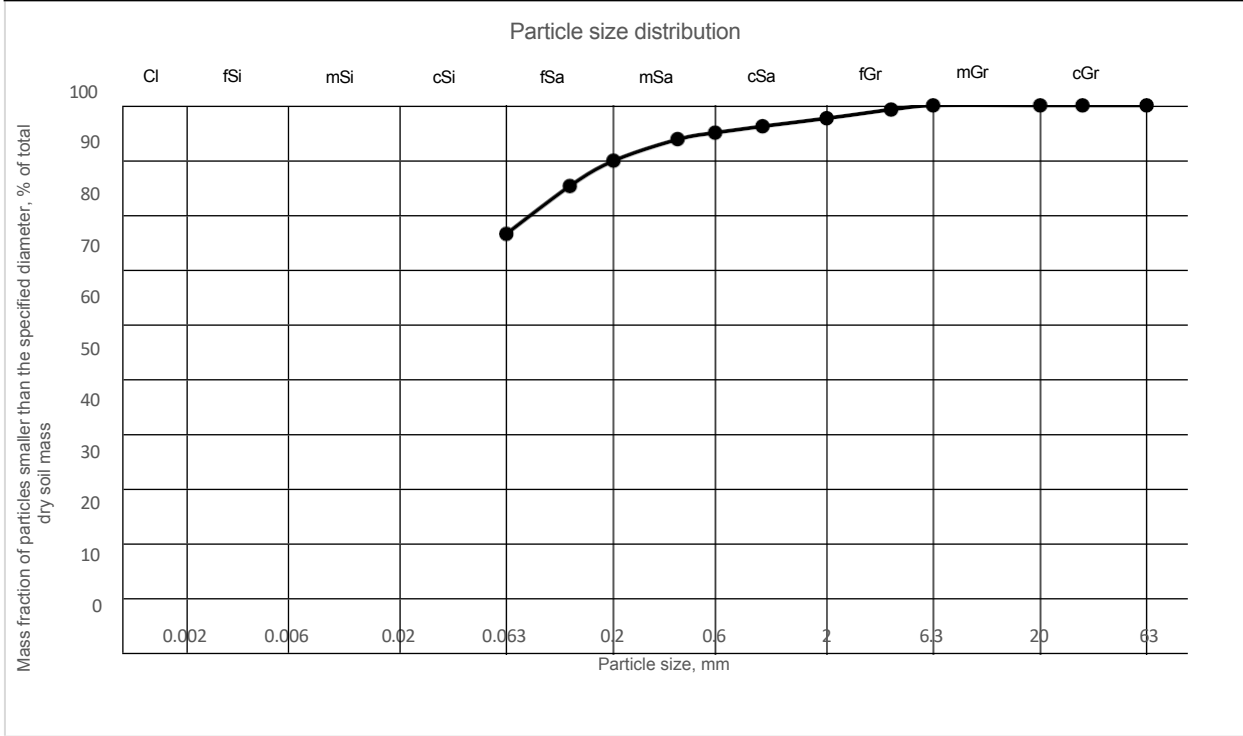
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.1	97.3	95.2	93.8	92.6	85.6	44.3	14.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0543	0.0398	0.0285	0.0204	0.0102	0.0077	0.0055	0.0031	0.0016		
			9.9	7.3	6.5	5.6	3.4	2.6	2.2	2.2	1.7		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0545	0.1334	2.74				61.8	49.1	15.2	-0.83			
	0.0905	0.1495	1.00				92.6	33.9	1.83				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³												
Soil classification*													
Index:	oSaFP	Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL-UL												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Test No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_131	Gr.48	3	U	12.10	12.60



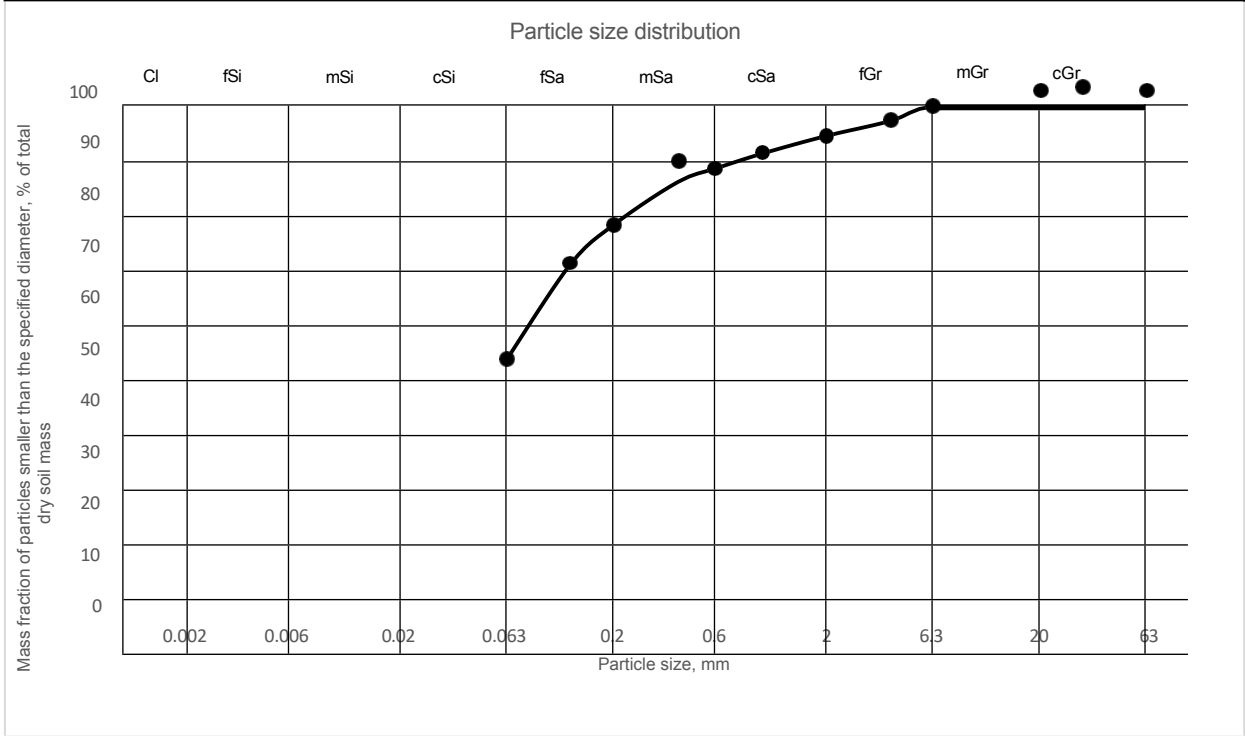
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.2	88.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		14.8		24.8	5.7	1.75				
	-	-	-		99.8		19.1	-0.75					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.159													
1.881		0.43											
Soil classification*													
Index:		CIL-SiL		Name:		low-plasticity clay-silt, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_132	Gr.48	4	U	16.20	16.50



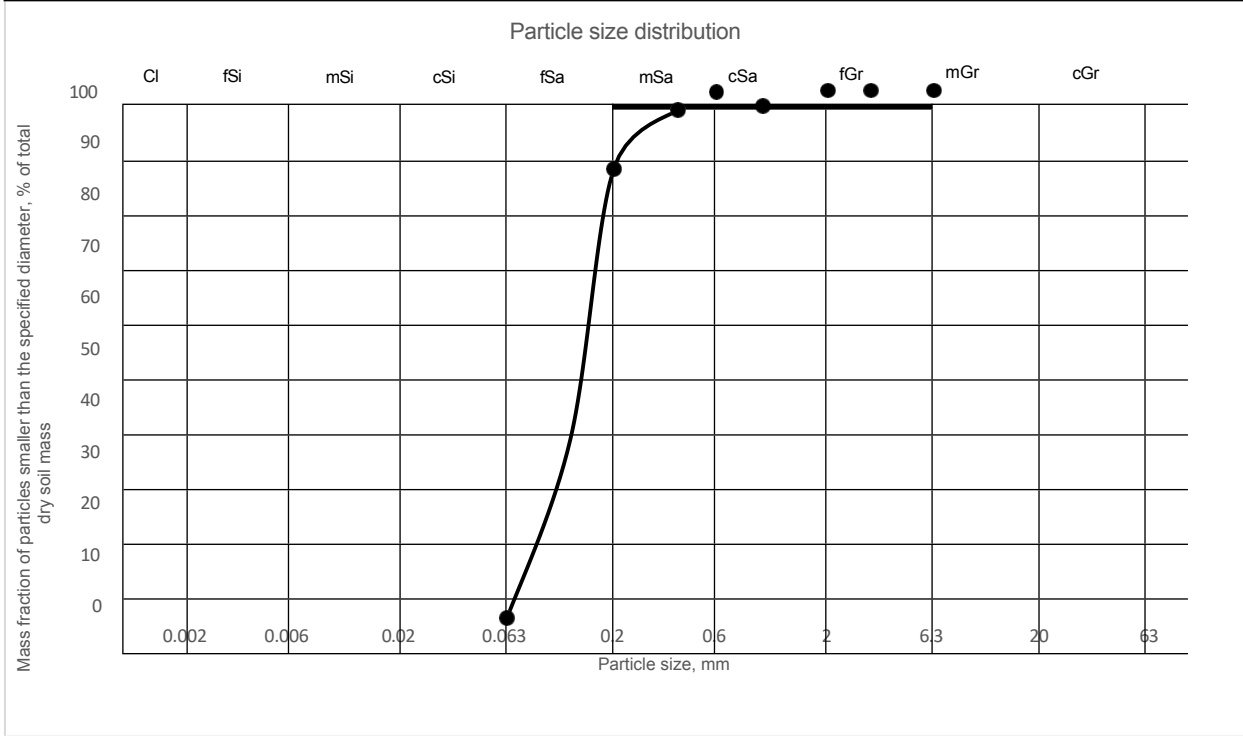
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	99.2	97.7	96.2	95.0	93.8	89.9	85.3	76.6		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)					w<0.4, %	wL, %	IP, %	IC, 1
	d30, mm	d60, mm	CC, 1									f<0.4, %	wP, %	IL, 1	
	-	-	-									-		-	
	-	-	-			-							-		
						18.7									
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s		
	pd, Mg*m-³						e, 1								
Soil classification*															
Index:				Name:											
Notes:															
Soil classification DIN 18196:2023-02*															
Index:															
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_133	Gr.48	5	U	17.30	17.90



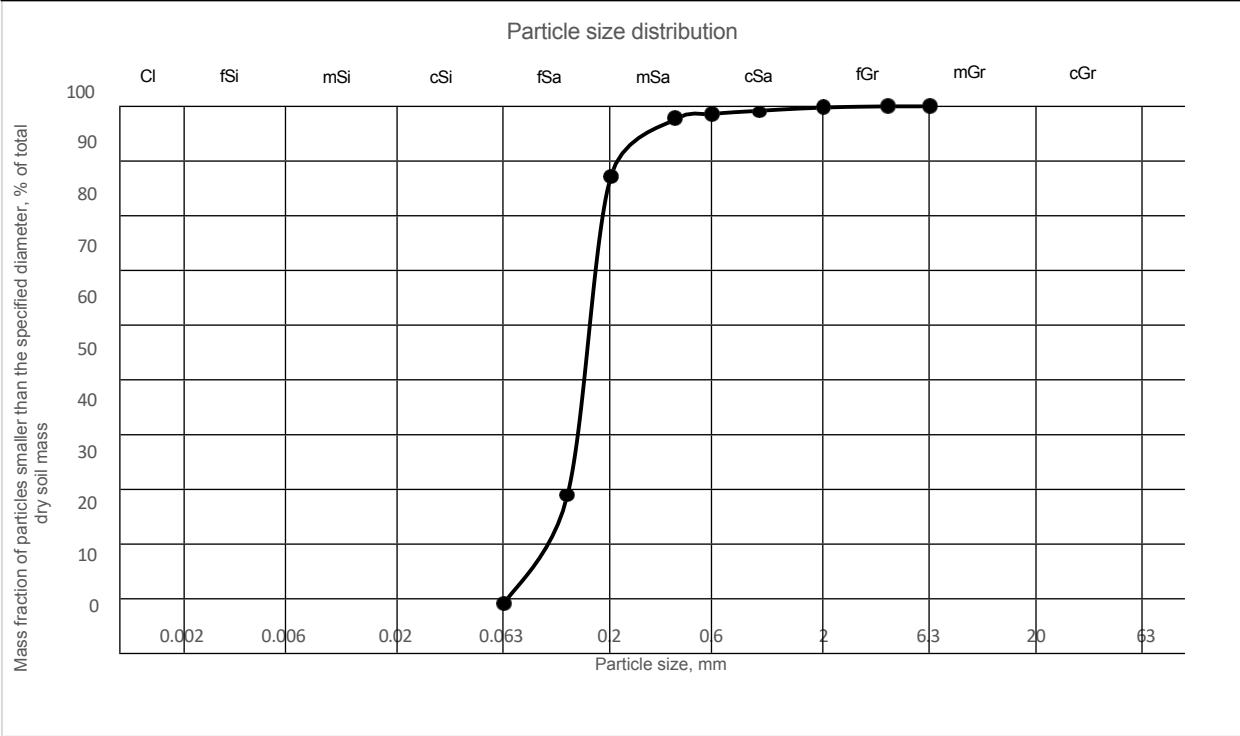
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	97.4	94.6	91.4	88.6	86.2	78.4	71.1	53.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	0.0805	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.214												
	1.993		0.35										
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_134	Gr.49	1	U	14.10	14.50



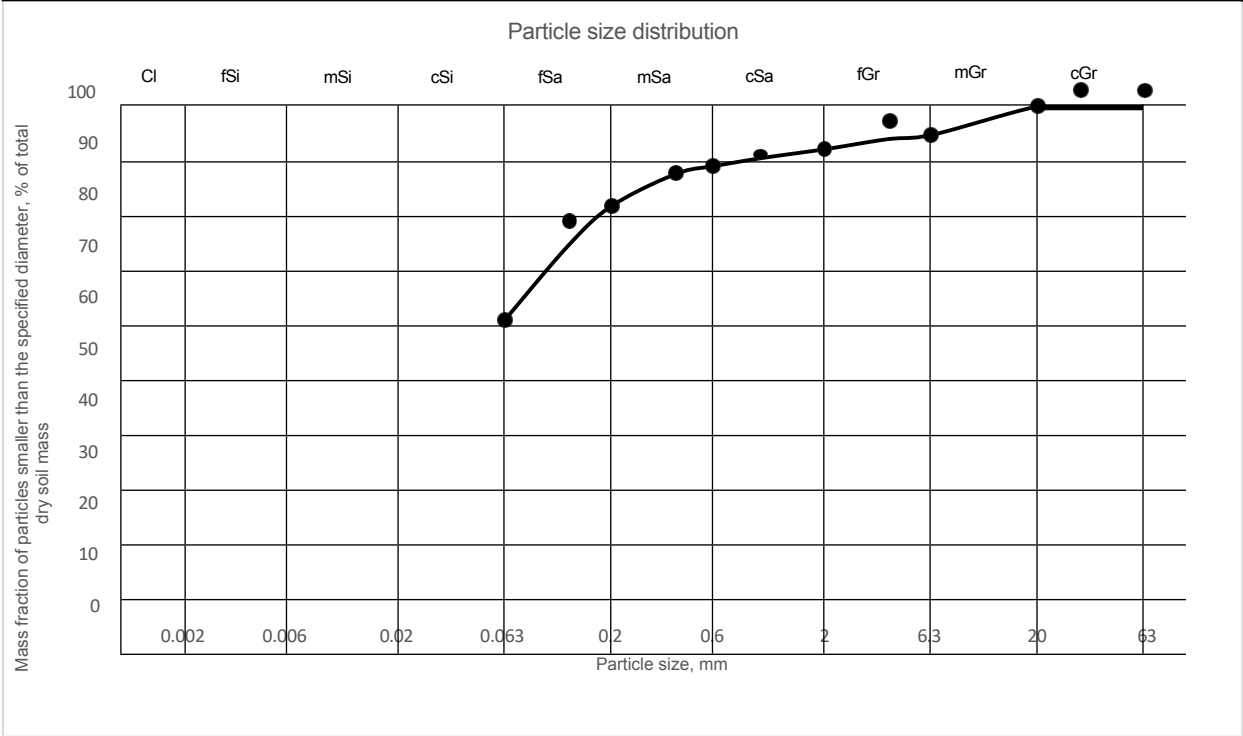
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.3	88.6	39.1	6.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0678	0.1386	2.25		-		-	-	-				
	0.1032	0.1524	1.03		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_135	Gr.50	1	D	8.30	8.60



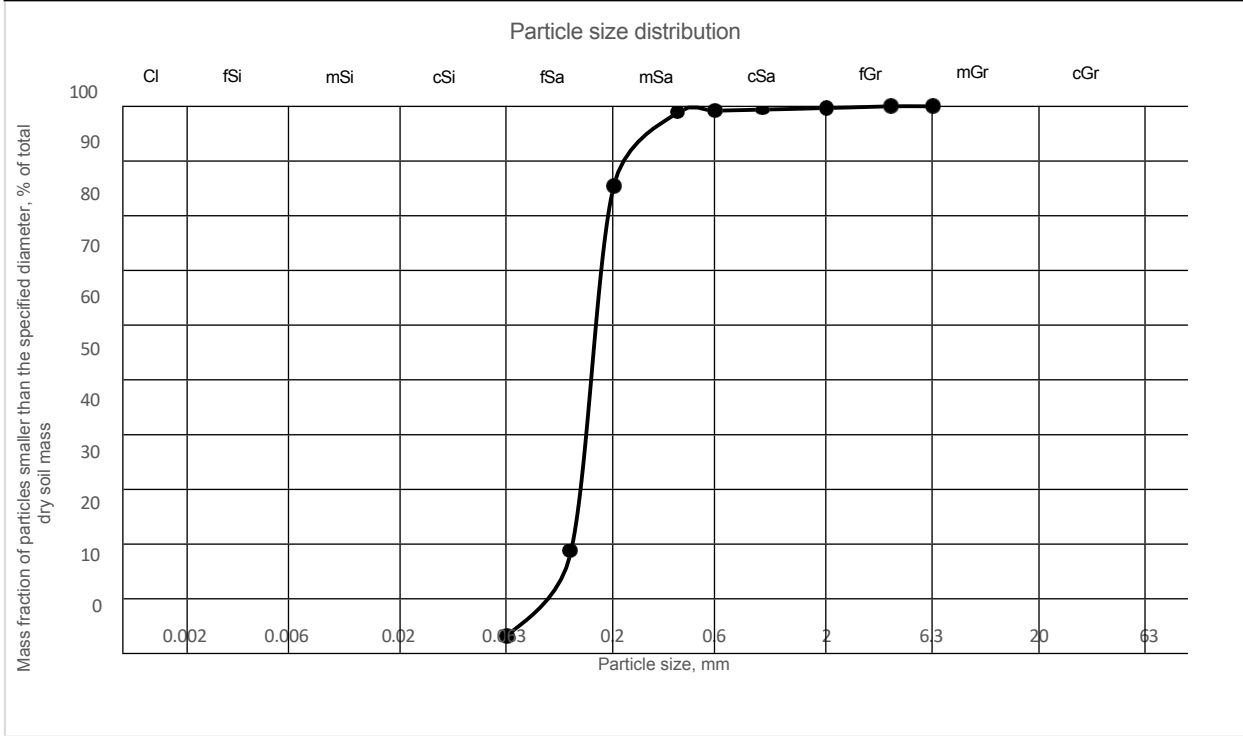
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.2	98.6	97.6	87.2	28.8	9.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0648	0.1483	2.48		-		-	-	-				
	0.1262	0.1607	1.53		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_137	Gr.50	3	U	15.10	15.70



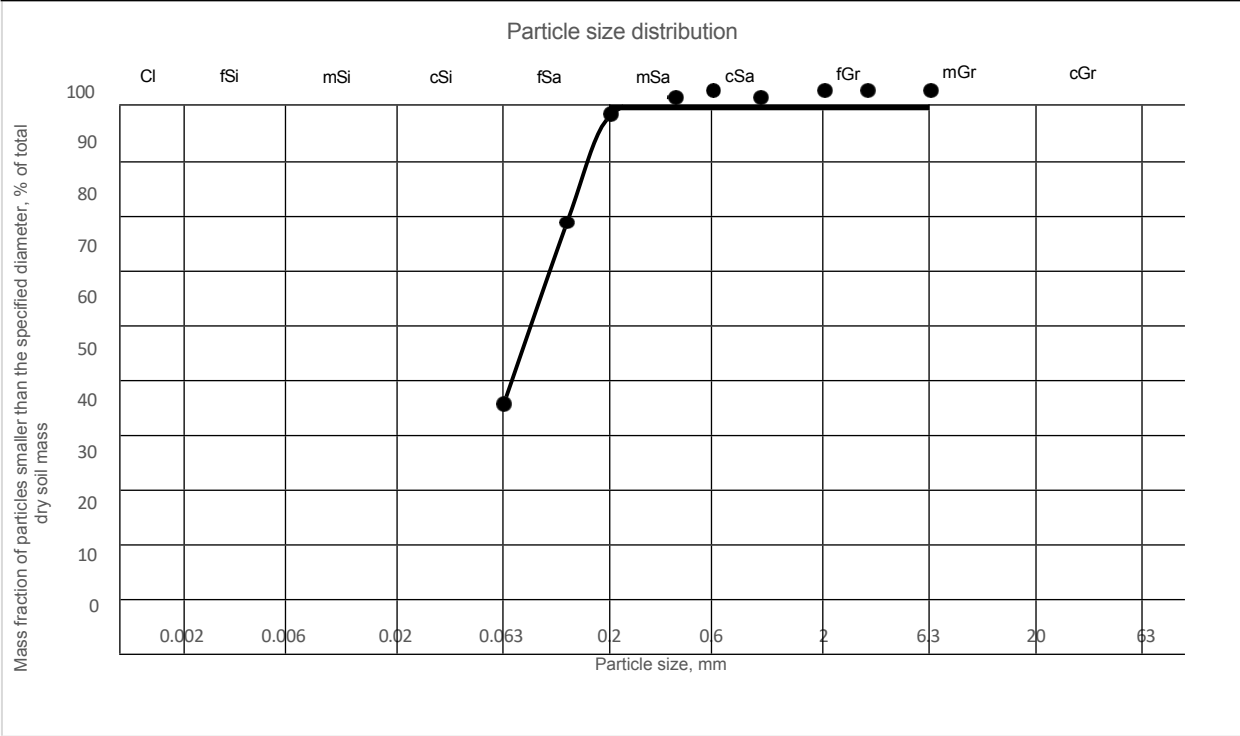
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	94.7	94.0	92.2	90.5	89.1	87.7	81.8	74.6	61.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.111												
	1.803		0.49										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_138	Gr.51	1	D	1.50	1.80



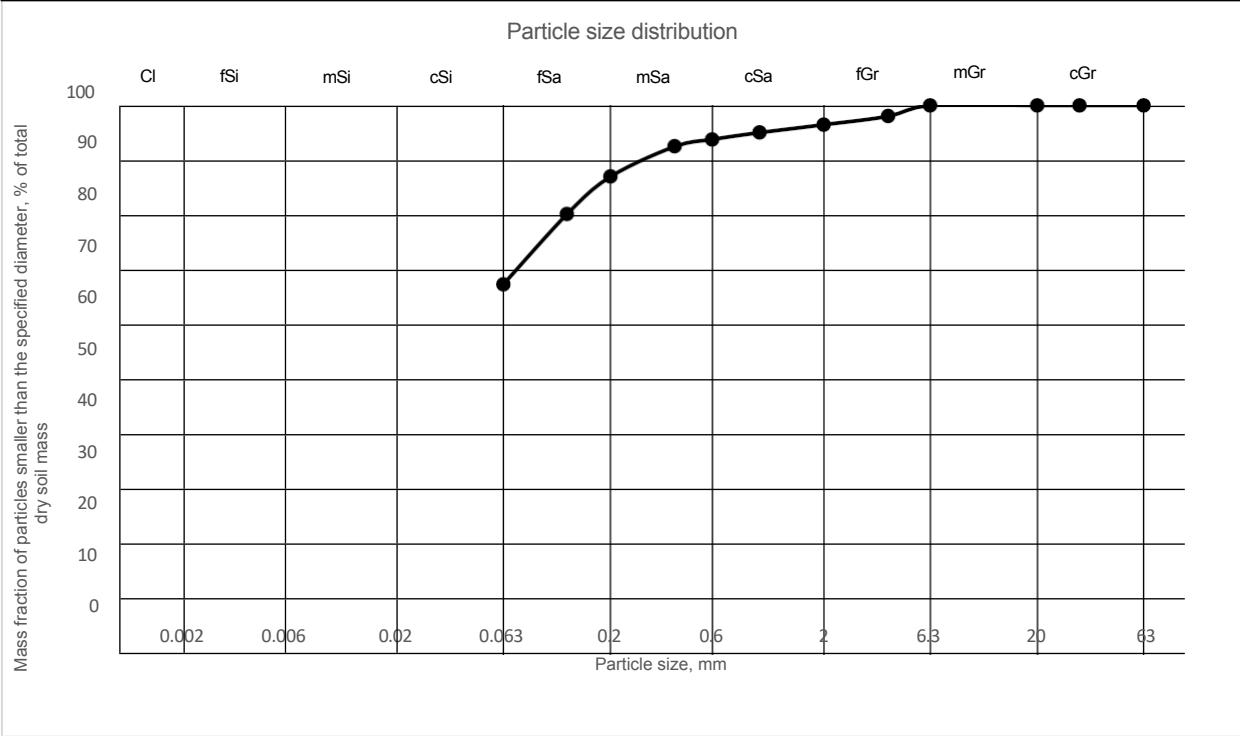
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.7	99.4	99.2	98.9	85.5	18.1	3.3
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0859	0.1561	1.95		-		-	-	-				
	0.1358	0.1674	1.28		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
				1.1%									
Soil classification*													
Index:	SaP	Name:				poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_139	Gr.51	2	D	5.30	5.60



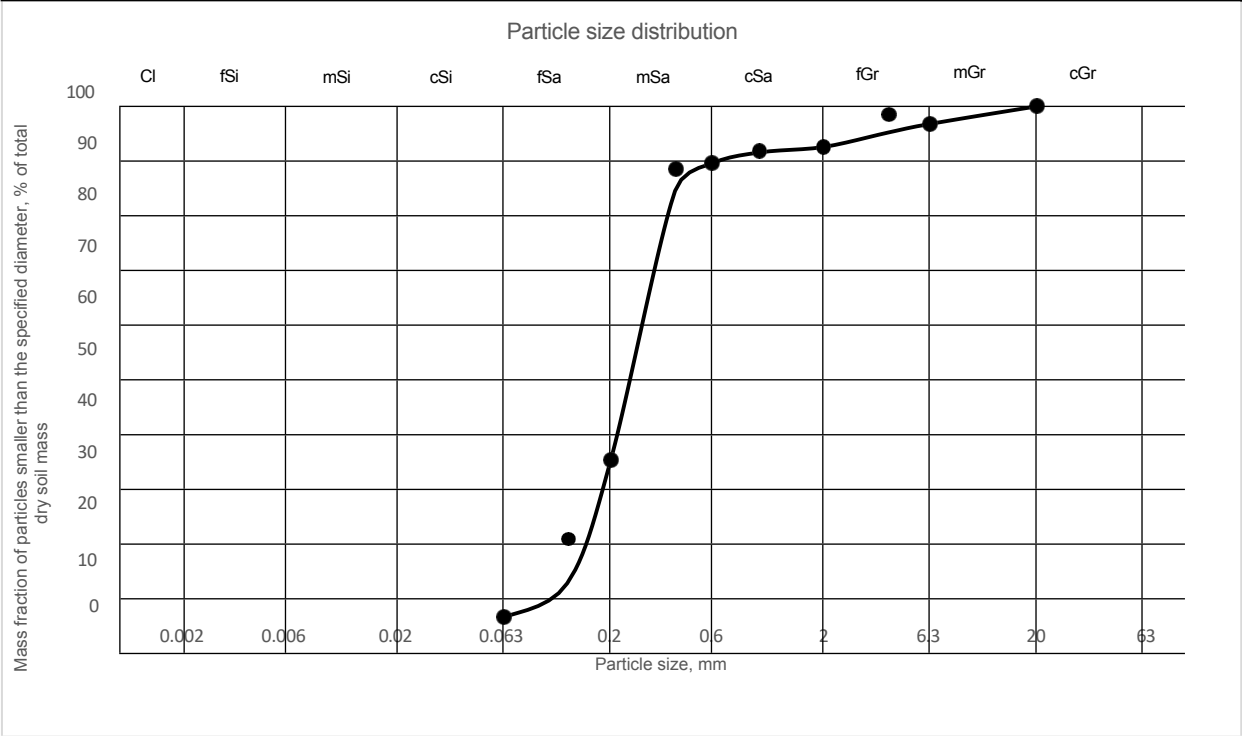
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.6	78.9	45.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0688	-		90.8		90.8	134.0	41.2	1.05			
	-	0.0846	-				100.0	92.8	-0.05				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:	saSiVO	Name:			sandy, very high plasticity silt with moderate organic matter content, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	OT												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_140	Gr.51	3	U	14.00	15.00



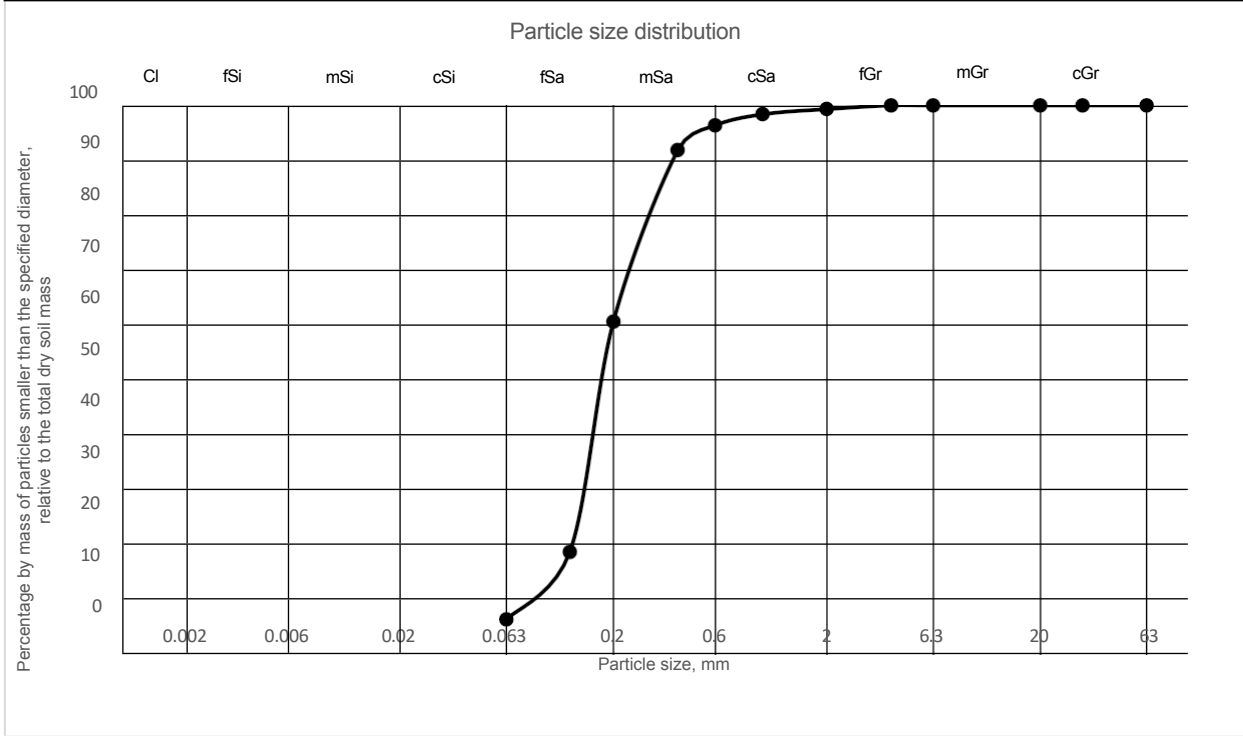
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.0	96.5	95.1	93.8	92.5	87.1	80.2	67.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		15.2		25.3	11.3	0.89				
	-	-	-		92.5		14.0	0.11					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.174												
	1.905		0.42										
Soil classification*													
Index:	saCIL	Name:			Sandy clay with low plasticity, stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_141	Gr.52	1	D	7.50	8.20



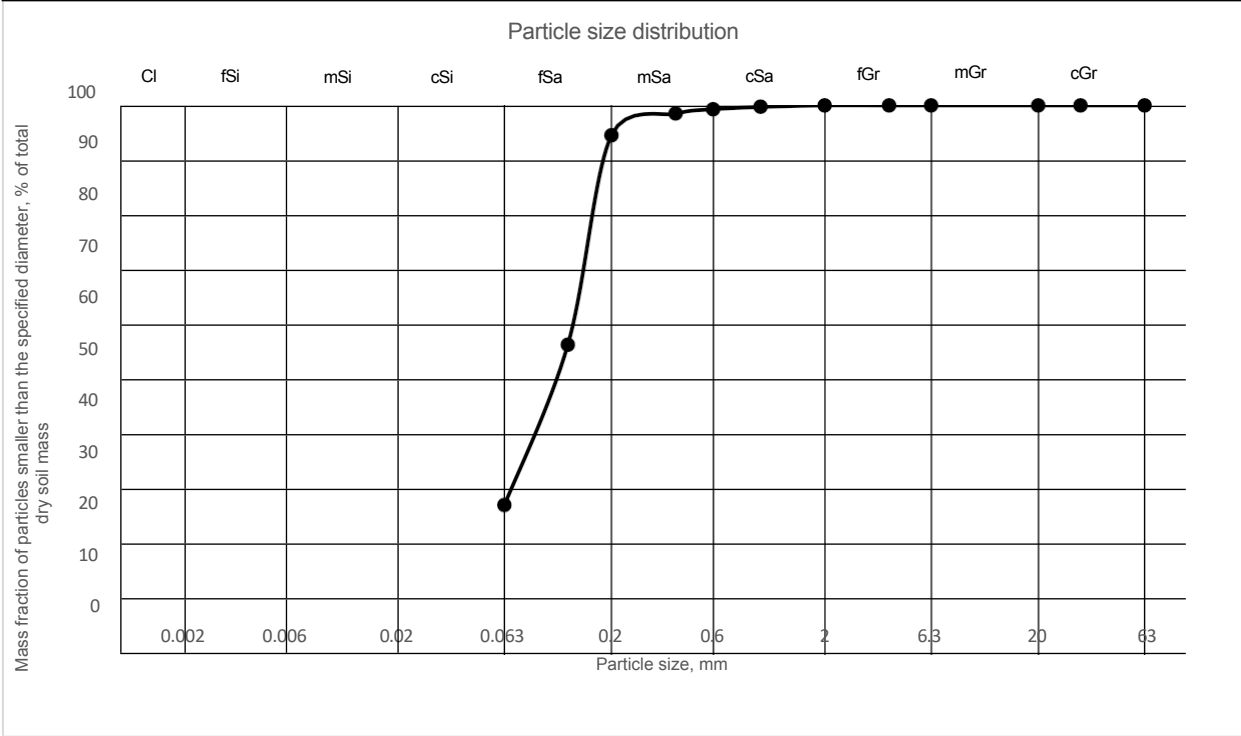
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	96.8	95.2	92.6	91.6	89.6	84.6	35.4	12.9	6.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0907	0.2457	3.12						-	-	-	-	
		0.1787	0.2828	1.24						-	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
Soil classification*														
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_142	Gr.52	2	D	8.20	9.00



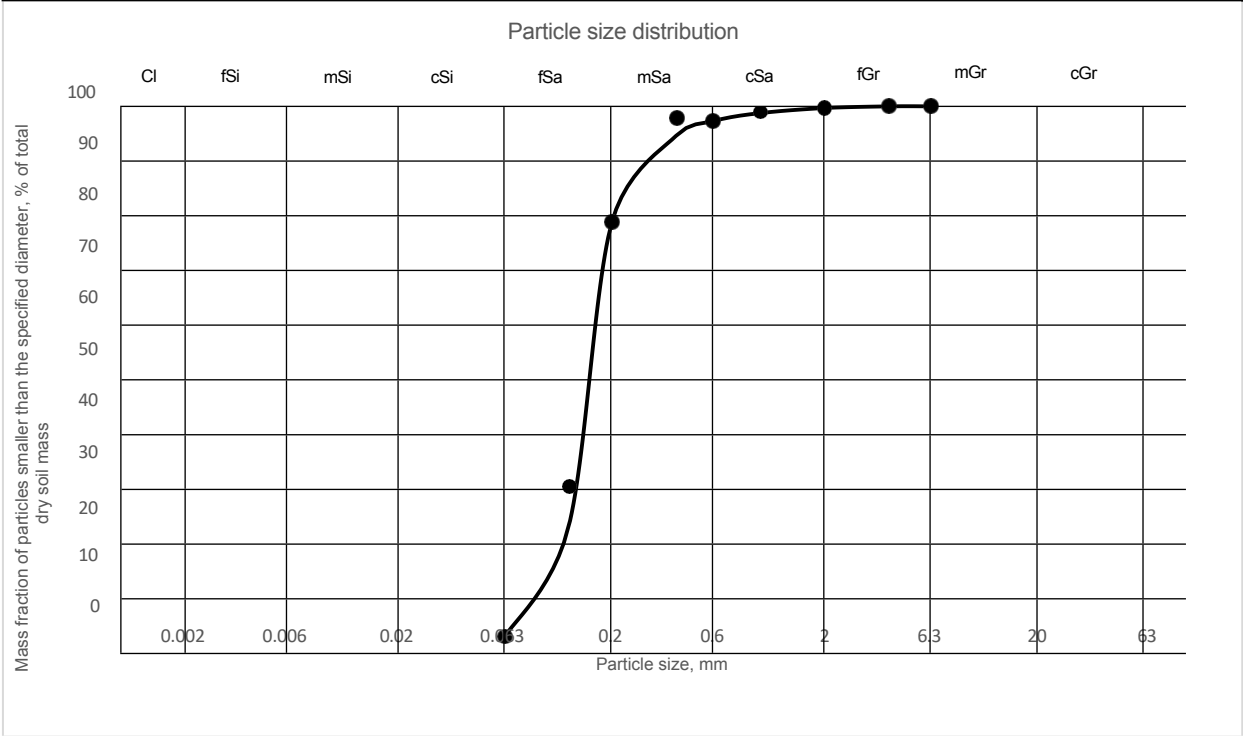
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.3	98.4	96.4	91.9	60.7	18.7	6.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0767	0.1775	2.59		-		-	-	-				
	0.1418	0.1985	1.32		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
						1.3%							
Soil classification*													
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_143	Gr.52	3	D	9.20	9.50



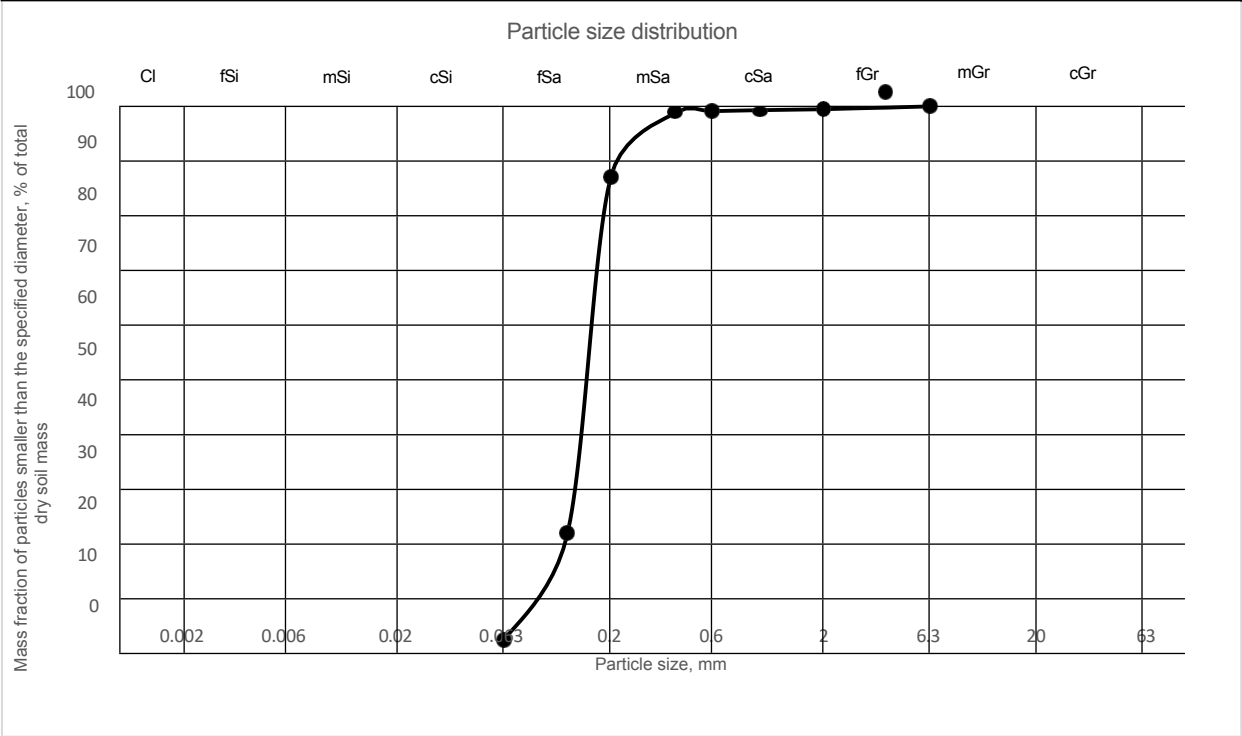
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.3	98.5	94.6	56.4	27.3
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.1074	-		17.3		22.1	3.3	1.47				
	0.0672	0.1306	-		98.5		18.8	-0.47					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.796												
	1.535		2.65		0.73		1.0%			8.6×10 ⁻⁶			
Soil classification*													
Index:	siSa	Name:				sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_144	Gr.52	4	D	9.90	11.00



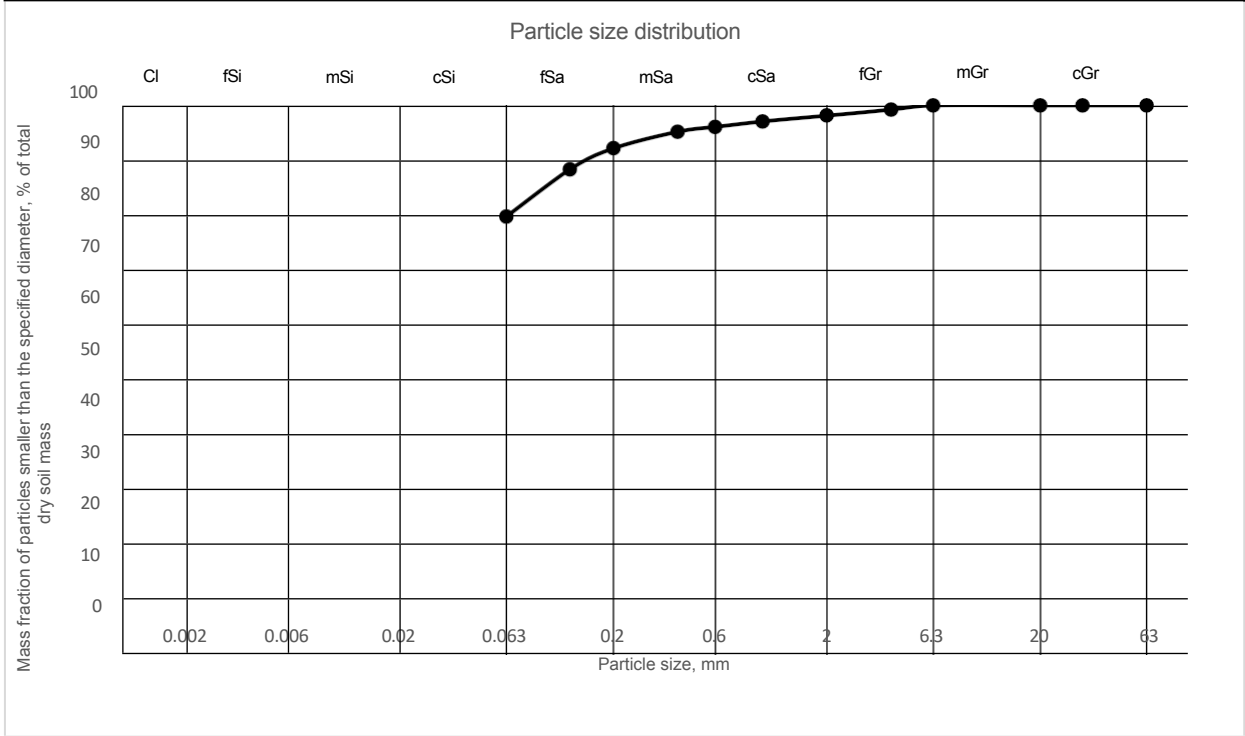
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.7	98.8	97.3	94.6	78.8	23.0	3.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0797	0.1569	2.14		-		-	-	-				
	0.1326	0.1707	1.29		-		-	-					
					20.4								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaP	Name:			Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_145	Gr.52	5	D	13.00	3:00 PM



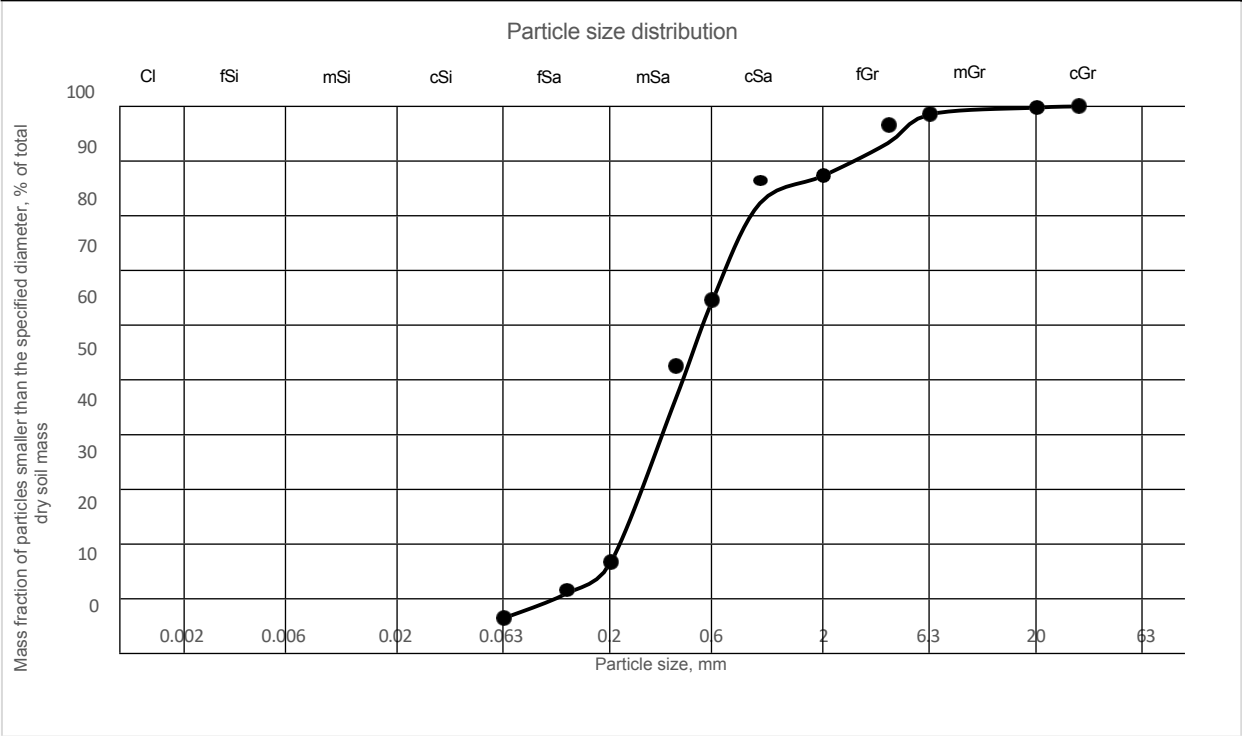
Sieve method (1)		Sieve aperture size, mm																			
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																			
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063								
		100.0	100.0	100.0	100.0	99.8	99.5	99.3	99.1	98.8	87.1	21.8	2.5								
Hydrometer method (2)		Particle size, mm																			
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																			
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1								
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1									
		0.0822	0.1531	2.00						-	-	-									
		0.1326	0.1646	1.30						-	-	-									
Soil density (5)		ρ , Mg/m ³		Particle density (6)		ρ_s , Mg*m ⁻³		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s			
																				ρ_d , Mg*m ⁻³	
Soil classification*																					
Index:		SaP		Name:		Poorly sorted sand															
Notes:																					
Soil classification DIN 18196:2023-02*																					
Index:		SE																			
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																			

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_146	Gr.52	6	D	17.70	19.50



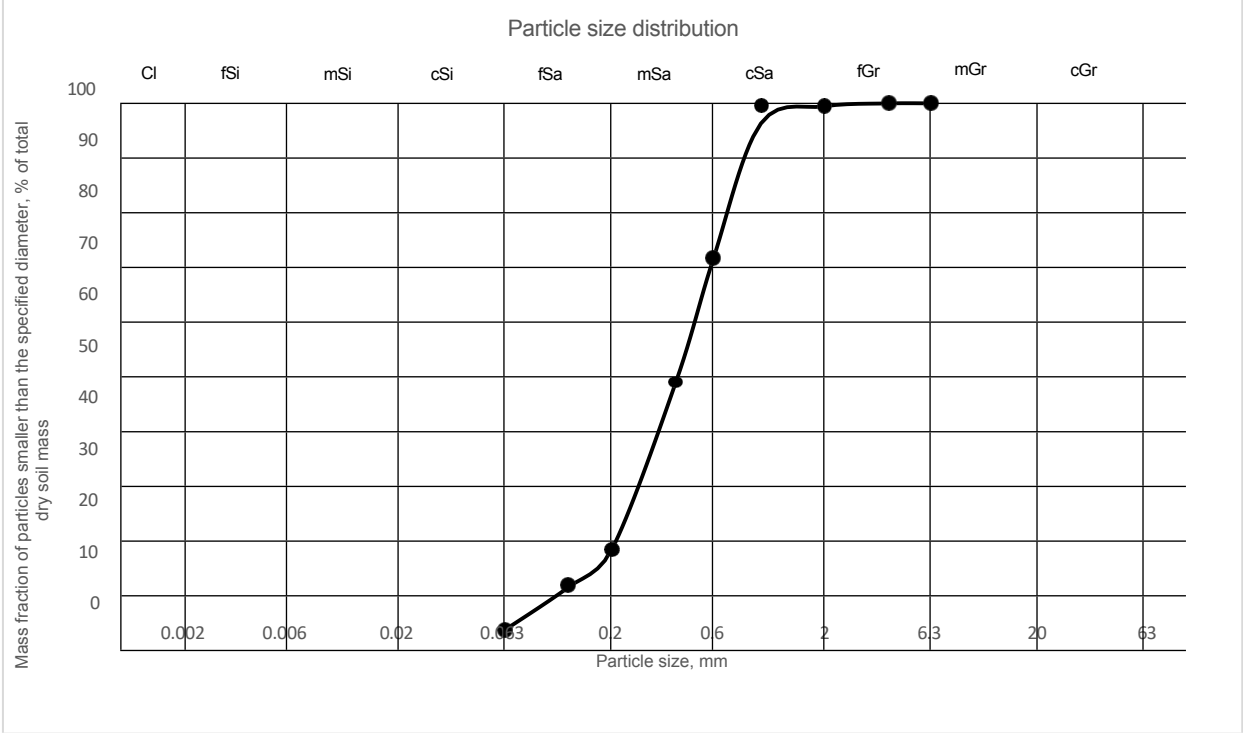
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.2	98.1	97.1	96.1	95.2	92.2	88.4	79.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		24.7		29.7	13.3	0.38				
	-	-	-		95.2		16.4	0.62					
Soil density (5)	ρ , Mg/m ³	Particle density (6)	ρ_s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρ_d , Mg*m ⁻³		e, 1										
	2.049												
	1.659		0.63										
Soil classification*													
Index:	CIL	Name:				low-plasticity clay, soft							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_147	Gr.53	1	D	9.00	10.00



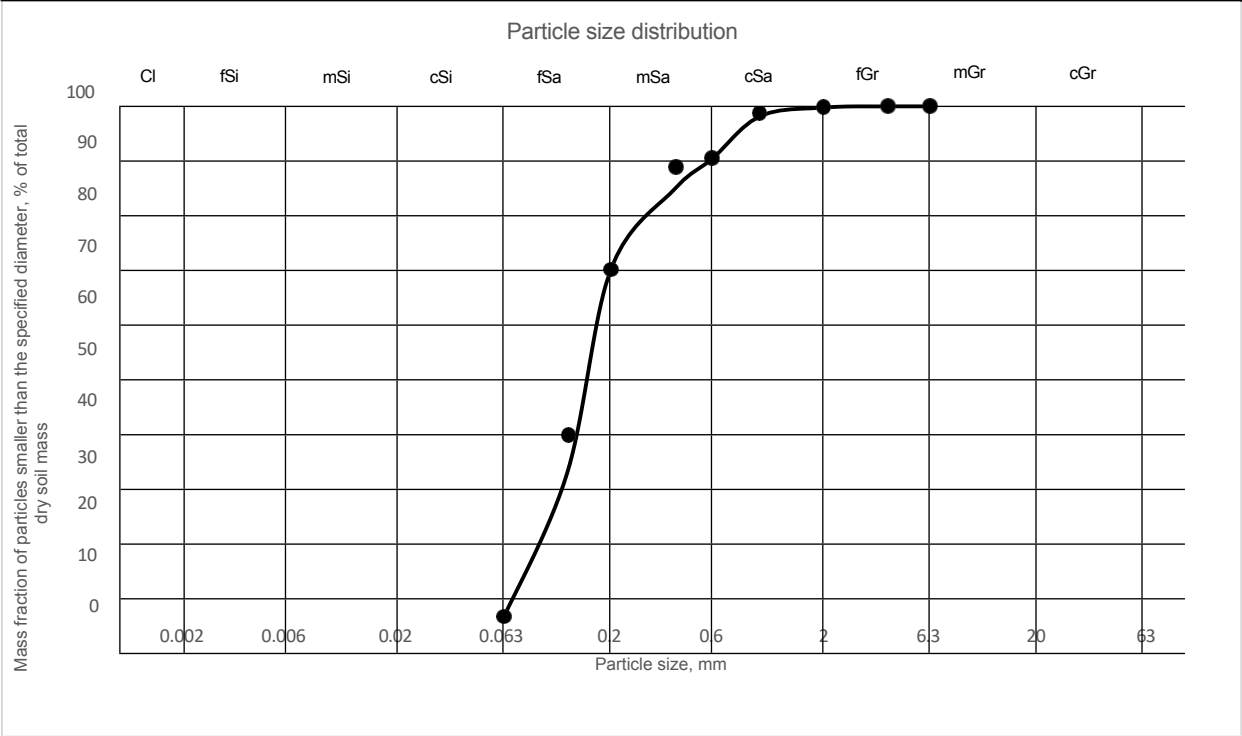
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	99.8	98.5	93.3	87.4	82.3	64.6	46.3	16.7	11.1	6.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1055	0.4345	5.14				-	-	-	-			
	0.2730	0.5423	1.30				-	-	-				
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
										1.3%			
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_148	Gr.53	2	D	10.20	11.80



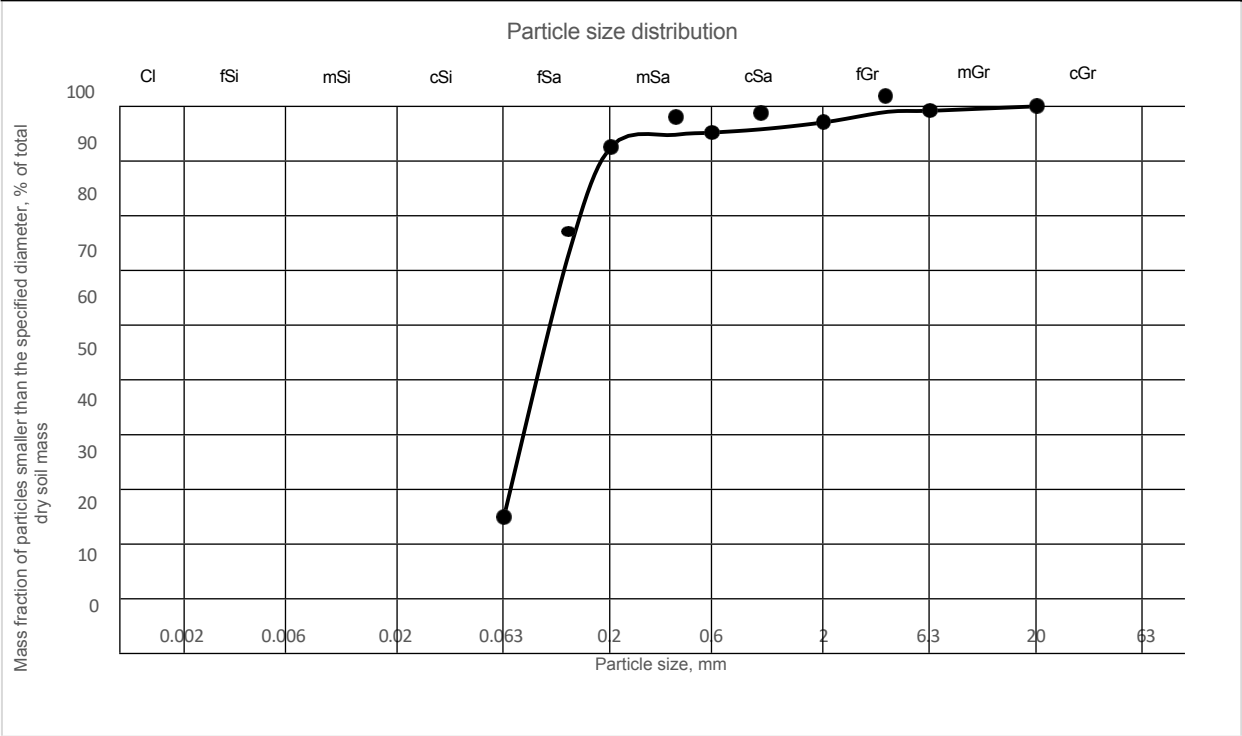
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.5	96.3	71.7	49.2	18.5	11.7	3.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1080	0.4058	4.50		-		-	-	-				
	0.2592	0.4858	1.28		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pe, 1												
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_149	Gr.53	3	D	12.00	12.20



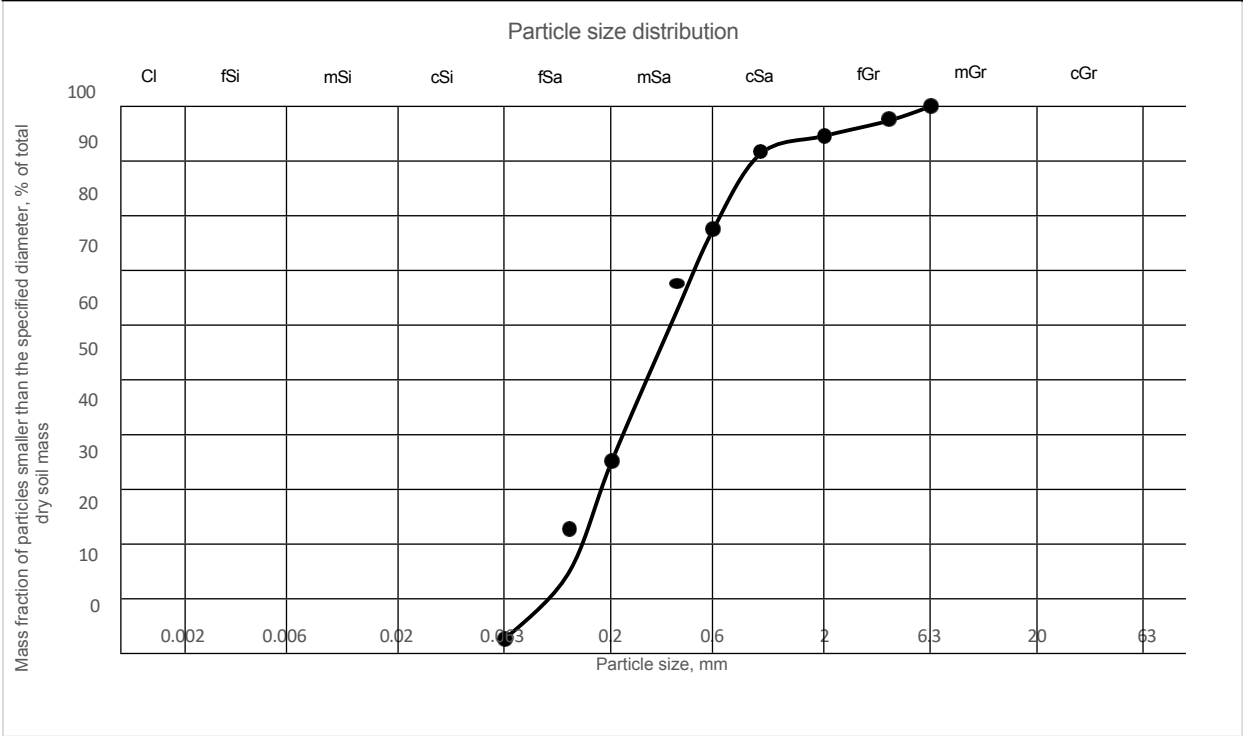
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	98.2	90.5	85.0	70.2	33.1	6.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
	0.0685	0.1548	2.57						30.7	31.6	6.3		
	0.1153	0.1758	1.10						85.0	25.3	0.86	0.14	
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. matter %	Water permeability (4.2)		k10, m/s
	ρd, Mg*m-³												
Soil classification*													
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_150	Gr.53	4	D	12.50	13.00



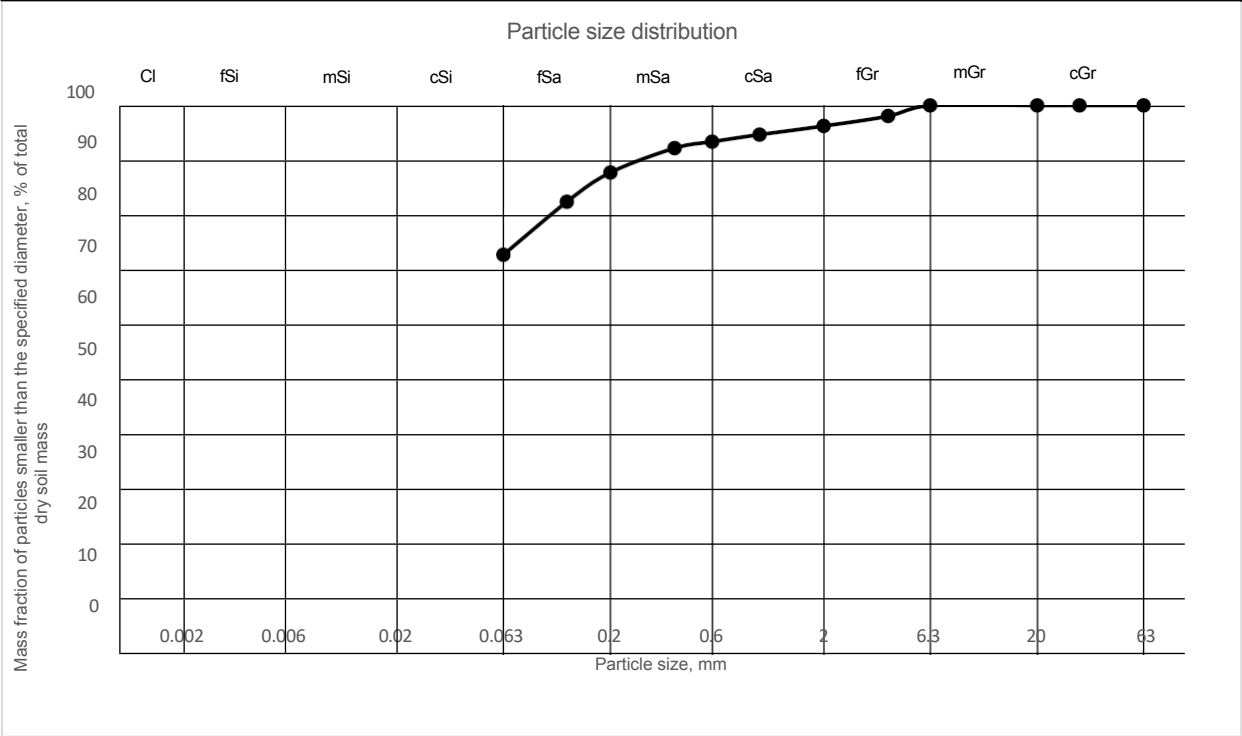
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.2	99.0	97.1	95.8	95.2	94.8	92.6	72.1	25.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0906	-		17.4		22.0	-	-				
	0.0678	0.1048	-		94.8		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:	siSa	Name:				sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_152	Gr.53	6	D	15.50	16.00



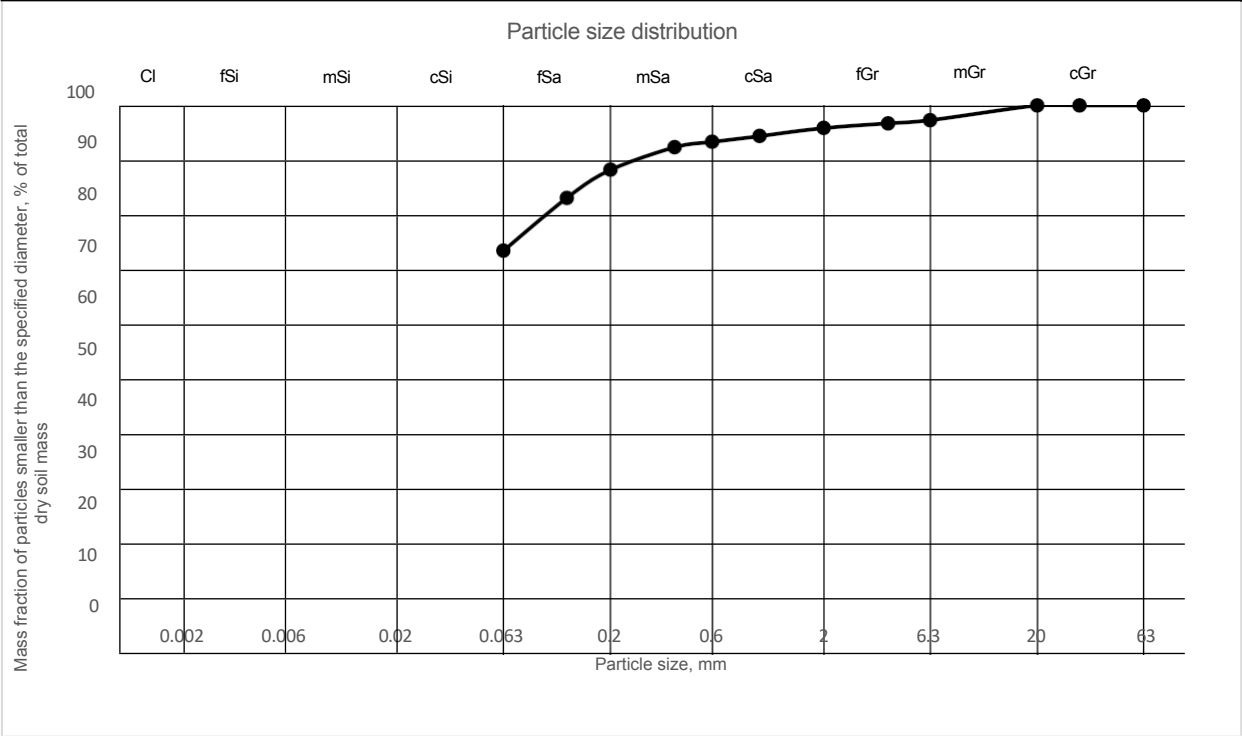
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	97.4	94.6	91.4	77.6	62.3	35.2	14.7	2.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0956	0.2920	3.95		-		-	-	-				
	0.1775	0.3771	0.87		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_153	Gr.53	7	U	16.50	16.90



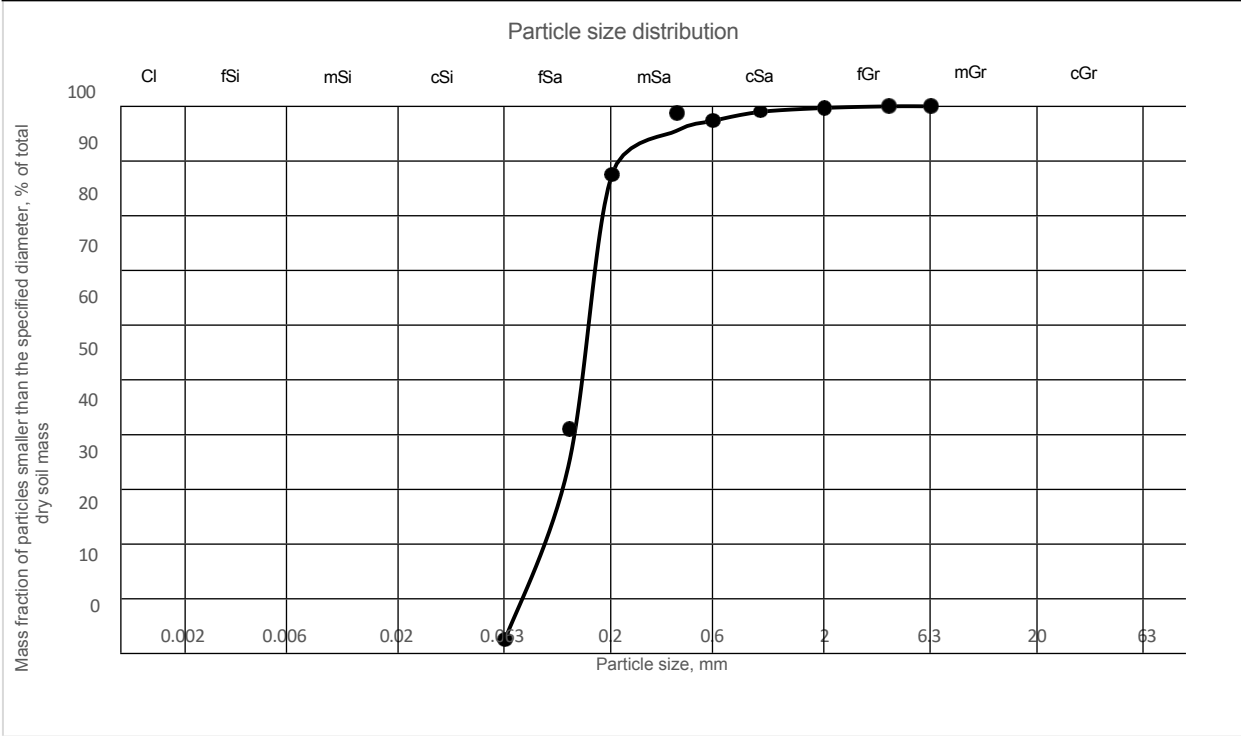
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.0	96.3	94.7	93.4	92.2	87.8	82.5	72.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w _{<0.4} , %	w _L , %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f _{<0.4} , %	w _P , %	IL, 1				
	-	-	-		19.2		27.5	11.6	0.72				
	-	-	-		92.2		15.9	0.28					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρ _s , Mg·m ⁻³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρ _d , Mg·m ⁻³				e, 1								
Soil classification*													
Index:		saCIL		Name:		Sandy clay with low plasticity, firm							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_154	Gr.53	8	U	16.90	17.90



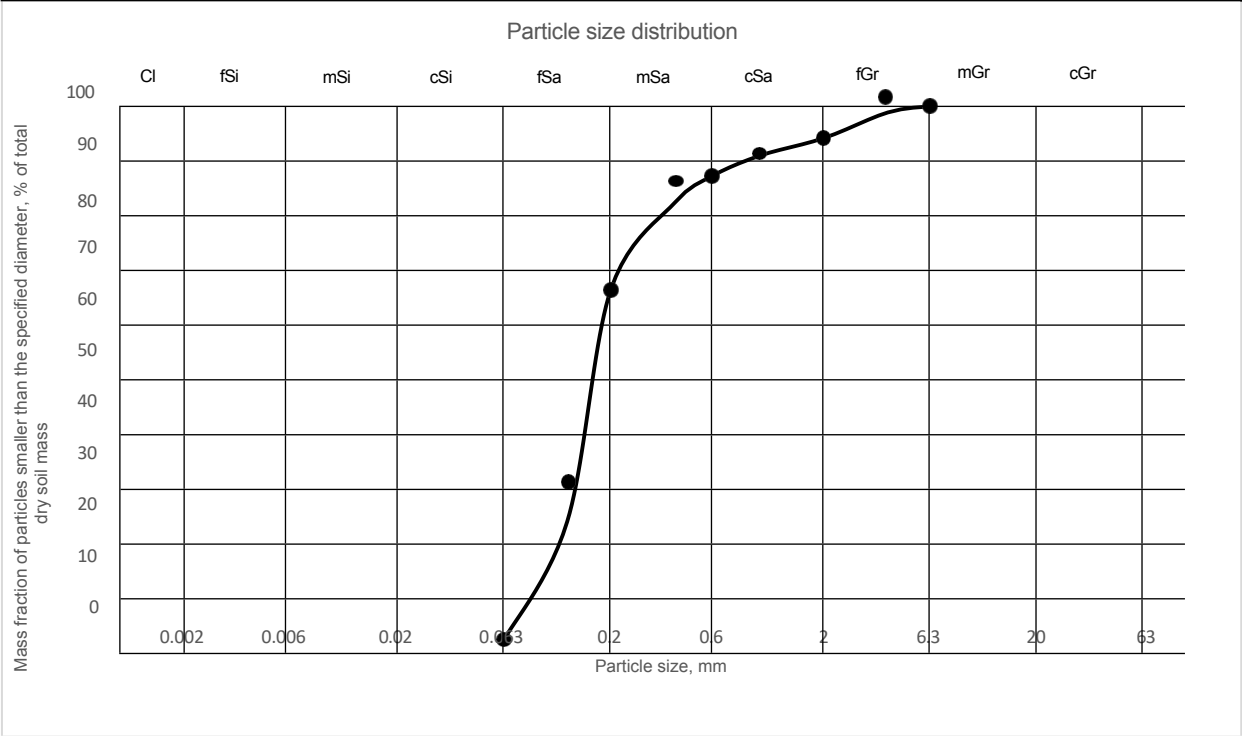
Sieve method (1)		Sieve aperture size, mm																
		Percentage of particles passing through the sieve relative to the total dry soil mass, %																
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063					
		100.0	100.0	100.0	97.3	96.7	95.9	94.4	93.4	92.4	88.3	83.2	73.6					
Hydrometer method (2)		Particle size, mm																
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1					
		-	-	-							23.4	29.1	12.3					
		-	-	-							92.4	16.8	0.53					
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³																
		2.053																
		1.689																
Soil classification*																		
Index:		saCIL		Name:			Sandy clay with low plasticity, soft											
Notes:																		
Soil classification DIN 18196:2023-02*																		
Index:		TL																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_155	Gr.54	1	D	9.50	9.90



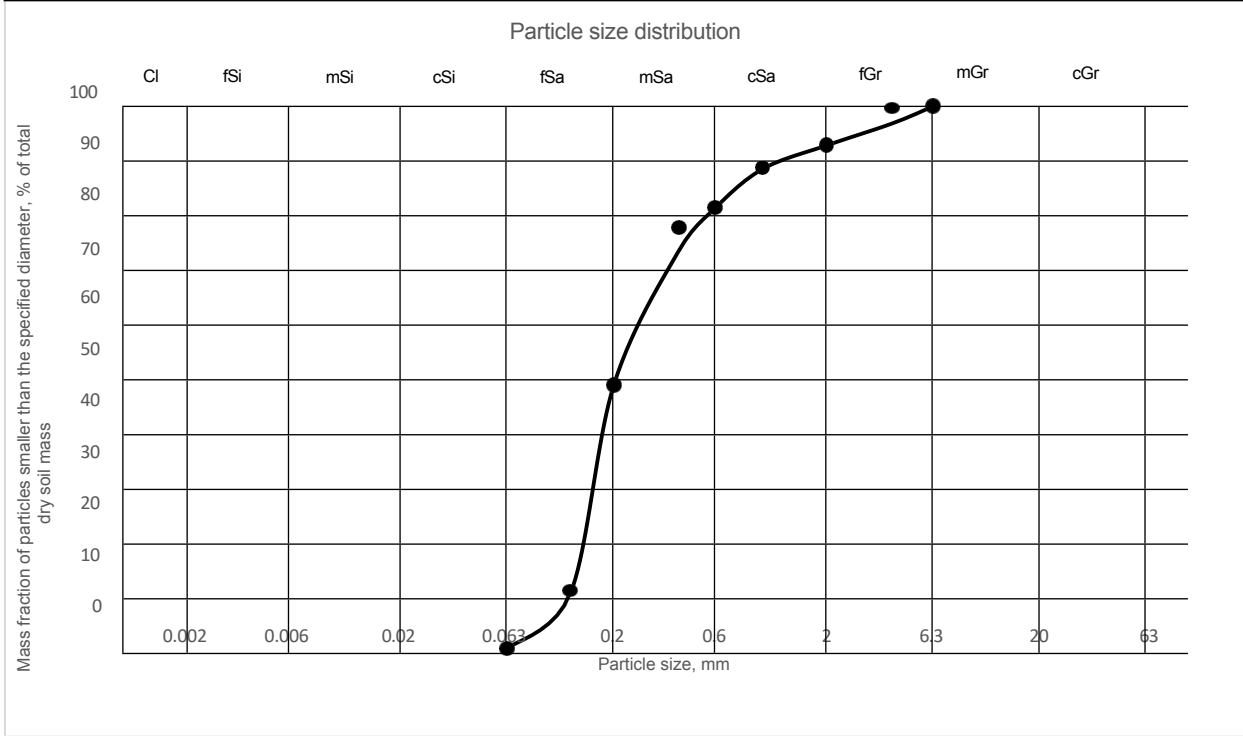
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.7	99.0	97.4	95.5	87.5	34.2	2.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0740	0.1437	2.12		-		-	-	-				
	0.1141	0.1569	1.12		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_156	Gr.54	2	D	9.90	10.30



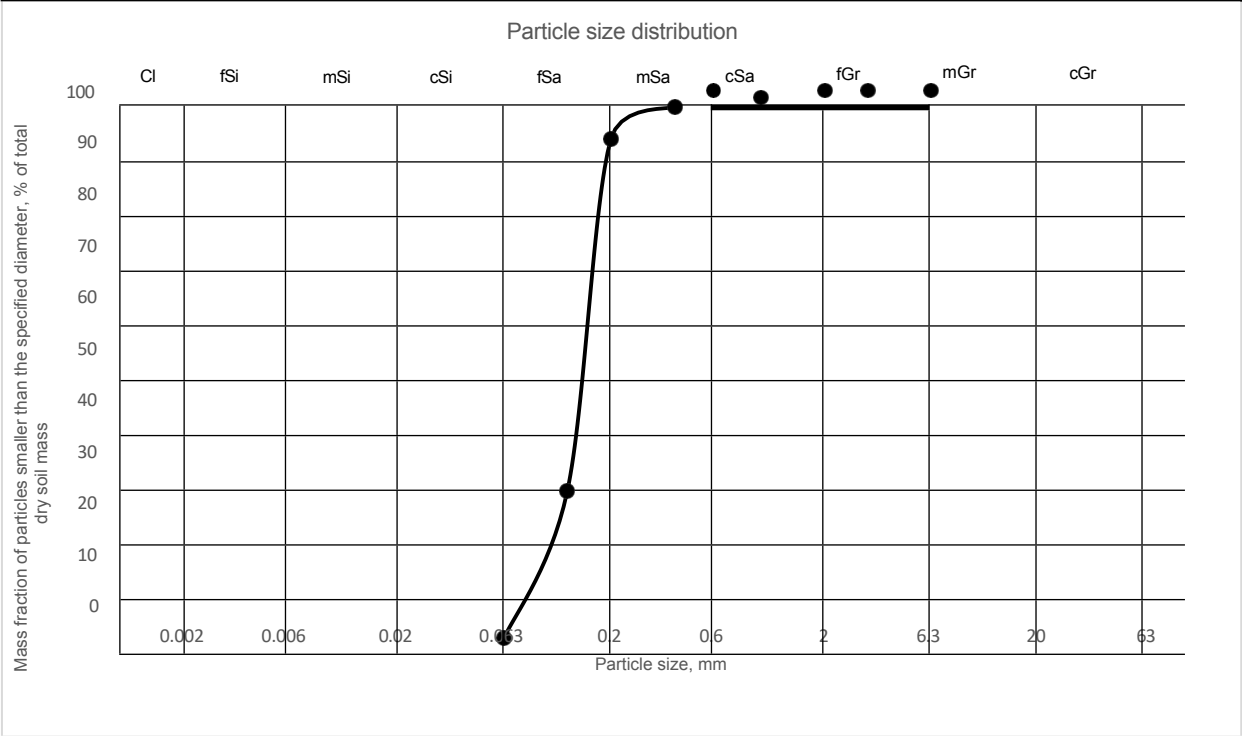
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	98.9	94.2	91.0	87.3	82.5	66.5	24.2	2.6	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0797	0.1665	2.34						-	-	-	-	
		0.1333	0.1861	1.20						-	-	-		
		Soil density (5)		ρ, Mg/m³						Particle density (6)		ps, Mg*m-3	Porosity (7)	
pd, Mg*m-³														
Soil classification*														
Index:		SaP		Name:			Poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_157	Gr.54	3	D	10.50	11.20



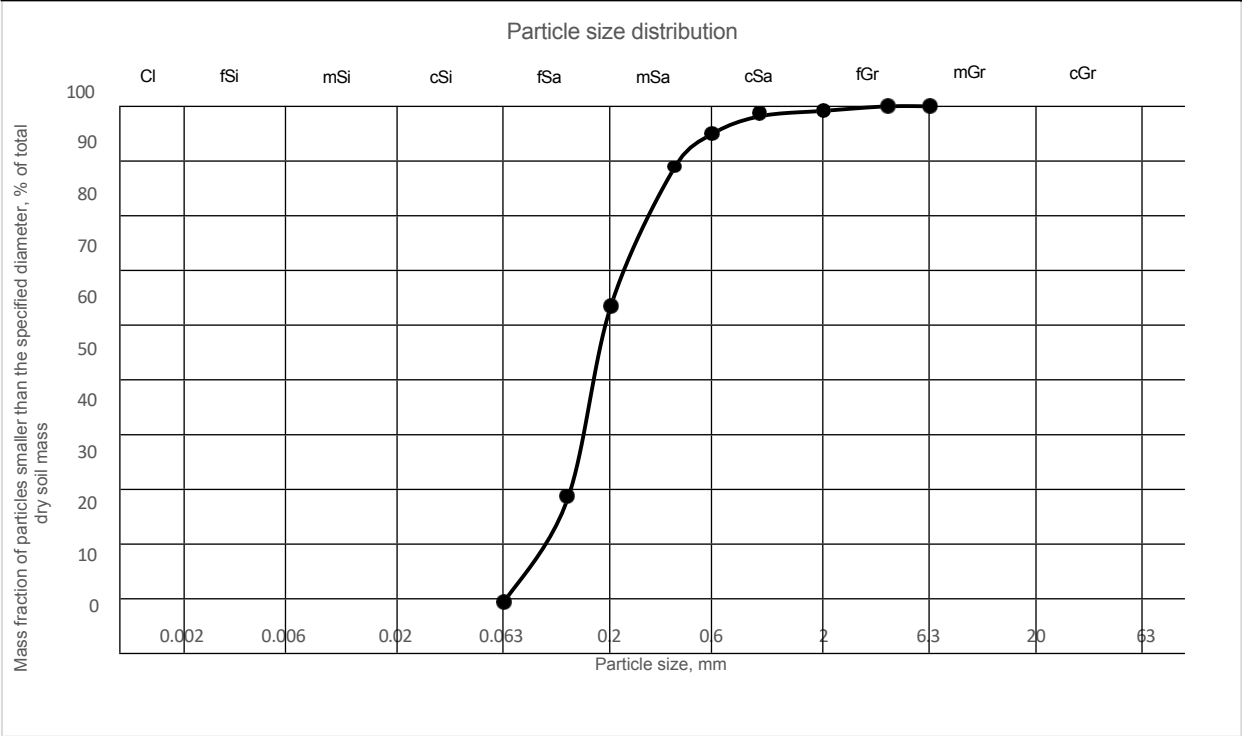
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	96.8	92.9	88.6	81.5	73.4	49.1	11.0	1.0	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
	0.1167	0.2052	2.34						-	-	-			
	0.1580	0.2729	0.78			-			-	-	-			
						20.9								
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
	pd, Mg*m-³													
Soil classification*														
Index:		SaP		Name:			poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_158	Gr.54	4	D	14.00	3:00



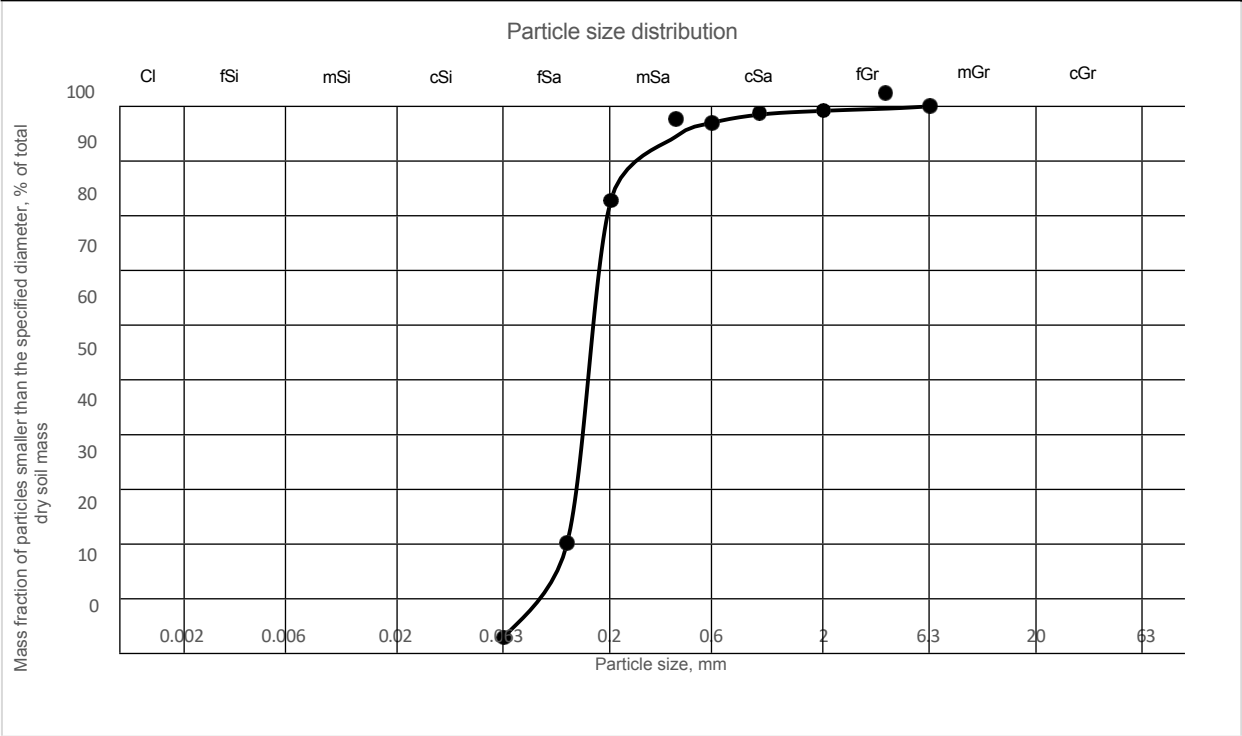
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	94.0	29.7	2.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
	0.0755	0.1450	2.07						-	-	-		
	0.1253	0.1560	1.33			-			-	-	-		
						19.5							
Soil density (5)	ρ, Mg/m³		Particle density (6)	ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %		Water permeability (4.2)	k10, m/s	
	ρd, Mg*m-³												
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_159	Gr.55	1	D	9.10	9.50



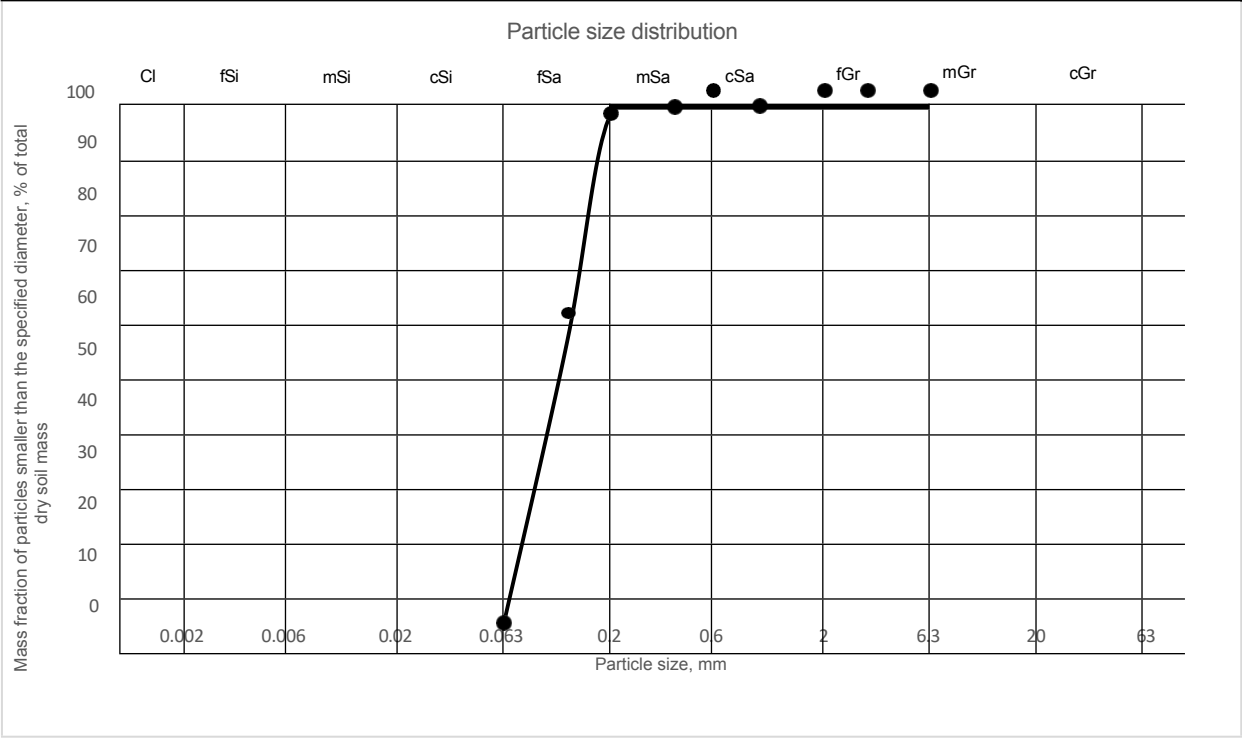
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	99.2	98.2	95.0	89.0	63.5	28.1	9.5	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0642	0.1672	2.98						-	-	-	-	
		0.1282	0.1909	1.34						-	-	-		
Soil density (5)		p, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
Soil classification*														
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_160	Gr.55	2	D	10.00	11.00



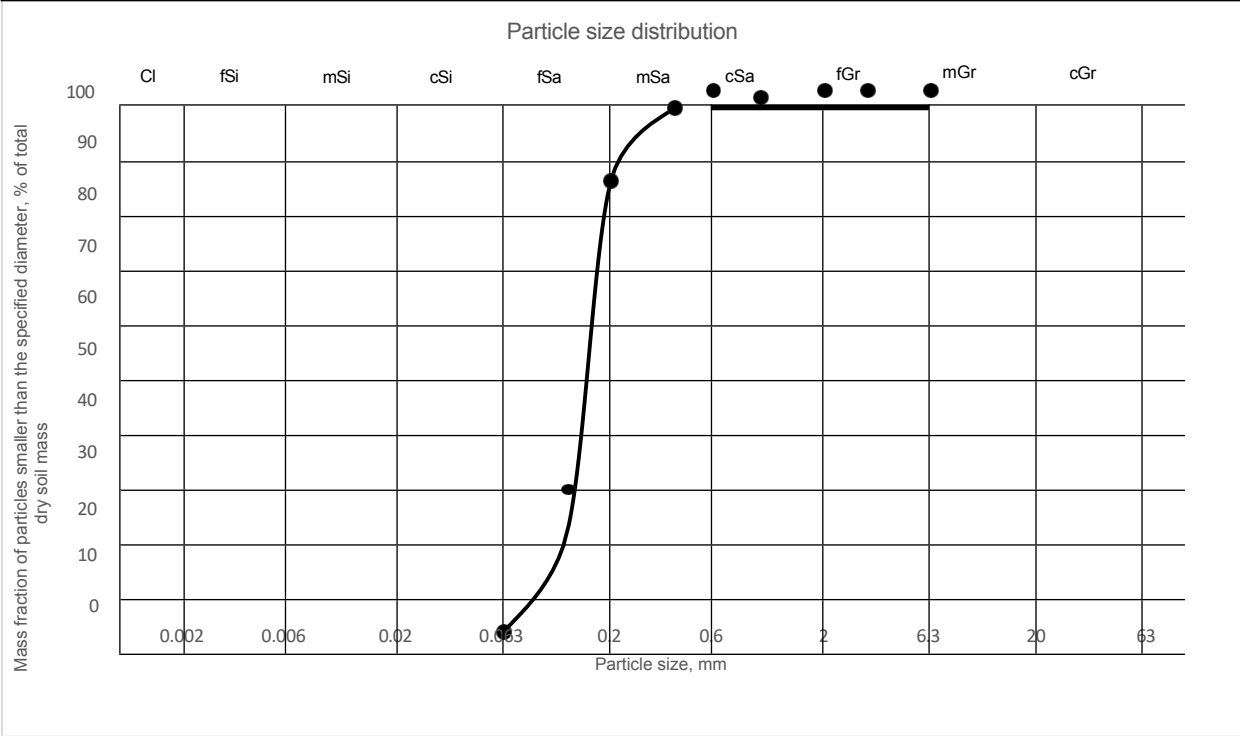
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	99.6	99.2	98.5	97.0	94.4	82.8	20.3	3.0		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0831	0.1563	2.03								-	-	-	-
		0.1345	0.1685	1.29								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
Soil classification*															
Index:		SaP		Name:			Poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_161	Gr.55	3	D	15.00	17.00



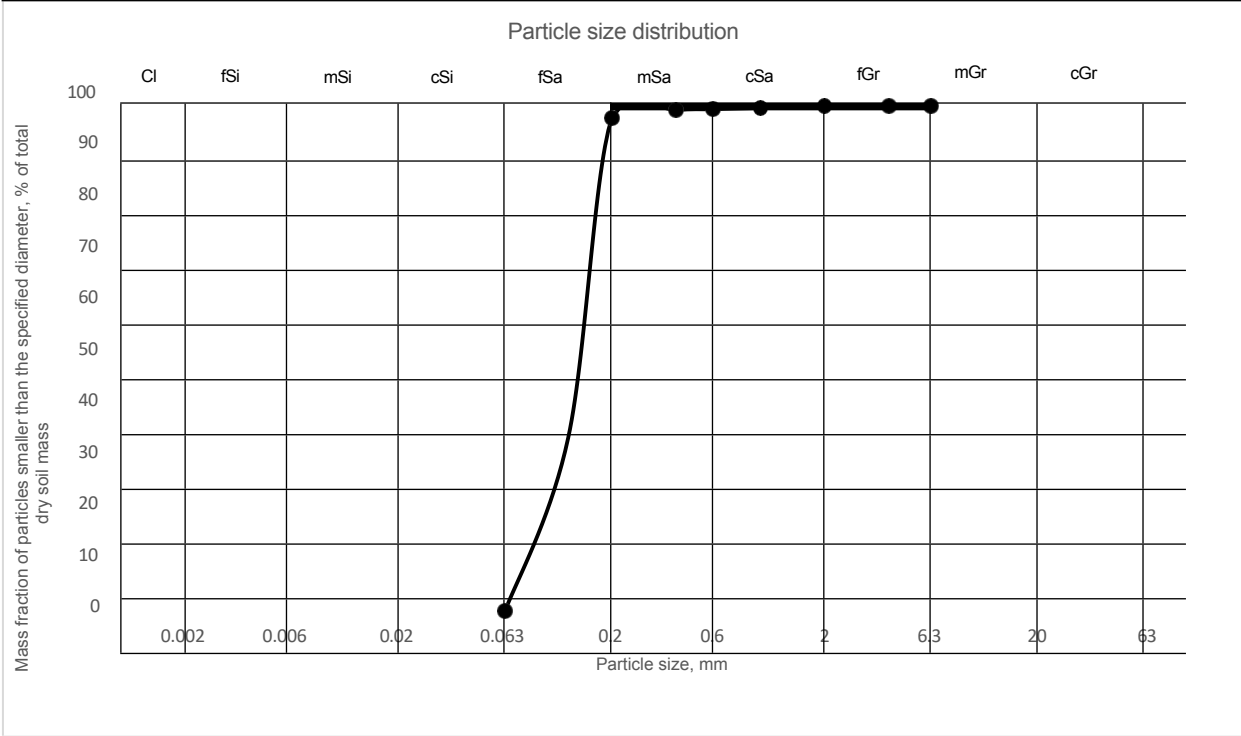
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	98.7	57.1	5.6		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		0.0668	0.1137	1.93						-	-	-			
		0.0872	0.1292	0.88						-	-	-			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³													
		1.861													
		1.528													
Soil classification*															
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SU													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_162	Gr.58	1	U	1.40	1.70



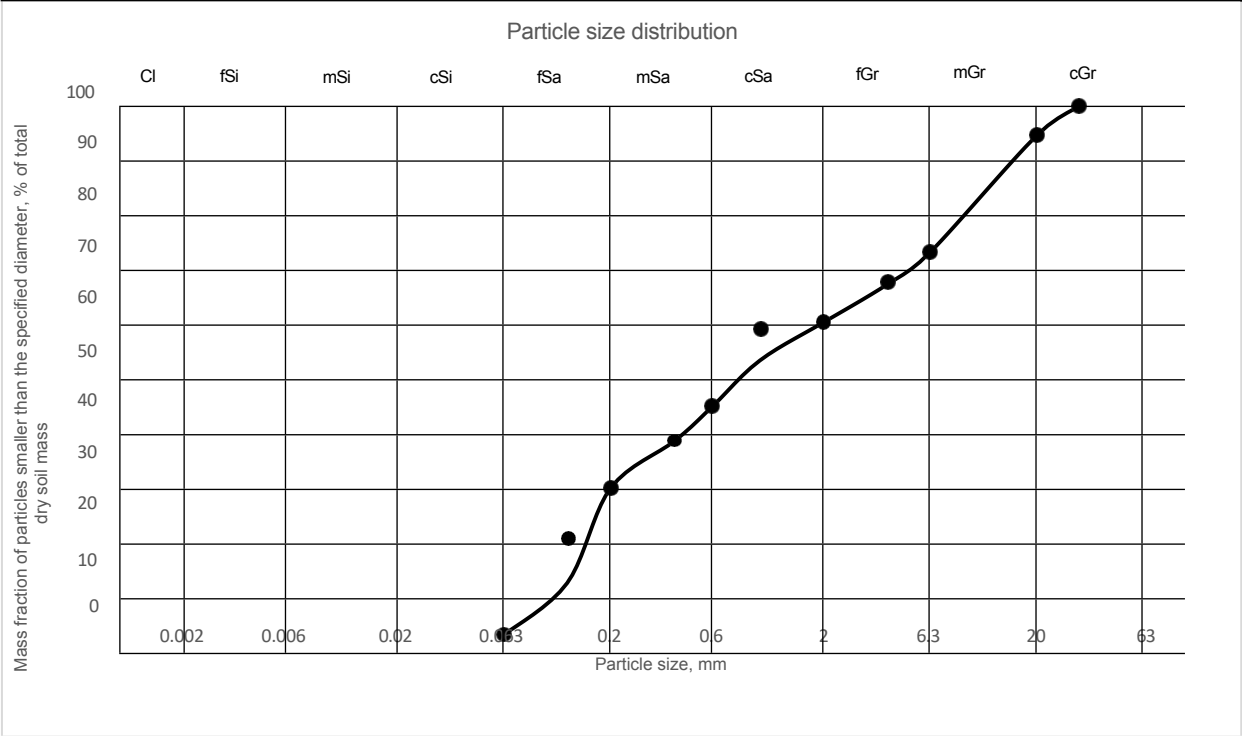
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	86.3	22.3	4.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0789	0.1532	2.09		-		-	-	-				
	0.1323	0.1649	1.35		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.998												
	1.593		2.63		0.65		0.8%			7.2×10 ⁻⁶			
Soil classification*													
Index:	SaP	Name:			poorly graded sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_163	Gr.58	2	U	7.30	7.60



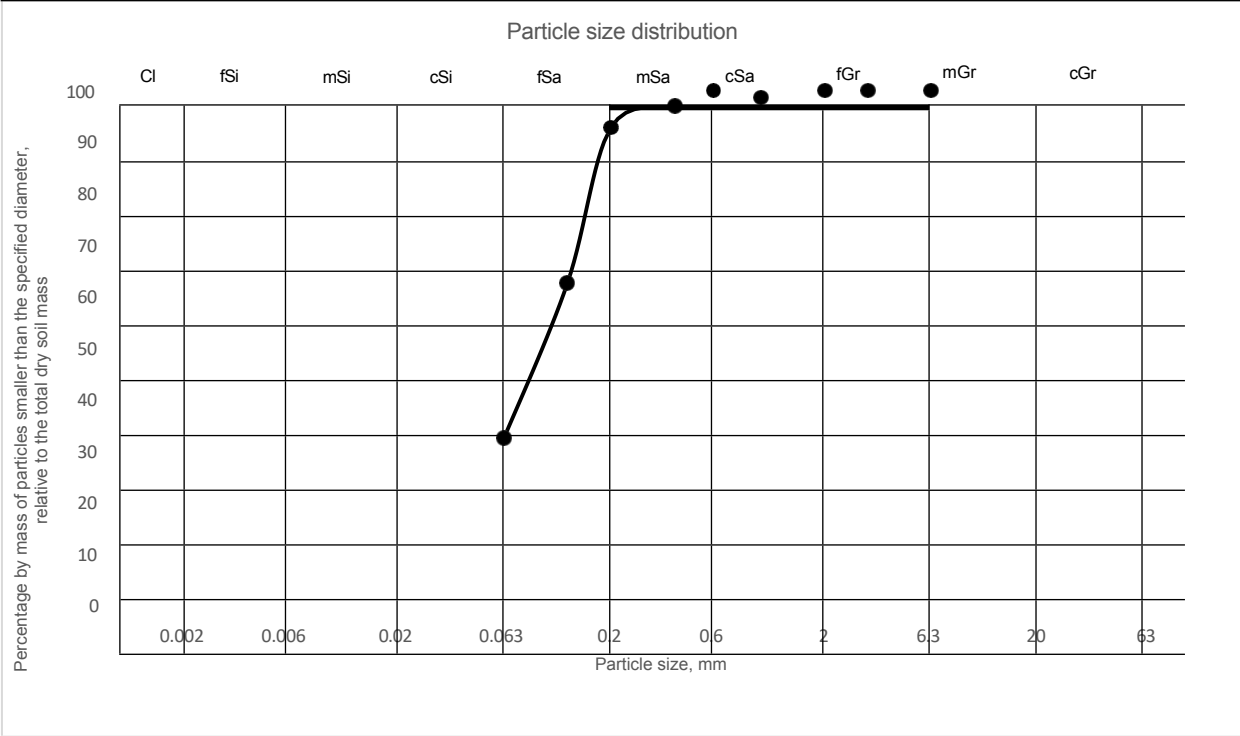
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.5	99.3	97.9	39.5	7.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0661	0.1360	2.23		-		-	-	-				
	0.1018	0.1474	1.06		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1		1.5%									
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_164	Gr.58	3	D	10.40	10.70



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	94.8	73.3	67.6	60.6	53.6	45.2	39.0	30.3	13.0	3.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1006	0.8022	18.75				-	-	-				
	0.1982	1.8850	0.21		-		-	-					
					11.4								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.918												
	1.722		0.54										
Soil classification*													
Index:		grSaG		Name:			Gravelly sand of a stepped structure						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SI											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

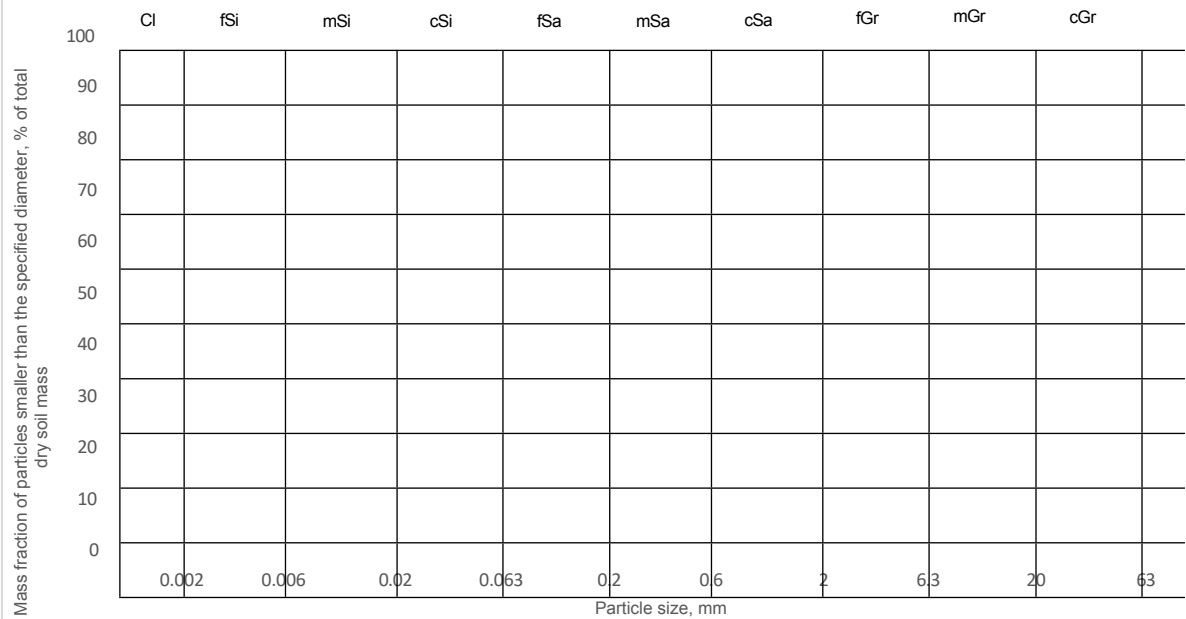
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_165	Gr.58	4	U	13.50	13.80



Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.1	67.6	39.4						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1				
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1					
		-	0.0815	-								15.6	15.6	15.6	18.9	2.4	1.38		
		-	0.1039	-								15.6	16.5	-0.38					
Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		pd, Mg*m-3																	
Soil classification*																			
Index:		saSiL			Name:			sandy, low-plasticity silt, very stiff											
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU*																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

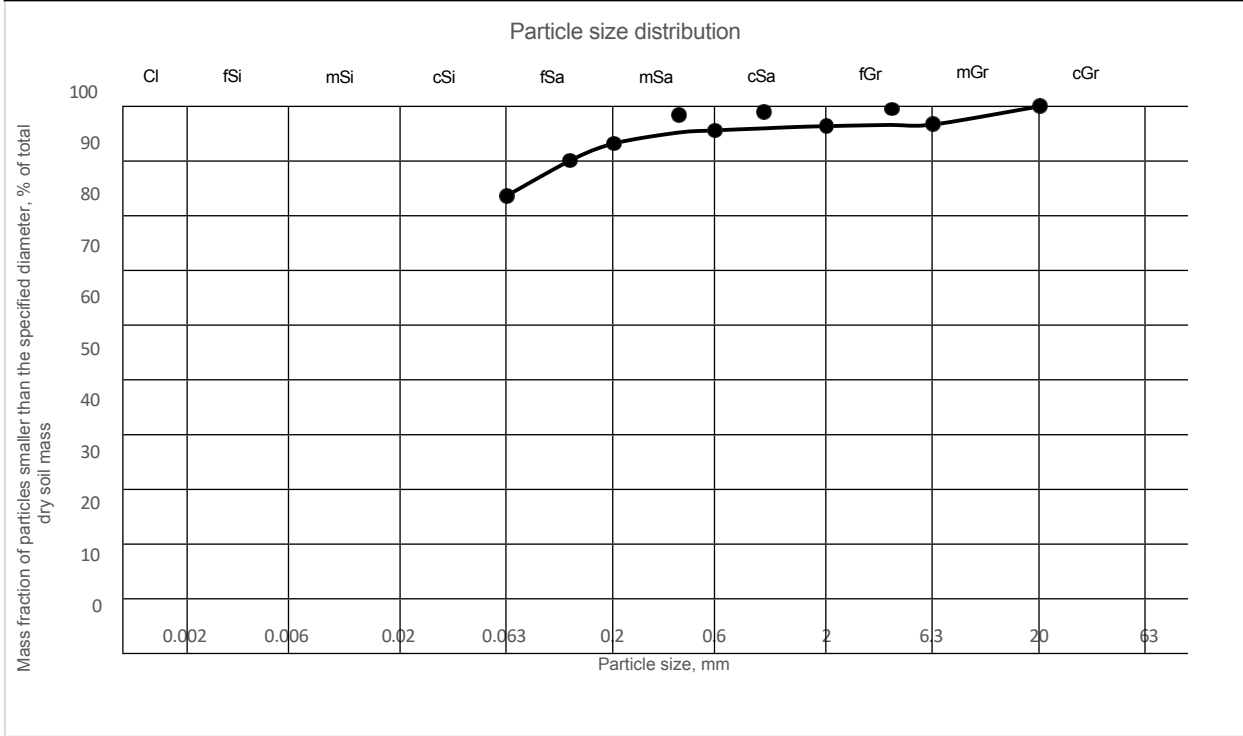
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_166	Gr.58	5	D	15.80	16.30

Particle size distribution



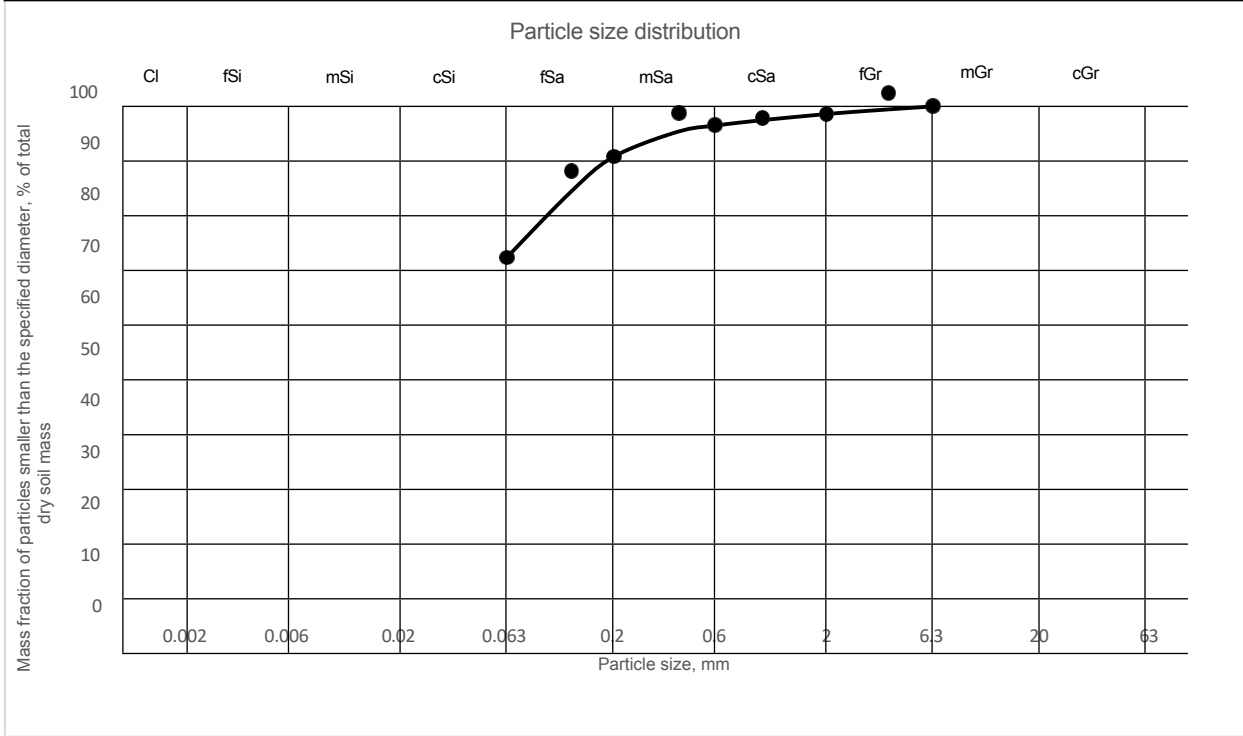
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0402	0.0291	0.0210	0.0151	0.0082	0.0061	0.0045	0.0027	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0031	-		22.8		22.8	43.7	19.1	1.09		
	-	0.0046	-				-	24.6	-0.09			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pe, Mg*m-³				e, 1							
	2.007											
	1.635		0.65									
Soil classification*												
Index:		CIM	Name:		medium-plasticity clay, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TM										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_167	Gr.31	1	D	28.80	30.10



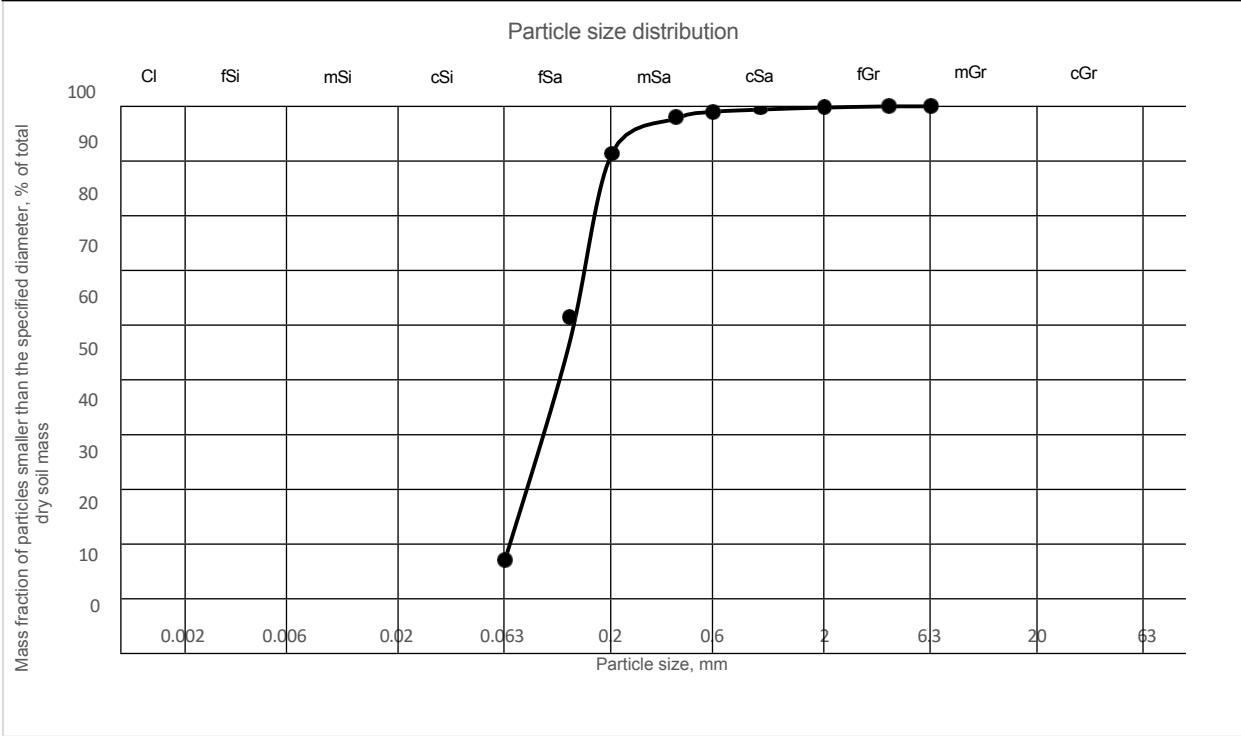
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	96.7	96.6	96.4	96.0	95.6	95.2	93.2	90.1	83.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.198												
	1.887		0.42										
Soil classification*													
Index:				Name:									
Remarks: Non-cohesive soil													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_168	Gr.31	2	U	30.10	30.60



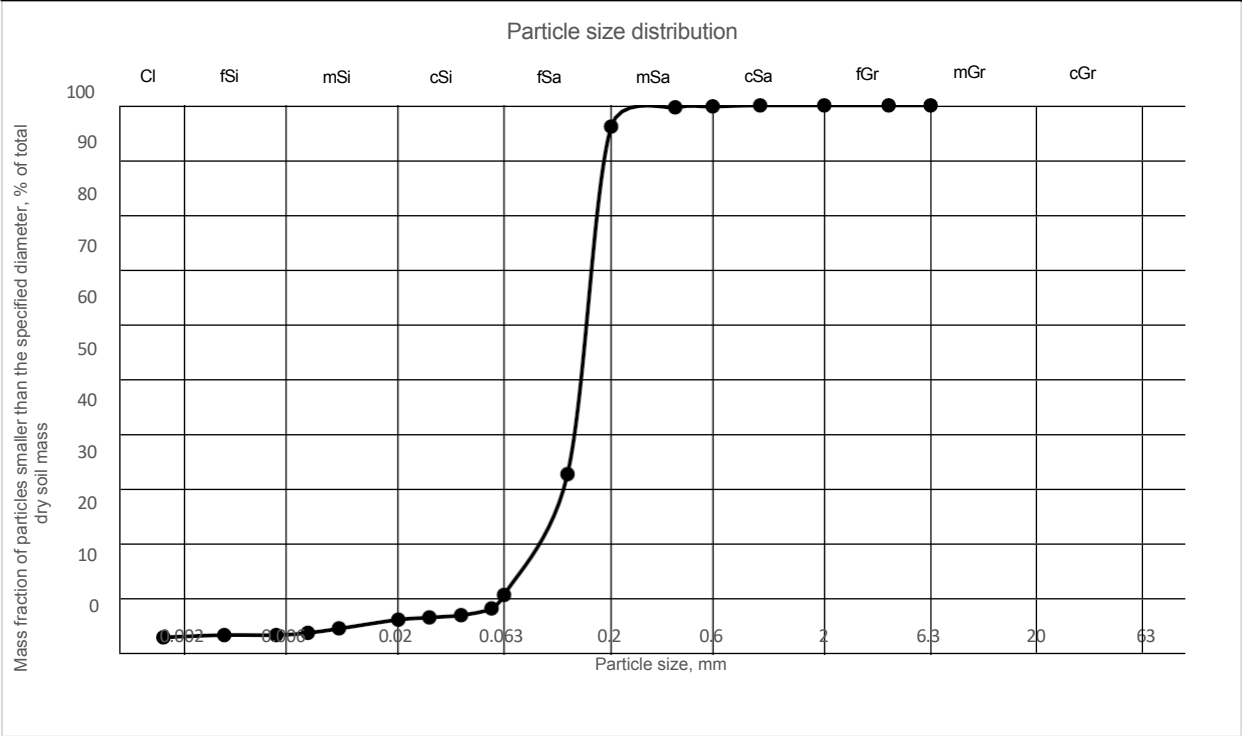
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	98.6	97.5	96.5	95.4	90.8	84.3	72.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.324												
	2.095		0.28										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_169	Gr.32	1	D	5.10	5.40



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.4	99.0	97.8	91.4	55.9	17.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.1126	-		43.3		45.1	10.7	0.17				
	0.0791	0.1320	-		97.8		34.4	0.83					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.768												
	1.243		2.62		1.11		3.2%			7.1×10 ⁻⁸			
Soil classification*													
Index:	osiSa	Name:			sandy soil with a small amount of organic matter								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

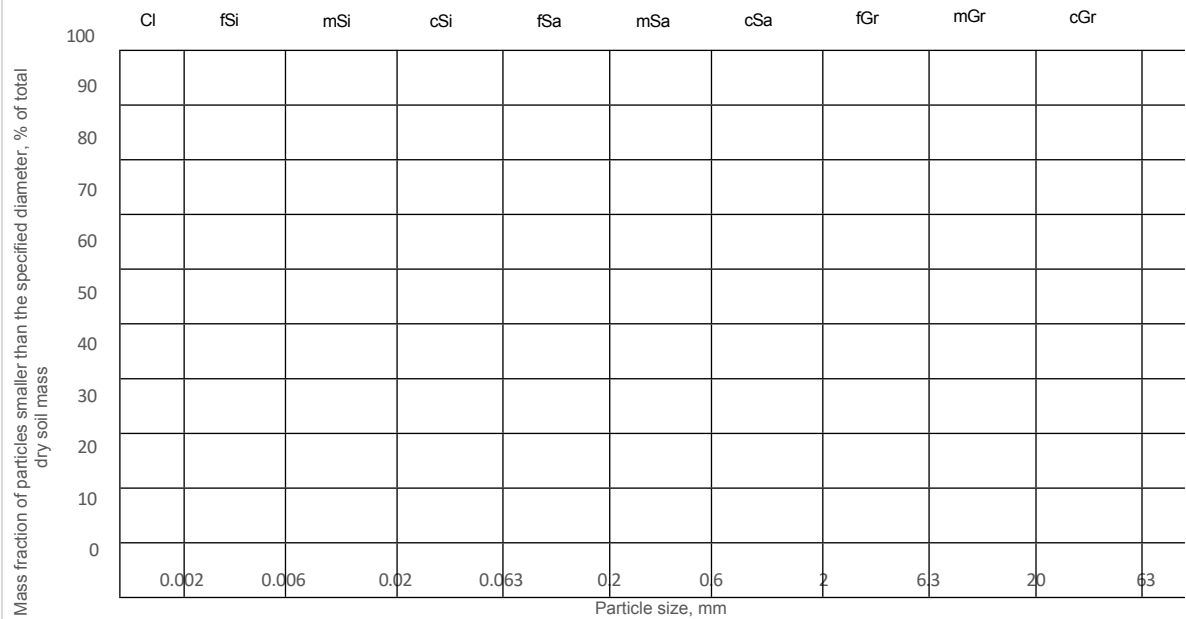
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_170	Gr.32	2	D	7.40	7.70



Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	96.1	32.9	10.9		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
			0.0550	0.0396	0.0282	0.0201	0.0106	0.0076	0.0054	0.0031	0.0016				
			8.4	7.2	6.8	6.4	4.8	4.0	3.6	3.6	3.2				
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		0.0600	0.1420	2.55						-	-	-			
		0.1142	0.1529	1.42						-	-	-			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³													
		1.855													
		1.380													
Soil classification*															
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SU*													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_171	Gr.32	3	U	22.50	23.00

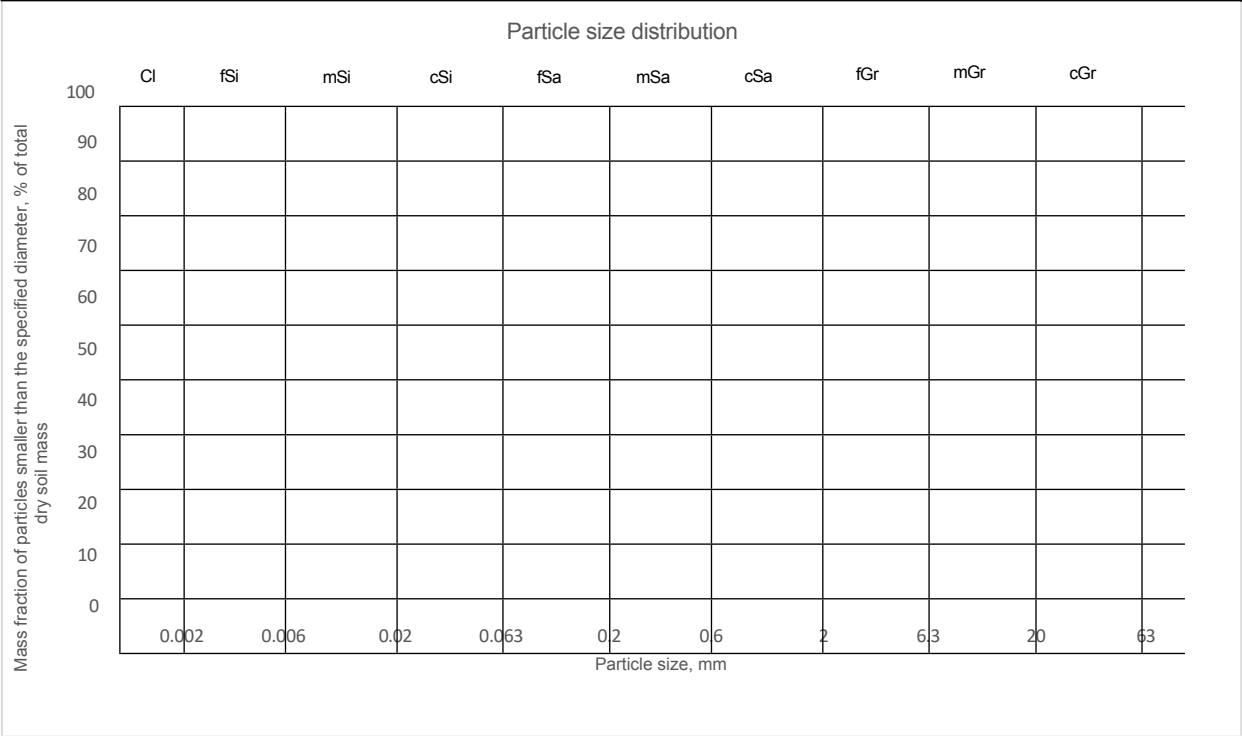
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
			0.0437	0.0309	0.0220	0.0156	0.0083	0.0061	0.0044	0.0027	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		25.9		50.5	24.7	1.00			
	-	0.0022	-		-		25.8	0.00				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
	2.046											
	1.625		0.68									
Soil classification*												
Index:		CIH	Name:		highly plastic clay, stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TA										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

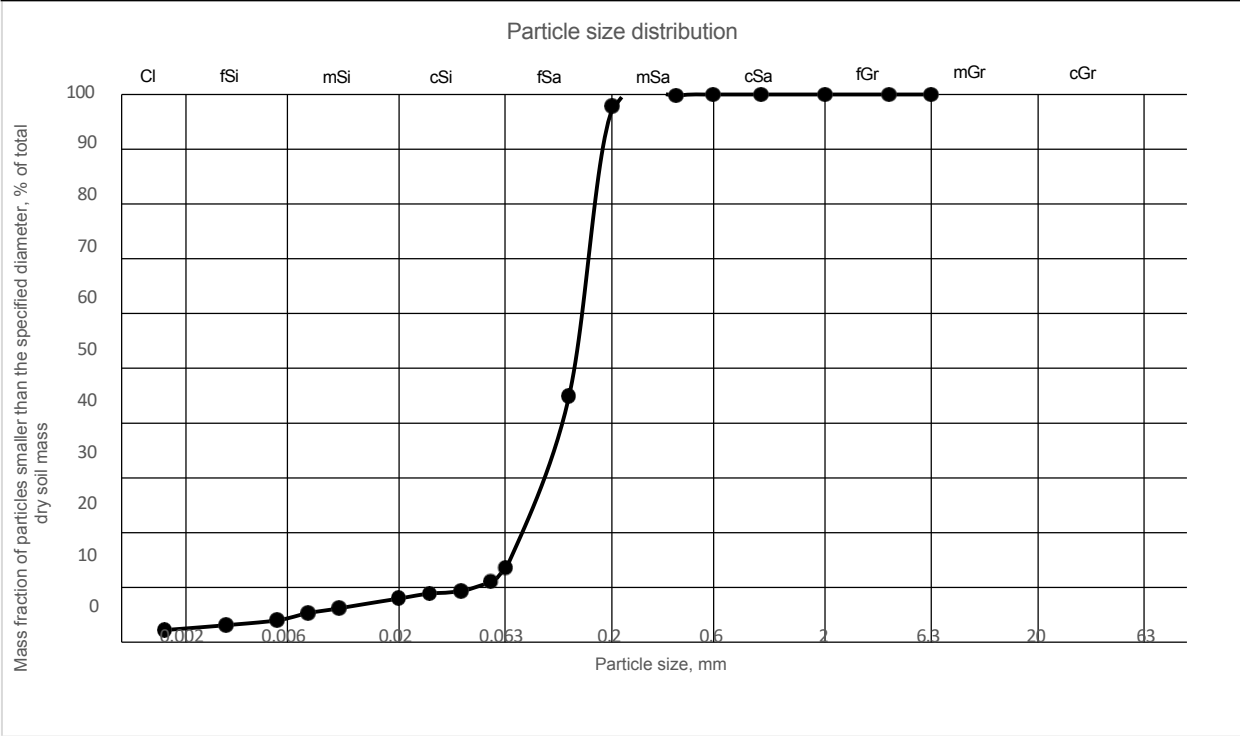


Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Fig. 1)	Test No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_173	Gr.33	2	U	23.10	23.60



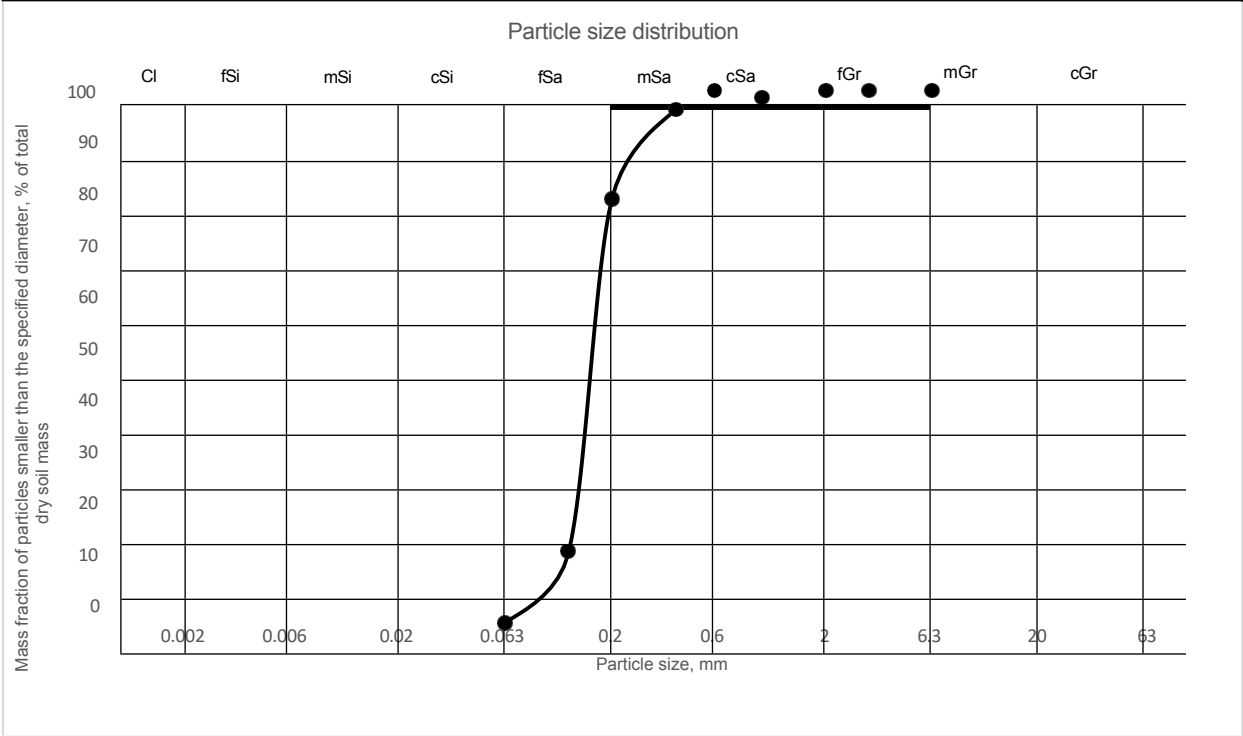
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
Hydrometer method (2)		Particle size, mm												
		Percentage of particles smaller than the specified diameter by mass, % of total dry soil mass												
			0.0420	0.0303	0.0225	0.0165	0.0091	0.0067	0.0048	0.0028	0.0015			
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1				
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1					
	-	0.0076	-				21.0	45.7	19.9					
	0.0016	0.0114	-				-	25.8	-0.24	1.24				
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s					
	pd, Mg*m-³				e, 1									
	2,018													
	1.668				0.61									
Soil classification*														
Index:		CIM	Name:			medium-plasticity clay, very stiff								
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		TM												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_174	Gr.34	1	D	6.10	6.40



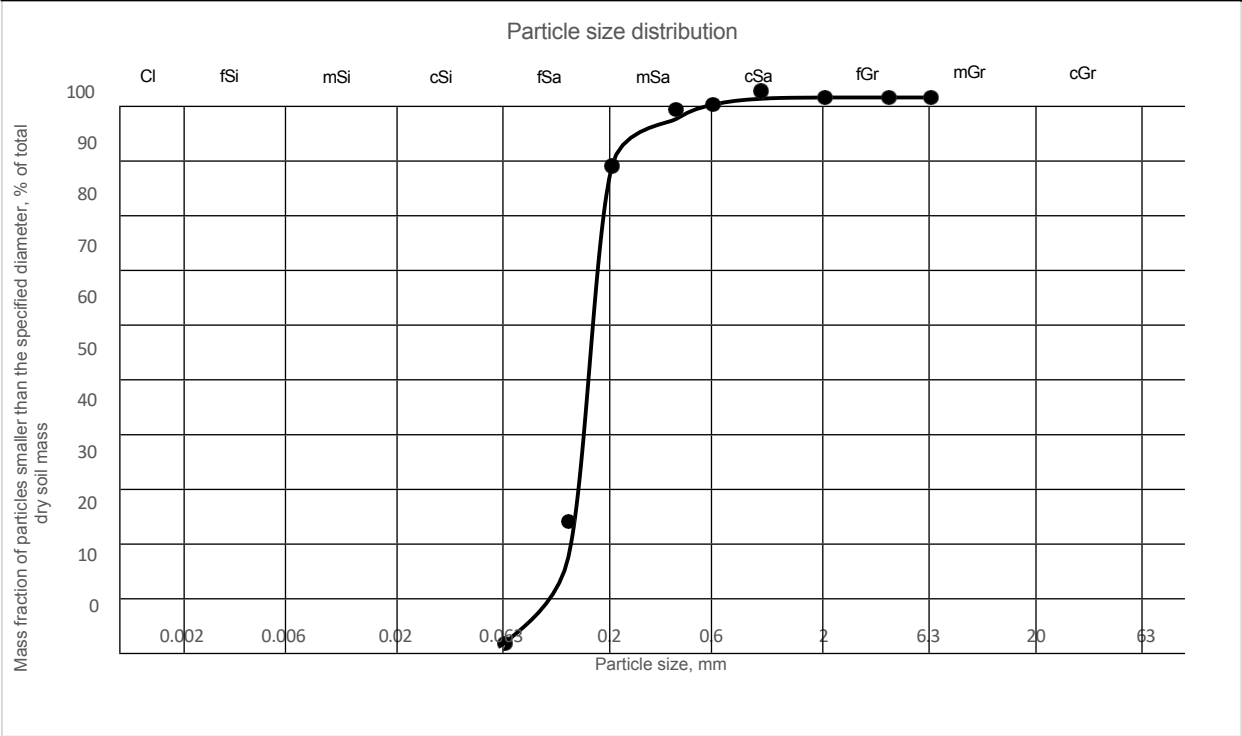
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	97.8	44.9	13.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0540	0.0392	0.0279	0.0199	0.0105	0.0075	0.0054	0.0031	0.0016		
			11.1	9.3	8.9	8.0	6.2	5.3	4.0	3.1	2.2		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0443	0.1308	3.22				-	-	-				
	0.0903	0.1429	1.29				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP	Name:				Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_175	Gr.34	2	D	9.10	9.40



Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.4	83.0	18.3	5.6
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	0.0799	0.1574	2.12		-		-	-	-			
	0.1361	0.1692	1.37		-		-	-				
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg·m ⁻³		Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s
pd, Mg·m ⁻³		e, 1										
						1.1%						
Soil classification*												
Index:	SaFP	Name:		slightly silty-clayey poorly sorted sand								
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SU											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

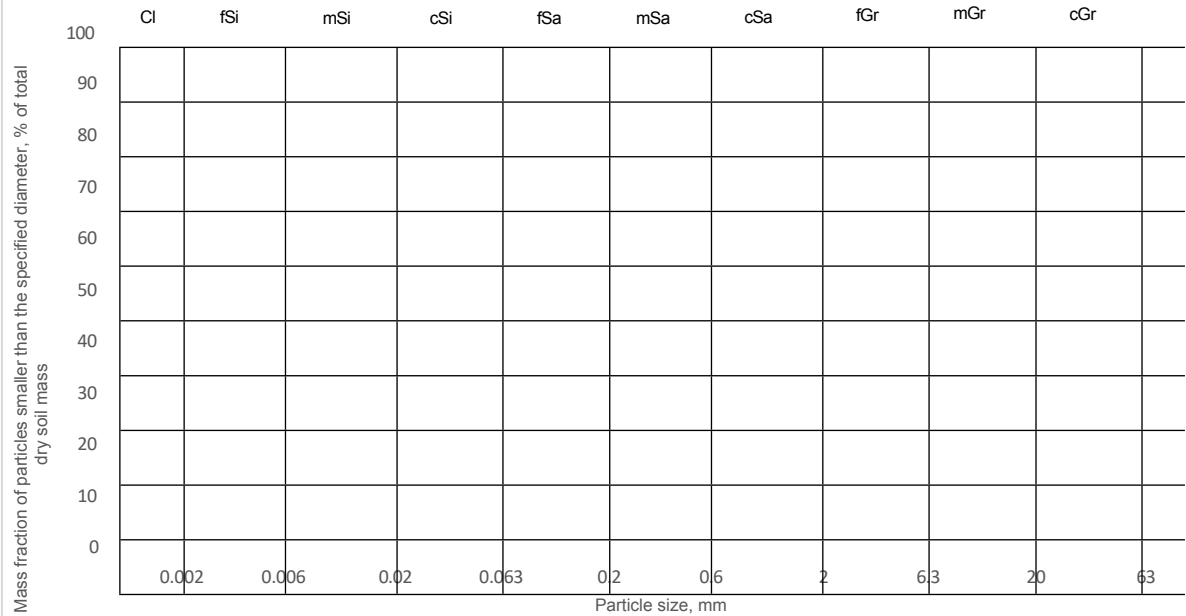
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_176	Gr.34	3	U	14.40	14.70



Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.7	96.1	87.5	16.1	0.3		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0959	0.1563	1.74								-	-	-	-
		0.1370	0.1669	1.17								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
Soil classification*															
Index:		SaP		Name:			Poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_177	Gr.34	4	U	18.00	18.50

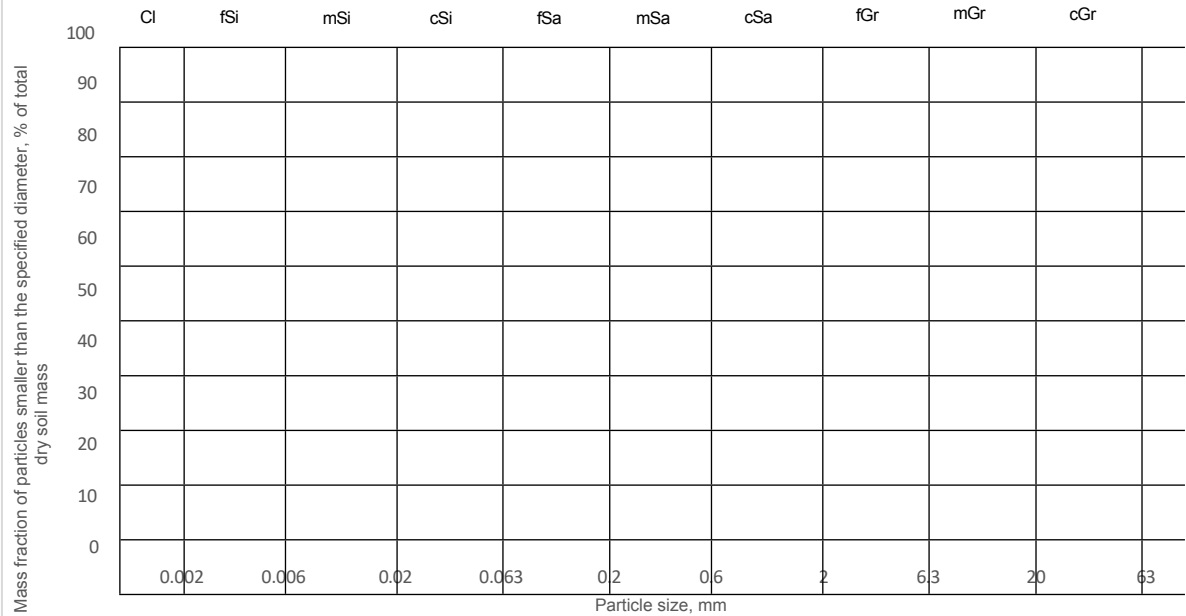
Particle size distribution



Sieve method (1)		Sieve aperture size, mm										
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
			0.0446	0.0321	0.0231	0.0166	0.0091	0.0066	0.0048	0.0028	0.0015	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0067	-		20.6		30.3	13.9	0.70			
	-	0.0111	-		-		16.4	0.30				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
	2.135											
	1.770		0.53									
Soil classification*												
Index:		CIL	Name:		low-plasticity clay, firm							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TL										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

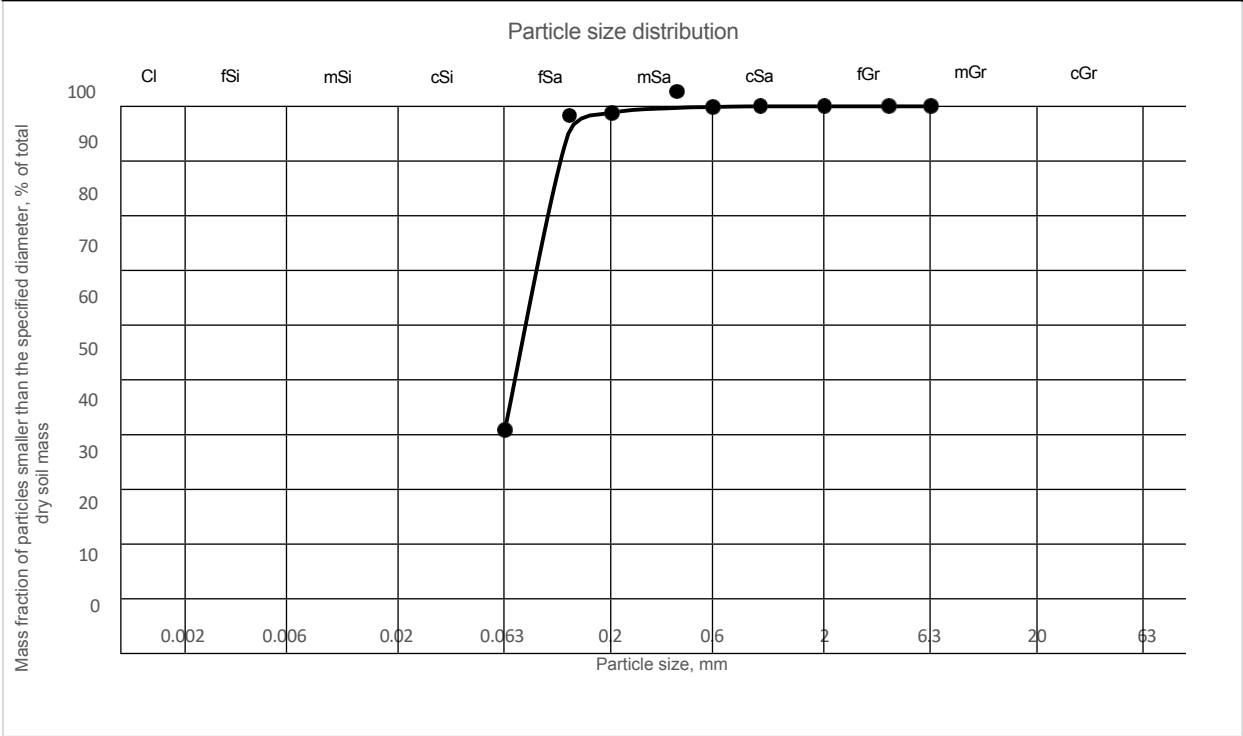
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_178	Gr.34	5	U	18.70	19.20

Particle size distribution



Sieve method (1)		Sieve aperture size, mm															
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %															
Hydrometer method (2)		Particle size, mm															
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass															
			0.0380	0.0272	0.0192	0.0138	0.0076	0.0056	0.0042	0.0026	0.0014						
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1			
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1				
		-	0.0016	-							28.4	50.8	24.8				
		-	0.0026	-							-	26.0	0.10				
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³															
		1.987															
		1.547															
Soil classification*																	
Index:		CIH		Name:			highly plastic clay, stiff										
Notes:																	
Soil classification DIN 18196:2023-02*																	
Index:		TA															
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė															

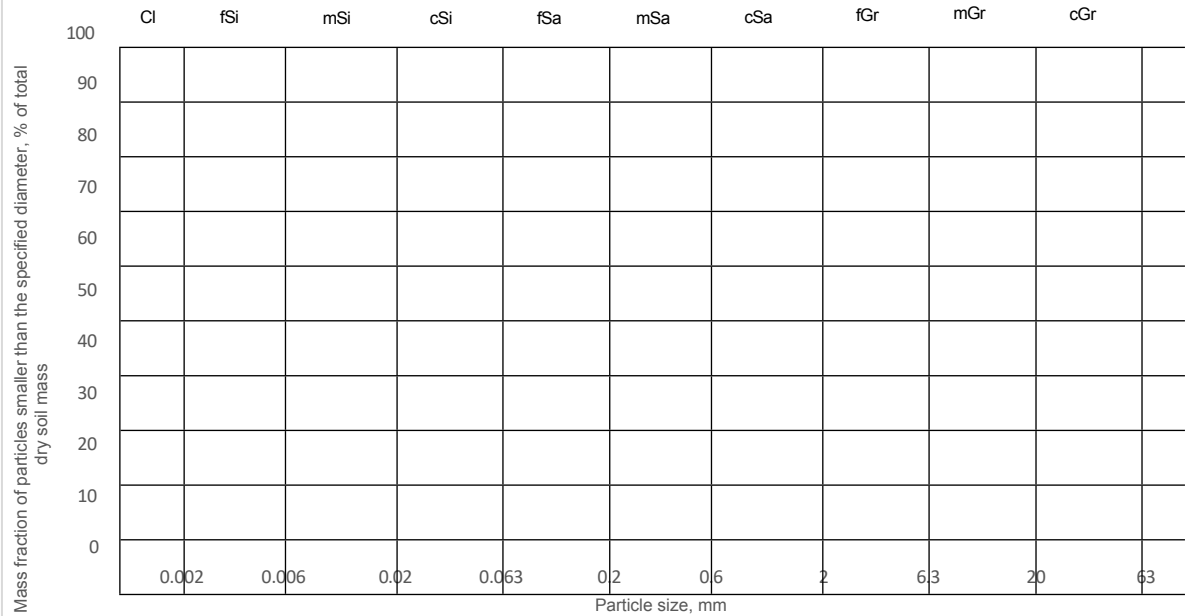
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_179	Gr.34	6	D	26.60	26.90



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	98.8	95.0	40.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0707	-		22.2		28.2	5.8	1.04				
	-	0.0802	-		99.7		22.4	-0.04					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:		saCIL-SiL		Name:		Sandy, low-plasticity clay-silt, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL-UL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_180	Gr.34	7	U	32.50	33.00

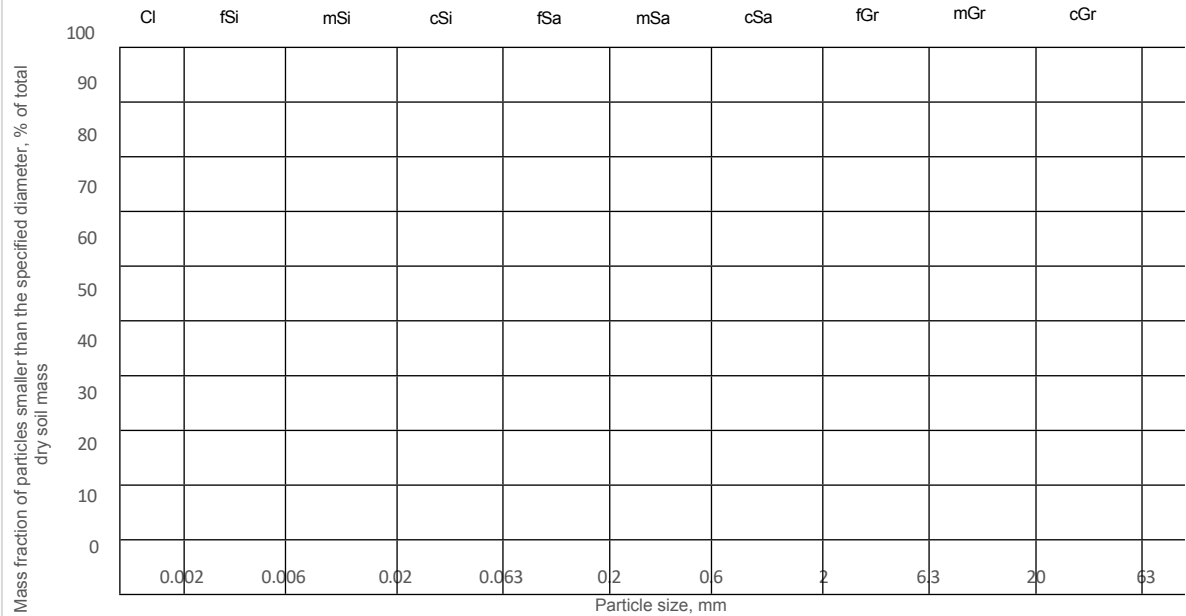
Particle size distribution



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass											
			0.0446	0.0315	0.0223	0.0161	0.0088	0.0064	0.0046	0.0028	0.0014		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0024	-				23.3	47.2	21.4				
	-	0.0039	-				-	25.8	-0.12	1.12			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.111												
	1.712		0.58										
Soil classification*													
Index:		CIM	Name:		medium-plasticity clay, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TM											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

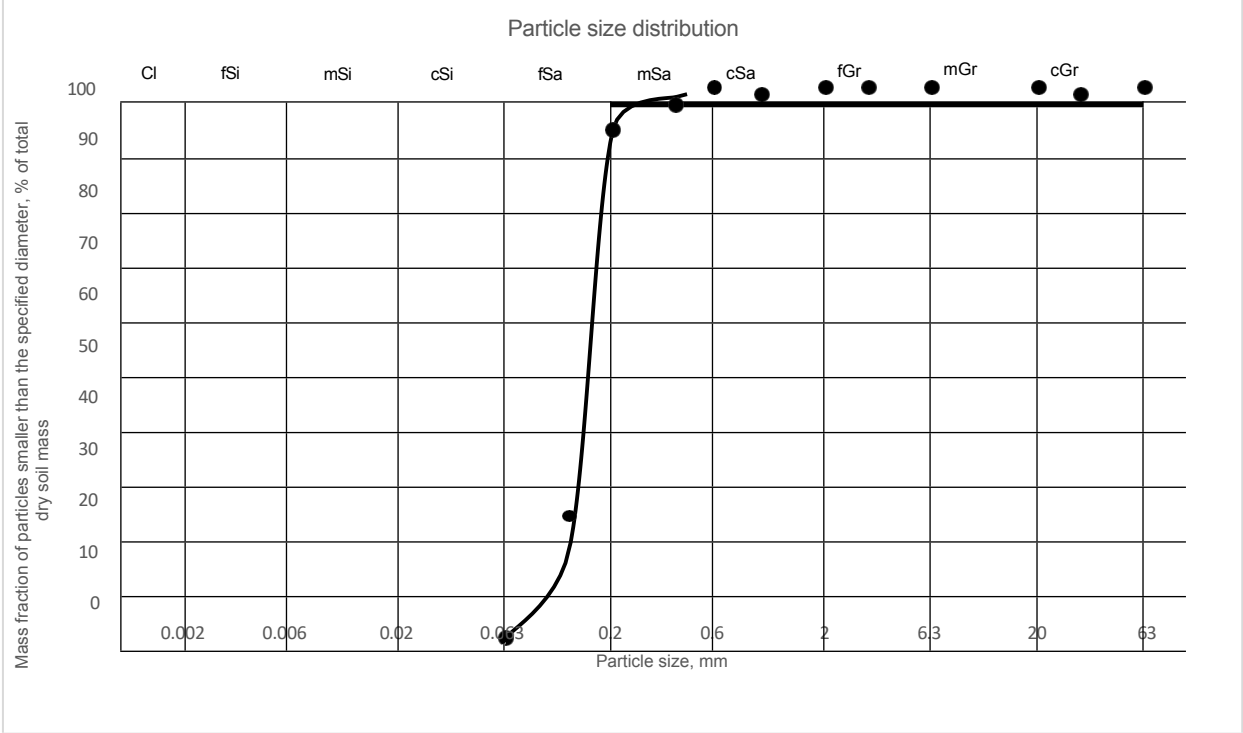
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_181	Gr.34	8	U	34.50	35.00

Particle size distribution



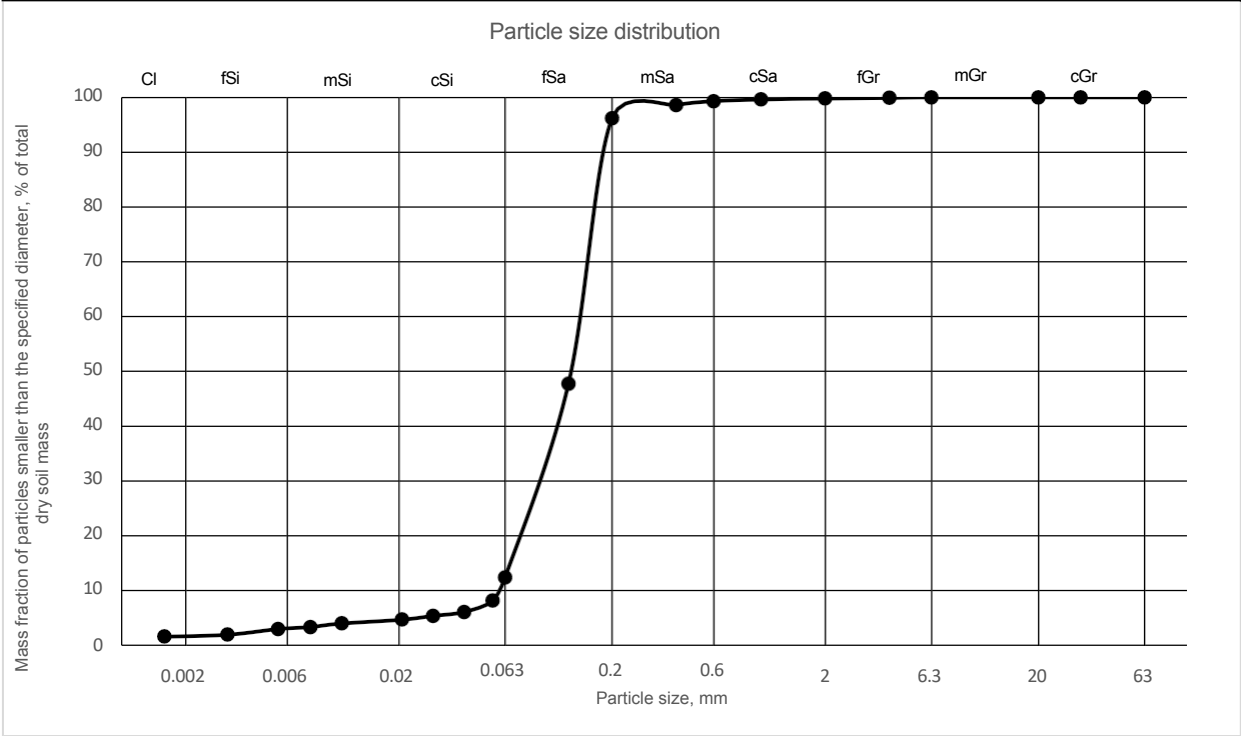
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
			0.0446	0.0315	0.0223	0.0161	0.0084	0.0061	0.0044	0.0026	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³		e, 1									
	2.072											
	1.634		0.68									
Soil classification*												
Index:				Name:								
Notes:												
Soil classification DIN 18196:2023-02*												
Index:												
The research was conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_182	Gr.3	1	D	11.60	11.90



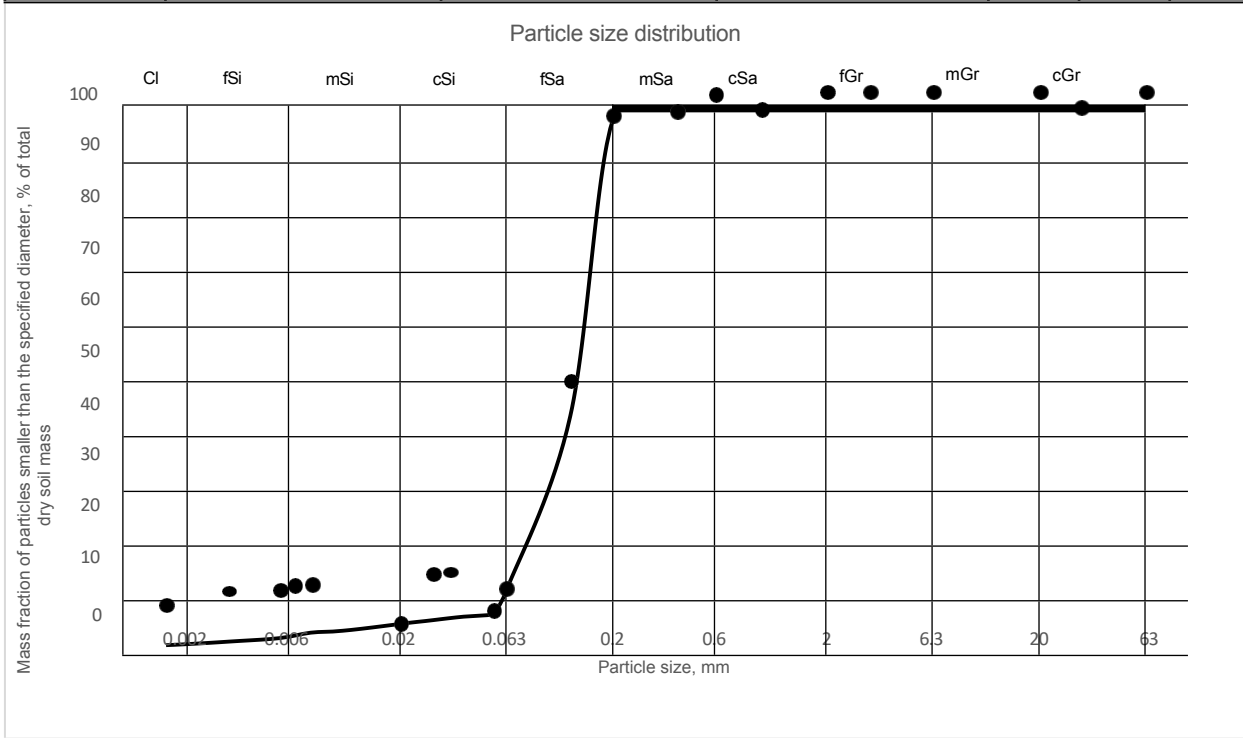
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	93.5	17.0	0.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Ductility tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0930	0.1531	1.75				-	-	-	-			
	0.1354	0.1628	1.21		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.004													
1.637		2.65		0.62		1.7×10 ⁻⁵							
Soil classification*													
Index:	SaP	Name:			poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_183	Gr.37	1	D	6.30	6.60



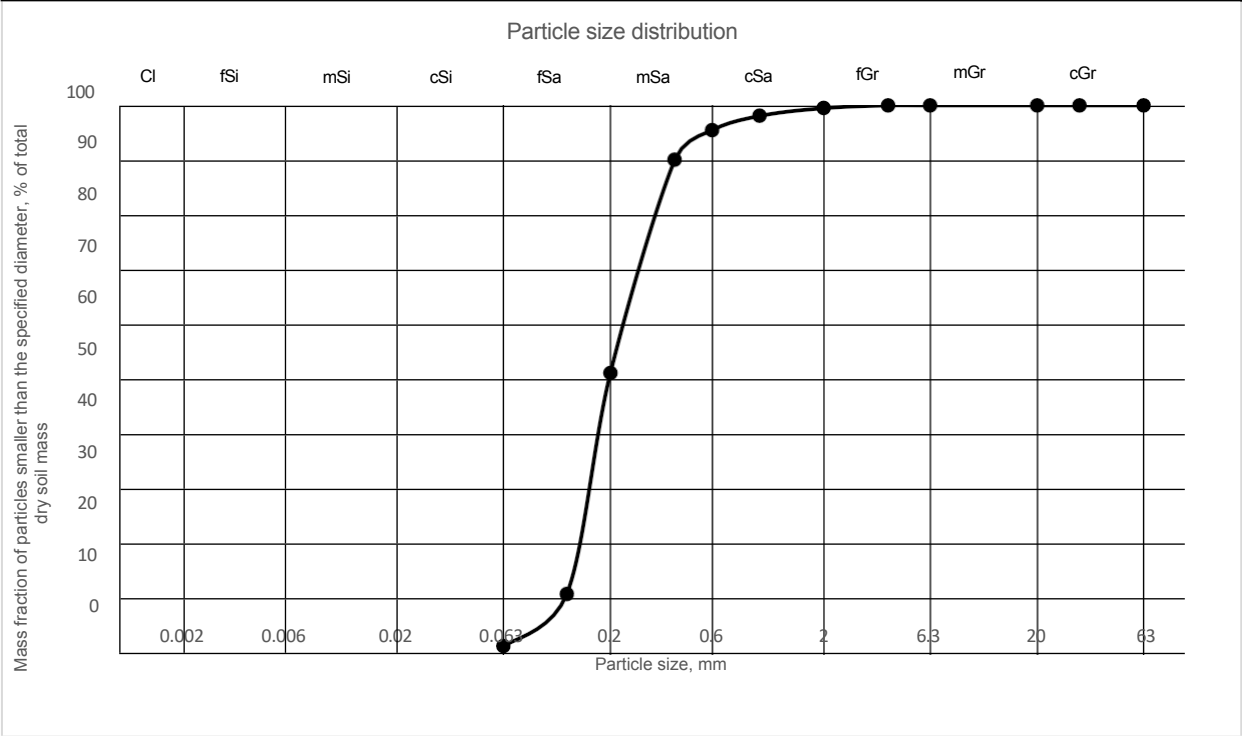
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.9	99.8	99.6	99.3	98.6	96.2	47.8	12.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0551	0.0405	0.0290	0.0207	0.0108	0.0077	0.0054	0.0031	0.0016		
			8.3	6.2	5.5	4.8	4.1	3.4	3.1	2.1	1.7		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0583	0.1277	2.42		-		-	-	-				
	0.0885	0.1407	0.96		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	1.715		2.65				1.27			2.5%			
	1.166												
Soil classification*													
Index:	oSaFP	Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_184	Gr.37	2	D	8.10	8.40



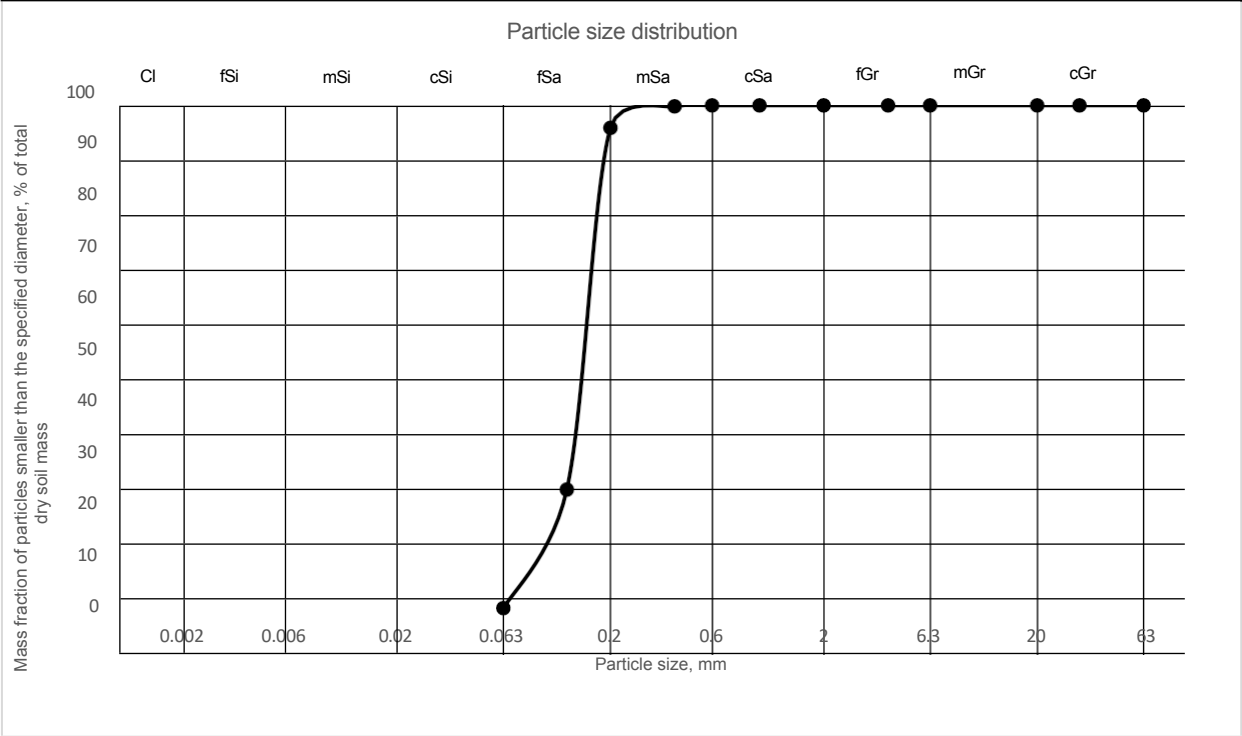
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.5	99.3	98.5	43.8	12.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0551	0.0395	0.0282	0.0202	0.0107	0.0076	0.0054	0.0031	0.0016		
			7.9	7.2	6.6	5.9	4.6	4.3	3.3	2.6	2.0		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0588	0.1318	2.44				-	-	-				
	0.0927	0.1437	1.02		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.755												
	1.220		1.16										
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_185	Gr.37	3	D	9.40	9.70



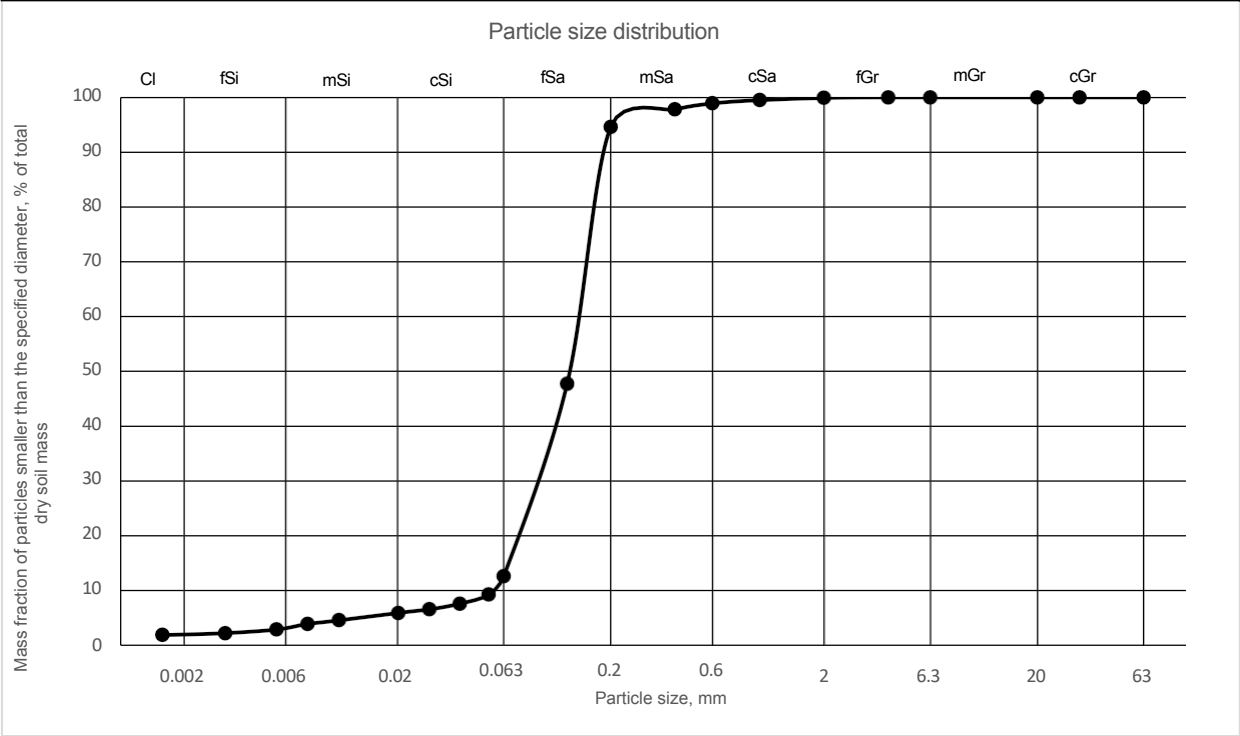
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	99.5	98.1	95.5	90.1	51.3	11.1	1.6		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		0.1155	0.1970	2.02						-	-	-			
		0.1559	0.2336	0.90						-	-	-			
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³													
		1.935													
		1.527													
Soil classification*															
Index:		SaP		Name:			poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_186	Gr.37	4	D	11.50	11.80



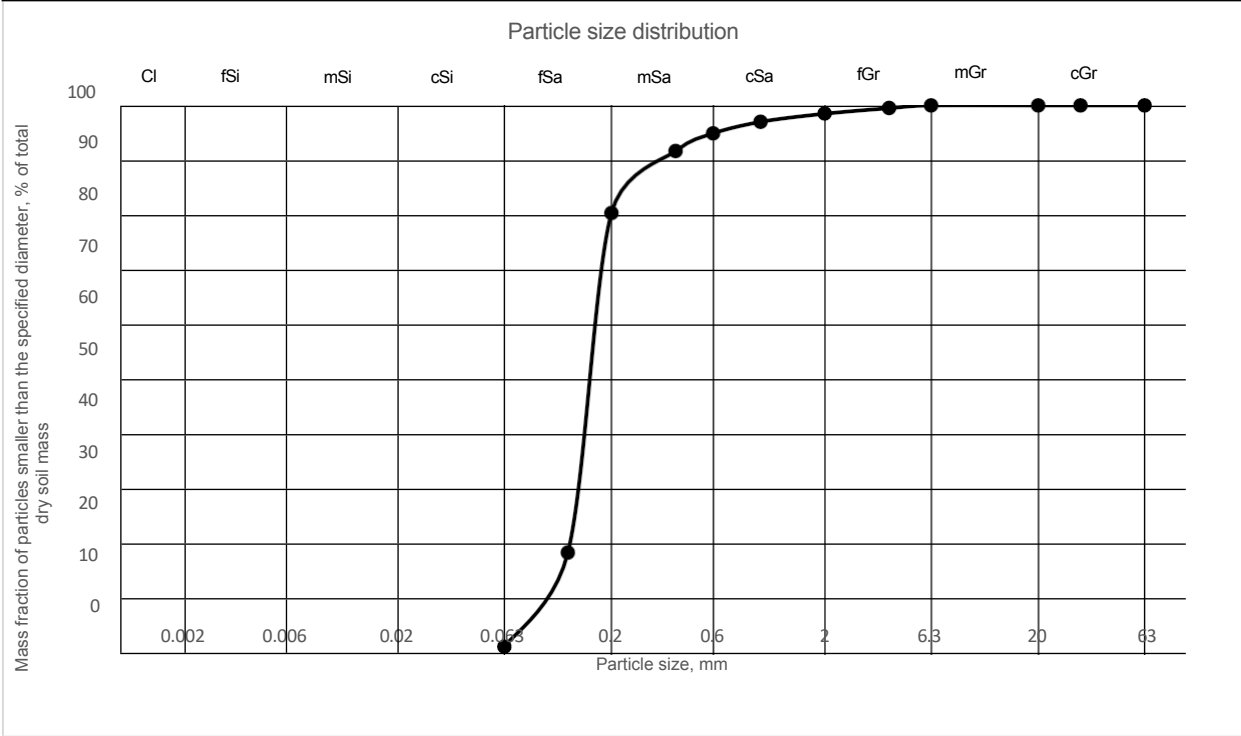
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of particles passing through the sieve relative to the total dry soil mass, %																	
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	95.9	30.1	8.5						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1					
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1						
		0.0661	0.1441	2.34							-	-	-						
		0.1246	0.1548	1.52							-	-	-						
Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		pd, Mg*m-³																	
		1.936																	
		1.623																	
Soil classification*																			
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand													
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_187	Gr.39	1	D	5.30	5.60



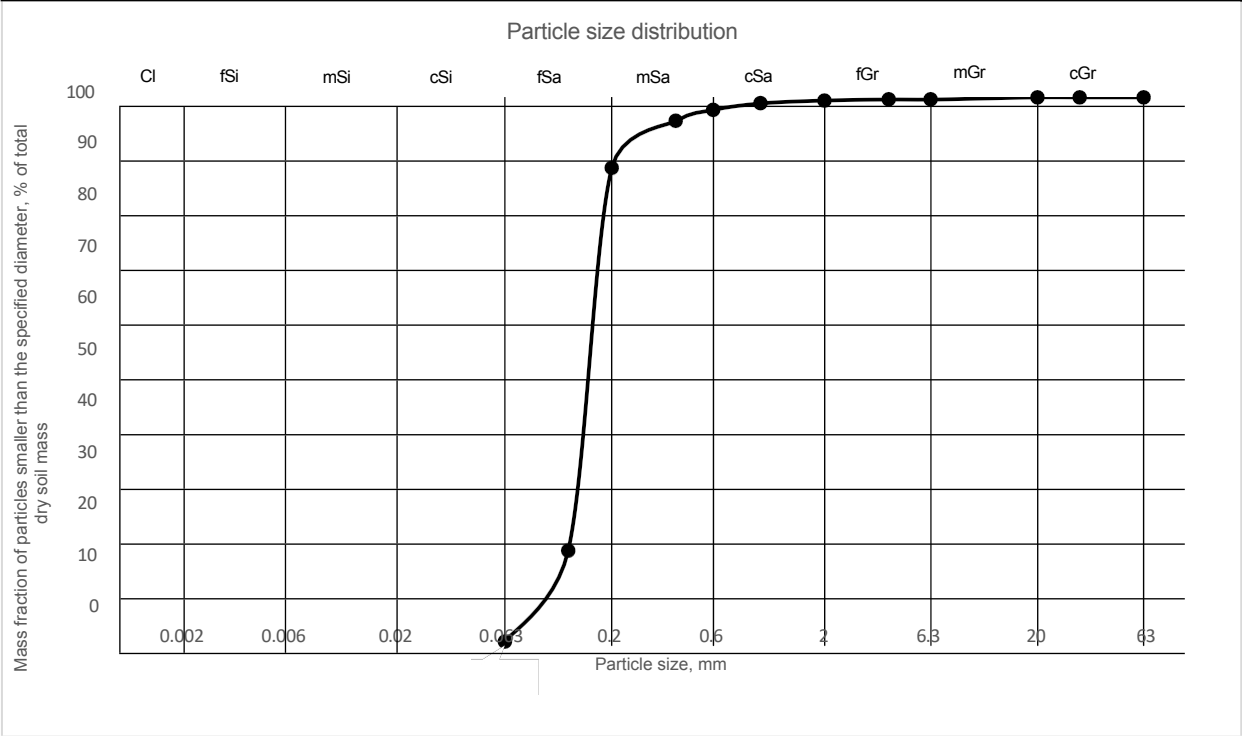
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.5	98.9	97.8	94.6	47.8	12.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0537	0.0392	0.0282	0.0202	0.0106	0.0076	0.0054	0.0031	0.0016		
			9.4	7.7	6.7	6.0	4.7	4.0	3.0	2.3	2.0		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0553	0.1278	2.55				-	-	-	-			
	0.0883	0.1413	1.00		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
		2.63						2.7%					
Soil classification*													
Index:	oSaFP	Name:			slightly silty-clayey, poorly sorted sand with a small amount of organic matter								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_188	Gr.39	2	D	8.60	8.90



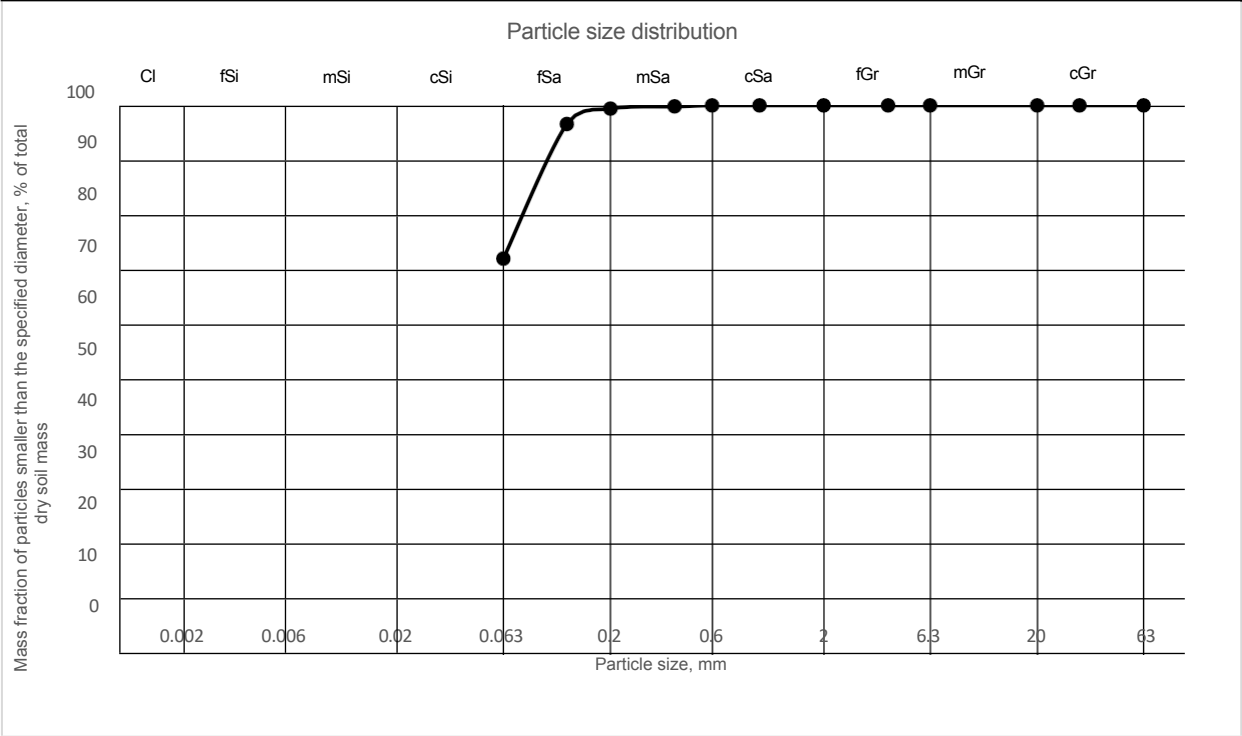
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	98.5	97.0	94.9	91.7	80.4	18.6	1.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0886	0.1587	1.93		-		-	-	-				
	0.1363	0.1713	1.23		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
1.825													
1.455		0.82											
Soil classification*													
Index:	SaP	Name:		poorly sorted sand									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_189	Gr.39	3	U	9.30	9.50



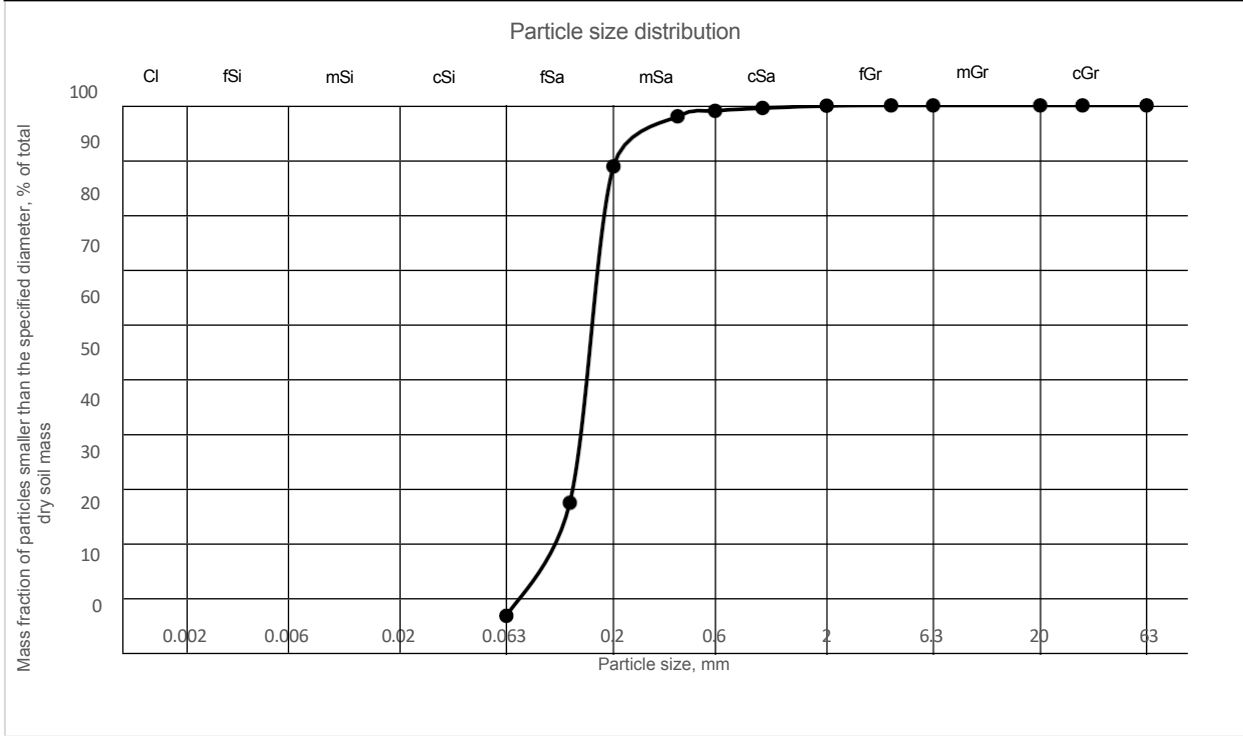
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	99.6	99.6	99.4	98.9	97.7	95.7	87.1	17.3	0.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0925	0.1558	1.80						-	-	-	-	
		0.1362	0.1666	1.20						-	-	-		
		Soil density (5)		ρ, Mg/m³						Particle density (6)		ps, Mg*m-3	Porosity (7)	
pd, Mg*m-3														
1.918														
1.576														
0.69														
Soil classification*														
Index:		SaP		Name:			poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_190	Gr.39	4	D	17:30	5:60



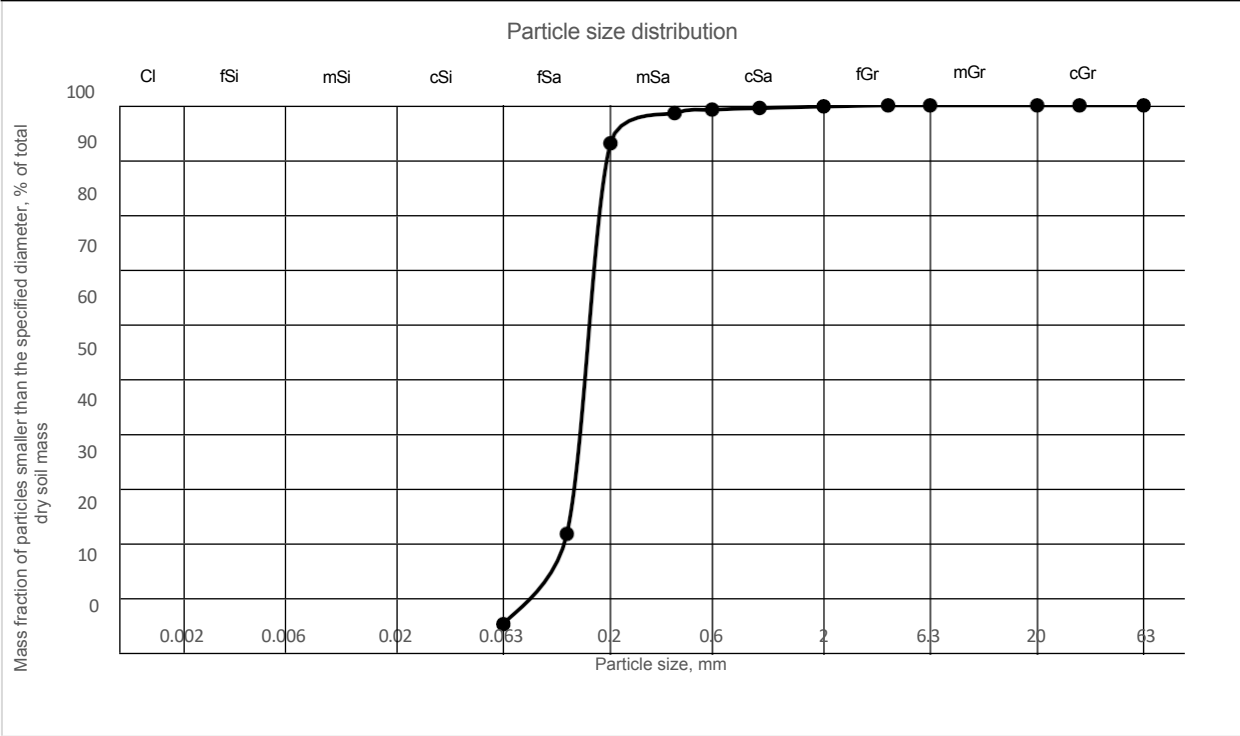
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	96.6	72.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		19.0		22.4	6.5	0.52				
	-	-	-		19.0		15.9	0.48					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg·m ⁻³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg·m ⁻³				e, 1								
Soil classification*													
Index:		saCIL-SiL		Name:		Sandy, low-plasticity clay-silt, firm							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL-UL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_191	Gr.10	1	D	6.60	6.90



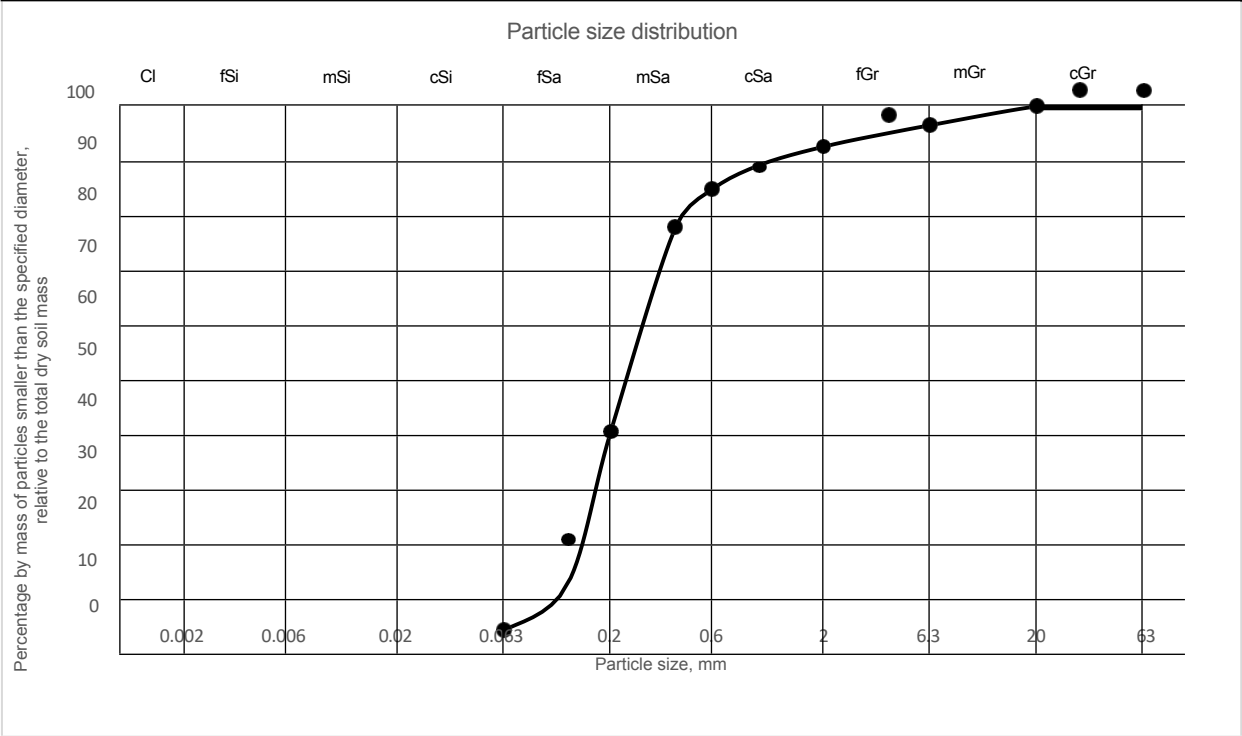
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.5	99.0	98.0	88.9	27.7	7.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0694	0.1483	2.31		-		-	-	-				
	0.1272	0.1602	1.46		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_192	Gr.10	2	D	8.00	8.30



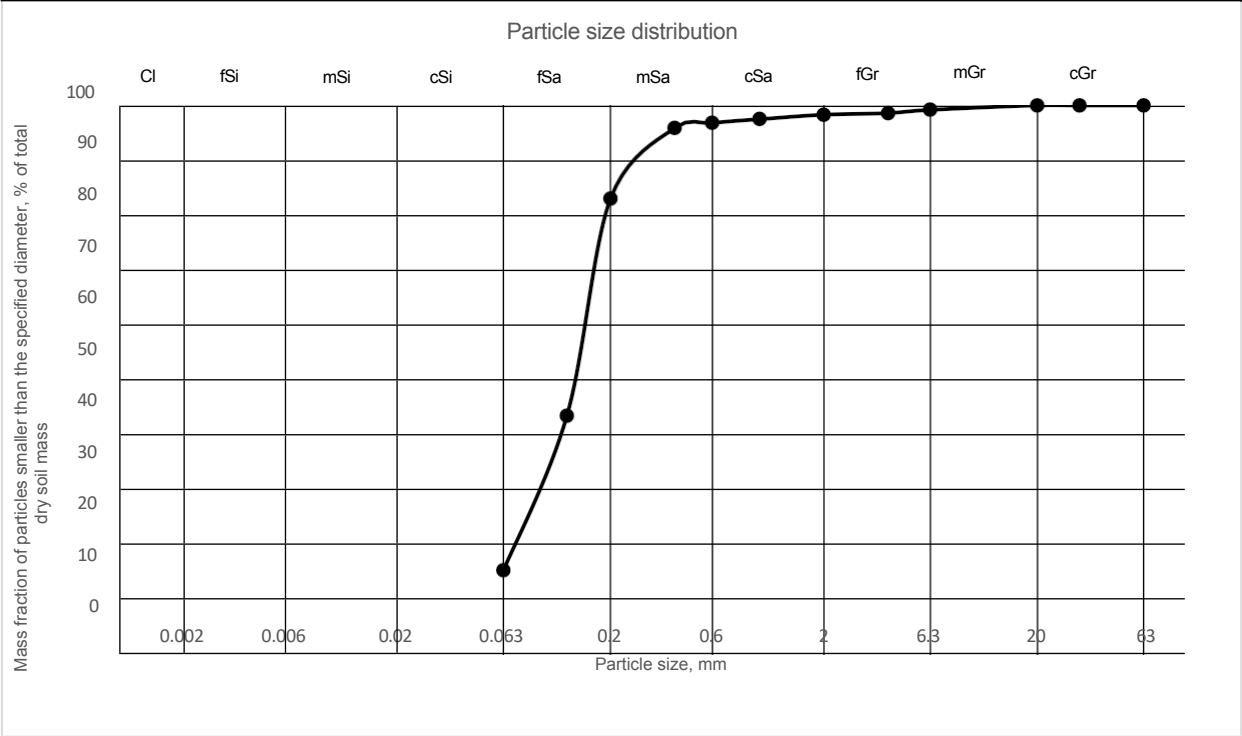
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.2	98.6	93.1	22.0	5.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0757	0.1504	2.12				-	-	-	-			
	0.1318	0.1607	1.43				-	-	-				
	Soil density (5)	ρ, Mg/m³	Particle density (6)				ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
pd, Mg*m-³		e, 1											
1.884													
1.485		0.78											
Soil classification*													
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_193	Gr.10	3	D	9.80	10.00



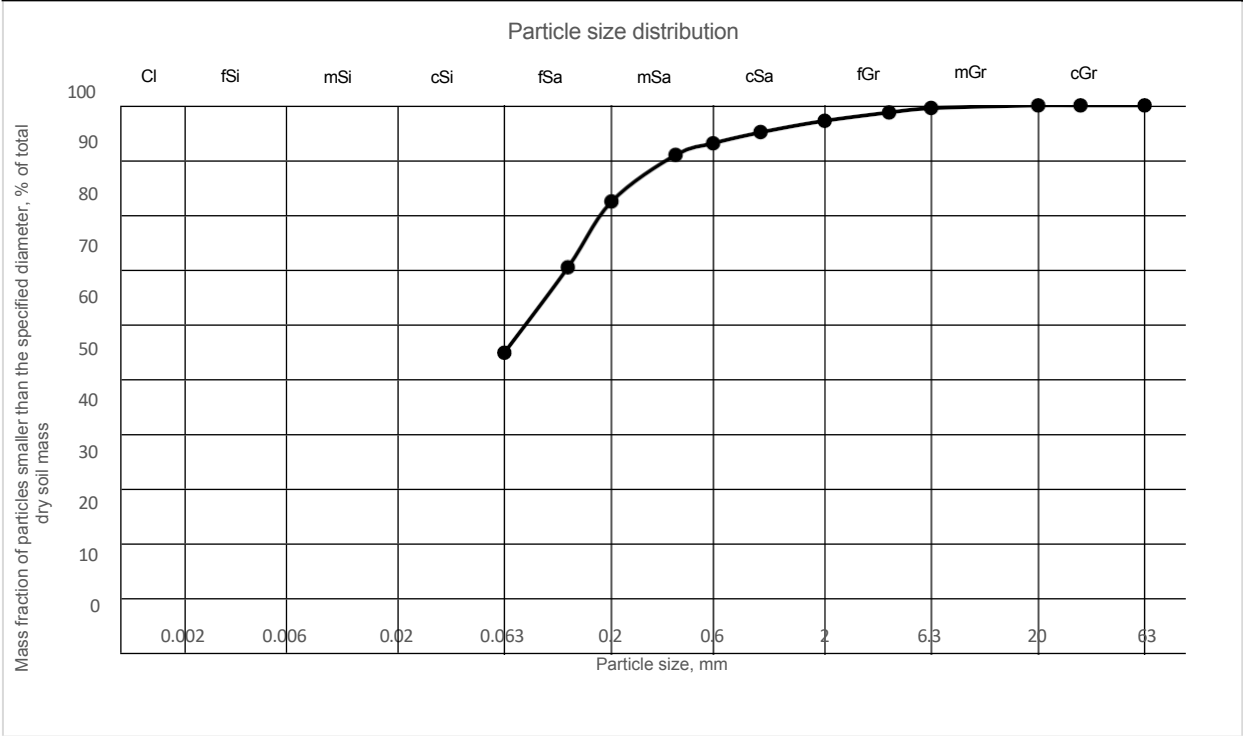
Sieve method (1)		Sieve aperture size, mm													
		Percentage of particles passing through the sieve relative to the total dry soil mass, %													
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	96.6	95.1	92.7	89.3	84.9	77.7	40.6	12.7	4.3		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.1006	0.2383	2.86								-	-	-	-
		0.1673	0.2872	0.97								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
Soil classification*															
Index:		SaP		Name:			Poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_195	Gr.10	5	D	16.90	17.20



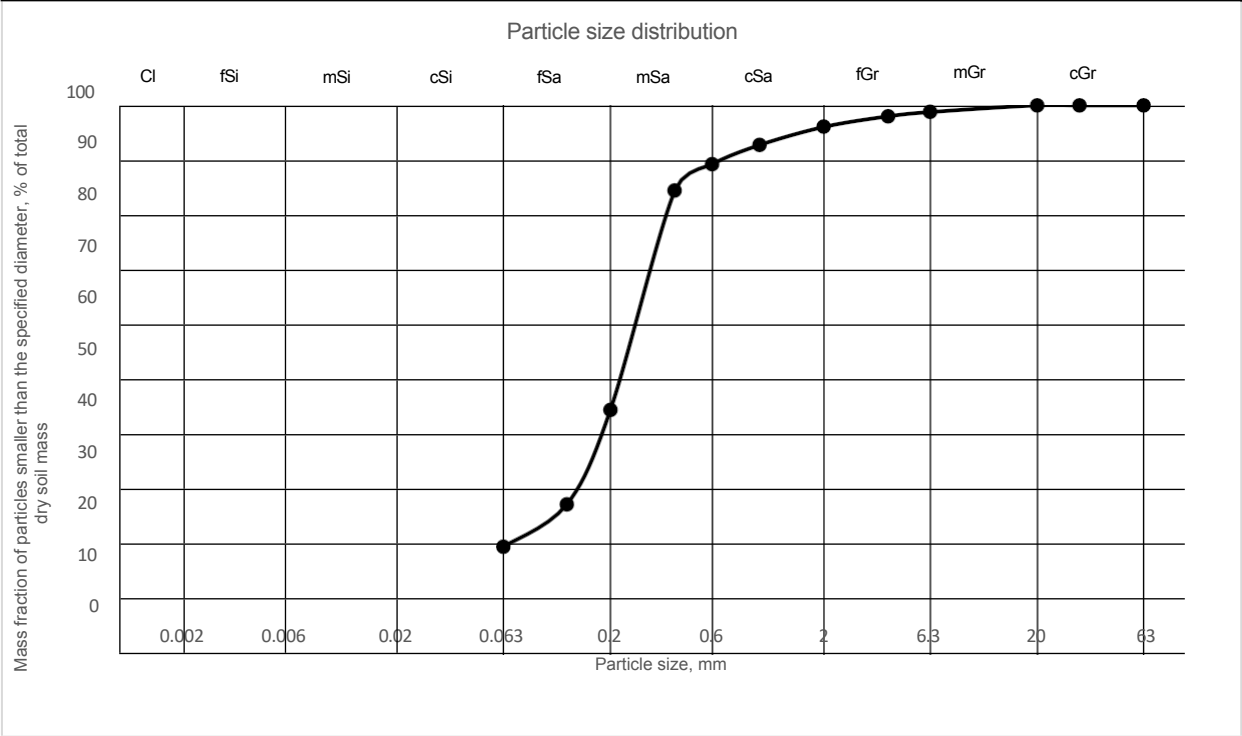
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.2	98.6	98.3	97.5	96.8	95.9	83.0	43.5	15.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.1351	-		20.4		23.5	-	-				
	0.0899	0.1521	-		95.9		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³				e, 1								
	1.936		2.65										
	1.619				0.64								
Soil classification*													
Index:		siSa	Name:			sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_196	Gr.10	6	D	22.80	23.10



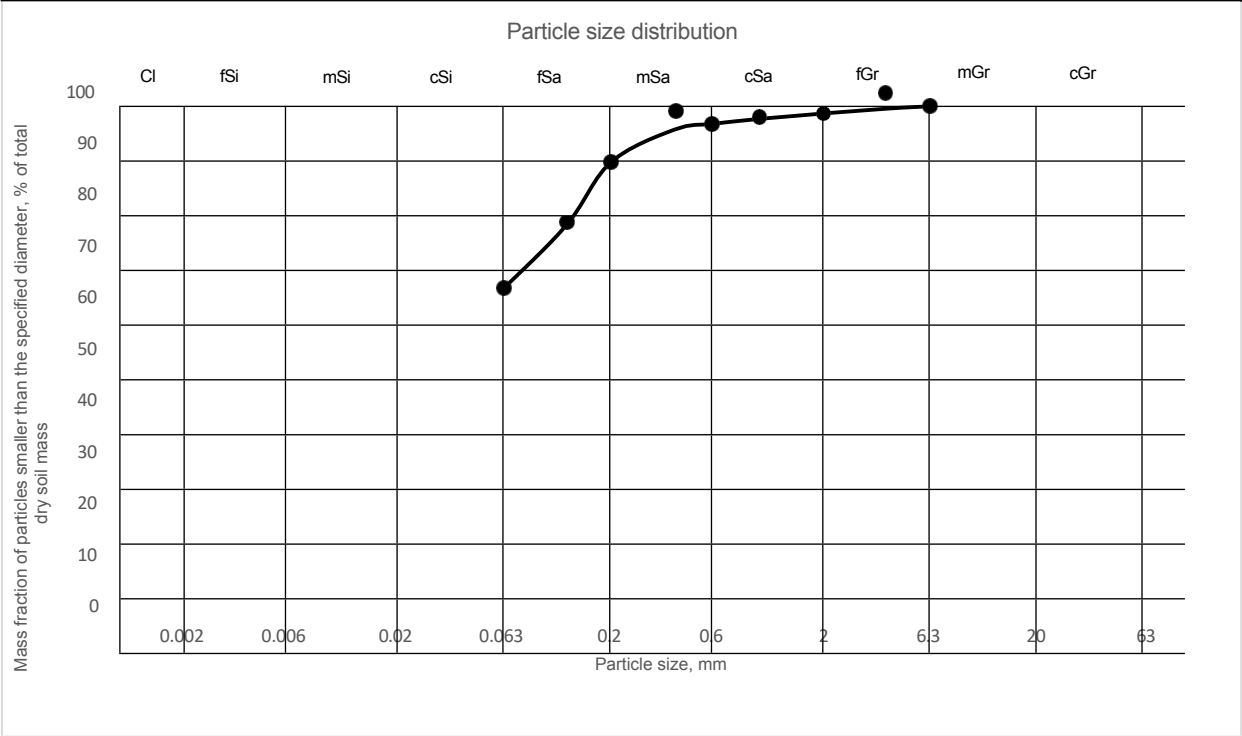
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.5	98.7	97.2	95.1	93.1	91.0	82.5	70.5	55.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		11.1		22.5	9.9	1.15				
	-	0.0786	-		91.0		12.6	-0.15					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:	saCIL	Name:				Sandy clay with low plasticity, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_197	Gr.9	1	U	17.20	17.70



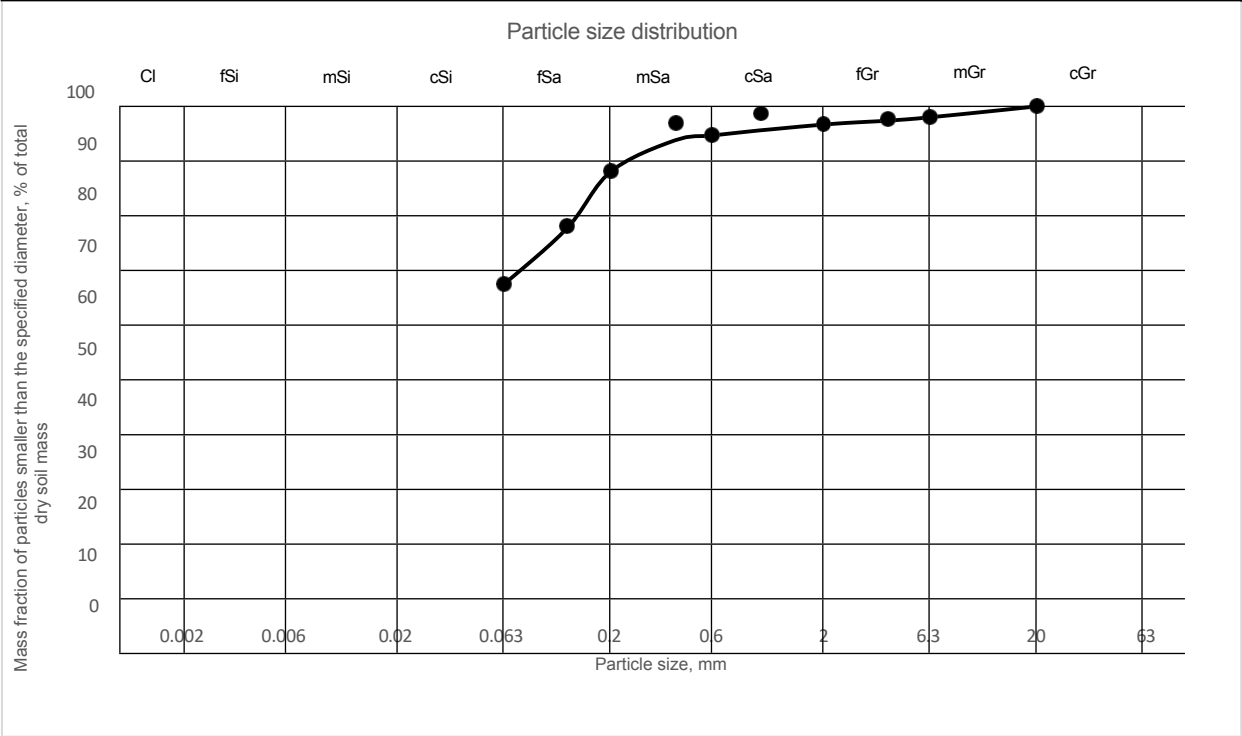
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.8	98.0	96.1	92.8	89.3	84.5	44.6	27.4	19.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Assembly specifications (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.2197	-				22.4	17.6	2.3	-2.07			
	0.1342	0.2613	-				84.5	15.3	3.07				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.099												
	1.765		0.51										
Soil classification*													
Index:		siSa	Name:		sandy loam								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_198	Gr.9	2	U	21.40	21.70



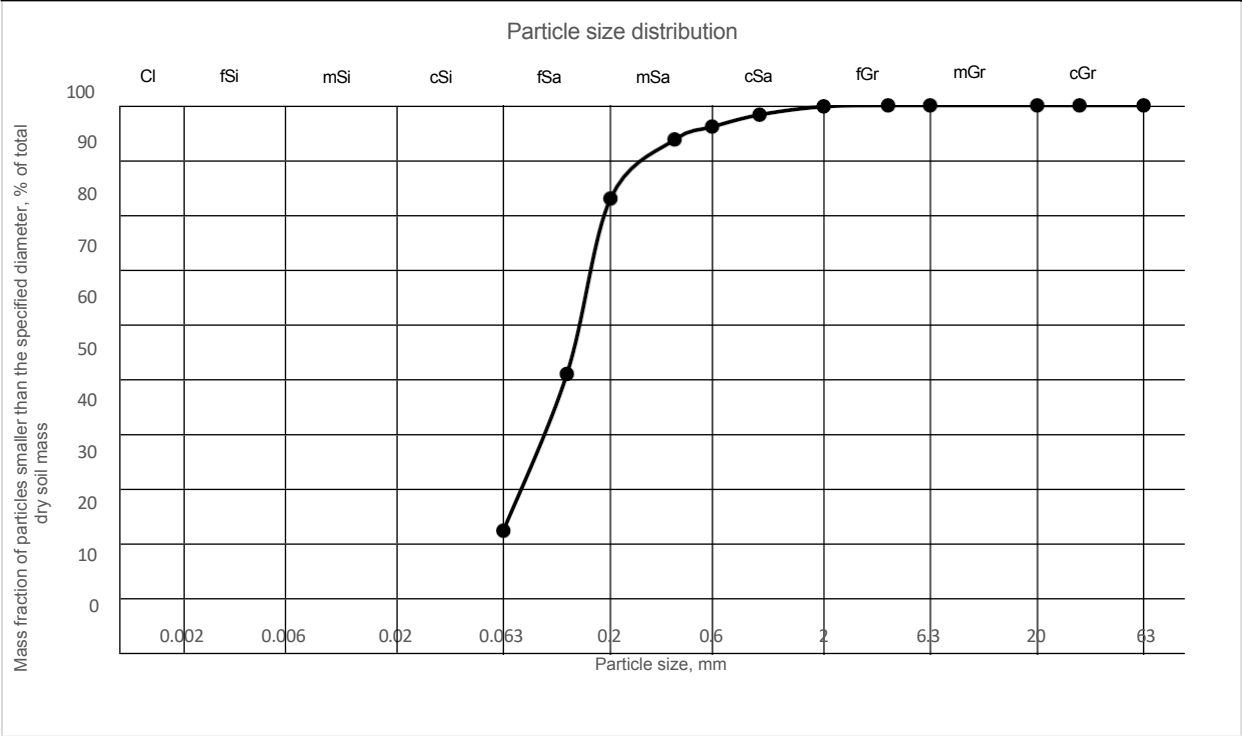
Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063			
		100.0	100.0	100.0	100.0	99.6	98.7	97.7	96.8	95.8	89.8	78.5	66.8			
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)					w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1												
		-	-	-												
		-	-	-												
		-	-	-												
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s		
		ρd, Mg*m-³														
		2.262														
		1.981														
Soil classification*																
Index:				Name:												
Notes:																
Soil classification DIN 18196:2023-02*																
Index:																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_199	Gr.9	3	D	18.10	18.40



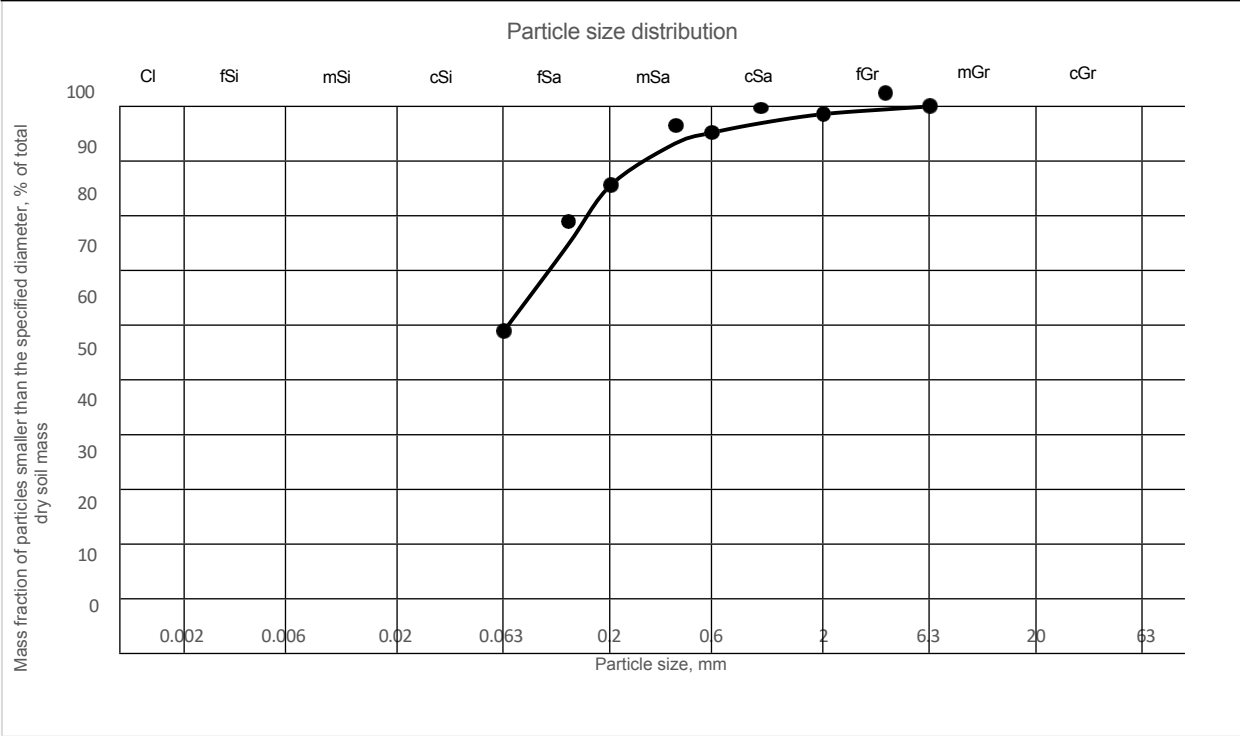
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.0	97.4	96.7	95.6	94.7	93.8	88.1	77.8	67.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.288												
	2.021		0.33										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_200	Gr.9	4	D	27.30	27.60



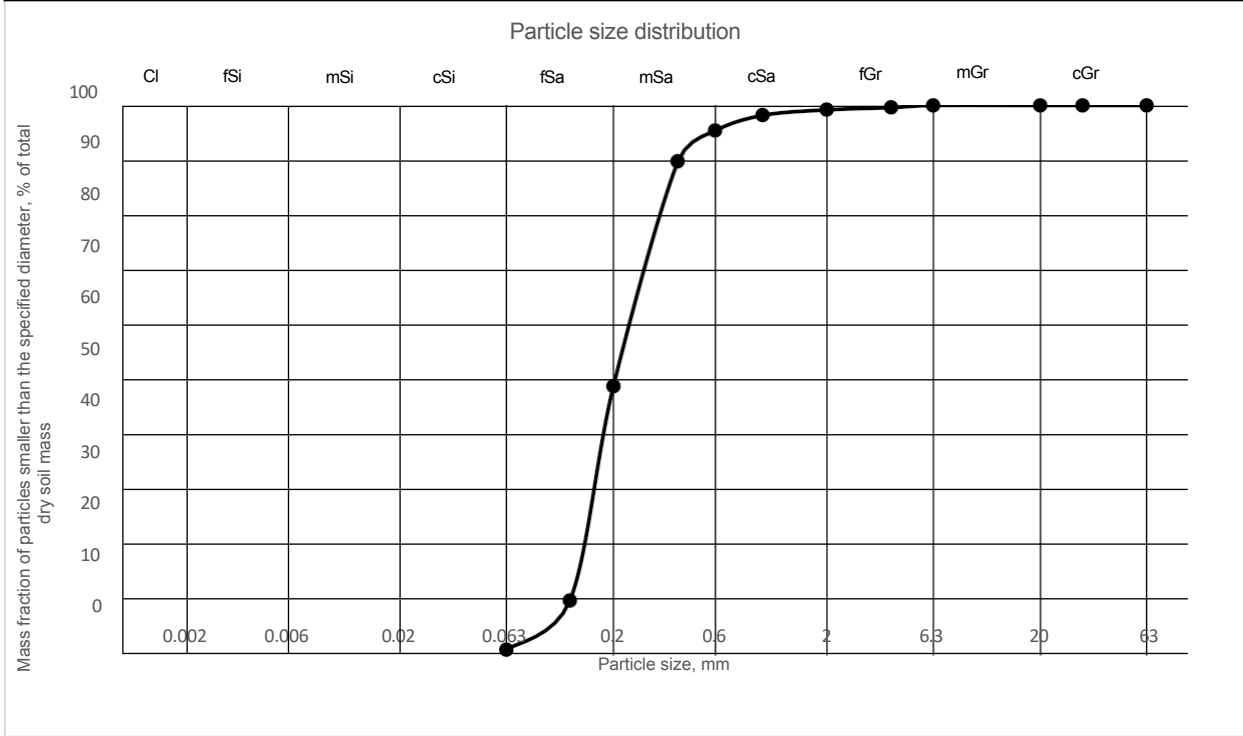
Sieve method (1)		Sieve aperture size, mm																
		Percentage of particles passing through the sieve relative to the total dry soil mass, %																
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063					
		100.0	100.0	100.0	100.0	100.0	99.8	98.3	96.1	93.8	83.0	51.1	22.6					
Hydrometer method (2)		Particle size, mm																
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1					
		-	0.1217	-							22.3	19.1	3.8					
		0.0753	0.1425	-							93.8	15.3	1.84	-0.84				
Soil density (5)		p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		pd, Mg*m-³																
Soil classification*																		
Index:		siSa		Name:				sandy loam										
Notes:																		
Soil classification DIN 18196:2023-02*																		
Index:		SU*																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_201	Gr.8	1	U	31.10	31.50



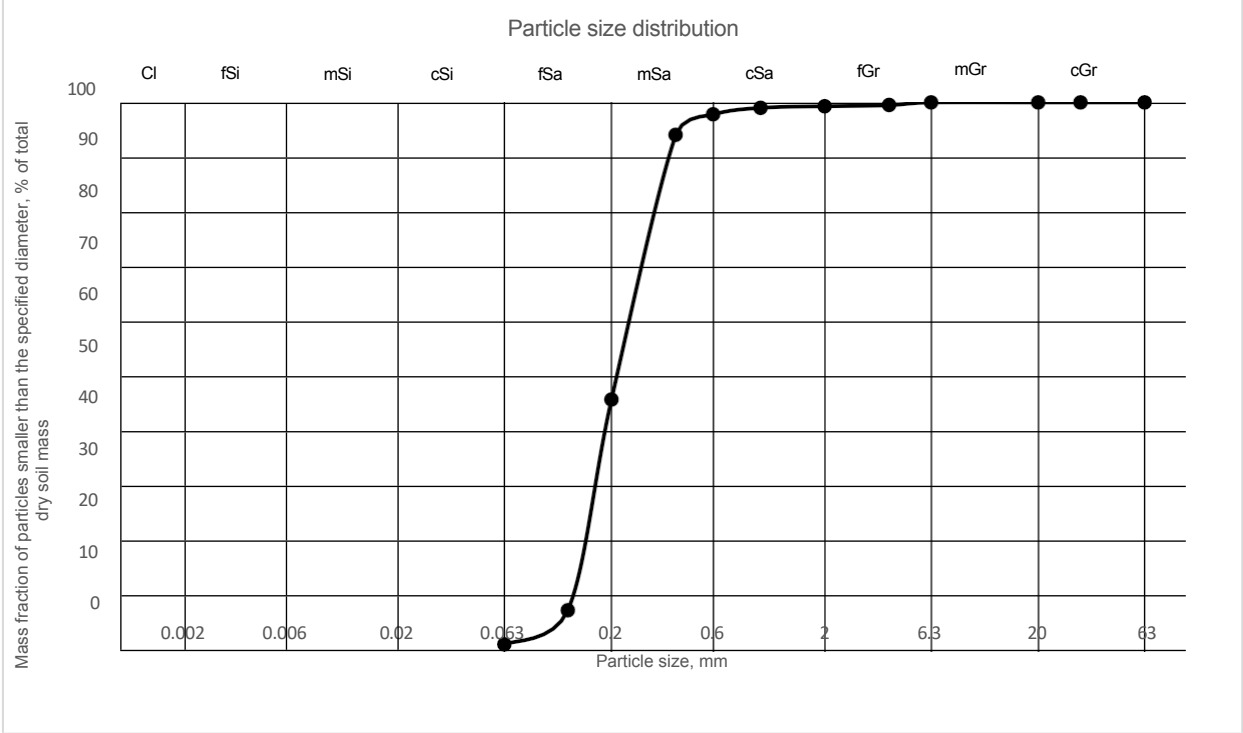
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	98.6	96.9	95.2	93.2	85.6	74.5	59.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	0.0658	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.312												
	2.105		0.27										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_202	Gr.6	1	D	7.60	8.10



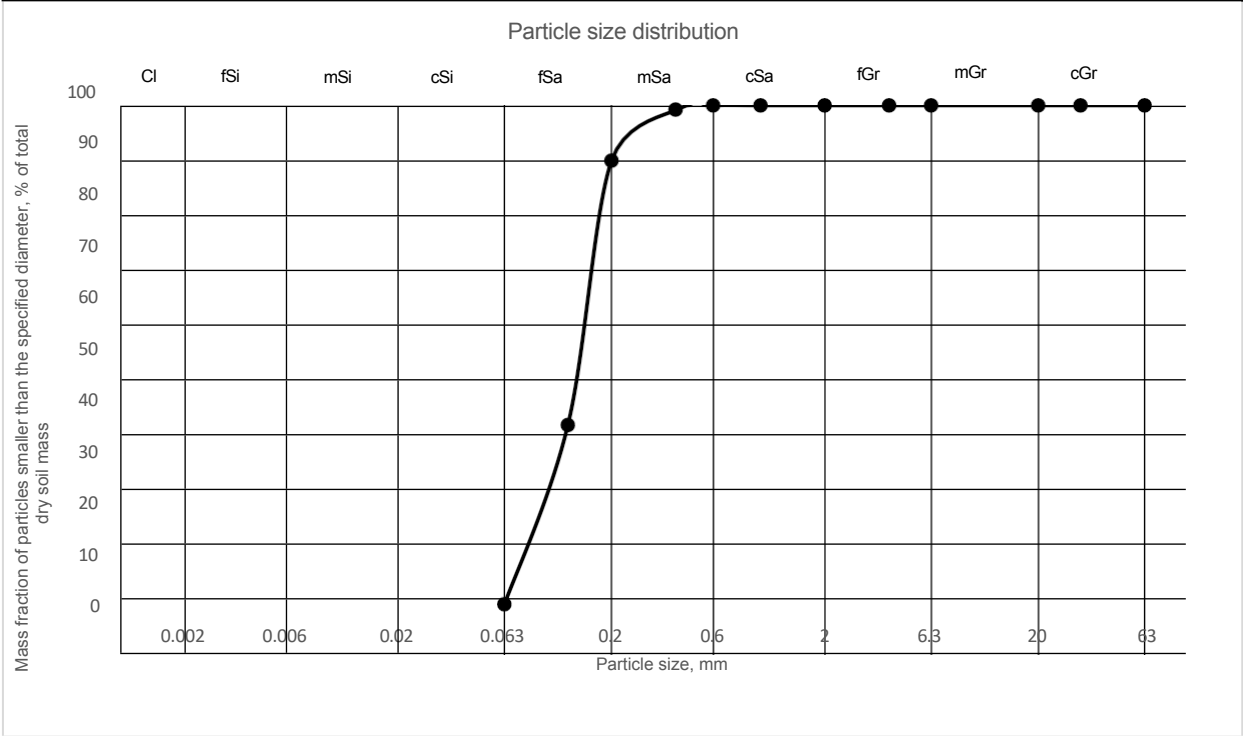
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.6	99.2	98.2	95.4	89.8	48.9	9.9	1.0
Hydrometer method (2)		Particle size, mm											
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1252	0.2038	1.93		-		-	-	-				
	0.1593	0.2414	0.84		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_203	Gr.6	2	D	10.30	10.80



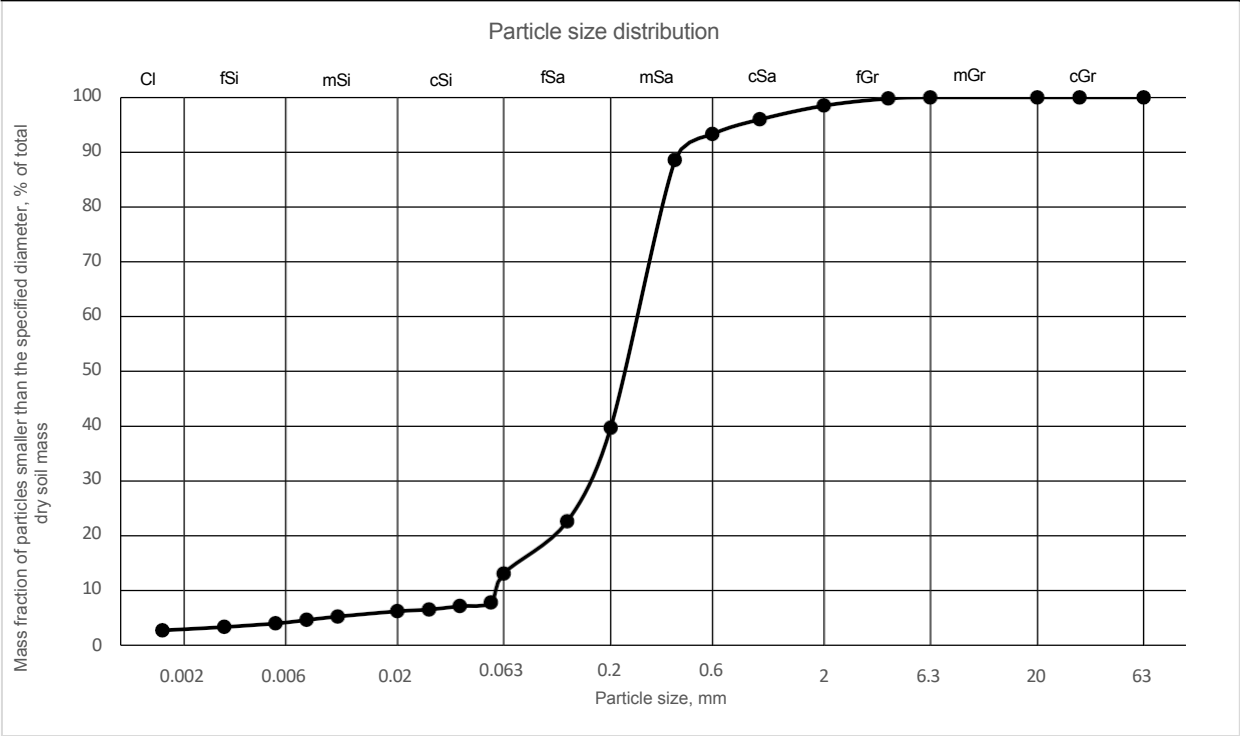
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	99.3	99.0	97.8	94.1	45.9	7.6	1.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1287	0.2121	1.90				-	-	-				
	0.1645	0.2450	0.86		-		-	-					
					24.1								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_204	Gr.6	3	D	11.80	12.60



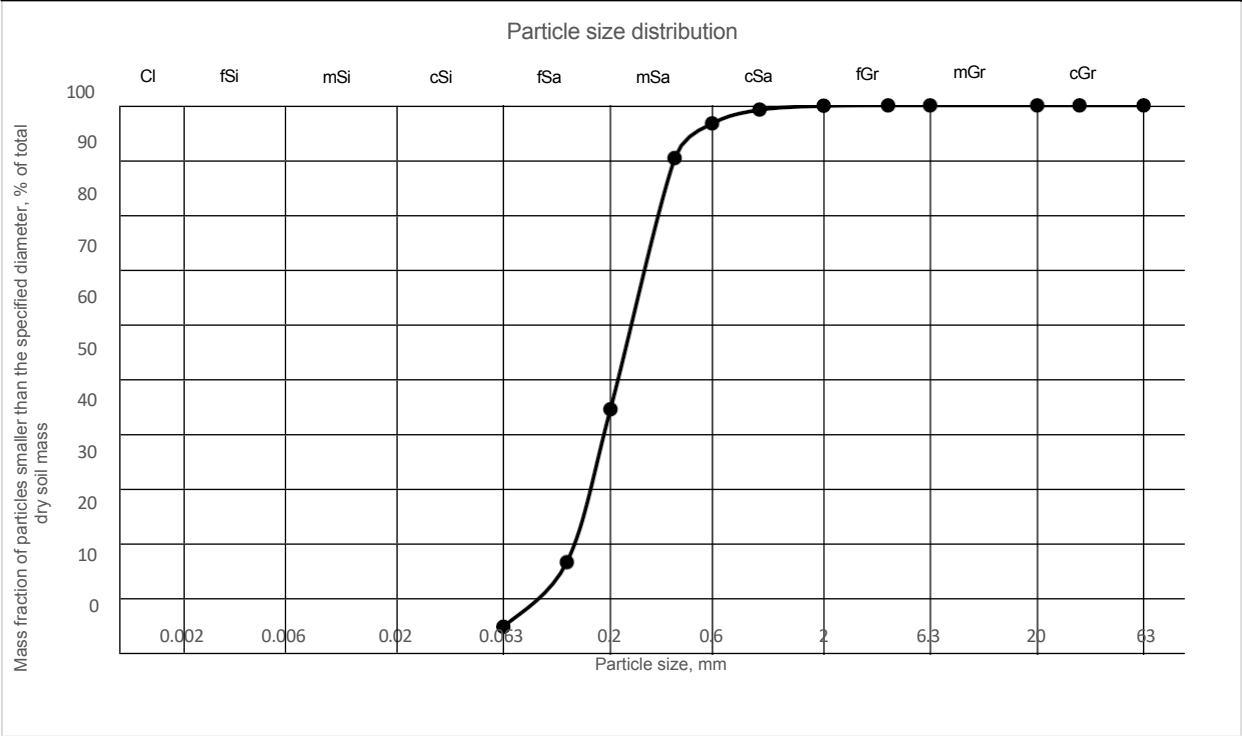
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.2	89.9	41.8	9.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0641	0.1354	2.33		-		-	-	-				
	0.0975	0.1493	0.99		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_205	Gr.6	4	D	16.20	17.40



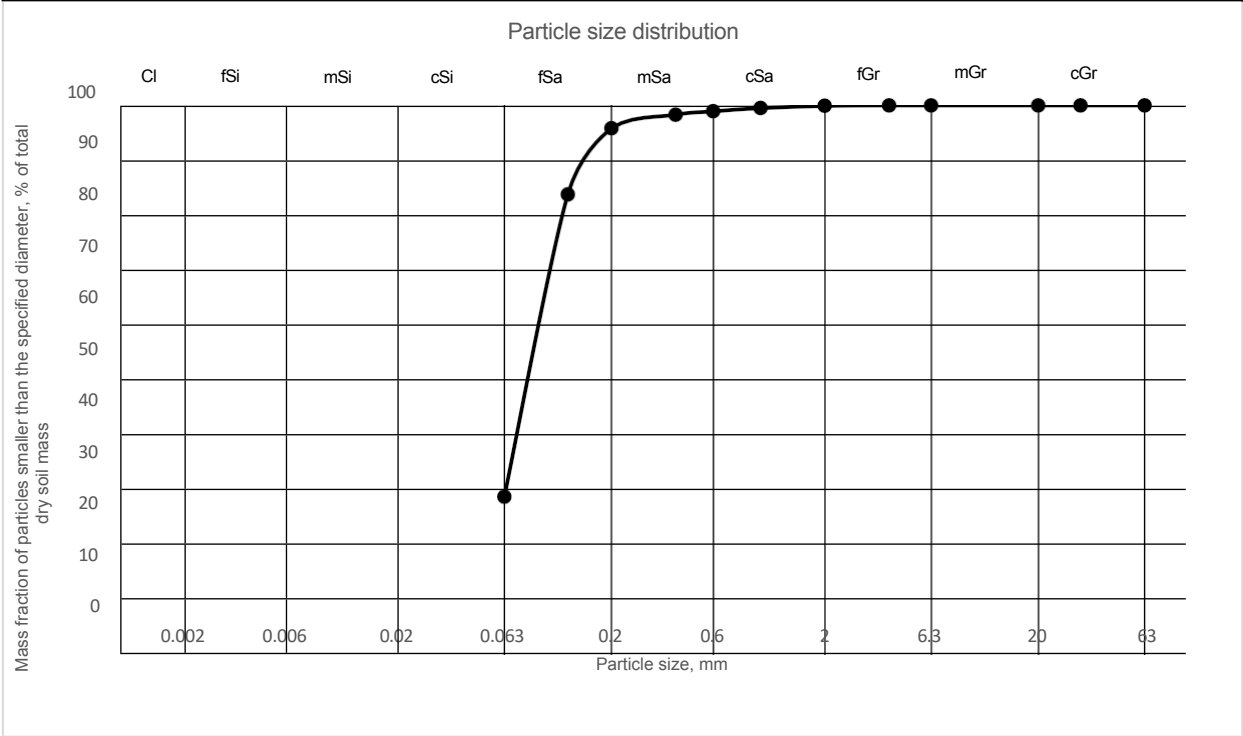
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.8	98.5	96.0	93.3	88.6	39.8	22.7	13.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0548	0.0393	0.0281	0.0200	0.0105	0.0075	0.0054	0.0031	0.0016		
			7.9	7.3	6.6	6.3	5.4	4.7	4.1	3.5	2.8		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0579	0.2312	4.60				-	-	-				
	0.1528	0.2665	1.51		-		-	-					
					16.2								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_206	Gr.6	5	D	20.60	21.30



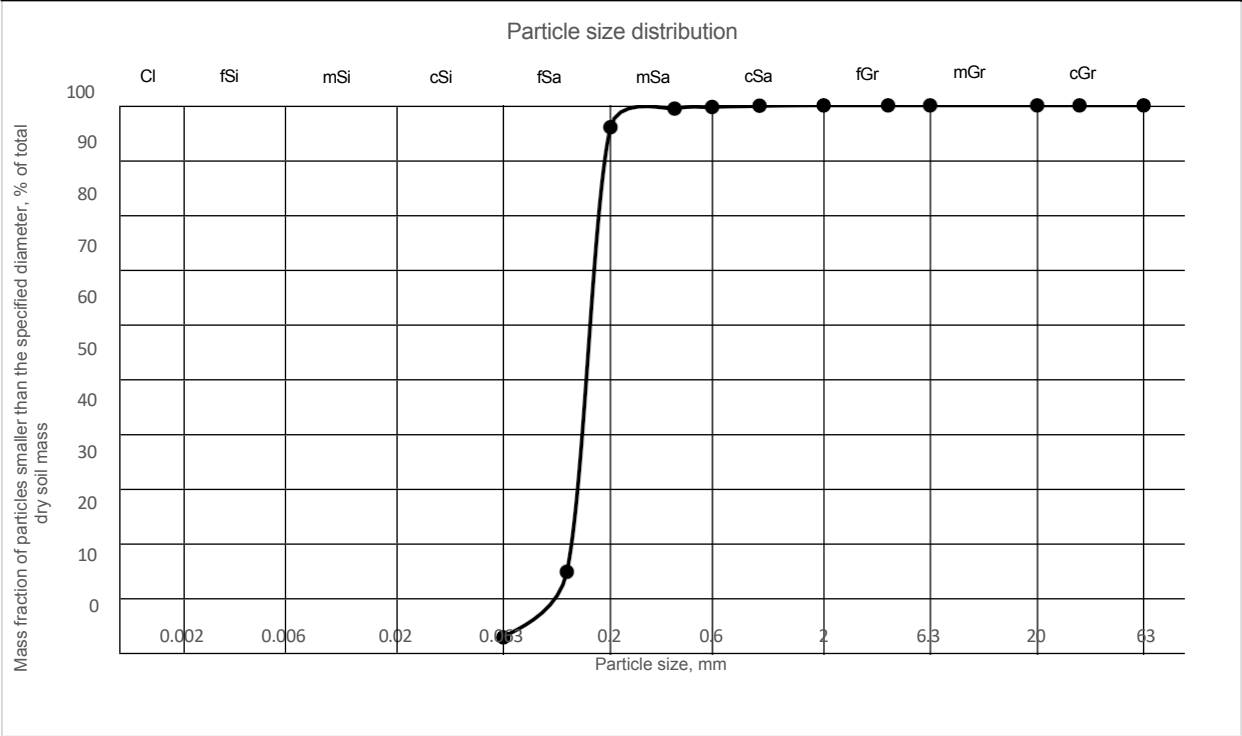
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of particles passing through the sieve relative to the total dry soil mass, %																	
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	100.0	99.9	99.2	96.7	90.4	44.7	16.9	5.1						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1					
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1						
		0.0837	0.2167	3.01							-	-	-						
		0.1560	0.2522	1.15							-	-	-						
Soil density (5)		ρ, Mg/m³		Particle density (6)		ρs, Mg·m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg·m-³																	
Soil classification*																			
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand													
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_207	Gr.6	6	D	31.30	32.70



Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.5	98.9	98.3	95.8	83.8	28.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0820	-		18.6		25.2	-	-				
	0.0639	0.0929	-		98.3		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	siSa	Name:				sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

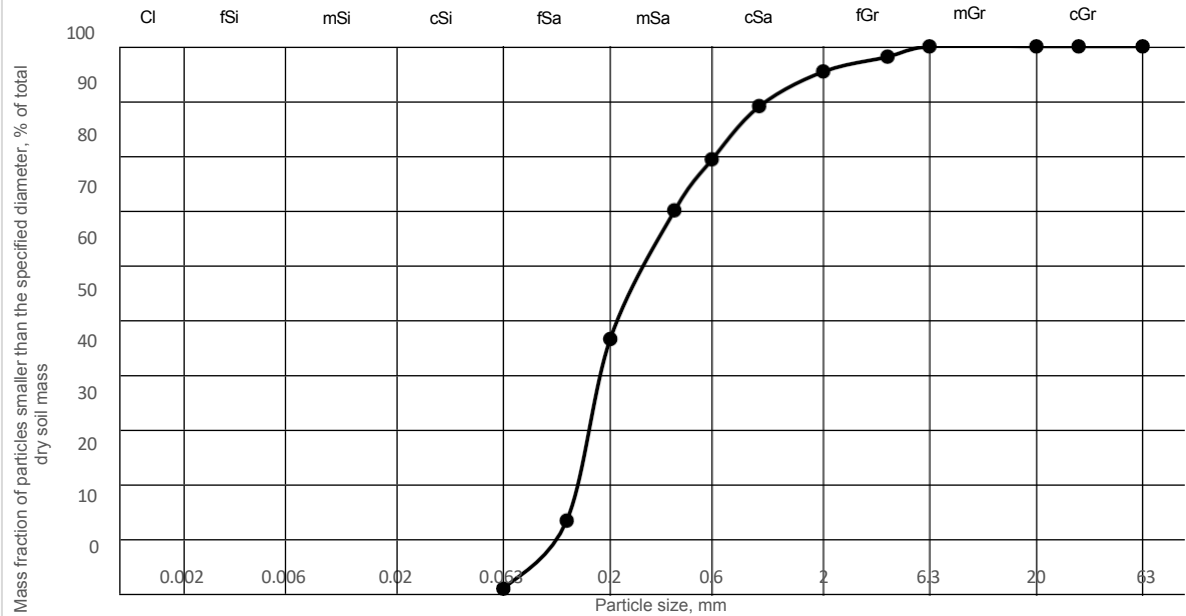
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_208	Gr.7	1	D	6.50	7.50



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	96.0	15.1	3.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	34.2	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1			
	0.0932	0.1531	1.74					-	-	-			
	0.1363	0.1623	1.23					-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	0.8%	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP	Name:		poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

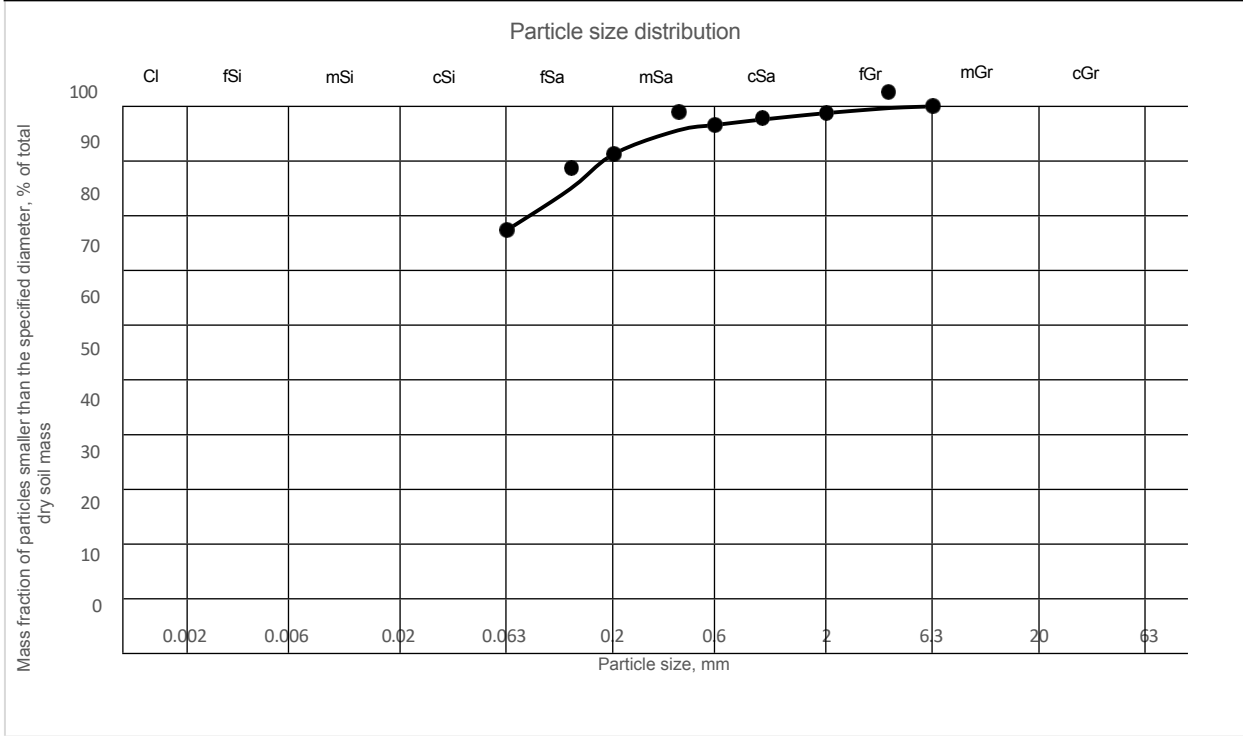
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_209	Gr.7	2	D	9.50	10.50

Particle size distribution



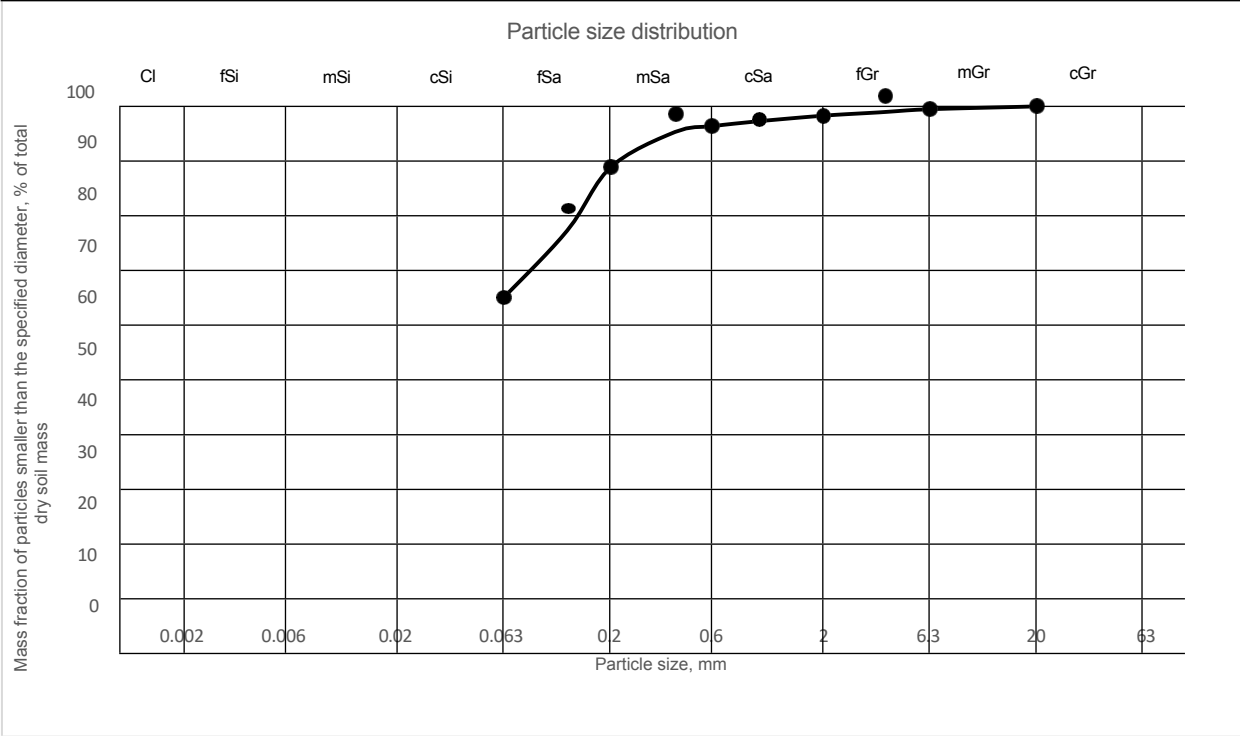
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.1	95.4	89.1	79.4	70.1	46.7	13.6	1.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1025	0.2205	2.89				-	-	-	-			
	0.1578	0.2966	0.82		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_210	Gr.7	3	D	19.00	19.70



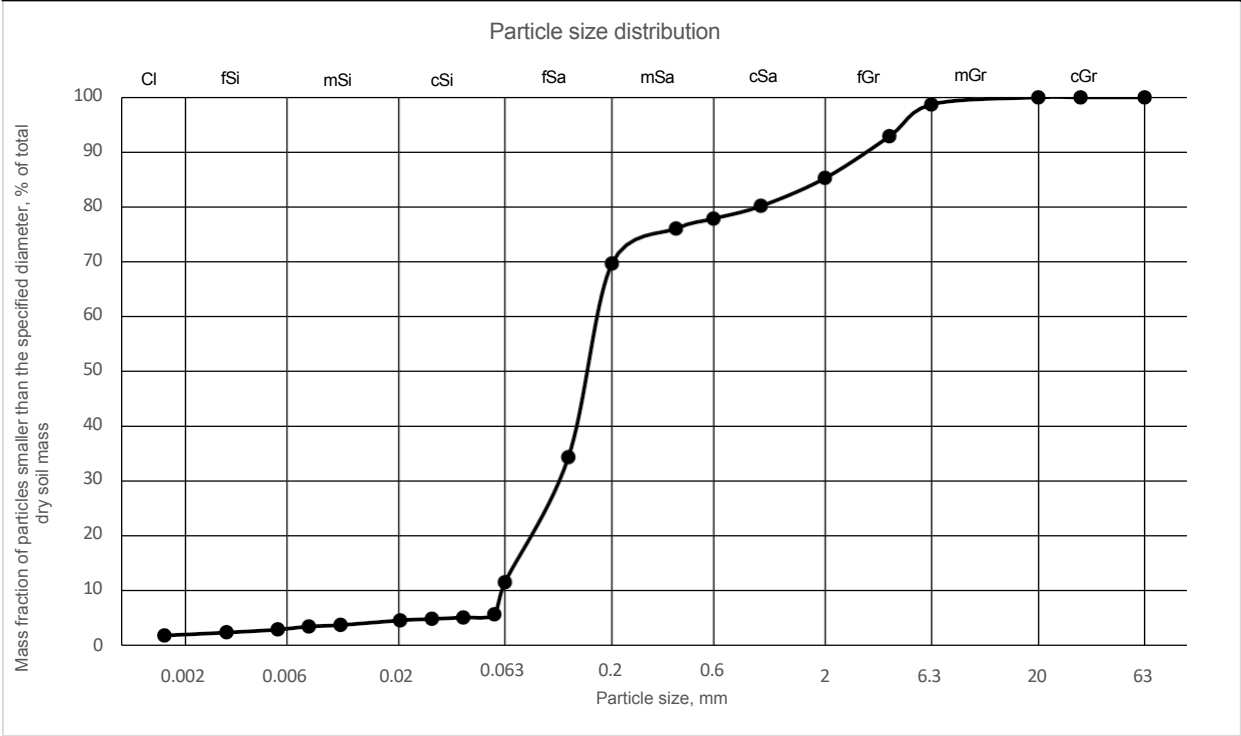
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.7	98.8	97.6	96.6	95.6	91.3	84.9	77.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-	-			
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.178												
	1.863		0.44										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_211	Gr.7	4	D	20.80	21.60



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.5	99.0	98.3	97.3	96.4	95.3	88.9	77.3	65.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.298												
	2.043		0.31										
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

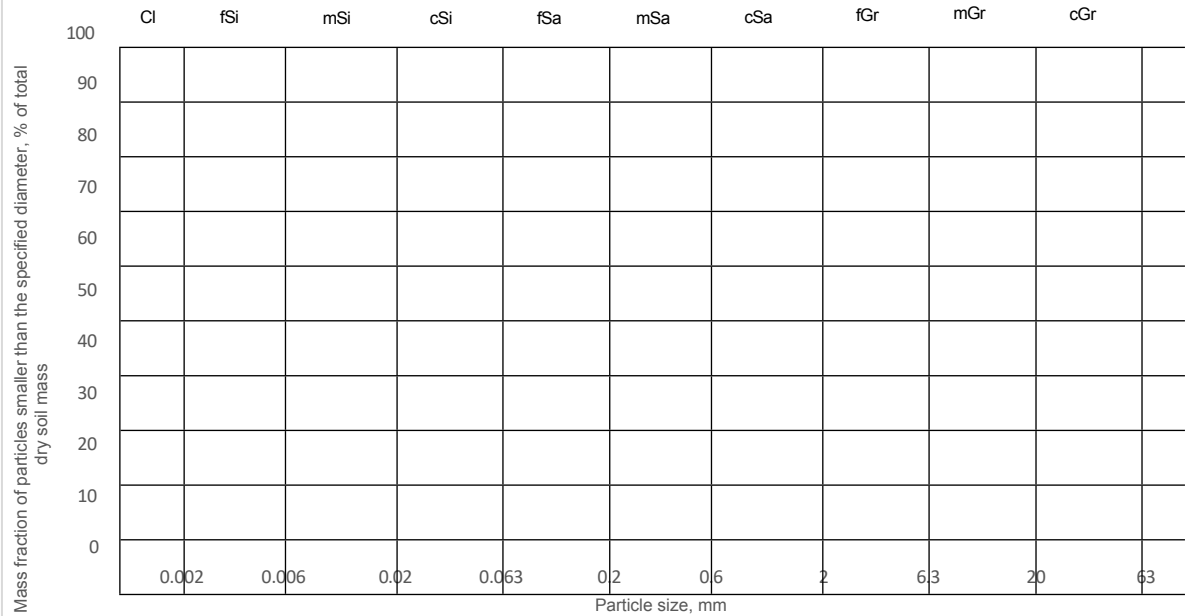
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_212	Gr.17	1	D	4.50	4.80



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.7	92.9	85.3	80.2	77.9	76.1	69.7	34.4	11.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0562	0.0403	0.0286	0.0204	0.0107	0.0076	0.0054	0.0031	0.0016		
			5.8	5.2	4.9	4.7	3.8	3.6	3.0	2.5	1.9		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0611	0.1539	2.88		-		-	-	-				
	0.1095	0.1758	1.12		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
				1.3%									
Soil classification*													
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

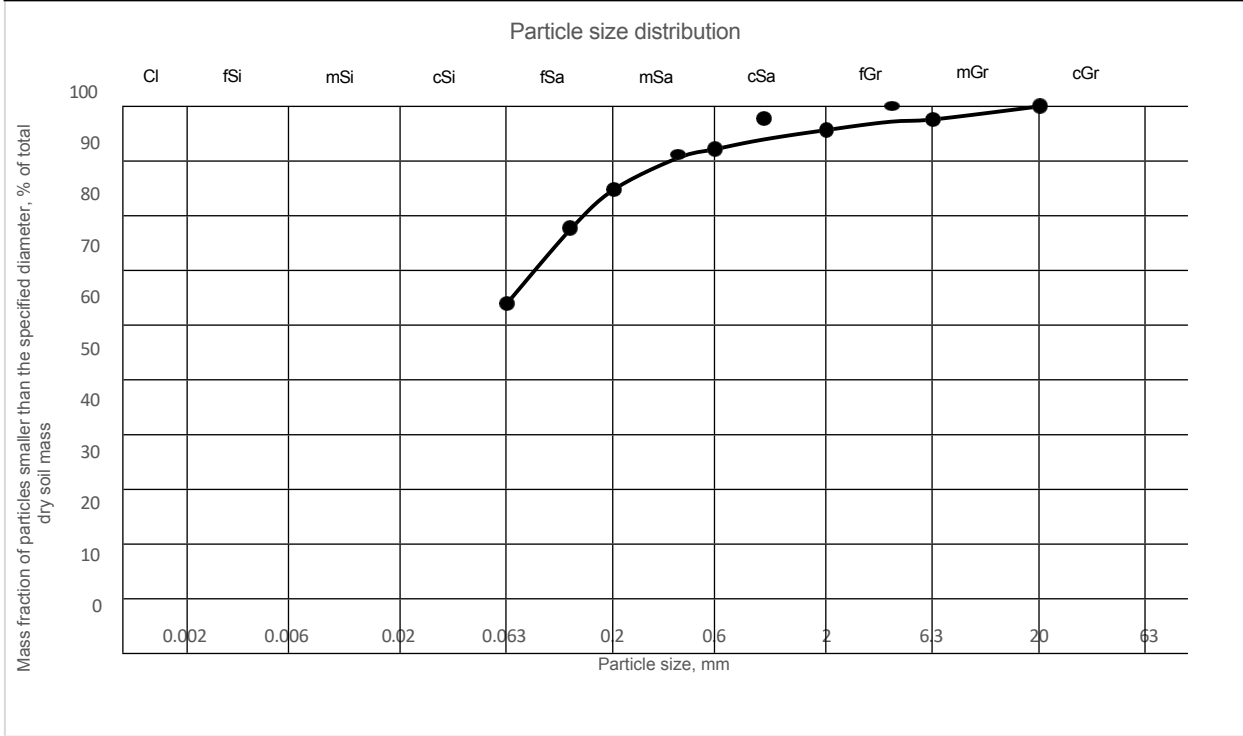
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_213	Gr.17	2	D	10.20	10.50

Particle size distribution



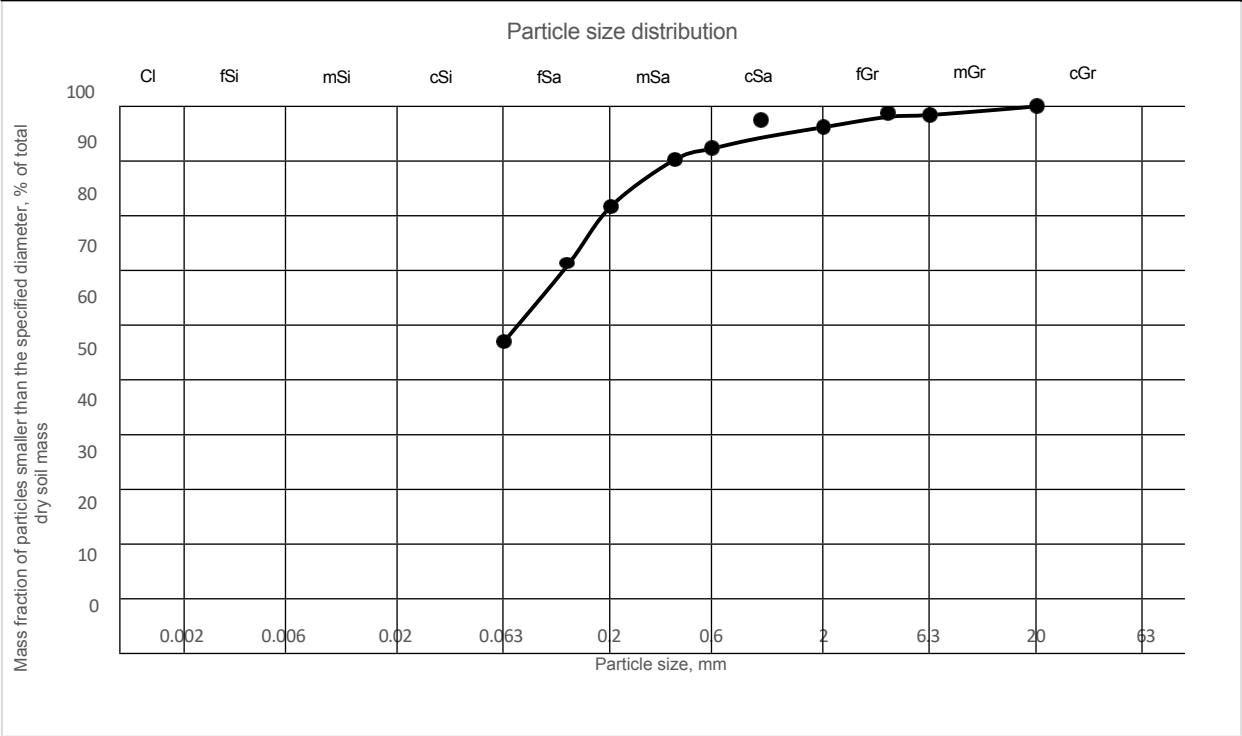
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1			
		d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1				
		-	-	-		-			-	-	-				
		-	-	-		-			-	-	-				
						171.0									-
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³													e, 1
Soil classification*															
Index:		Pt	Name:			Peat									
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		HN													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_214	Gr.17	3	U	17.90	18.50



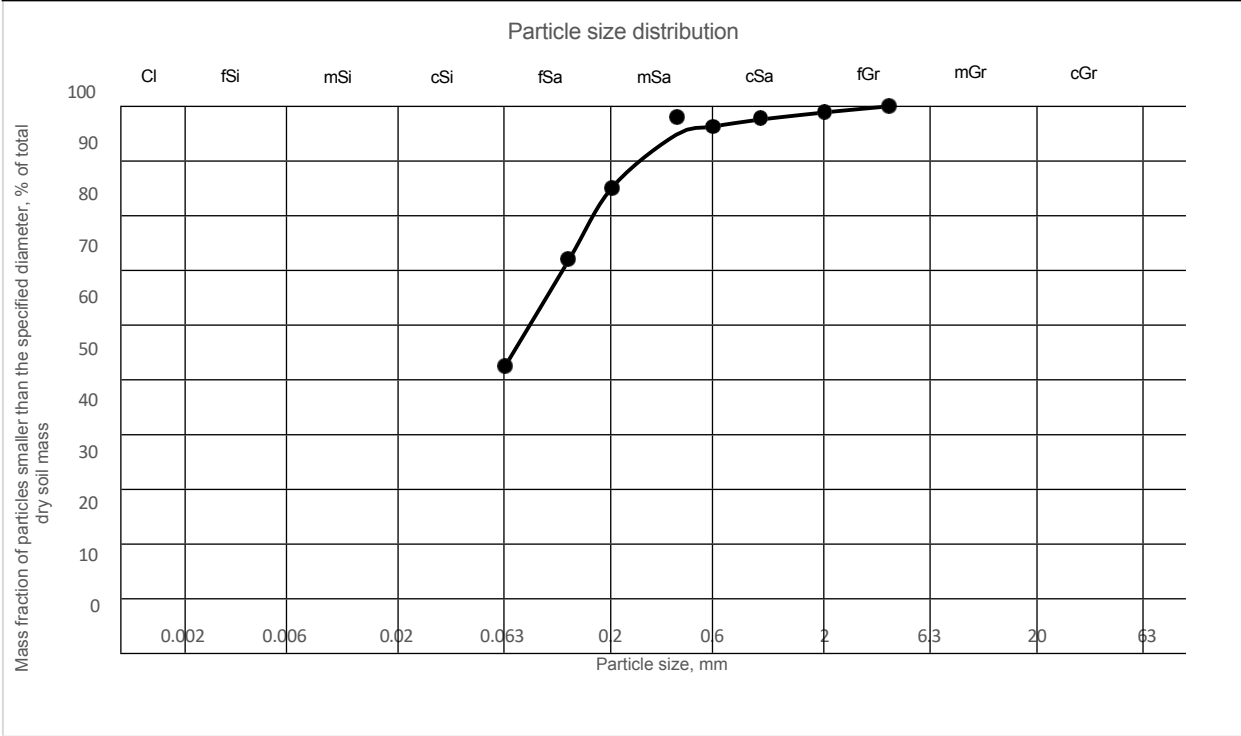
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	97.6	97.2	95.7	93.9	92.2	90.6	84.8	77.5	64.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		18.3		22.5	8.7	0.48				
	-	-	-		90.6		13.8	0.52					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.159												
	1.852		0.44										
Soil classification*													
Index:	saCIL	Name:			Sandy clay with low plasticity, soft								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_215	Gr.17	4	U	27.30	27.90



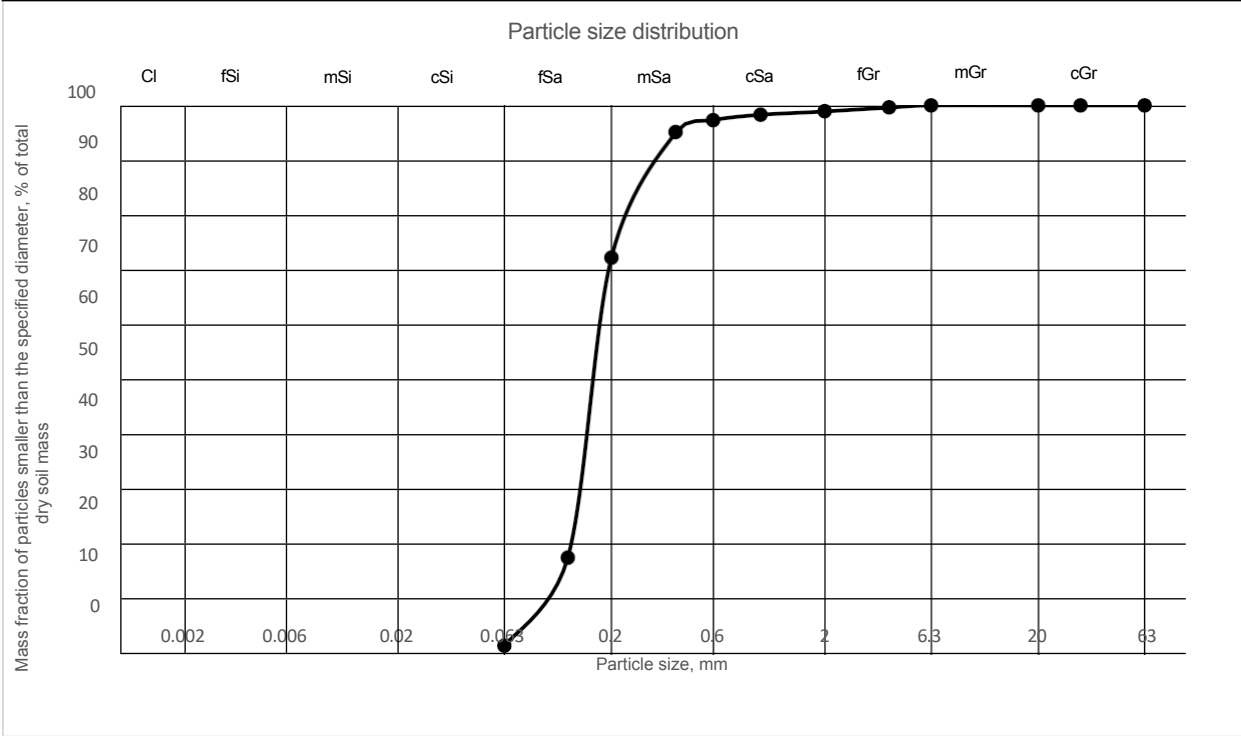
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.4	98.1	96.2	94.2	92.3	90.3	81.7	70.9	57.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	0.0730	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.212												
	2.009		0.34										
Soil classification*													
Index:				Name:									
Remarks: Non-cohesive soil													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_219	Gr.5	4	U	15.10	15.70



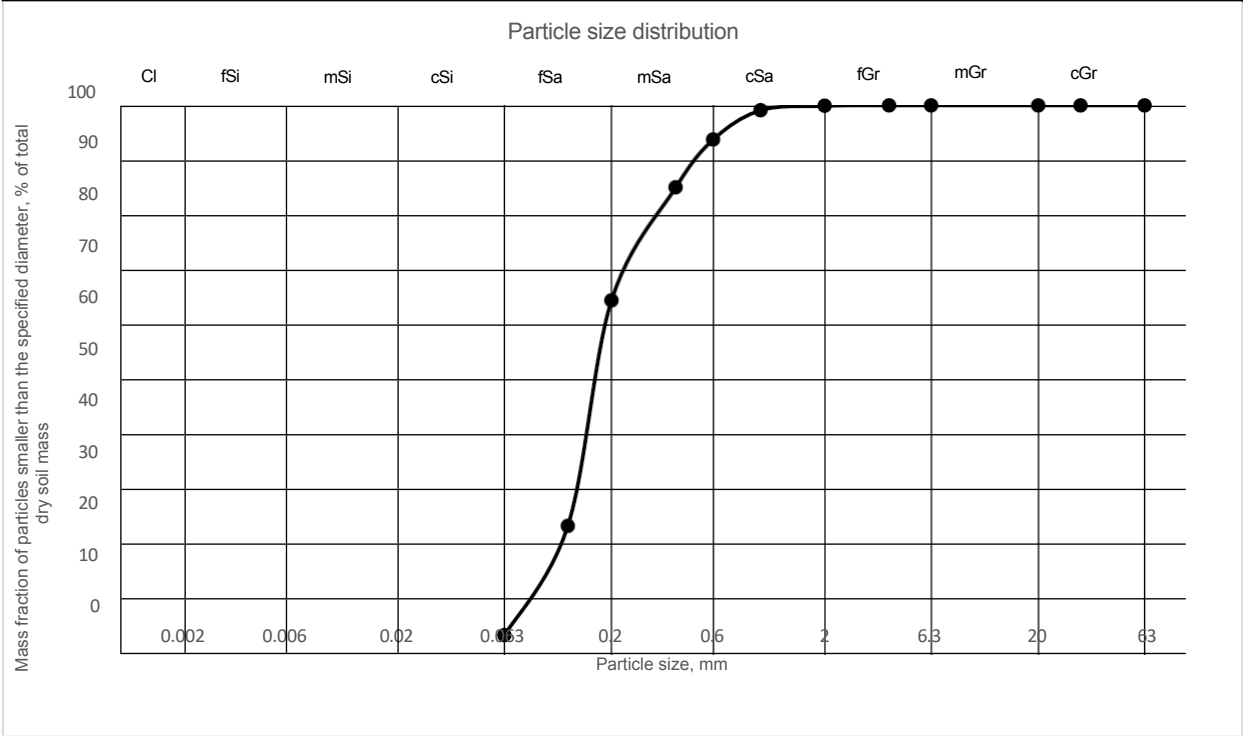
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	98.9	97.6	96.3	94.8	85.1	71.8	52.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		14.2		20.2	8.1	0.74				
	-	0.0822	-		94.8		12.1	0.26					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.180												
	1.921		0.40										
Soil classification*													
Index:	saCIL	Name:			sandy clay with low plasticity, firm								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_221	Gr.4	1	D	8.50	8.80



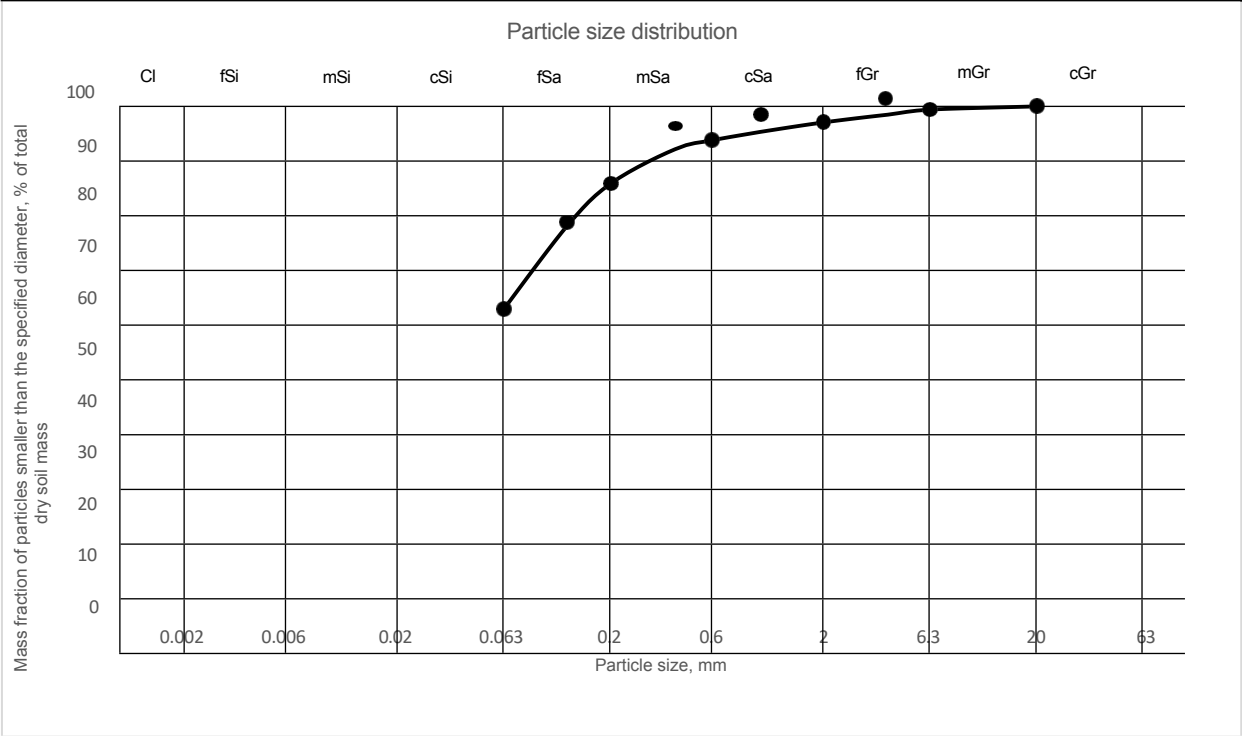
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.6	98.9	98.3	97.3	95.1	72.3	17.7	1.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0899	0.1651	2.00		-		-	-	-				
	0.1390	0.1799	1.19		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_222	Gr.4	2	D	11.40	11.70



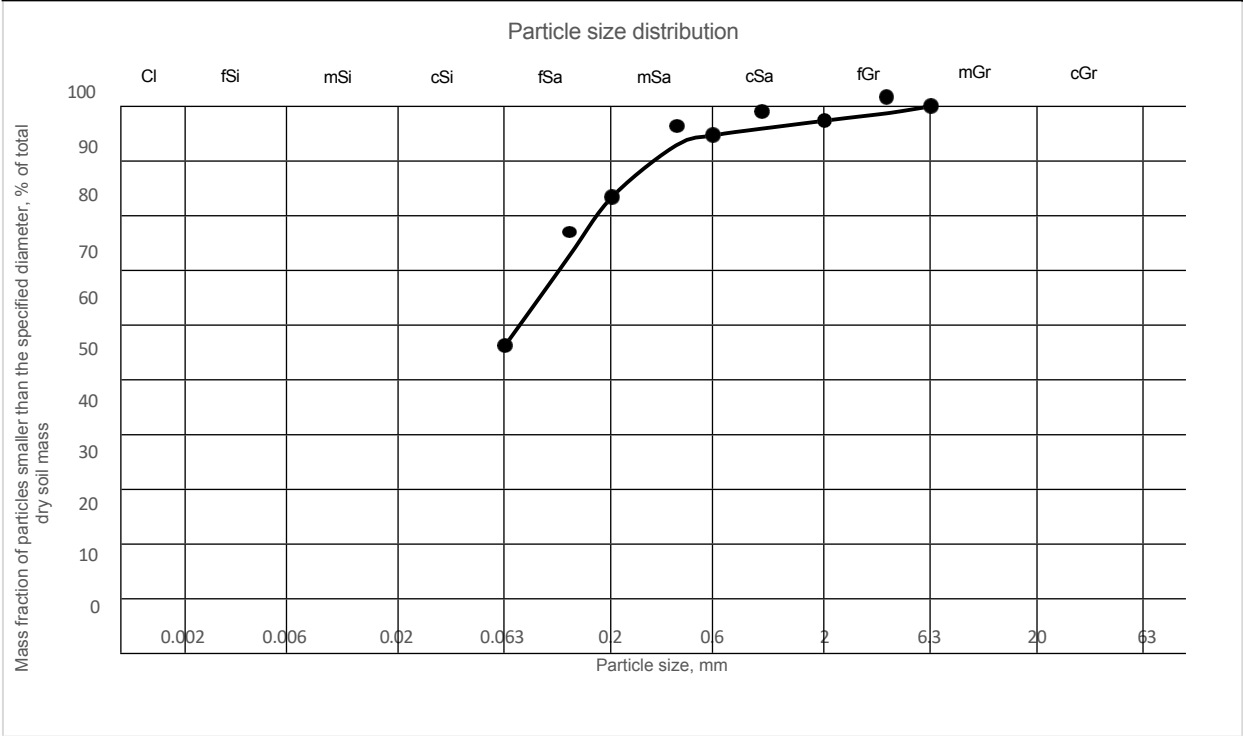
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.1	93.8	85.1	64.5	23.5	3.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0785	0.1694	2.42		-		-	-	-				
	0.1347	0.1899	1.22		-		-	-					
					20.2								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_223	Gr.4	3	U	14.90	15.30



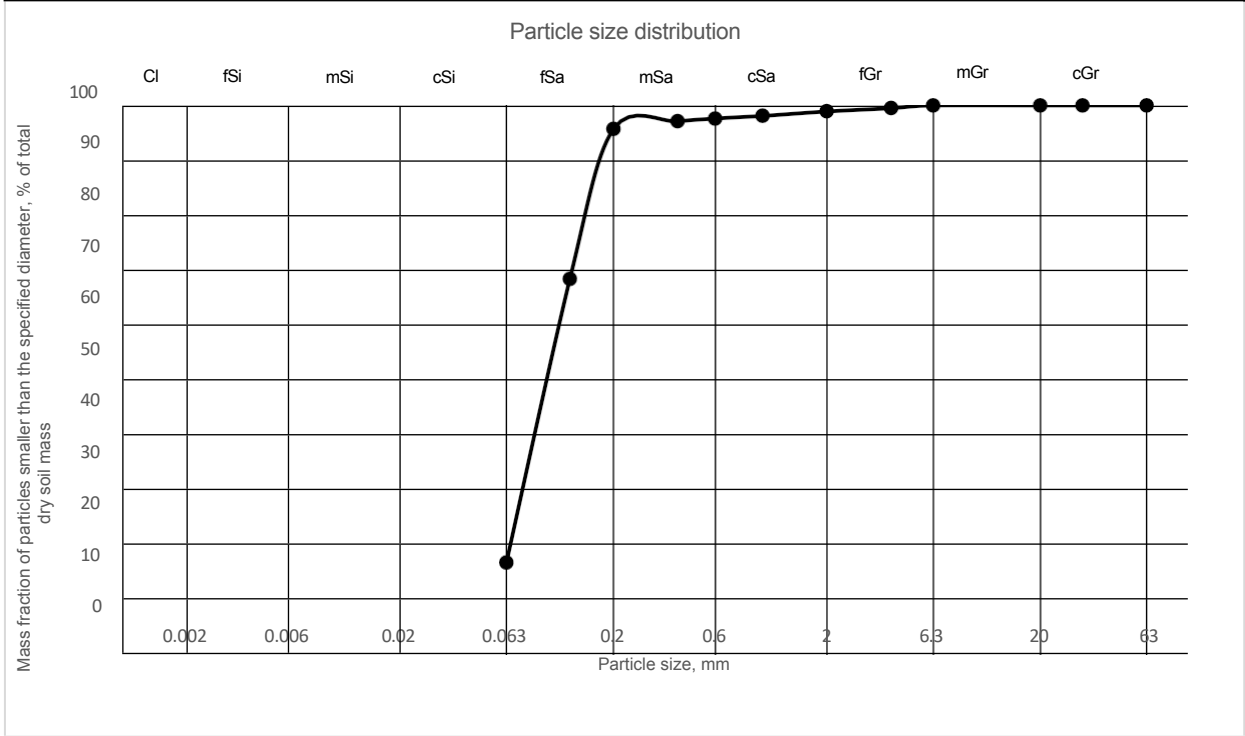
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.4	98.5	97.1	95.3	93.8	92.2	85.9	78.2	63.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1		
		-	-	-		13.3			-	-	-	-	
		-	-	-					-	-	-		
		Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3			Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)
ρd, Mg*m-³	e, 1												
2.263	2.69		0.35										
1.997													
Soil classification*													
Index:				Name:									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_224	Gr.4	4	U	16.00	16.50



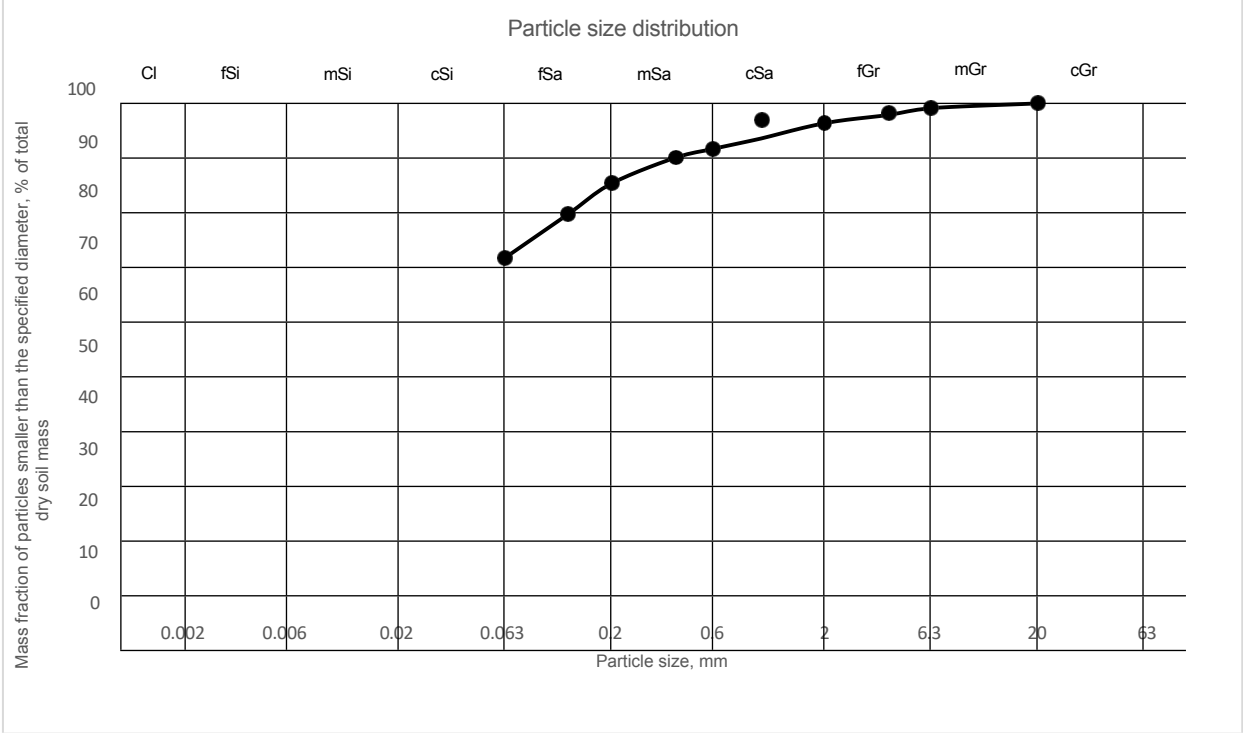
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	98.8	97.4	95.9	94.7	92.9	83.4	72.4	56.3
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-				14.2	18.3	6.0			
	-	0.0737	-				92.9	12.3	0.32			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³		e, 1									
	2.241											
	1.980		0.35									
Soil classification*												
Index:	saCIL-SiL	Name:		Sandy, low-plasticity clay-silt, firm								
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	TL-UL											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_225	Gr.4	5	U	27.50	27.80



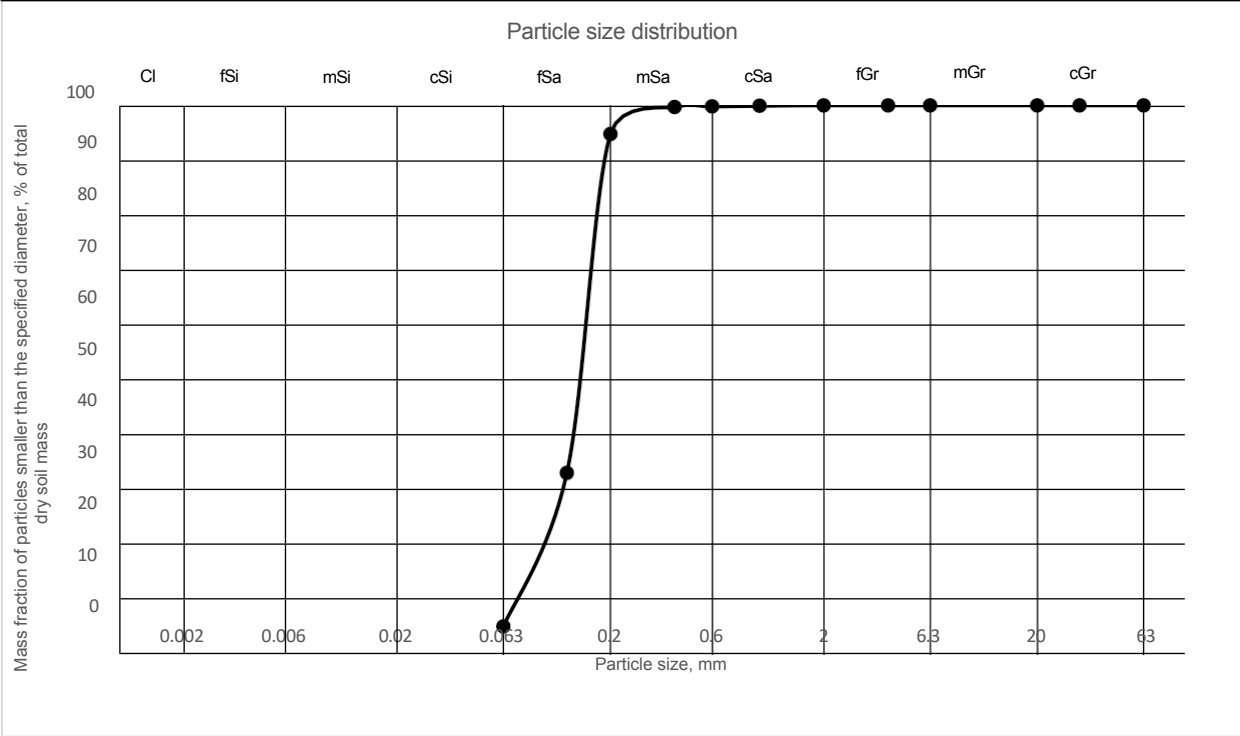
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	98.9	98.1	97.6	97.1	95.7	68.4	16.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
	-	0.0979	-						25.8	26.6	-	-	
	0.0751	0.1118	-						97.1	-	-		
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
	ρd, Mg*m-³												
Soil classification*													
Index:		siSa		Name:			sandy loam						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_226	Gr.4	9	D	35.00	35.50



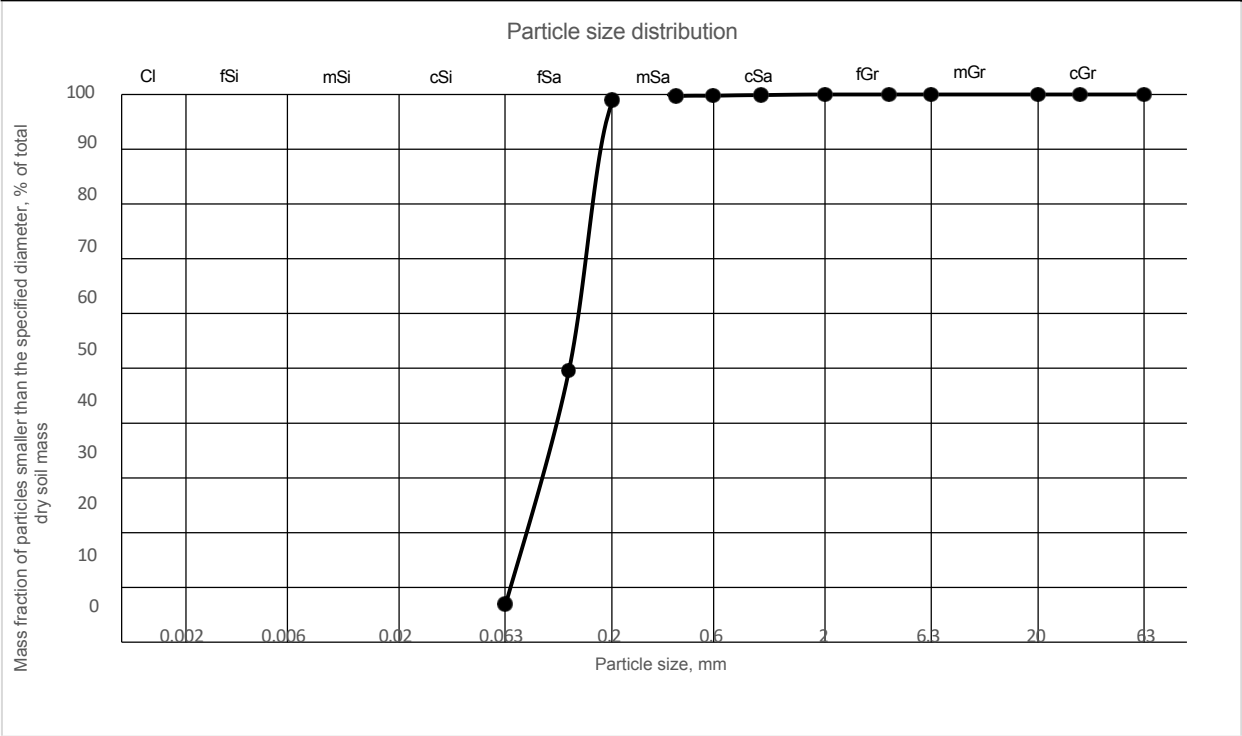
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	99.1	97.9	96.4	93.6	91.7	90.1	85.4	79.8	71.8
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		12.9		14.3	28.0	9.7	1.41		
	-	-	-				90.1	18.3	-0.41			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³		e, 1									
	2.294											
	2.032		0.33									
Soil classification*												
Index:	saCIL	Name:		Sandy clay with low plasticity, very stiff								
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	TL											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_227	Gr.59	1	D	1.00	1.30



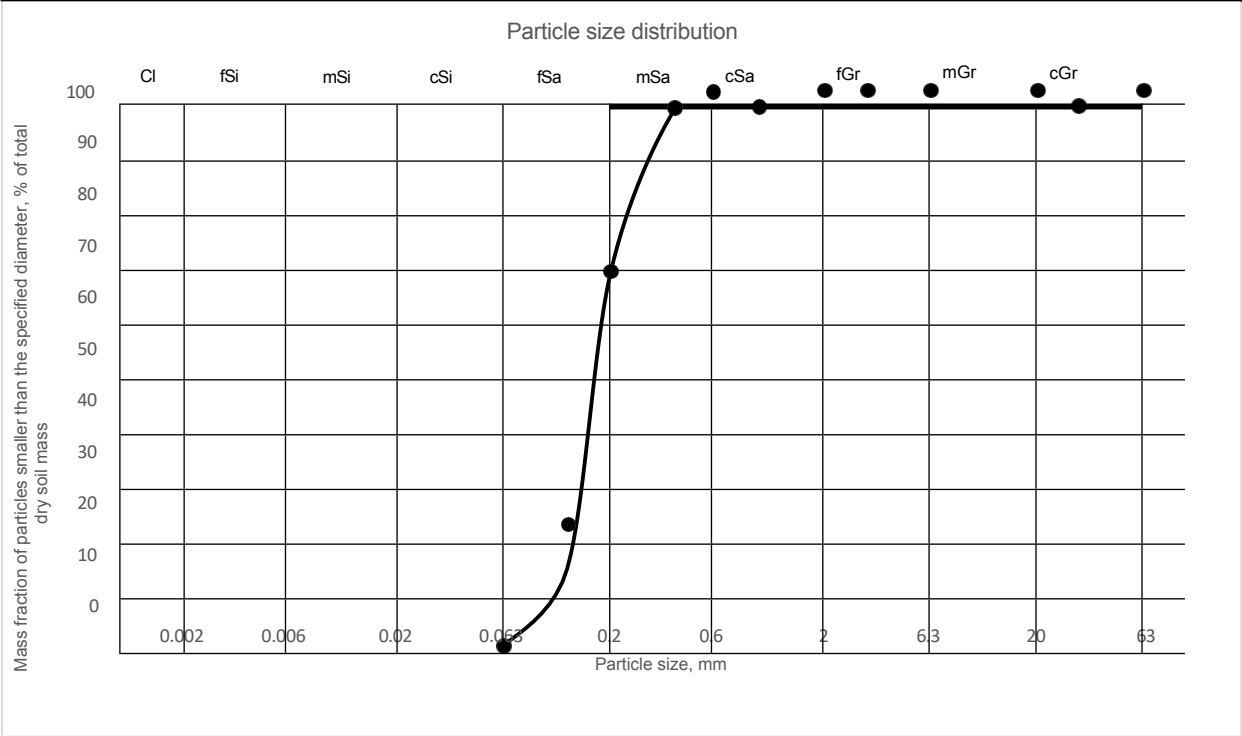
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	94.8	33.1	5.2						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1					
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1						
		0.0709	0.1422	2.16							-	-	-						
		0.1158	0.1534	1.23							-	-	-						
Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³																	
Soil classification*																			
Index:		SaFP		Name:				slightly silty-clayey poorly sorted sand											
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_228	Gr.59	2	D	3.20	3.50



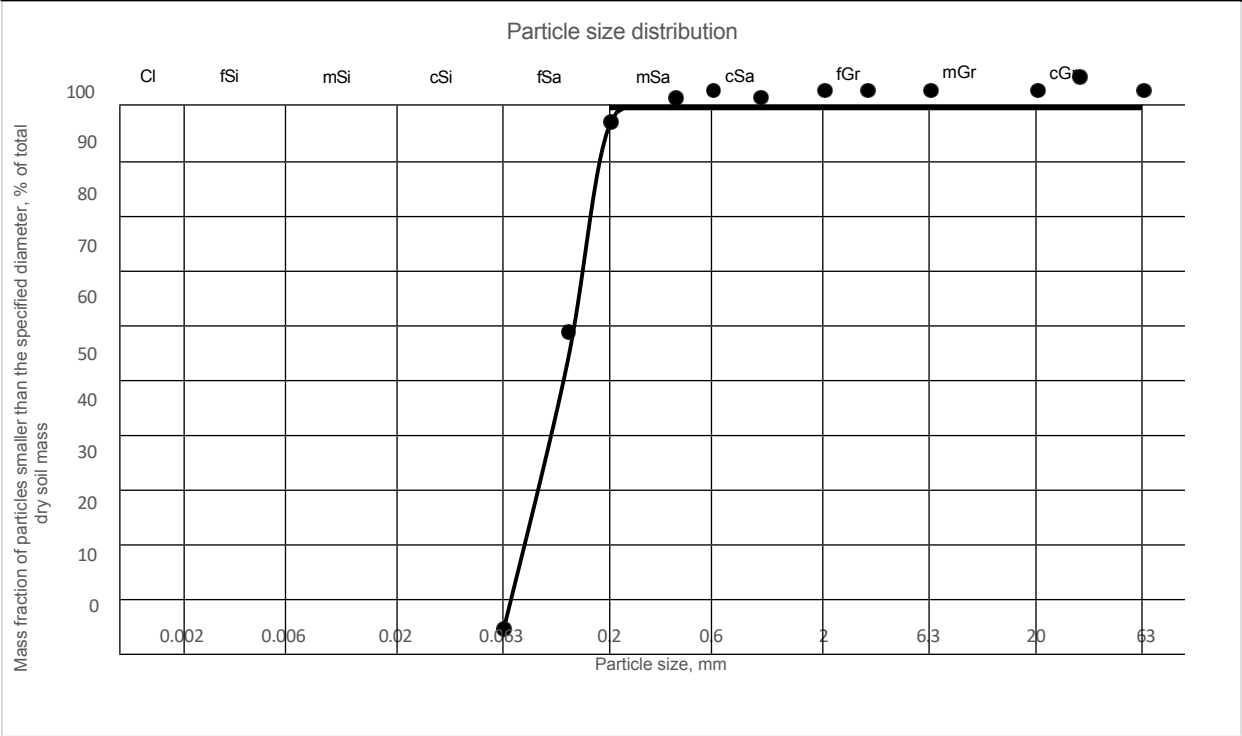
Sieve method (1)		Sieve aperture size, mm														
		Percentage of particles passing through the sieve relative to the total dry soil mass, %														
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063			
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	99.0	49.6	7.0			
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1		
		0.0661	0.1255	2.09								-	-	-	-	
		0.0912	0.1380	0.91								-	-	-		
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)	
ρd, Mg*m-³																
Soil classification*																
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand									
Notes:																
Soil classification DIN 18196:2023-02*																
Index:		SU														
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_229	Gr.59	3	U	11.40	11.70



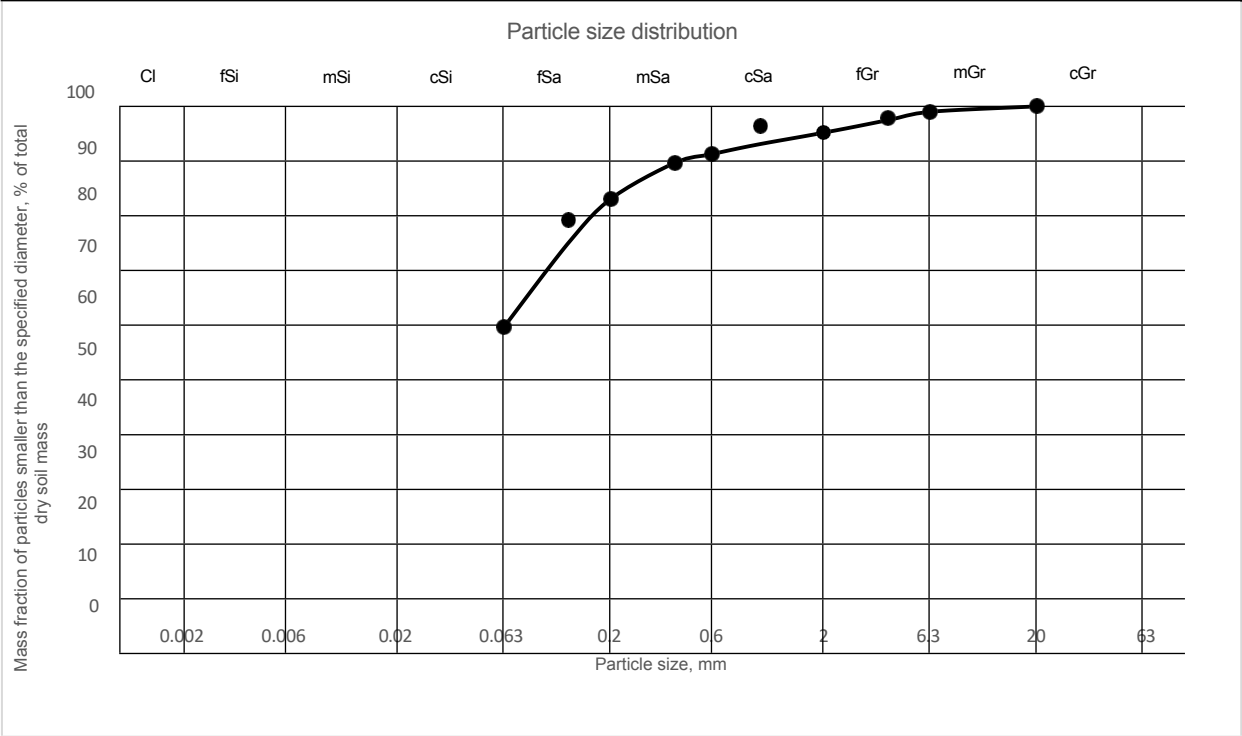
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.6	69.8	15.6	1.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0952	0.1684	1.93		-		-	-	-				
	0.1416	0.1837	1.15		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
1.963		2.66											
1.567				0.70									
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_230	Gr.59	4	U	16.30	16.60



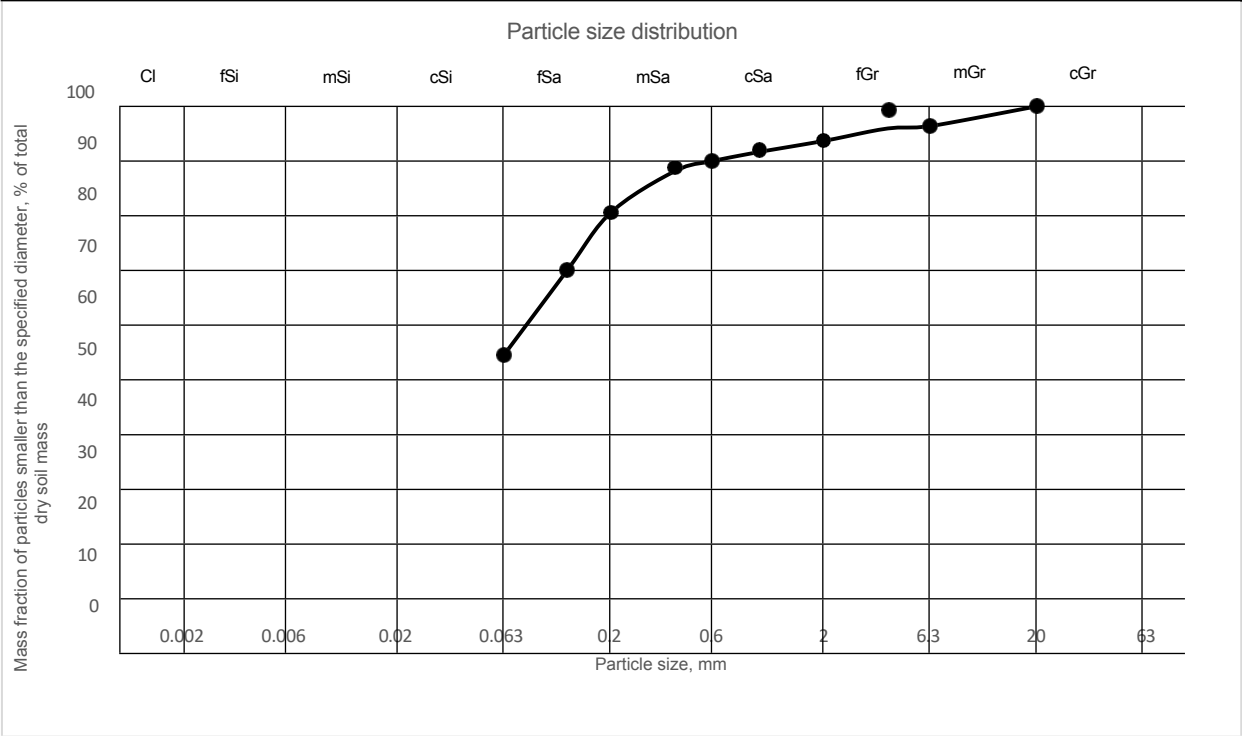
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	97.2	53.1	4.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0680	0.1196	1.98		-		-	-	-				
	0.0902	0.1345	0.89		-		-	-					
					24.0								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.933												
	1.559		0.70										
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_231	Gr.59	5	U	18.40	18.90



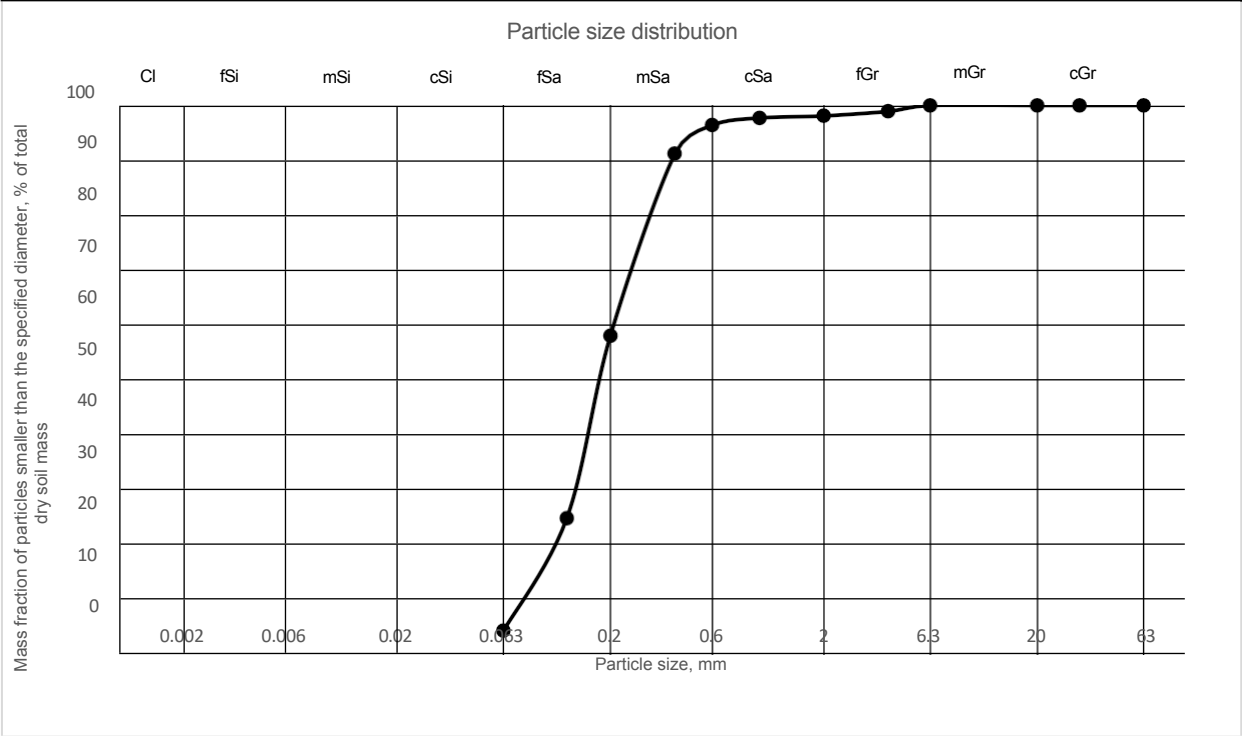
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.0	97.5	95.2	93.1	91.3	89.7	83.1	74.8	59.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		15.9		22.2	7.9	0.79				
	-	0.0639	-		89.7		14.3	0.21					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.170												
	1.898		0.41										
Soil classification*													
Index:	saCIL	Name:		Sandy clay with low plasticity, stiff									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_232	Gr.59	6	U	19.60	20.10



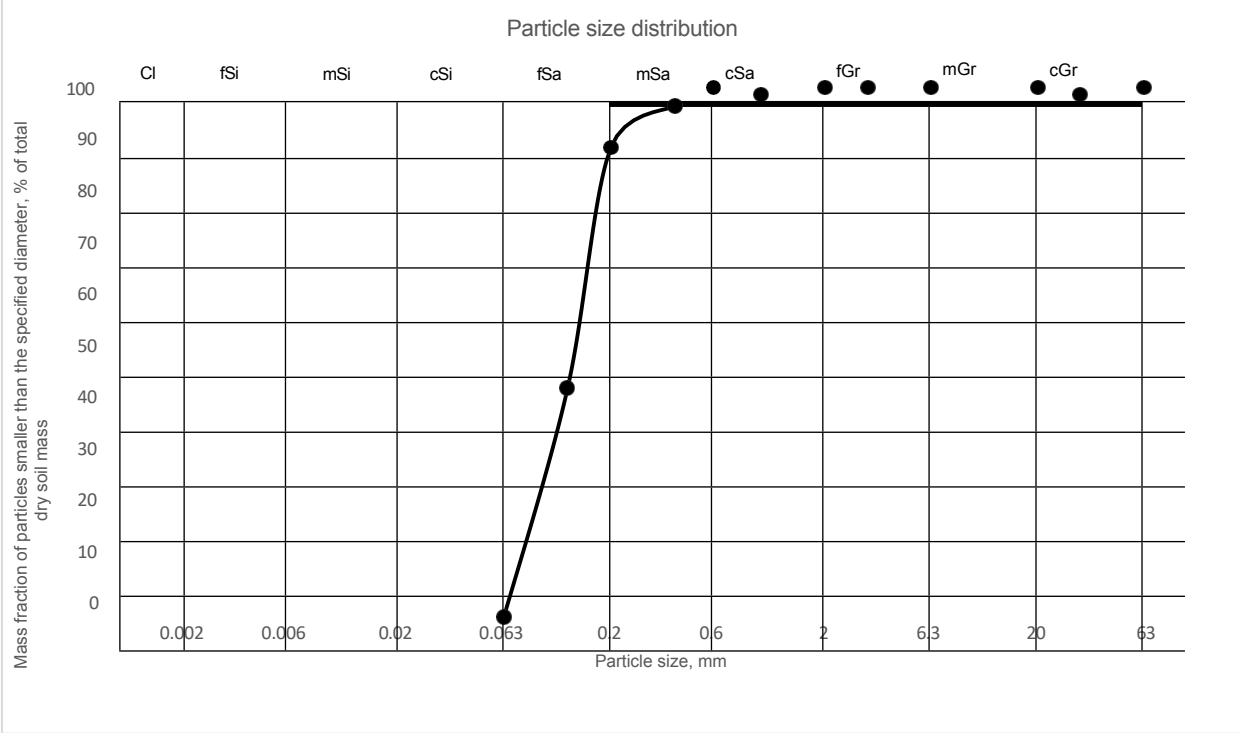
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	96.4	96.0	93.7	91.7	90.0	88.2	80.6	70.1	54.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-				-	-	-	-			
	-	0.0800	-		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.178													
1.917		0.39											
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_234	Gr.59	8	U	21.50	21.80



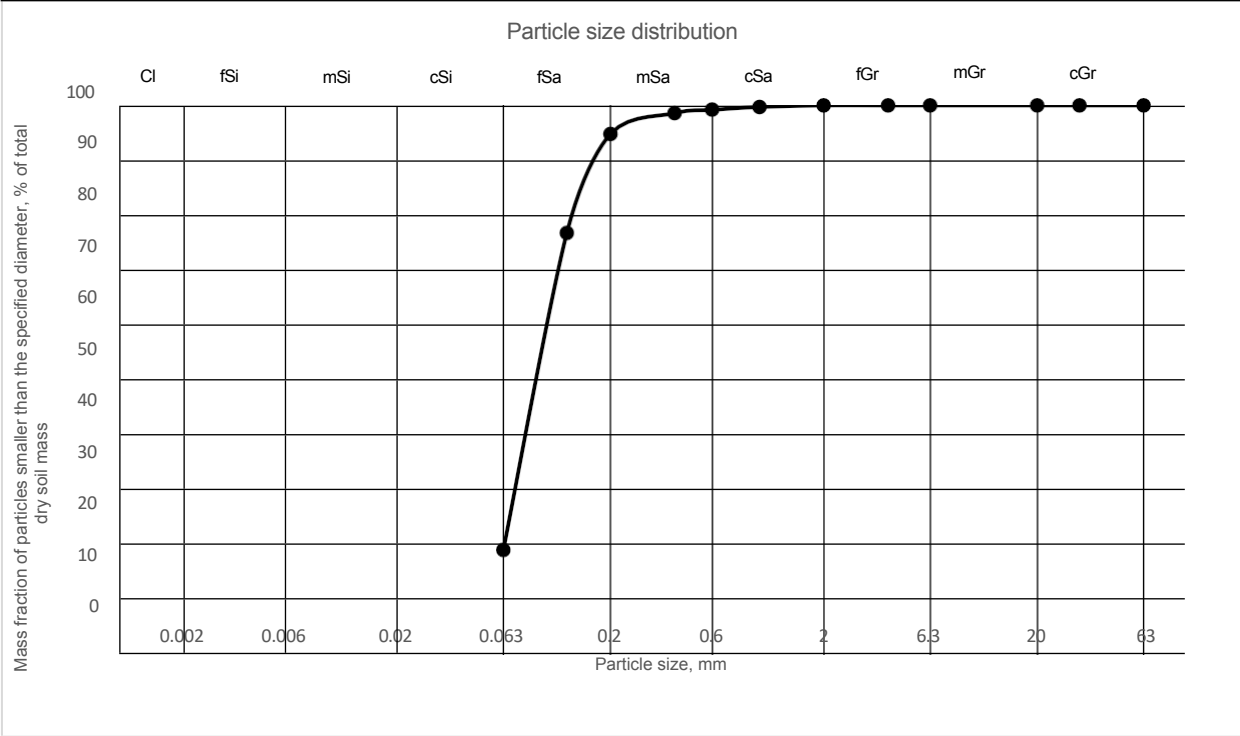
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.9	98.1	97.7	96.4	91.2	58.1	24.9	4.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0760	0.1783	2.74		-		-	-	-				
	0.1344	0.2081	1.14		-		-	-					
	21.5												
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.007												
	1.652		0.60				1.8×10 ⁻⁵						
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_235	Gr.59	9	U	22.40	22.70



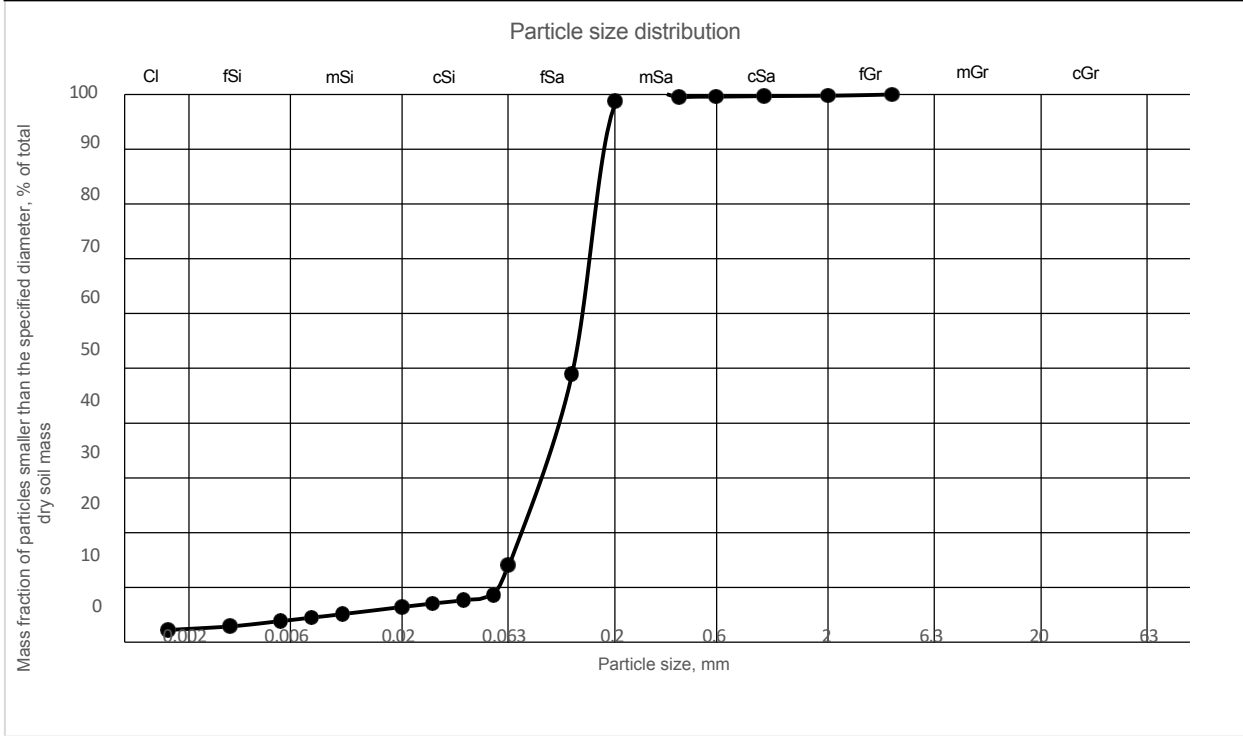
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.5	91.9	47.7	6.2	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0671	0.1281	2.12						-	-	-	-	
		0.0933	0.1425	0.91						-	-	-		
		Soil density (5)		ρ, Mg/m³						Particle density (6)		ρs, Mg*m-3	Porosity (7)	
ρd, Mg*m-³														
2.000														
1.637	2.64			0.61	9.3×10 ⁻⁶									
Soil classification*														
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand								
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_236	Gr.59	10	D	33.10	33.40



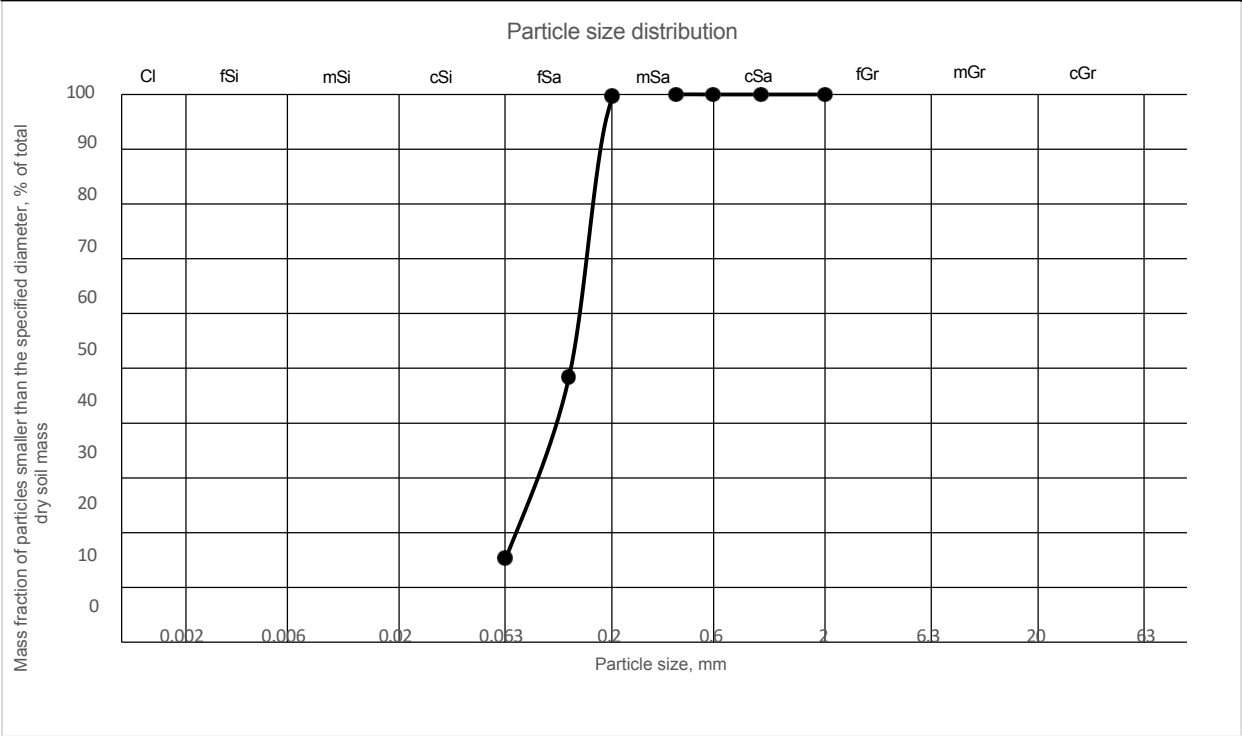
Sieve method (1)		Sieve aperture size, mm												
		Percentage of particles passing through the sieve relative to the total dry soil mass, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.2	98.6	94.8	76.8	19.1	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		-	0.0909	-						22.1	25.3	-	-	
		0.0717	0.1024	-						98.6	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
Soil classification*														
Index:		siSa		Name:			sandy loam							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU*												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_237	Gr.18	1	D	4.80	5.10



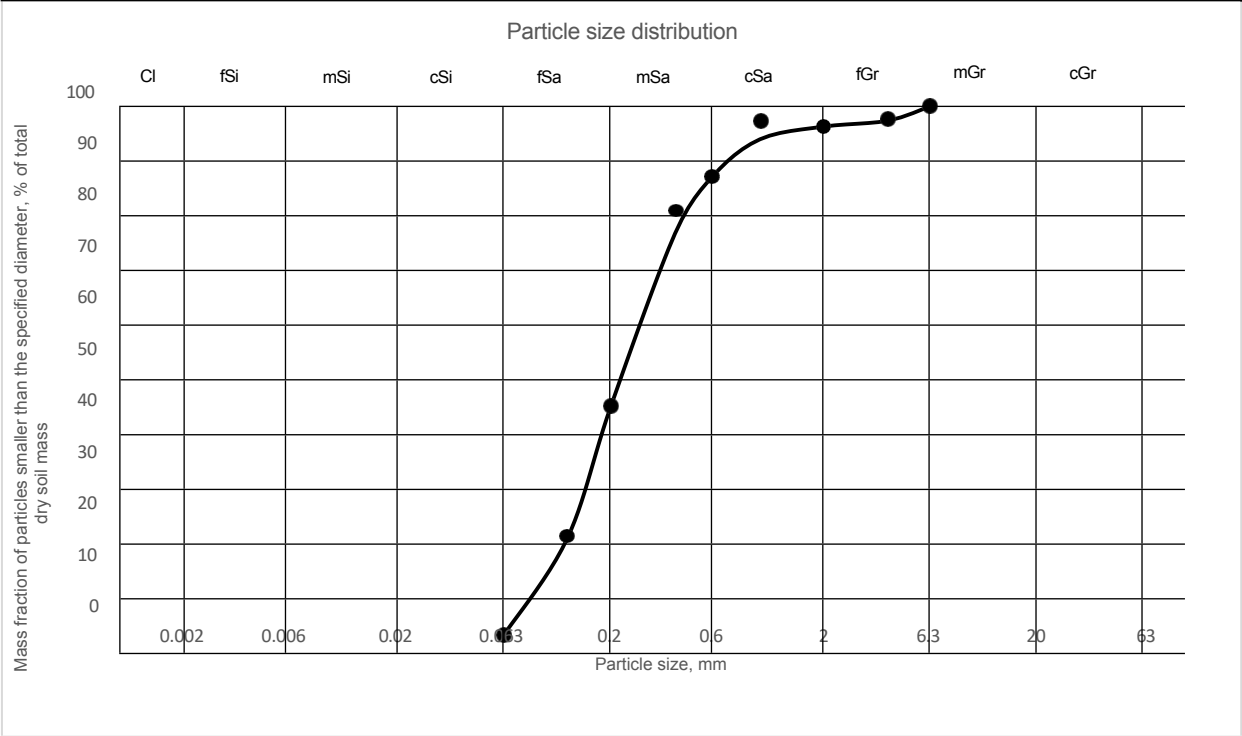
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.7	99.6	99.5	98.8	48.9	14.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0540	0.0389	0.0279	0.0200	0.0105	0.0075	0.0054	0.0031	0.0016		
			8.7	7.7	7.1	6.4	5.1	4.5	3.8	2.9	2.2		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0561	0.1263	2.47				-	-	-				
	0.0863	0.1388	0.96		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_238	Gr.18	2	D	6.60	6.90



Sieve method (1)		Sieve aperture size, mm														
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %														
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063			
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	48.4	15.4			
Hydrometer method (2)		Particle size, mm														
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass														
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1					
	-	0.1268	-						40.5	45.9	10.2	0.53				
	0.0853	0.1390	-						100.0	35.7	0.47					
Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s			
	ρd, Mg*m-³															
	1.791												2.64	1.07	2.4%	1.3×10 ⁻⁷
	1.275															
Soil classification*																
Index:		osiSa		Name:			Sandy loam with a small amount of organic matter									
Notes:																
Soil classification DIN 18196:2023-02*																
Index:		SU*														
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė														

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_239	Gr.18	3	D	8.90	9.20

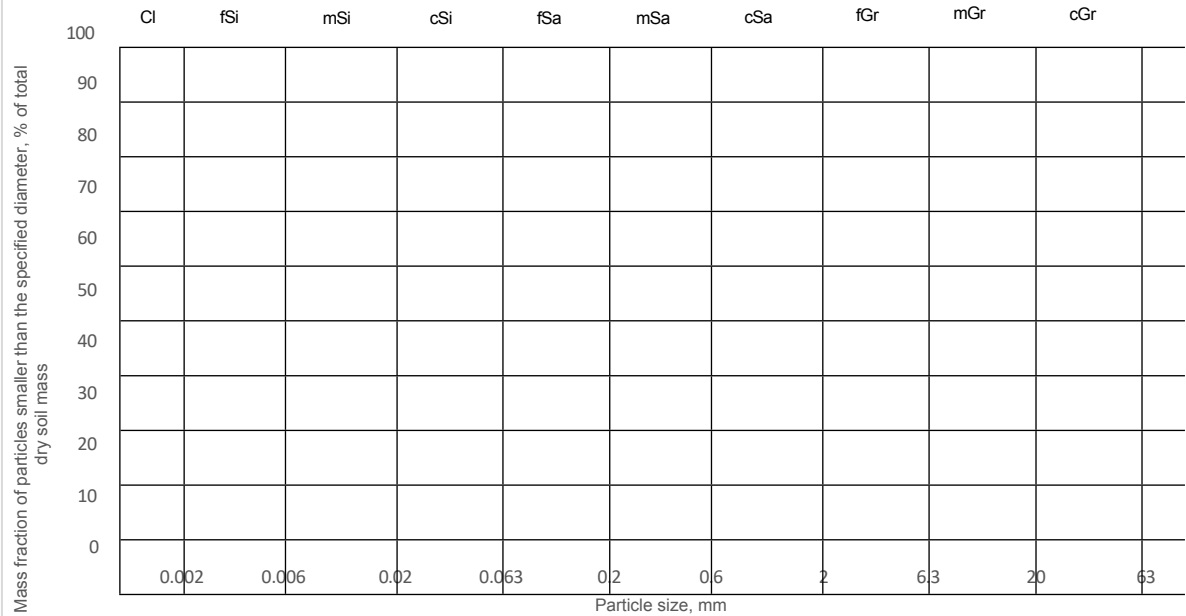


Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	97.4	96.3	94.0	87.2	76.8	45.2	21.1	3.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0811	0.2222	3.41				-	-	-	-			
	0.1487	0.2767	0.98				-	-	-				
	Soil density (5)	ρ, Mg/m³	Particle density (6)				ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
pd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP	Name:		Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											



Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_240	Gr.18	4	D	10.70	11.00

Particle size distribution



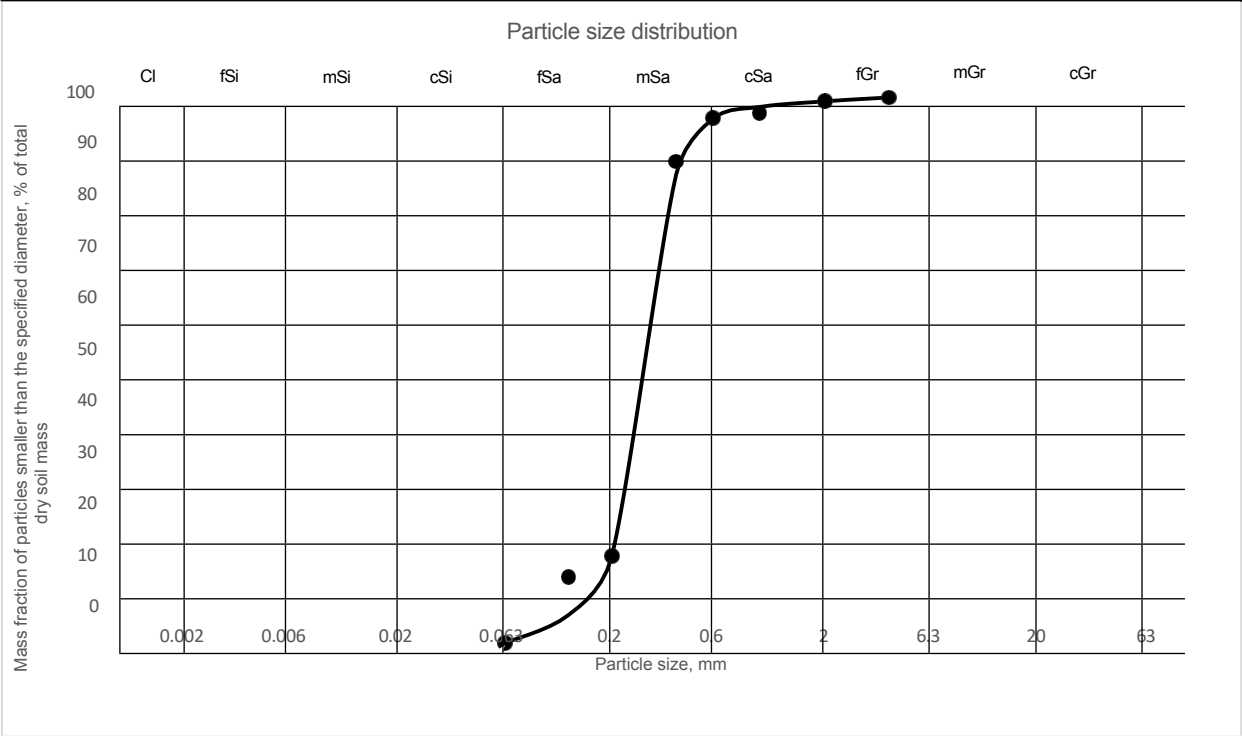
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
					209.0							
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
Soil classification*												
Index:	Pt	Name:				Peat						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	HN											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Particle size distribution



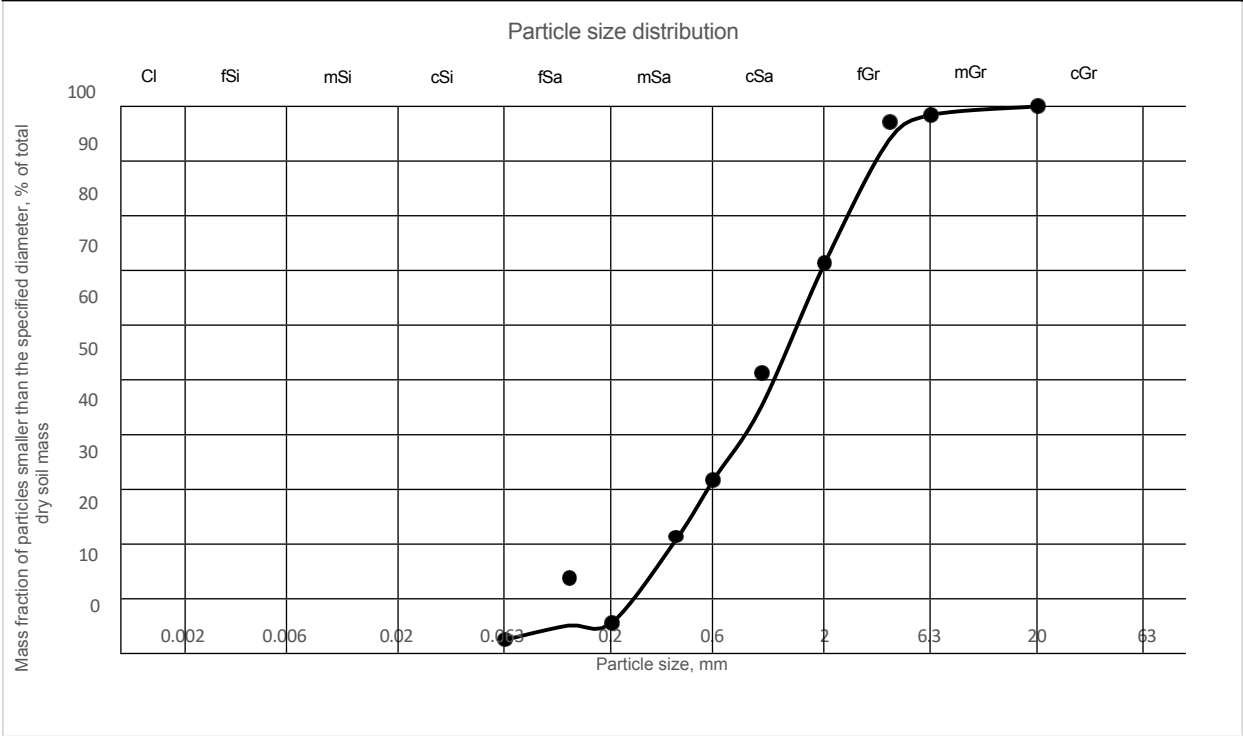
(228 , page 528 of 528)

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_242	Gr.18	6	D	12.90	13.20



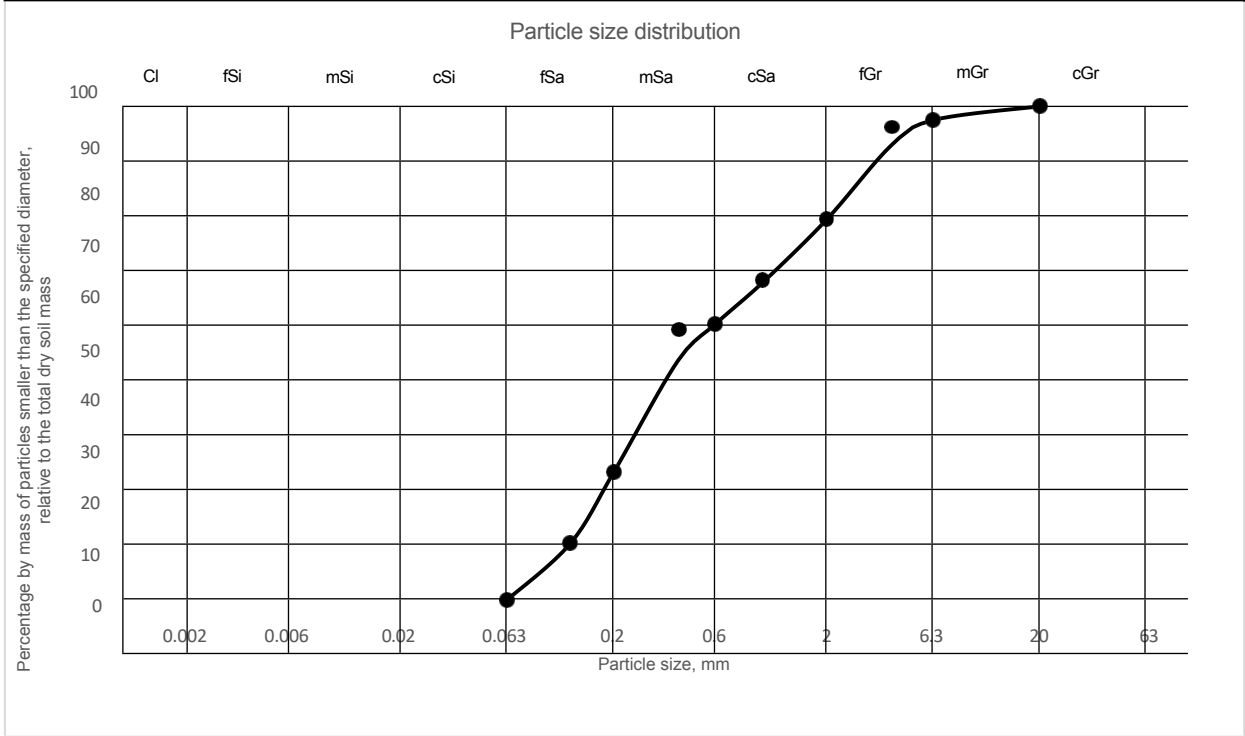
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	99.3	98.3	96.2	86.0	16.3	5.5	0.4		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Ductility tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1											
		0.1520	0.2796	2.03											
		0.2292	0.3089	1.12											
Soil density (5)		p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³													
		1.885													
		1.468													
Soil classification*															
Index:		SaP		Name:			poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_243	Gr.18	7	D	15.10	15.40



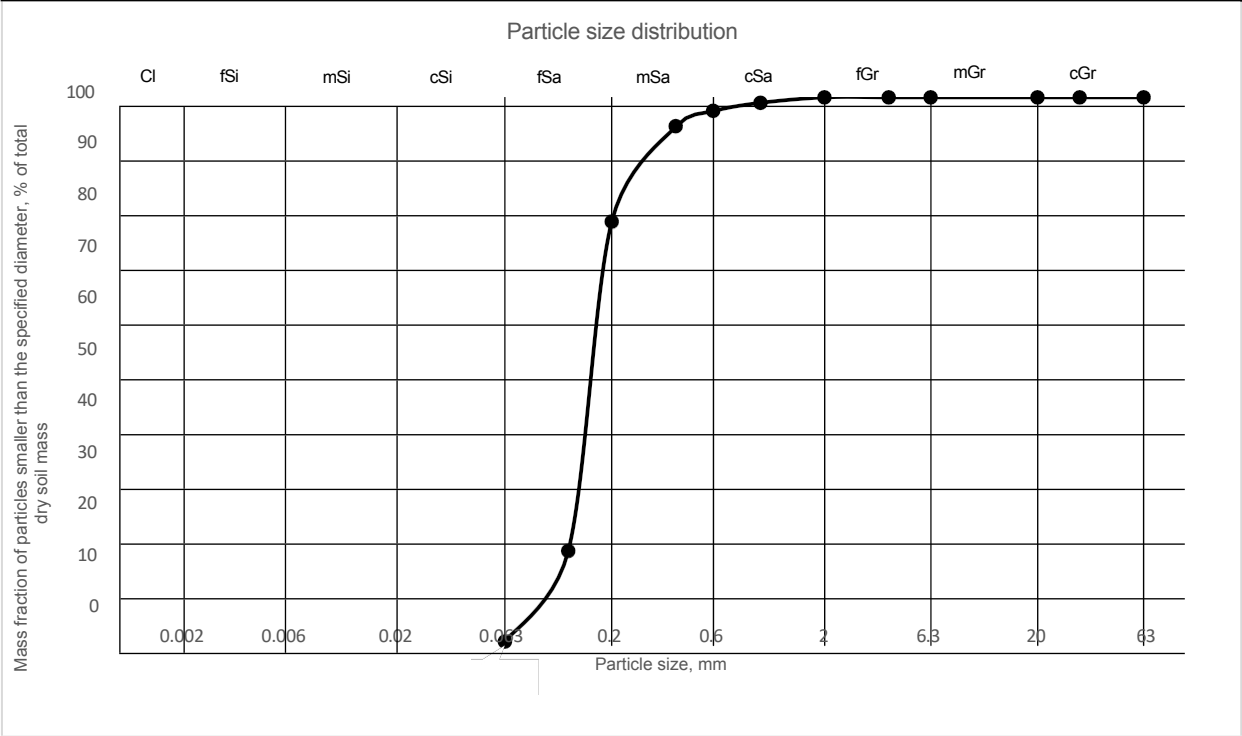
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.4	93.8	71.4	45.0	31.8	20.9	5.7	5.2	2.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.2433	1.1403	6.09				-	-	-				
	0.5611	1.4827	0.87		-		-	-					
					13.3								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.976												
	1.744		0.53										
Soil classification*													
Index:	grSaG	Name:				Gravelly sand of varying gradation							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SI												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_244	Gr.18	8	D	27.50	27.80



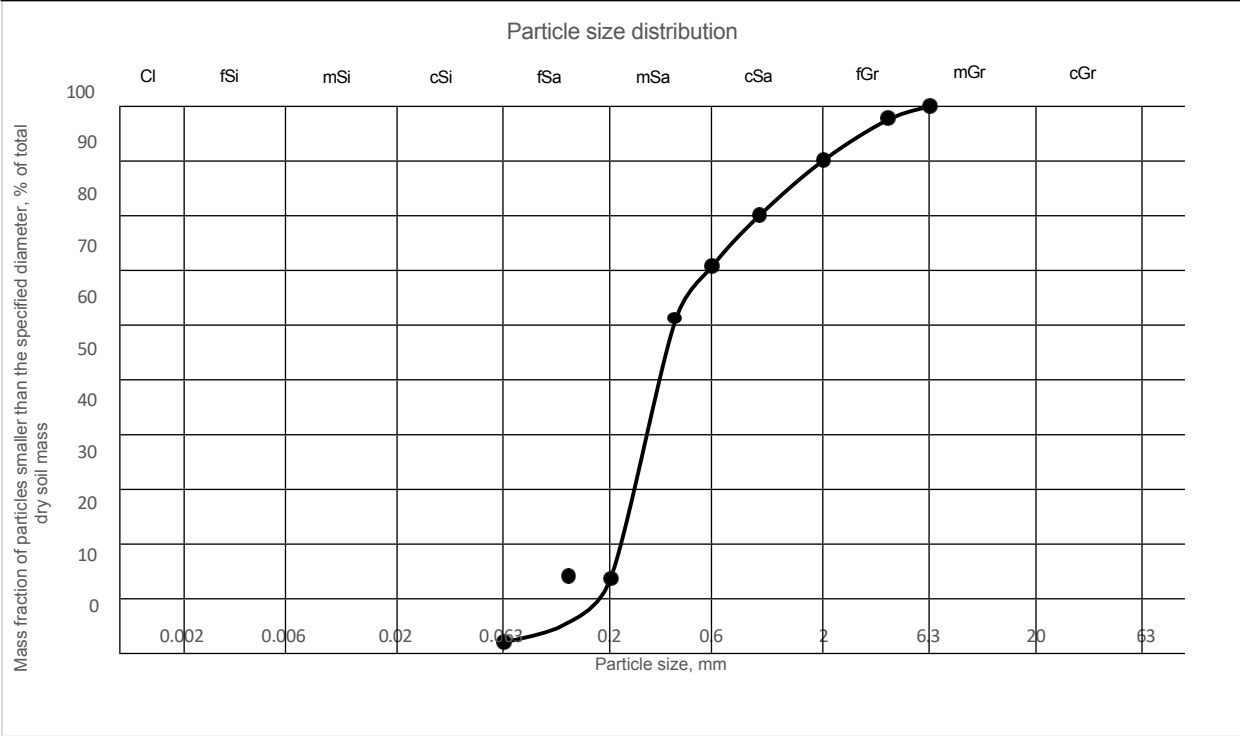
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	97.5	92.8	79.4	67.9	60.3	53.6	33.2	20.2	9.9						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1					
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1						
		0.0636	0.3539	9.29							-	-	-						
		0.1781	0.5903	0.85							-	-	-						
Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m³																	
		2.079																	
		1.805																	
Soil classification*																			
Index:		grSaFG		Name:				Gravelly, slightly silty-clayey sand of varying gradation											
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_245	Gr.46	5	D	13.20	13.50



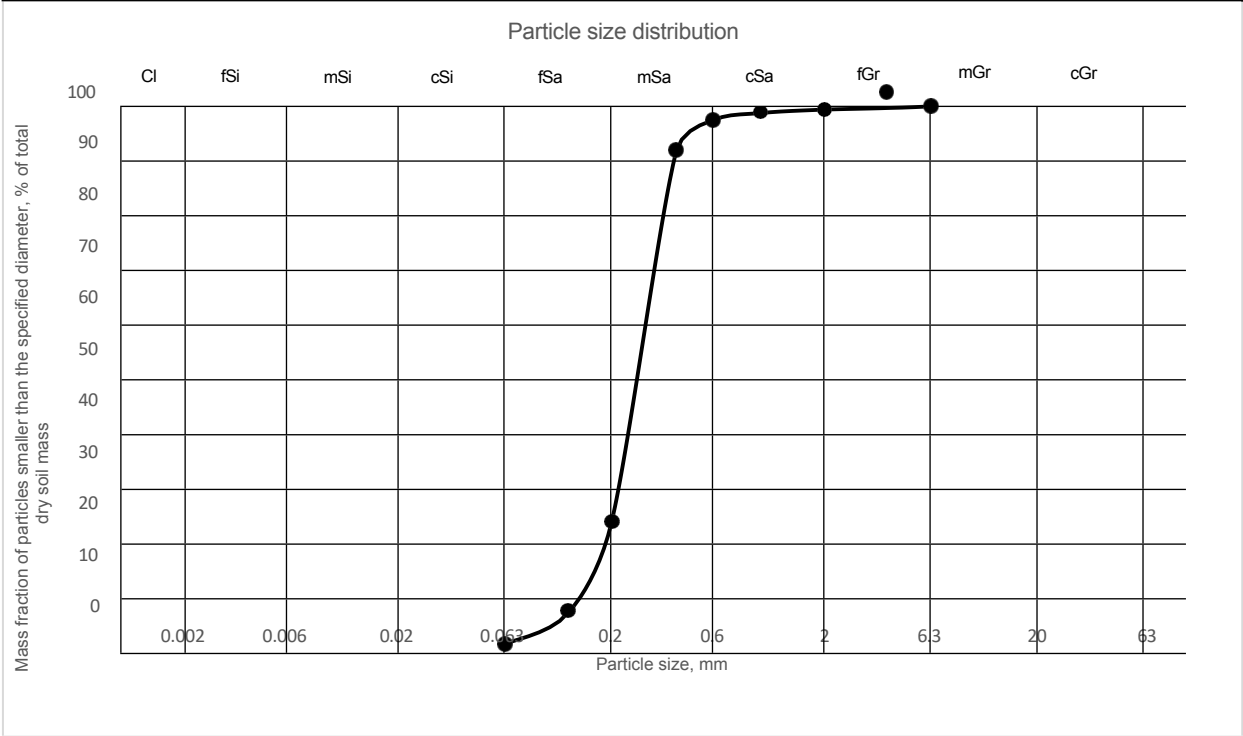
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.0	97.5	94.7	77.3	17.2	0.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
		0.0927	0.1616	1.88				-	-	-			
		0.1382	0.1747	1.18				-	-	-			
Soil density (5)		ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
		ρd, Mg*m-³				e, 1							
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_246	Gr.14	1	D	11.30	11.60



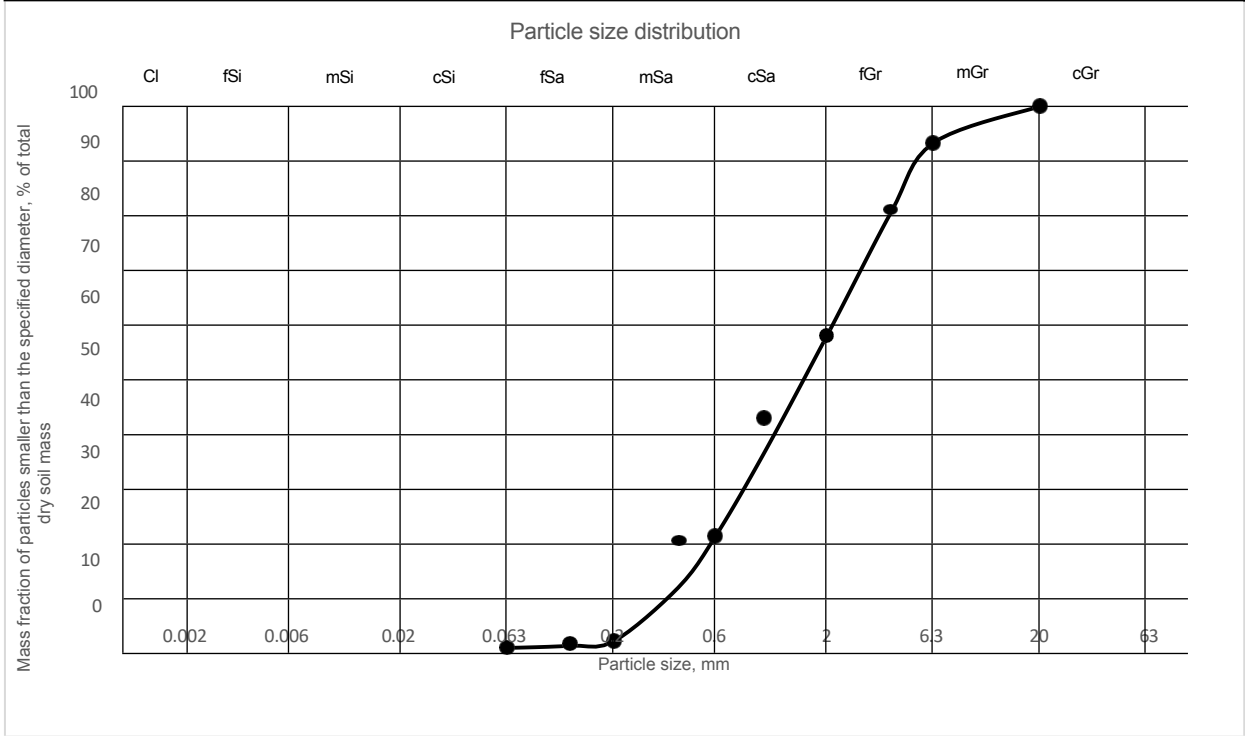
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	97.5	90.2	80.1	70.9	60.8	13.8	5.6	2.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1609	0.3411	2.46		-		-	-	-				
	0.2540	0.3953	1.01		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_247	Gr.14	2	D	12.40	12.70



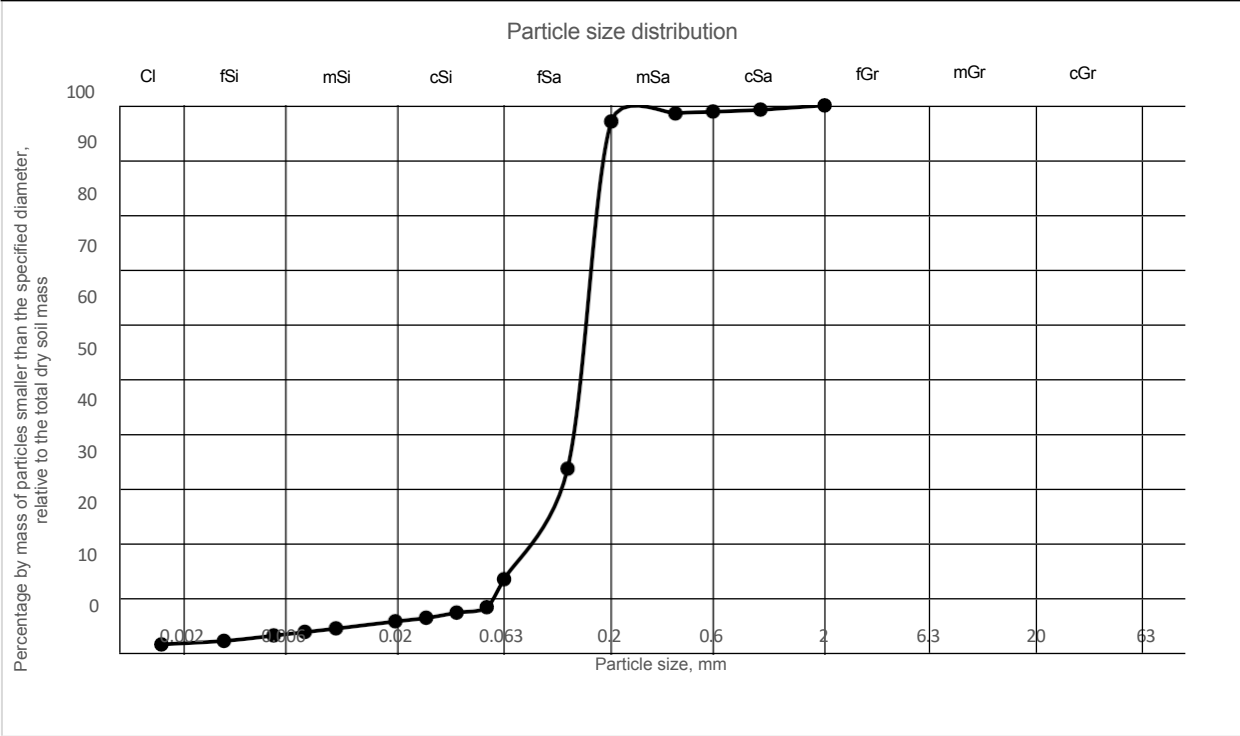
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.7	99.4	98.8	97.5	91.7	24.2	7.5	1.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1341	0.2607	2.15		-		-	-	-				
	0.2123	0.2889	1.16		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_248	Gr.14	3	D	14.80	15.10



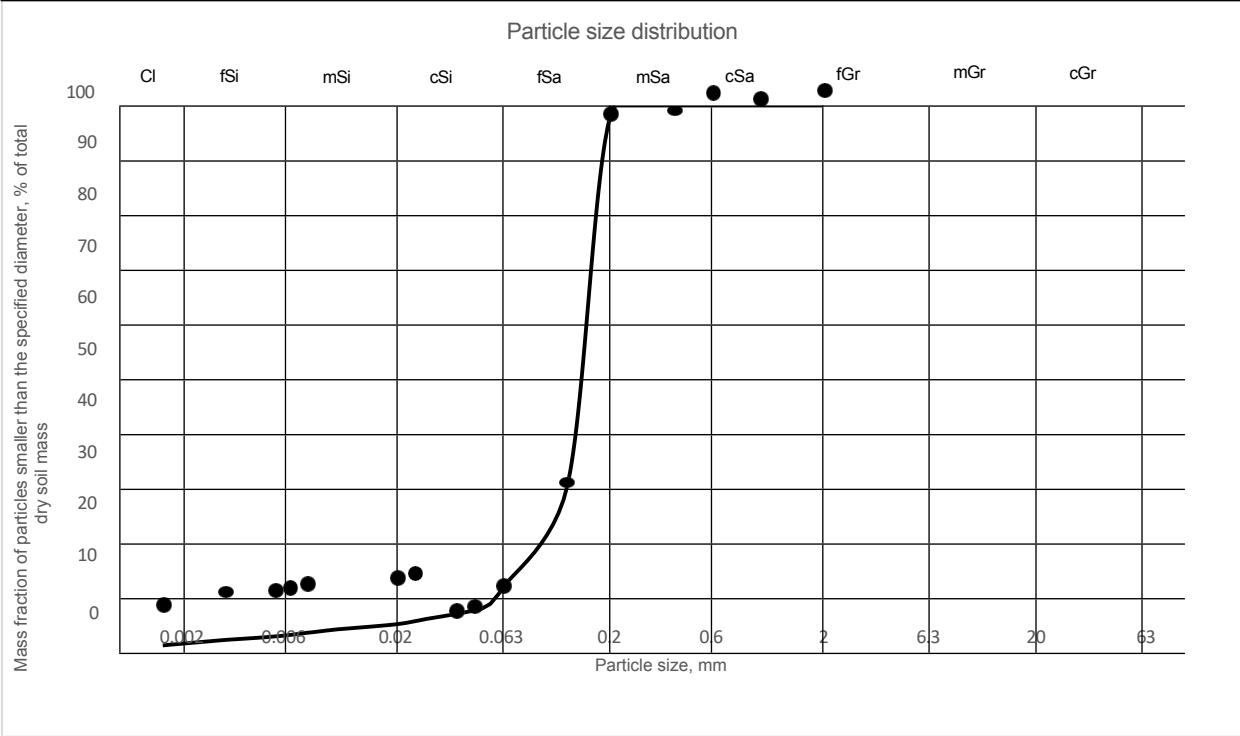
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	93.3	80.6	58.1	36.3	21.5	12.1	2.3	1.5	1.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.3440	1.5456	6.16		-		-	-	-				
	0.8046	2.1197	0.89		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.005													
1.858		0.43			2.5×10 ⁻⁴								
Soil classification*													
Index:	grSaG	Name:				Gravelly sand of variable composition							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	GI												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_249	Gr.16	1	D	4.80	5.10



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.2	98.8	98.5	97.0	33.9	13.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0524	0.0378	0.0272	0.0195	0.0103	0.0074	0.0053	0.0031	0.0016		
			8.7	7.7	6.7	6.1	4.8	4.2	3.5	2.6	1.9		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0549	0.1409	2.76				-	-	-				
	0.1095	0.1518	1.44				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP	Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

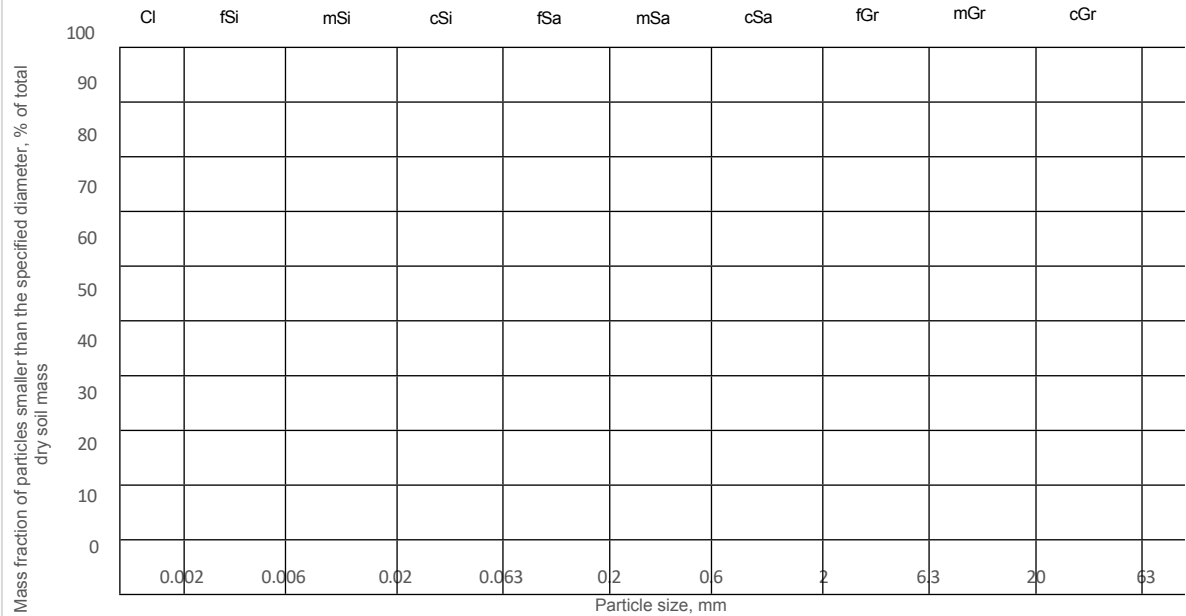
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_250	Gr.16	2	D	6.90	7.20



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.4	99.3	98.6	30.6	12.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0524	0.0381	0.0274	0.0198	0.0104	0.0074	0.0053	0.0031	0.0016		
			8.7	7.4	6.4	5.5	4.5	3.9	3.2	2.6	1.6		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0560	0.1429	2.73				-	-	-				
	0.1220	0.1531	1.74				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP	Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

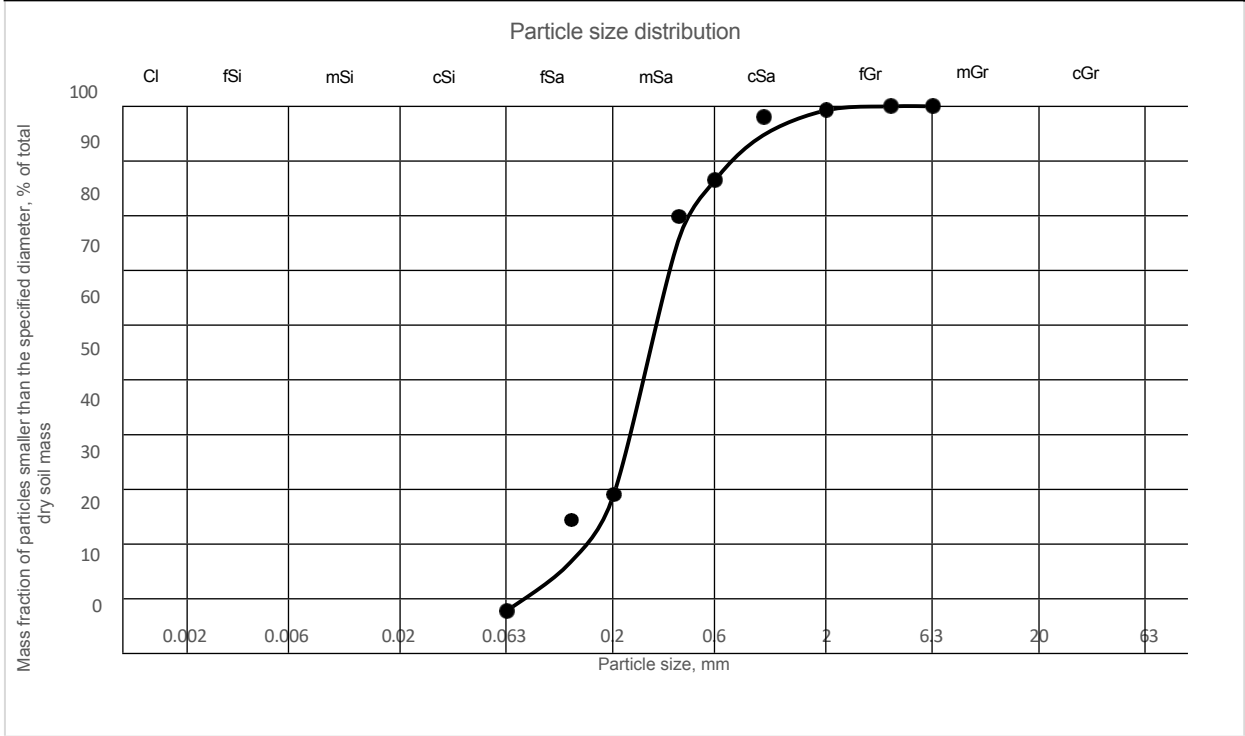
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_251	Gr.16	3	D	9.60	9.90

Particle size distribution



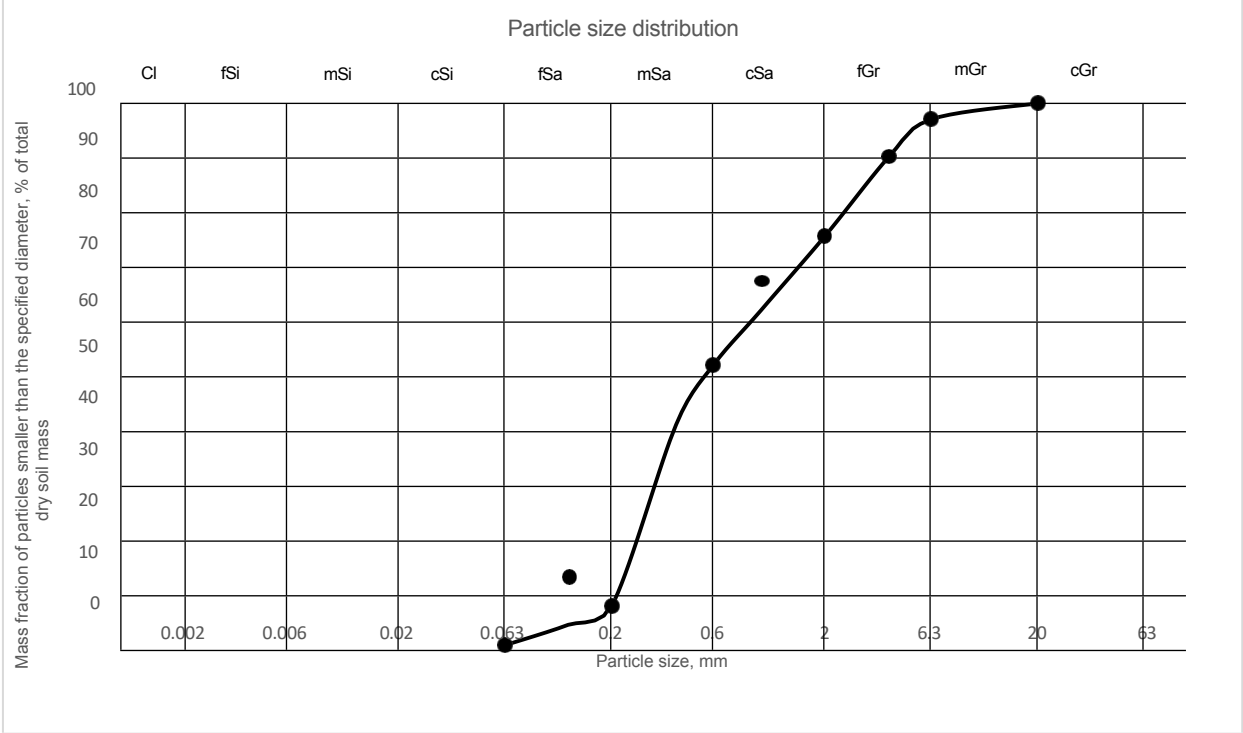
Sieve method (1)		Sieve aperture size, mm									
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %									
Hydrometer method (2)		Particle size, mm									
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass									
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1		
	-	-	-		-		-	-	-		
	-	-	-		-		-	-	-		
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	21.7%	Water permeability (4.2)	k10, m/s	
	ρd, Mg*m-³				e, 1						
Soil classification*											
Index:	Pt	Name:			Peat						
Notes: sandy											
Soil classification DIN 18196:2023-02*											
Index:	HN										
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_252	Gr.16	4	D	10.80	11.10



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.3	94.7	86.6	75.4	29.1	16.7	7.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0742	0.2735	4.28		-		-	-	-				
	0.2027	0.3176	1.74		-		-	-					
					21.4								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
										0.9%			
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

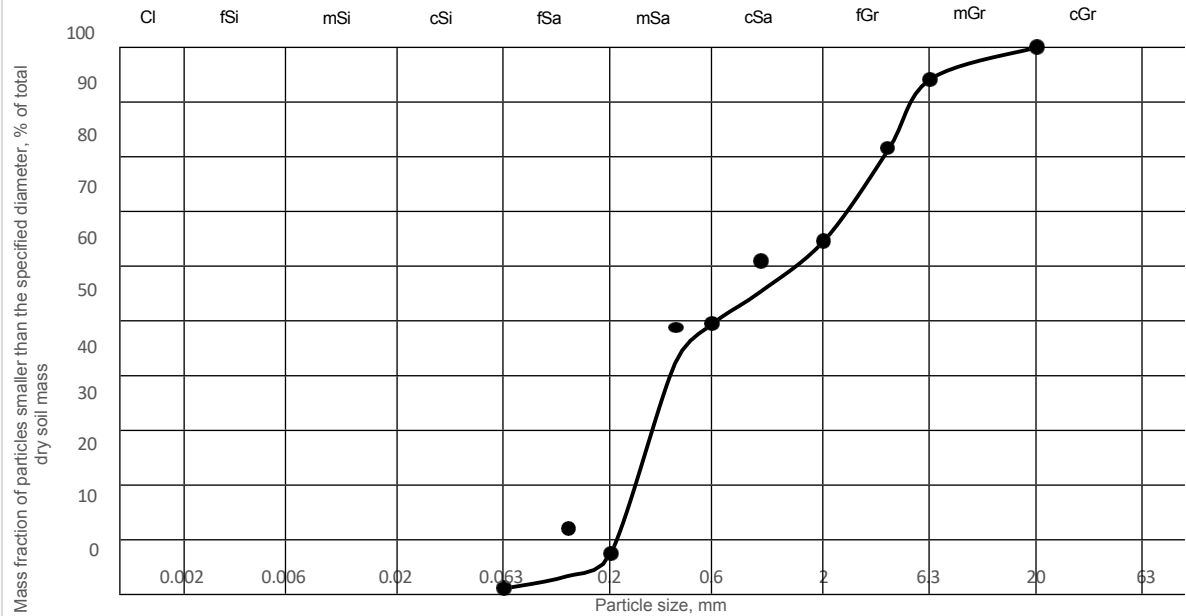
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_253	Gr.16	5	D	12.50	12.80



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	97.1	90.3	75.8	62.2	52.2	41.4	8.2	4.8	1.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.2076	0.5520	4.30				-	-	-				
	0.3154	0.8927	0.54		-		-	-					
					20.6								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.904												
	1.579		0.68										
Soil classification*													
Index:		grSaP		Name:			Gravelly, poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

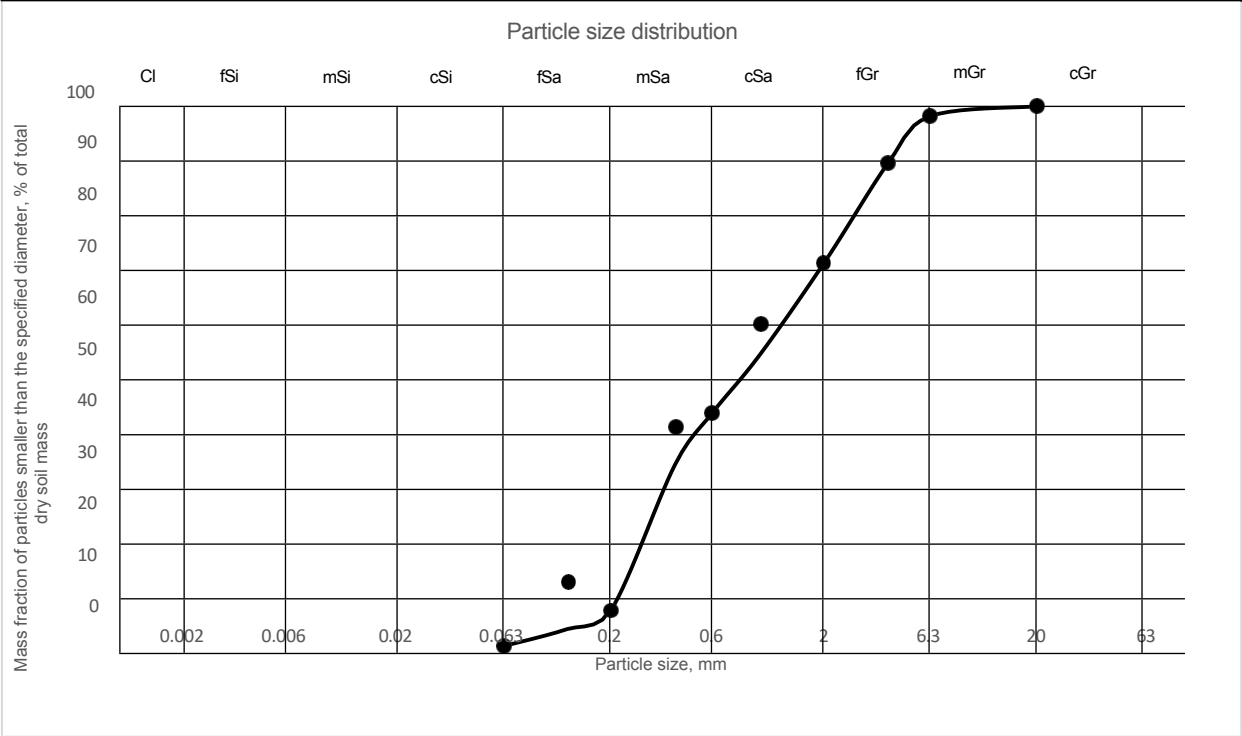
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_254	Gr.16	6	D	13.30	13.60

Particle size distribution



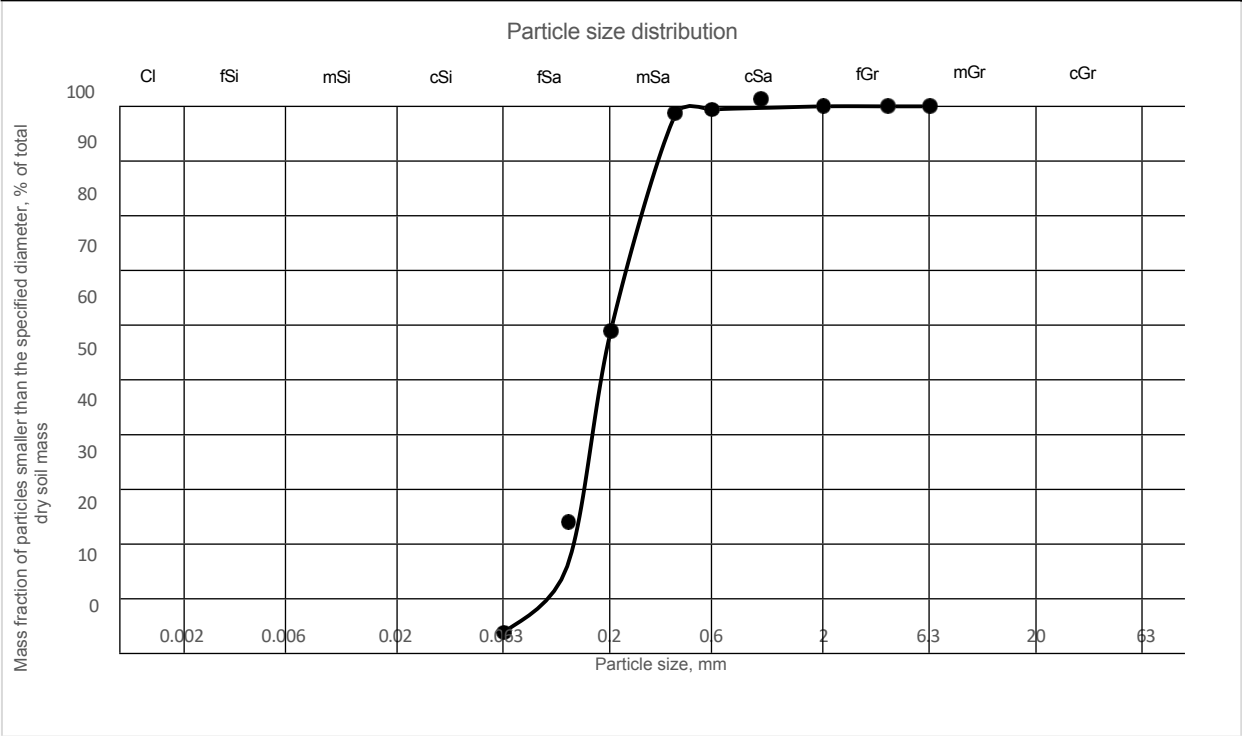
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	94.1	81.2	64.7	55.3	49.5	42.3	7.6	3.5	1.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.2100	0.6258	6.74		-		-	-	-				
	0.3129	1.4152	0.33		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.898												
	1.635		2.66		0.63					6.4×10 ⁻⁵			
Soil classification*													
Index:	grSaG	Name:			Gravelly sand of varying gradation								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SI												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_255	Gr.16	7	D	16.00	4:30



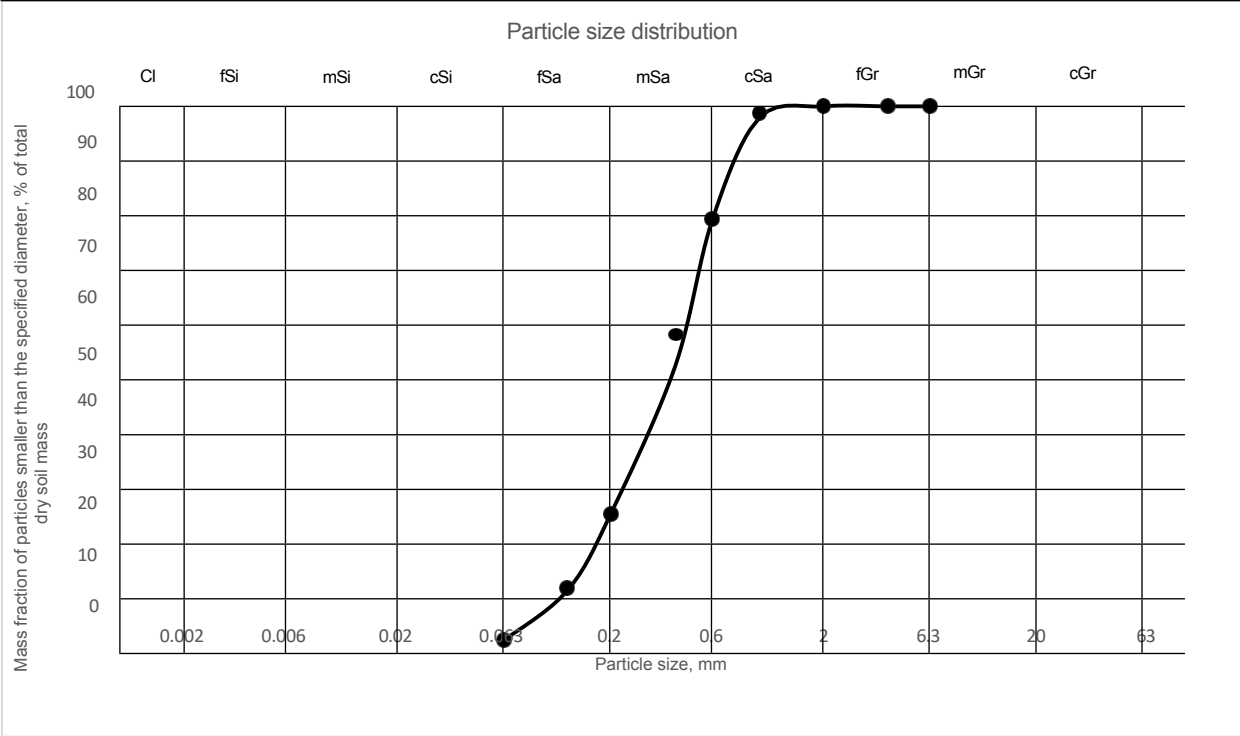
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	98.2	89.6	71.3	54.6	44.1	34.6	7.9	4.6	1.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.2110	0.7990	5.92				-	-	-	-			
	0.3549	1.2488	0.48		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.014													
1.803		0.47			8.9×10 ⁻⁵								
Soil classification*													
Index:	grSaP	Name:				Gravelly sand of poor texture							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_256	Gr.16	8	D	23.50	23.80

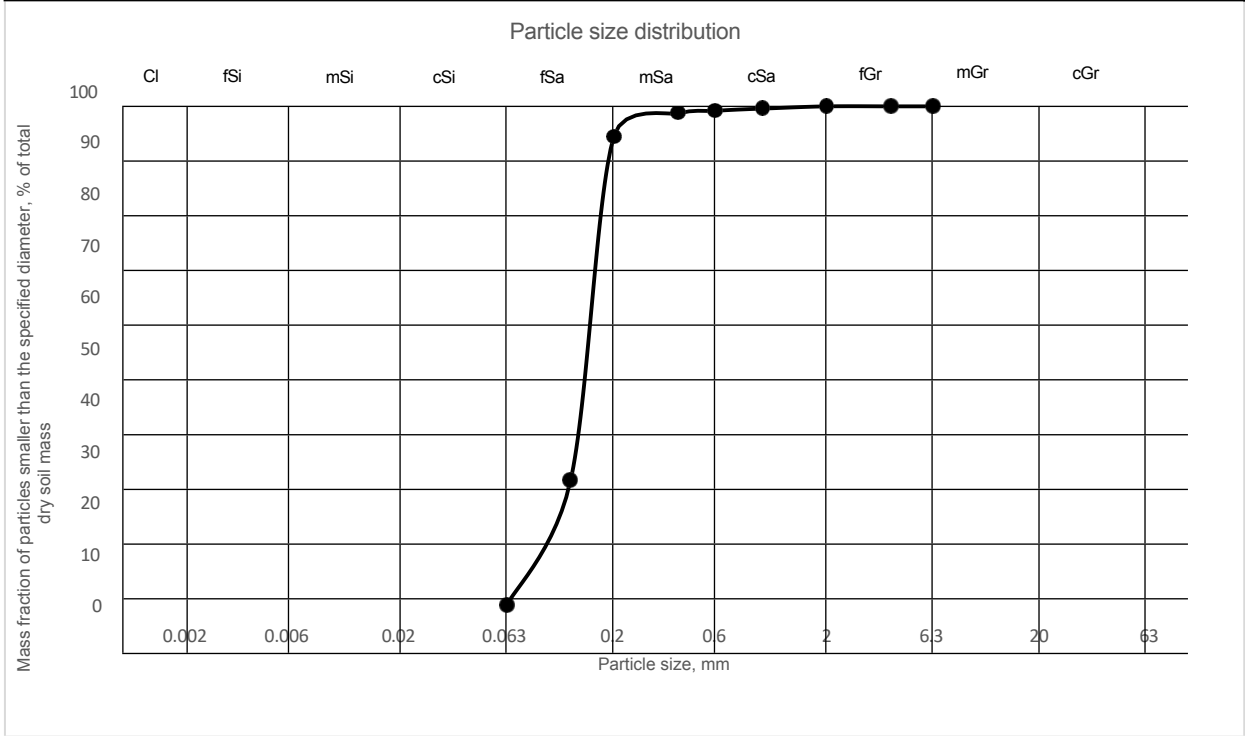


Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.4	98.4	59.0	16.0	3.9		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0890	0.1813	2.29								-	-	-	-
		0.1457	0.2035	1.17								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
Soil classification*															
Index:		SaP		Name:			Poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_257	Gr.16	9	D	28.10	28.40

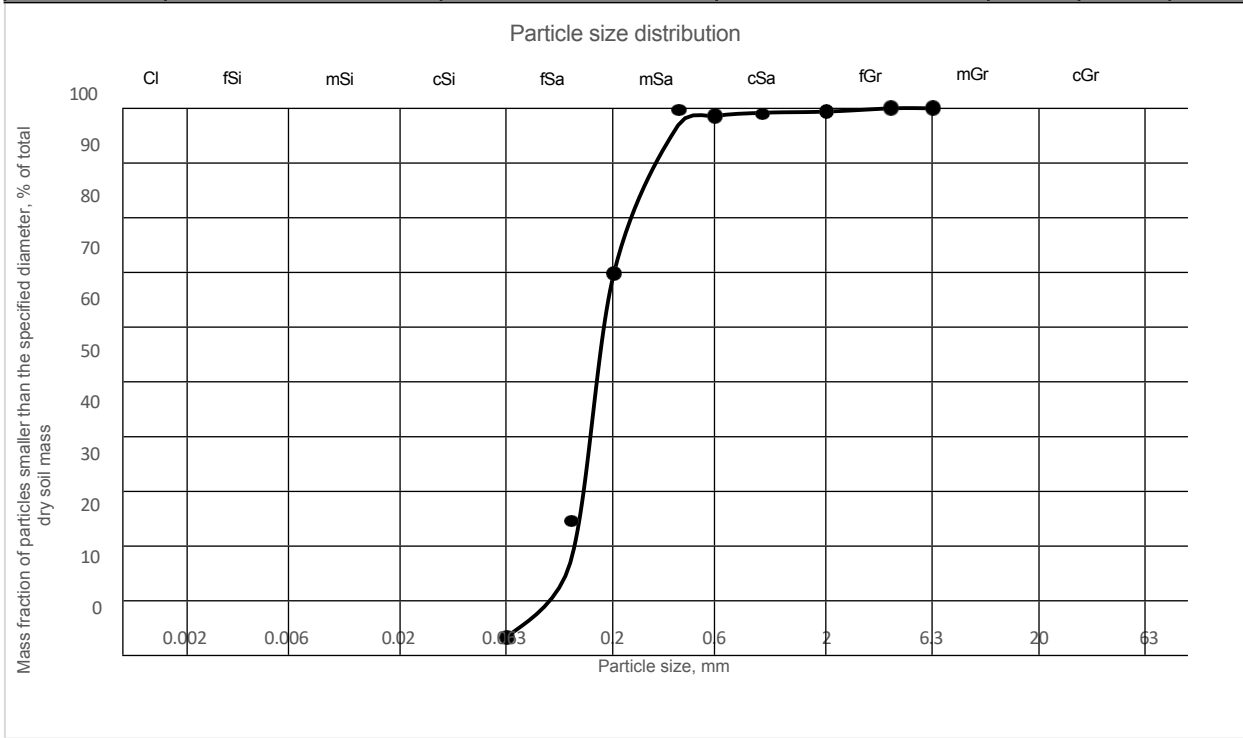


Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_258	Gr.15	1	D	5.10	5.40



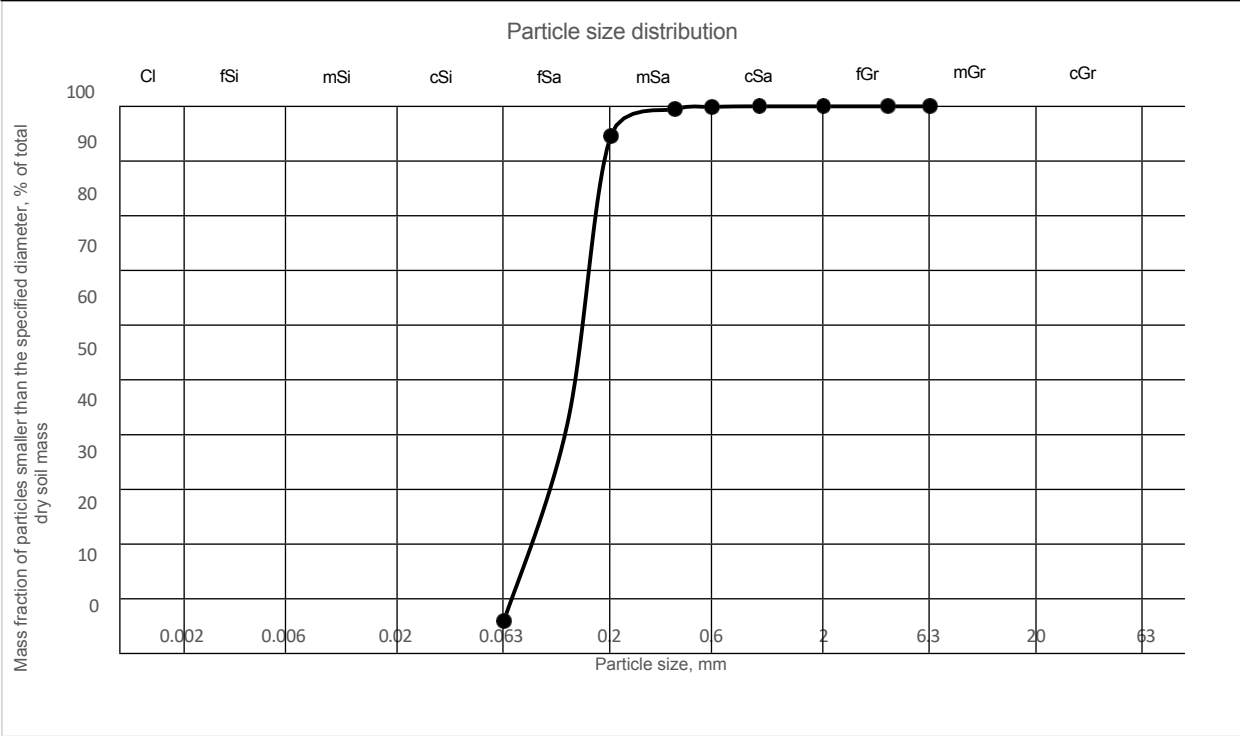
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.2	98.7	94.5	31.4	9.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0650	0.1436	2.38		-		-	-	-				
	0.1198	0.1547	1.43		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_259	Gr.15	2	D	6.20	6.50



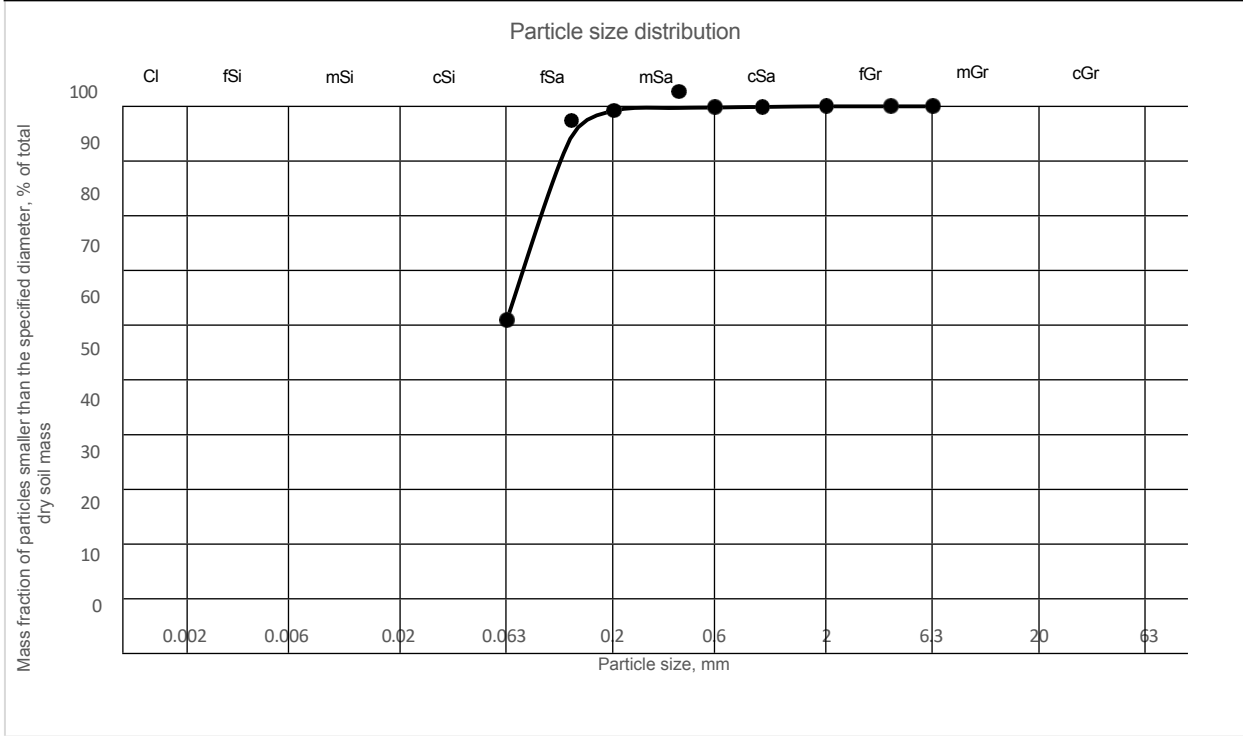
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.4	99.2	98.6	96.9	69.8	17.0	3.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0879	0.1677	2.09		-		-	-	-				
	0.1403	0.1833	1.22		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
				0.9%									
Soil classification*													
Index:	SaP	Name:				poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_260	Gr.15	3	D	8.50	8.80



Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.5	94.6	41.9	6.0						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1					
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1						
		0.0680	0.1344	2.16							-	-	-						
		0.0996	0.1469	0.99							-	-	-						
Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. matter %		Water permeability (4.2)		k10, m/s	
		pd, Mg*m-³																	
Soil classification*																			
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand													
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

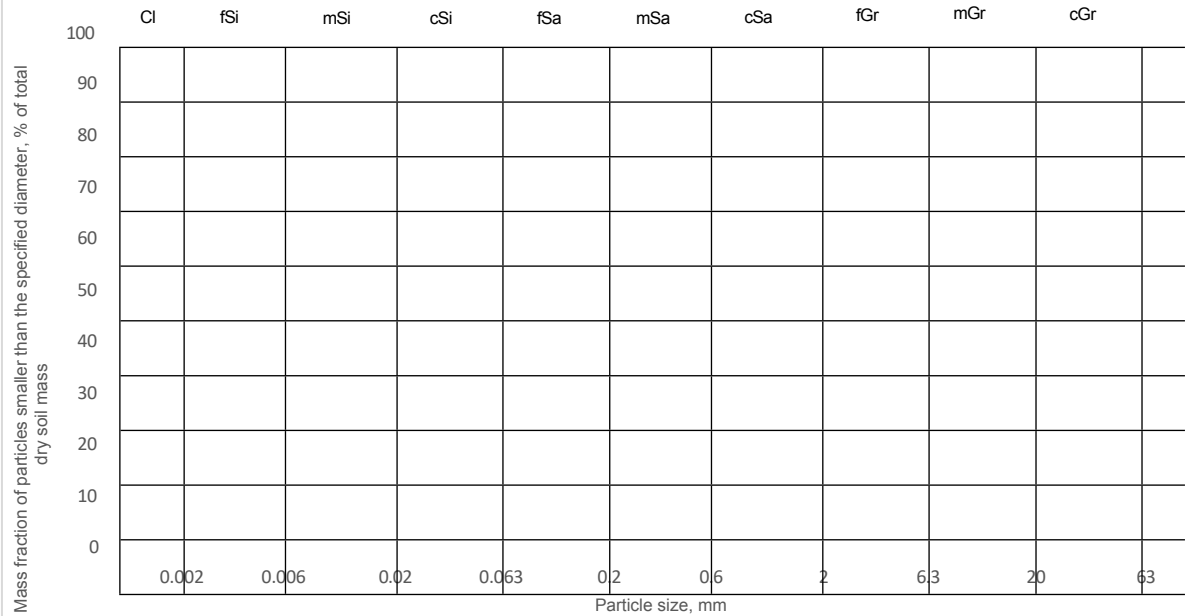
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_261	Gr.15	4	D	9.20	9.50



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	99.2	94.1	61.0	
Hydrometer method (2)		Particle size, mm												
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
	-	-	-						81.0	107.3	26.1	1.01		
	-	-	-			99.7			81.2	-0.01				
	Soil density (5)	ρ, Mg/m³	Particle density (6)			ρs, Mg*m-3			Porosity (7)		n, 1	Organic matter (10)		org. mat. %
ρd, Mg*m-³		2.59			e, 1		10.4%							
Soil classification*														
Index:		saSiVO		Name:			sandy, very highly plastic silt with moderate organic matter content, very stiff							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		OT												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

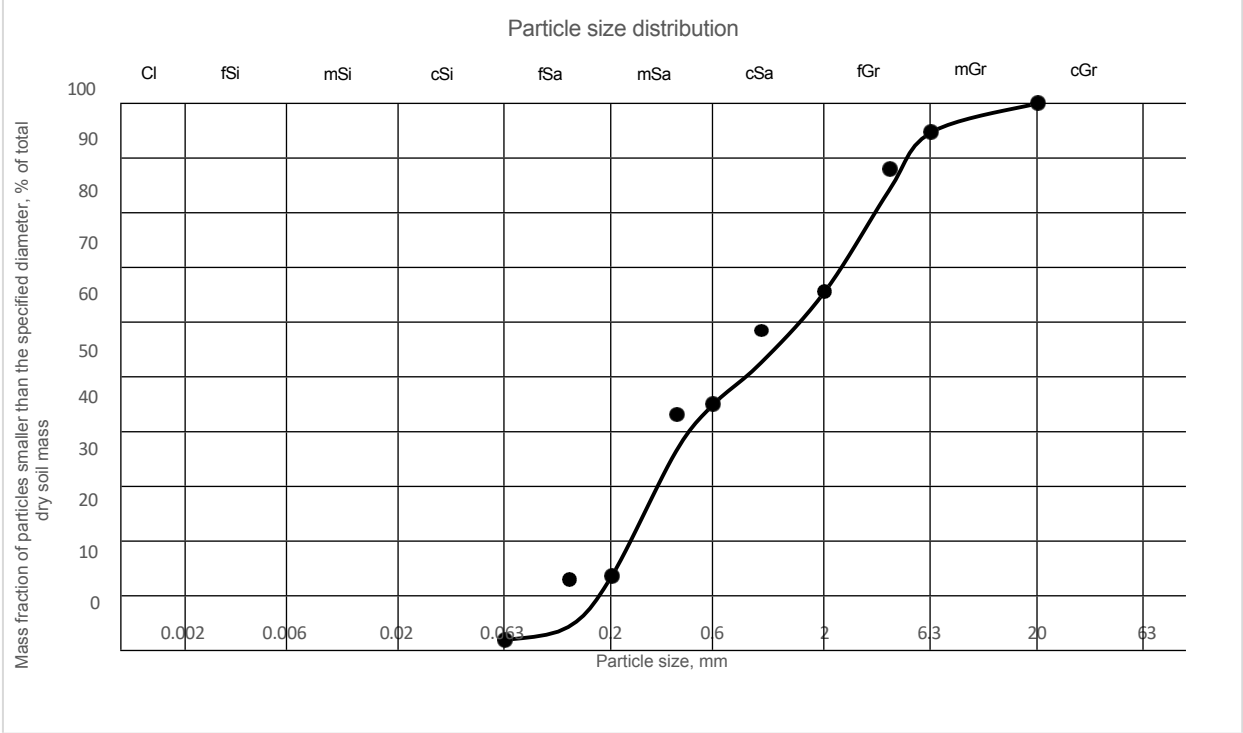
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_262	Gr.15	5	D	10:00	10:30

Particle size distribution



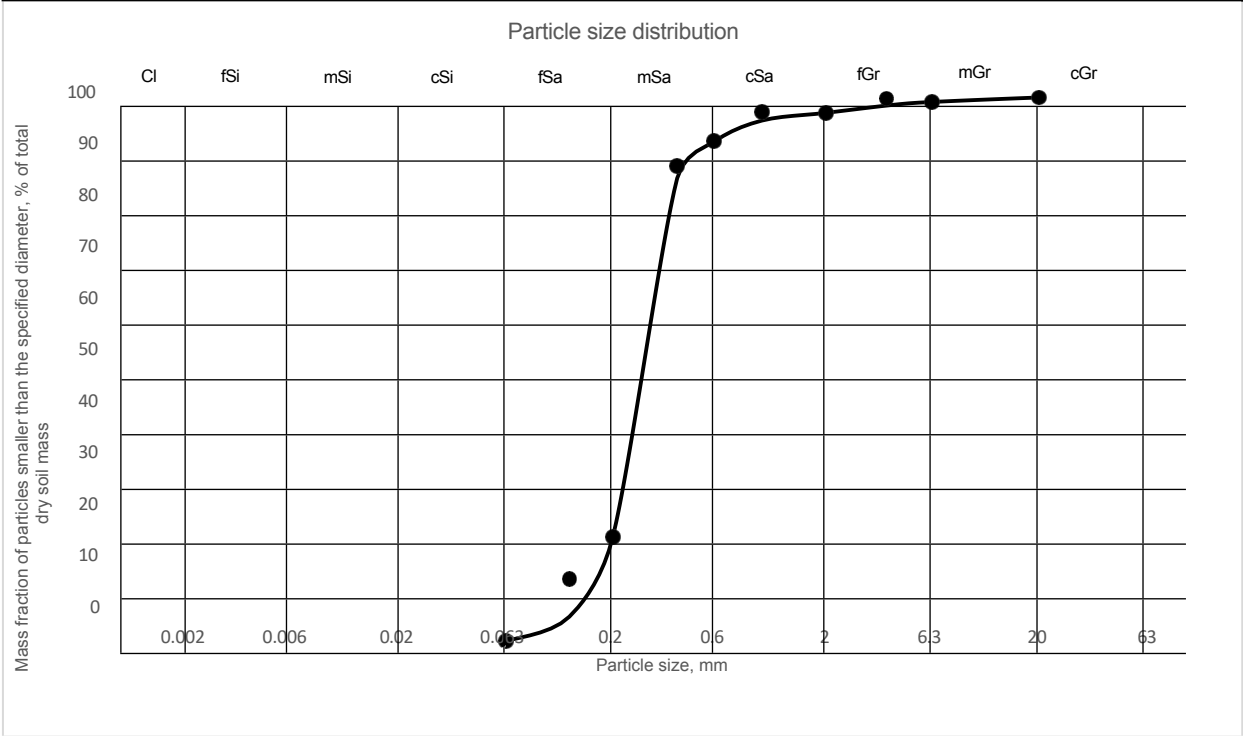
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
					136.0							
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:		Gy	Name:			Gitija						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		F										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_263	Gr.15	6	D	11.50	11.80



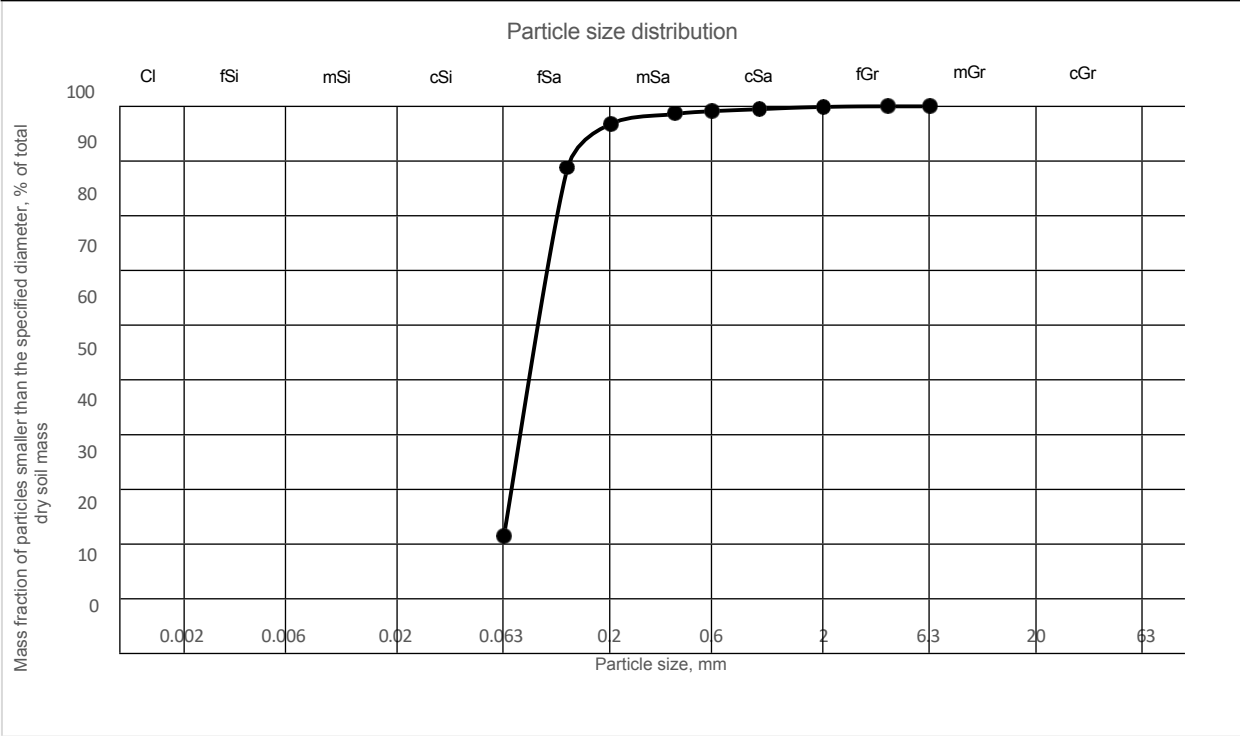
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	94.7	84.1	65.6	52.6	45.0	36.5	13.7	4.4	2.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1659	0.8396	8.94				-	-	-				
	0.3285	1.4836	0.44				-	-	-				
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.826												
	1.595		0.66										
Soil classification*													
Index:	grSaG	Name:			Gravelly sand of varying gradation								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SI												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_264	Gr.15	7	D	13.00	1:20



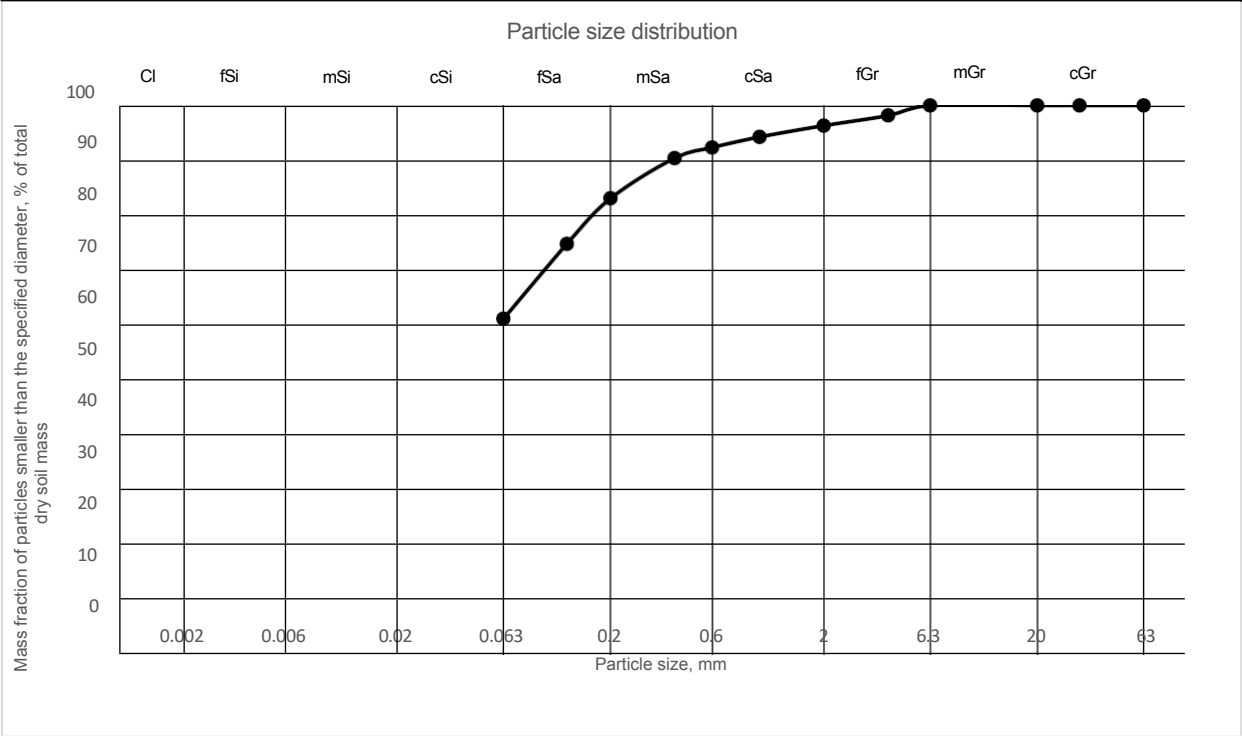
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.2	98.6	97.2	95.8	92.0	85.3	19.8	5.2	0.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1459	0.2753	2.10		-		-	-	-				
	0.2228	0.3060	1.11		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_266	Gr.15	9	U	16.80	17.40



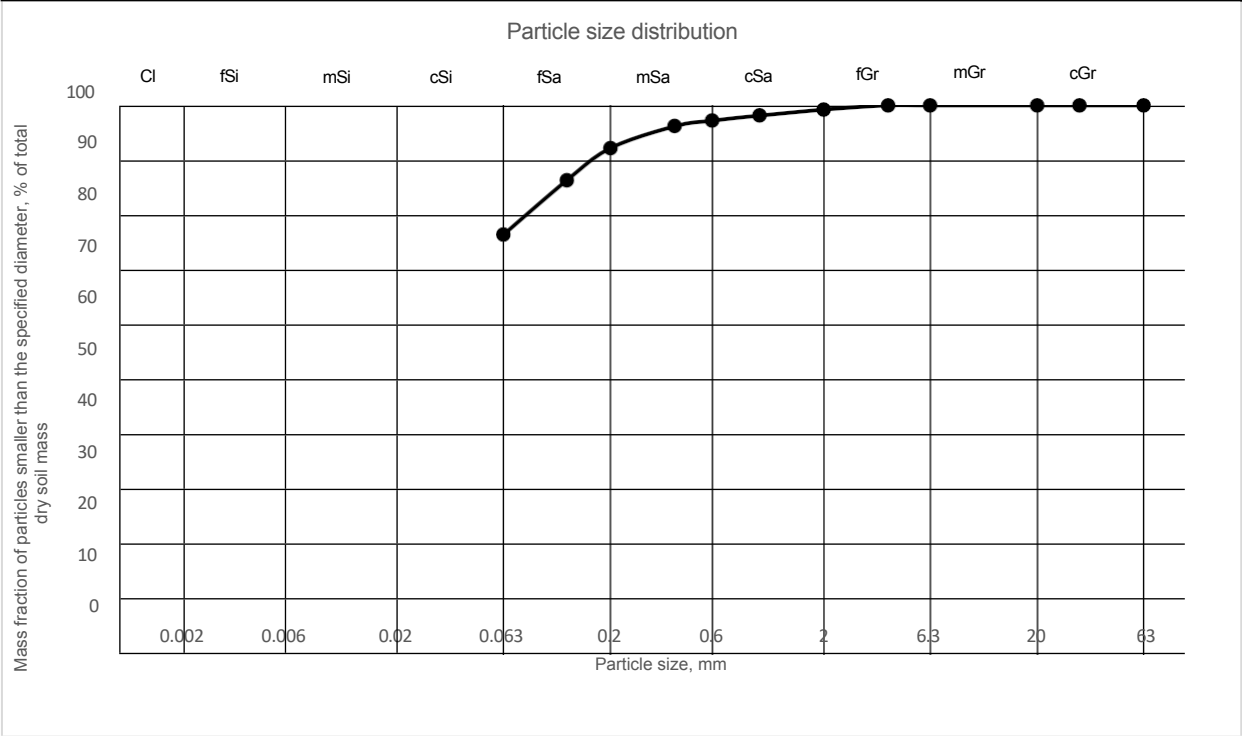
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.5	99.1	98.6	96.8	88.6	21.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0843	-		24.3		26.6	-	-				
	0.0687	0.0933	-		98.6		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.000												
	1.613		0.64										
Soil classification*													
Index:	siSa	Name:			sandy loam								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_267	Gr.15	10	D	23.40	23.70



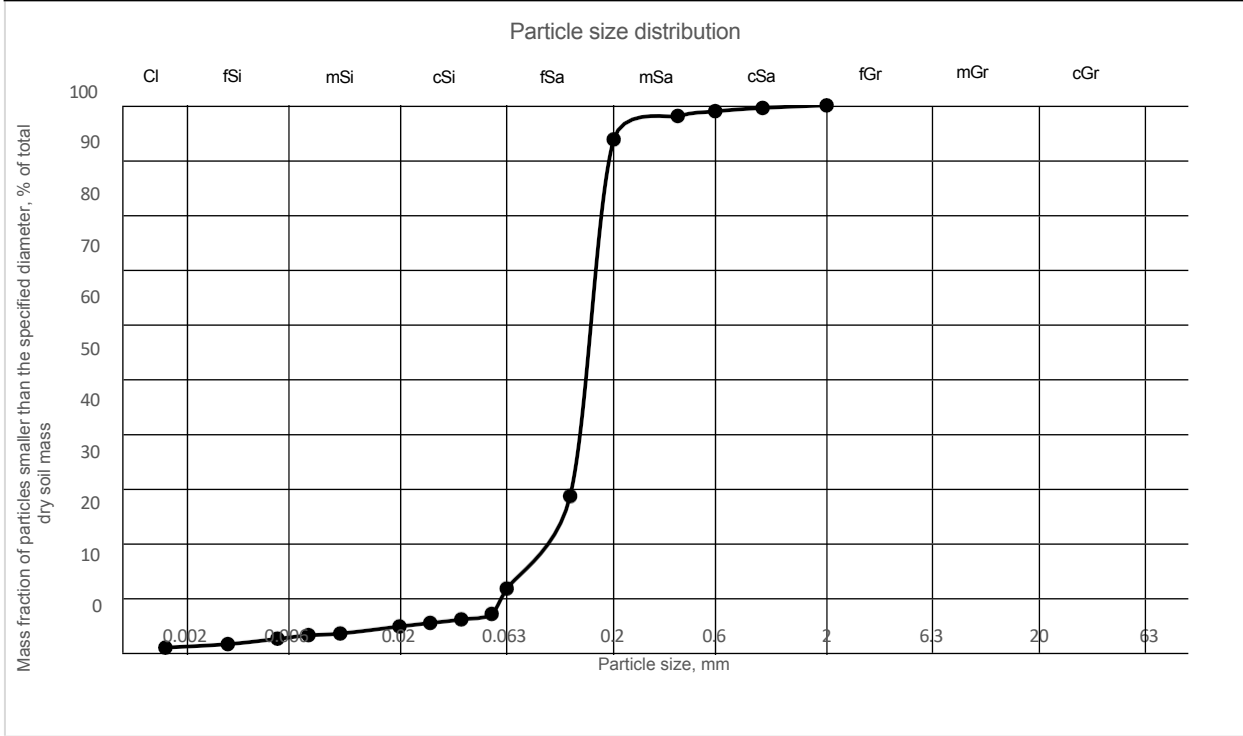
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.2	96.3	94.3	92.3	90.4	83.1	74.8	61.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		18.7		22.8	9.1	0.45				
	-	-	-		90.4		13.7	0.55					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
2.088													
1.786		0.51											
Soil classification*													
Index:	saCIL	Name:				Sandy clay with low plasticity, soft							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_268	Gr.15	11	U	28.20	28.80



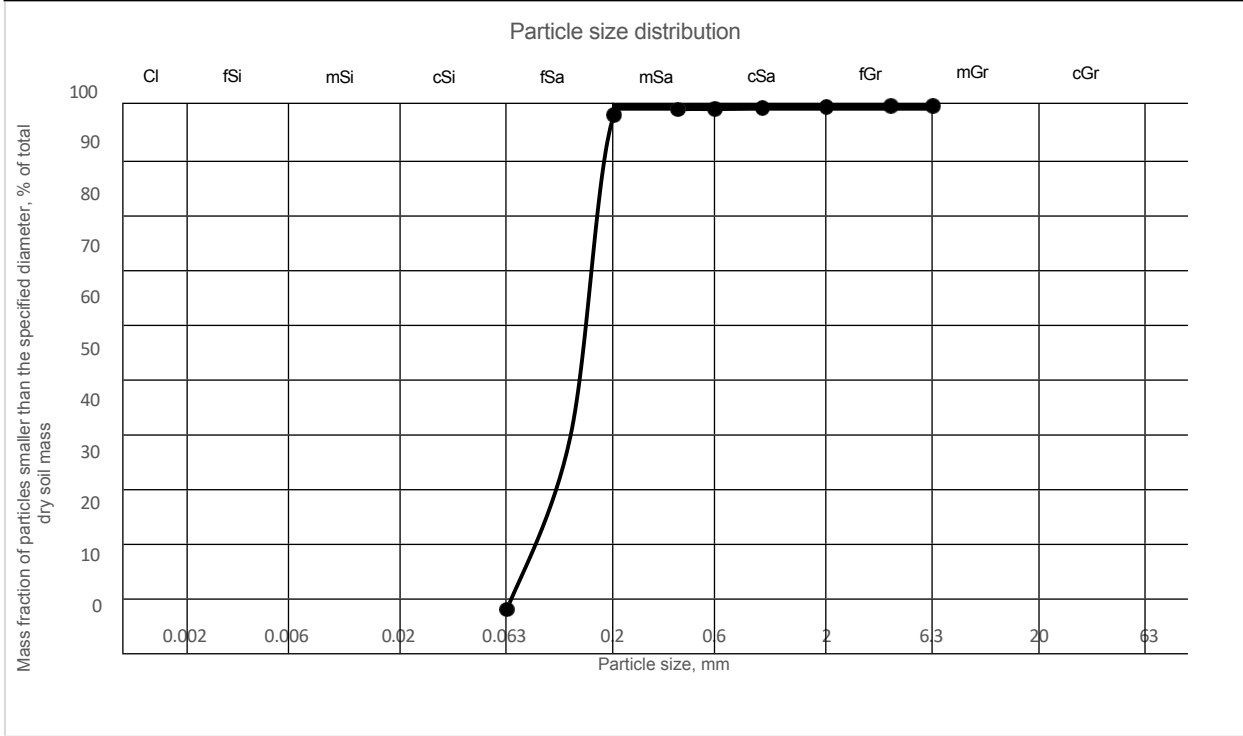
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.2	98.1	97.2	96.2	92.2	86.4	76.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		-		-	-	-				
	-	-	-		-		-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.176												
	1.915		0.43										
Soil classification*													
Index:		Name:											
Notes:													
Soil classification DIN 18196:2023-02*													
Index:													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_269	Gr.13	1	D	5.80	6.10



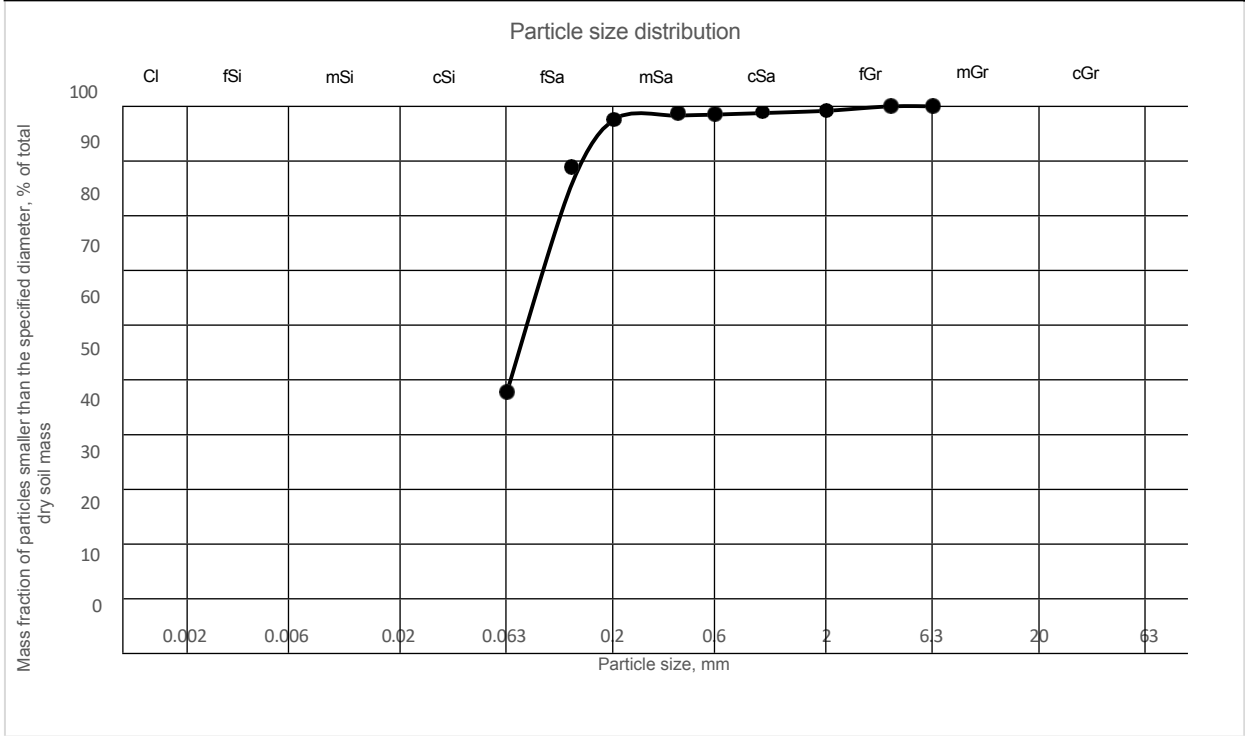
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.5	98.9	98.0	93.8	28.9	12.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0536	0.0386	0.0276	0.0198	0.0104	0.0074	0.0053	0.0031	0.0016		
			7.4	6.4	5.8	5.1	3.9	3.5	2.9	1.9	1.3		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0587	0.1457	2.67				-	-	-				
	0.1260	0.1566	1.73		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_270	Gr.13	2	D	6.80	7.10



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.5	99.4	98.4	39.6	8.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0657	0.1358	2.24		-		-	-	-				
	0.1014	0.1471	1.07		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
						1.8%							
Soil classification*													
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_271	Gr.13	3	D	9.50	9.80

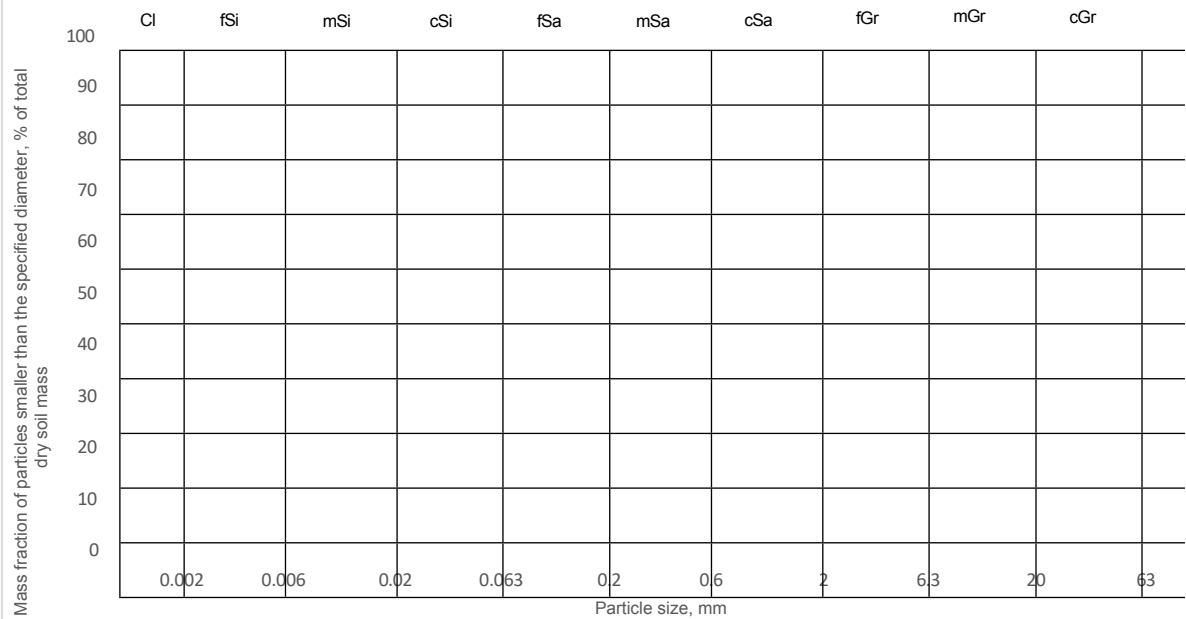


Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.2	98.8	98.5	98.3	97.6	85.1	47.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0656	-		90.4		98.5	20.6	0.39				
	-	0.0788	-		98.3		77.9	0.61					
	Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s
ρd, Mg*m-³			e, 1										
Soil classification*													
Index:		saSiVO		Name:		sandy, very high plasticity silt with moderate organic matter content, soft							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		OT											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											



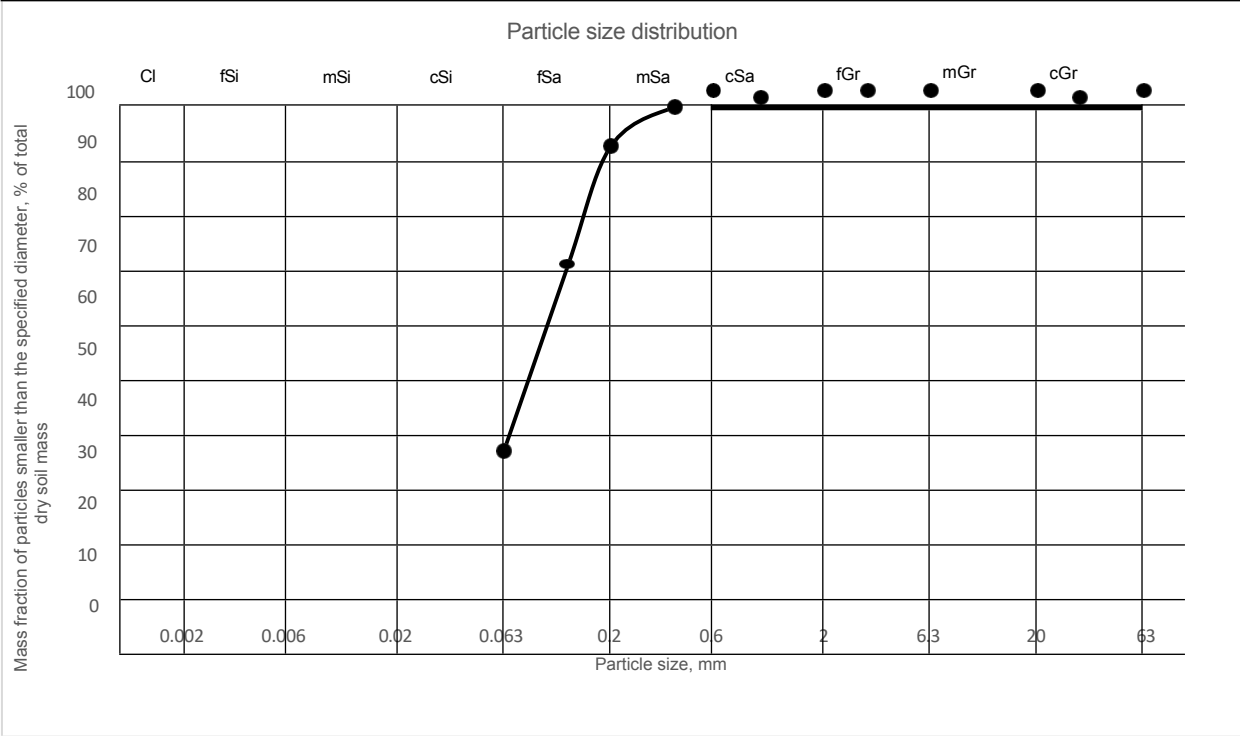
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_272	Gr.13	4	D	9.90	10.20

Particle size distribution



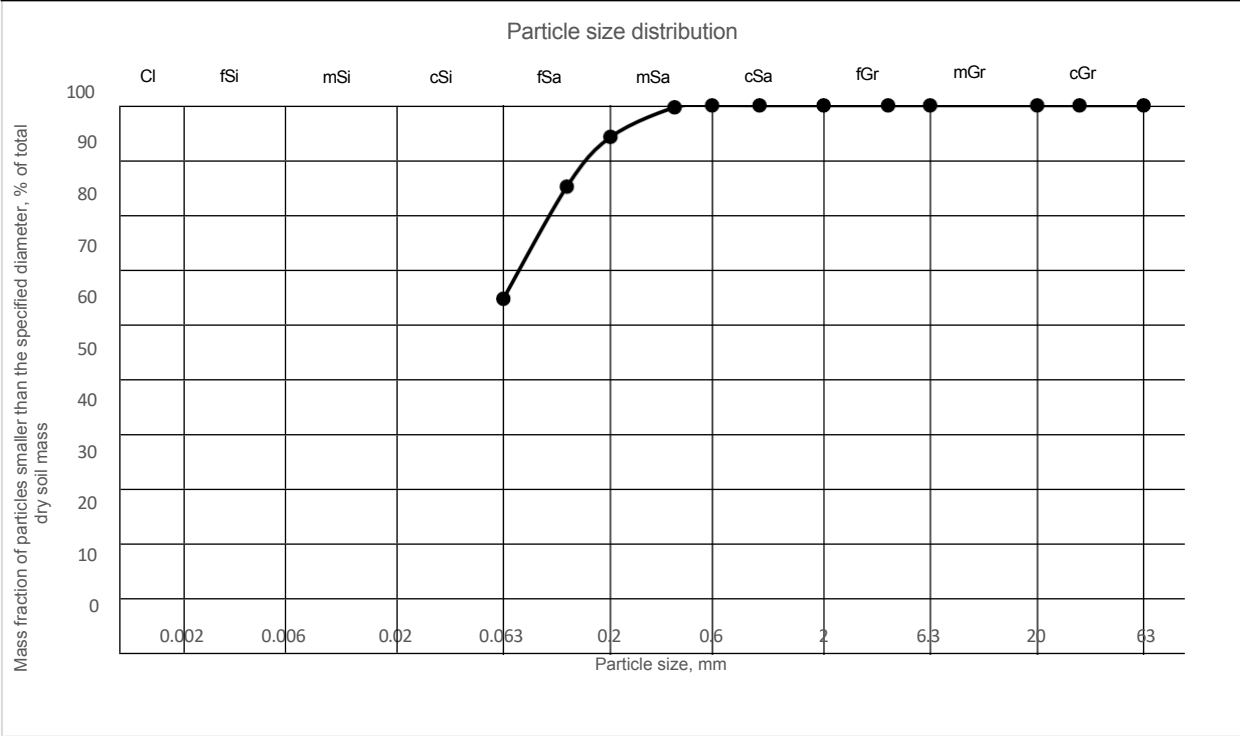
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-	-		
	-	-	-		-		-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
										31.2%		
Soil classification*												
Index:	Pt	Name:			Peat							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	HN											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_273	Gr.13	5	U	10.50	11.10



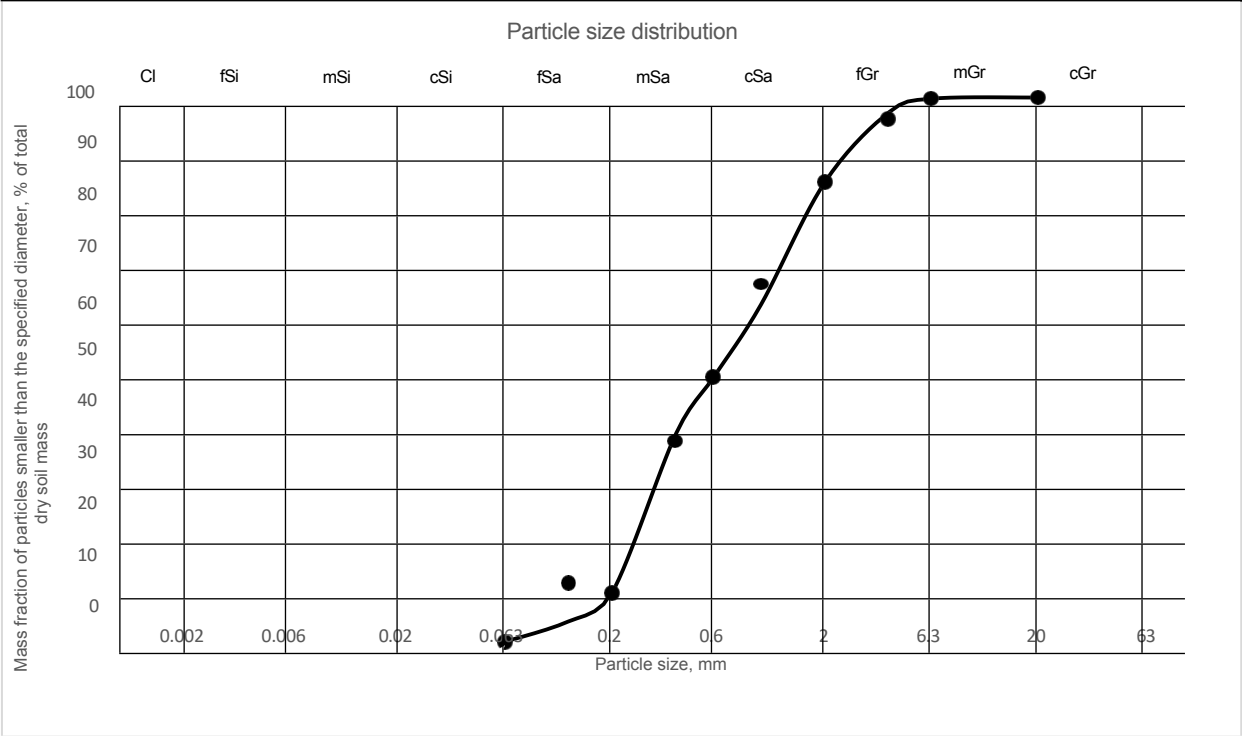
Sieve method (1)		Sieve aperture size, mm															
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %															
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	92.7	70.5	37.0				
Hydrometer method (2)		Particle size, mm															
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass															
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1			
		-	0.0821	-								31.6	31.6	31.6	32.2	10.5	0.05
		-	0.1008	-								31.6	31.6	31.6	32.2	10.5	
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s			
		pd, Mg*m-³															
		1.913															
		1.454															
Soil classification*																	
Index:		osaCIL		Name:			sandy clay with low plasticity and a small amount of organic matter, very soft										
Notes:																	
Soil classification DIN 18196:2023-02*																	
Index:		ST*															
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė															

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_274	Gr.13	6	D	11.60	11.90



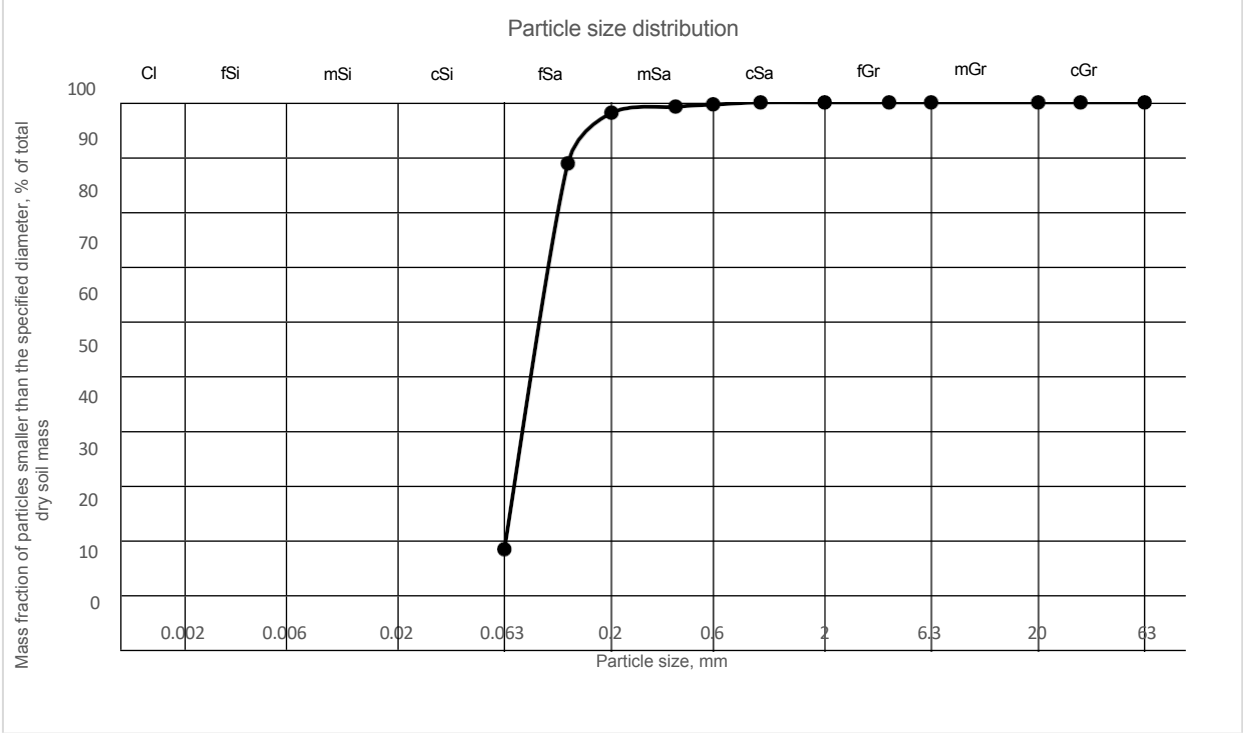
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	94.2	85.2	64.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		43.0		51.3	12.4	0.67				
	-	-	-		99.6		38.9	0.33					
	Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
pd, Mg*m-³			e, 1										
1.736													
1.216			2.59	1.13		5.8%							
Soil classification*													
Index:		osaSiH		Name:		Sandy, highly plastic silt with a small amount of organic matter, firm							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		OT											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_275	Gr.13	7	D	13.00	1:30



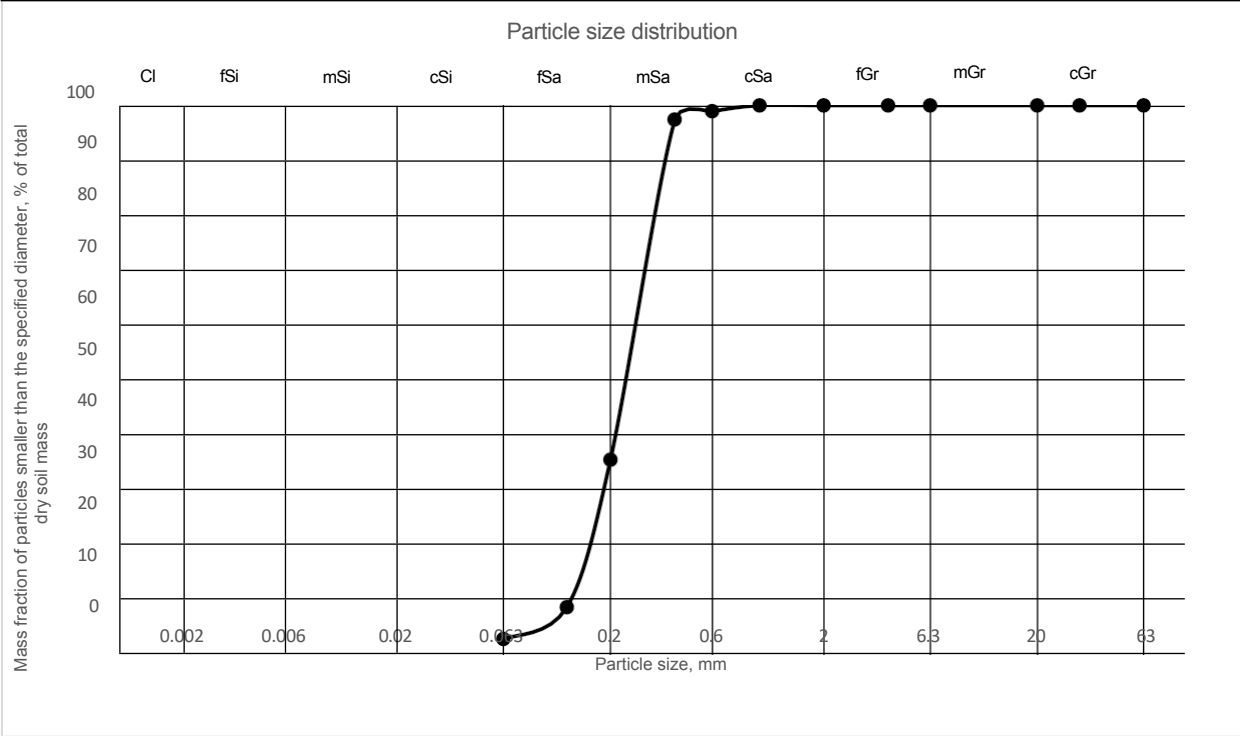
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.8	97.3	84.6	62.2	48.9	38.7	9.5	4.3	0.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.2023	0.6249	4.54				-	-	-				
	0.3253	0.9187	0.57				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaP	Name:			Poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_277	Gr.13	9	D	25.30	25.60



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.2	98.1	88.9	18.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1		
	-	0.0855	-							27.0	28.1	-	-	
	0.0703	0.0943	-							99.2	-	-		
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s
	ρd, Mg*m-³													
Soil classification*														
Index:		siSa		Name:			sandy loam							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU*												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

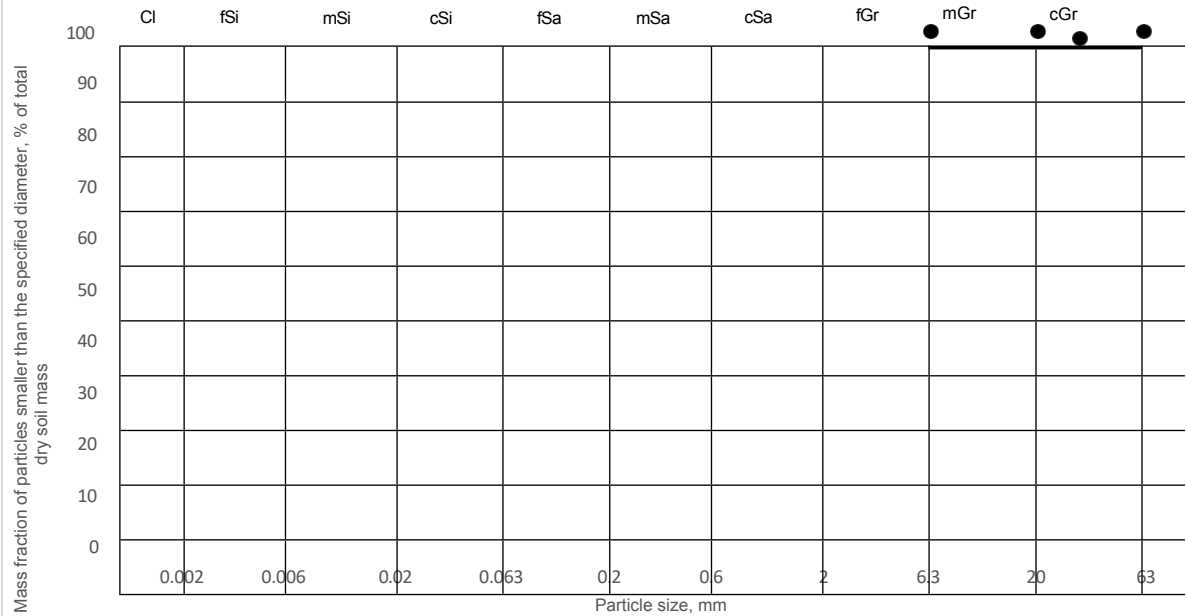
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_278	Gr.12	1	U	8.20	8.50



Sieve method (1)		Sieve aperture size, mm															
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %															
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.9	97.4	35.5	8.7	2.9				
Hydrometer method (2)		Particle size, mm															
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass															
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1			
		0.1279	0.2353	2.06								-	-	-	-		
		0.1816	0.2631	0.98								-	-	-			
Soil density (5)		ρ, Mg/m³		Particle density (6)	ps, Mg*m-3		Porosity (7)	n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³															
Soil classification*																	
Index:		SaP			Name:			poorly sorted sand									
Notes:																	
Soil classification DIN 18196:2023-02*																	
Index:		SE															
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė															

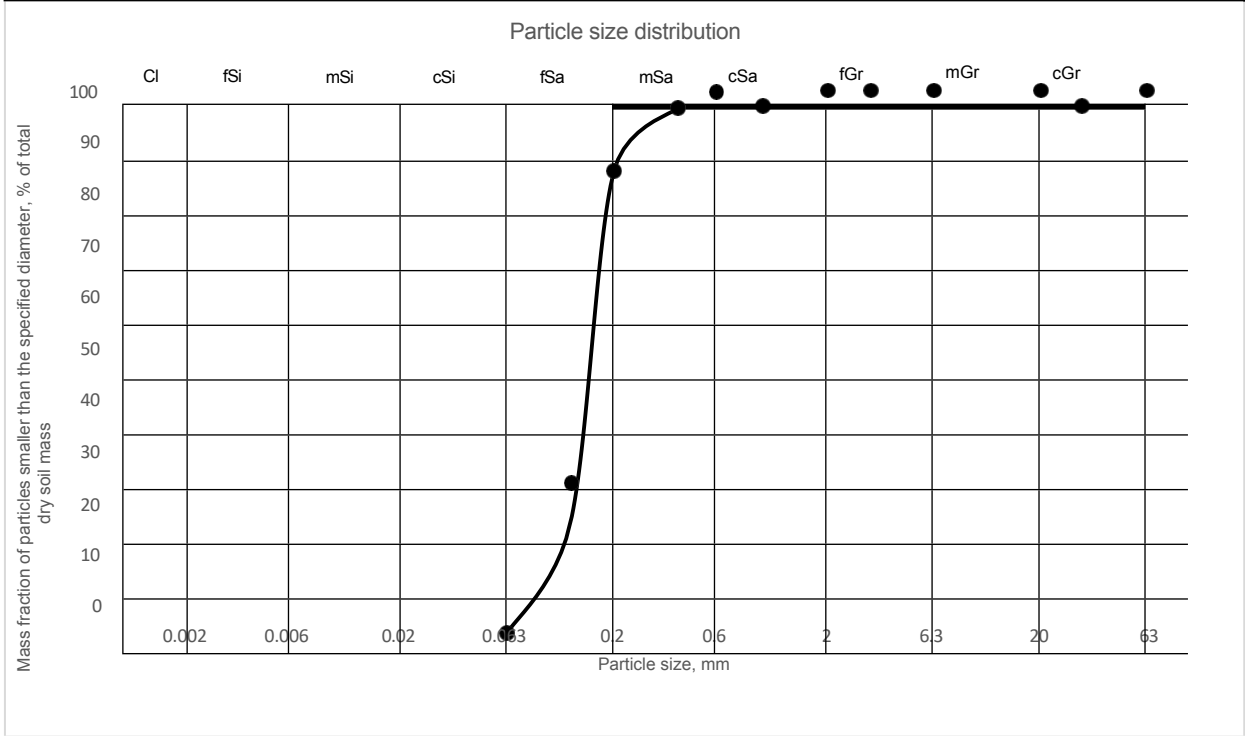
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_279	Gr.57	1	D	0.30	0.60

Particle size distribution



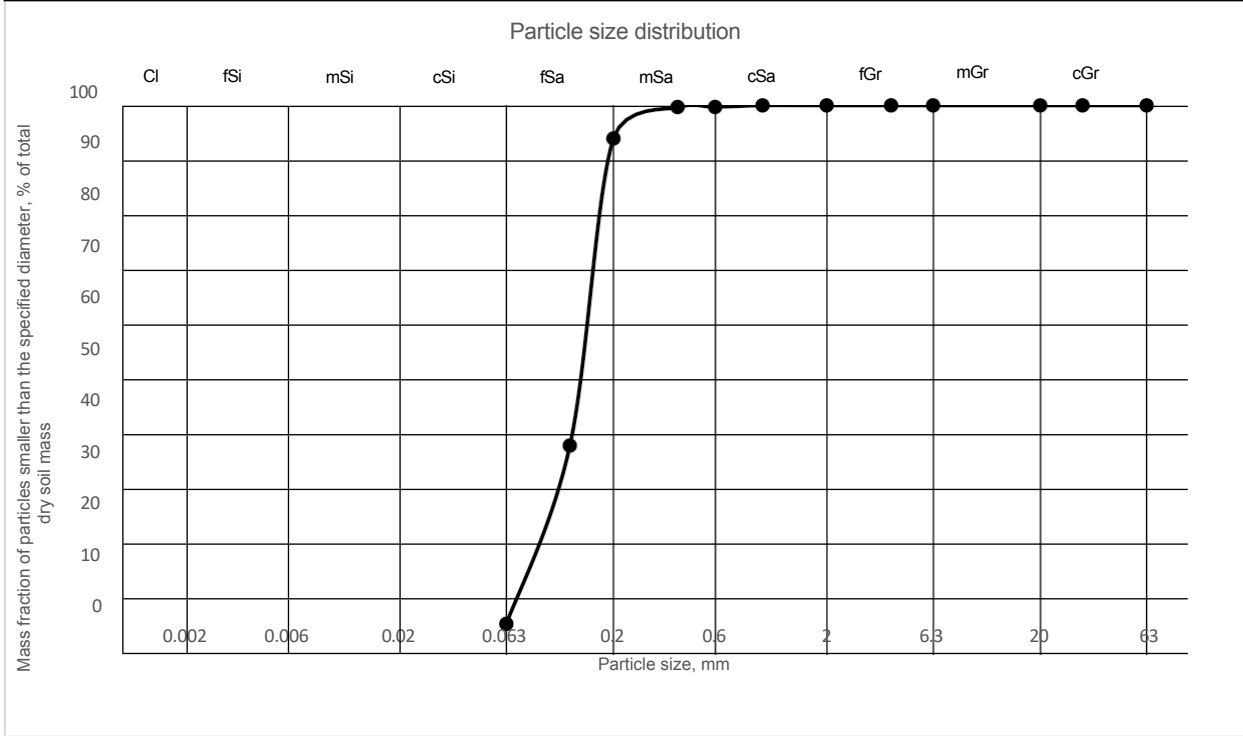
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		63	31.5	20	6.3	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:	Pt	Name:			Peat							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	HN											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_280	Gr.57	2	D	1.10	1.40



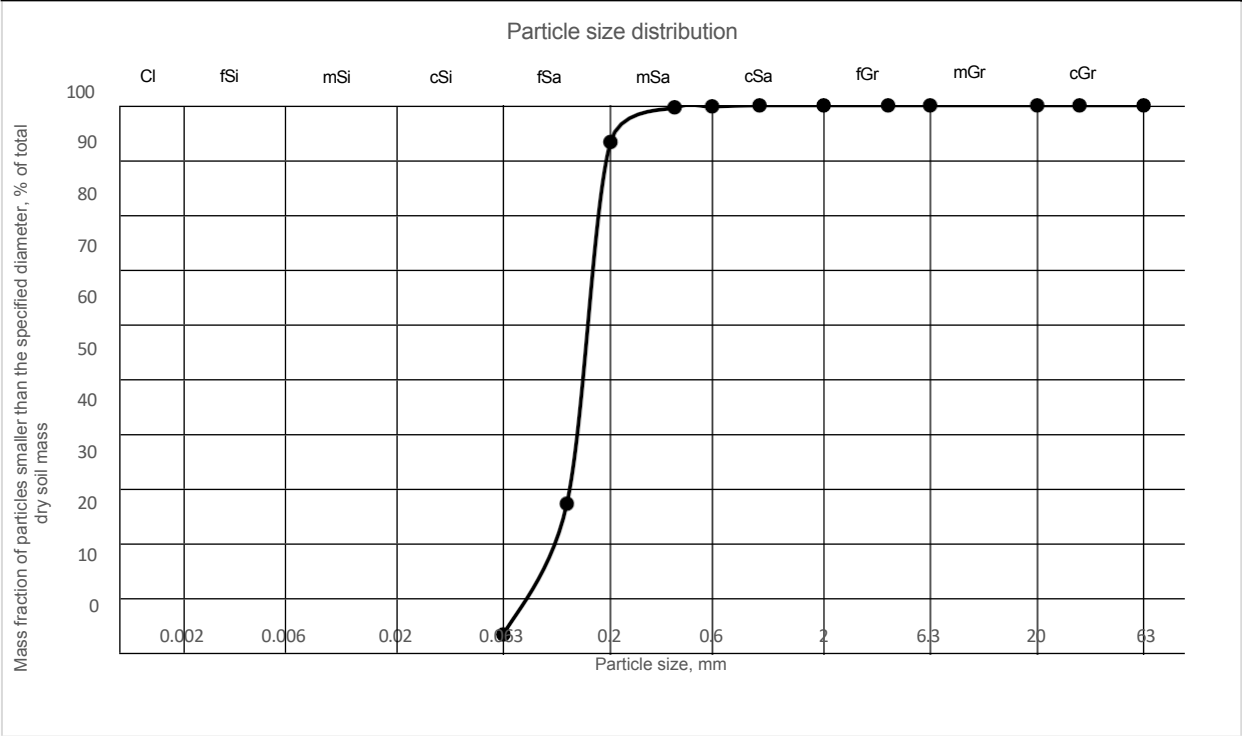
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	88.1	23.8	3.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0779	0.1514	2.09		-		-	-	-				
	0.1308	0.1629	1.35		-		-	-					
	Soil density (5)	p, mg/m³	Particle density (6)		ps, mg/m³		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m³		e, 1											
						0.8%							
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_281	Gr.57	3	D	5.00	5.30



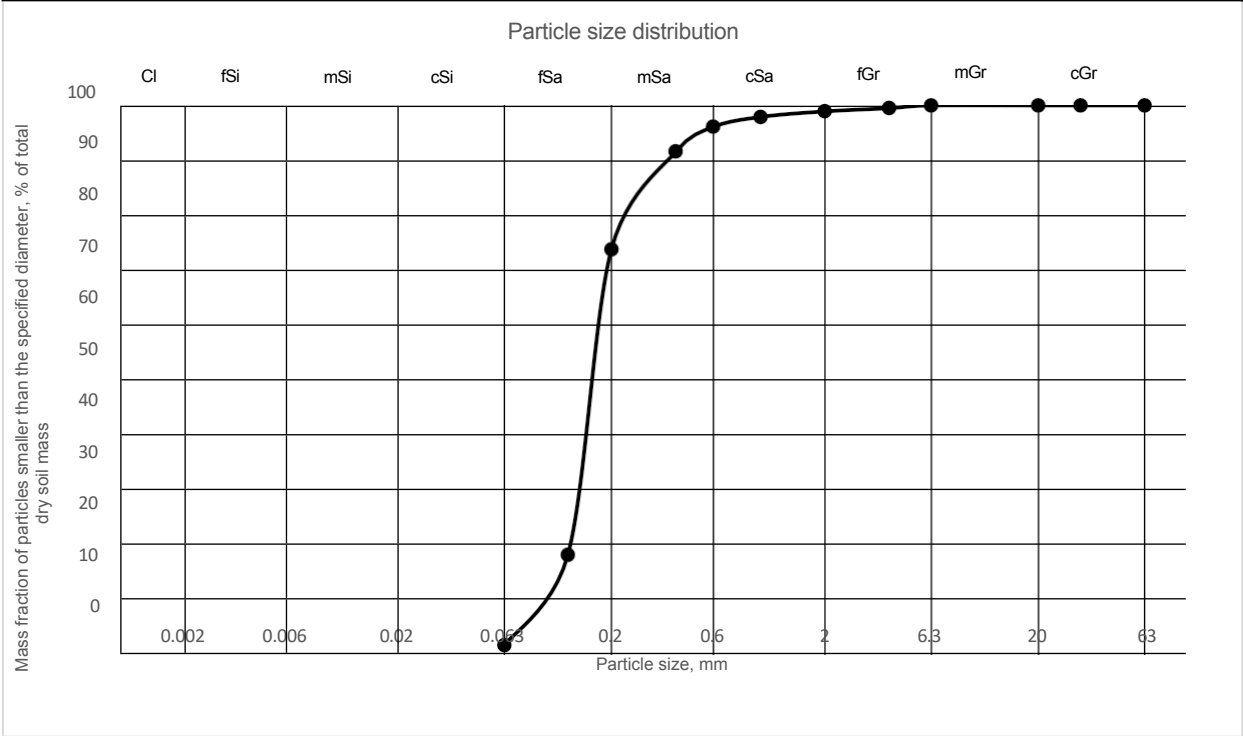
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.7	94.0	38.1	5.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0690	0.1382	2.18		-		-	-	-				
	0.1054	0.1503	1.07		-		-	-					
	35.4												
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
							1.3%						
Soil classification*													
Index:	SaFP	Name:		slightly silty-clayey poorly sorted sand									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_282	Gr.57	4	U	6.90	7.20



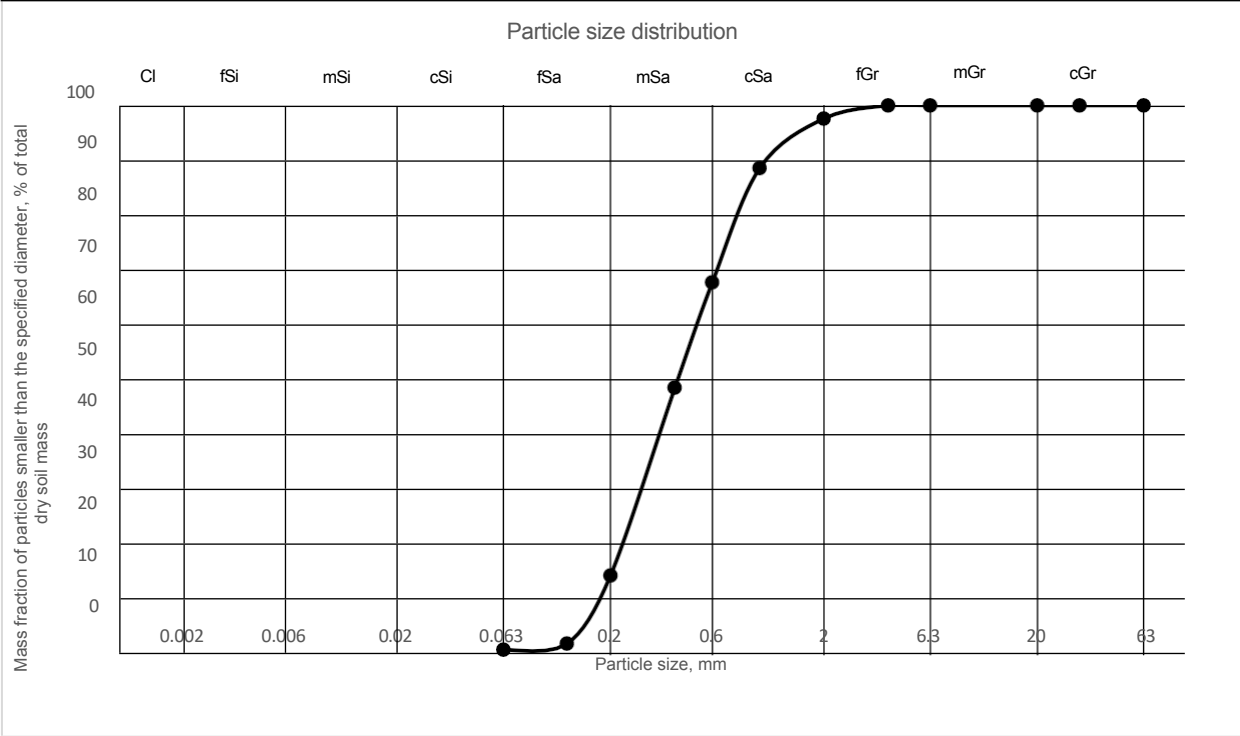
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	93.3	27.5	3.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0755	0.1468	2.09						-	-	-		
		0.1273	0.1577	1.36						-	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
Soil classification*														
Index:		SaP		Name:			poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_283	Gr.57	5	D	9.40	9.70



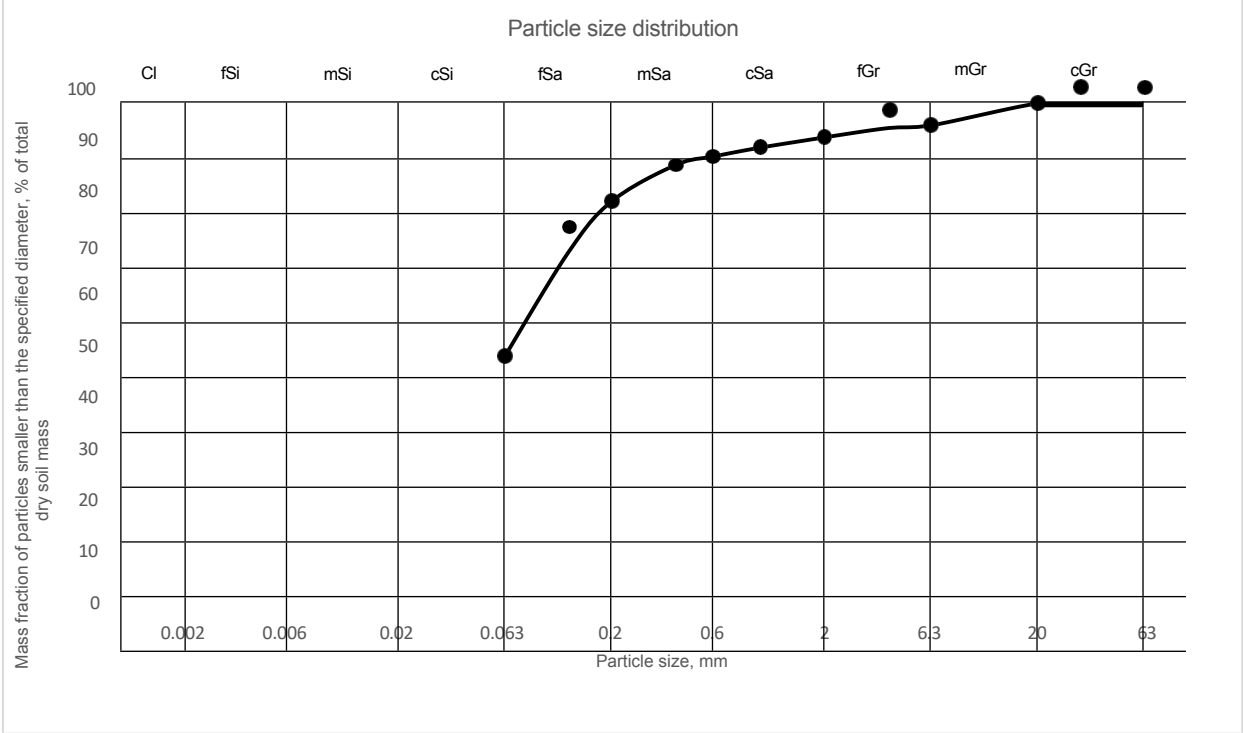
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	98.9	97.9	96.1	91.6	73.8	18.2	1.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0887	0.1636	2.01		-		-	-	-				
	0.1381	0.1780	1.21		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
						1.0%							
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_284	Gr.57	6	D	12.60	12.90



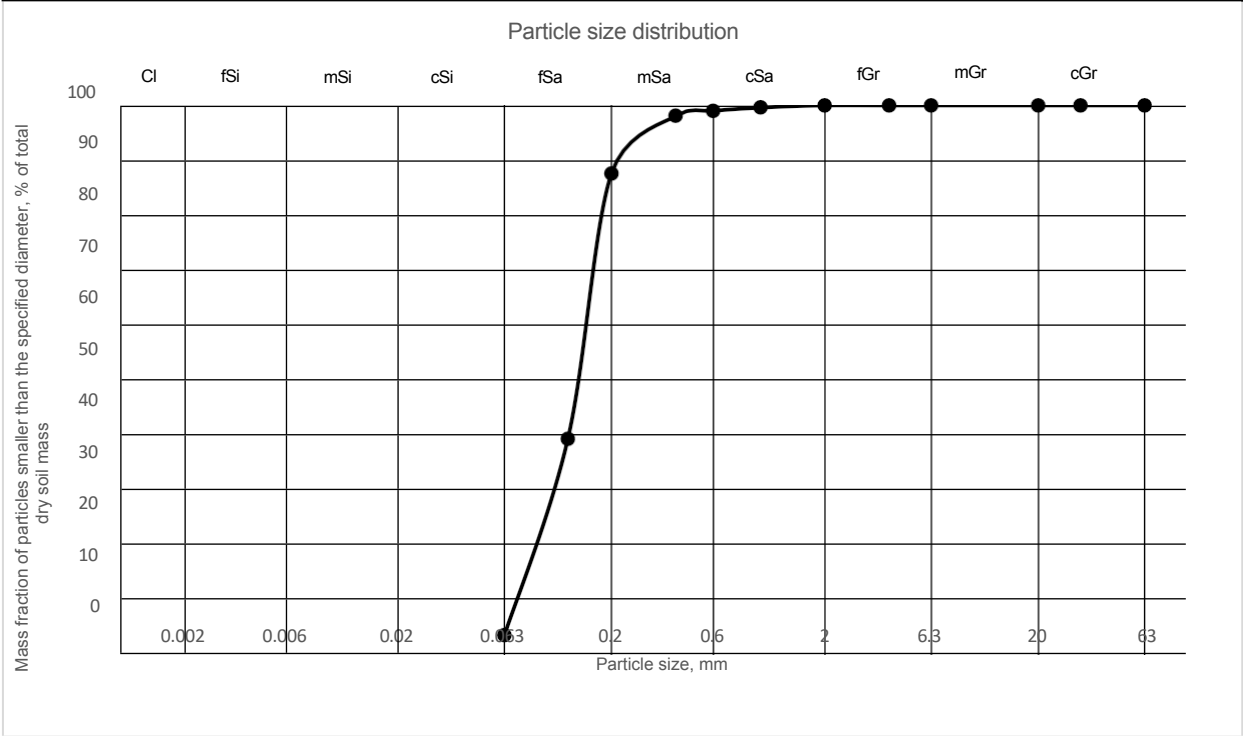
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	97.6	88.6	67.8	48.6	14.4	2.0	0.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1693	0.4120	3.01		-		-	-	-				
	0.2744	0.5089	0.87		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_285	Gr.57	7	D	16.50	17.10



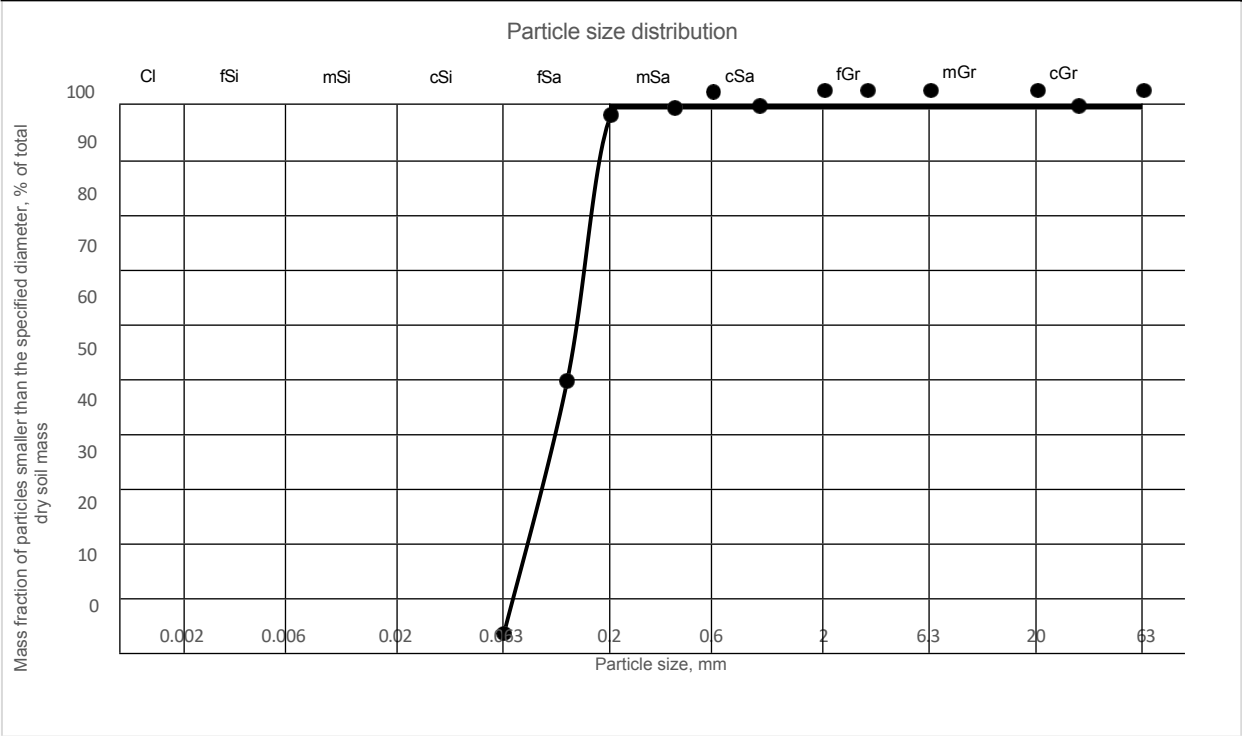
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	96.0	95.5	93.8	91.9	90.3	88.8	82.1	72.8	53.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		17.2		20.5	7.9	0.41				
	-	0.0787	-		88.8		12.6	0.59					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.130												
	1.847		0.47										
Soil classification*													
Index:	saCIL	Name:				Sandy clay with low plasticity, soft							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_286	Gr.56	1	D	2.50	2.80



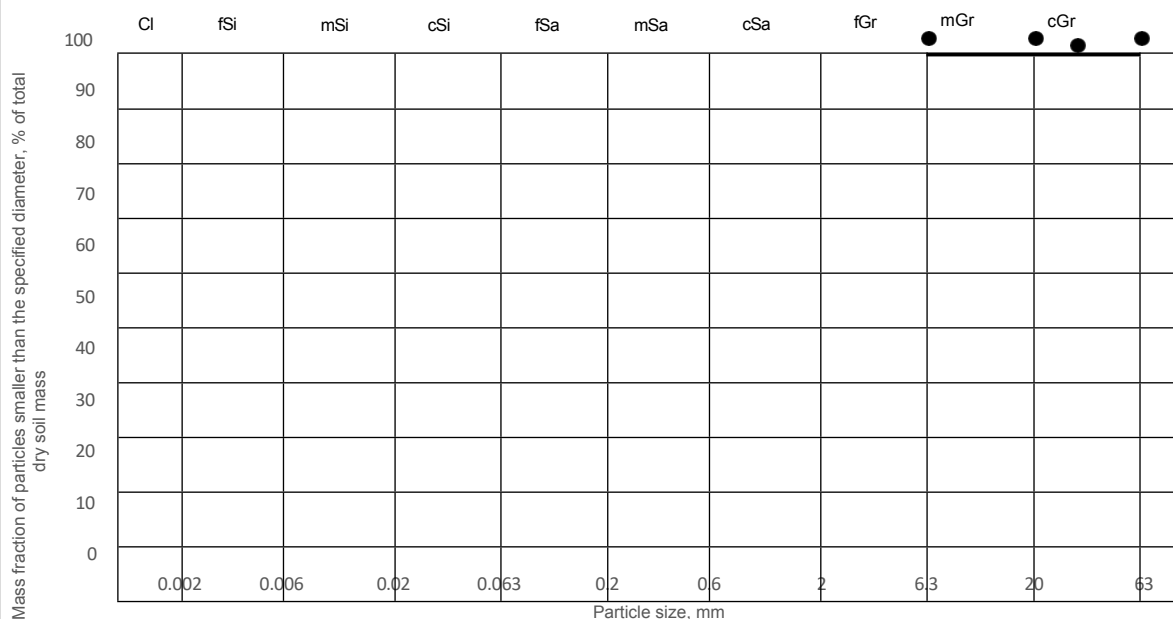
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.0	98.1	87.6	39.3	3.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0712	0.1387	2.15		-		-	-	-				
	0.1046	0.1529	1.00		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
						0.8%							
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_287	Gr.56	2	U	5.60	5.90



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.7	98.4	49.9	3.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0692	0.1251	1.99		-		-	-	-				
	0.0931	0.1379	0.91		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaP	Name:				poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Particle size distribution

[illegible]

Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1
	d30, mm	d60, mm	CC, 1		f<0.4, %		wP, %	IL, 1		
	-	-	-		-		186.6	66.8	-	
	-	-	-		140.0		-	119.8		

Soil density (5)	ρ , Mg/m³	Particle density (6)	ρ_s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
	ρ_d , Mg*m-³				e, 1				
		2.40					12.9%		

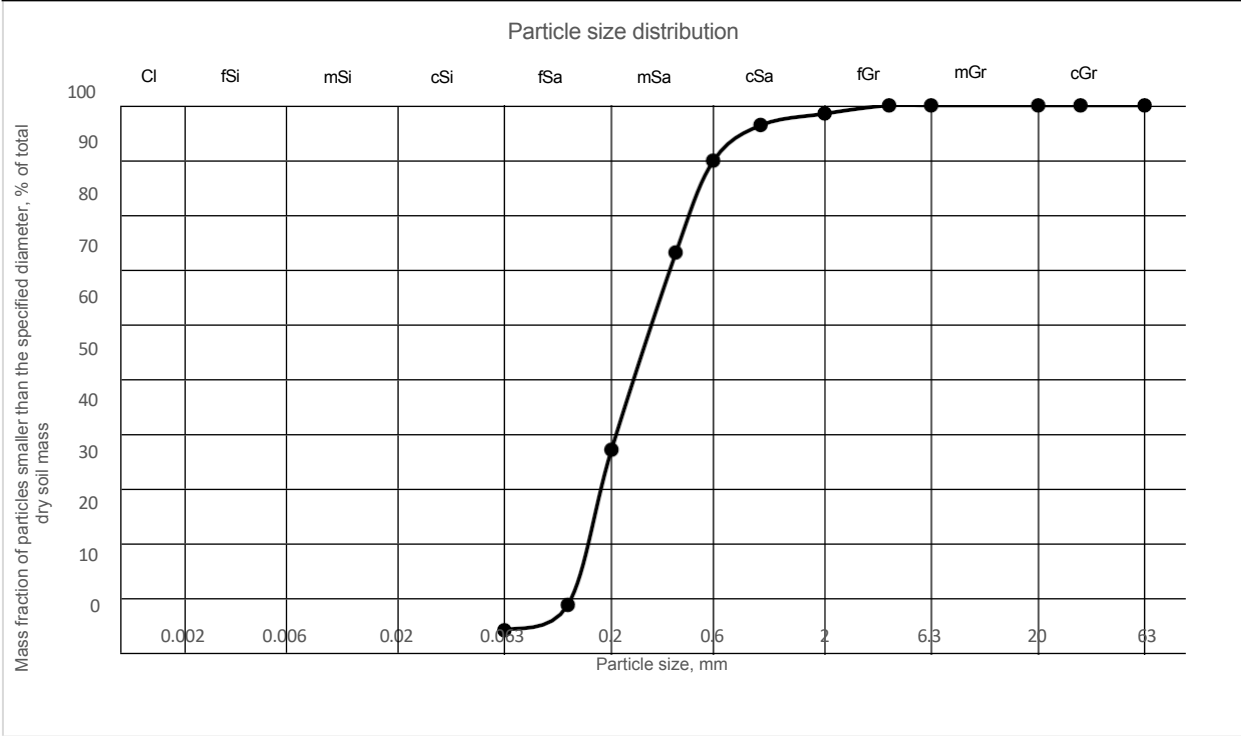
Soil classification*

Index:	Gy	Name:	Gitja

Notes:

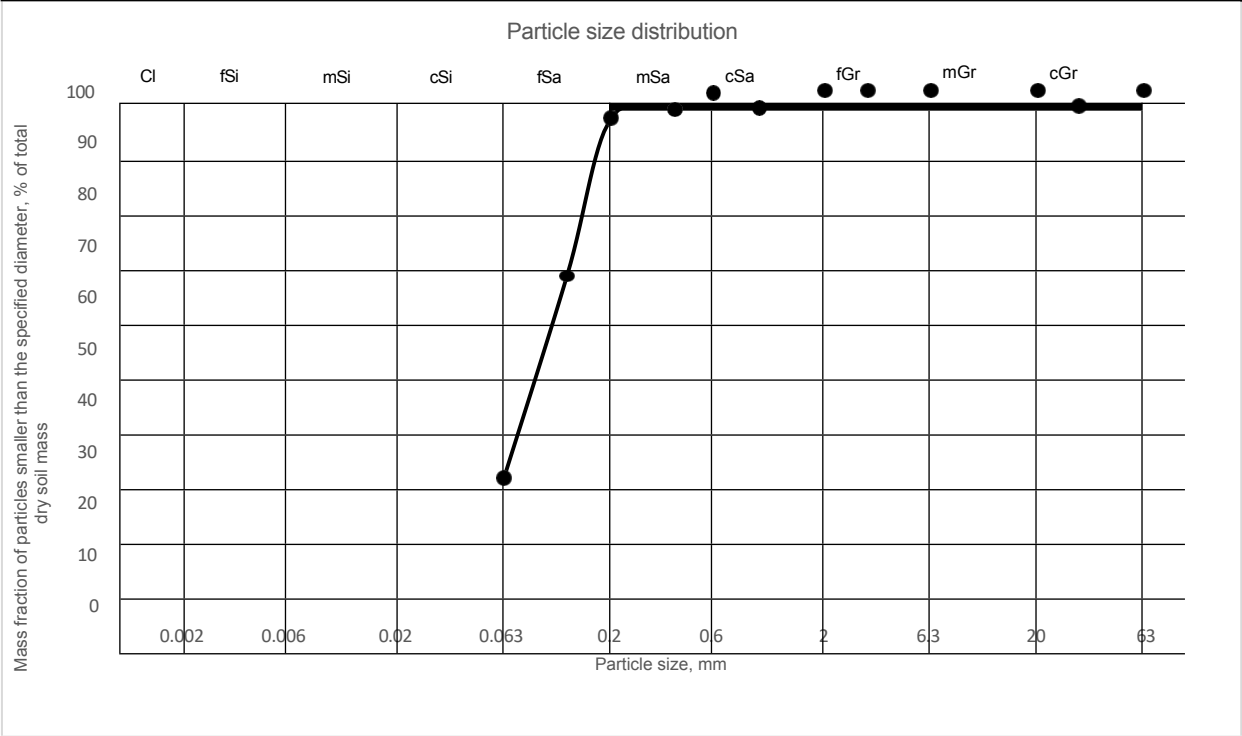
Soil classification DIN 18196:2023-02*	
Index:	F
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_289	Gr.56	4	U	9.80	10.10



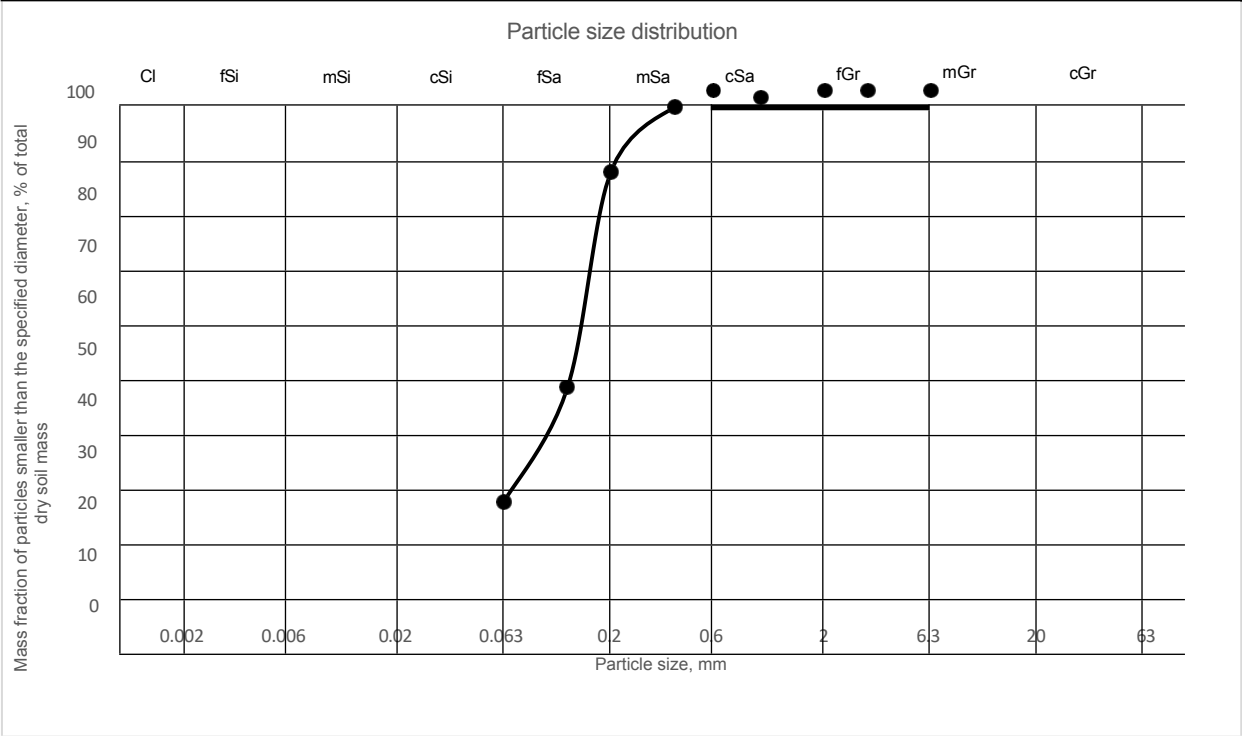
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	98.5	96.4	89.9	73.2	37.3	9.1	4.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1269	0.2556	2.44		-		-	-	-				
	0.1771	0.3100	0.80		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:			Poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_290	Gr.56	5	U	10.70	11.00



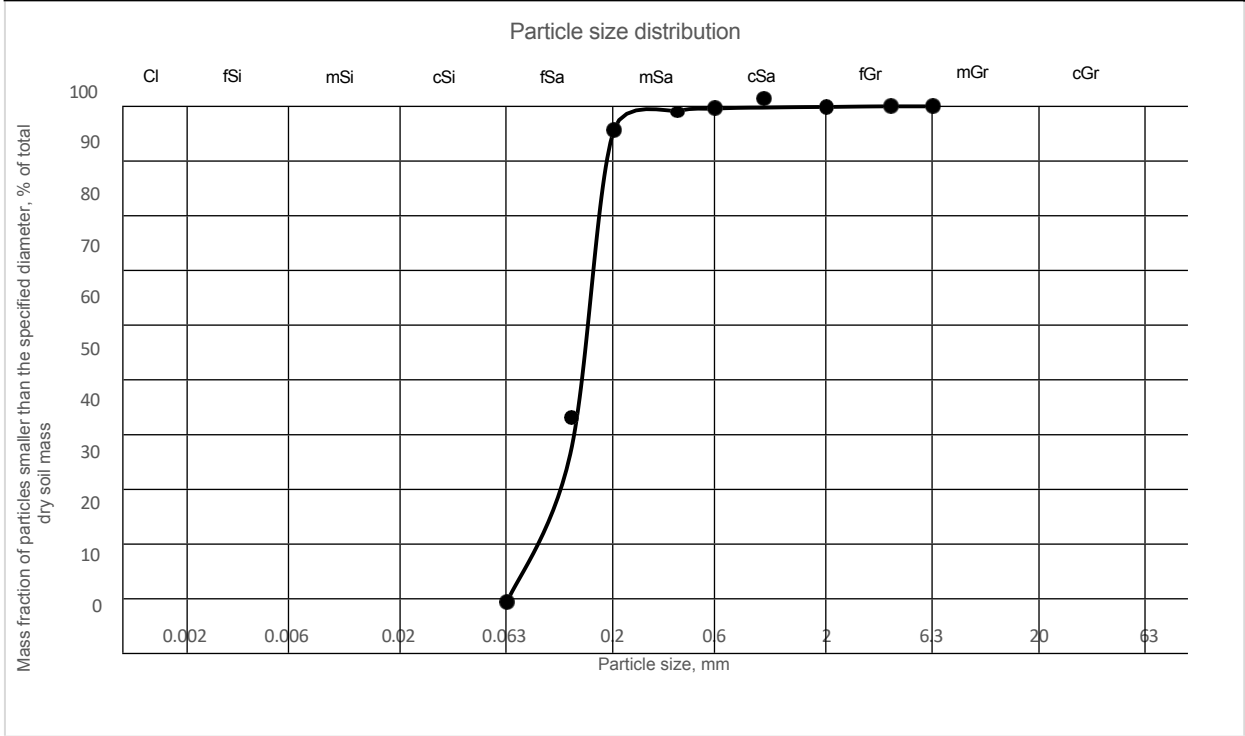
Sieve method (1)	Sieve aperture size, mm											
	Percentage of particles passing through the sieve relative to the total dry soil mass, %											
	63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.6	99.4	97.8	69.2	32.1
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0877	-		13.0		13.1	19.2	1.8	3.40		
	-	0.1055	-				99.4	17.4	-2.40			
Soil density (5)	p, mg/m³	Particle density (6)	ps, mg/m³	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m³				e, 1							
Soil classification*												
Index:	siSa	Name:				sandy loam						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SU*											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_291	Gr.56	6	U	15.30	15.60



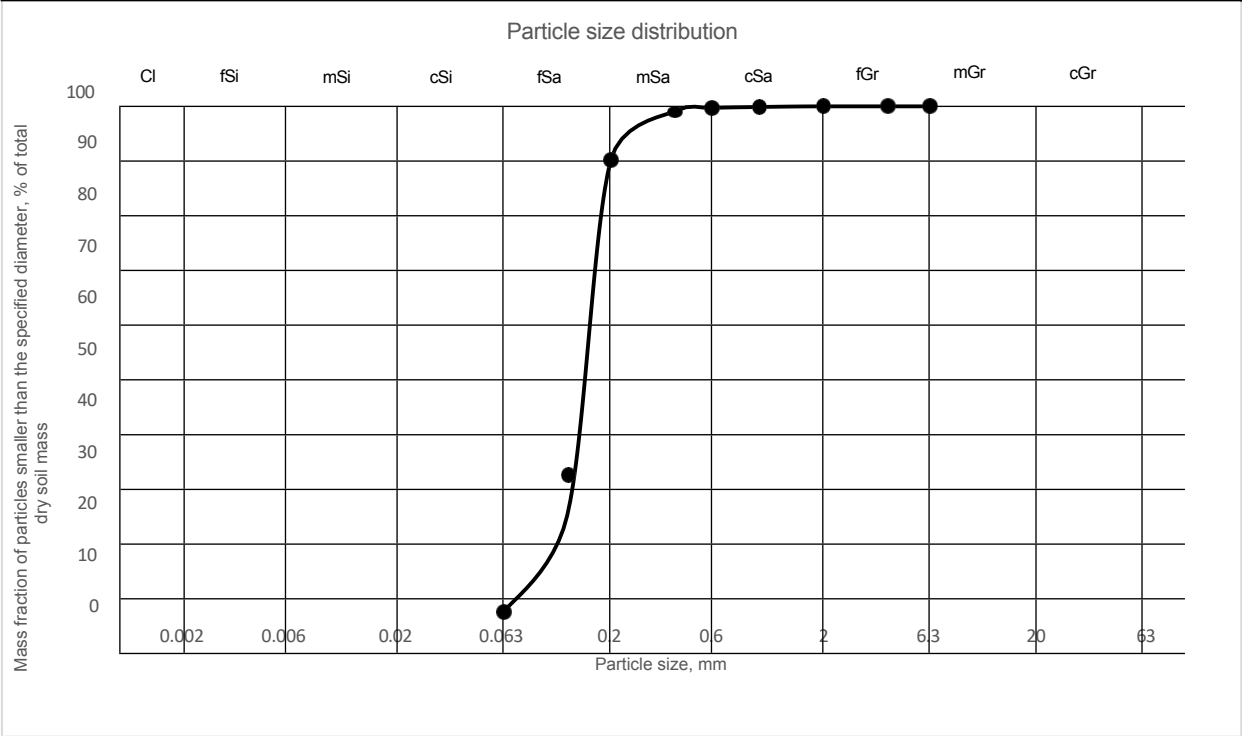
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	88.0	48.5	27.8		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1		
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1			
		-	0.1273	-						16.5	16.5	-	-	-	
		0.0678	0.1433	-						-	-	-	-		
Soil density (5)		p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³													
Soil classification*															
Index:		siSa		Name:			sandy loam								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SU*													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_293	Gr.11	1	D	6.20	6.70



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	99.2	95.7	36.5	9.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0638	0.1391	2.36		-		-	-	-				
	0.1060	0.1506	1.17		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
						2.0%							
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_294	Gr.11	2	D	8.60	8.90

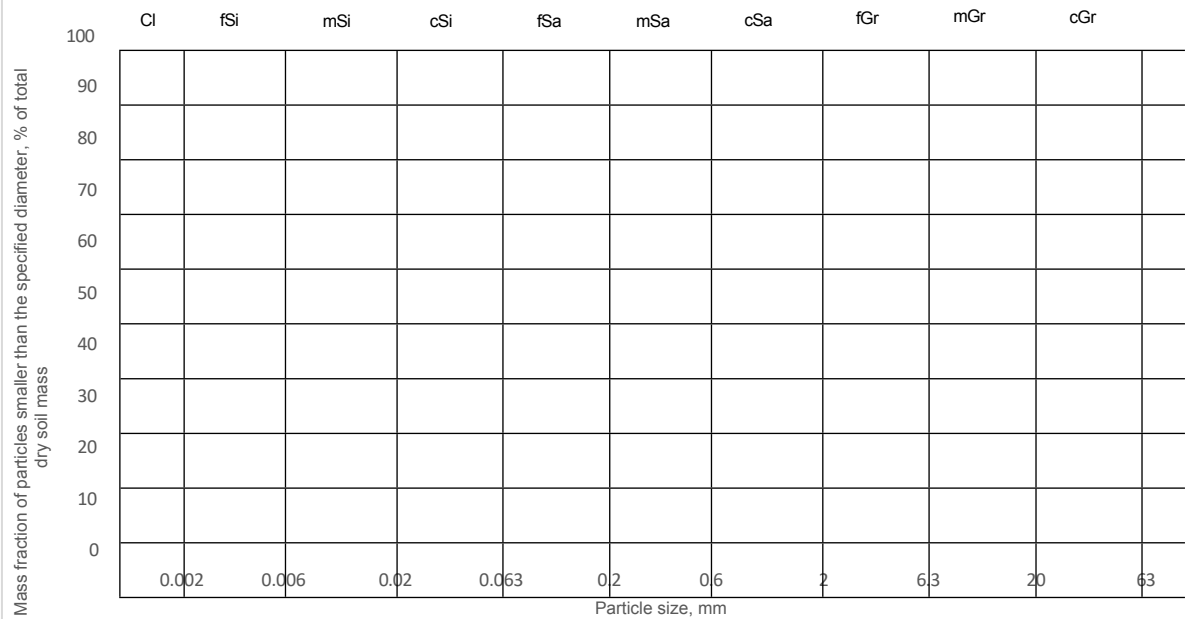


Sieve method (1)		Sieve aperture size, mm																
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063					
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.1	90.2	25.3	7.7					
Hydrometer method (2)		Particle size, mm																
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1			
		d30, mm	d60, mm	CC, 1														
		0.0689	0.1495	2.33														
		0.1293	0.1607	1.51														
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³																
		1.901																
		1.451																
Soil classification*																		
Index:		SaFP		Name:			slightly silty-clayey poorly sorted sand											
Notes:																		
Soil classification DIN 18196:2023-02*																		
Index:		SU																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																



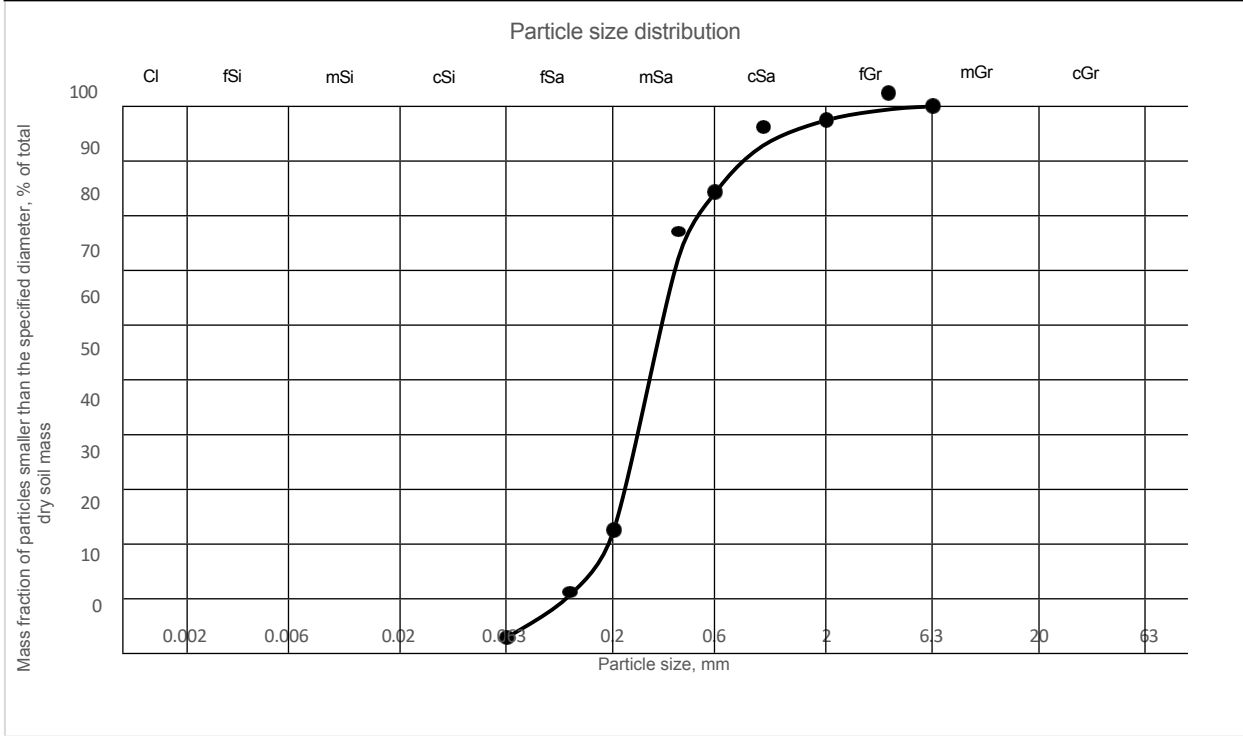
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_295	Gr.11	3	D	9.40	10:00

Particle size distribution



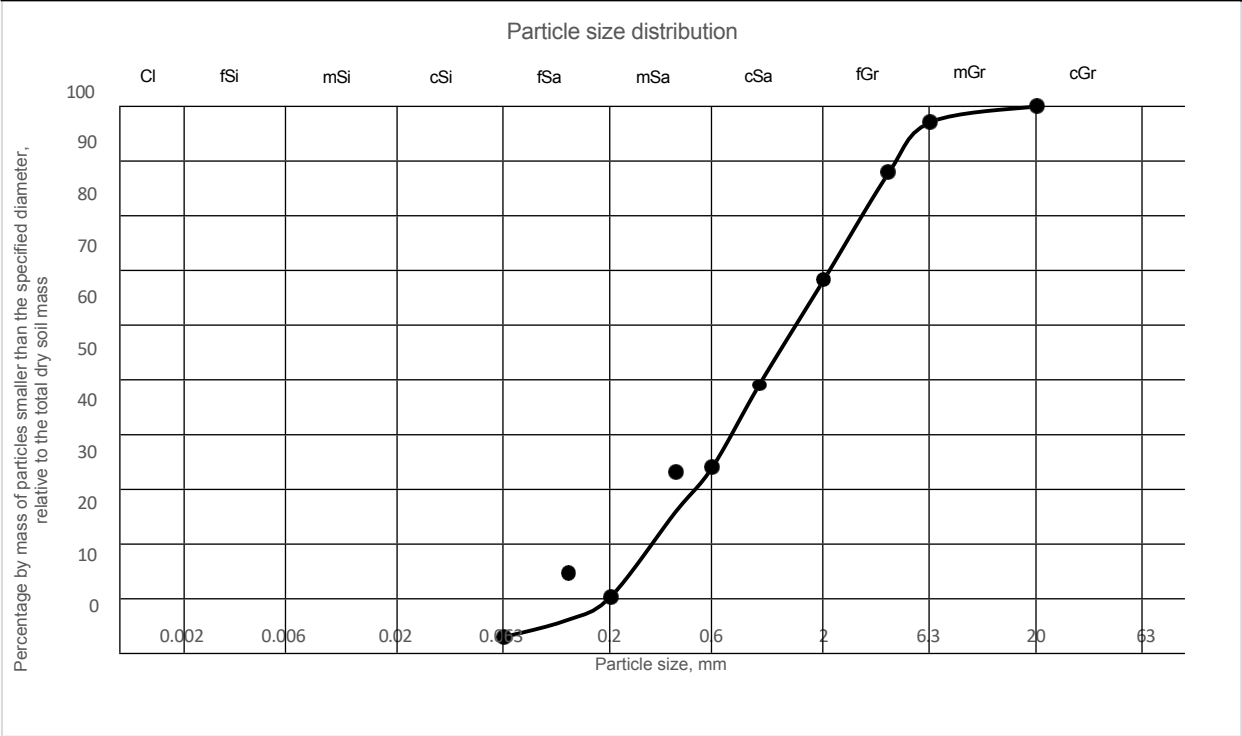
Sieve method (1)		Sieve mesh size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	-	-		-		-	-	-			
	-	-	-		-		-	-	-			
					241.0							
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
Soil classification*												
Index:		Pt	Name:			Peat						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		HN										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_296	Gr.11	4	D	11.70	12.70



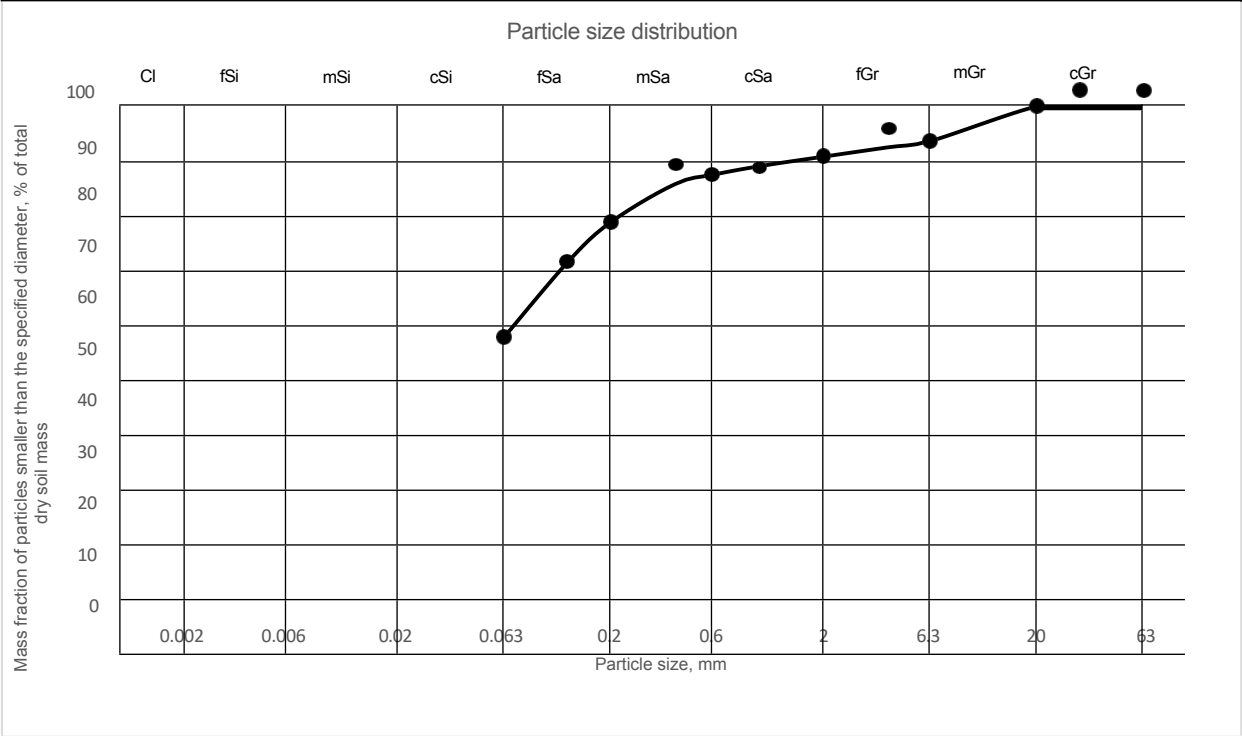
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	97.5	92.8	84.3	72.1	22.6	10.8	3.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.1165	0.2935	2.90		-		-	-	-				
	0.2218	0.3377	1.25		-		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_297	Gr.11	5	D	14.20	14.50



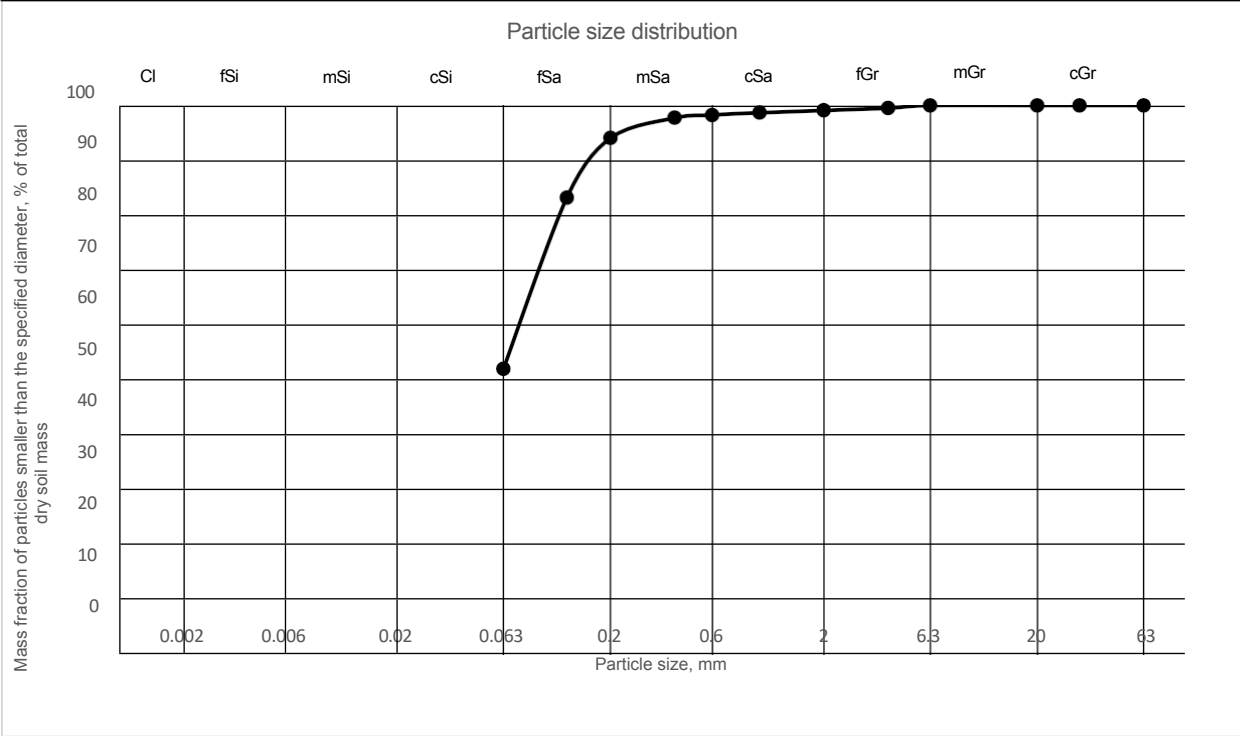
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	97.1	87.6	68.3	49.3	34.1	25.8	10.5	6.2	3.1		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.1903	1.0250	7.75								-	-	-	-
		0.4903	1.4755	0.86								-	-	-	
		Soil density (5)		p, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
pd, Mg*m-³															
1.864															
1.675															
Soil classification*															
Index:		grSaG		Name:			Gravelly sand of varying gradation								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SI													
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_298	Gr.11	6	D	15.00	4.00



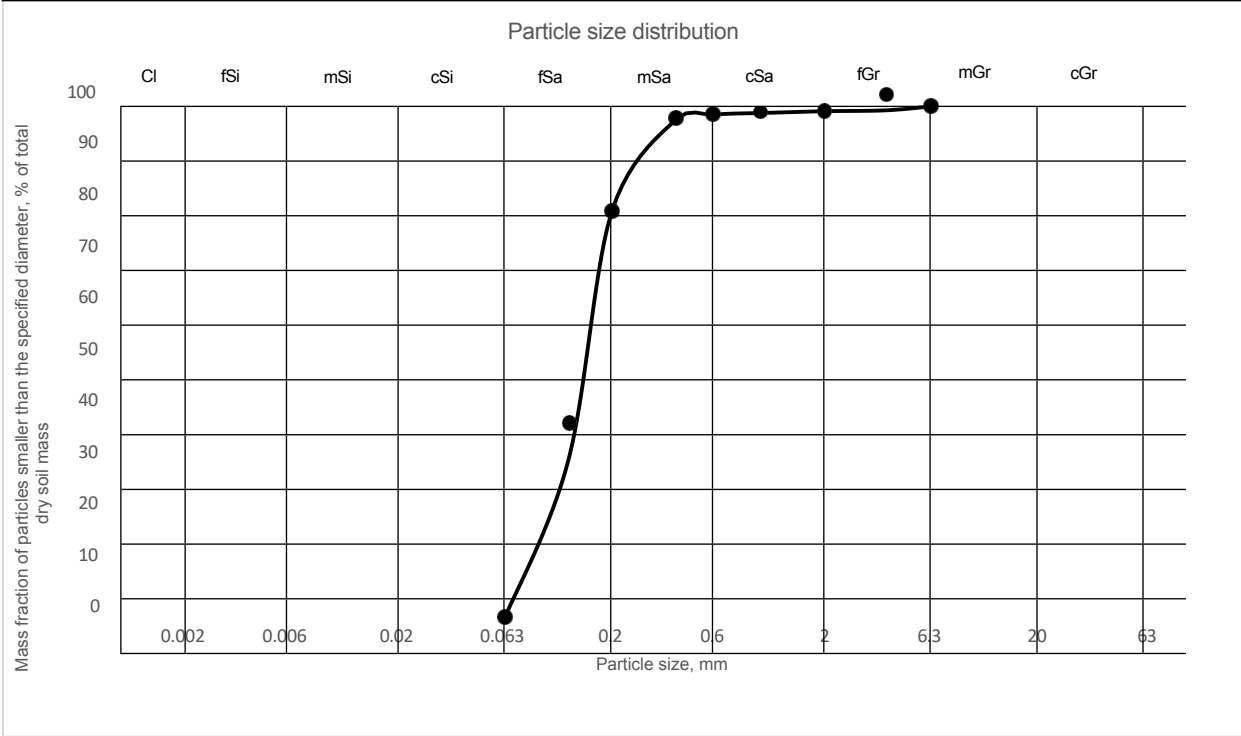
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	93.7	92.5	90.8	89.1	87.5	85.8	78.9	71.5	57.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		15.5		19.8	7.4	0.58				
	-	0.0702	-		85.8		12.4	0.42					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	2.171												
	1.916		0.41										
Soil classification*													
Index:	saCIL	Name:			sandy clay with low plasticity, firm								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_299	Gr.11	7	D	16.00	16.50



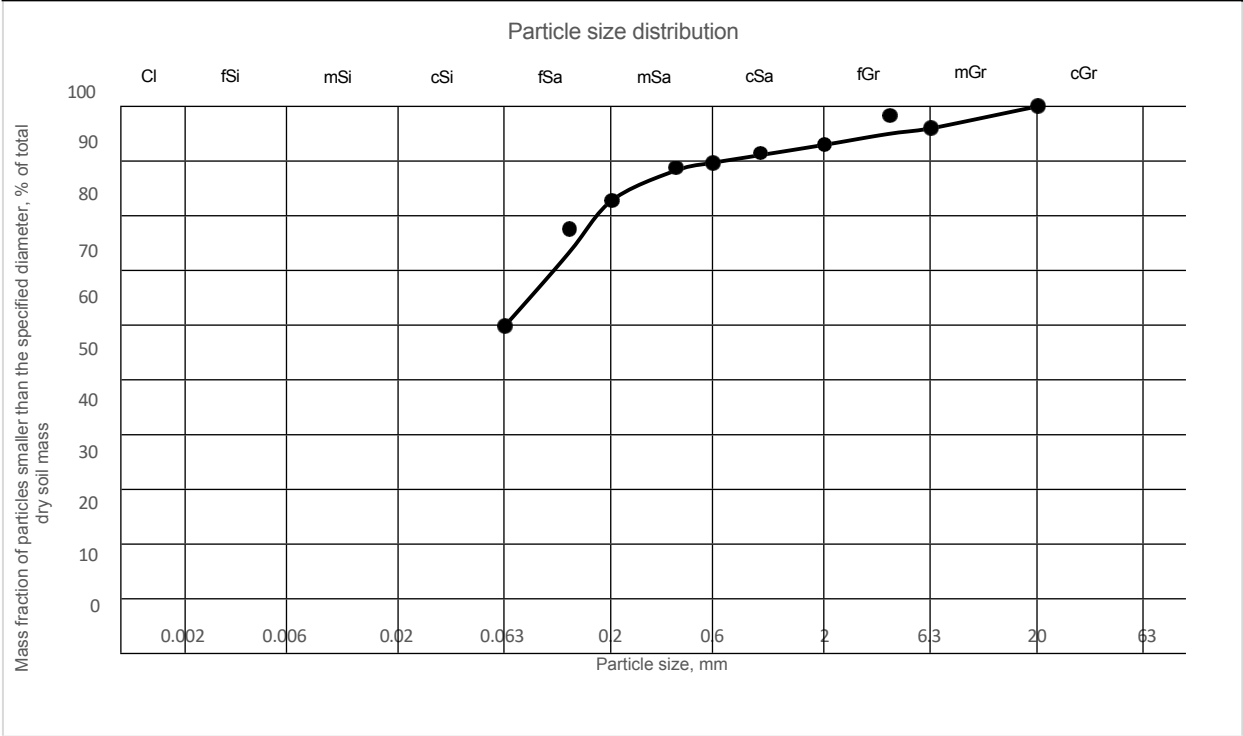
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	99.1	98.7	98.2	97.7	94.1	83.2	52.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	12.7	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1			
	-	-	-					13.0	17.9	5.1	0.96		
	-	0.0750	-					97.7	12.8	0.04			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	2.68	Porosity (7)	n, 1	Organic matter (10)	org. mat. %		Water permeability (4.2)	k10, m/s		
	pd, Mg*m-³					e, 1							
	2.241												
	1.989					0.35							
Soil classification*													
Index:		saCIL-SiL		Name:		Sandy, low-plasticity clay-silt, stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL-UL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_300	Gr.11	8	D	21.30	10:00



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.3	99.1	98.8	98.5	97.6	80.8	35.3	6.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0682	0.1455	2.37		-		-	-	-				
	0.1101	0.1613	1.10		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

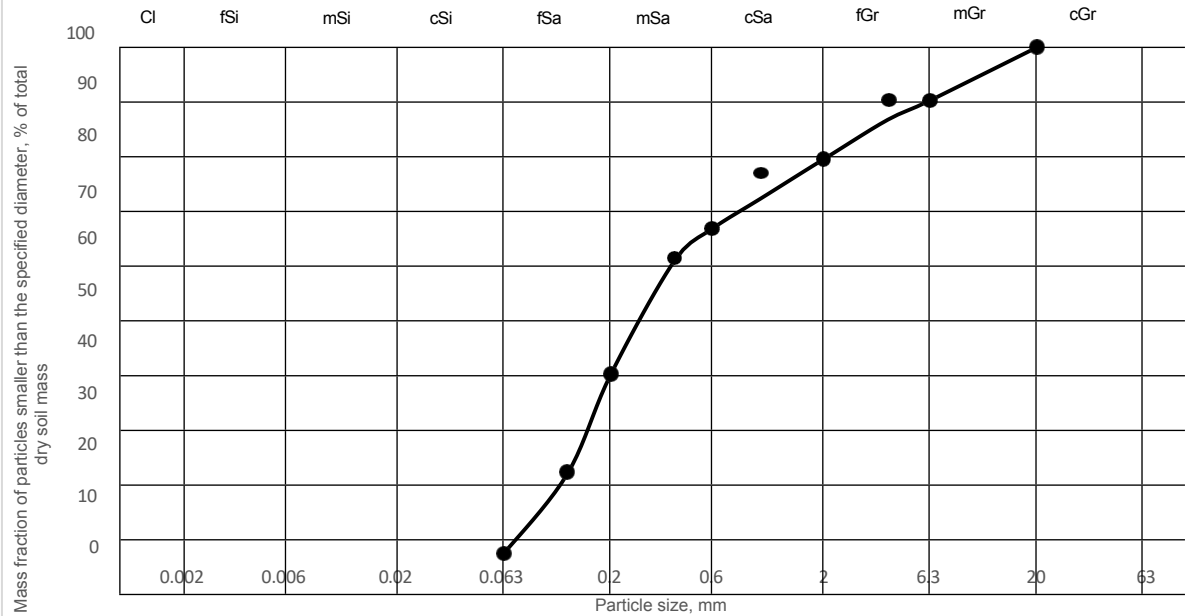
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_301	Gr.11	9	D	34.70	35.00



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	96.0	95.0	93.0	91.1	89.7	88.3	82.8	73.1	59.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-				15.2	21.6	8.4	0.76			
	-	0.0633	-		88.3		13.2	0.24					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		saCIL		Name:		Sandy clay with low plasticity, stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

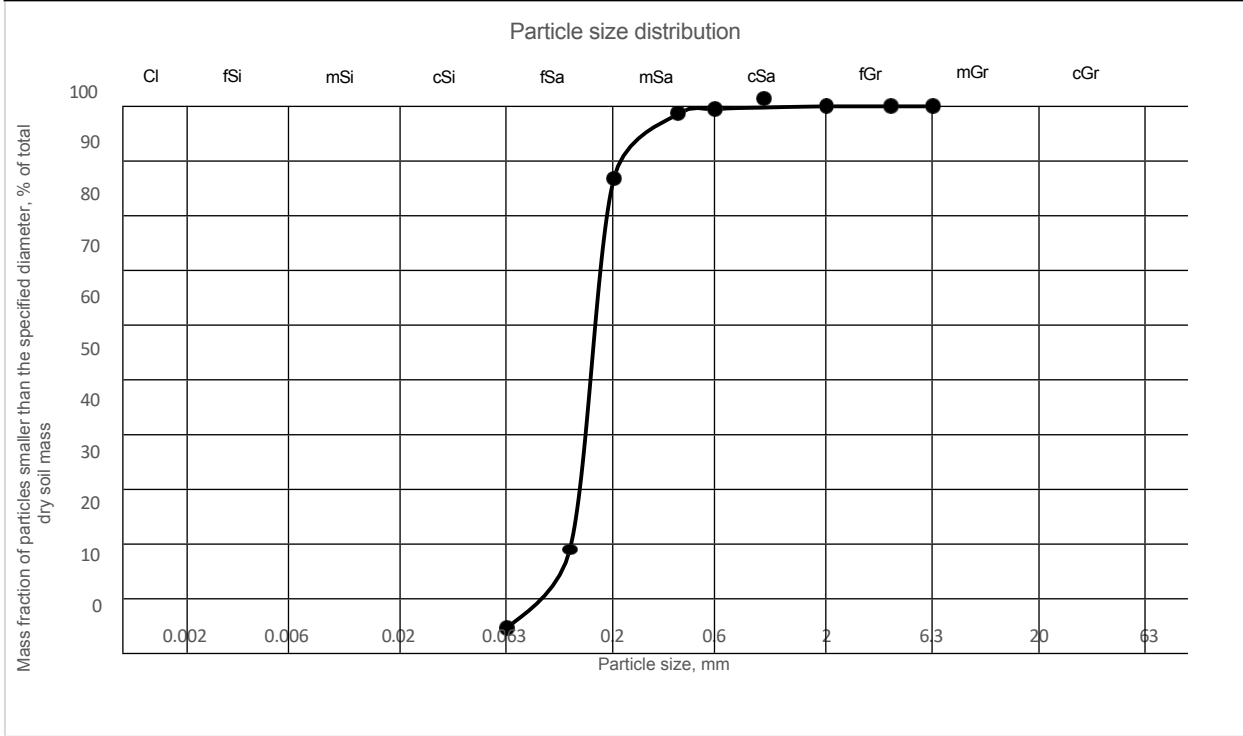
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_302	Gr.2	1	D	4.70	6.50

Particle size distribution



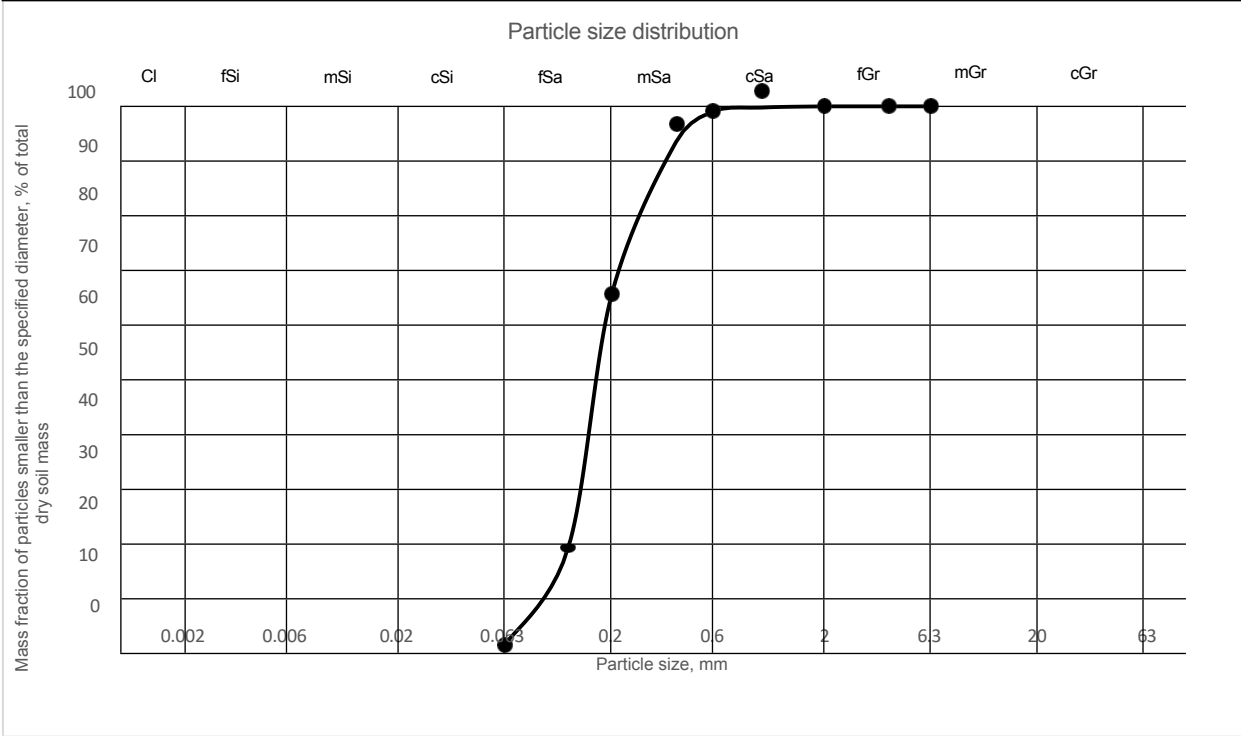
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	90.3	86.8	79.6	72.3	66.9	61.2	40.3	22.1	7.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0706	0.2759	5.45				-	-	-				
	0.1533	0.3844	0.87		-		-	-					
					21.7								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
	1.890												
	1.553		0.68		1.4%		1.25×10 ⁻⁵						
Soil classification*													
Index:	grSaFP	Name:			Gravelly, slightly silty-clayey, poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_303	Gr.2	2	D	6.60	6.80



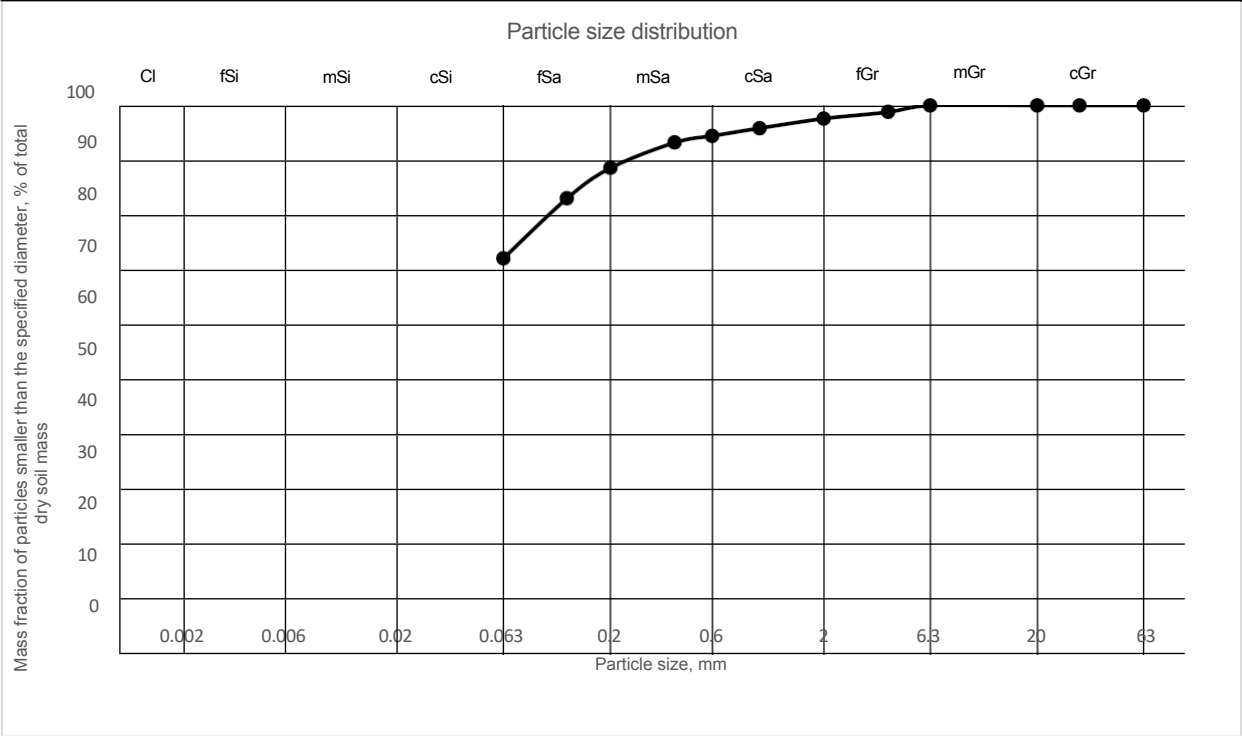
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.5	98.6	86.8	19.3	4.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0808	0.1548	2.05		-		-	-	-				
	0.1347	0.1660	1.35		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
						0.8%							
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_304	Gr.2	3	D	8.00	9.00



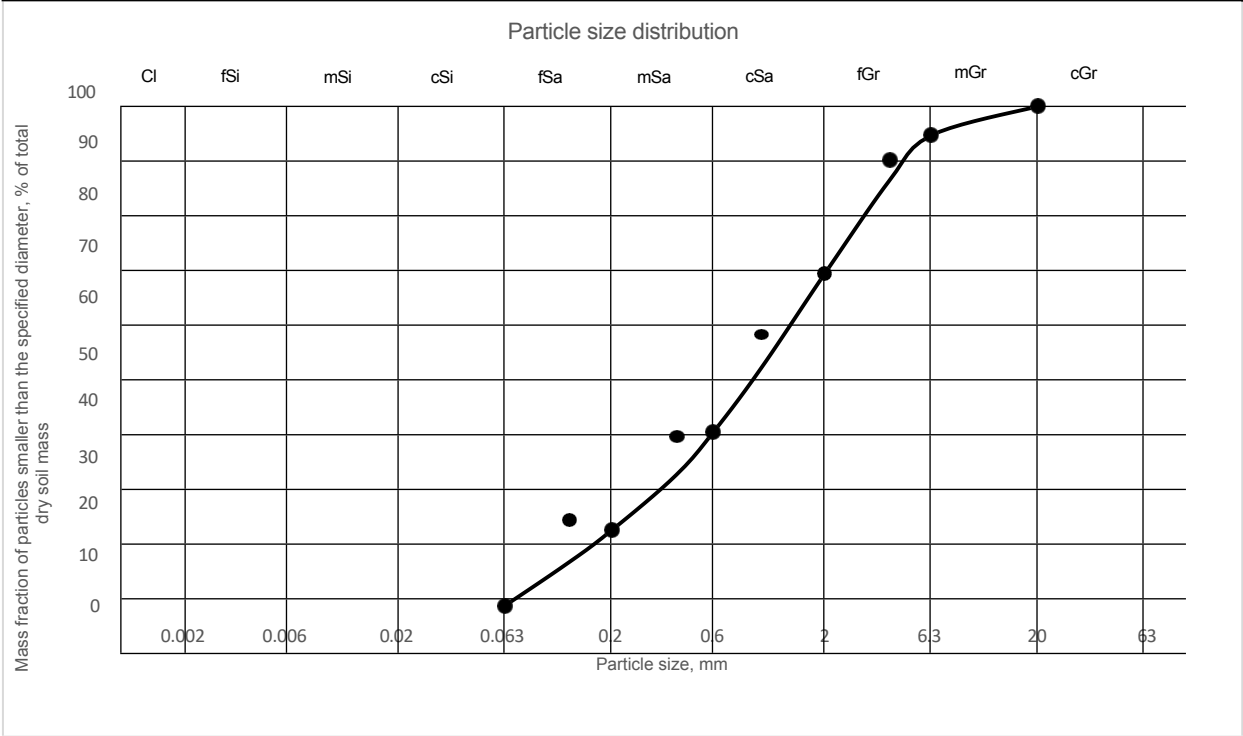
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.1	93.5	65.7	19.4	1.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0869	0.1705	2.17		-		-	-	-				
	0.1392	0.1888	1.18		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaP	Name:				poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_305	Gr.2	4	U	10.70	11.20



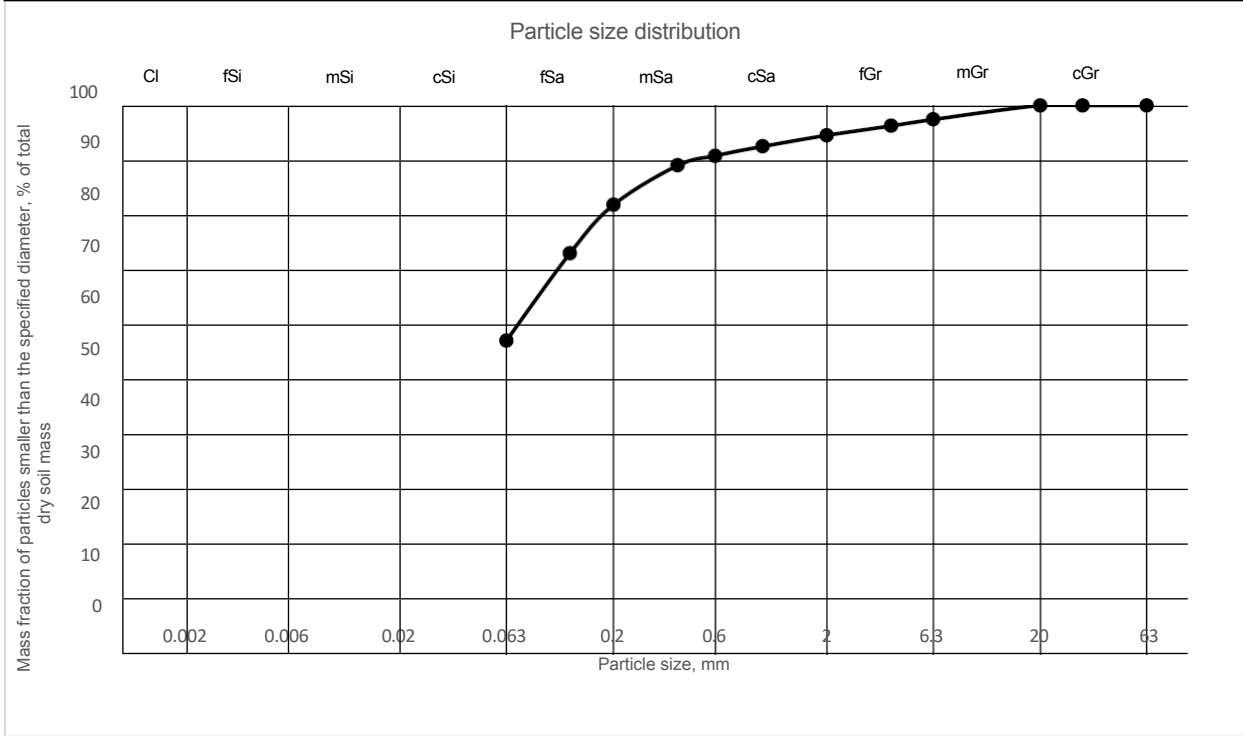
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	98.8	97.6	95.8	94.4	93.2	88.6	83.1	72.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		18.7		25.5	9.8	0.70				
	-	-	-		93.2		15.7	0.30					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:	saCIL	Name:			Sandy clay with low plasticity, firm								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_306	Gr.2	5	D	12:00	13:00



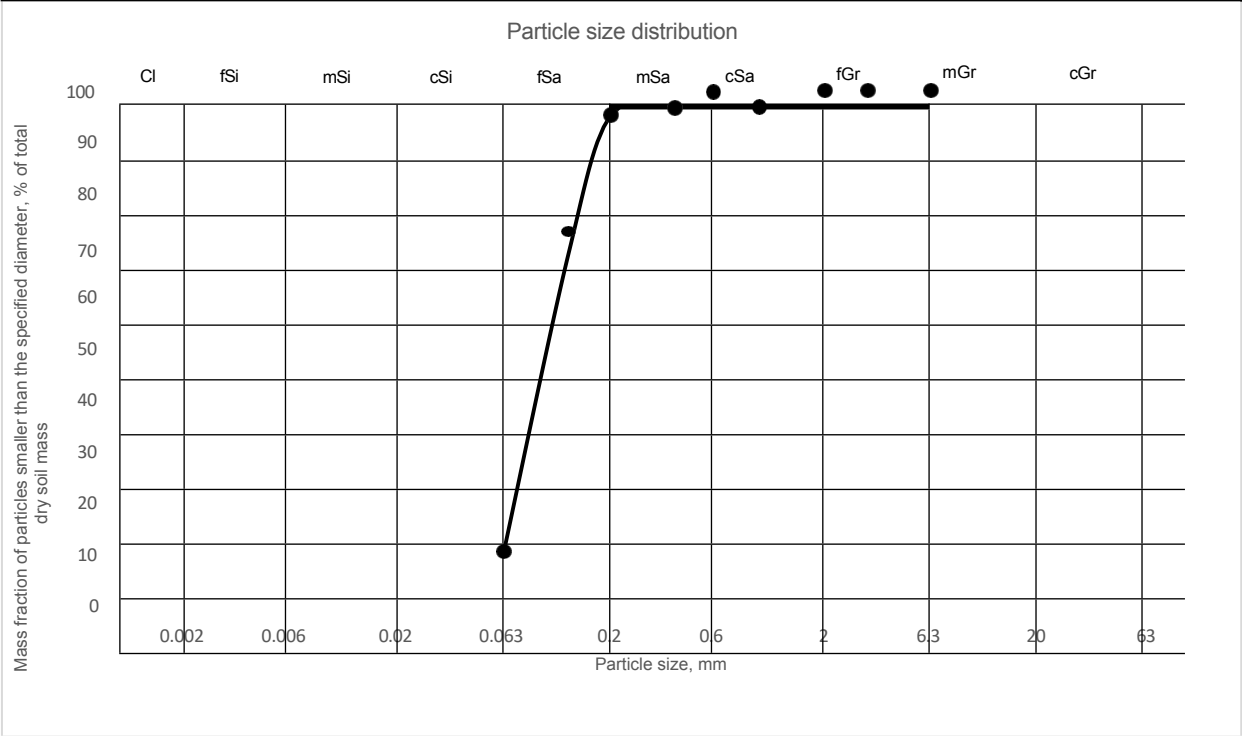
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	94.7	86.3	69.5	52.1	40.6	32.6	22.6	16.7	8.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0699	0.9104	19.61				-	-	-				
	0.3332	1.3696	1.16		-		-	-					
					9.5								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.043												
	1.866		0.43										
Soil classification*													
Index:	grSaFW	Name:				Gravelly, slightly silty-clayey, well-sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_307	Gr.2	6	U	15.00	4.00



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	97.5	96.3	94.5	92.5	90.8	89.1	81.9	73.1	57.2	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
	d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
	-	-	-								17.8	21.9	8.5	0.48
	-	0.0711	-								89.1	13.4	0.52	
Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
	ρd, Mg*m-³													
	2.197													
	1.895													
Soil classification*														
Index:		saCIL		Name:			Sandy clay with low plasticity, soft							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		TL												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_308	Gr.2	7	D	21.00	24.00

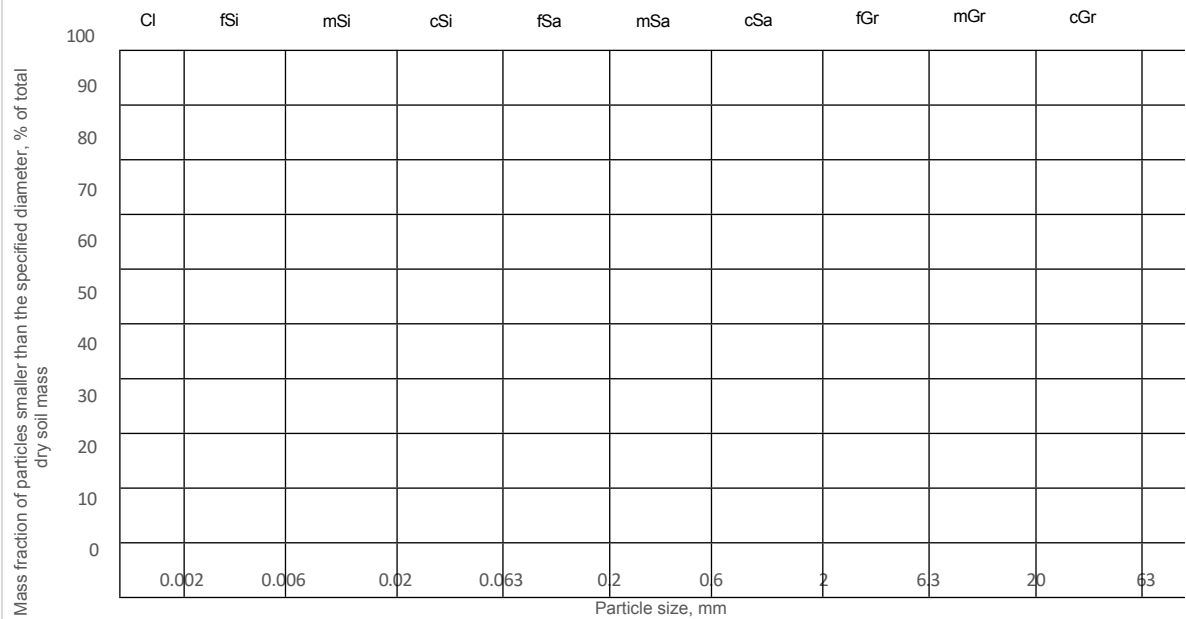


Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	98.4	72.1	18.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		-	0.0941	-						19.6	25.7	-	-	
		0.0728	0.1070	-						99.7	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
Soil classification*														
Index:		siSa		Name:			sandy loam							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU*												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												



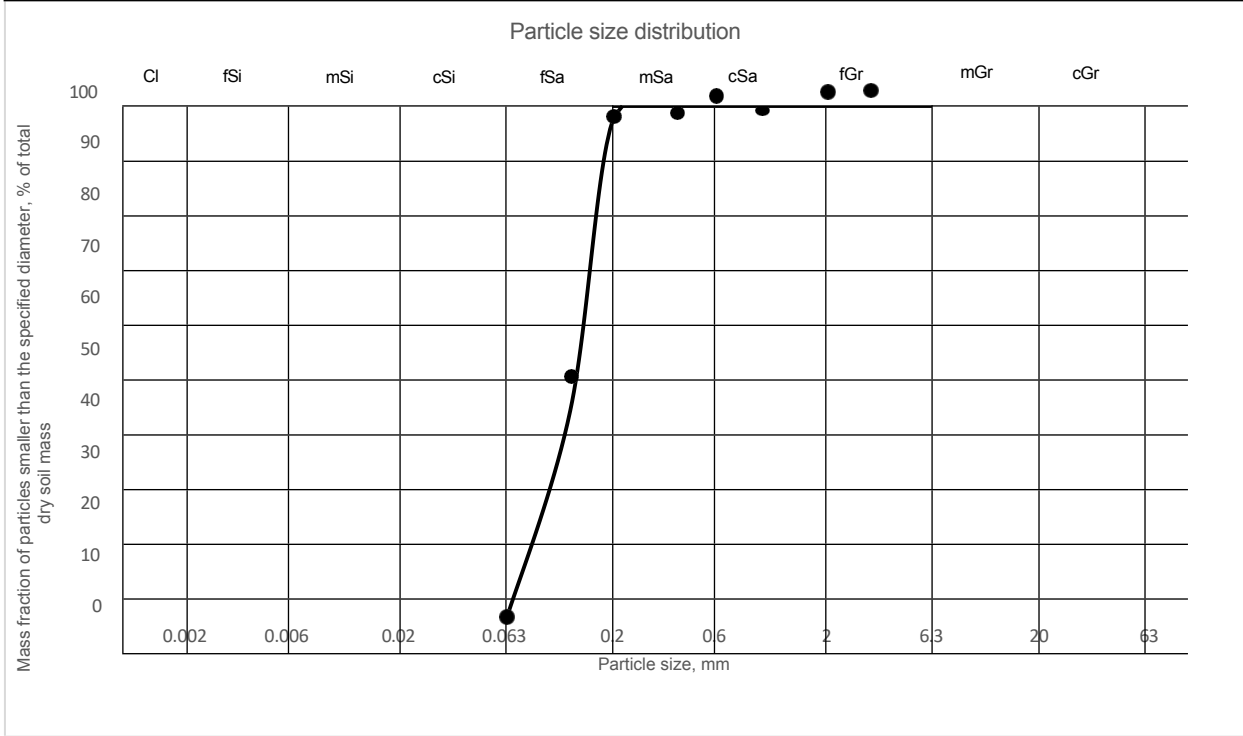
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_309	Gr.2	8	U	33.90	34.80

Particle size distribution



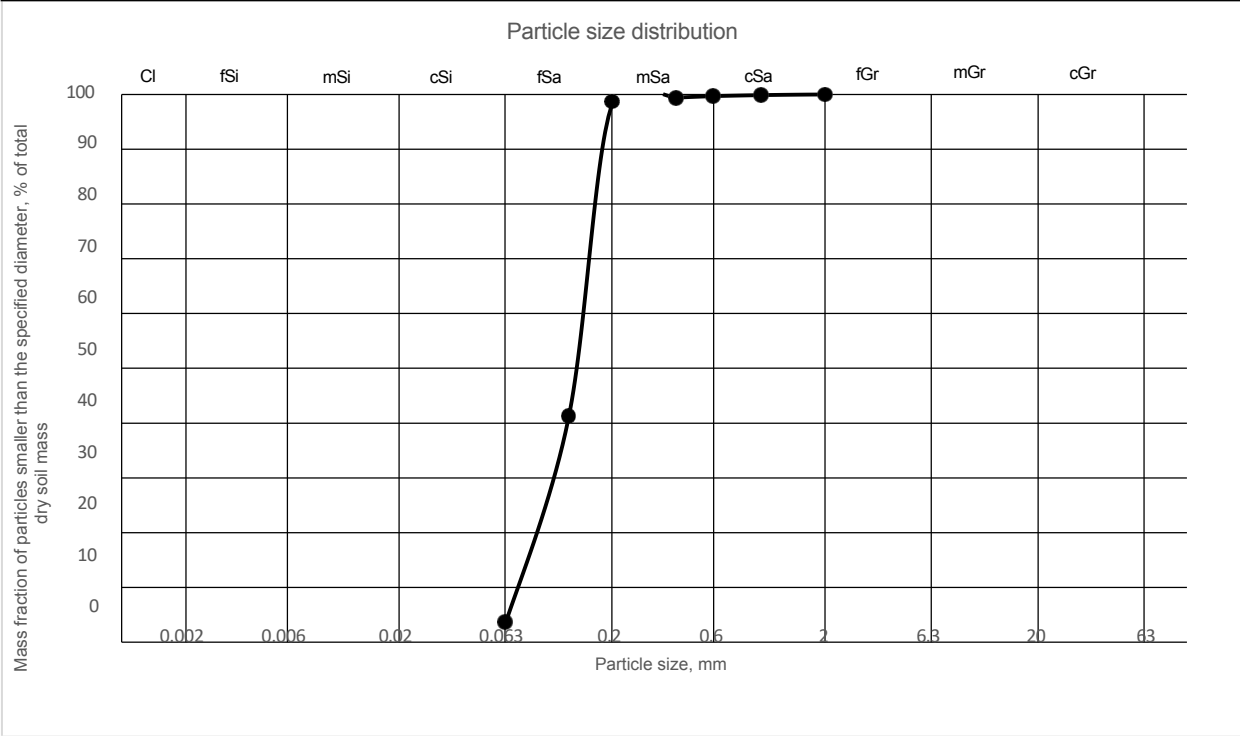
Sieve method (1)		Sieve aperture size, mm											
		Mass fraction of particles passing through the sieve relative to the total dry soil mass, %											
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass											
			0.0393	0.0281	0.0206	0.0150	0.0085	0.0062	0.0043	0.0027	0.0015		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0033	-				21.2	37.2	13.3				
	-	0.0053	-				-	23.9	-0.20	1.20			
Soil density (5)	ρ , Mg/m ³		Particle density (6)	ρ_s , Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρ_d , Mg*m ⁻³					e, 1							
	2.062												
	1.701					0.59							
Soil classification*													
Index:		CIM		Name:		medium-plasticity clay, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TM											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_310	Gr.63	1	D	3.80	4.10



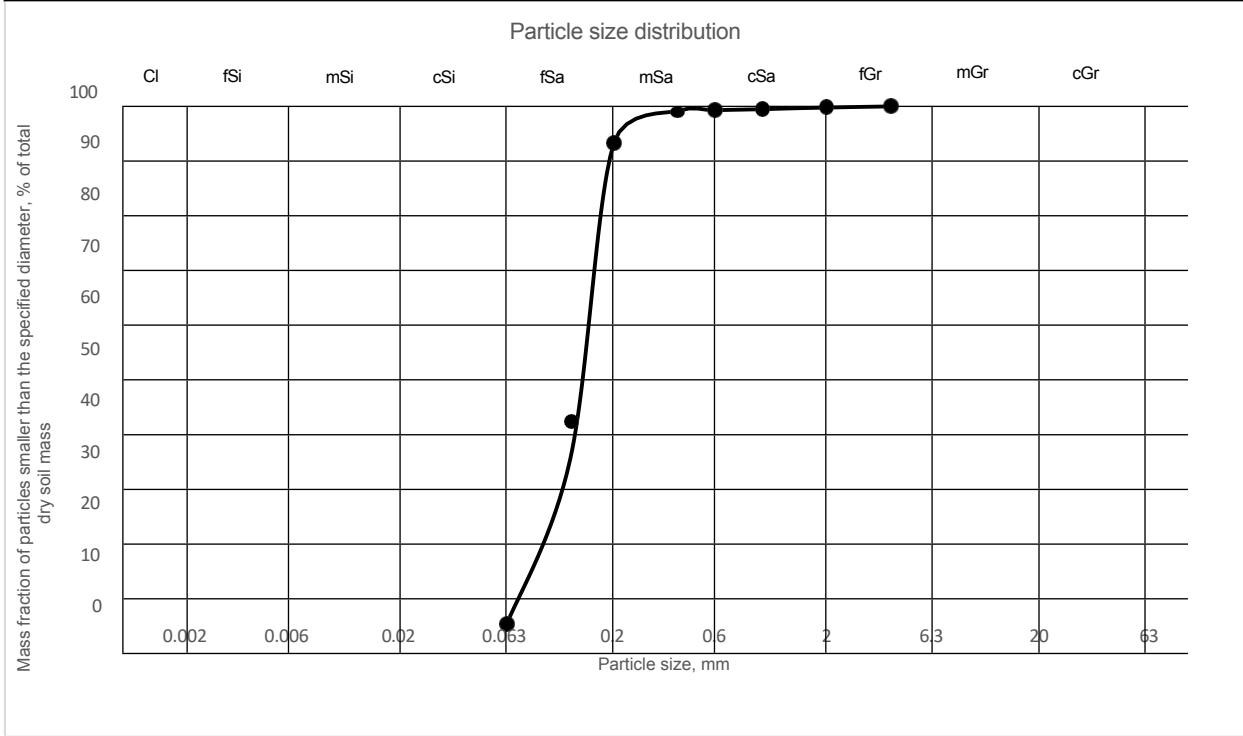
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.3	99.0	98.8	98.1	44.4	6.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0669	0.1313	2.14		46.2		43.8	10.4	-0.23				
	0.0962	0.1433	0.97		98.8		33.4	1.23					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
		2.62				2.4%							
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_311	Gr.63	2	U	5.50	5.80



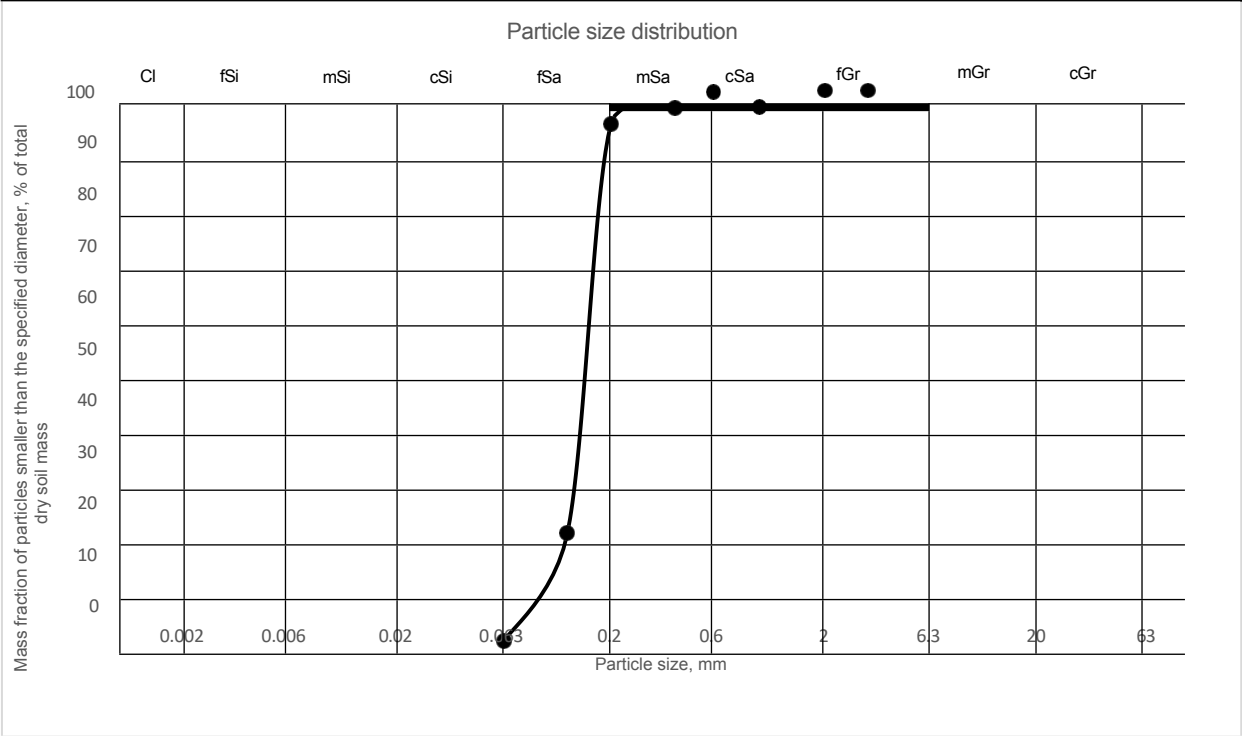
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	98.7	41.3	3.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0707	0.1342	2.06		-		-	-	-				
	0.1017	0.1457	1.01		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
				1.3%									
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_312	Gr.61	1	D	0.30	0.70



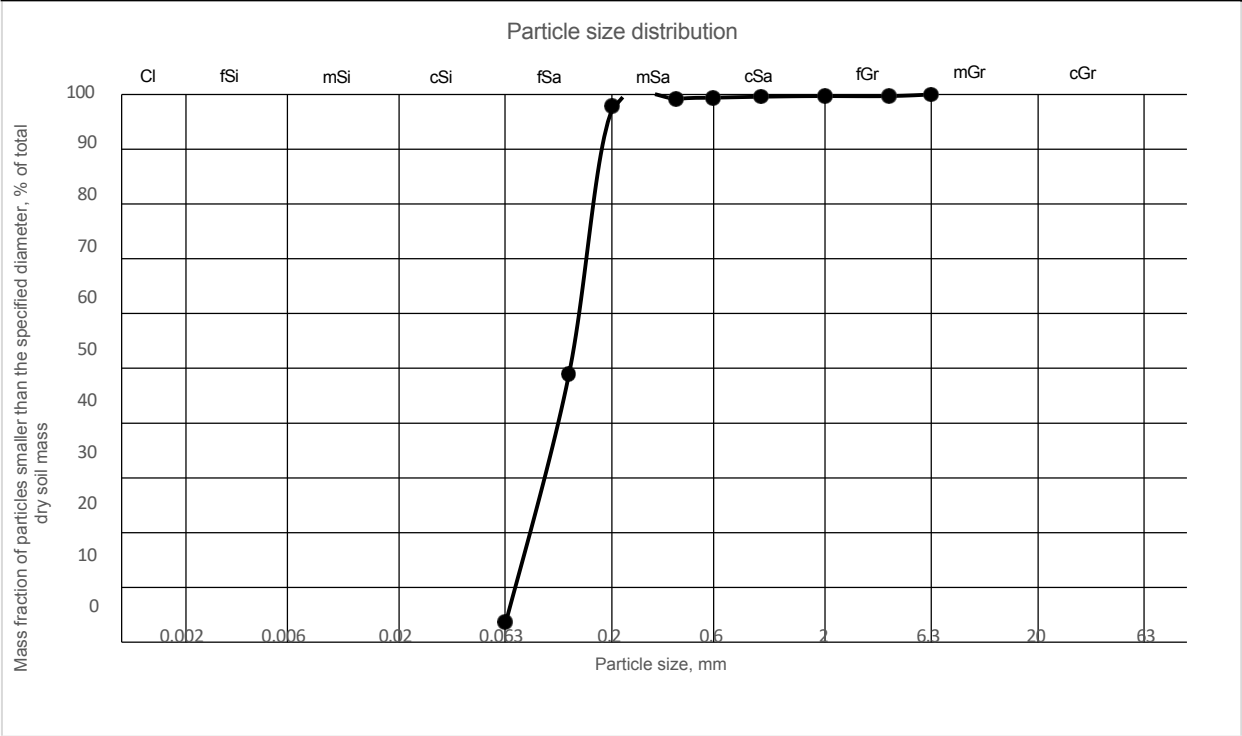
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.3	99.2	93.3	35.6	5.5
Hydrometer method (2)		Particle size, mm											
		Percentage by mass of particles smaller than the specified diameter, relative to the total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0698	0.1406	2.18		-		-	-	-				
	0.1100	0.1525	1.14		-		-	-					
	35.1												
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
							1.5%						
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_313	Gr.61	2	D	0.90	1.40



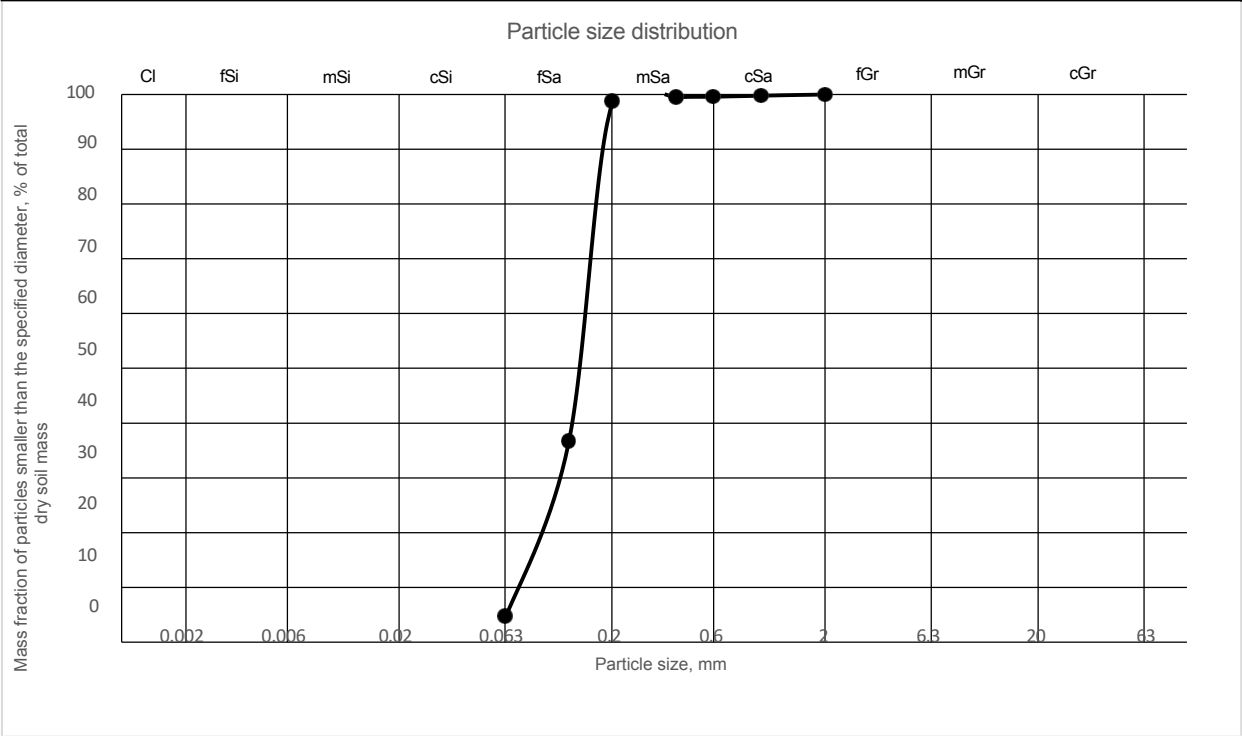
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	96.7	21.9	2.4
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0823	0.1491	1.93		-		-	-	-				
	0.1315	0.1588	1.32		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
				0.9%									
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_314	Gr.61	3	D	2.70	3.00



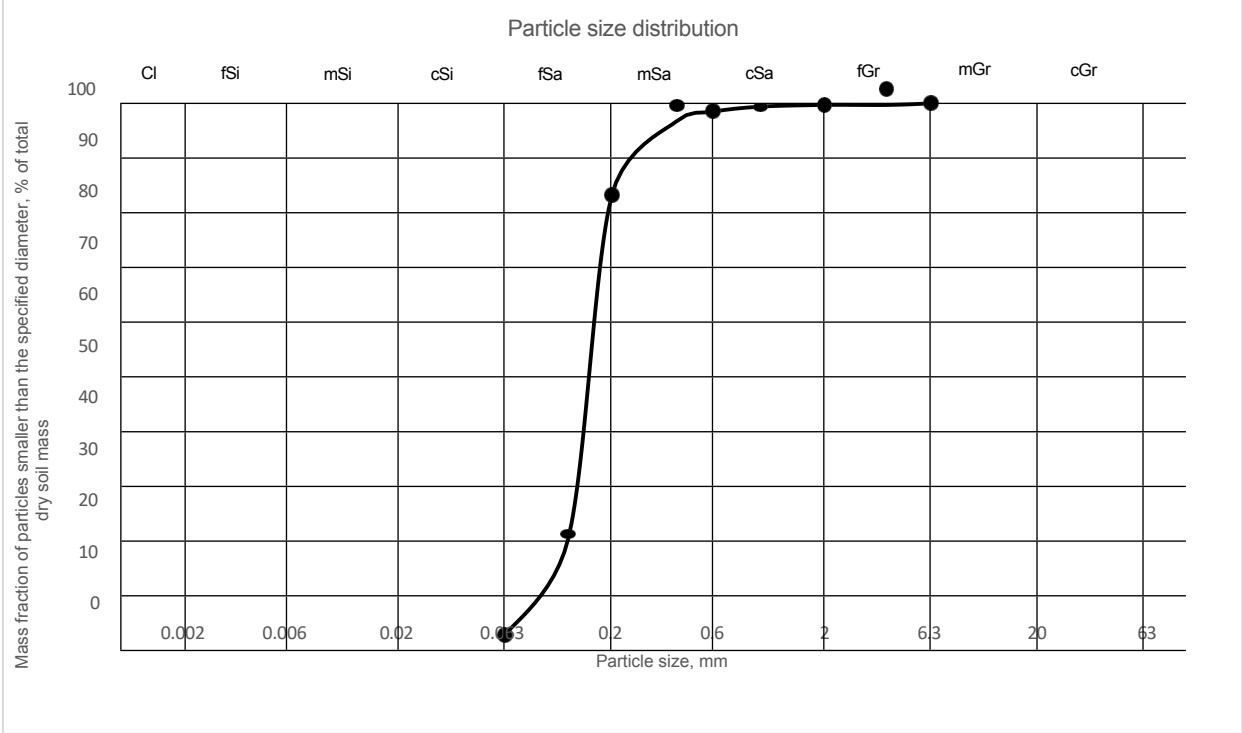
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	99.7	99.7	99.6	99.4	99.2	97.8	48.9	3.6	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0694	0.1263	2.00						-	-	-		
		0.0939	0.1391	0.91						-	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
Soil classification*														
Index:		SaP		Name:			poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniūšis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_315	Gr.61	4	D	5.80	6.10



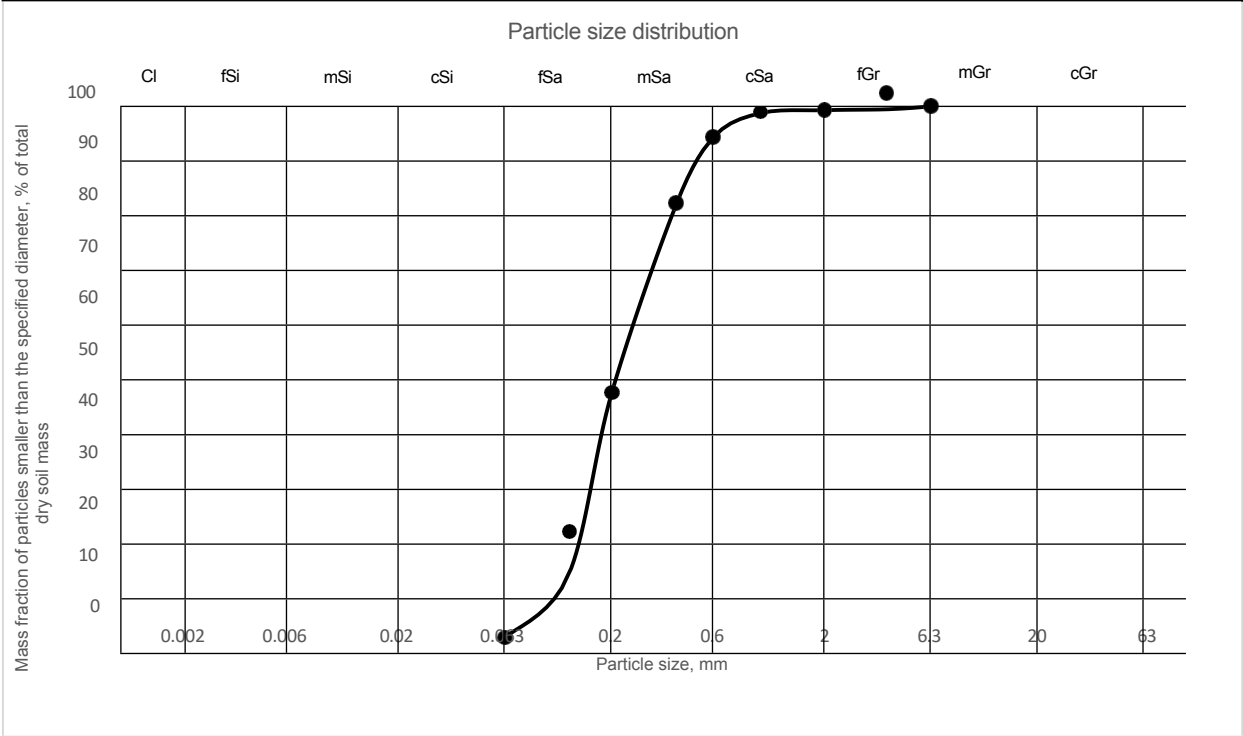
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.5	98.8	36.7	4.8	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)						
		d30, mm	d60, mm	CC, 1										
		0.0704	0.1382	2.12										
		0.1082	0.1491	1.12										
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
Soil classification*														
Index:		SaP		Name:			poorly sorted sand							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SE												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_316	Gr.61	5	D	7.30	7.60



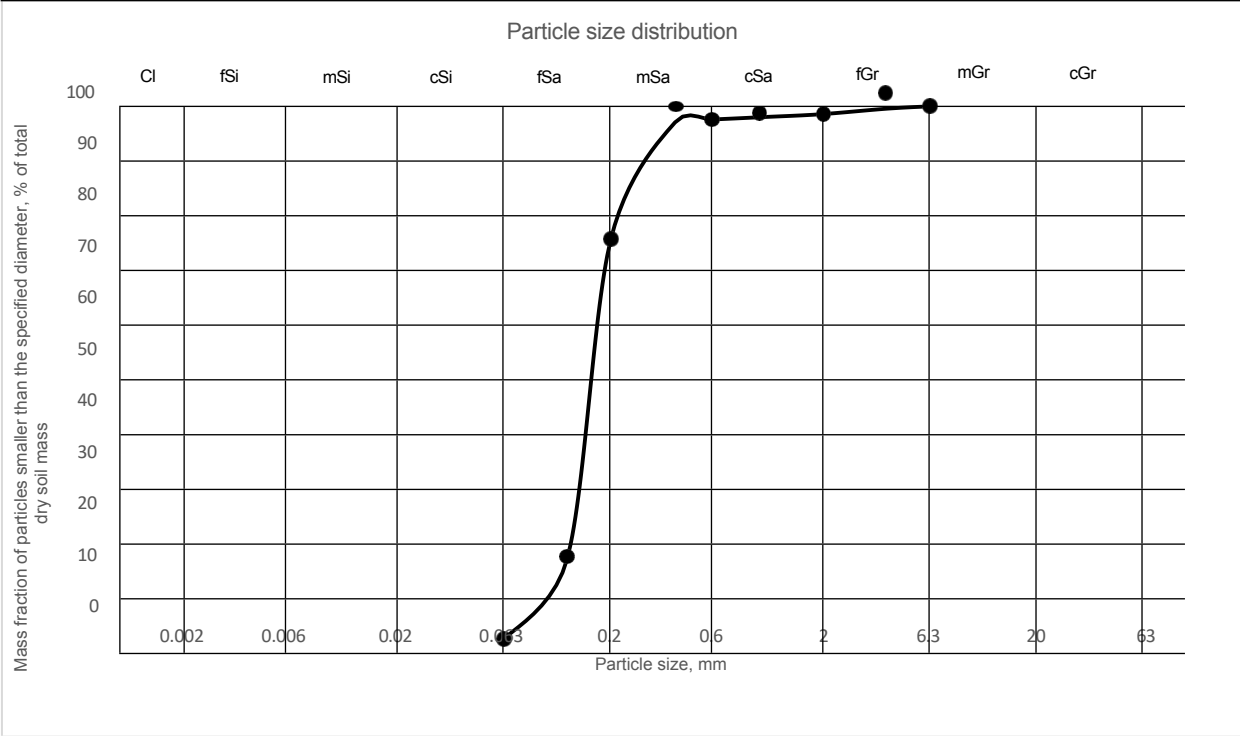
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.7	99.7	99.4	98.5	96.7	83.2	20.5	2.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0831	0.1559	2.02		-		-	-	-				
	0.1342	0.1681	1.29		-		-	-					
					26.4								
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
										0.8%			
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_317	Gr.61	6	D	7.60	8.00



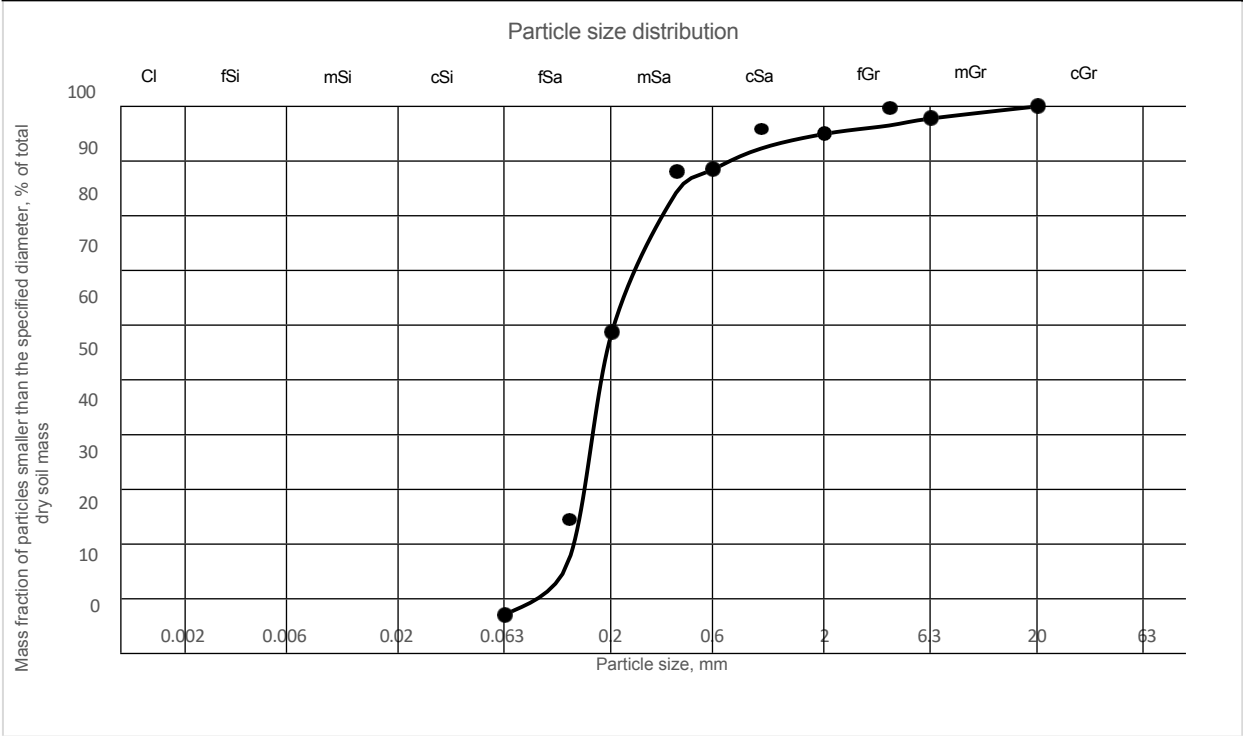
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.5	99.3	98.8	94.4	82.0	47.7	14.3	3.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0963	0.2095	2.66				-	-	-				
	0.1559	0.2564	0.98		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:			poorly sorted sand						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_318	Gr.61	7	D	8.80	9.20



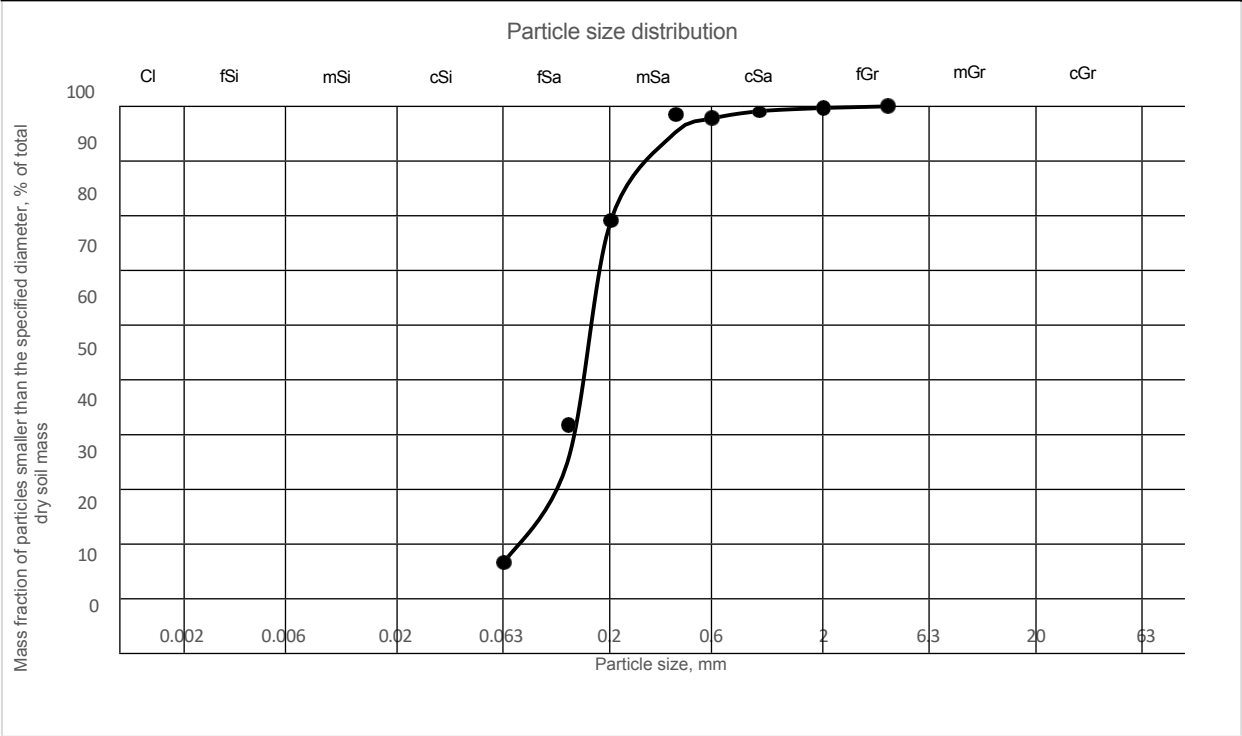
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.6	98.6	98.0	97.6	97.1	75.7	17.4	2.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0885	0.1626	1.99		-		-	-	-				
	0.1384	0.1762	1.23		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
						1.1%							
Soil classification*													
Index:		SaP		Name:		poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_319	Gr.61	8	D	9.30	9.60



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	97.8	96.5	95.0	92.3	88.5	84.2	58.7	16.8	7.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0773	0.1814	2.68				-	-	-	-			
	0.1449	0.2072	1.31		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

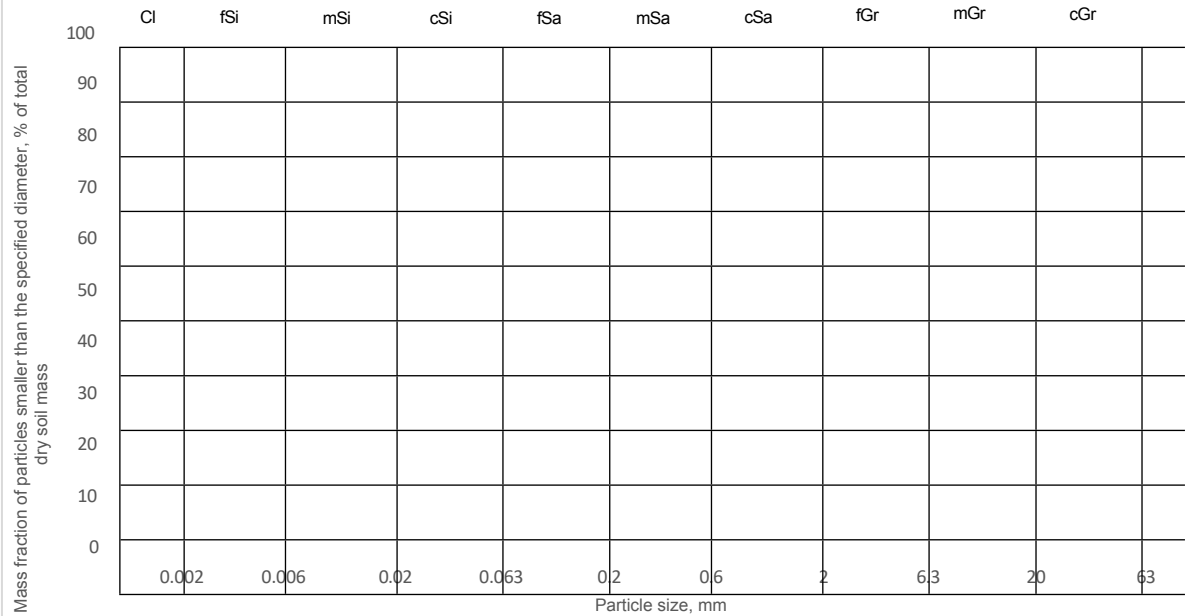
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_320	Gr.61	9	U	10.10	10.50



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	99.7	99.1	97.8	95.2	79.1	34.9	16.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		-	0.1468	-						15.9	19.3	-	-	
		0.1039	0.1632	-						95.2	-	-		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		pd, Mg*m-³												
Soil classification*														
Index:		siSa		Name:			sandy loam							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU*												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

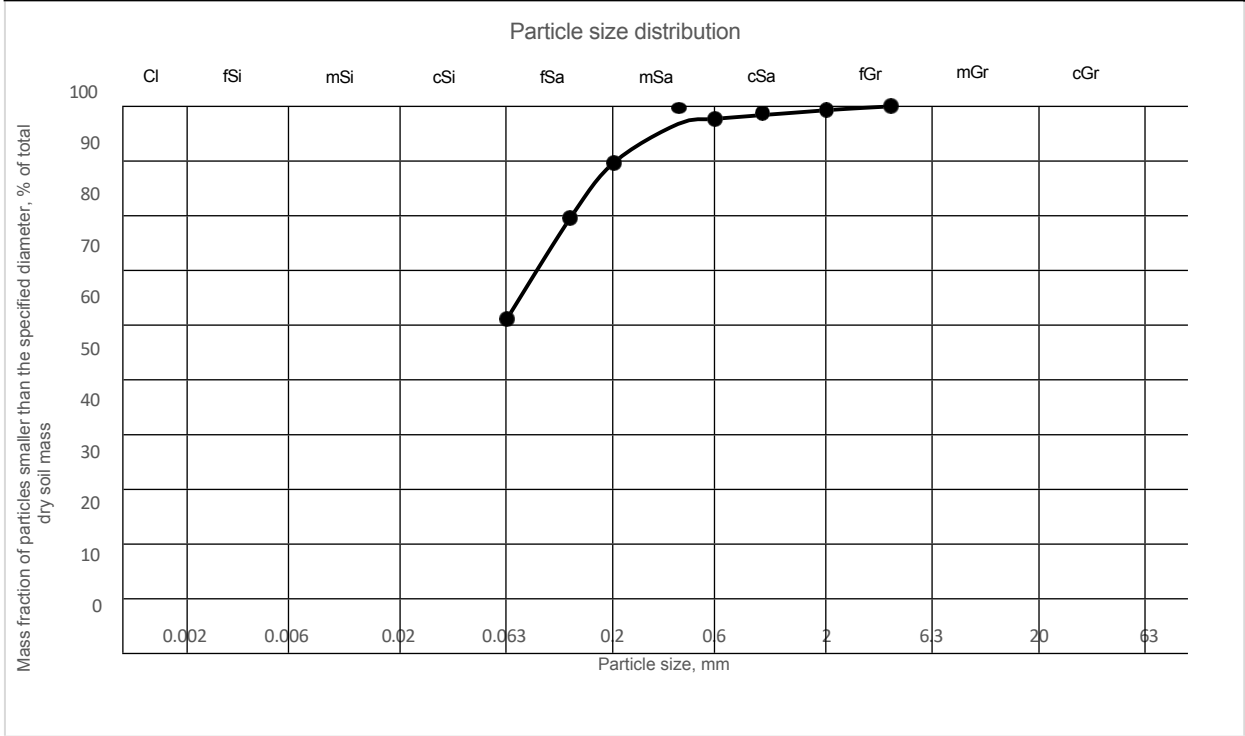
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_321	Gr.61	10	D	12.90	13.30

Particle size distribution



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	-	-	-	-	-	-	-	-	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
			0.0416	0.0310	0.0239	0.0189	0.0105	0.0076	0.0054	0.0031	0.0016			
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1				
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1					
	-	0.0199	-				17.5	26.4	5.8					
	0.0120	0.0219	-				-	20.6	-0.53					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s					
	ρd, Mg*m-³		e, 1											
Soil classification*														
Index:		CIL-SiL		Name:		low-plasticity clay-silt, very stiff								
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		TL-UL												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_322	Gr.61	11	D	15.40	15.70

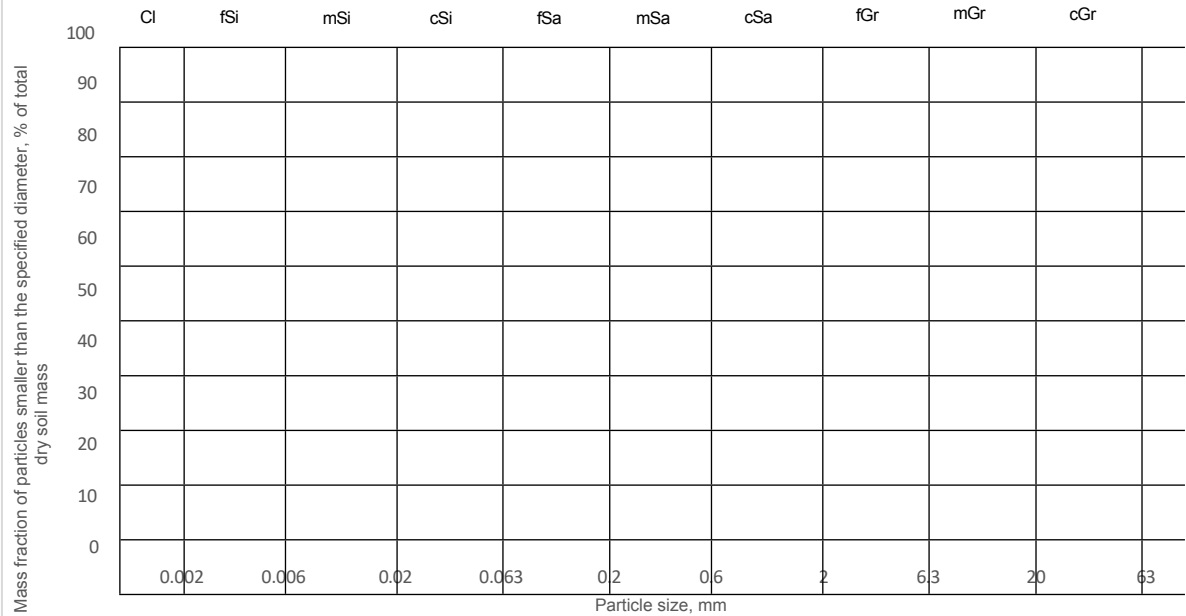


Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.3	98.4	97.7	96.8	89.7	79.6	61.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		11.1		11.5	20.6	6.4	1.43			
	-	-	-				96.8	14.2	-0.43				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³				e, 1								
							1.5%						
Soil classification*													
Index:	saCIL-SiL	Name:			Sandy, low-plasticity clay-silt, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL-UL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												



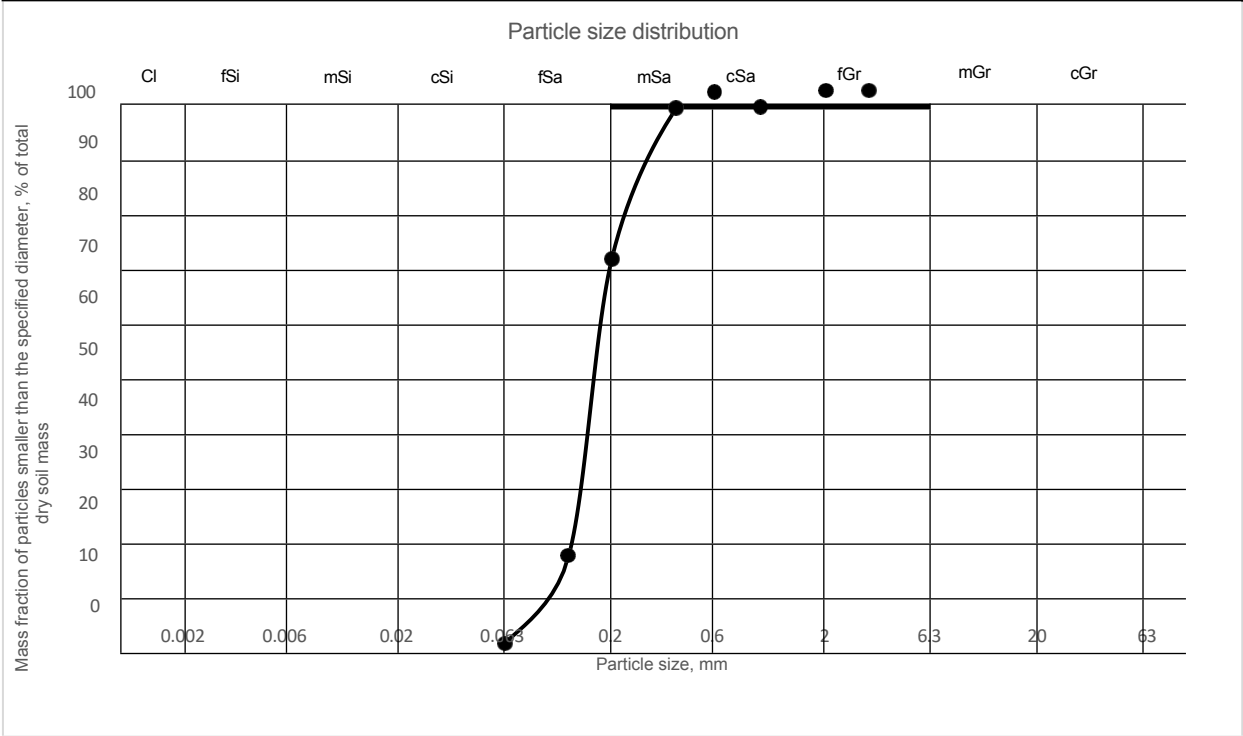
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_323	Gr.64	1	D	0.10	0.30

Particle size distribution



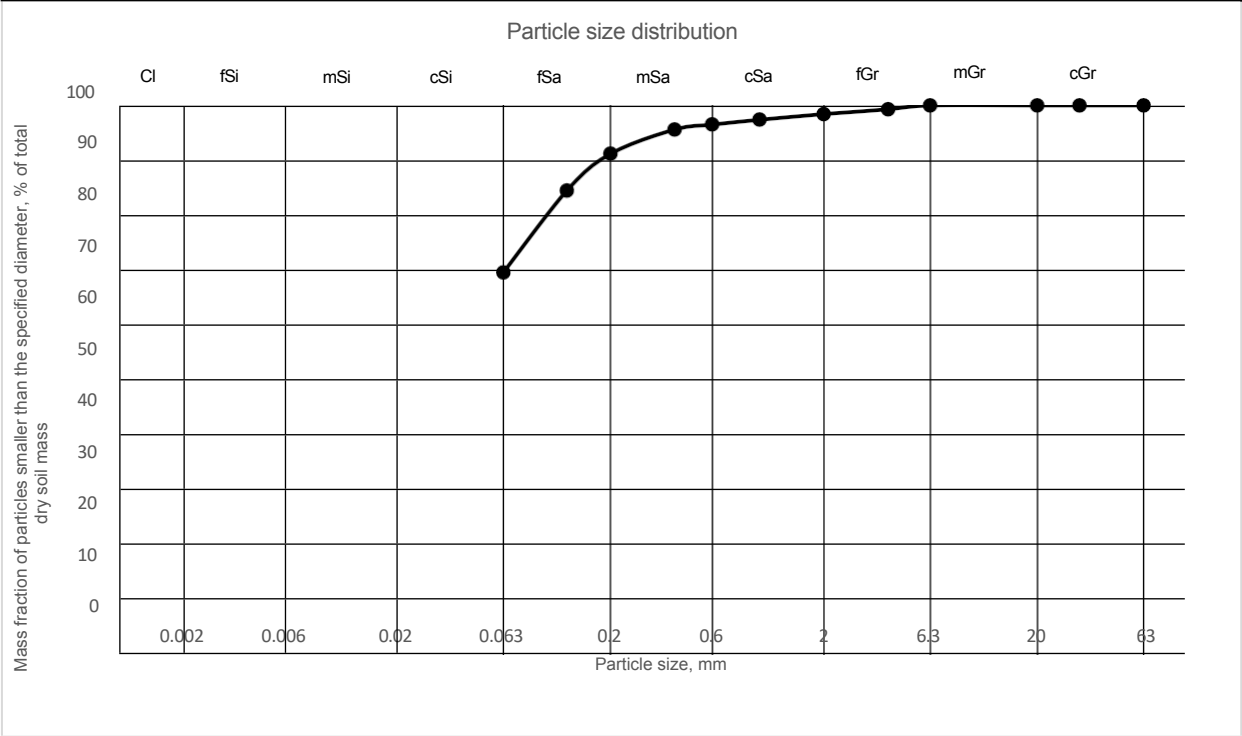
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	-	-	-	-	-	-	-	-	
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1				
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1					
	-	-	-		-		-	-	-	-				
	-	-	-		-		-	-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s					
	ρd, Mg*m-³				e, 1									
										19.3%				
Soil classification*														
Index:		Pt		Name:			Peat							
Notes: sandy, with coarse organic fragments														
Soil classification DIN 18196:2023-02*														
Index:		HN												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_324	Gr.64	2	D	2.60	2.90



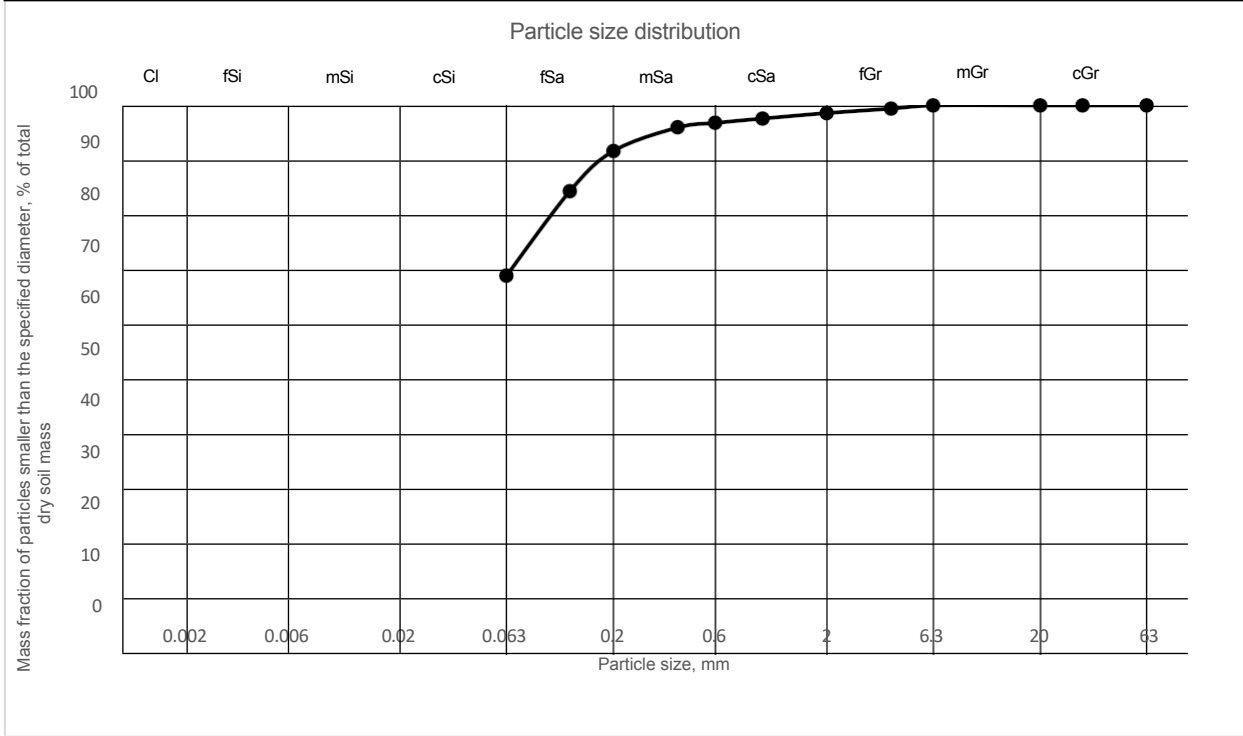
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	99.6	72.1	17.6	1.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0897	0.1653	2.01				-	-	-	-			
	0.1391	0.1802	1.20				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_325	Gr.64	3	U	19.10	19.70



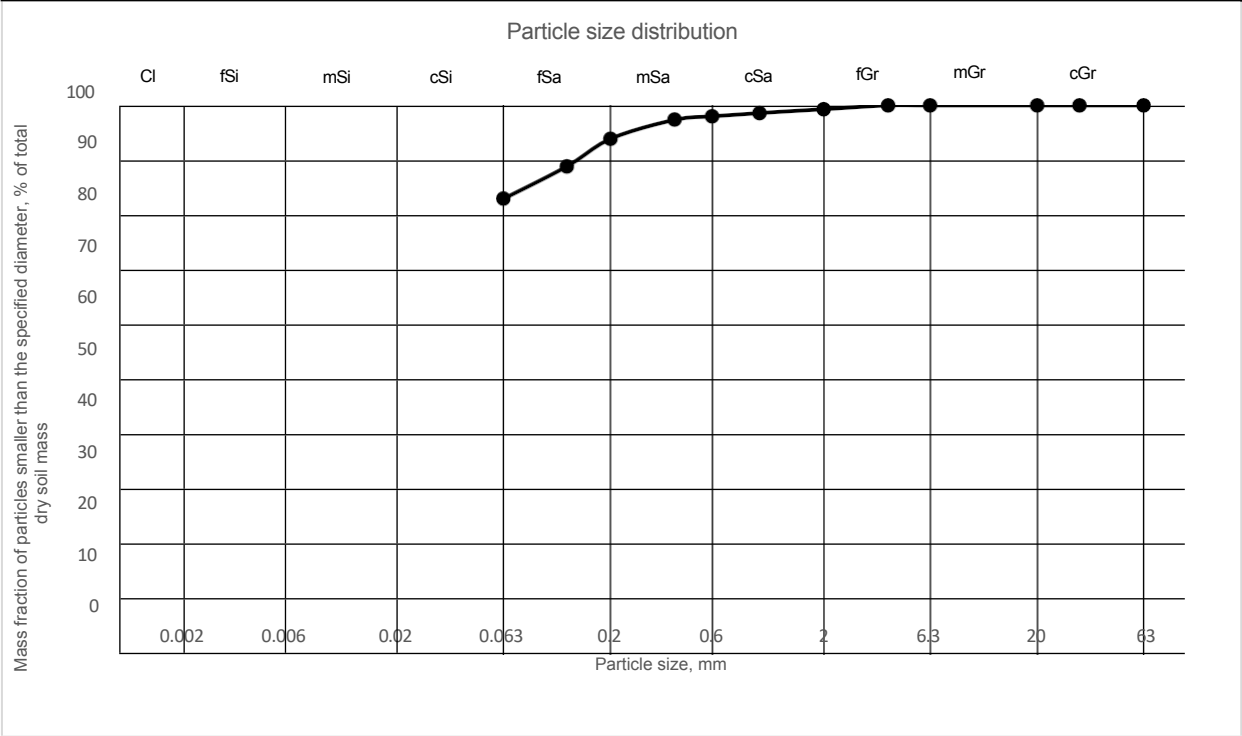
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.3	98.4	97.4	96.5	95.6	91.2	84.5	69.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		14.2		14.9	23.9	8.7	1.04			
	-	-	-				95.6	15.2	-0.04				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.192		2.67				0.39						
	1.919												
Soil classification*													
Index:	saCIL	Name:		Sandy clay with low plasticity, very stiff									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_326	Gr.64	4	U	21.20	21.80



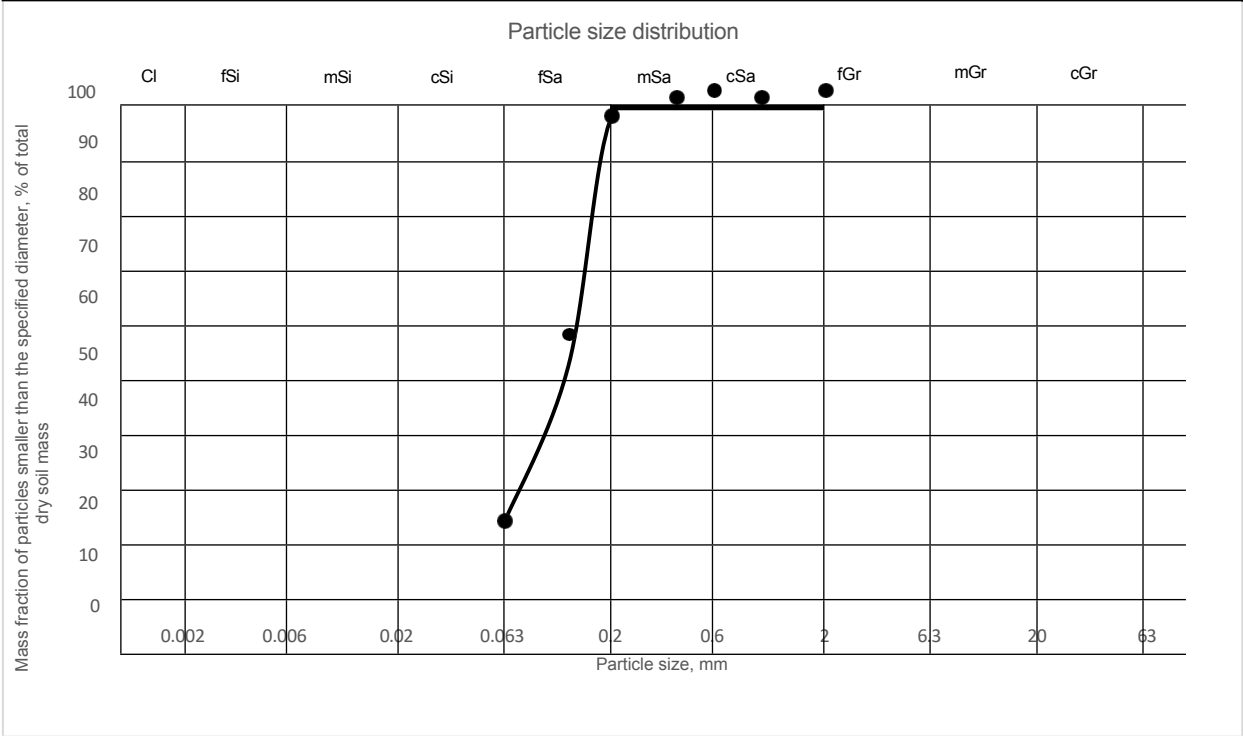
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	100.0	99.4	98.6	97.6	96.8	96.0	91.7	84.4	69.0						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)						w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1														f<0.4, %	wP, %	IL, 1
	-	-	-																
	-	-	-																
Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s					
	ρd, Mg*m-³																		
	2.191																		
	1.937																		
Soil classification*																			
Index:					Name:														
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:																			
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_327	Gr.64	5	U	28.00	28.30



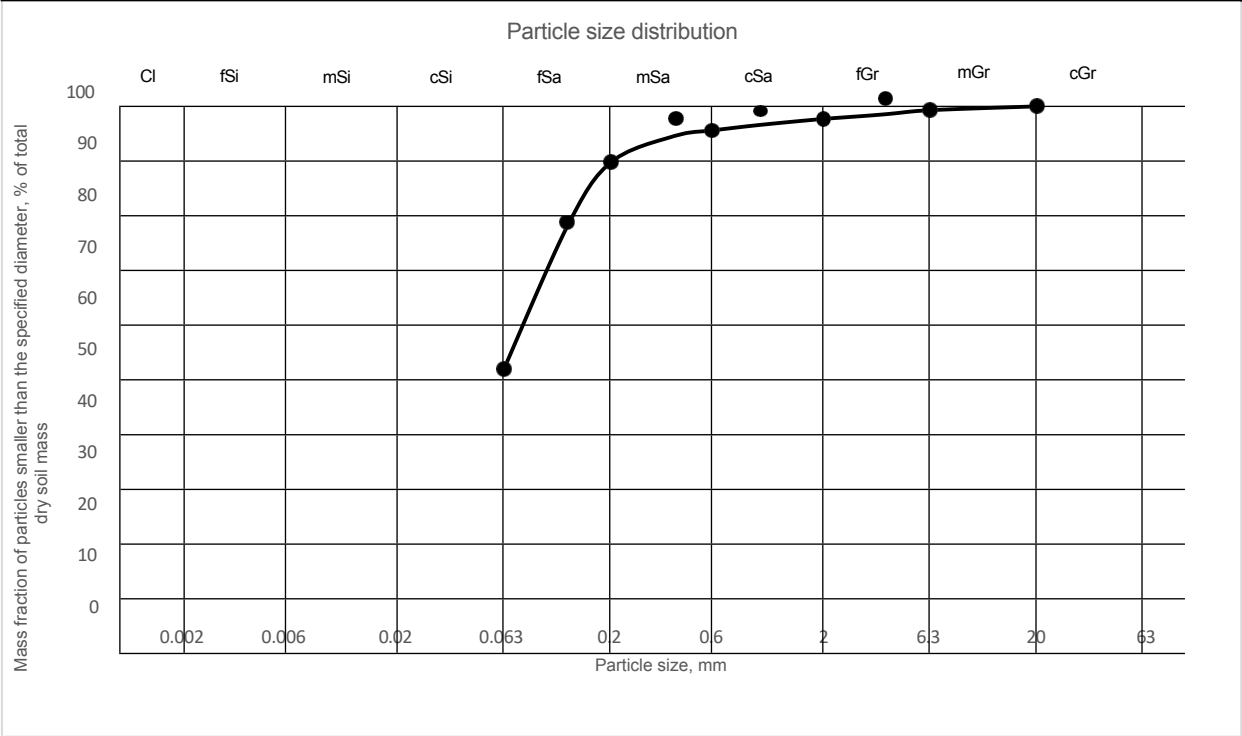
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.3	98.6	98.0	97.4	93.9	88.9	83.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		19.9		34.9	14.8	1.01				
	-	-	-		19.4		97.4	20.1		-0.01			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
	2.129		2.72				0.53						
	1.783												
Soil classification*													
Index:	CIL	Name:			low-plasticity clay, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_328	Gr.64	6	D	28.60	28.90



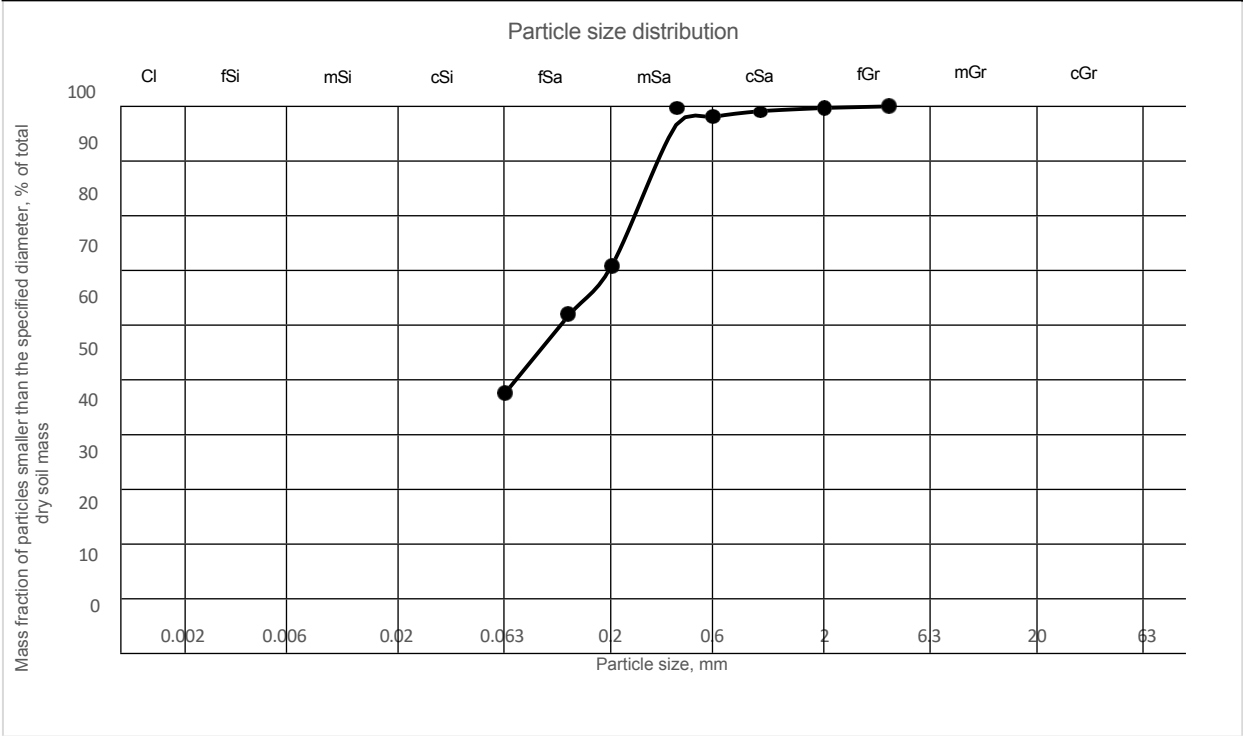
Sieve method (1)		Sieve aperture size, mm											
		Percentage of particles passing through the sieve relative to the total dry soil mass, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.3	52.5	24.3
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
	d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
	-	0.1176	-						16.3	19.1	2.6		
	0.0724	0.1350	-						100.0	16.5	-0.08	1.08	
Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
	pd, Mg*m-³												
Soil classification*													
Index:		siSa		Name:			sandy loam						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_329	Gr.64	7	D	34.10	34.50



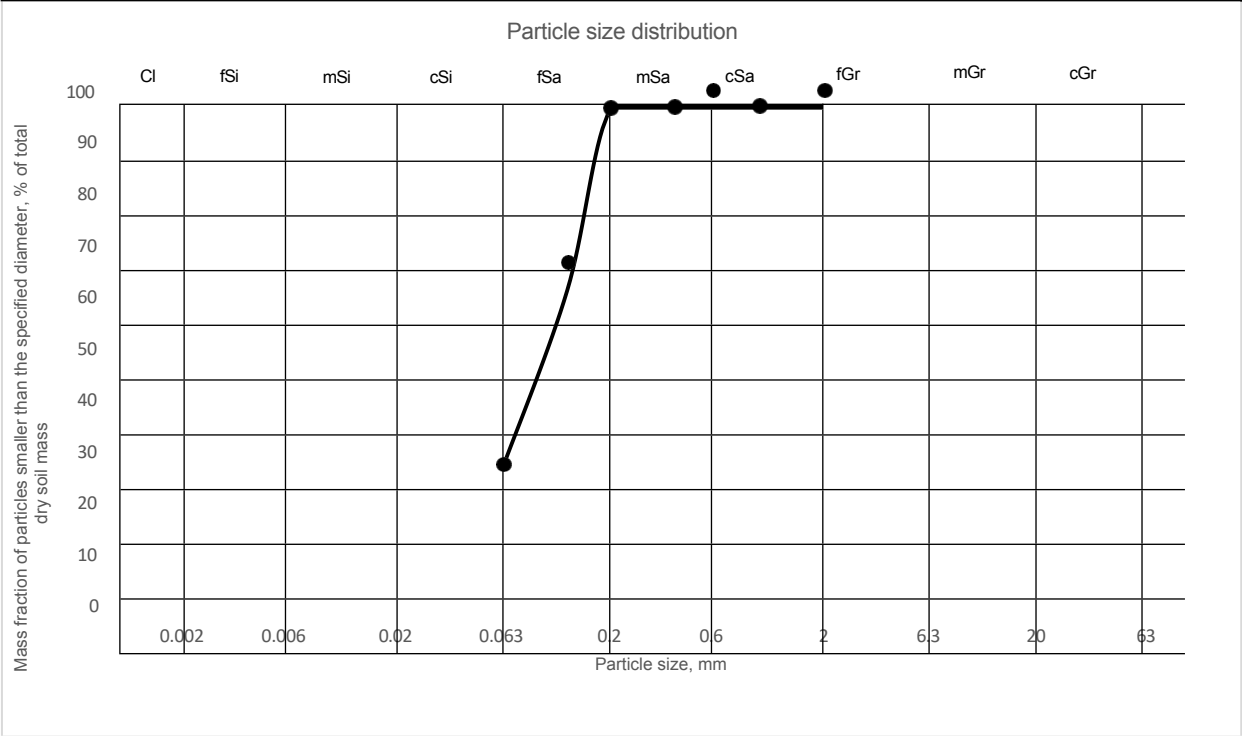
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	99.3	98.6	97.7	96.6	95.6	94.6	89.8	78.1	52.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		8.6		23.7	9.3	1.63				
	-	0.0777	-		94.6		14.4	-0.63					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg·m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg·m-³				e, 1								
Soil classification*													
Index:	saCIL	Name:		Sandy clay with low plasticity, very stiff									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_330	Gr.65	1	D	12.60	12.90



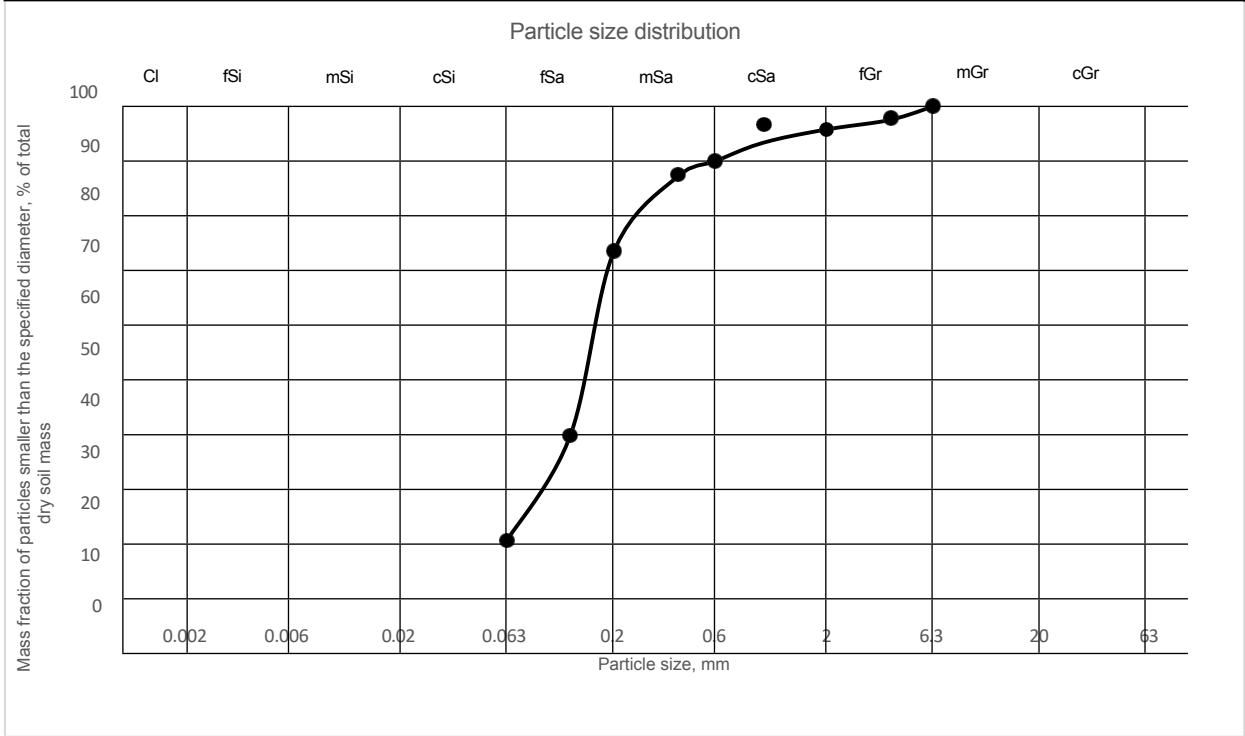
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.7	99.1	98.1	96.6	70.9	61.7	47.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0708	-		11.3		15.4	4.2	0.98				
	-	0.1151	-		96.6		11.2	0.02					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:	saCIL-SiL	Name:			Sandy, low-plasticity clay-silt, stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL-UL												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_331	Gr.65	2	U	24.00	24.30



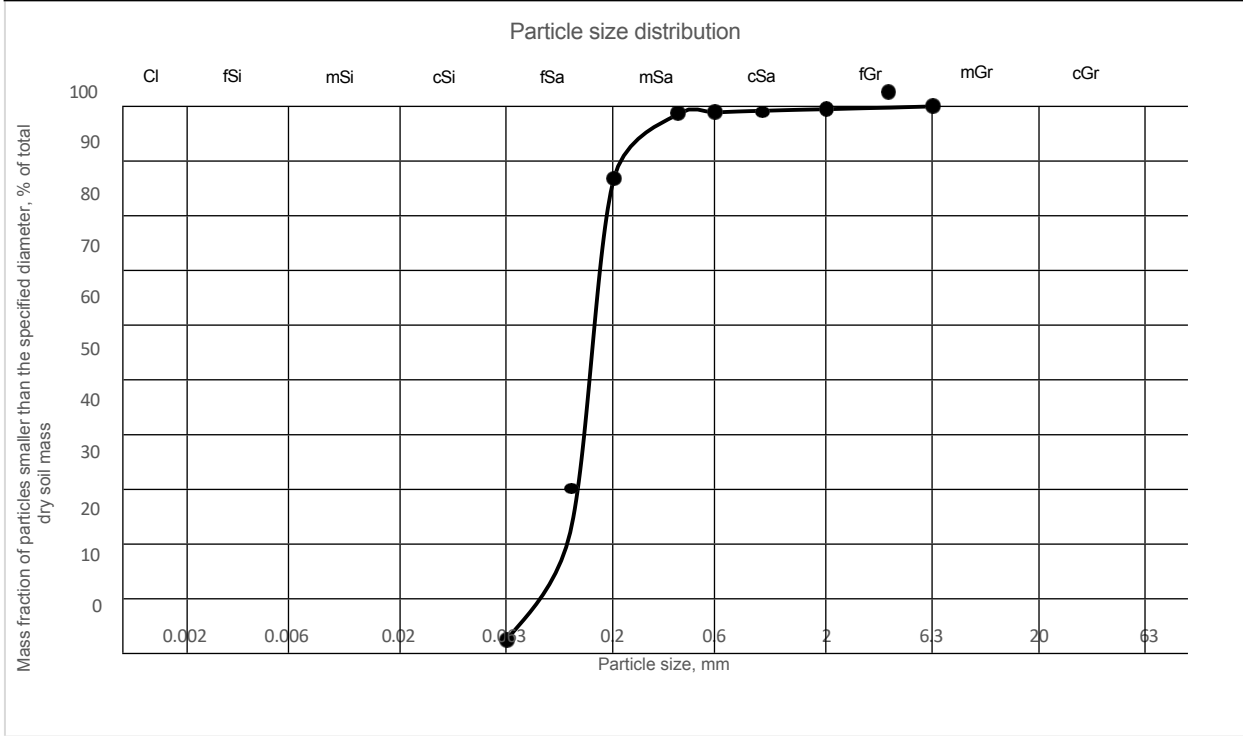
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	66.4	34.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0878	-		13.7		13.7	17.3	3.9	0.92			
	-	0.1089	-				99.8	13.4	0.08				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. matter %	Water permeability (4.2)	k10, m/s				
	ρd, Mg*m-³		e, 1										
Soil classification*													
Index:		siSa		Name:		sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		UL*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_332	Gr.62	1	D	0.30	0.60



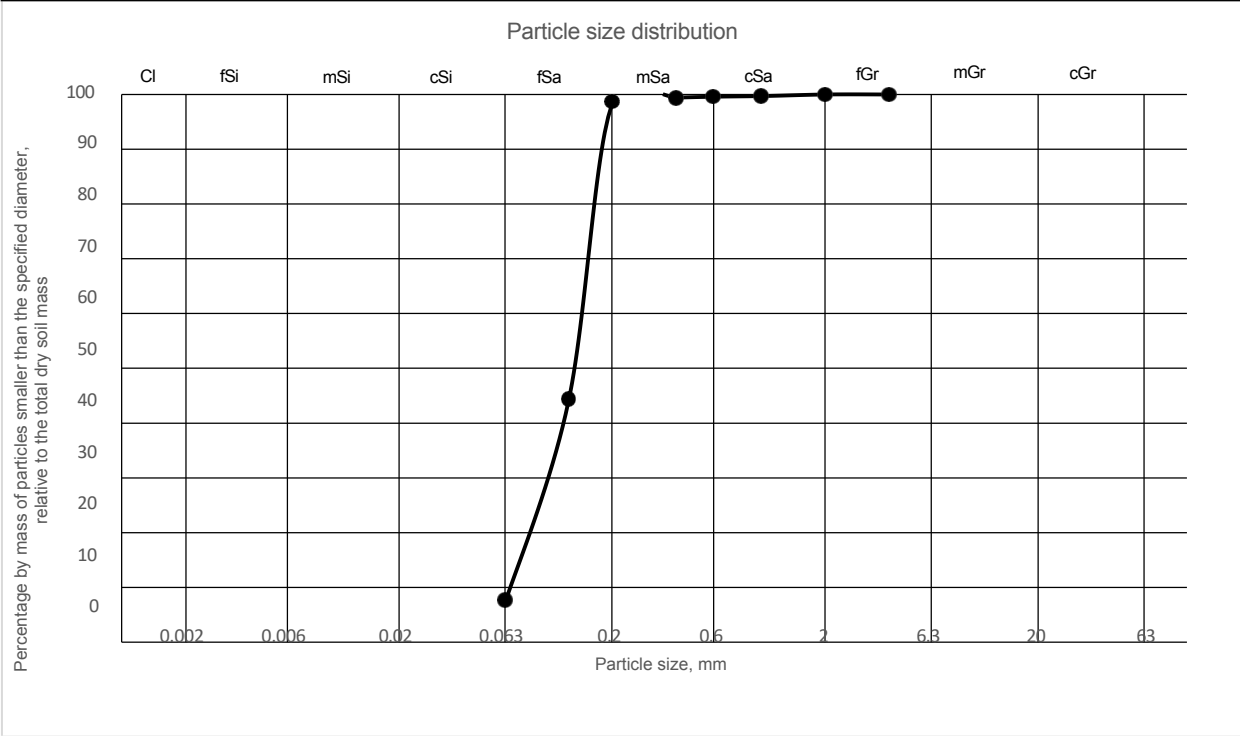
Sieve method (1)		Sieve aperture size, mm																					
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																					
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063										
		100.0	100.0	100.0	100.0	97.6	95.8	93.4	90.0	87.3	73.5	39.9	20.7										
Hydrometer method (2)		Particle size, mm																					
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																					
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1										
	d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1											
	-	0.1440	-							-	-	-	-										
	0.0877	0.1656	-							-	-	-											
	Soil density (5)		p, Mg/m³							Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		e, 1		Organic matter (10)		org. mat. %	
pd, Mg*m-³																							
Soil classification*																							
Index:		Dy						Name:		silt													
Notes: sandy																							
Soil classification DIN 18196:2023-02*																							
Index:		F																					
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																					

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_333	Gr.62	2	D	0.60	0.90



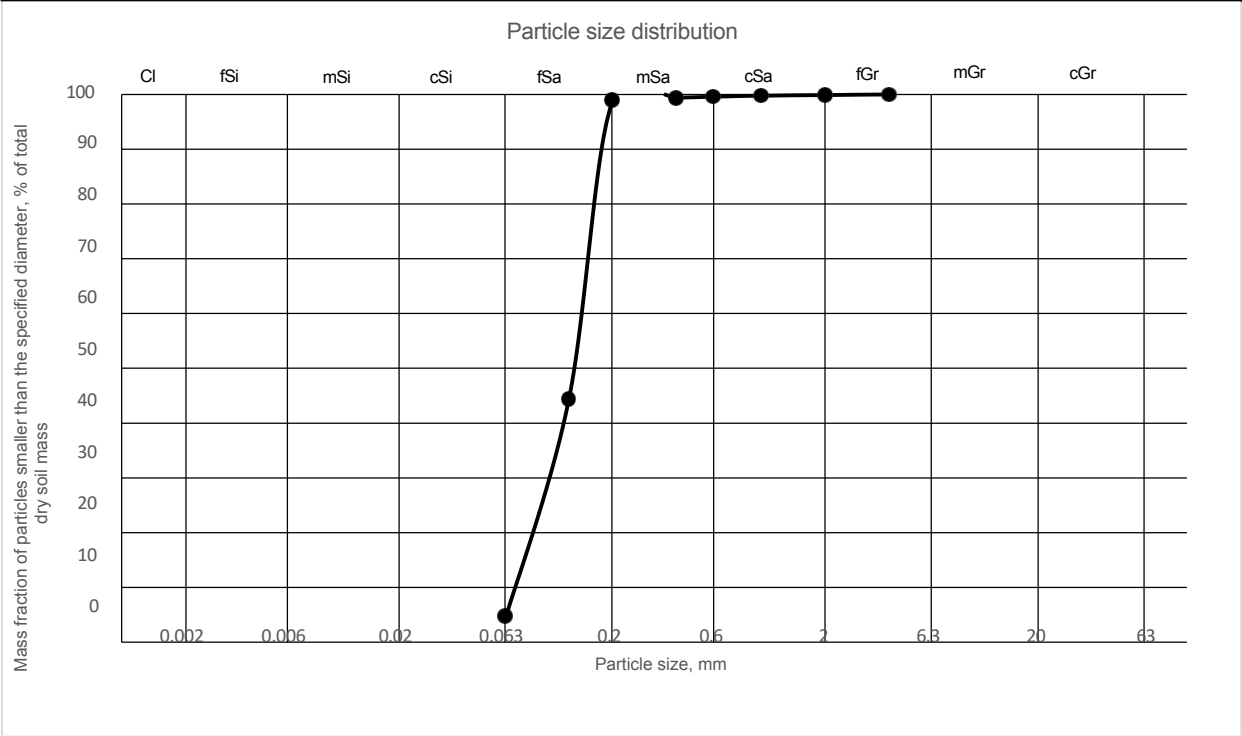
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.8	99.5	99.2	98.9	98.6	86.8	22.2	2.5
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0818	0.1530	2.01		-		-	-	-				
	0.1323	0.1646	1.30		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
				1.4%									
Soil classification*													
Index:	SaP	Name:				poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_334	Gr.62	3	D	3.50	3.80



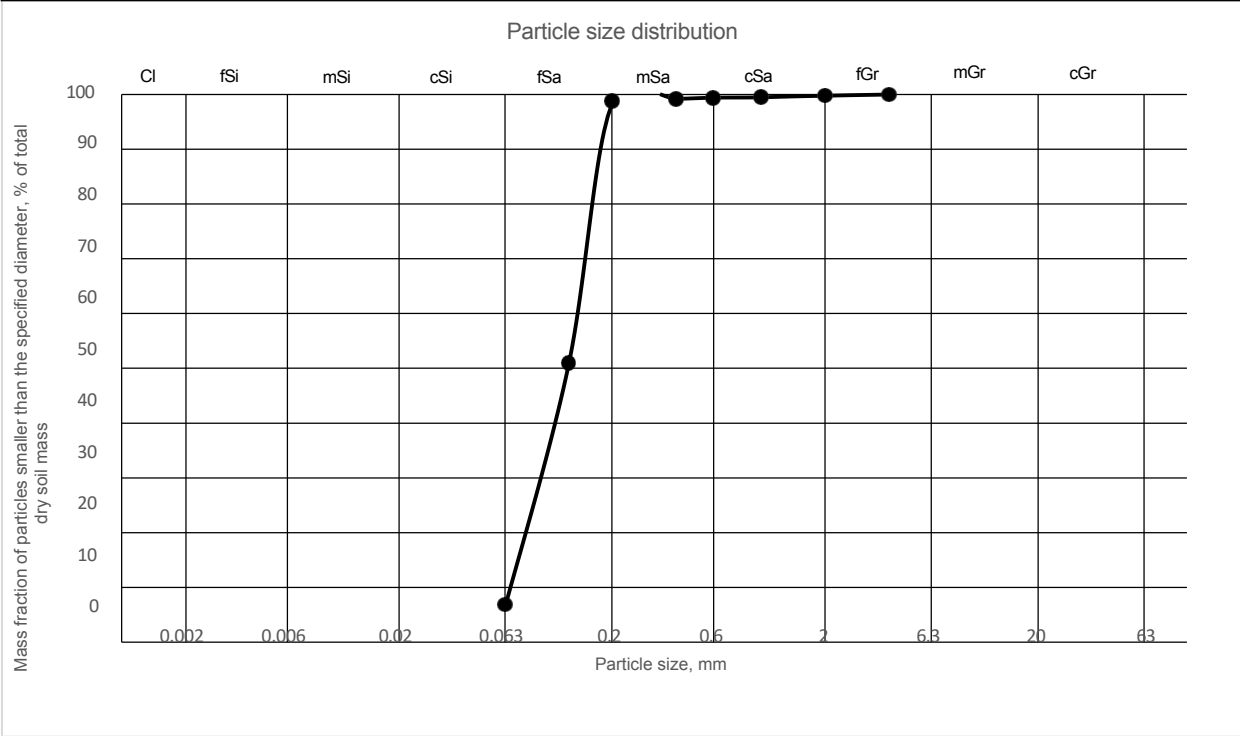
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.6	99.4	98.7	44.4	7.7	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		0.0658	0.1312	2.18						45.8	41.1	6.7	-0.70	
		0.0955	0.1431	0.97						99.4	34.4	1.70		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
Soil classification*														
Index:		oSaFP		Name:			Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU												
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_335	Gr.62	4	D	4.80	5.10



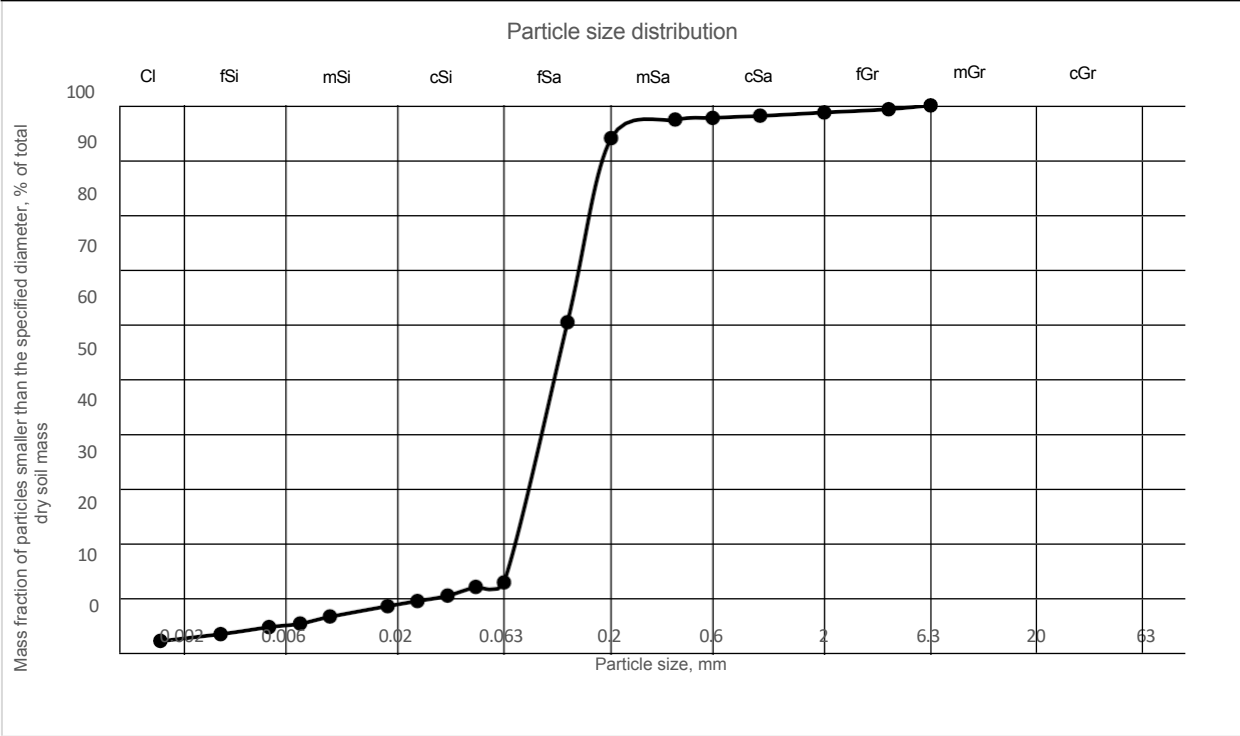
Sieve method (1)		Sieve aperture size, mm													
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %													
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063		
		100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	99.4	99.0	44.4	4.7		
Hydrometer method (2)		Particle size, mm													
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass													
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
		d30, mm	d60, mm	CC, 1								f<0.4, %	wP, %	IL, 1	
		0.0690	0.1312	2.07								-	-	-	-
		0.0975	0.1430	0.96								-	-	-	
		Soil density (5)		ρ, Mg/m³								Particle density (6)		ps, Mg*m-3	Porosity (7)
ρd, Mg*m-³	e, 1			1.6%											
Soil classification*															
Index:		SaP		Name:			poorly sorted sand								
Notes:															
Soil classification DIN 18196:2023-02*															
Index:		SE													
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė													

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_336	Gr.62	5	D	6.60	6.90



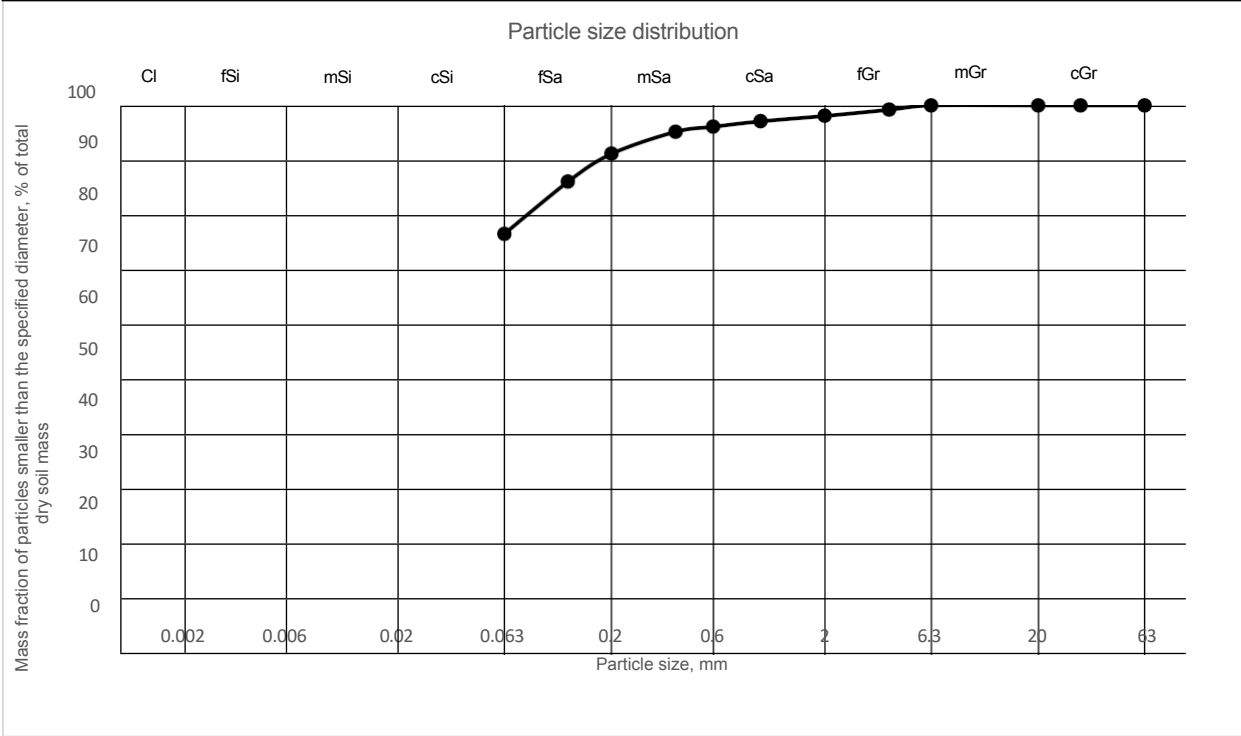
Sieve method (1)		Sieve aperture size, mm																
		Percentage of particles passing through the sieve relative to the total dry soil mass, %																
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063					
		100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.4	99.2	98.8	51.0	6.9					
Hydrometer method (2)		Particle size, mm																
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1				
		d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1					
		0.0661	0.1231	2.07							-	-	-					
		0.0902	0.1366	0.90							-	-	-					
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)		n, 1		Organic matter (10)		org. mat. %		Water permeability (4.2)		k10, m/s	
		ρd, Mg*m-³																
Soil classification*																		
Index:		SaFP		Name:				slightly silty-clayey poorly sorted sand										
Notes:																		
Soil classification DIN 18196:2023-02*																		
Index:		SU																
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_337	Gr.62	6	U	9.30	9.60



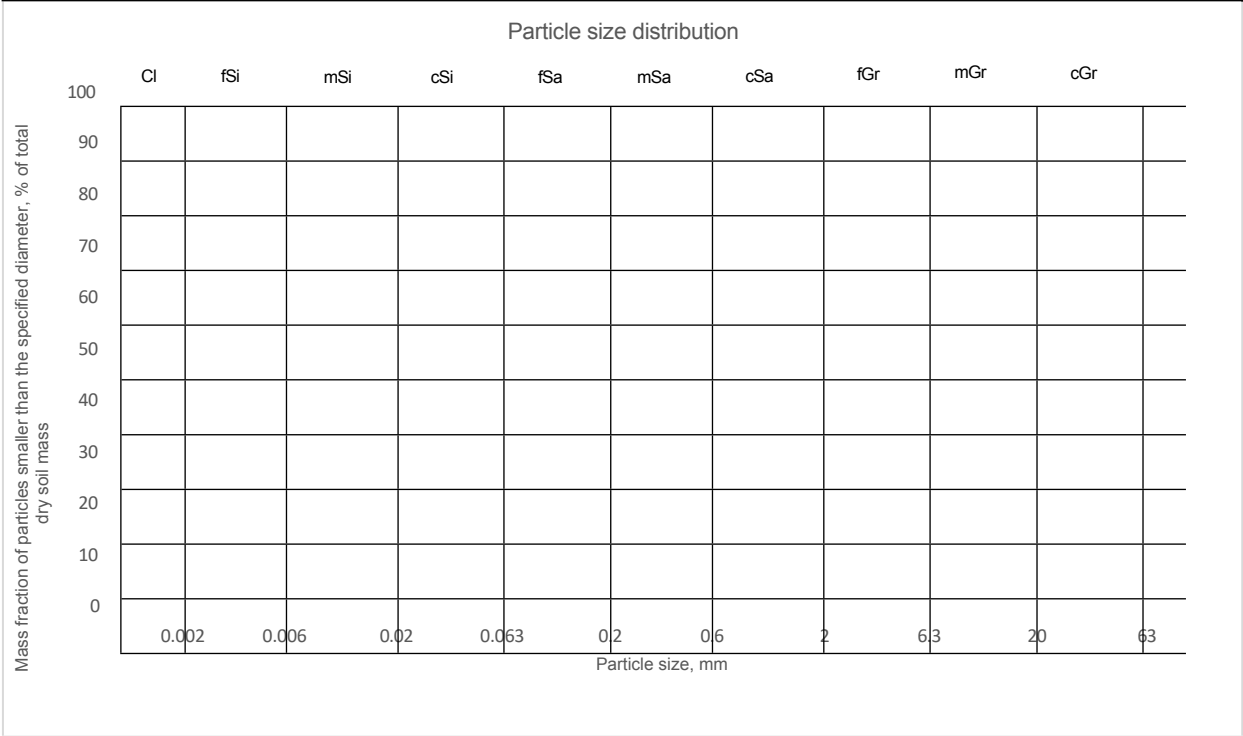
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.3	98.7	98.1	97.7	97.4	94.0	60.5	13.2
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0465	0.0343	0.0248	0.0179	0.0097	0.0070	0.0050	0.0030	0.0015		
			12.4	10.8	9.8	8.9	7.0	5.7	5.1	3.8	2.5		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0263	0.1074	4.72		-		-	-	-				
	0.0804	0.1241	1.98		-		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pe, Mg*m-3				e, 1								
	1.903		2.65										
	1.579				0.68						6.7×10 ⁻⁶		
Soil classification*													
Index:		SaFP		Name:		slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_338	Gr.62	7	U	19.30	19.90



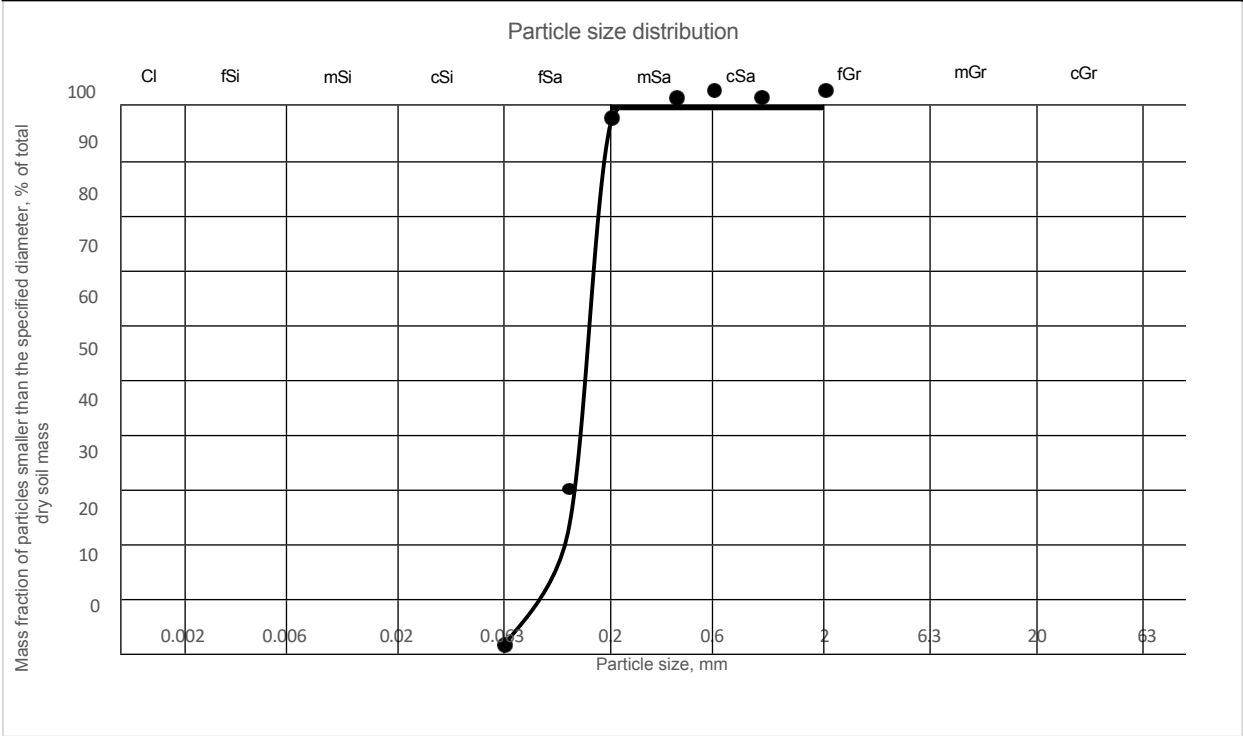
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.2	98.1	97.1	96.1	95.2	91.2	86.1	76.6
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		15.5		30.0	13.1	1.10				
	-	-	-		95.2		16.9	-0.10					
	Soil density (5)		ρ, Mg/m³		Particle density (6)		ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s
ρd, Mg*m-³													
2.234													
1.946													
Soil classification*													
Index:		saCIL		Name:		Sandy clay with low plasticity, very stiff							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		TL											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_339	Gr.62	8	U	25.60	26.20



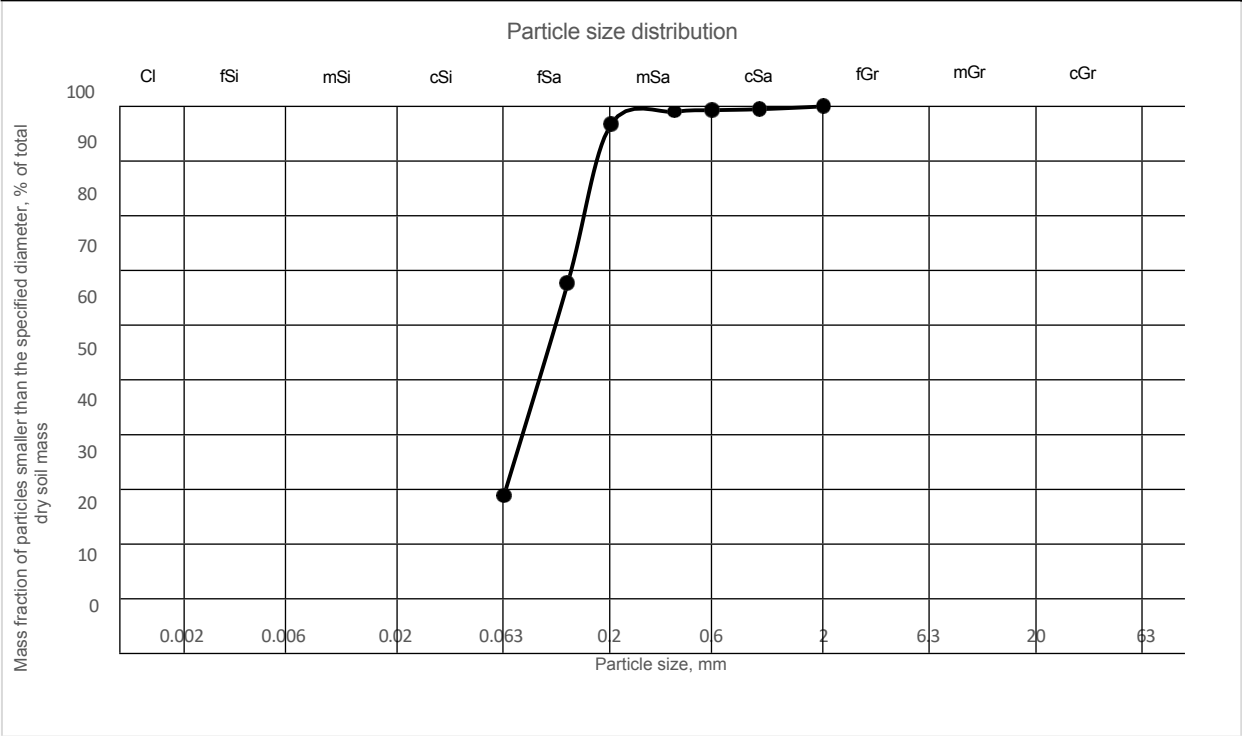
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass											
			0.0384	0.0275	0.0194	0.0138	0.0081	0.0062	0.0045	0.0028	0.0015		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)				w<0.4, %	wL, %	IP, %	IC, 1
	d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1	
	-	0.0044	-		19.3					39.8	16.7	1.23	
	0.0019	0.0056	-		-					23.1	-0.23		
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.155												
	1.807		0.50										
Soil classification*													
Index:	CIM	Name:			medium-plasticity clay, very stiff								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TM												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_340	Gr.66	1	D	0.60	0.90



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	97.9	22.4	1.7
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0829	0.1484	1.91		-		-	-	-				
	0.1311	0.1580	1.31		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:		SaP		Name:		Poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SE											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

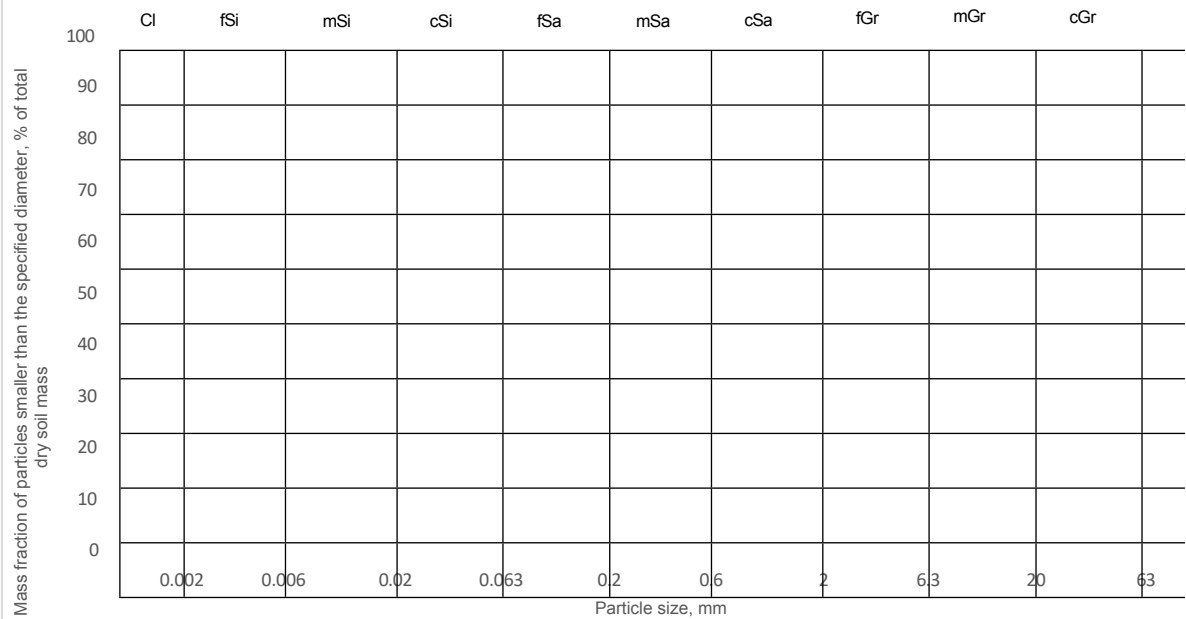
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_342	Gr.66	3	U	13.40	13.70



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	-	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	100.0	99.5	99.3	99.0	96.7	67.4	28.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.0917	-		14.9		18.4	2.7	1.28				
	0.0642	0.1096	-		99.0		15.7	-0.28					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	2.008												
	1.749		0.50		1.6%		6.4×10 ⁻⁷						
Soil classification*													
Index:	siSa	Name:				sandy loam							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU*												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

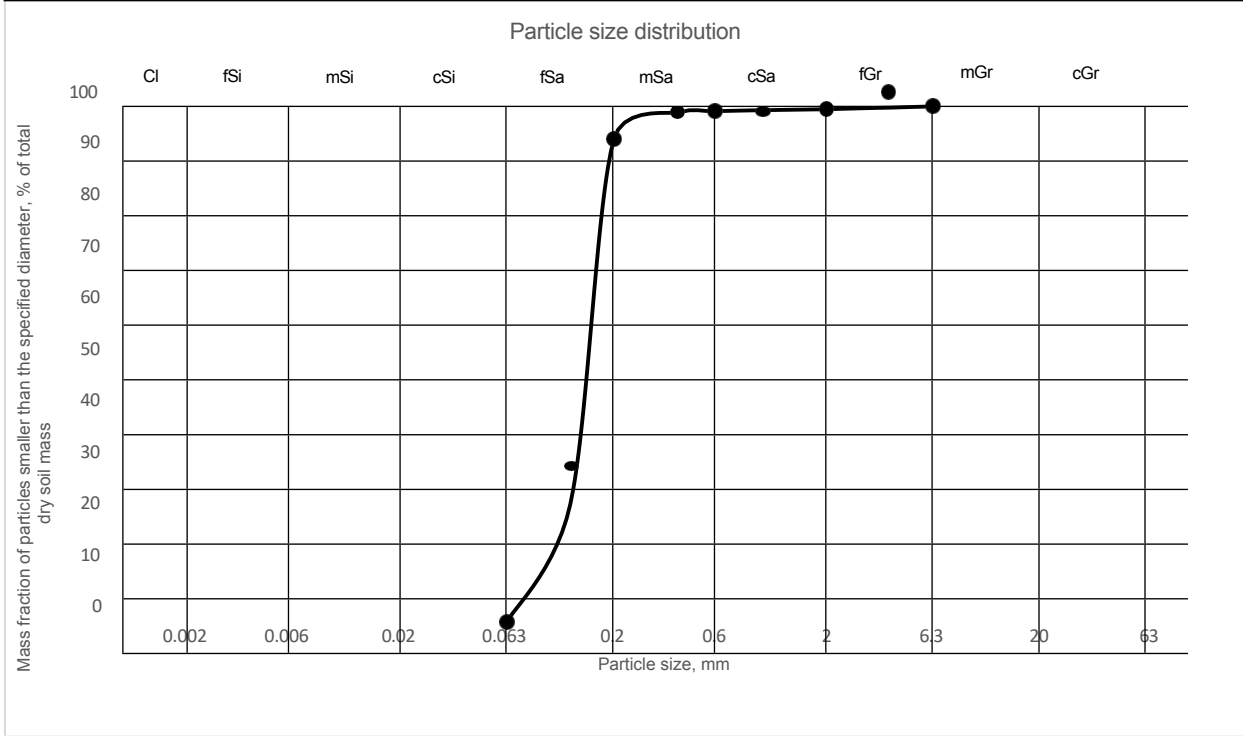
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_343	Gr.66	4	U	35.00	35.40

Particle size distribution



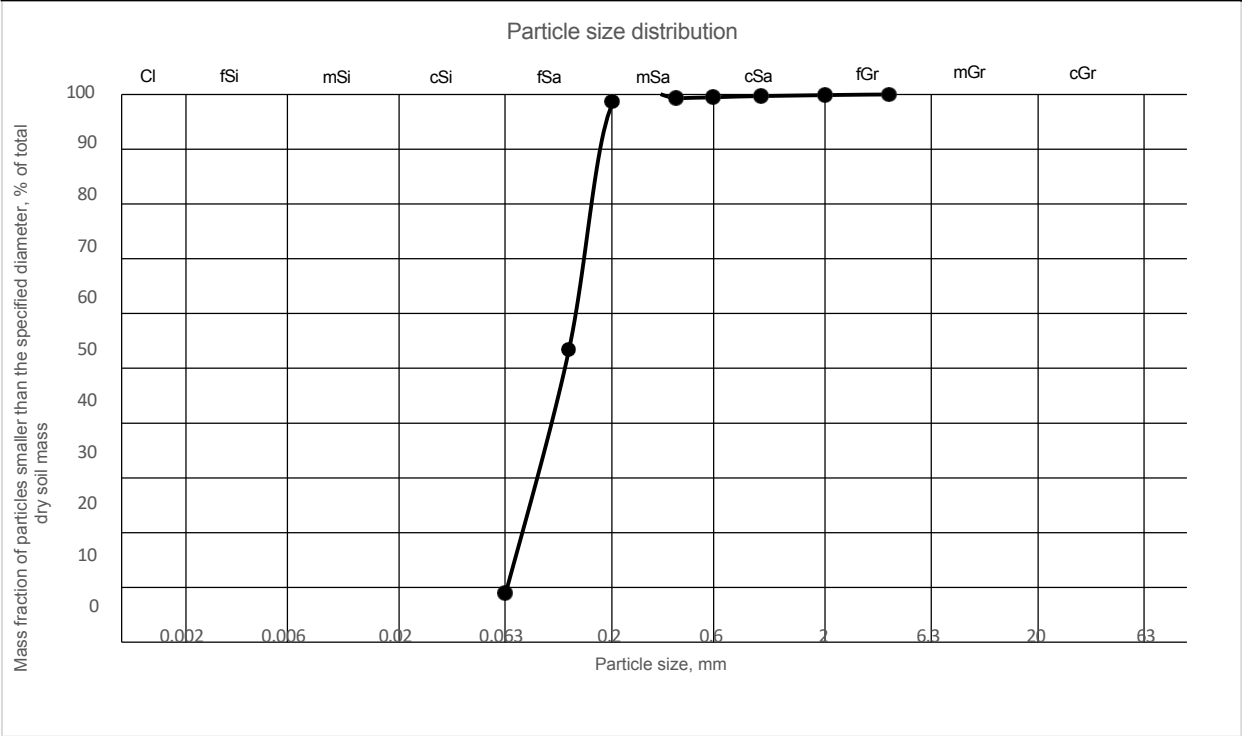
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of the total dry soil mass										
			0.0388	0.0274	0.0194	0.0141	0.0078	0.0058	0.0041	0.0026	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0020	-		24.8		47.9	21.4	1.08			
	-	0.0032	-		-		26.5	-0.08				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ρs, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³				e, 1							
	2.058											
	1.649		0.66									
Soil classification*												
Index:		CIM		Name:		medium-plasticity clay, very stiff						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TM										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_344	Gr.60	1	D	0.90	1.20



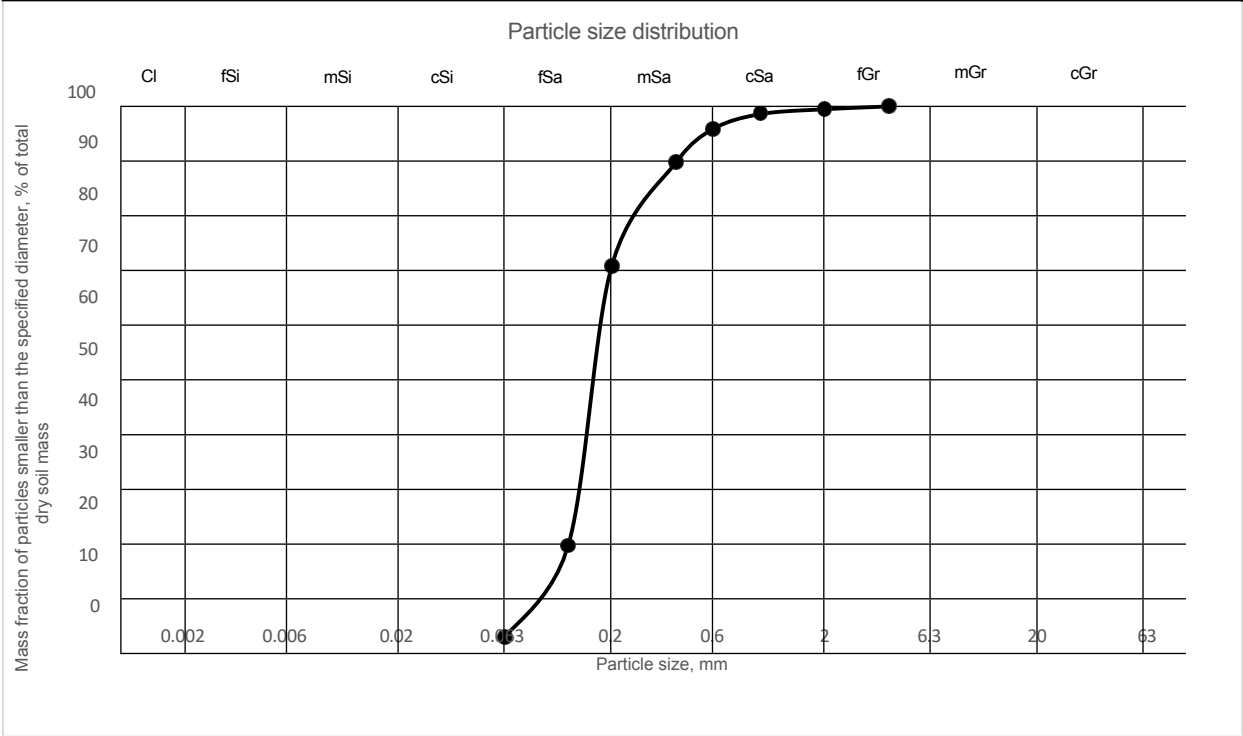
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.8	99.5	99.3	99.1	98.9	94.0	27.3	5.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0718	0.1467	2.19				-	-	-				
	0.1274	0.1574	1.44		-		-	-					
					30.6								
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
										1.0%			
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_345	Gr.60	2	D	3.20	3.50



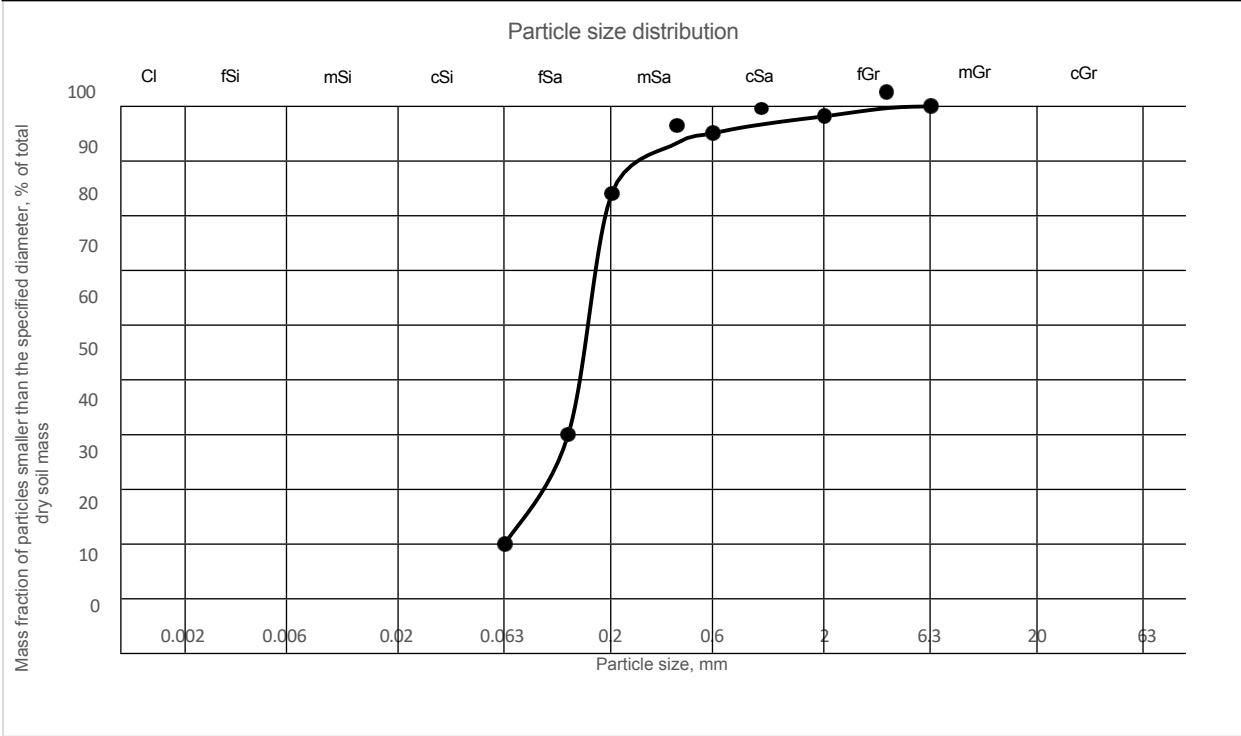
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.5	99.3	98.7	53.4	9.0
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	44.8	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1					f<0.4, %	wP, %	IL, 1			
	0.0640	0.1186	2.09					-	-	-	-		
	0.0871	0.1339	0.89					-	-	-			
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	2.59	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	2.1%	Water permeability (4.2)	k10, m/s		
	pd, Mg*m-³					e, 1							
Soil classification*													
Index:		oSaFP		Name:		Slightly silty-clayey, poorly sorted sand with a small amount of organic matter							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Tests performed by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_346	Gr.60	3	U	7.10	7.40



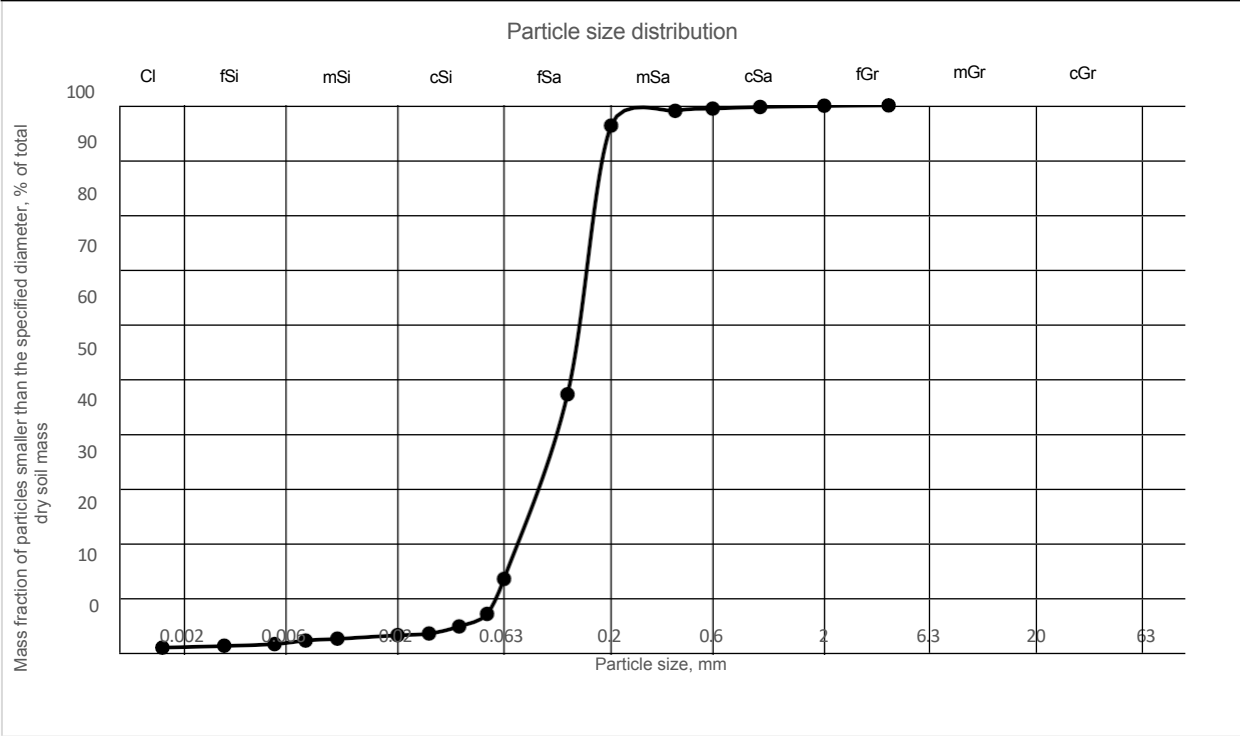
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.5	98.6	95.9	89.8	70.9	19.8	3.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0836	0.1650	2.16		-		-	-	-				
	0.1373	0.1809	1.25		-		-	-					
	Soil density (5)	p, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
pd, Mg*m-³		e, 1											
				1.2%									
Soil classification*													
Index:	SaP	Name:			poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SE												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_347	Gr.60	4	U	8.80	9.10



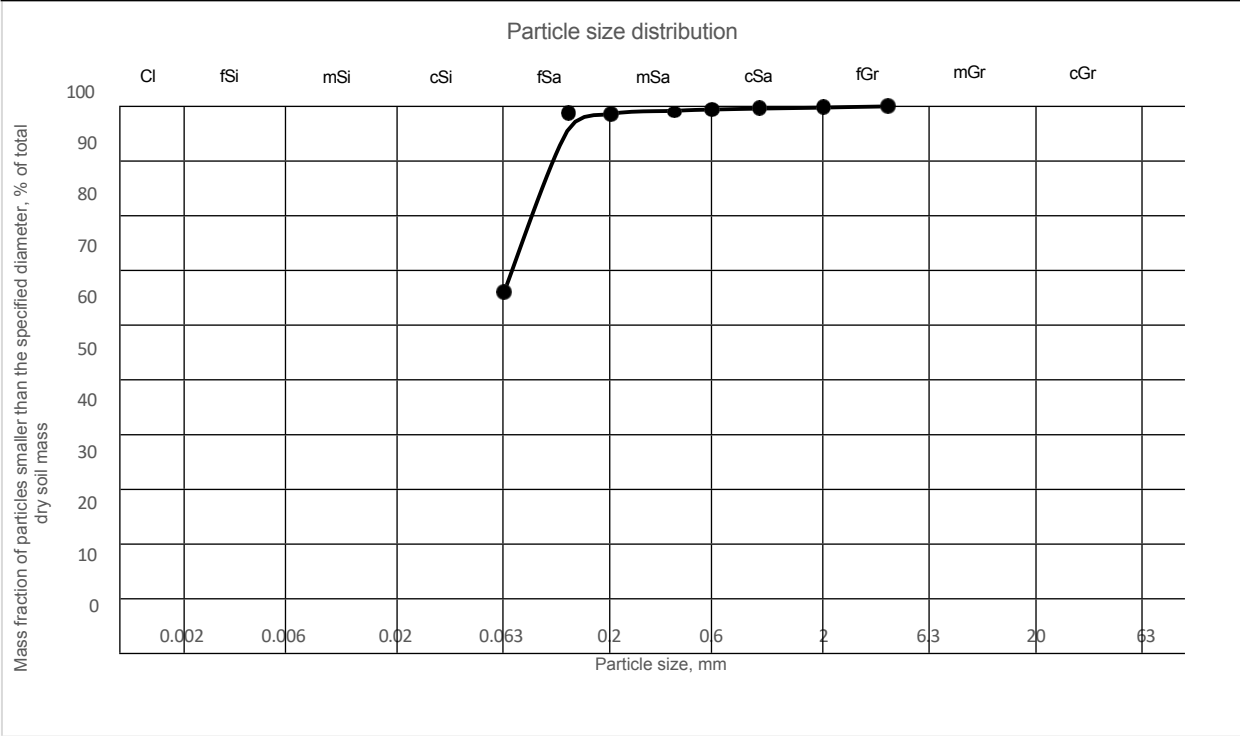
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.7	98.2	96.7	95.1	93.2	84.1	40.1	20.1
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	0.1389	-		14.5		17.5	-	-				
	0.0884	0.1546	-		93.2		-	-					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	organic matter %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.858		2.62		0.60								
	1.637												
Soil classification*													
Index:		siSa		Name:			sandy loam						
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU*											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_348	Gr.60	5	U	10.30	10.60



Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.4	99.0	96.3	47.4	13.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
			0.0524	0.0388	0.0281	0.0200	0.0104	0.0074	0.0053	0.0031	0.0016		
			7.4	5.1	3.9	3.5	2.9	2.6	1.9	1.6	1.3		
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0565	0.1282	2.50				-	-	-				
	0.0877	0.1411	0.96				-	-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:		SaFP	Name:		slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:		SU											
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

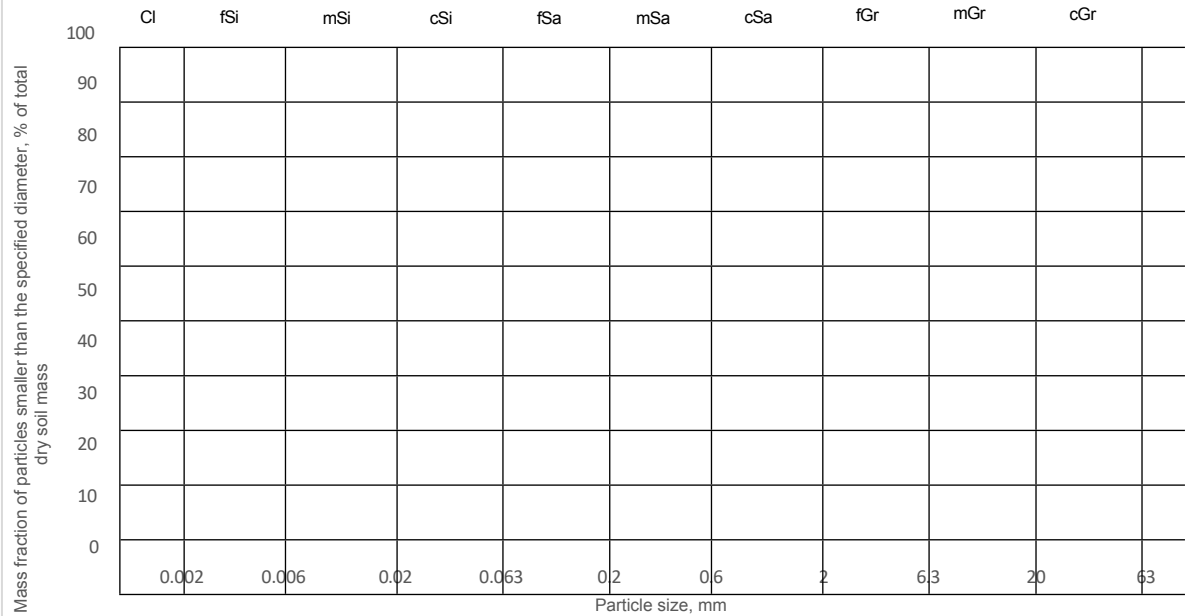
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_350	Gr.60	7	D	13.20	13.50



Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	-	-	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.4	99.2	98.6	95.5	66.0	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		-	-	-						12.9	19.0	5.6		
		-	-	-						99.2	13.4	-0.09	1.09	
Soil density (5)		ρ, Mg/m³	Particle density (6)		ps, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
Soil classification*														
Index:		saCIL-SiL		Name:			Sandy, low-plasticity clay-silt, very stiff							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		TL-UL												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

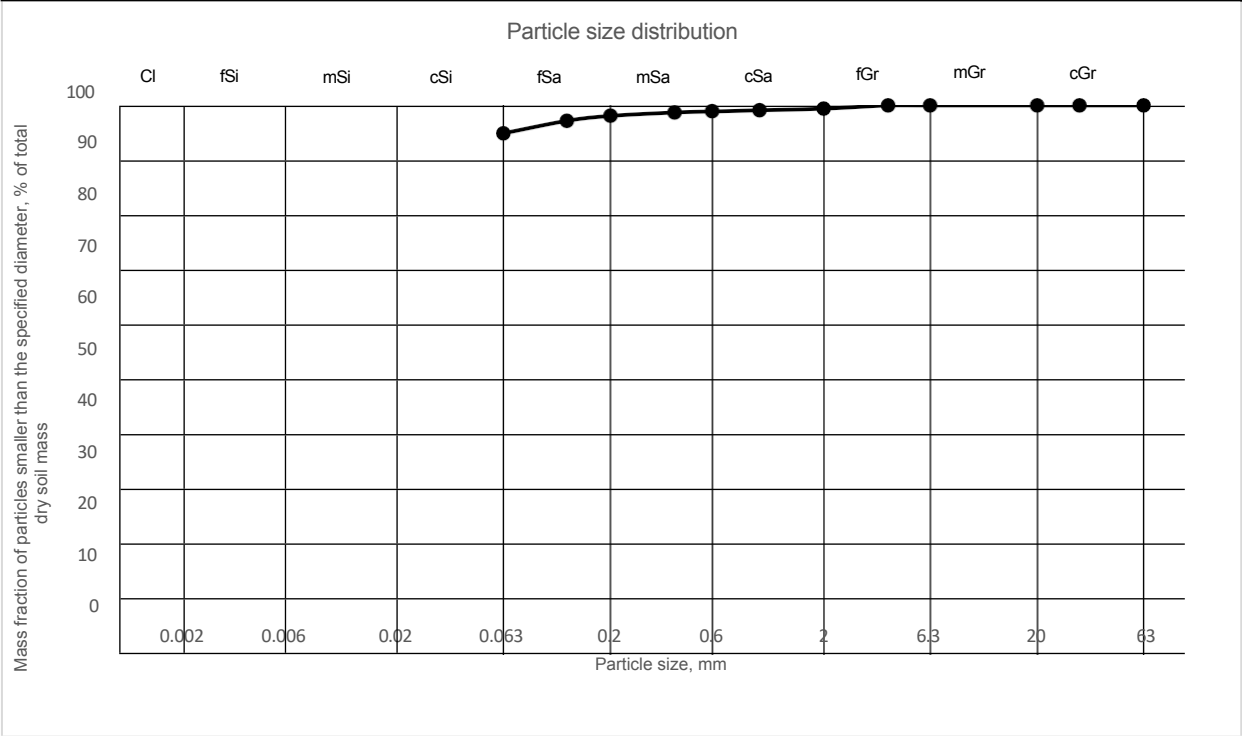
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_351	Gr.60	8	U	21.50	22.20

Particle size distribution



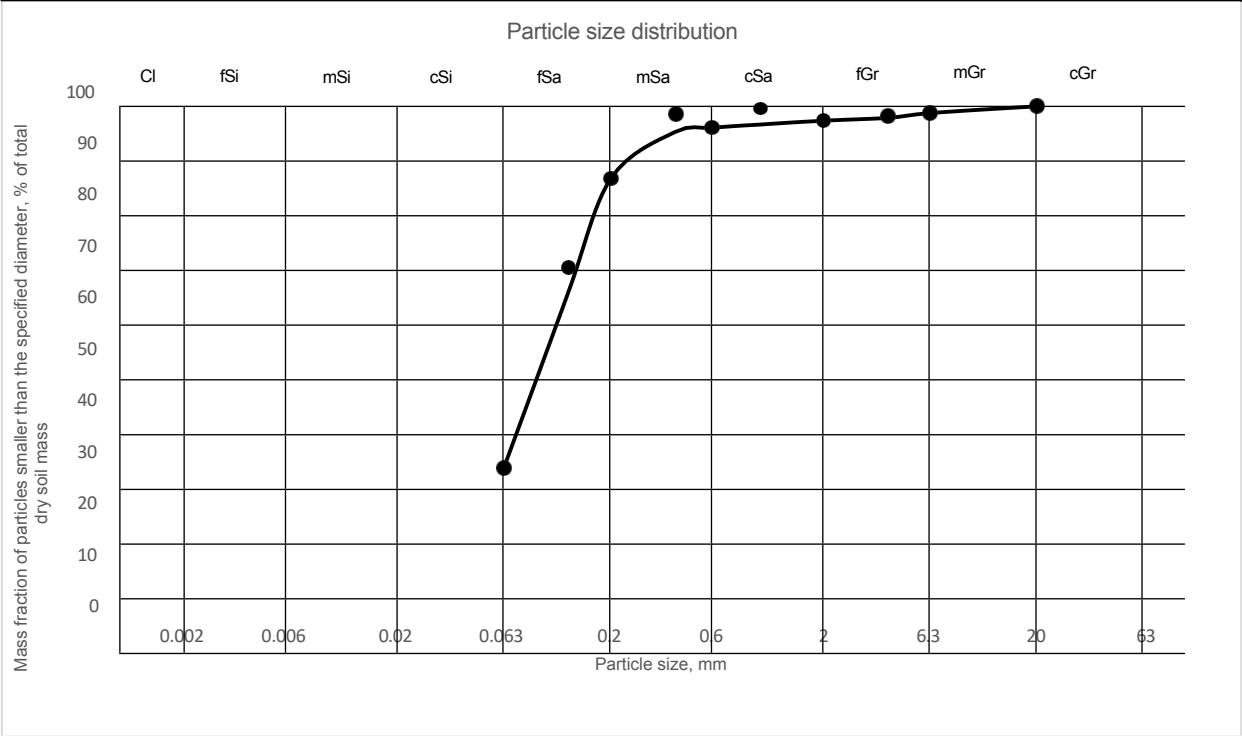
Sieve method (1)		Sieve aperture size, mm										
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %										
		-	-	-	-	-	-	-	-	-	-	-
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hydrometer method (2)		Particle size, mm										
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass										
			0.0382	0.0274	0.0193	0.0139	0.0078	0.0058	0.0044	0.0027	0.0014	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0022	-				23.0	46.8	22.0			
	-	0.0034	-				-	24.8	-0.08	1.08		
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	ρd, Mg*m-³		e, 1									
	2.092											
	1.701		0.59									
Soil classification*												
Index:		CIM	Name:		medium-plasticity clay, very stiff							
Notes:												
Soil classification DIN 18196:2023-02*												
Index:		TM										
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė										

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_352	Gr.67	1	U	20.00	20.70



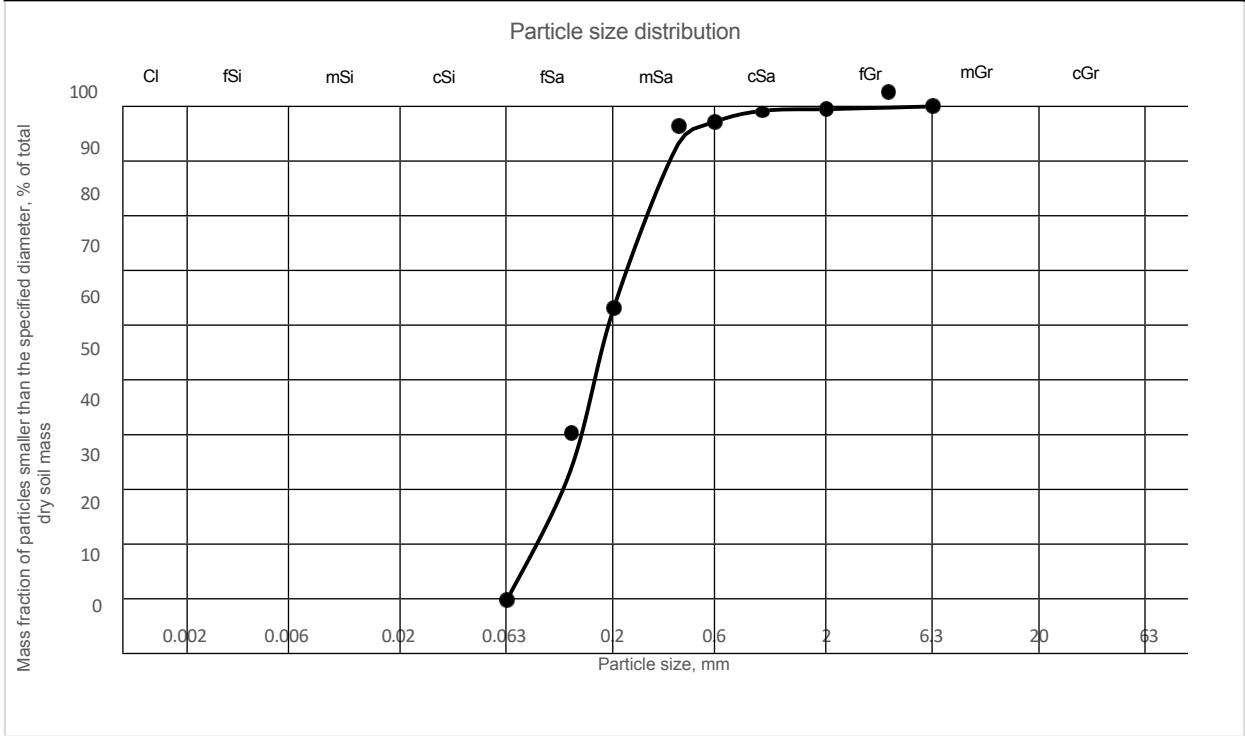
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		63	31.5	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	100.0	99.4	99.1	98.9	98.7	98.1	97.2	94.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	-	-	-		27.2		31.2	12.5	0.32				
	-	-	-		98.7		18.7	0.68					
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³		e, 1										
	1.990												
	1.569		2.69		0.71		1.9%						
Soil classification*													
Index:	CIL	Name:		low-plasticity clay, soft									
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	TL												
Tests performed by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis; Specialist I. Janulevičienė; Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_353	Gr.67	2	D	21.10	21.40



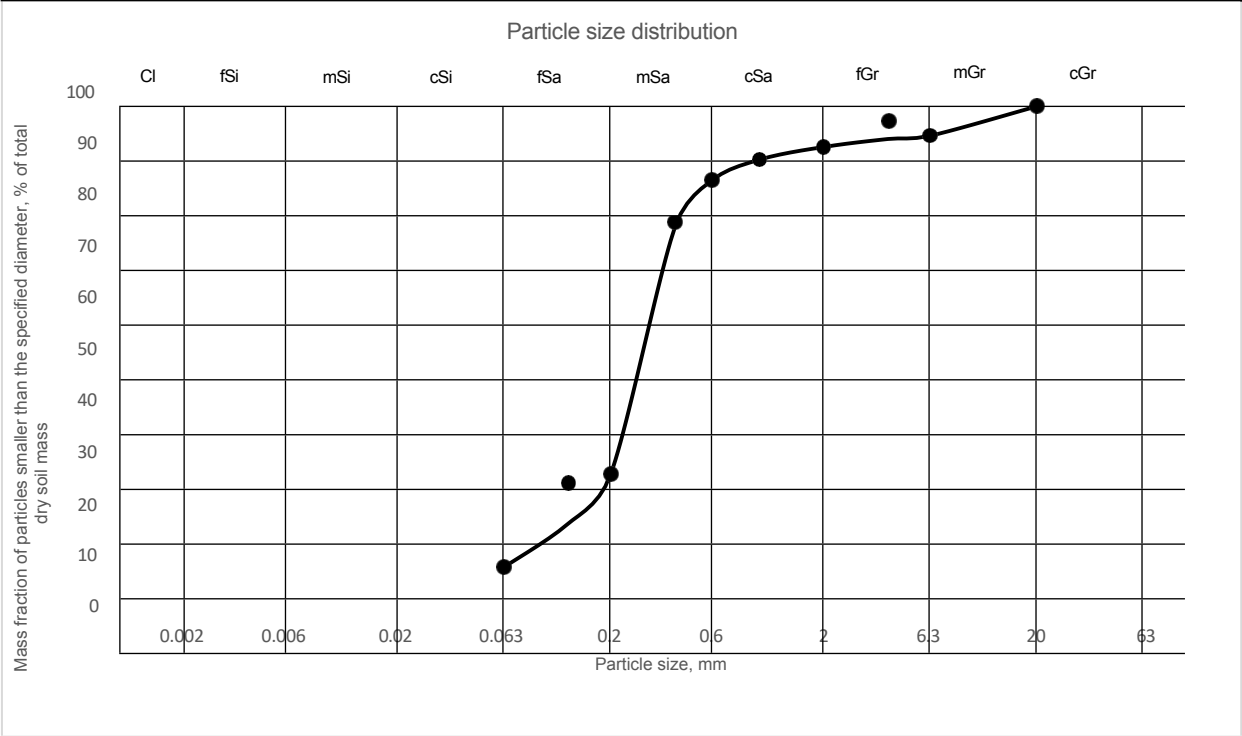
Sieve method (1)		Sieve aperture size, mm												
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %												
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063	
		100.0	100.0	100.0	98.8	97.9	97.4	96.7	96.1	95.3	86.8	65.5	34.0	
Hydrometer method (2)		Particle size, mm												
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass												
Compaction parameters (3)		d10, mm	d50, mm	CU, 1	Water content (8)		w, %	Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1	
		d30, mm	d60, mm	CC, 1						f<0.4, %	wP, %	IL, 1		
		-	0.0892	-						18.0	20.0	3.6	0.54	
		-	0.1109	-						95.3	16.4	0.46		
Soil density (5)		ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3	Porosity (7)		n, 1	Organic matter (10)		org. mat. %	Water permeability (4.2)		k10, m/s
		ρd, Mg*m-³												
Soil classification*														
Index:		siSa		Name:			sandy loam							
Notes:														
Soil classification DIN 18196:2023-02*														
Index:		SU*												
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_354	Gr.67	3	U	25.40	25.60



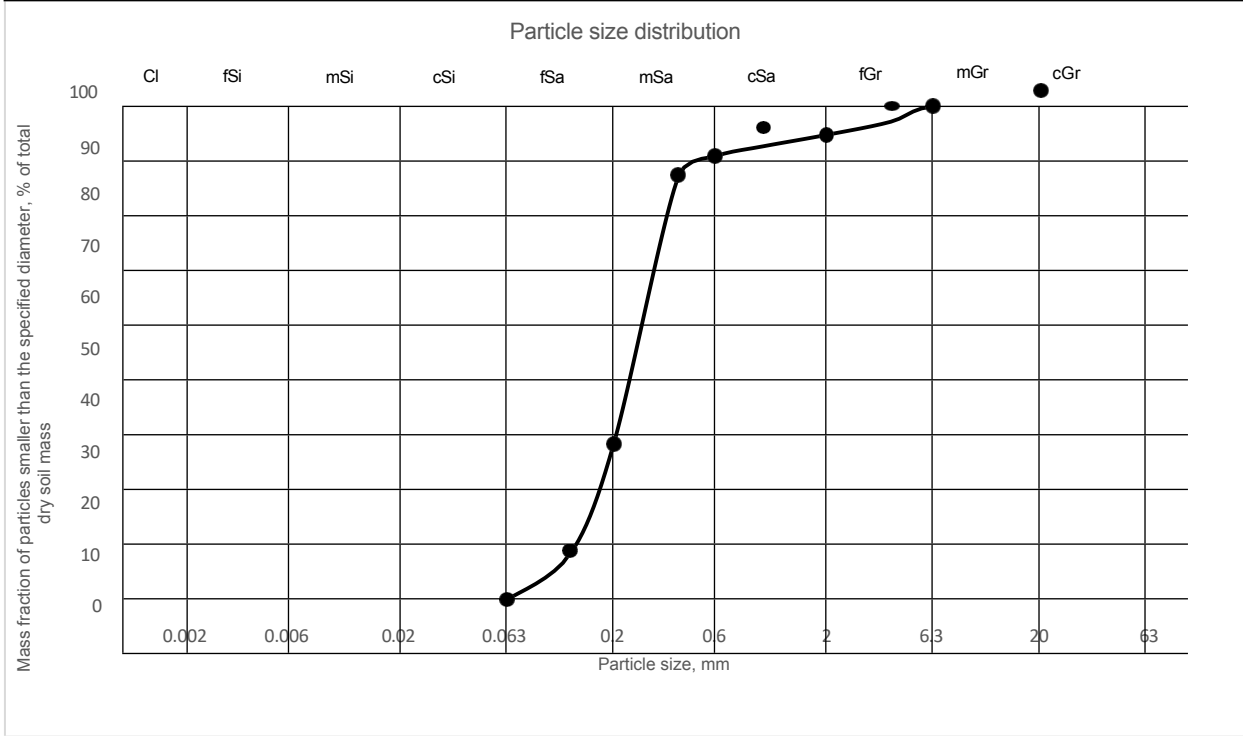
Sieve method (1)		Sieve mesh size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	99.8	99.5	99.2	97.2	93.1	63.2	33.4	9.8
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0634	0.1624	3.00		-		-	-	-				
	0.1133	0.1902	1.06		-		-	-					
Soil density (5)	p, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s				
	pd, Mg*m-³				e, 1								
Soil classification*													
Index:	SaFP	Name:			slightly silty-clayey poorly sorted sand								
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_355	Gr.67	4	U	26.10	26.40



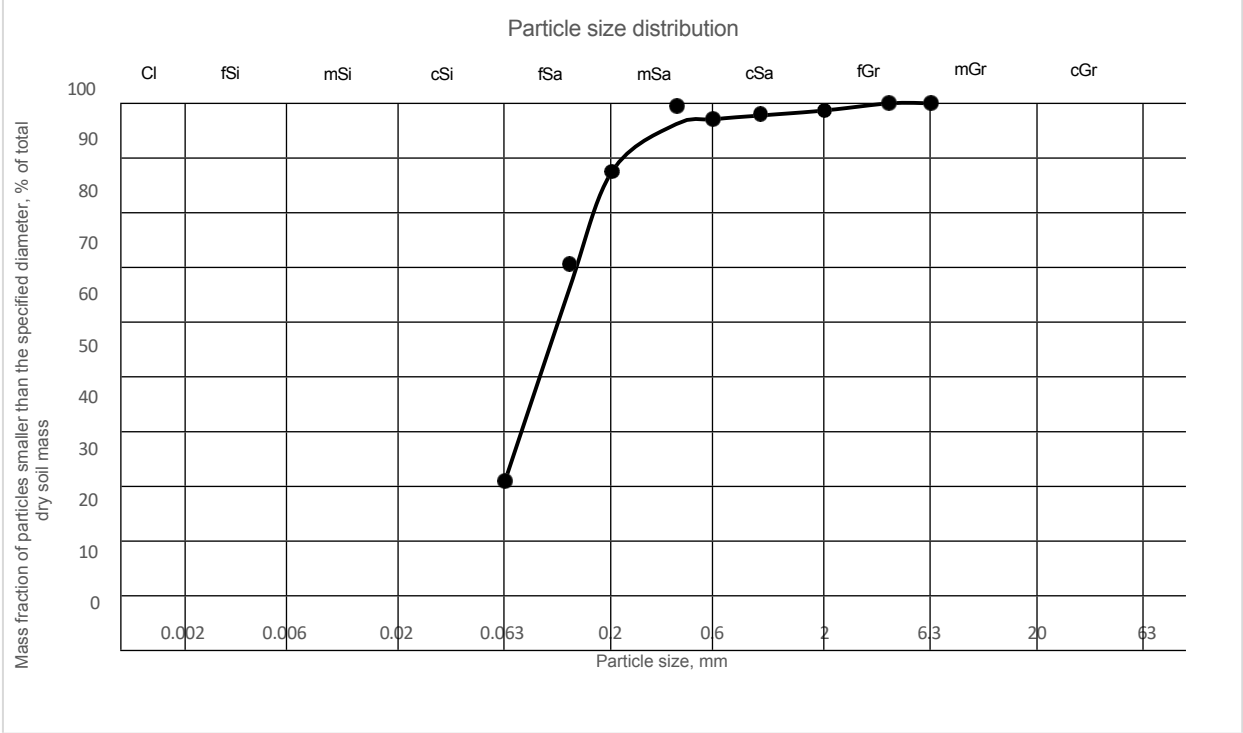
Sieve method (1)		Sieve aperture size, mm																	
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %																	
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063						
		100.0	100.0	100.0	94.6	94.0	92.6	90.3	86.6	78.0	32.8	23.7	15.9						
Hydrometer method (2)		Particle size, mm																	
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass																	
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)		w, %		Plasticity tests (9)		w<0.4, %	wL, %	IP, %	IC, 1						
	d30, mm	d60, mm	CC, 1							f<0.4, %	wP, %	IL, 1							
	-	0.2602	-							21.1	17.2	-	-						
	0.1728	0.3033	-							78.0	-	-							
Soil density (5)	ρ, Mg/m³	Particle density (6)		ρs, Mg*m-3		Porosity (7)		n, 1		e, 1		Organic matter (10)		organic matter %		Water permeability (4.2)		k10, m/s	
	ρd, Mg*m-³																		
Soil classification*																			
Index:		siSa		Name:				sandy loam											
Notes:																			
Soil classification DIN 18196:2023-02*																			
Index:		SU*																	
Research conducted by:		Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė																	

Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_356	Gr.68	1	U	10.00	10.40

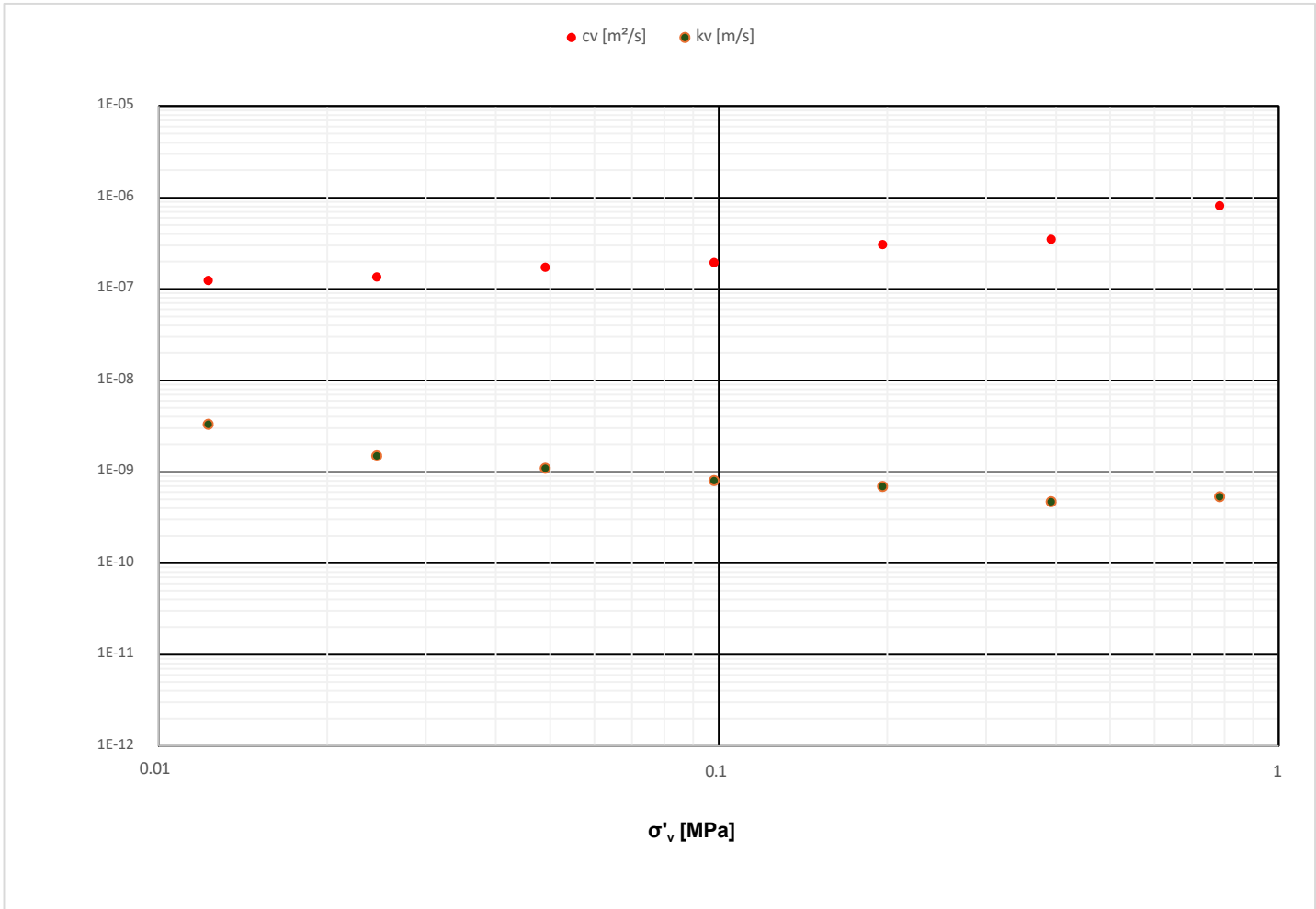
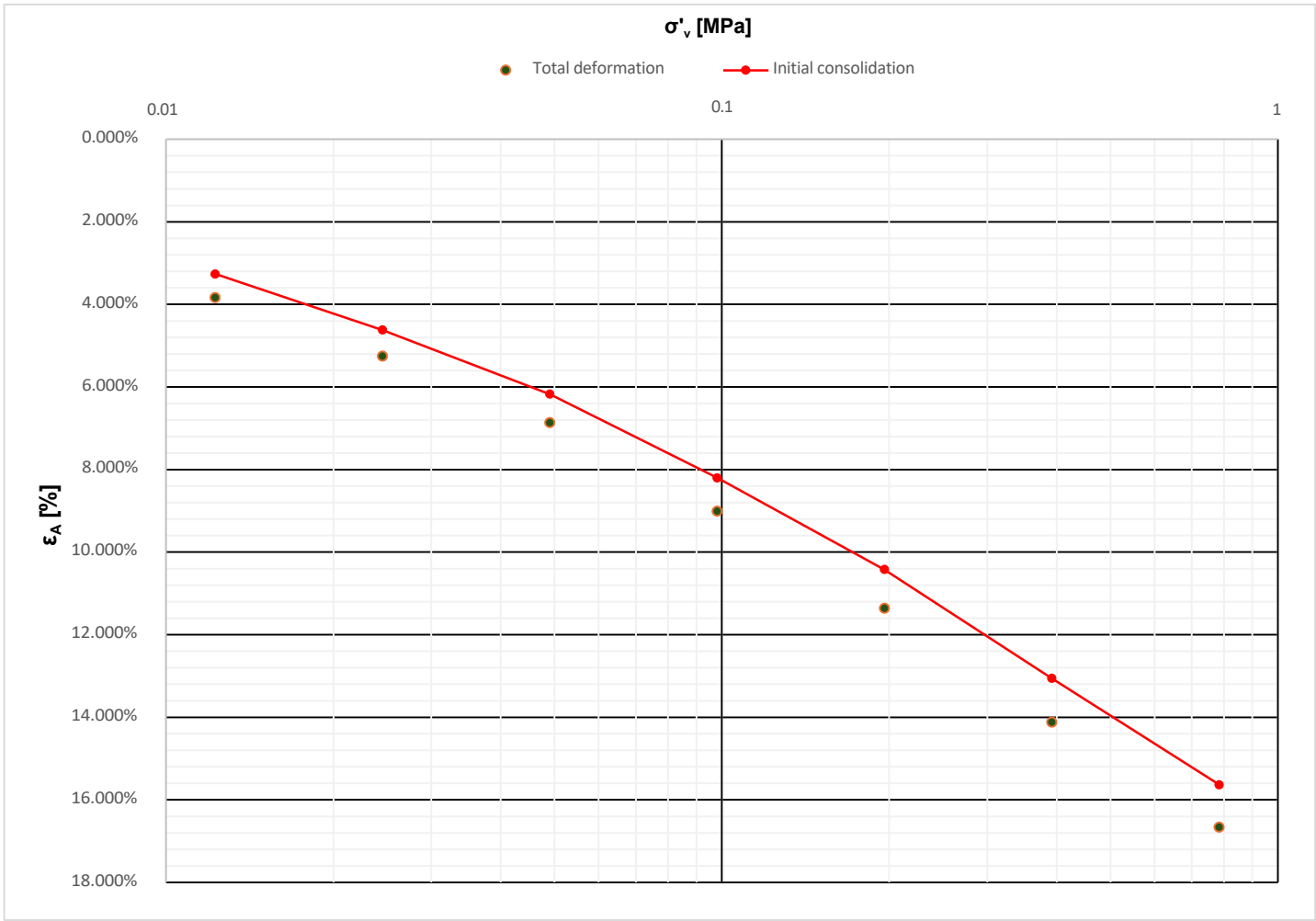


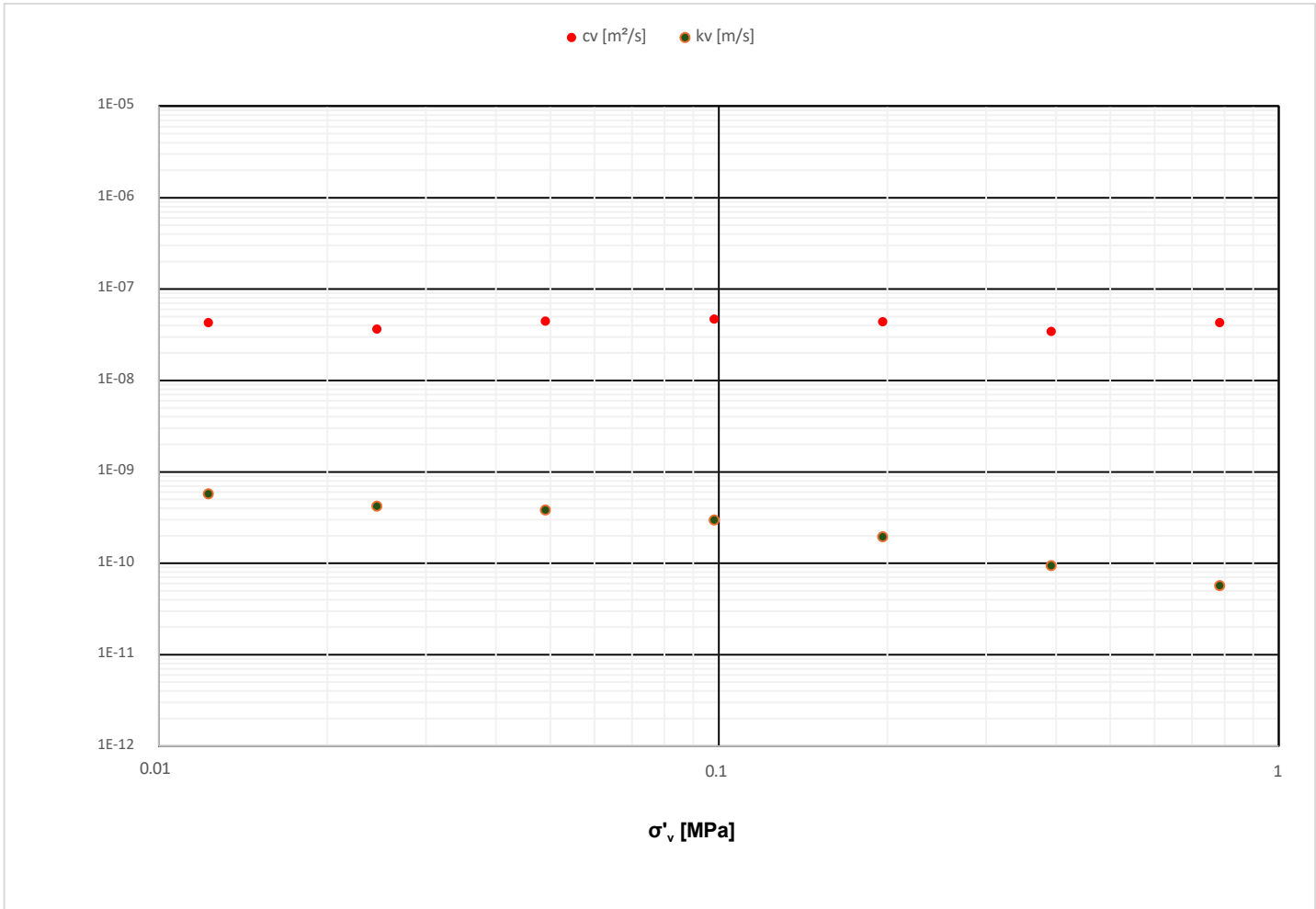
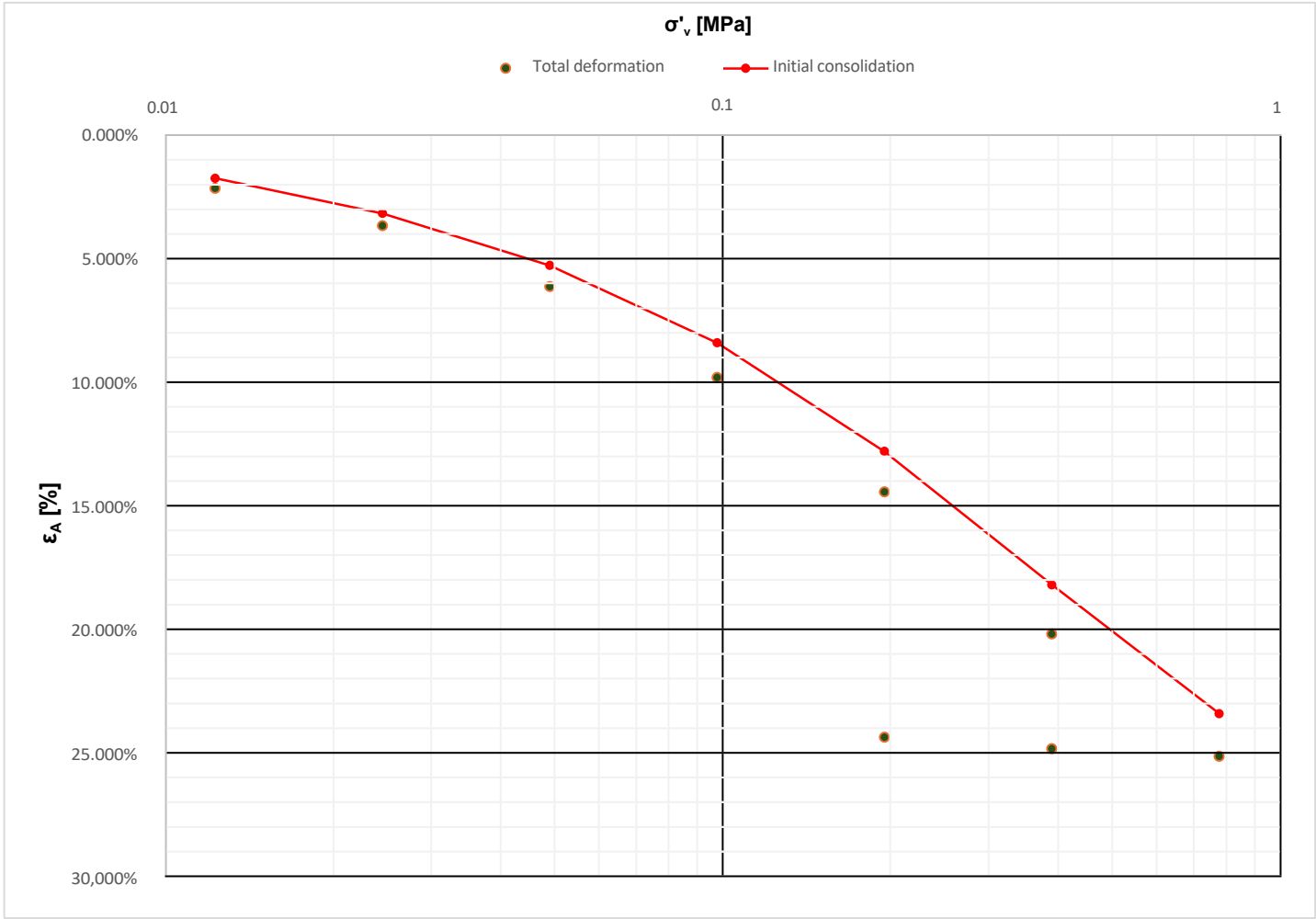
Sieve method (1)		Sieve aperture size, mm											
		Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
		-	-	20	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
		100.0	100.0	100.0	100.0	97.2	94.8	92.7	90.9	87.1	38.4	18.3	9.9
Hydrometer method (2)		Particle size, mm											
		Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1			
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1				
	0.0635	0.2359	4.28		-		-	-	-				
	0.1643	0.2720	1.56		-		-	-					
	Soil density (5)	ρ, Mg/m³	Particle density (6)		ps, Mg*m-3		Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s	
ρd, Mg*m-³		e, 1											
Soil classification*													
Index:	SaFP	Name:				slightly silty-clayey poorly sorted sand							
Notes:													
Soil classification DIN 18196:2023-02*													
Index:	SU												
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė												

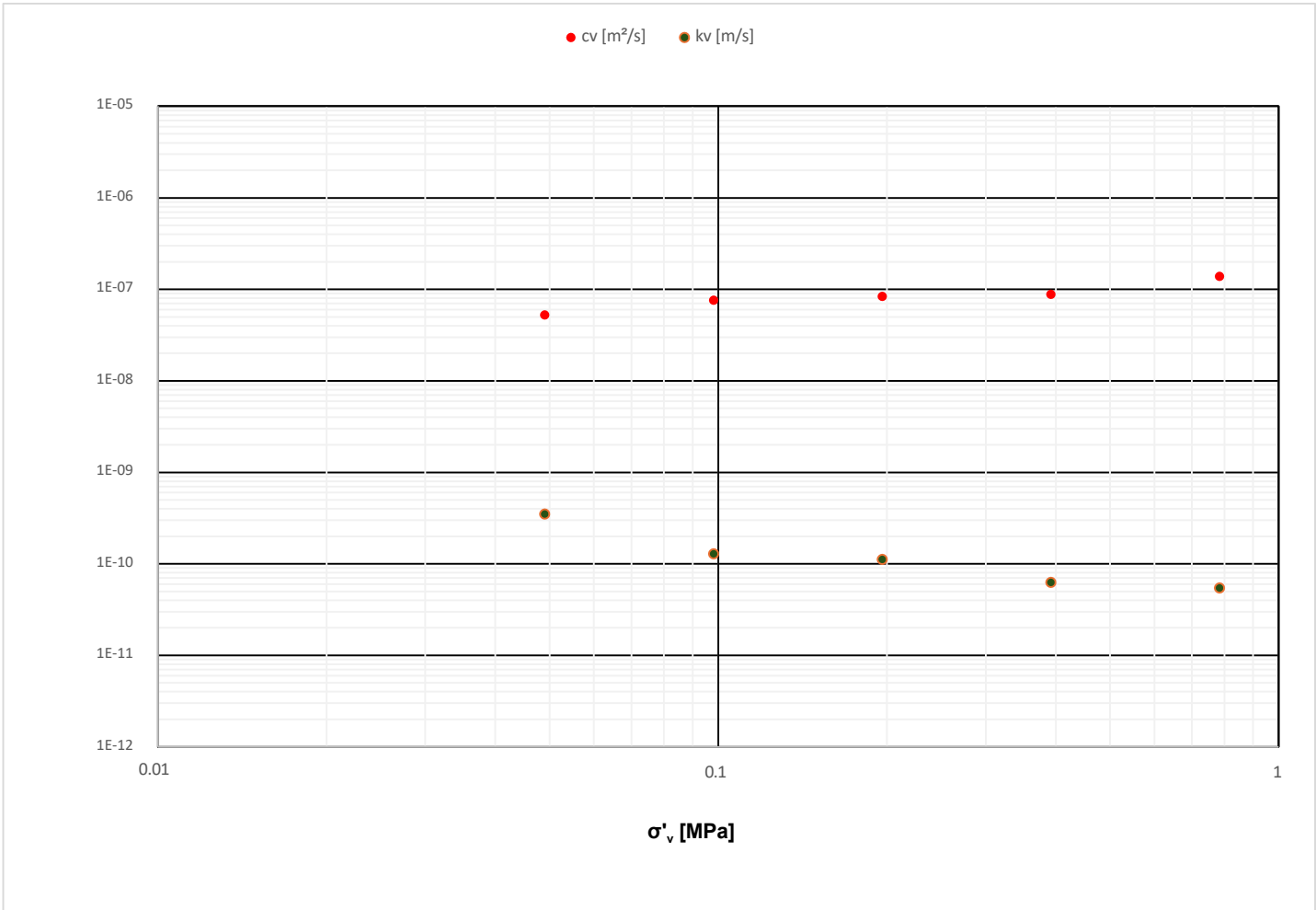
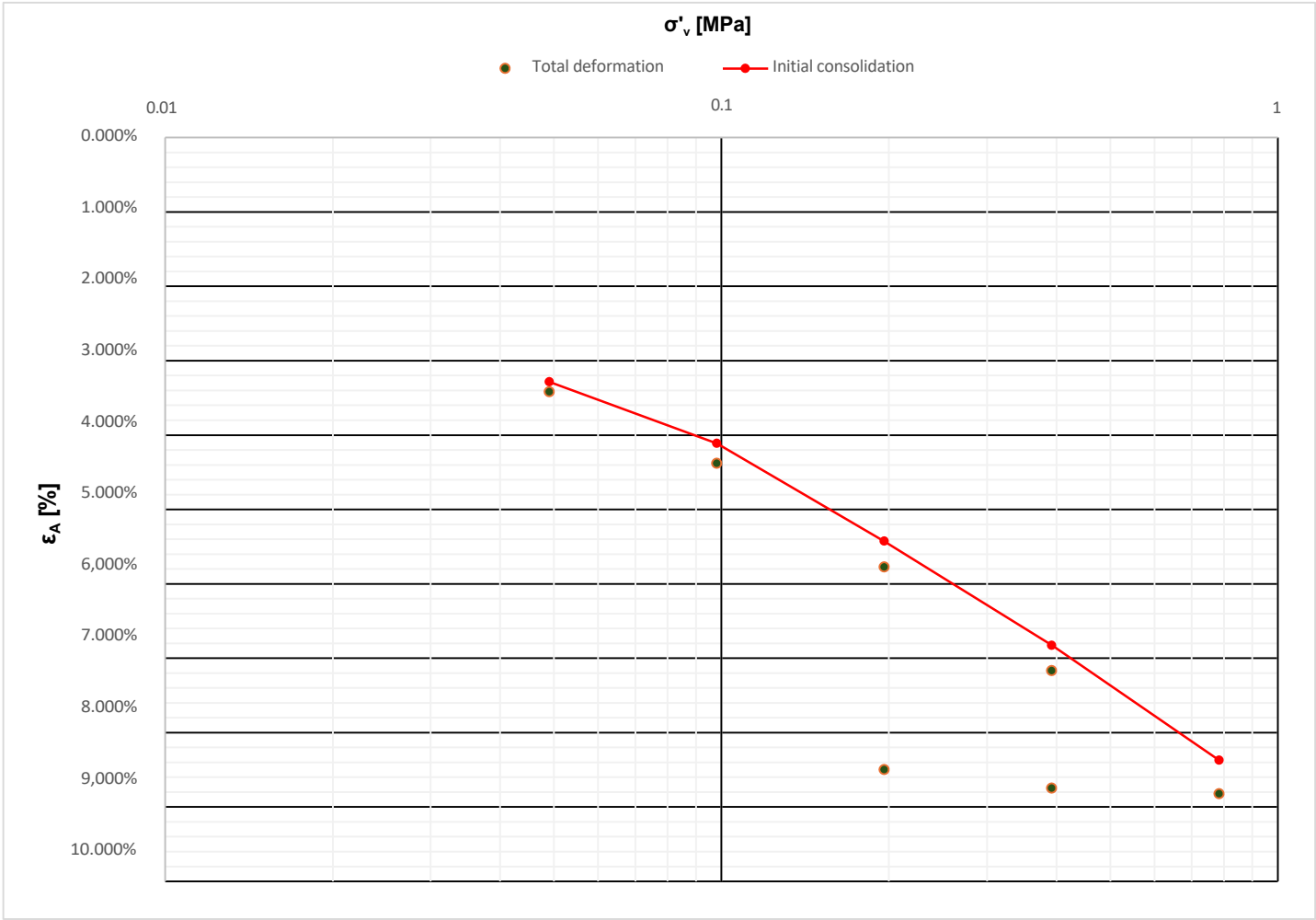
Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations assigned to Geotechnical Category III, report					
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Type 1)	Depth from/to 1)	
	SWEC_2024-321_357	Gr.68	2	U	11.20	11.60

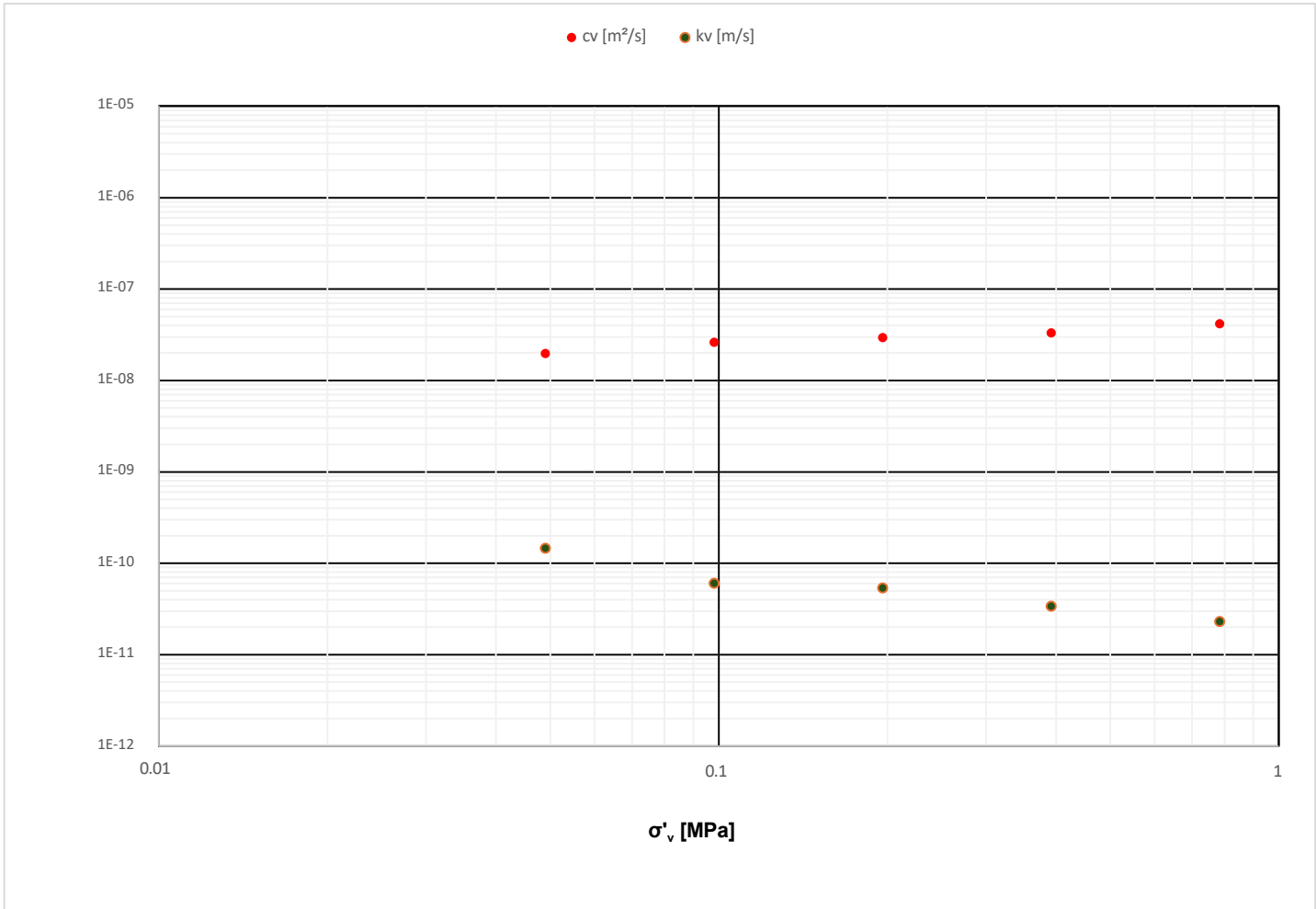
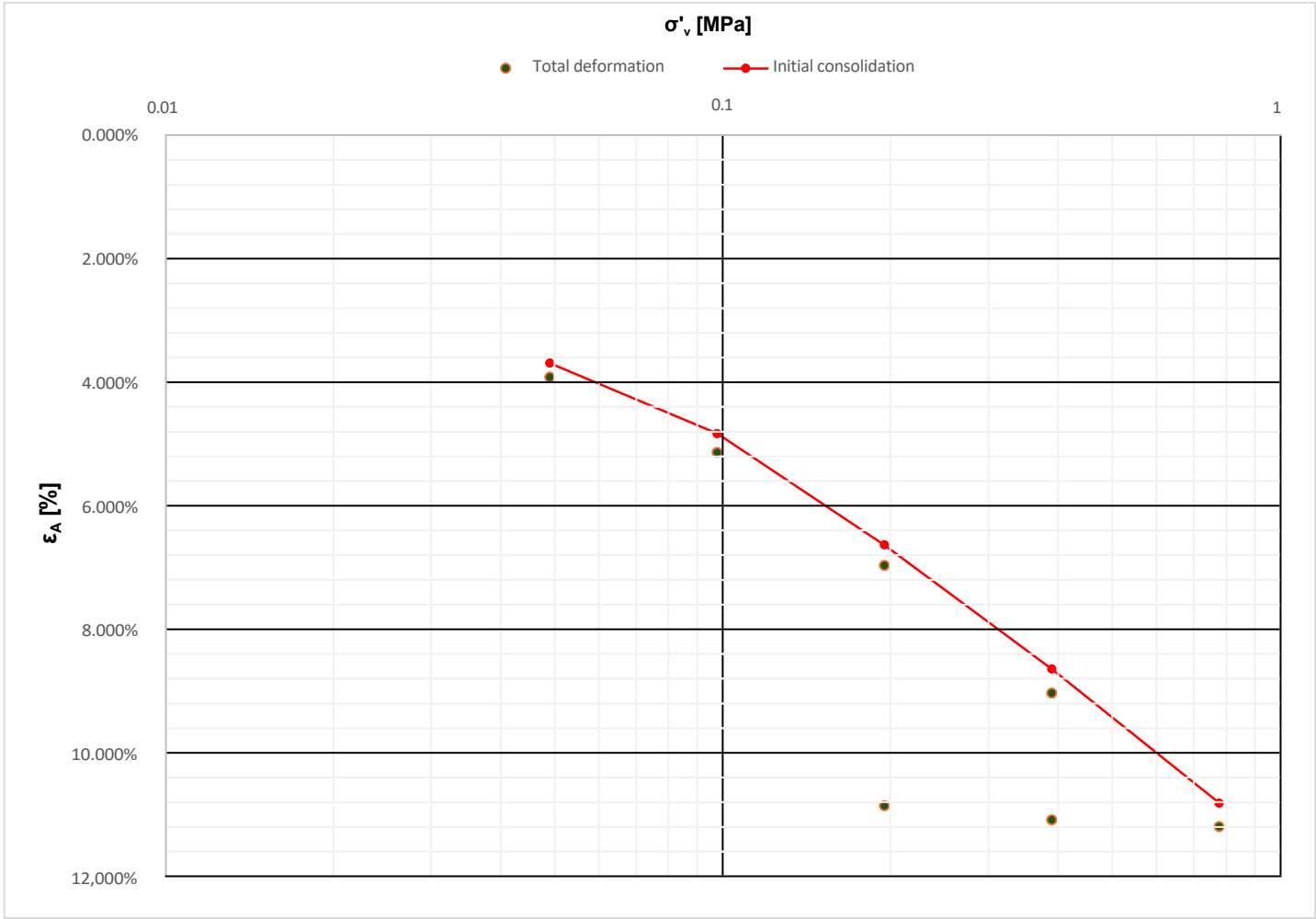


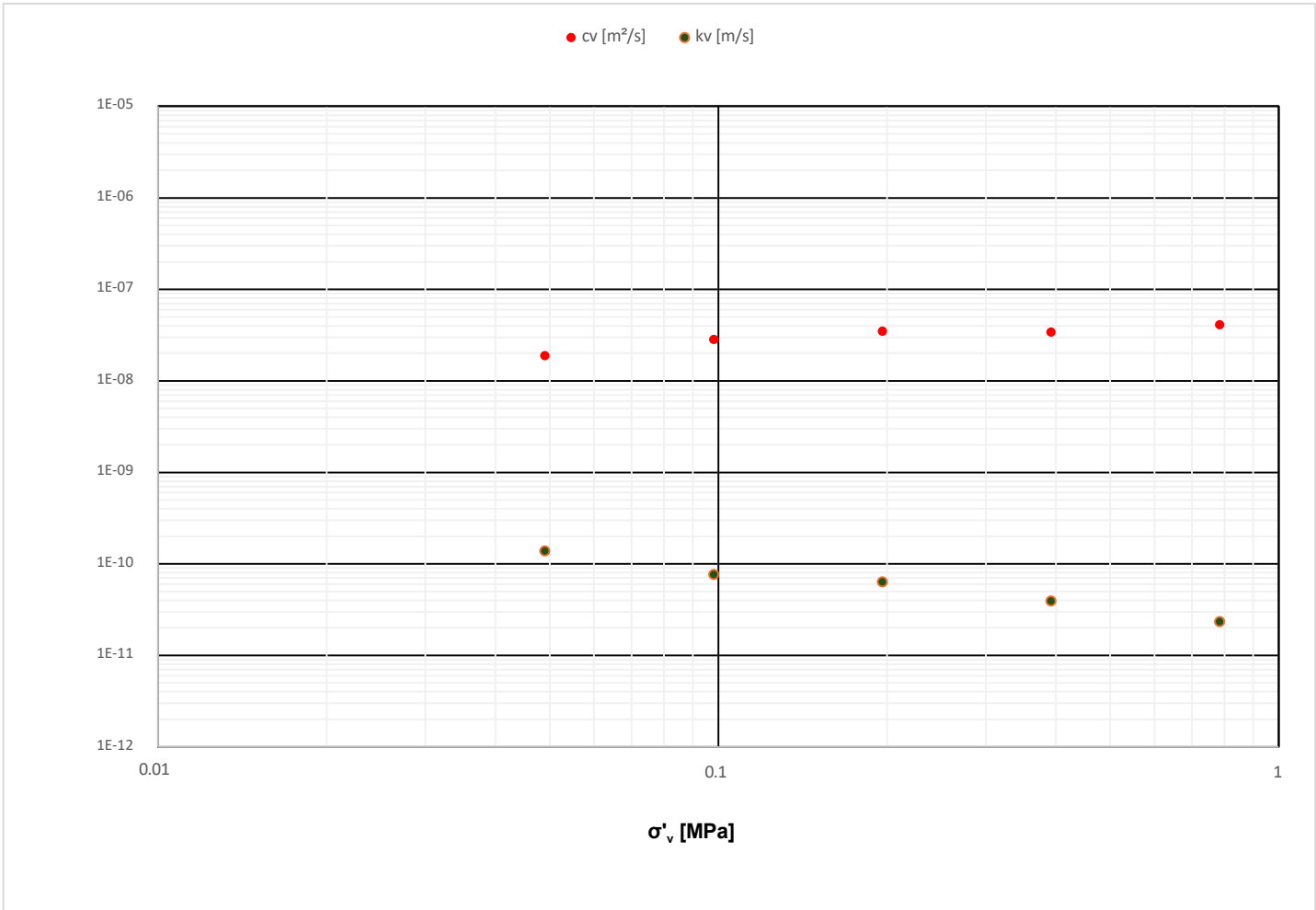
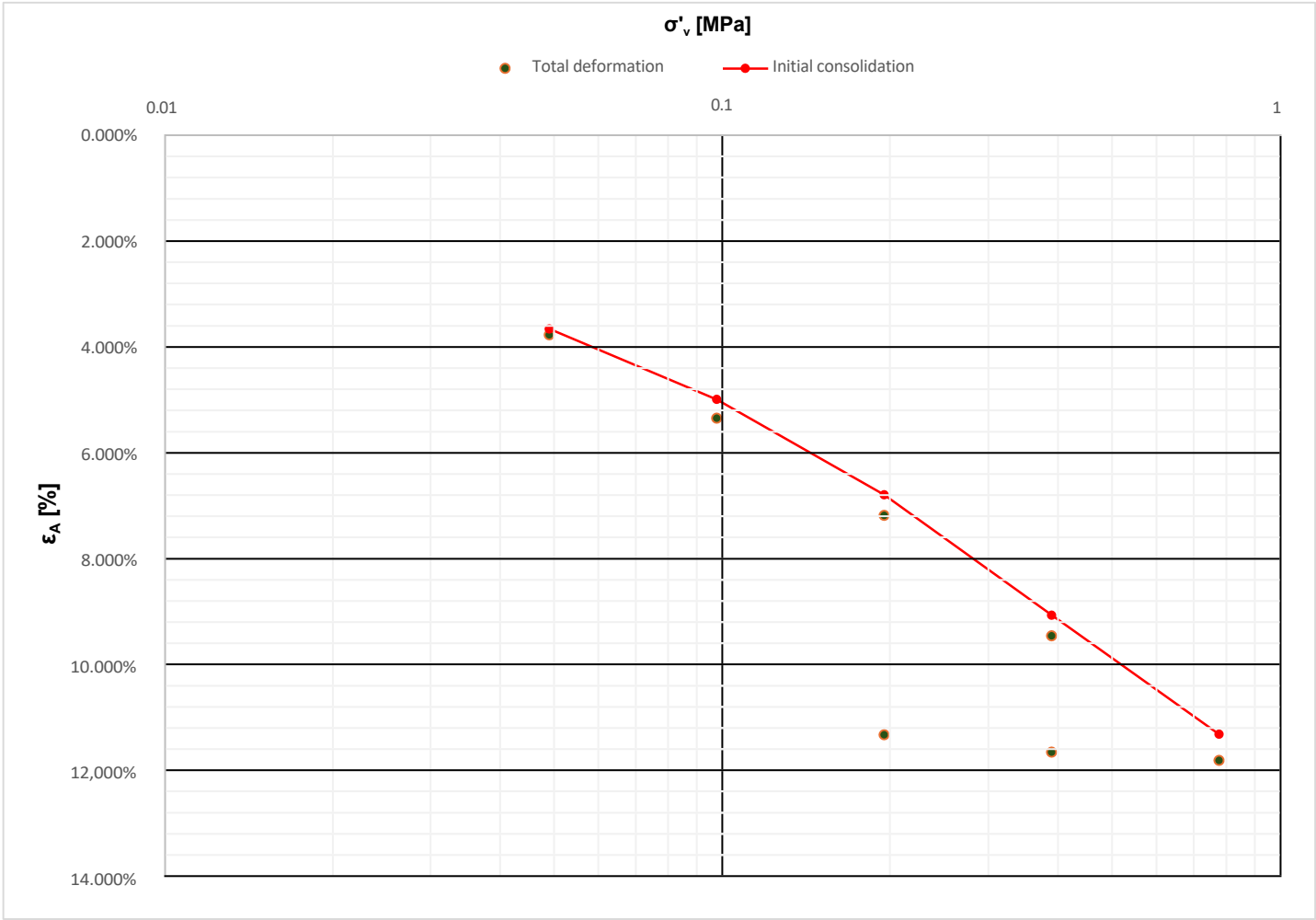
Sieve method (1)	Sieve aperture size, mm											
	Percentage of the mass of particles passing through the sieve relative to the total mass of dry soil, %											
	-	-	-	6.3	4	2	1	0.6	0.4	0.2	0.125	0.063
	100.0	100.0	100.0	100.0	100.0	98.7	97.8	97.1	96.2	87.5	65.5	31.0
Hydrometer method (2)	Particle size, mm											
	Mass fraction of particles smaller than the specified diameter, % of total dry soil mass											
Compaction parameters (3)	d10, mm	d50, mm	CU, 1	Water content (8)	w, %	Plasticity tests (9)	w<0.4, %	wL, %	IP, %	IC, 1		
	d30, mm	d60, mm	CC, 1				f<0.4, %	wP, %	IL, 1			
	-	0.0919	-				17.5	21.0	-			
	-	0.1121	-		96.2		-	-				
Soil density (5)	ρ, Mg/m³	Particle density (6)	ps, Mg*m-3	Porosity (7)	n, 1	Organic matter (10)	org. mat. %	Water permeability (4.2)	k10, m/s			
	pd, Mg*m-³				e, 1							
Soil classification*												
Index:	siSa	Name:				sandy loam						
Notes:												
Soil classification DIN 18196:2023-02*												
Index:	SU*											
Research conducted by:	Engineers E. Jankauskienė, K. Budžiulienė, B. Beniušis, Specialist I. Janulevičienė, Technical Staff Member V. Baniulienė											

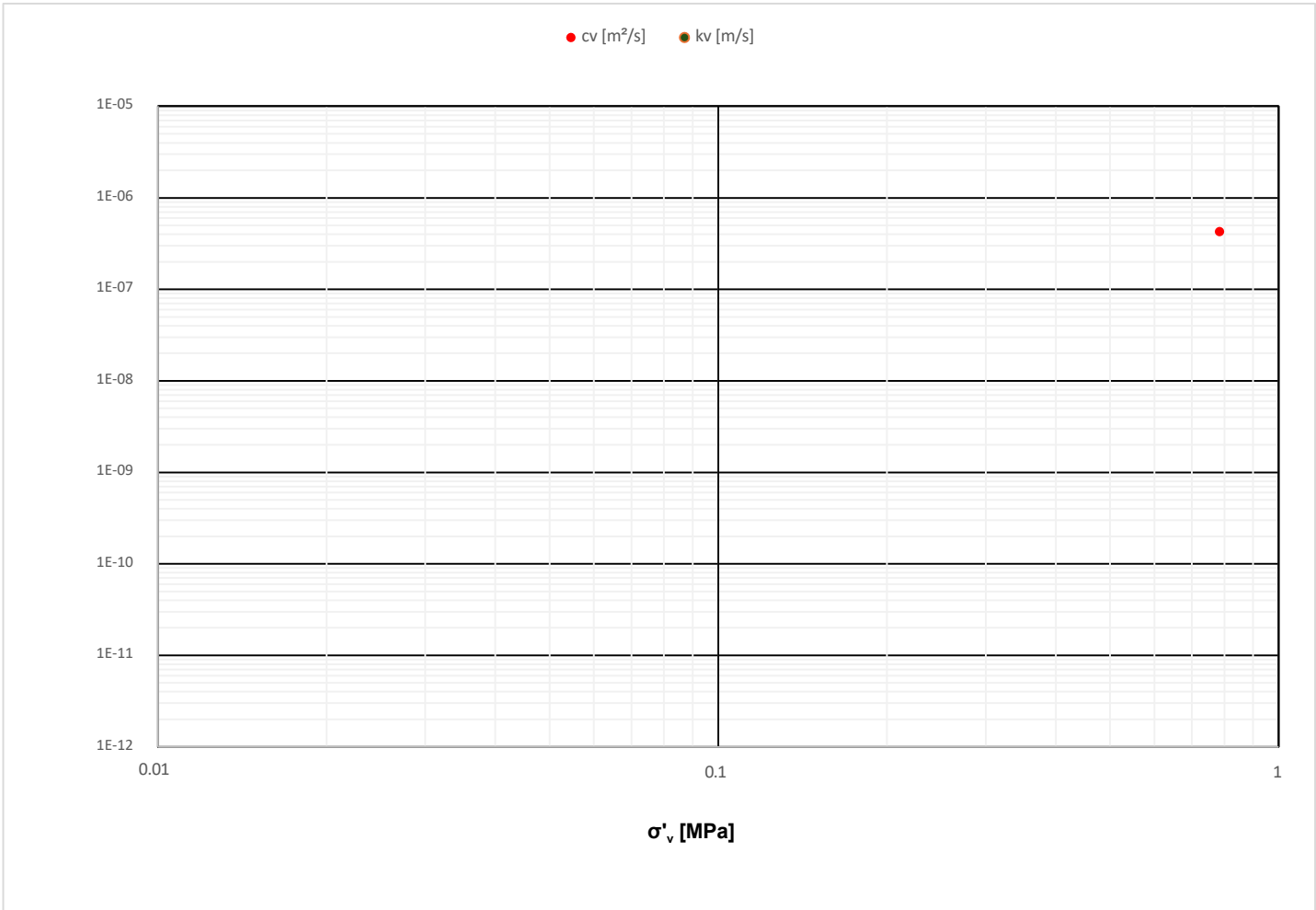
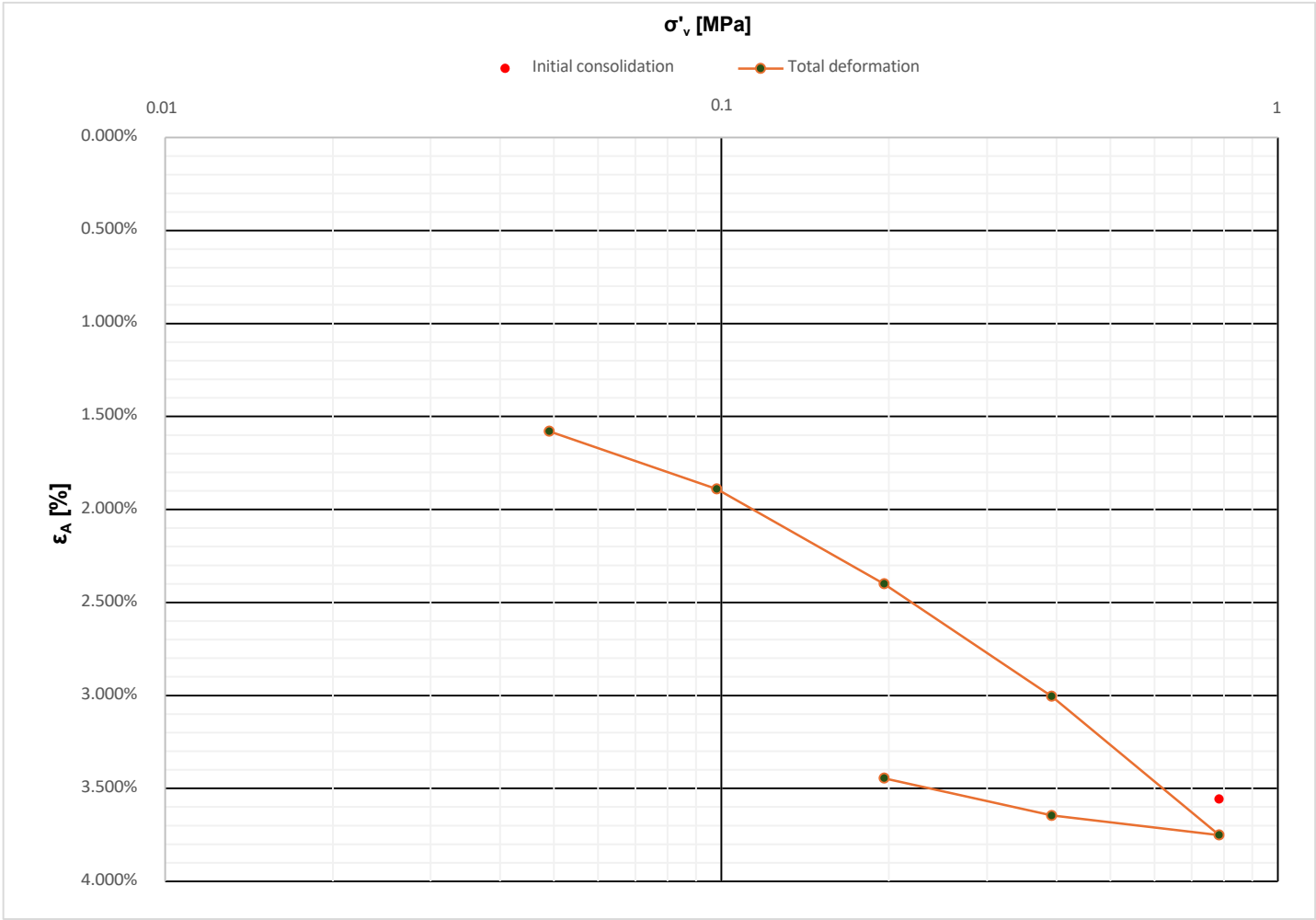


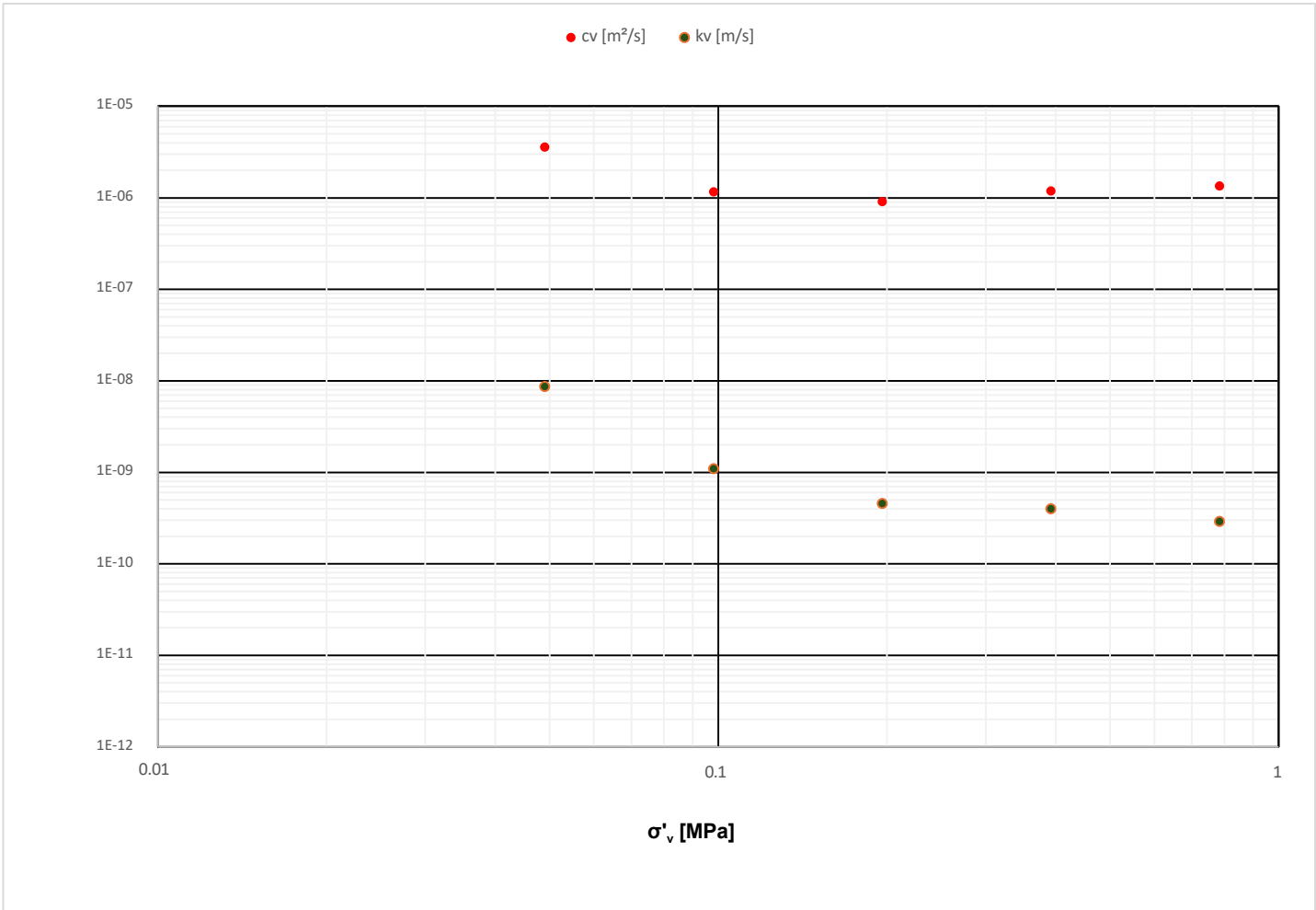
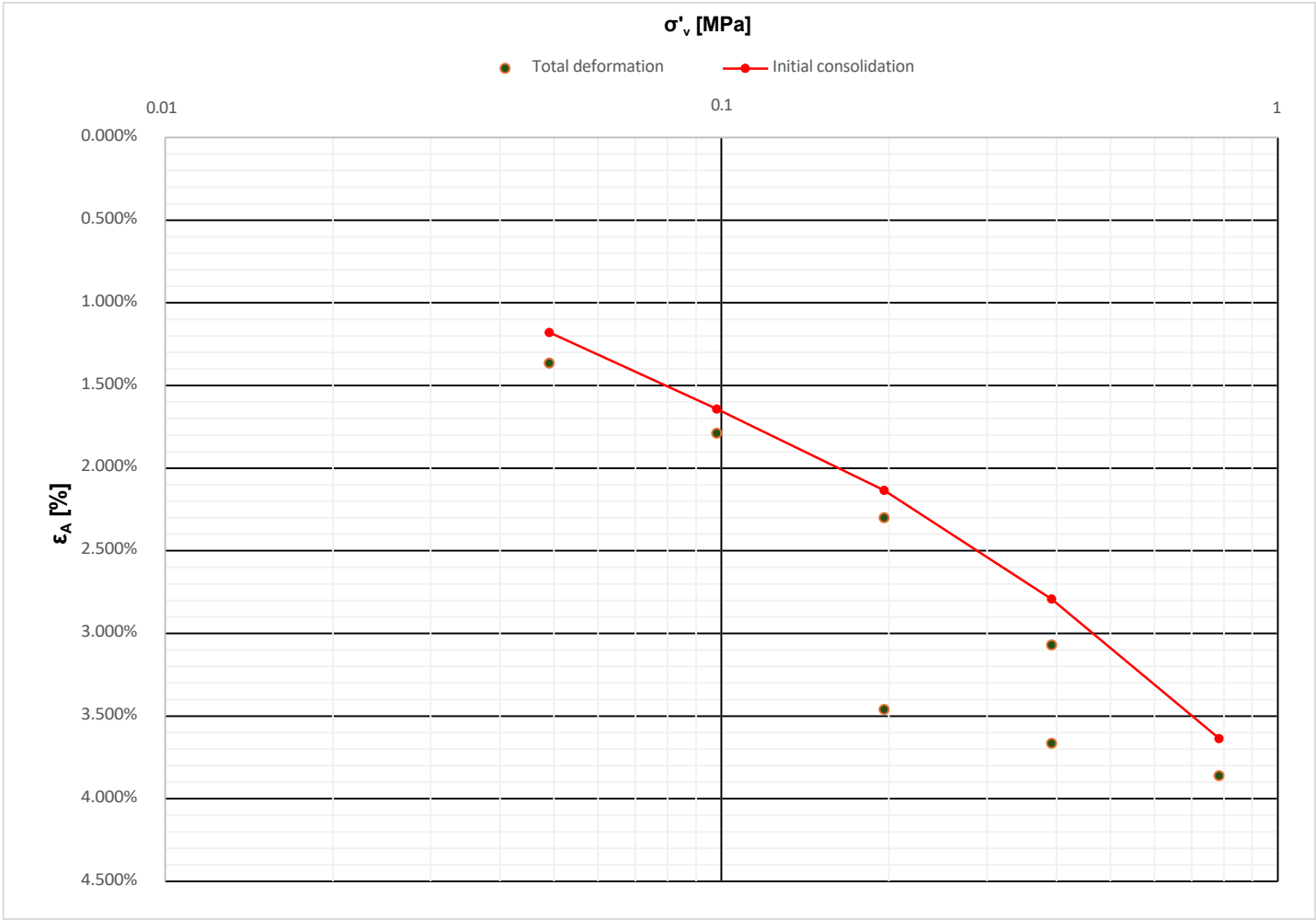


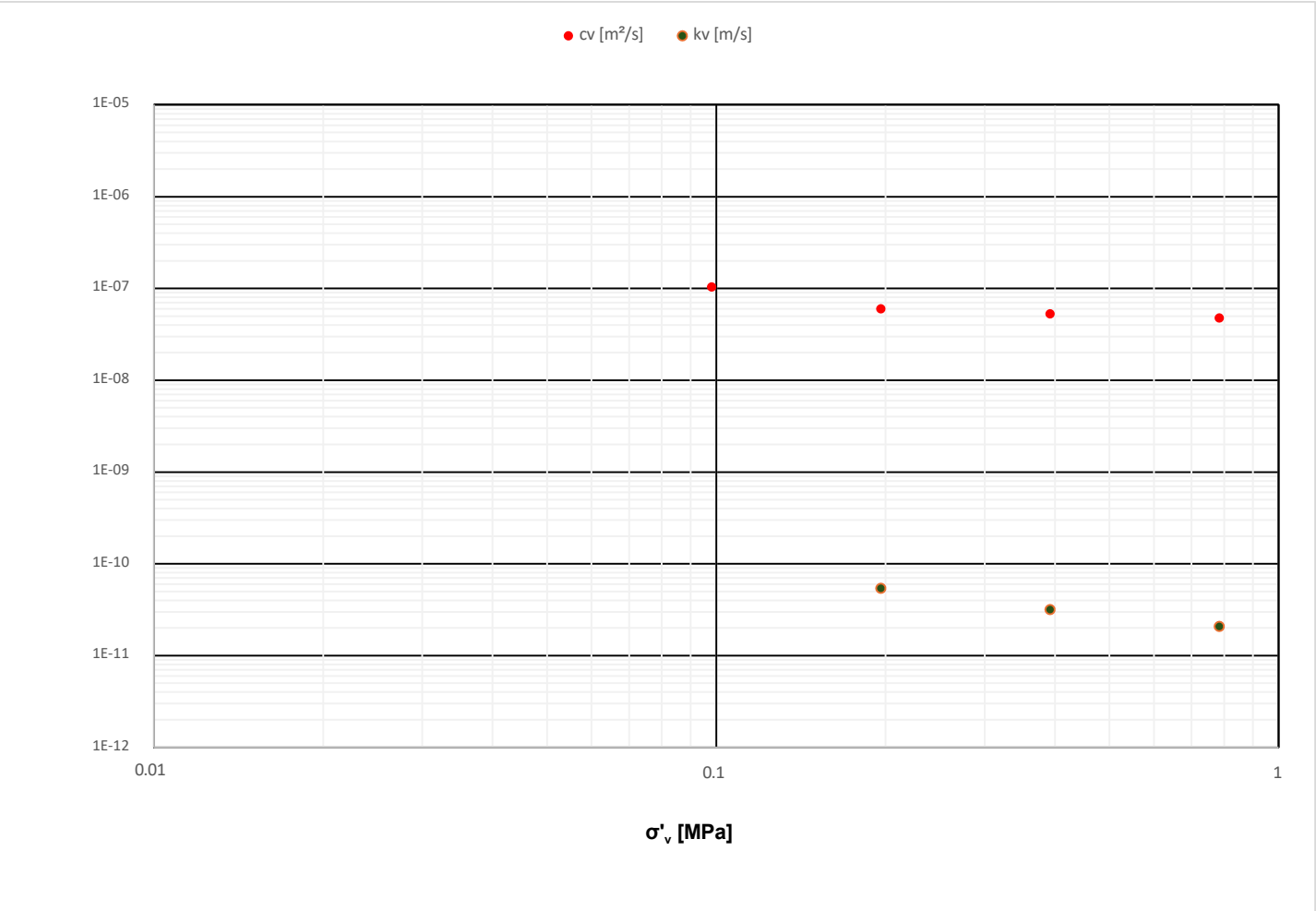
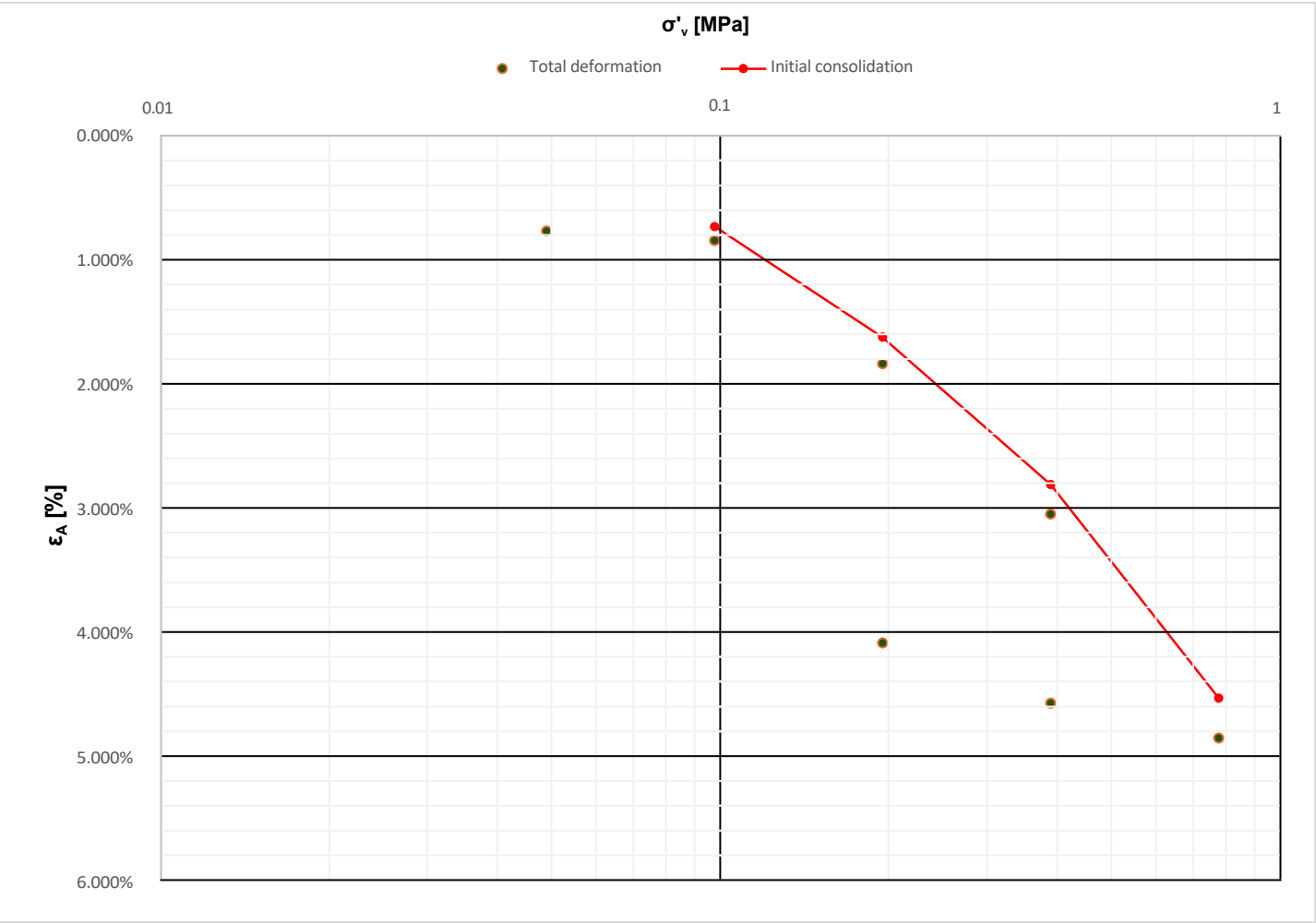


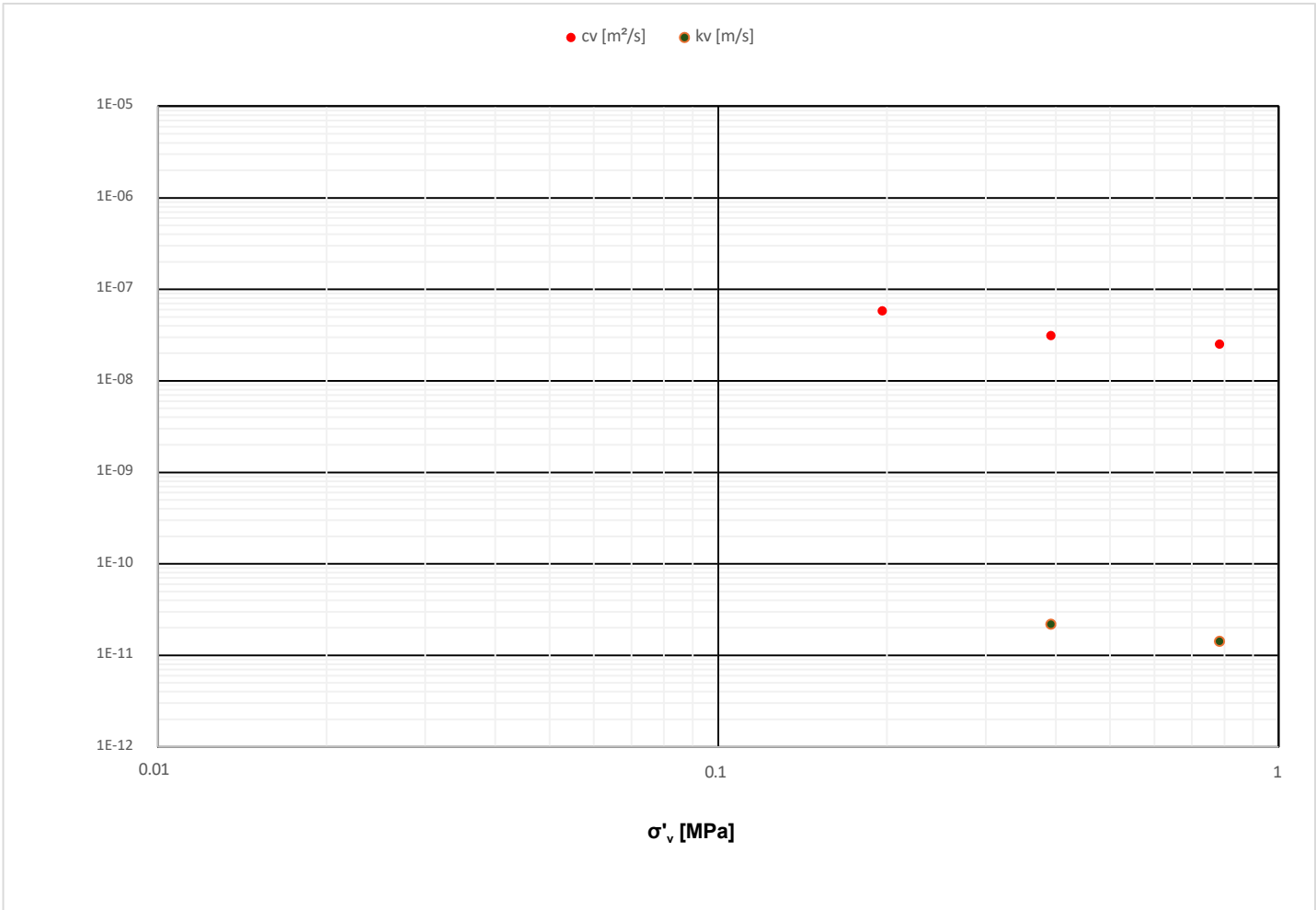
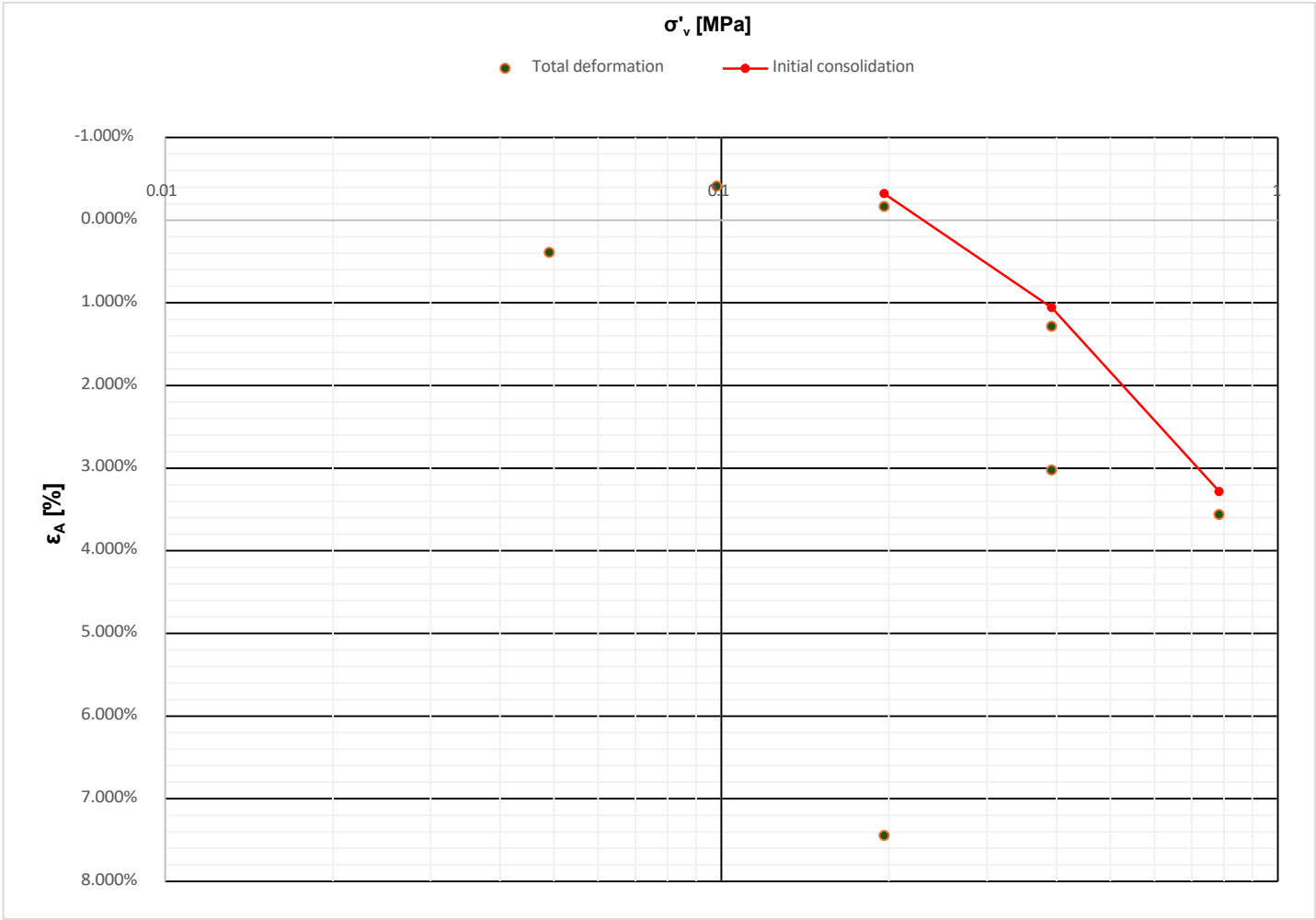


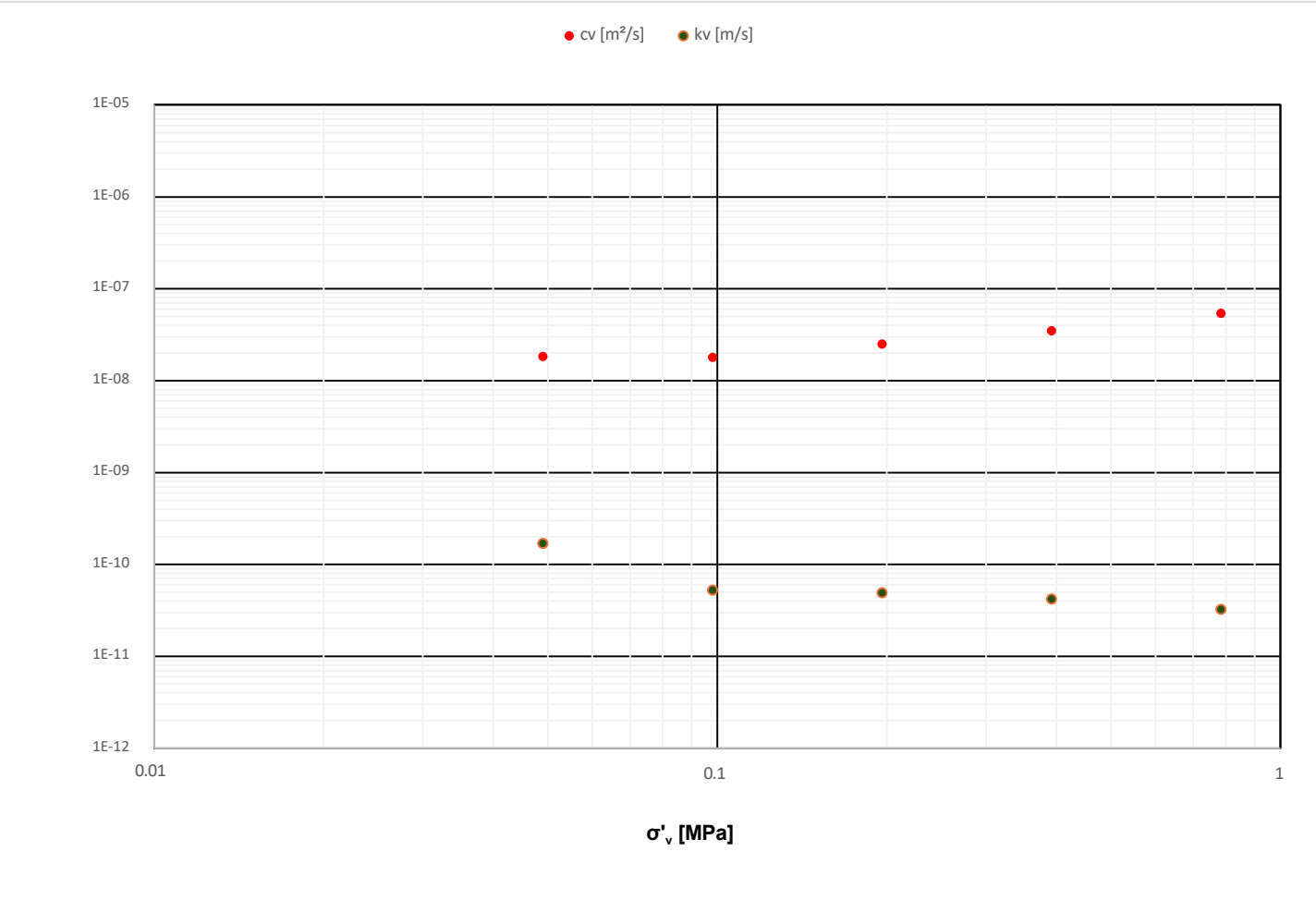
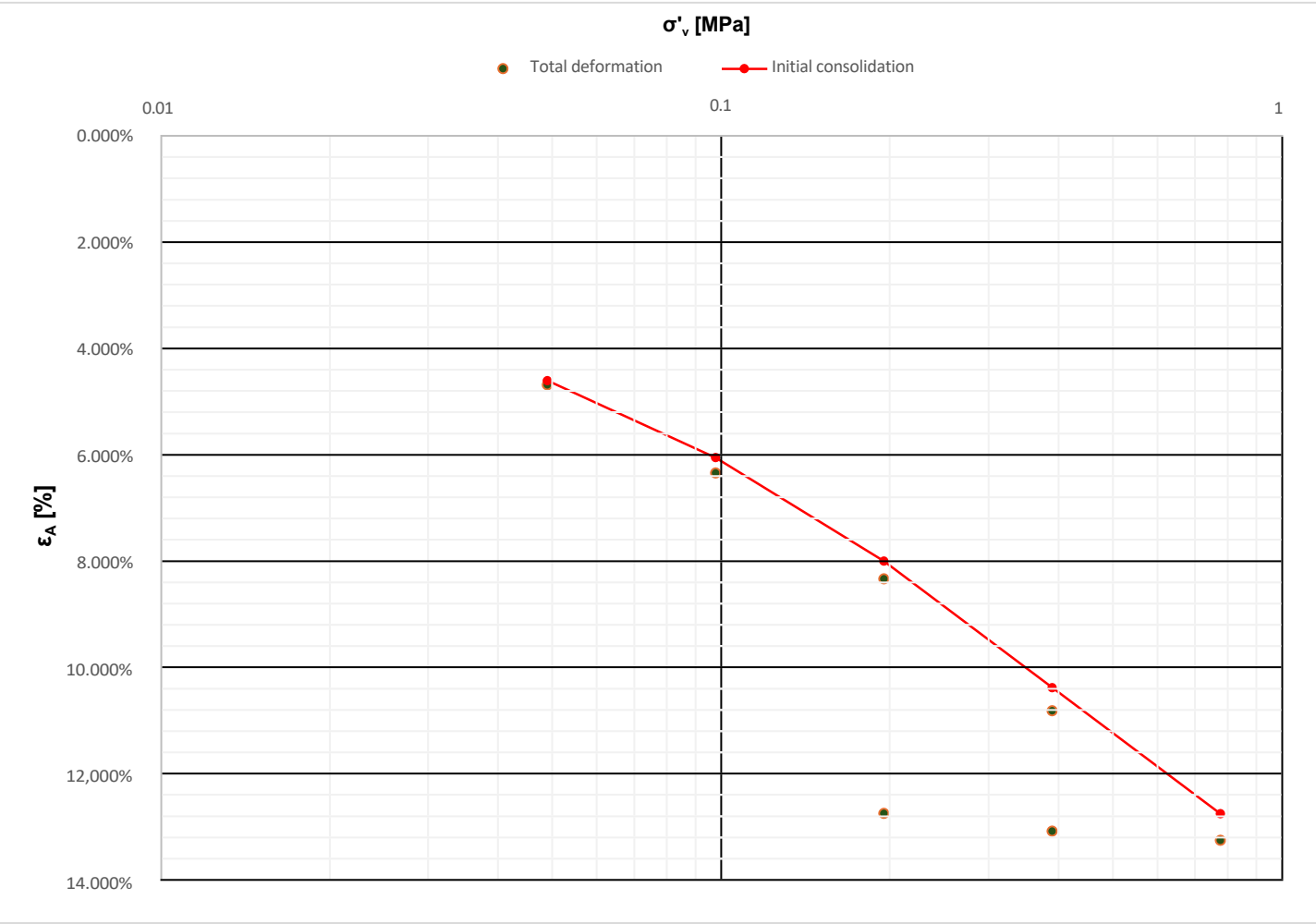


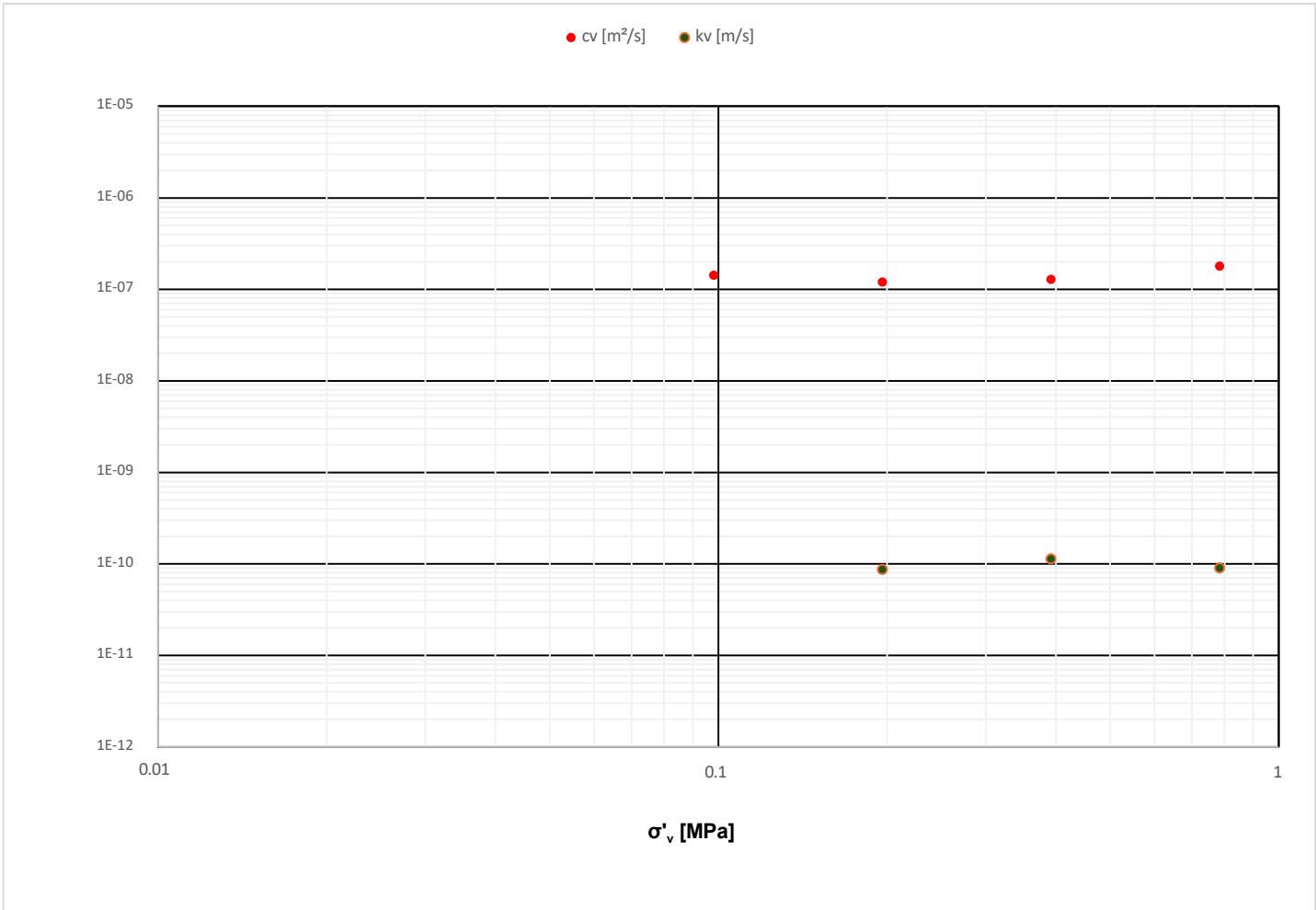
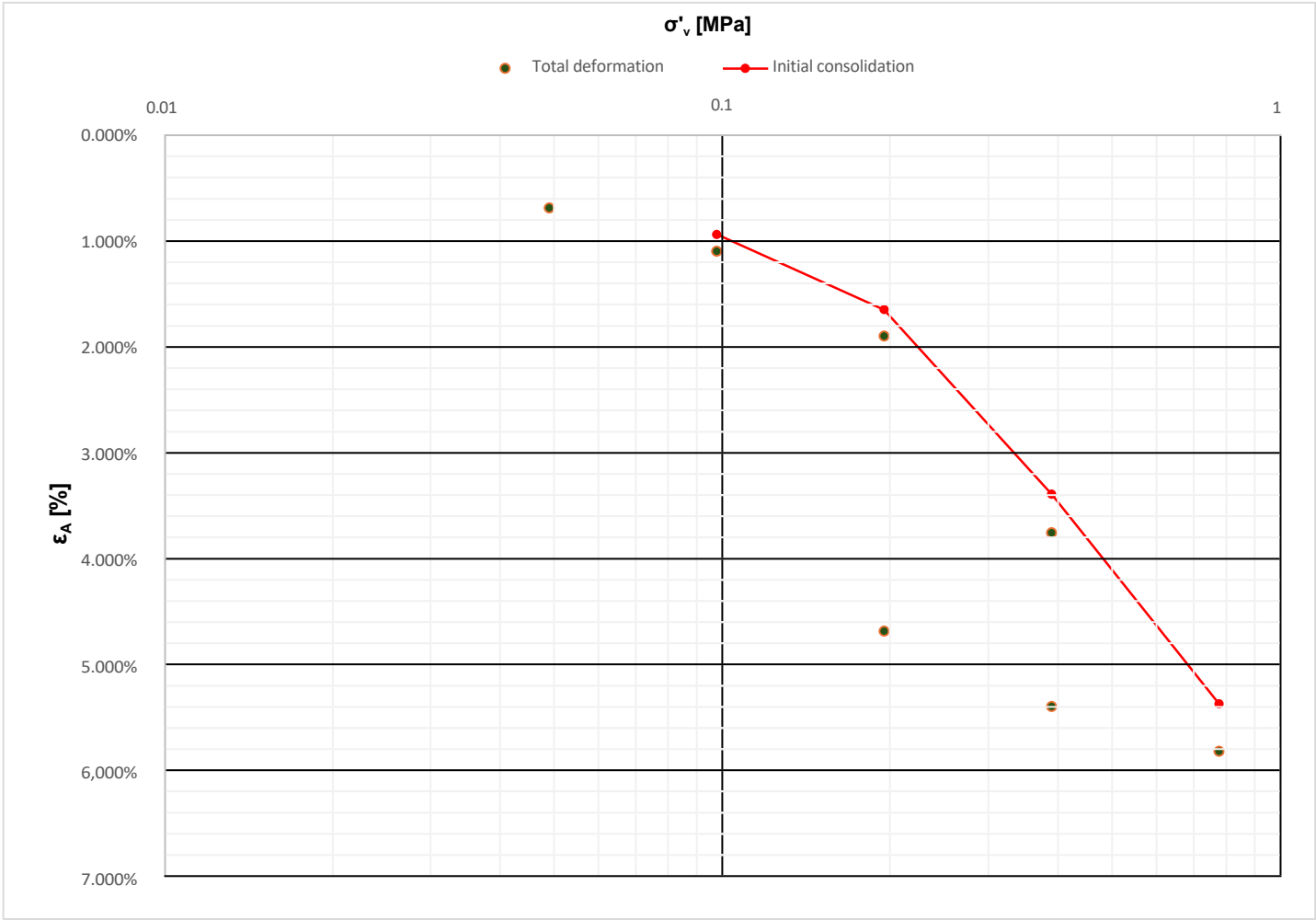


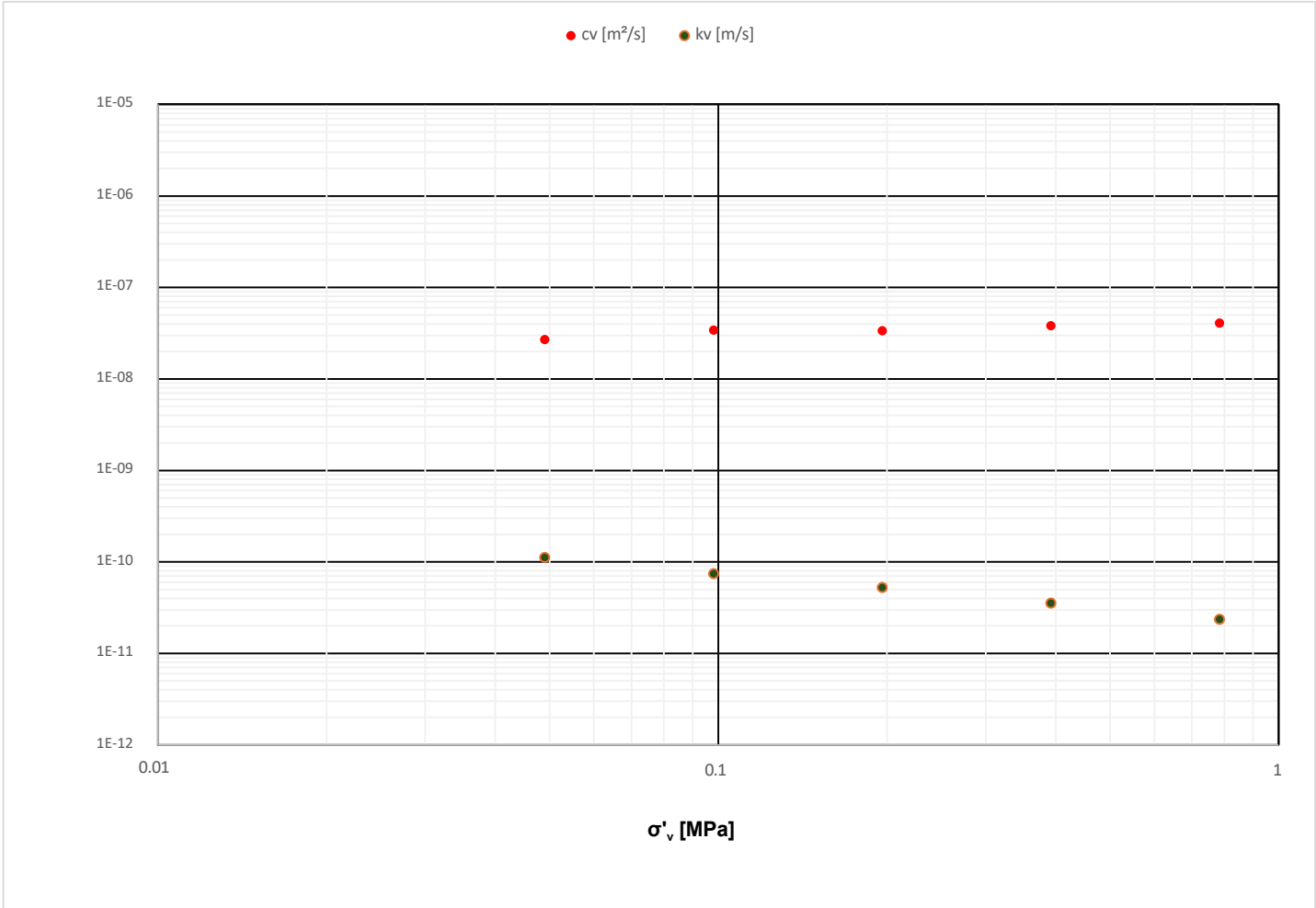
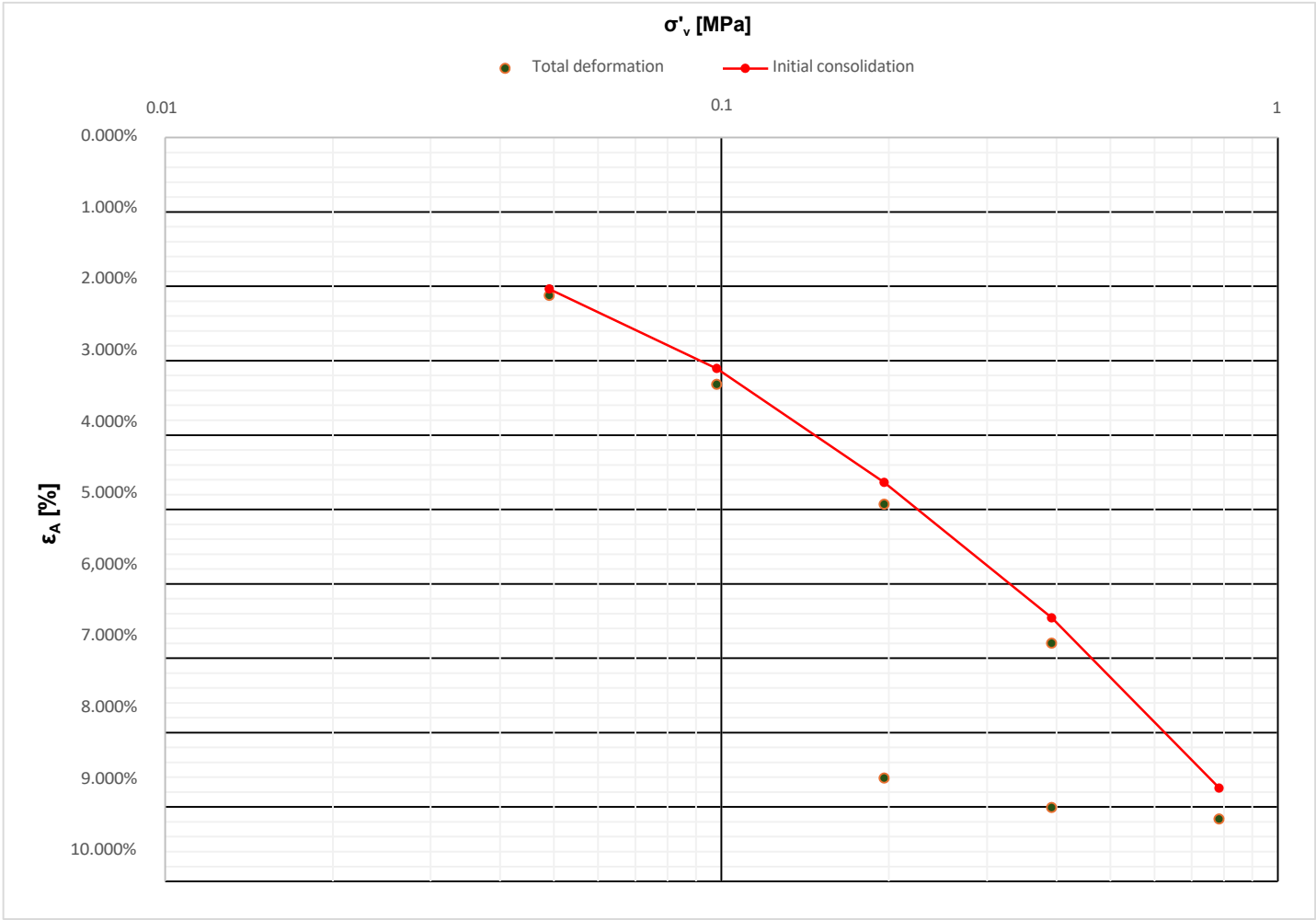








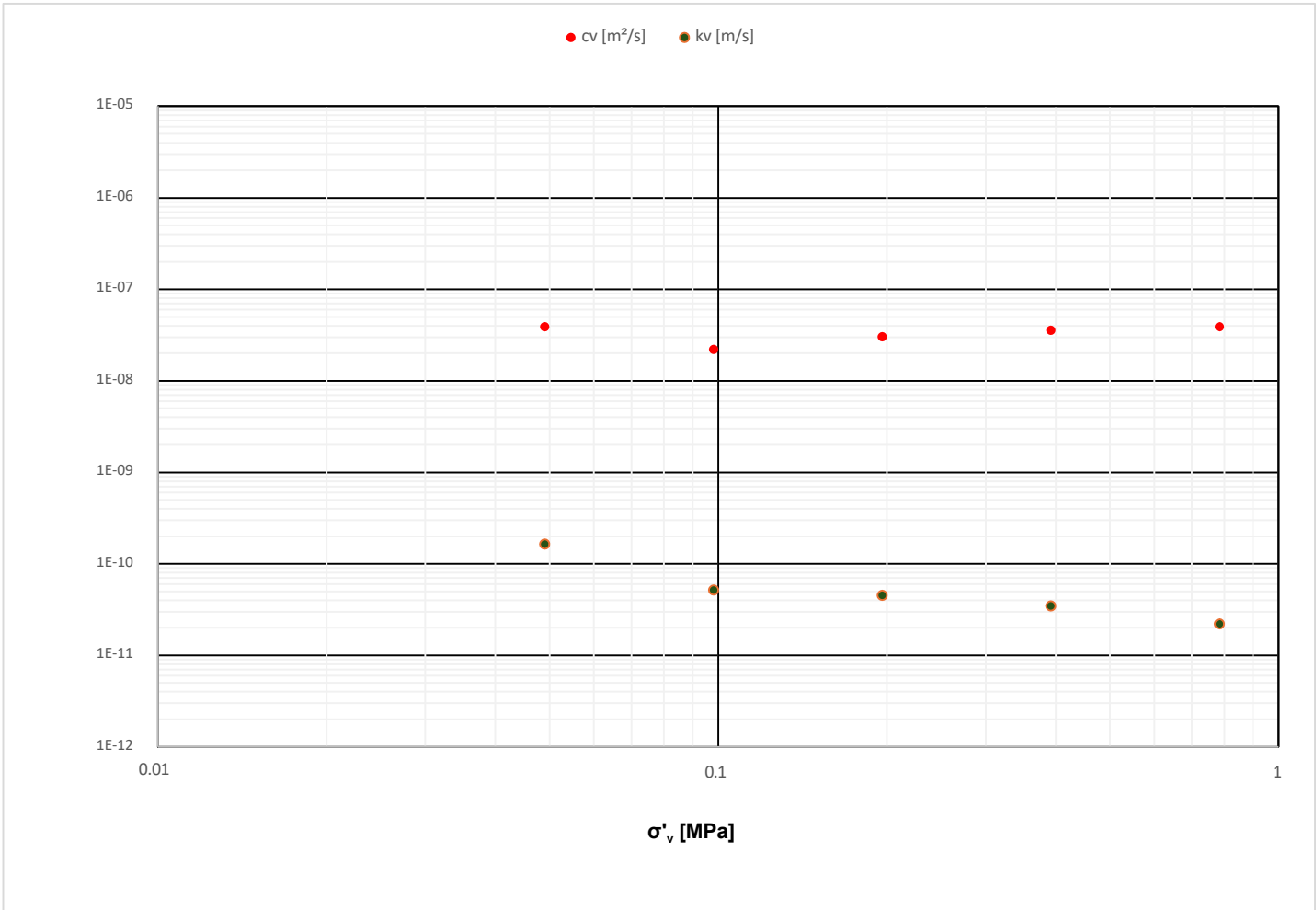
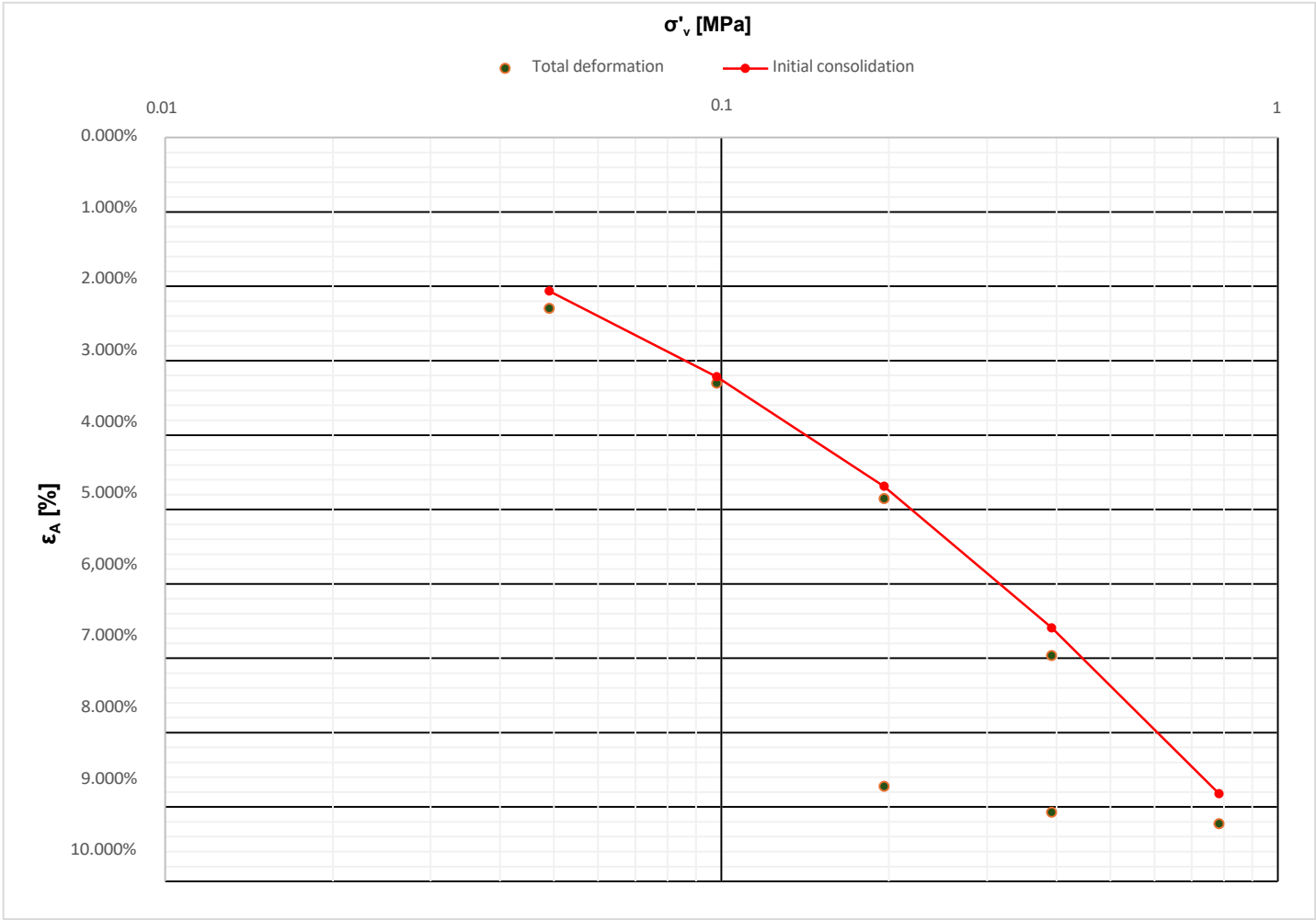


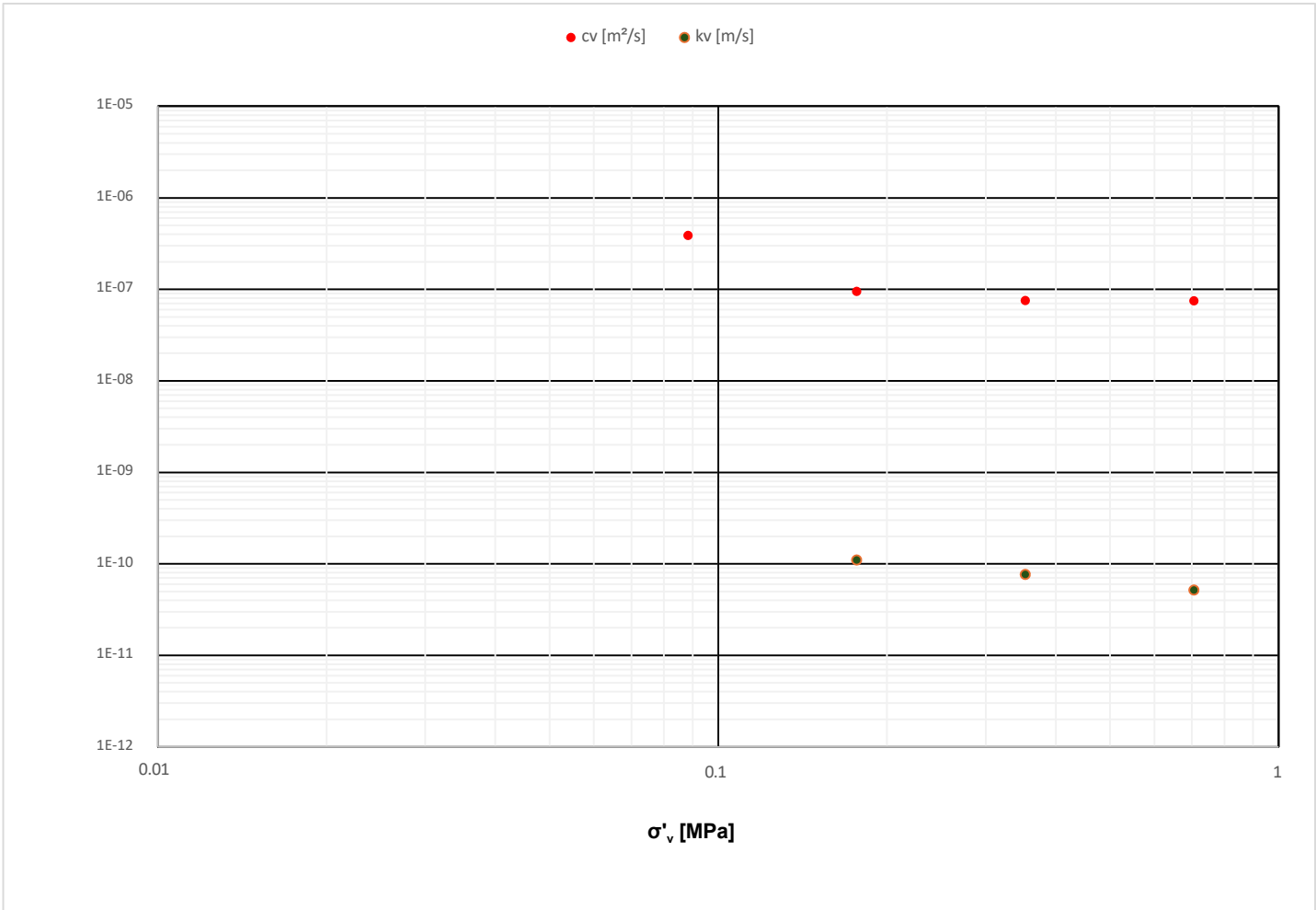
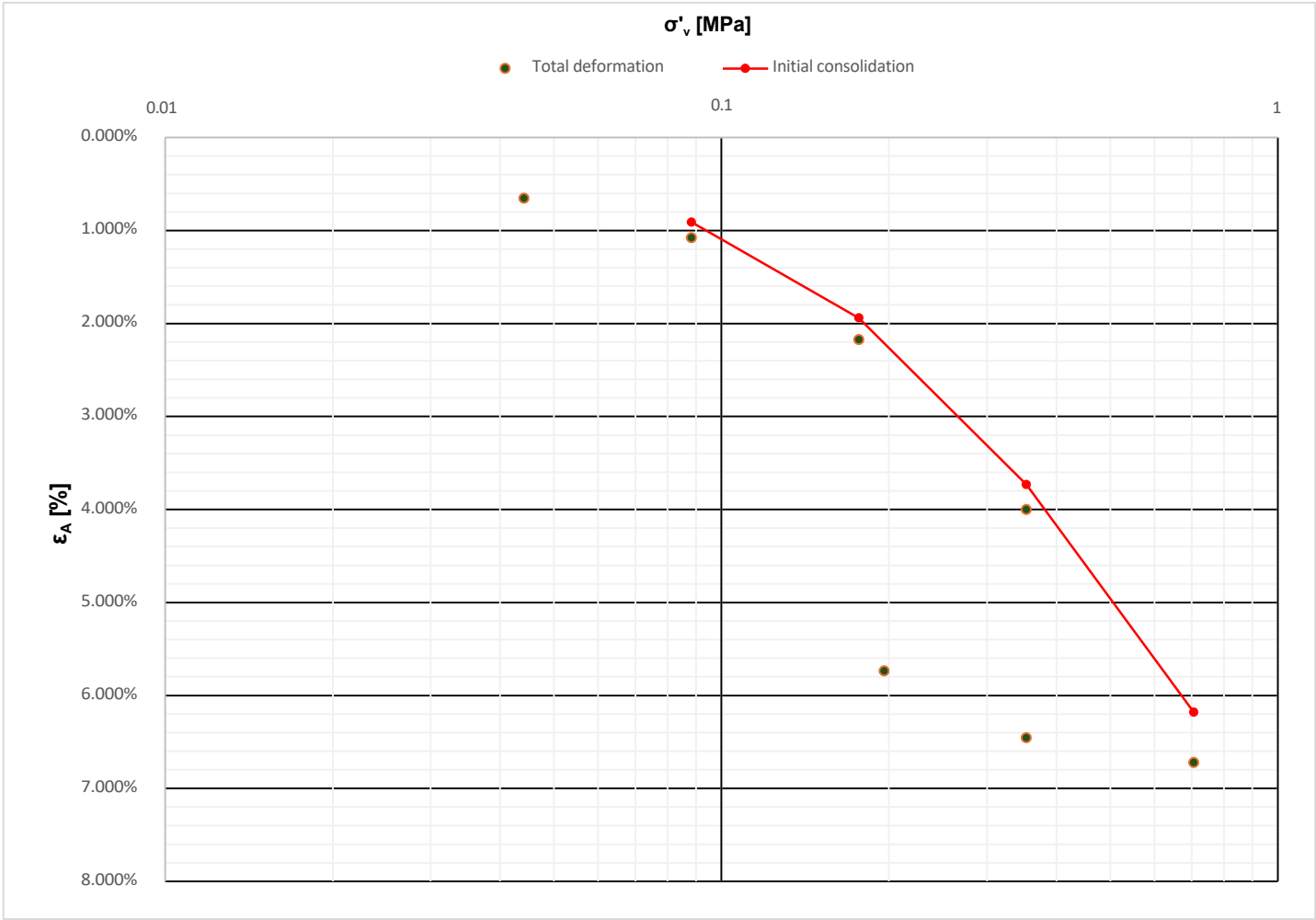


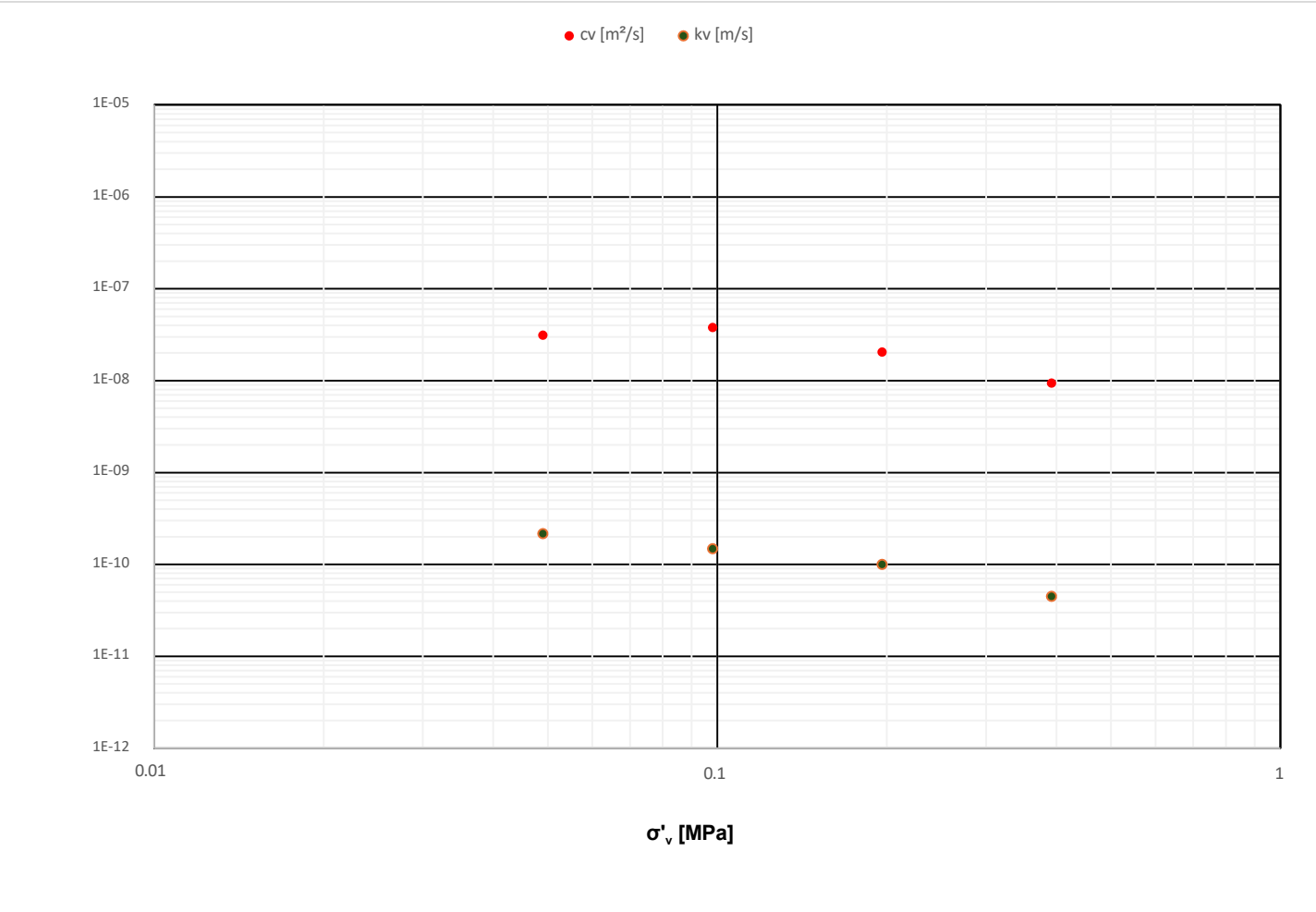
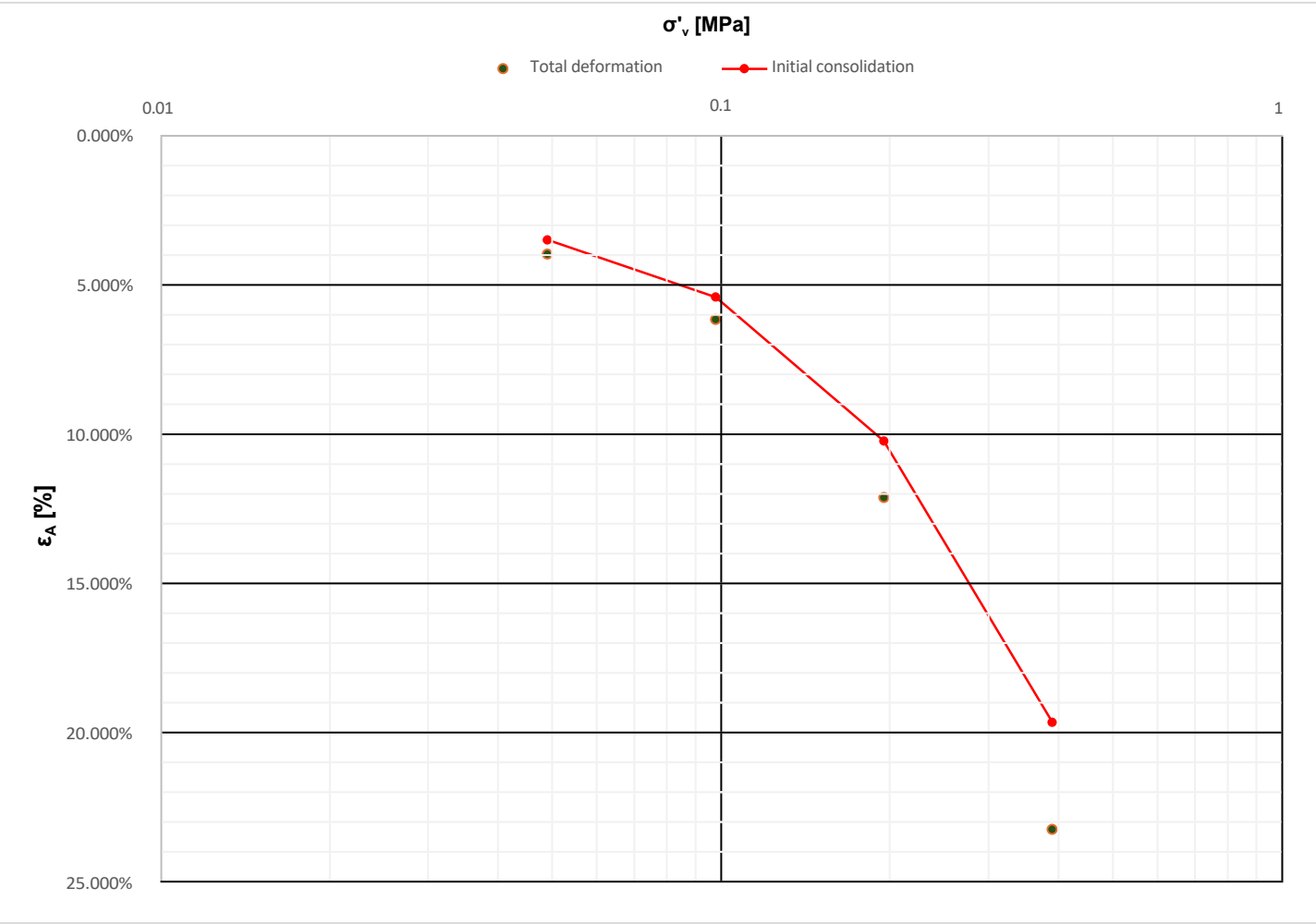
Specimen diameter	Sample height	Initial water content	Particle density	Initial soil density	Initial dry soil density	Initial porosity coefficient	Degree of saturation
d	h	w	ps	p	p	eo	Sr
mm	mm	%	Mg-m-3	Mg-m-3	Mg/m³	1	1
71.40	20.00	17.3	2.70	2.162	1.843	0.465	1.00

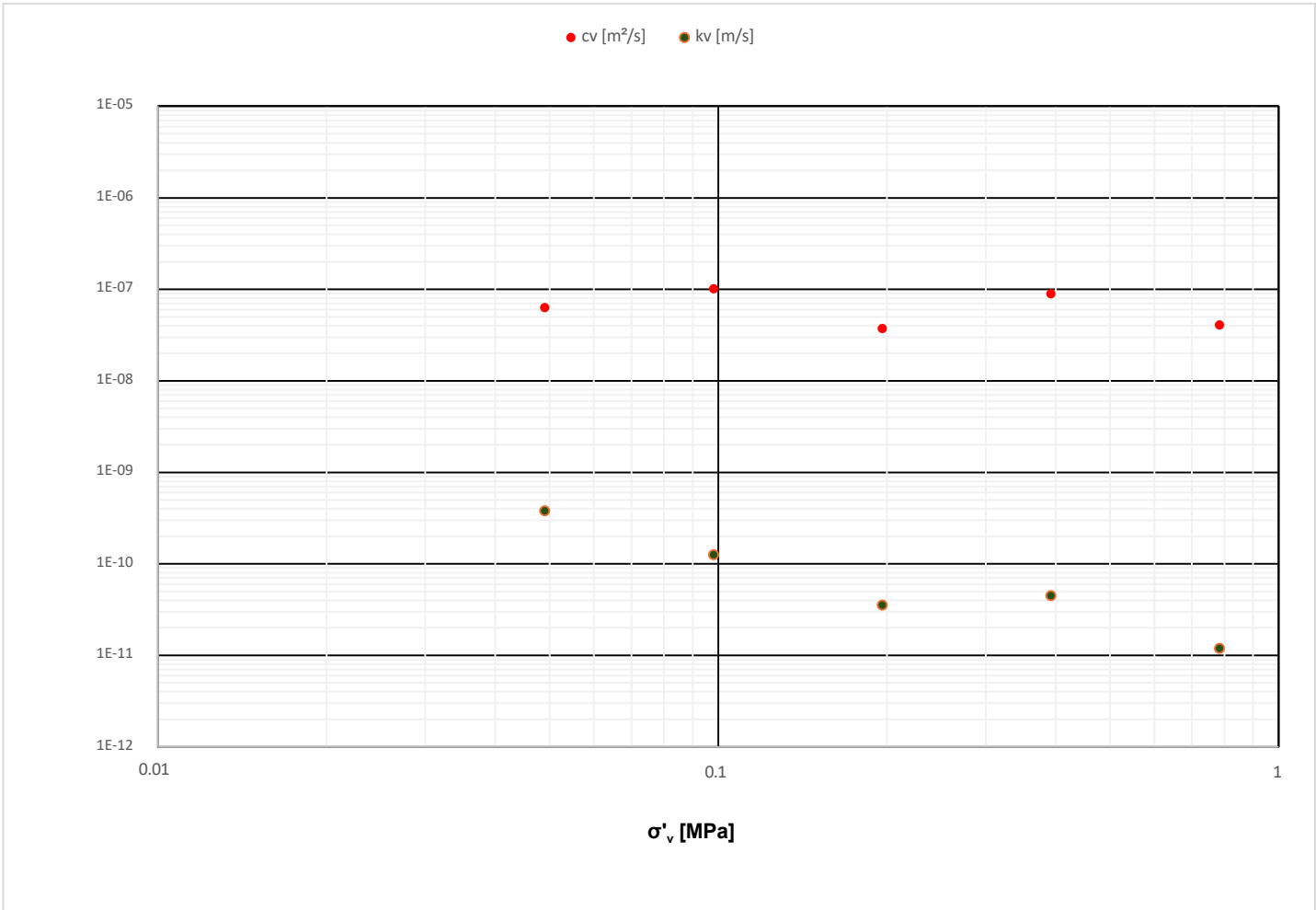
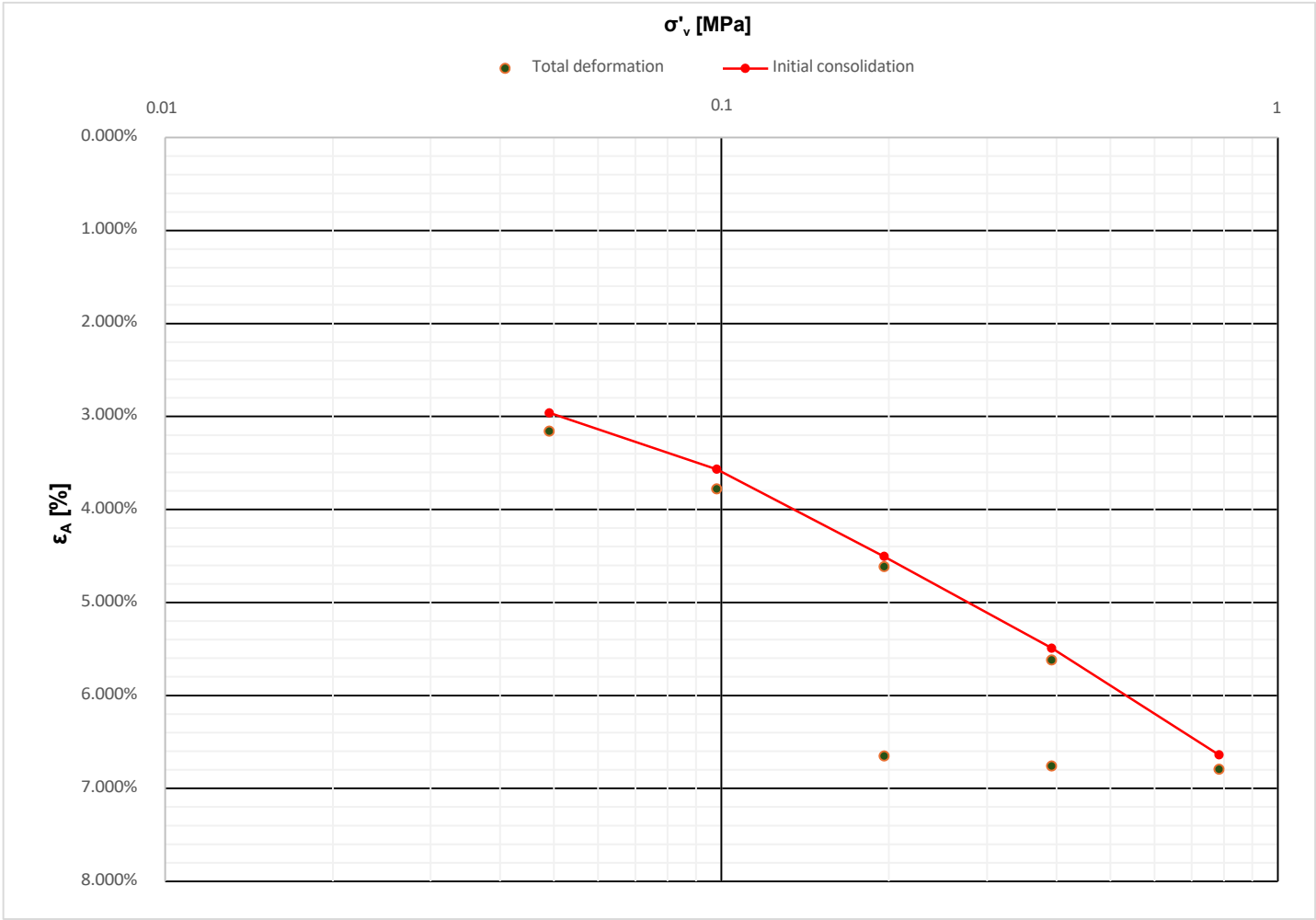
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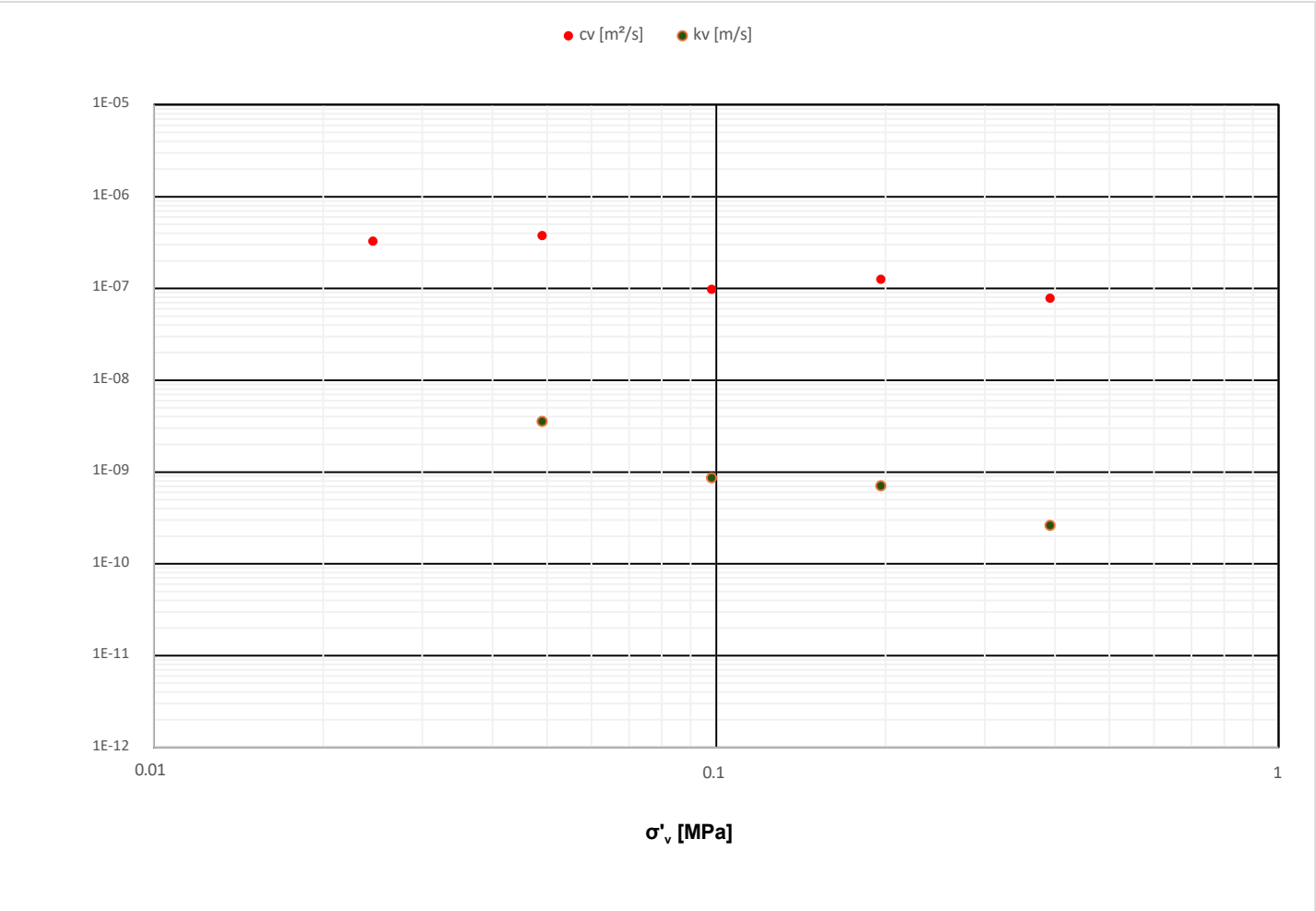
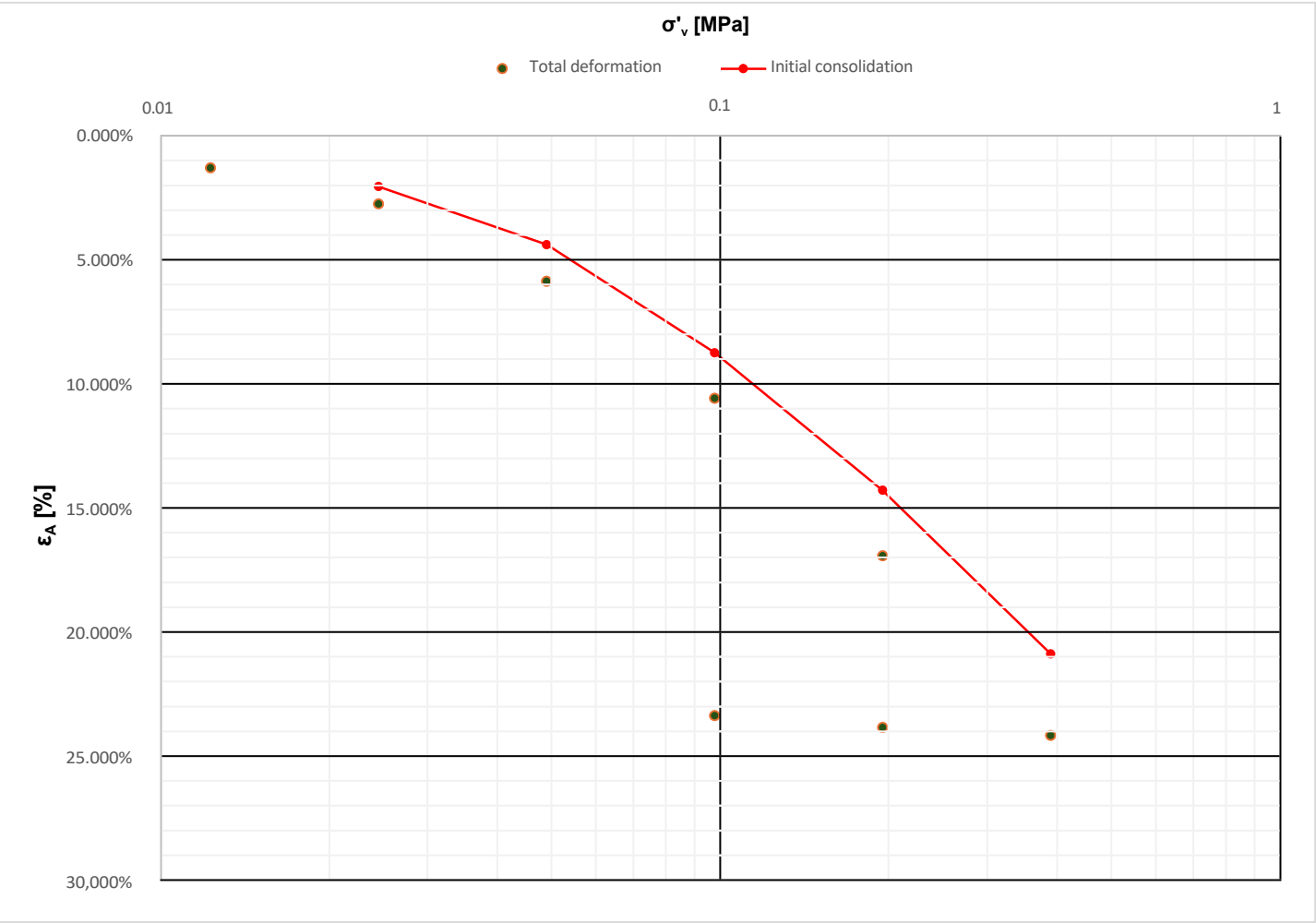
(370 , page 528 of 528)

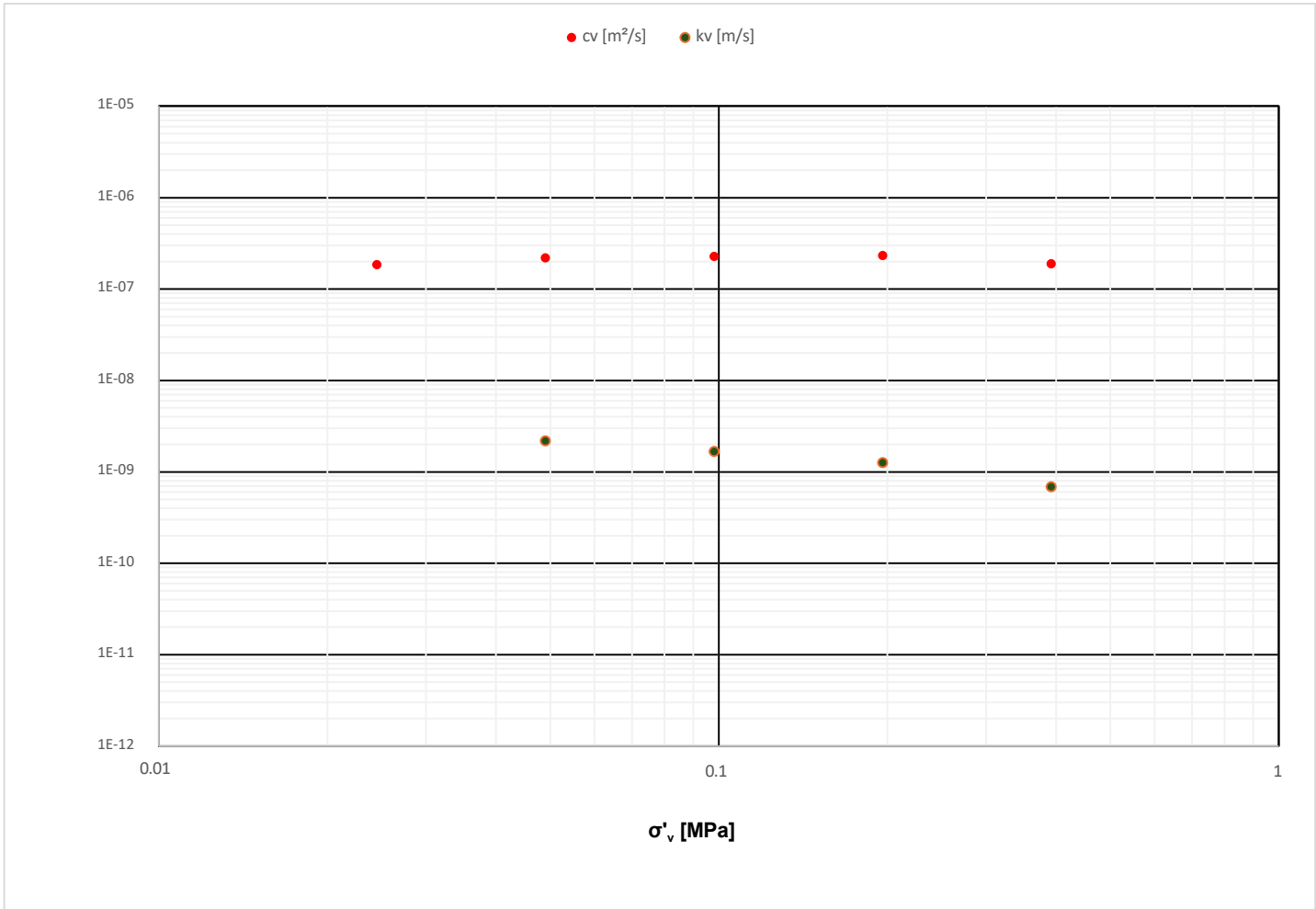
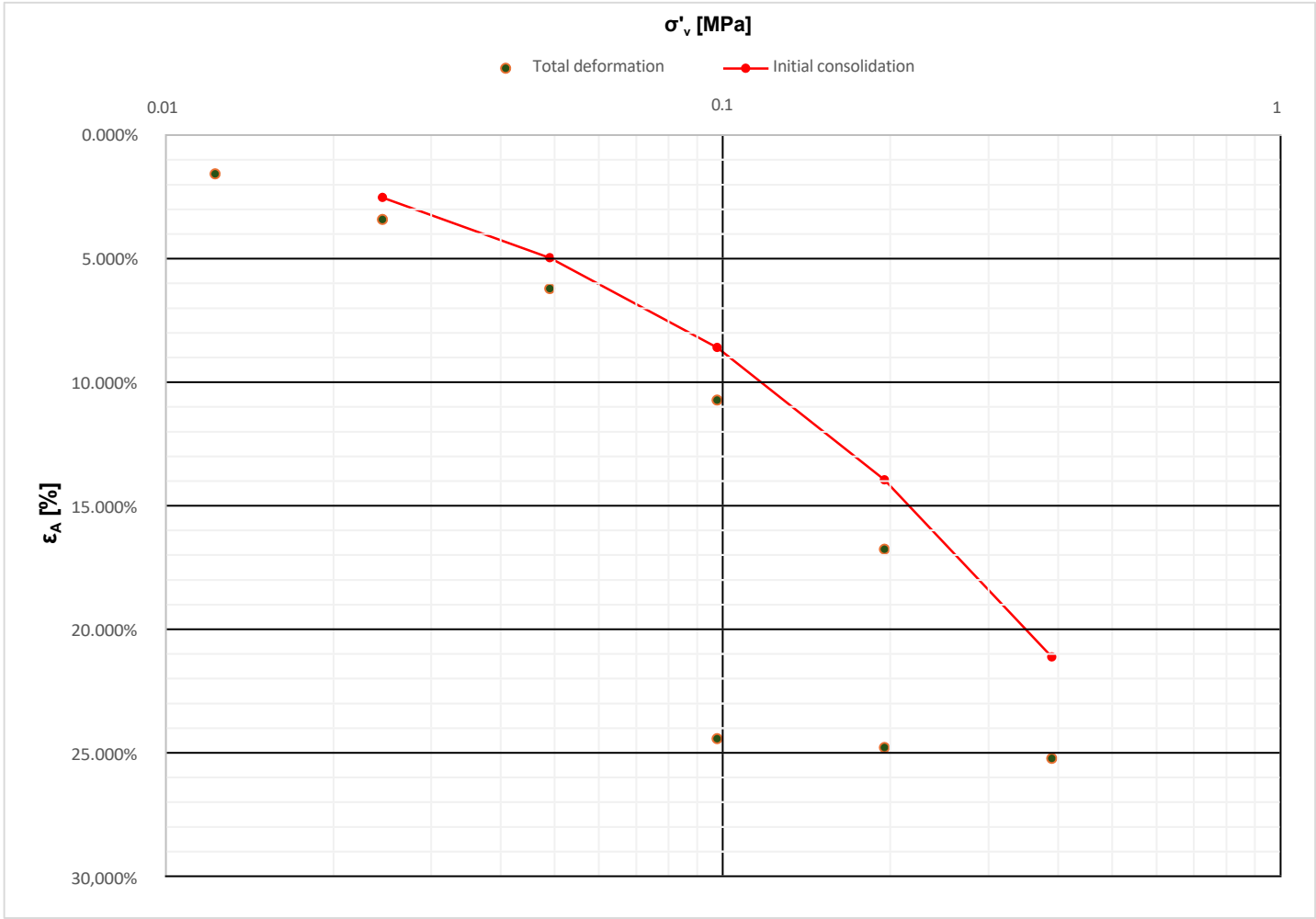


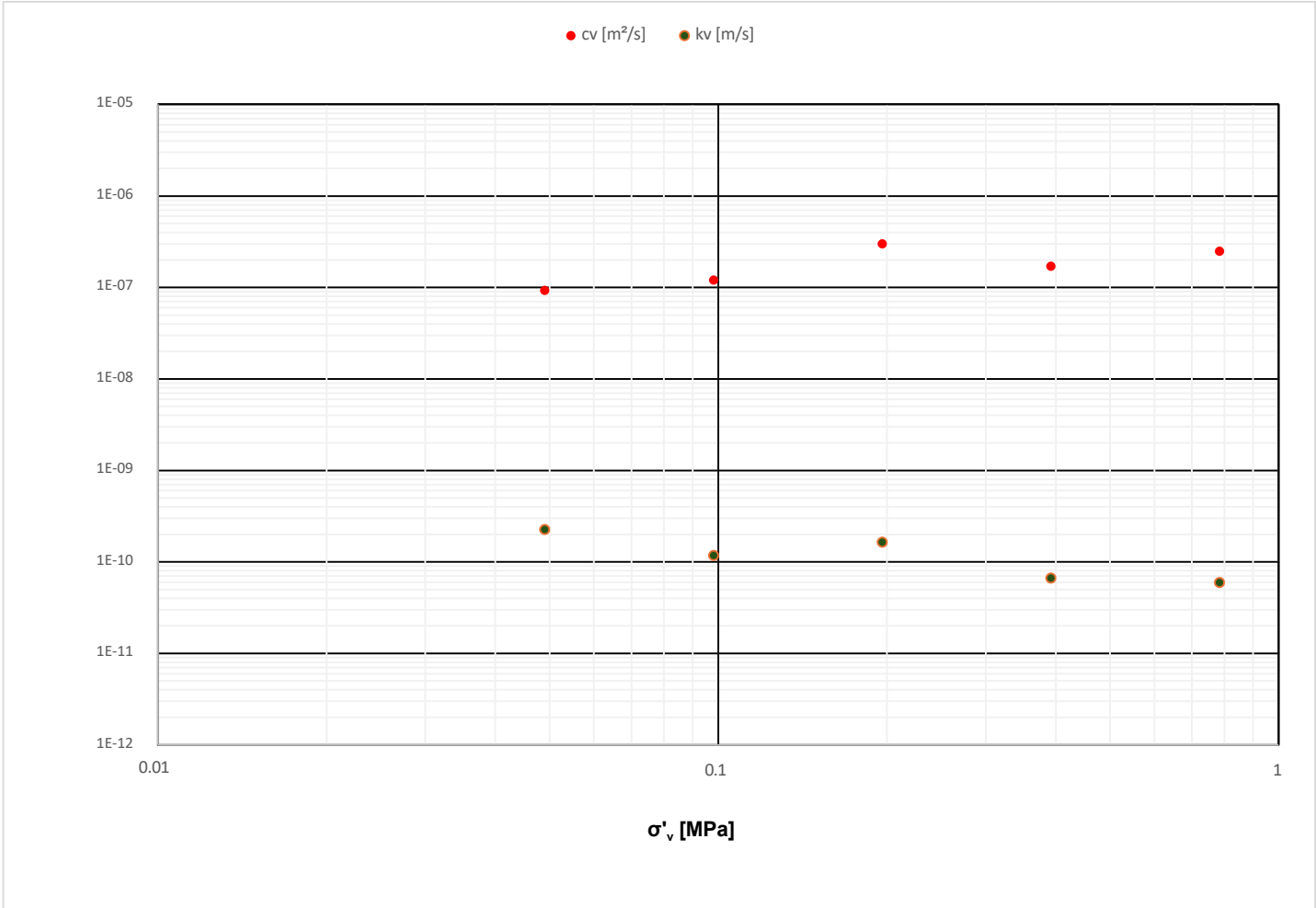
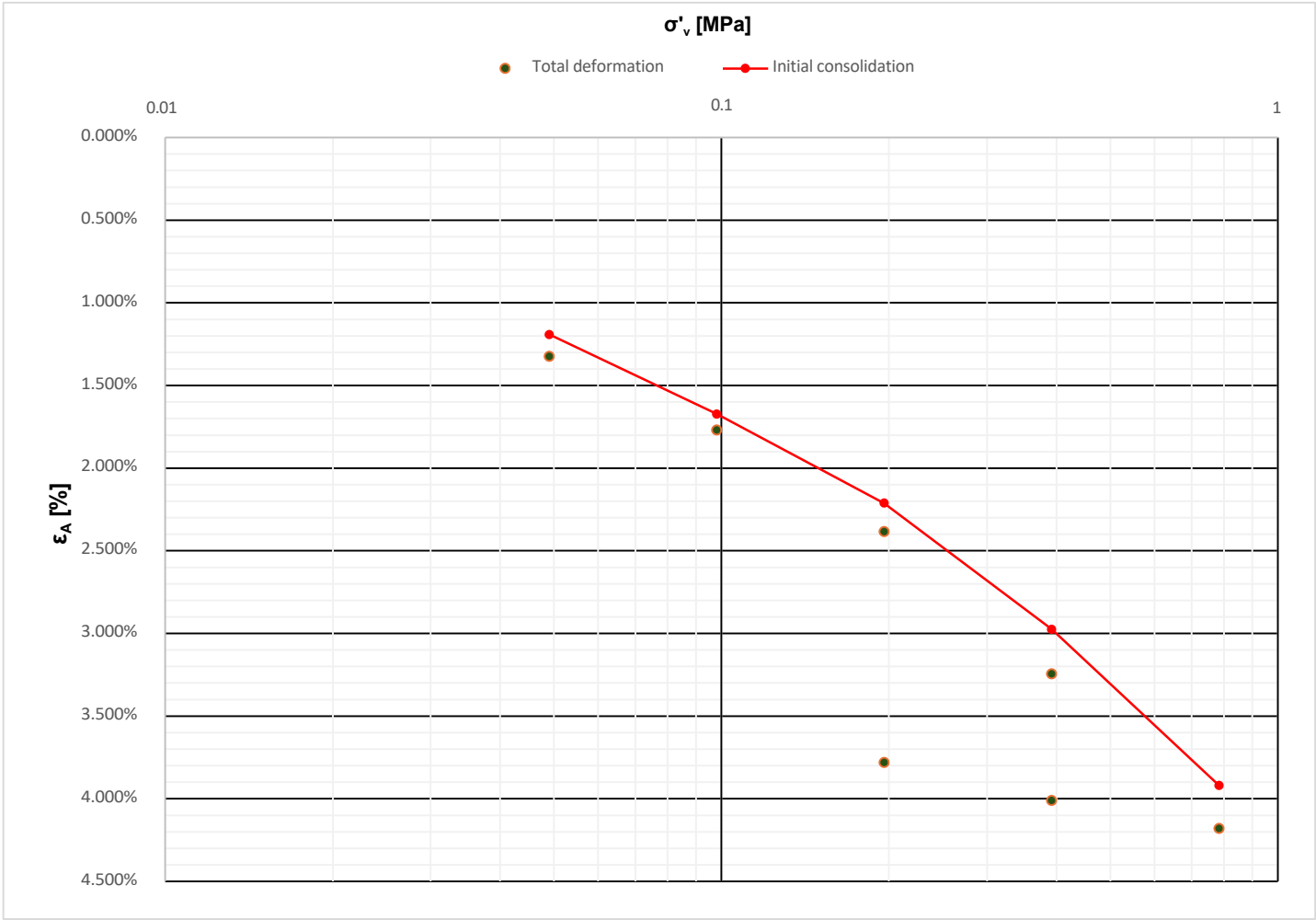










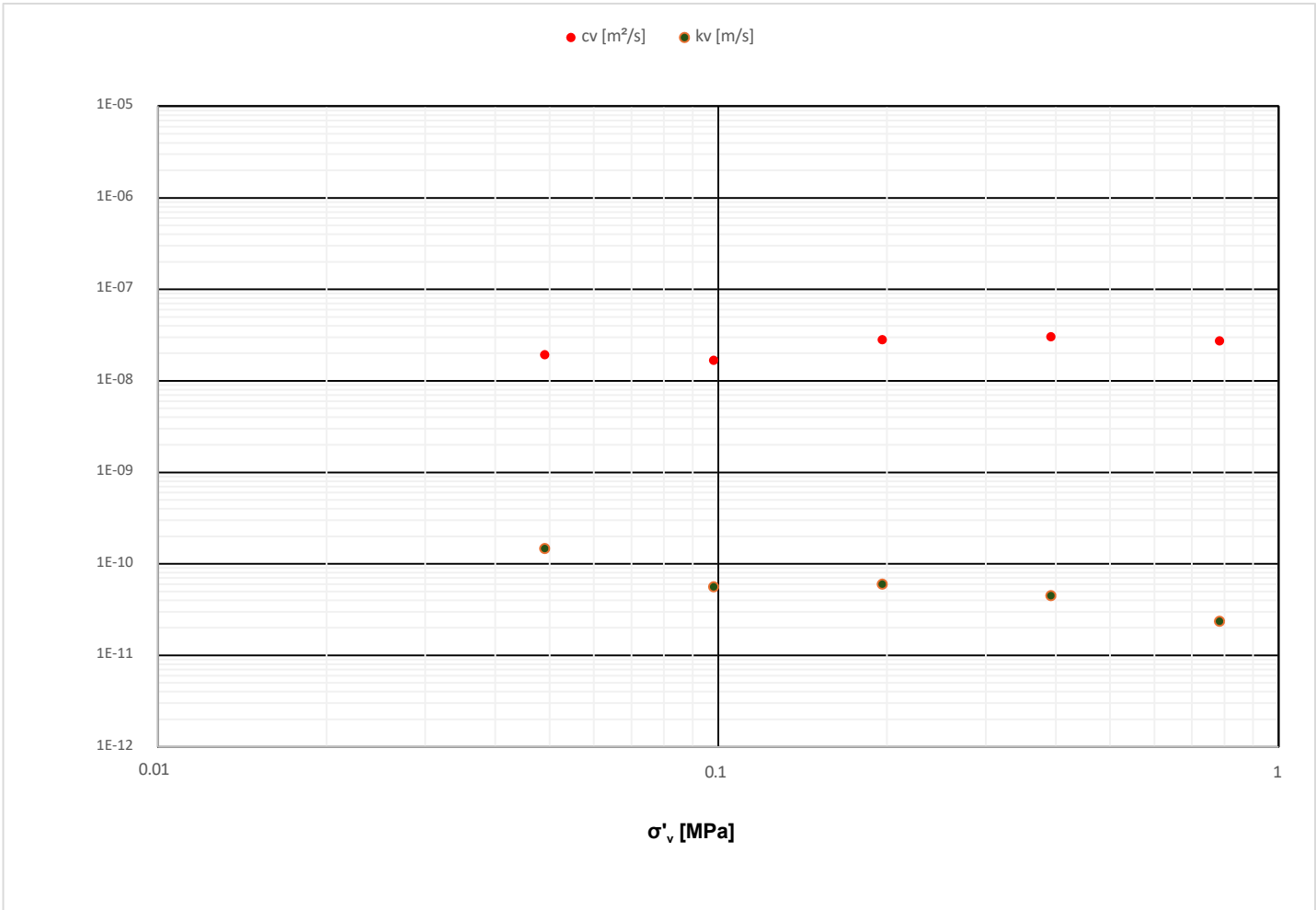
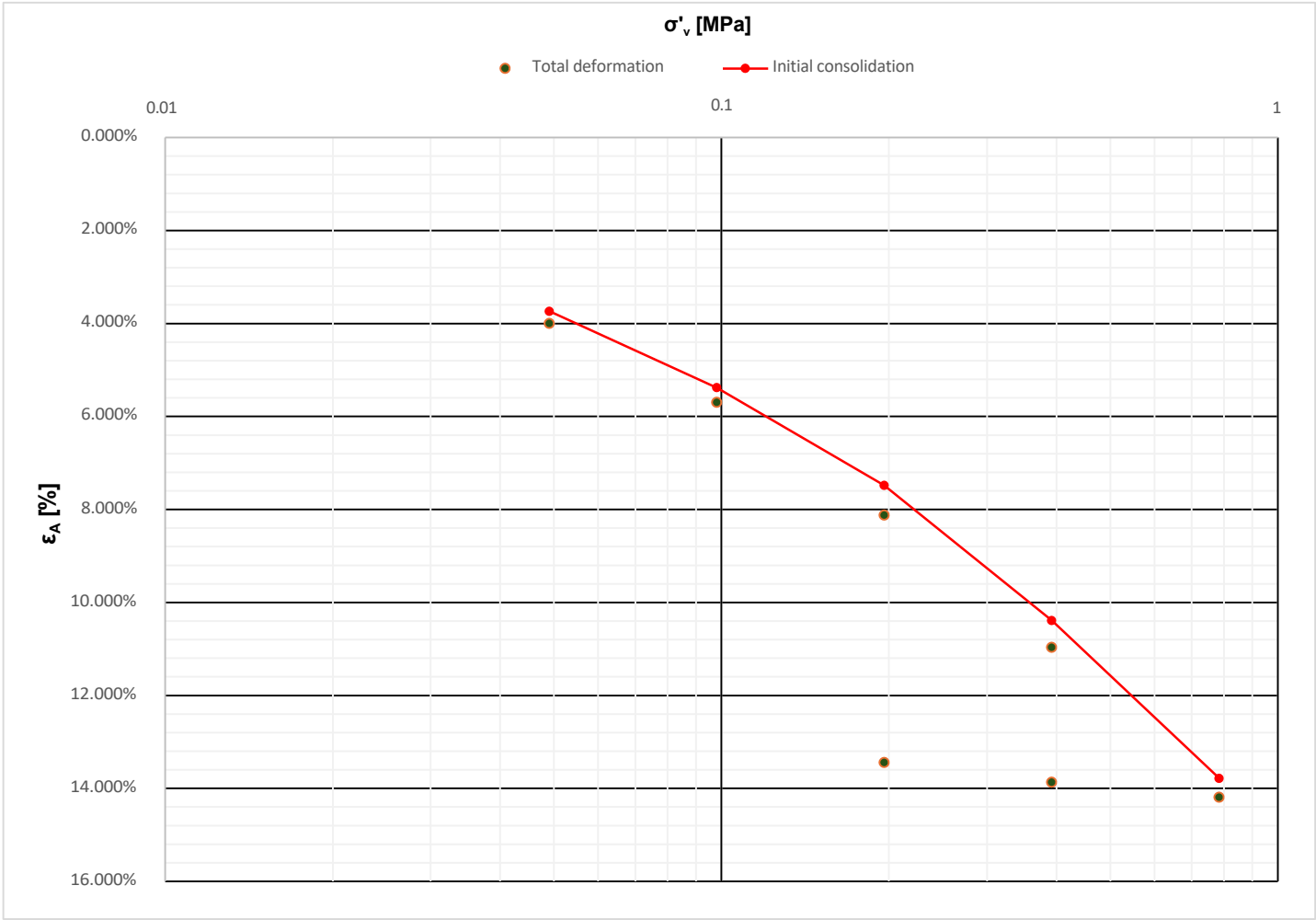


Project:		Design engineering geological and geotechnical investigations classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, and dredging works, report									
Sample information:		Sample ID		Borehole No. 1)		Sample No. 1)		Depth from/to 1)		Type 1):	
		SWEC_2024-321_146	9	Gr.52		6		17.70 19.50		D	
Soil index (ISO 14688-2)**			CIL								

Specimen diameter	Sample height	Initial water content	Particle density	Initial soil density	Initial dry soil density	Initial porosity coefficient	Degree of saturation
d	h	w	ps	p	p	eo	Sr
mm	mm	%	Mg-m-3	Mg-m-3	Mg/m³	1	1
71.40	20.00	26.6	2.71	1,993	1,574	0.722	1.00

[illegible]

Notes:		Performed by: A. Rimkus

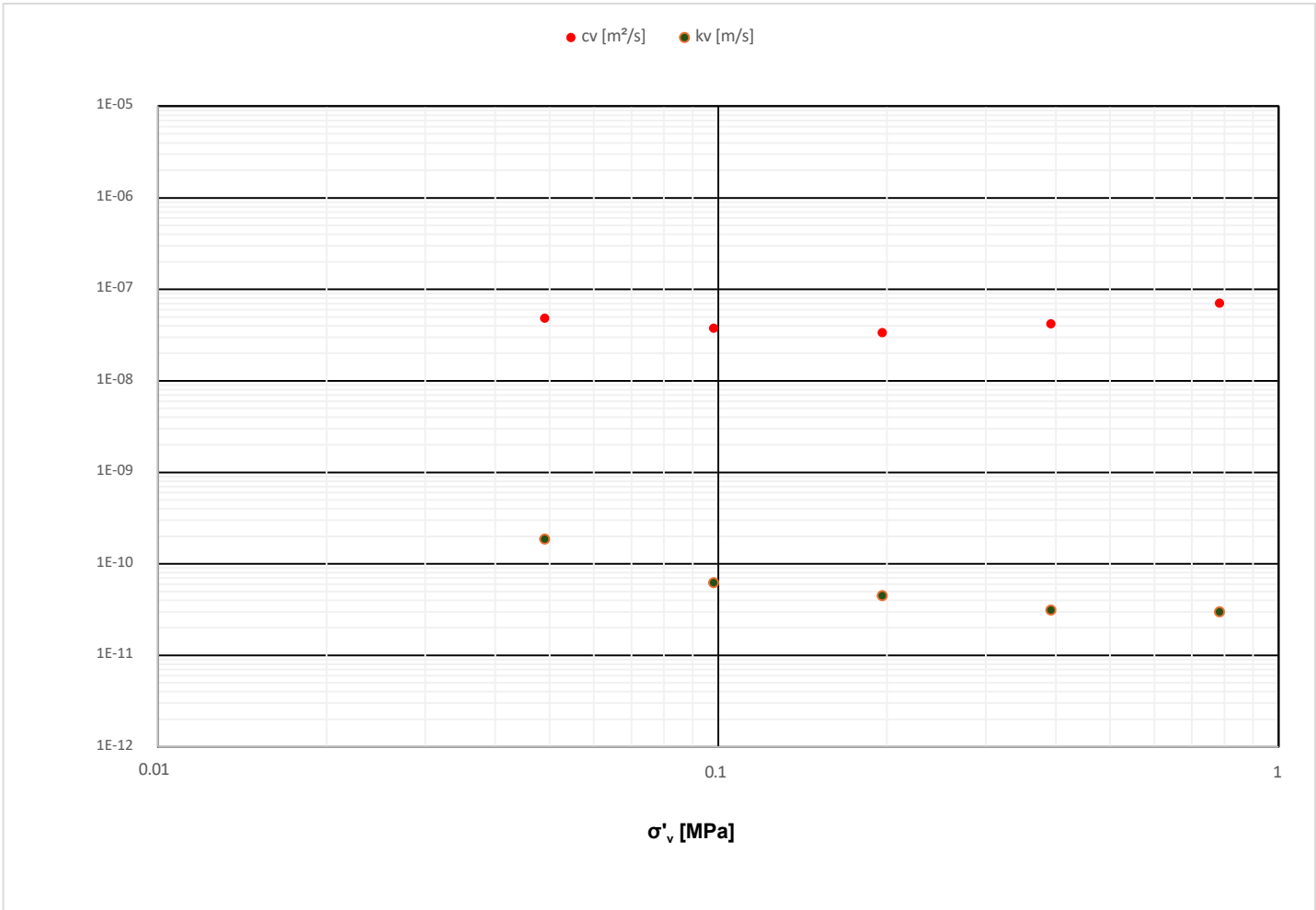
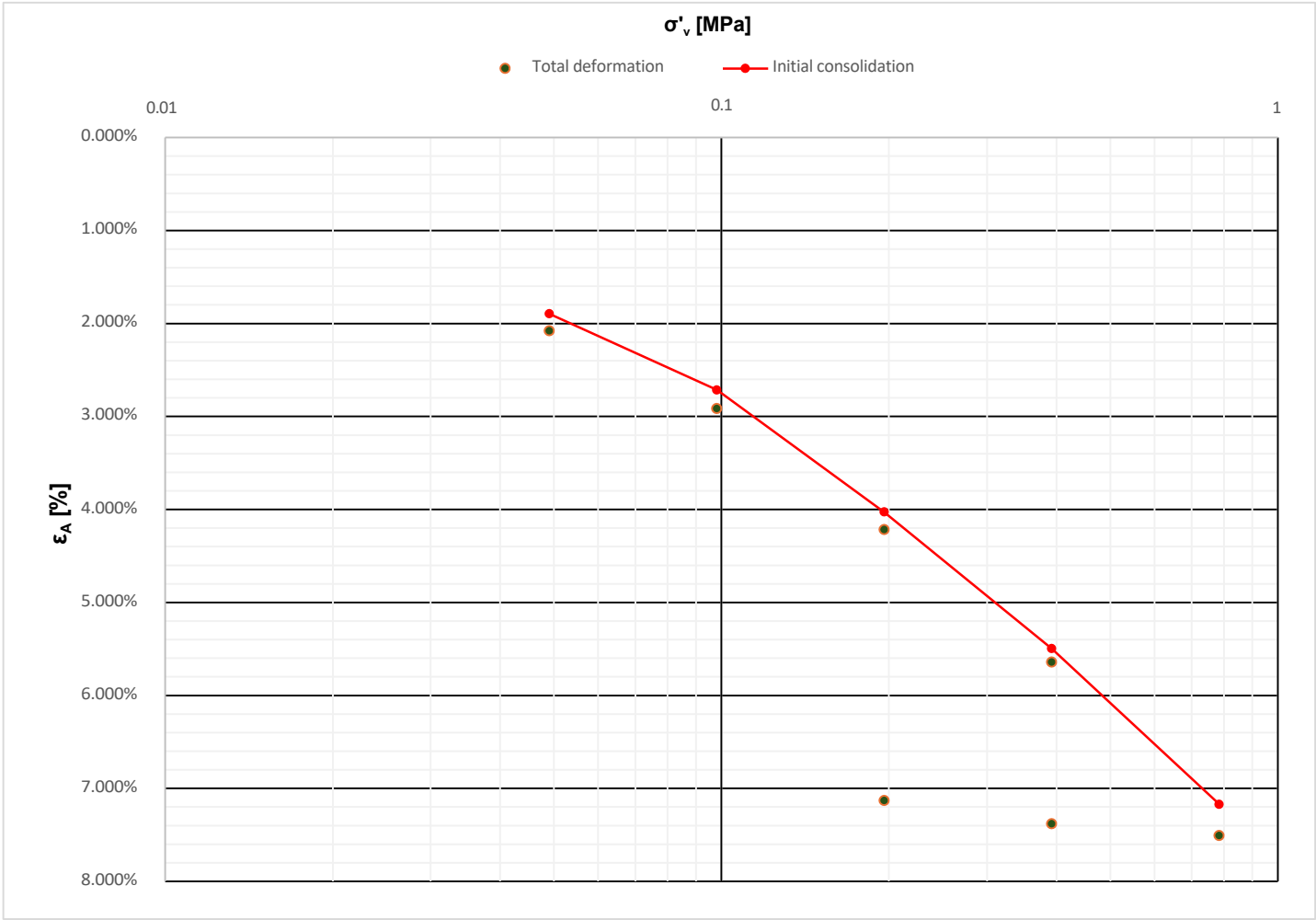


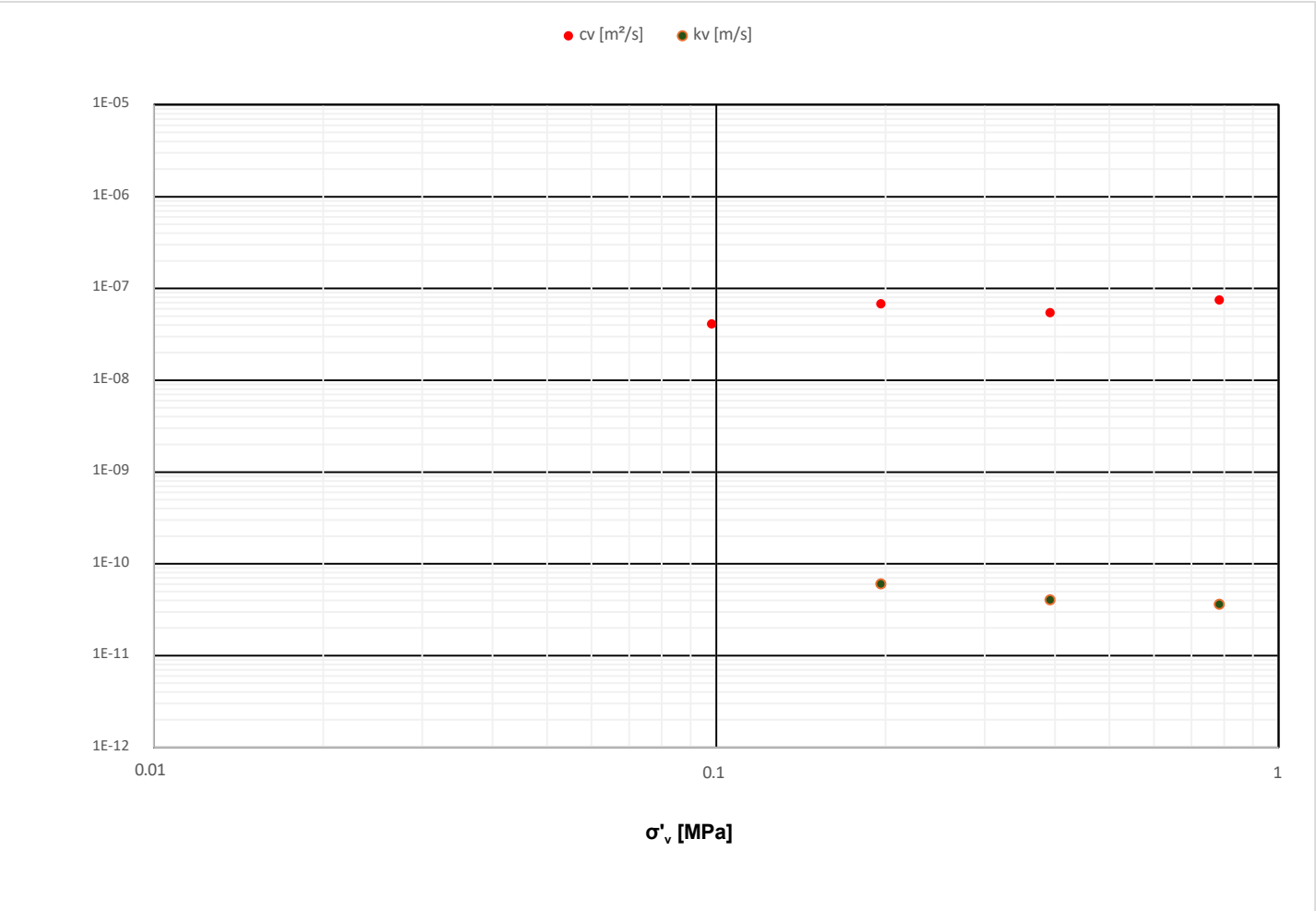
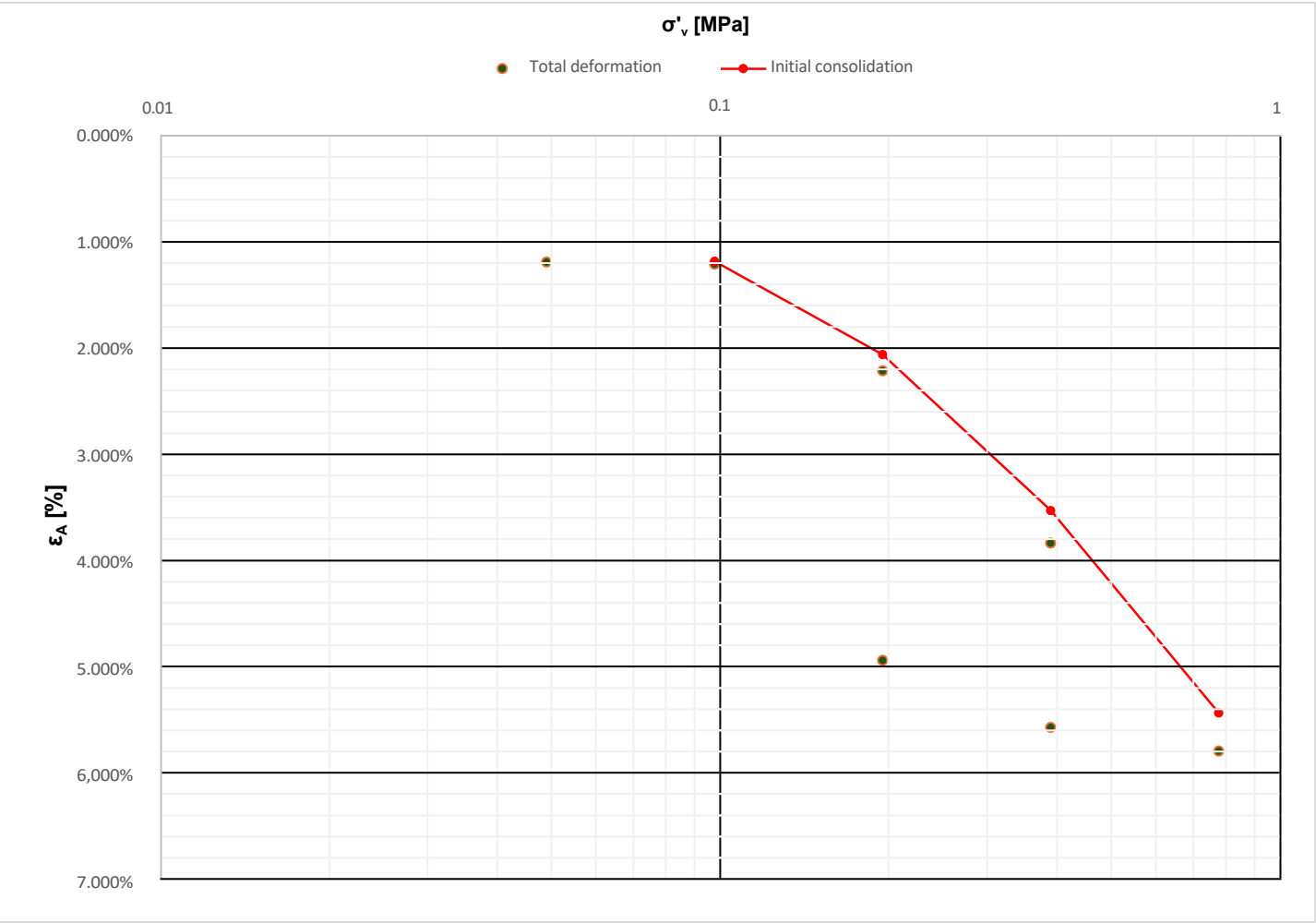
Project:	Design engineering geological and geotechnical investigations classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, report										
Sample information:	Sample ID		Borehole No. 1)		Sample No. 1)		Depth from/to 1)		Type 1):		
	SWEC_2024-321_325	11	Gr.64		3		19.10 19.70		U		
Soil index (ISO 14688-2)**		saCIL									

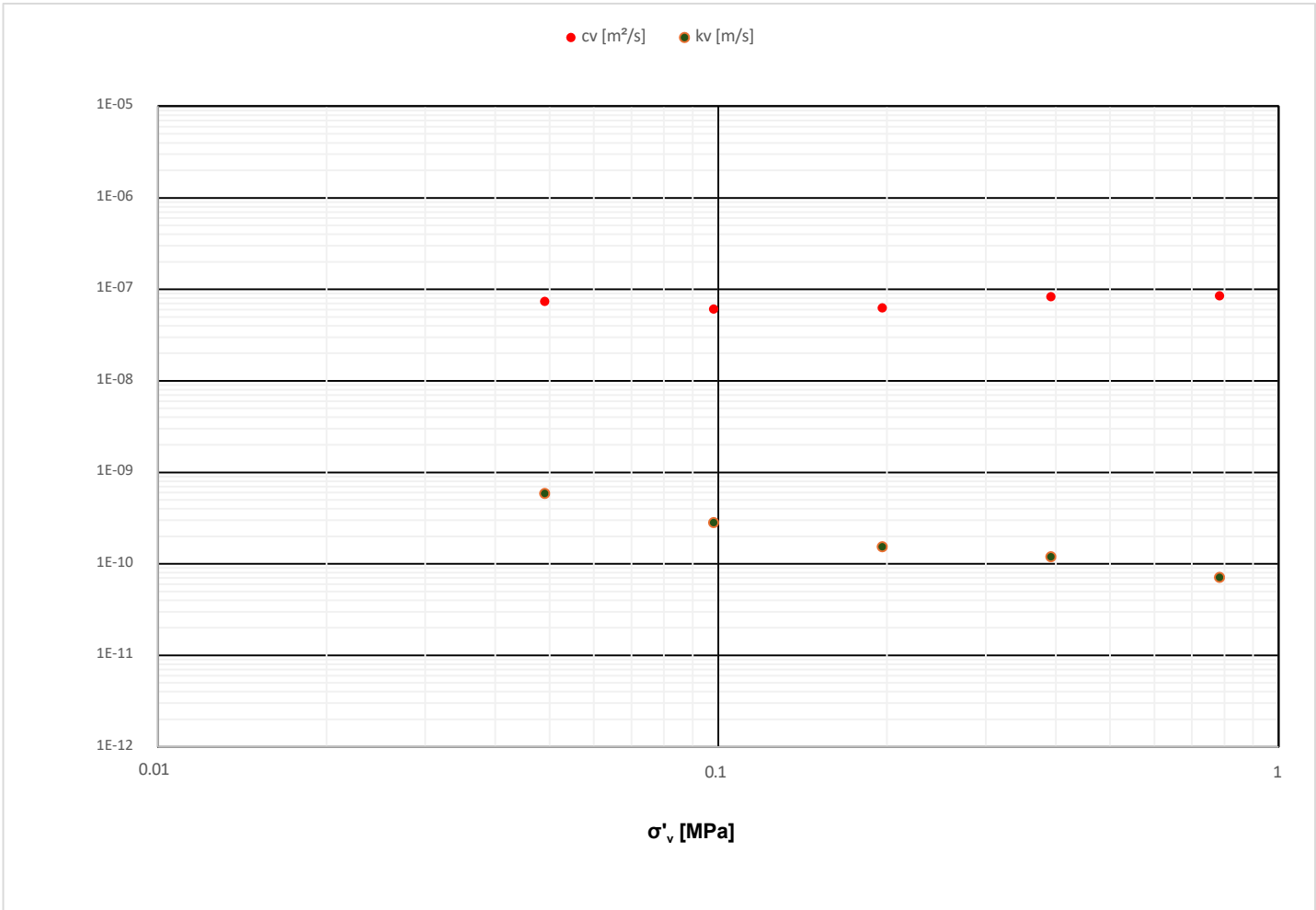
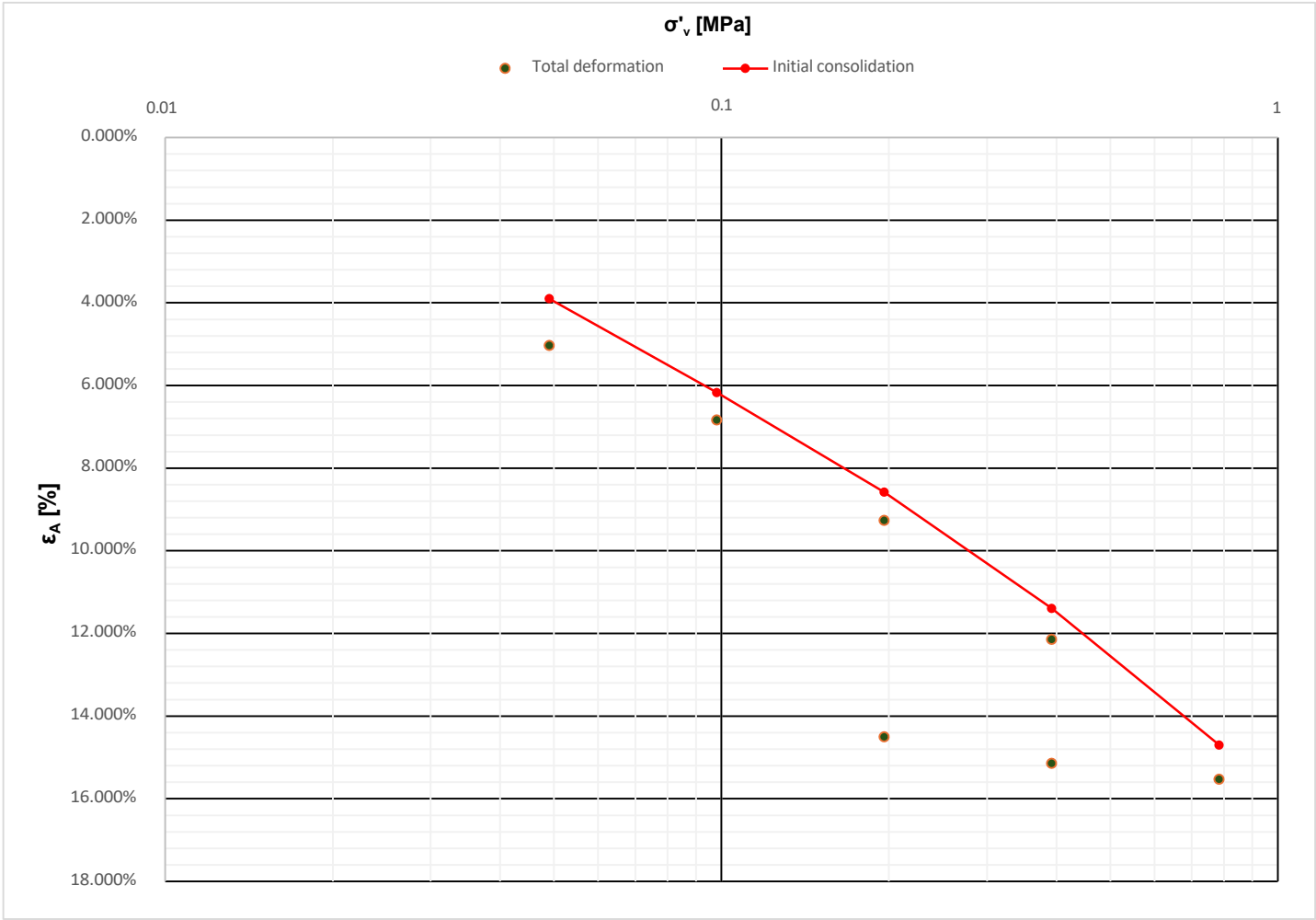
Specimen diameter	Sample height	Initial water content	Particle density	Initial soil density	Initial dry soil density	Initial porosity coefficient	Degree of saturation
d	h	w	ps	p	p	eo	Sr
mm	mm	%	Mg-m-3	Mg-m-3	Mg/m³	1	1
71.40	20.00	14.2	2.67	2.174	1.904	0.403	0.94

[illegible]

Notes:		Prepared by: A. Rimkus



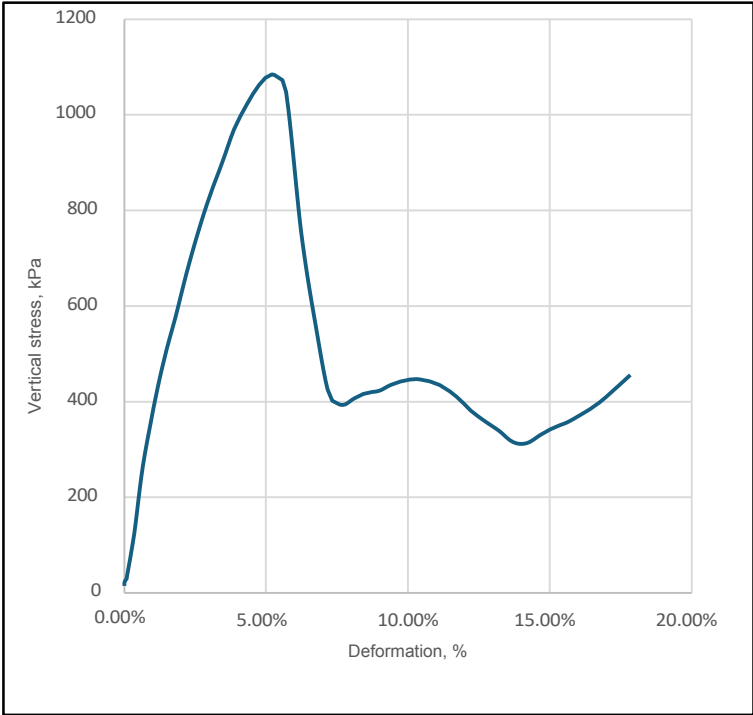




Project:	Design engineering geological and geotechnical investigations classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, and dredging works, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_010	Gr.1	10	24.70	25.80
Soil index according to ISO 14688-2*		CIM	Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
18.9	40.00	80.00	0.84	-	221.15	2,200	1,850

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
5.2%	1,084.6	542.3

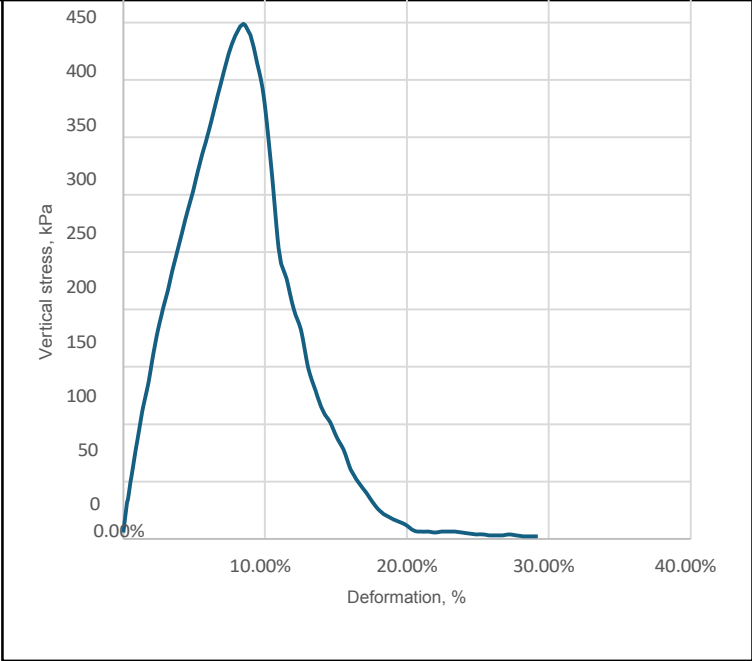


Notes:		Prepared by: Engineer L.

		Slauto			
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_023	Gr.20	4	25.20	25.70
Soil index according to ISO 14688-2*		CIM	Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
21.6	40.00	80.00	0.97	-	217.35	2,162	1.778

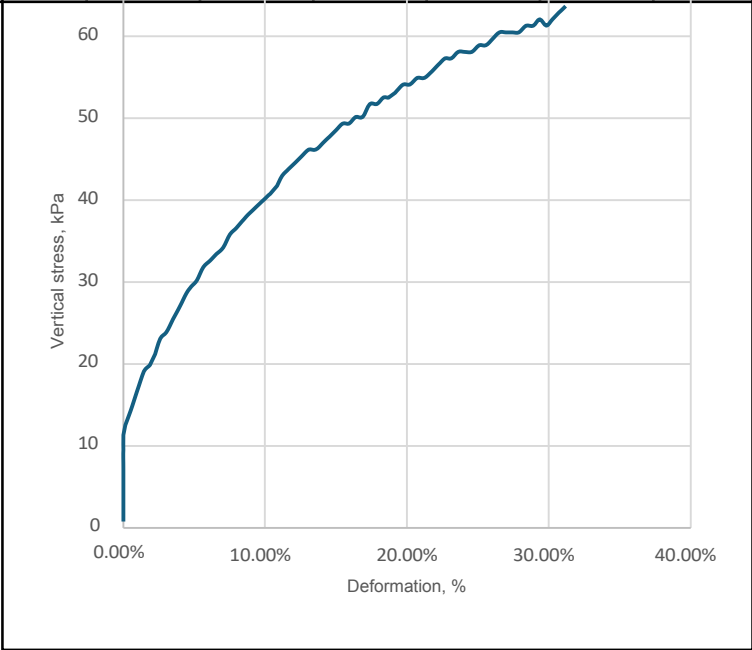
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v , %	q _u kPa	c _u , kPa
8.5%	448.8	224.4



Notes:				Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_029	Gr.23	2	18.50	18.80
Soil index according to ISO 14688-2*		saCIL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Sample diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		z	b+z	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
18.8	40.00	80.00	0.89		221.85	2,207	1.858

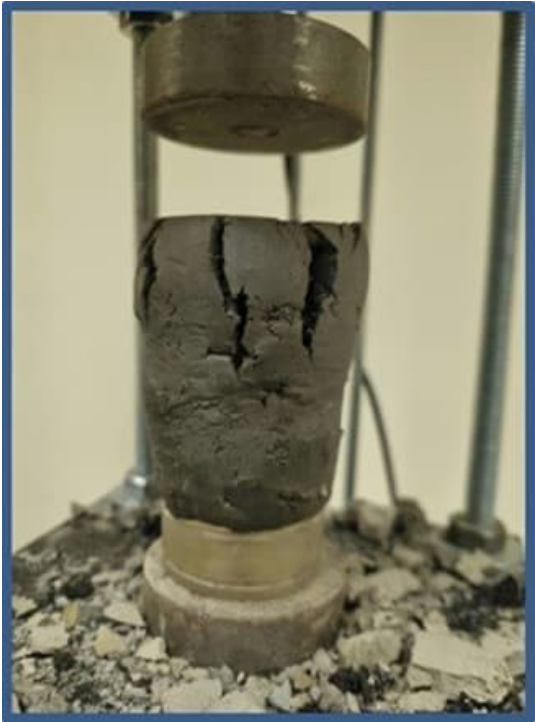
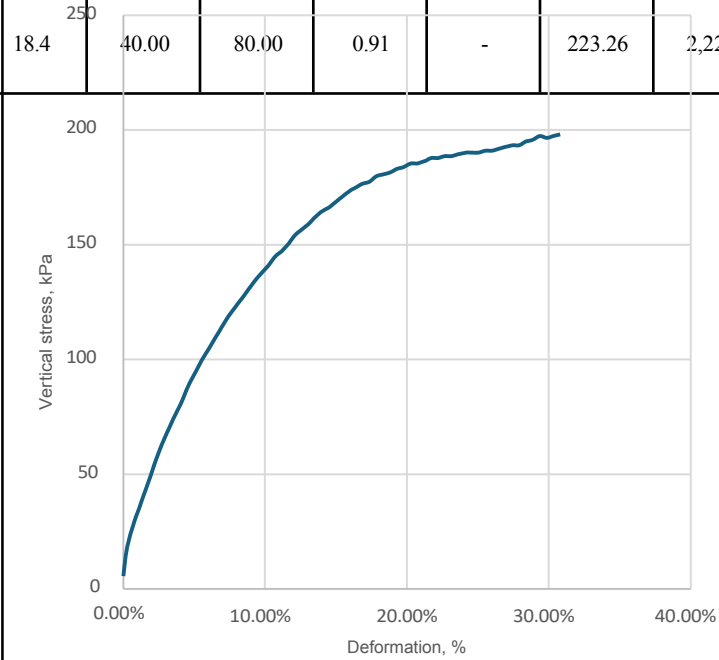
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
31.2%	63.7	31.8



Notes:				Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_030	Gr.23	3	22.60	22.90
Soil index according to ISO 14688-2*		saCIL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
18.4	40.00	80.00	0.91	-	223.26	2,221	1.876

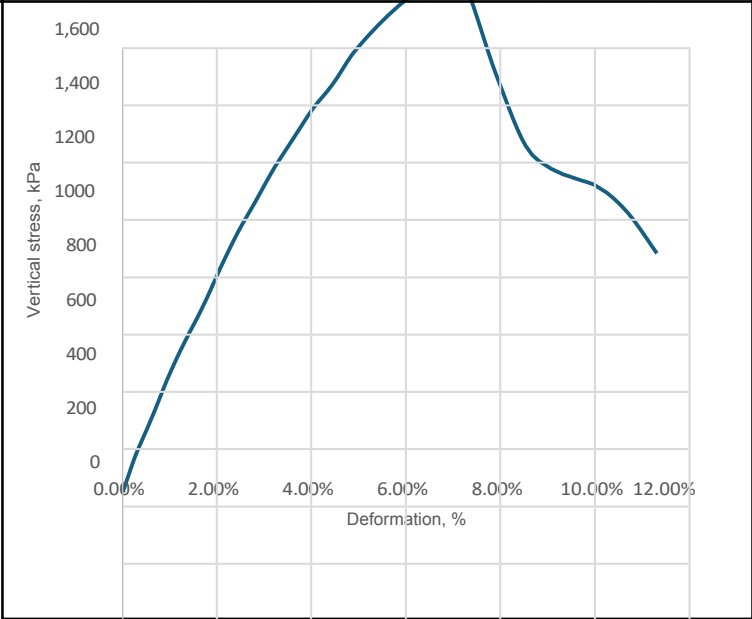
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
30.8%	198.1	99.1



Notes:				Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_031	Gr.23	4	31.80	32.10
Soil index according to ISO 14688-2*		saCIL	Sample composition ¹⁾ :		D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
9.7	40.00	80.00	0.82	-	237.75	2,365	2.156

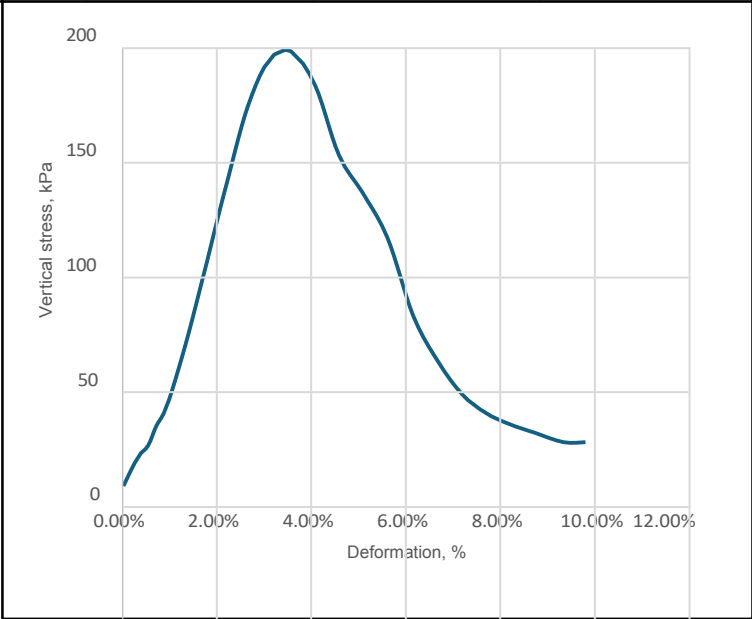
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
7.1%	1,830.3	915.1



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_036	Gr.24	5	17.50	18.50
Soil index according to ISO 14688-2*		saCIL-SiL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
14.4	40.00	80.00	0.87	-	227.98	2,268	1.982

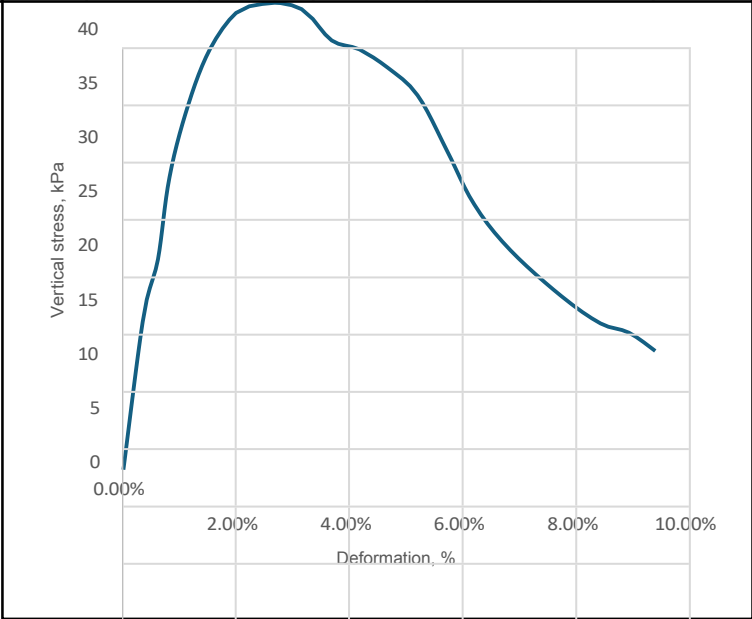
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
3.6%	194.2	97.1



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_038	Gr.24	7	21.50	23.50
Soil index according to ISO 14688-2*		saCIL-SiL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
19.1	40.00	80.00	0.94	-	217.96	2,168	1,820

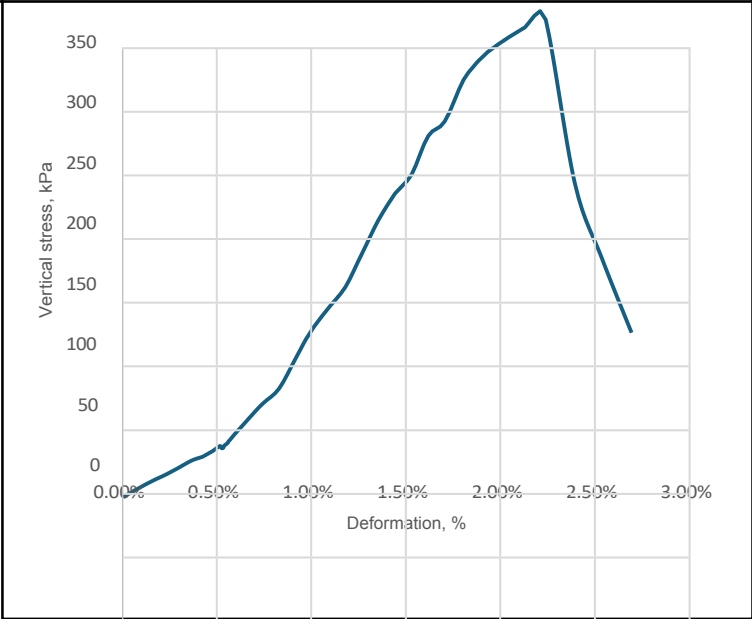
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
2.5%	43.0	21.5



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_047	Gr.25	2	16.20	17.60
Soil index according to ISO 14688-2*		saSiL	Specimen configuration ¹⁾ :		U

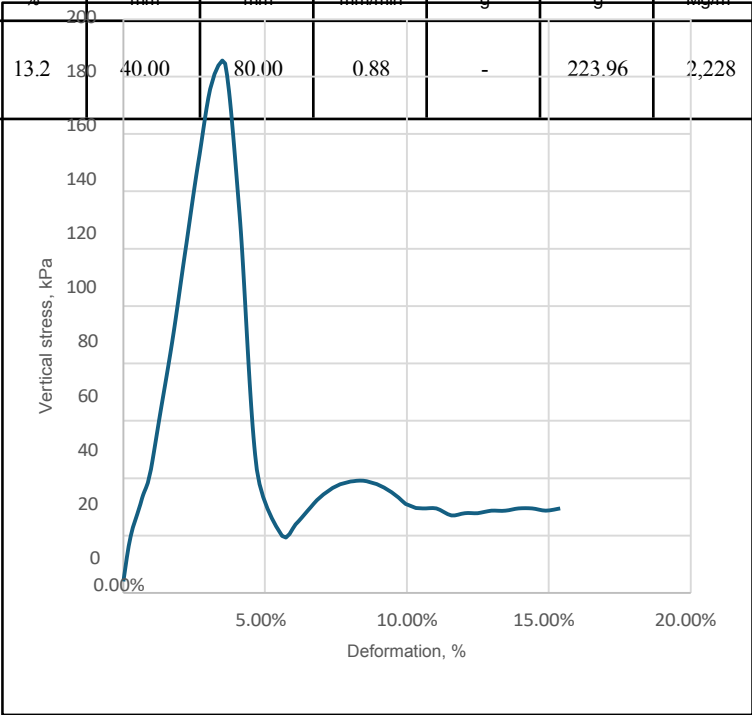
Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.2	40.00	80.00	0.54	-	231.57	2,303	2.035

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
2.2%	378.8	189.4



Notes:				Performed by: Engineer L. Slauto	
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_048	Gr.25	3	17.70	18.50
Soil index according to ISO 14688-2*		saCIL-SiL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.2	40.00	80.00	0.88	-	223.96	2,228	1.968

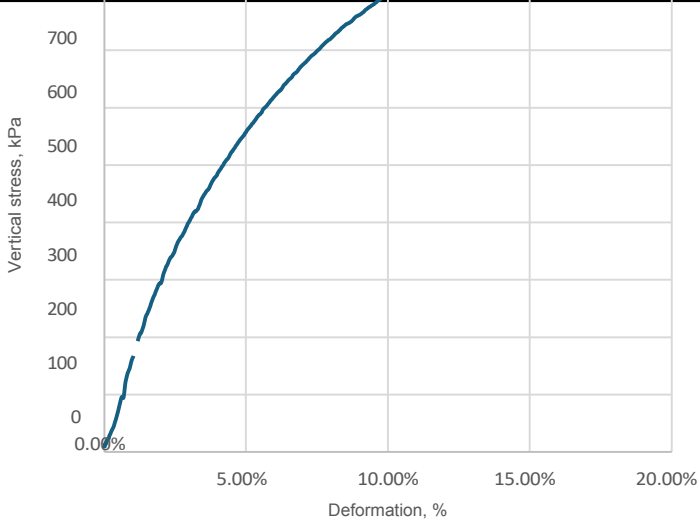


Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
εV ,	qu	CU,
%	kPa	kPa
3.6%	184.6	92.3



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_049	Gr.25	4	18.60	19.00
Soil index according to ISO 14688-2*		saCIL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
12.0	51.00	101.00	0.87		462.49	2,242	2.001



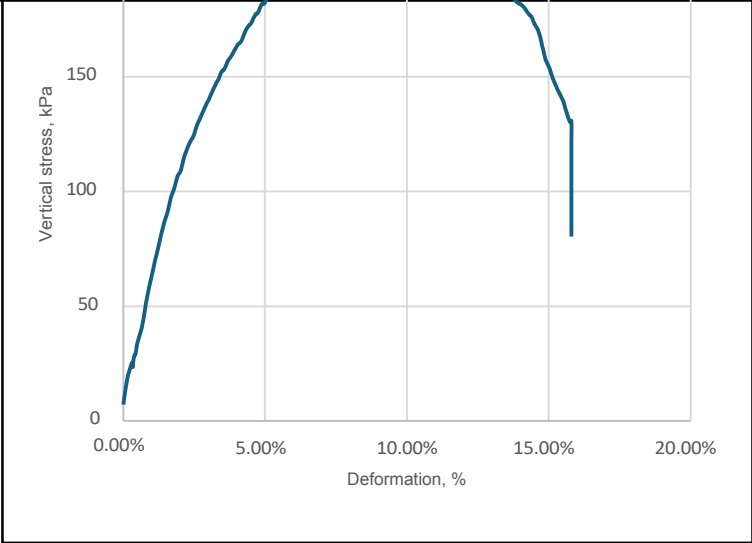
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
15.7%	919.3	459.7



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_052	Gr.25	7	21.50	22.50
Soil index according to ISO 14688-2*		SiH	Specimen composition ¹⁾ :		U

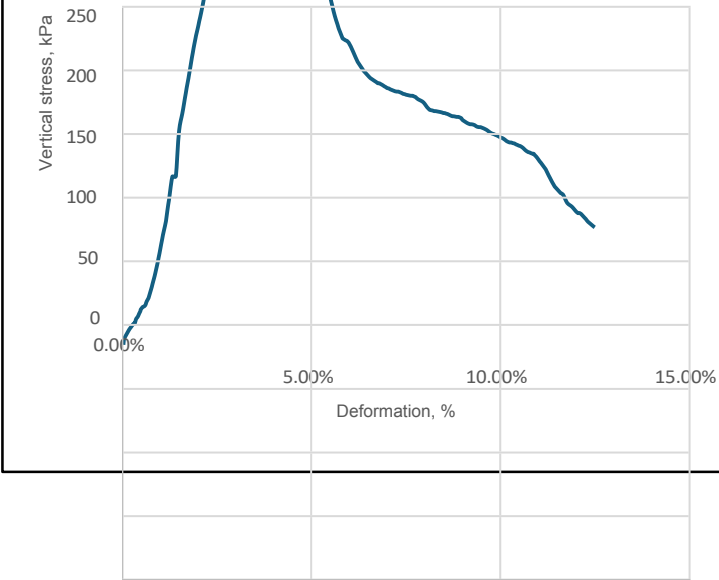
Test data							
Natural moisture	Specimen diameter	Specimen height	Compression speed	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	250	h	z	h+z	p	pd	
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
27.0	40.00	80.00	0.79	-	203.04	2,020	1,590

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
9.6%	230.0	115.0



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_053	Gr.25	8	22.80	23.30
Soil index according to ISO 14688-2*		CIH	Specimen composition ¹⁾ :		U

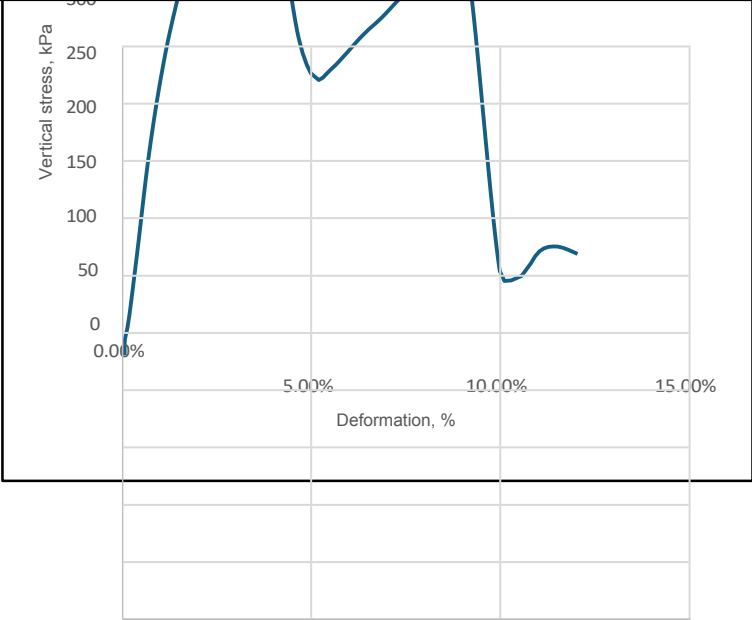
Test data								Test results		
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density	Vertical deformation	Uniaxial compressive strength	Undrained shear strength
w	ø	h		ž	b+ž	ρ	ρ _d	ε _v ,	q _u	c _u ,
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³	%	kPa	kPa
28.3	40.00	80.00	0.83	-	210.58	2.095	1.633	3.7%	404.3	202.1



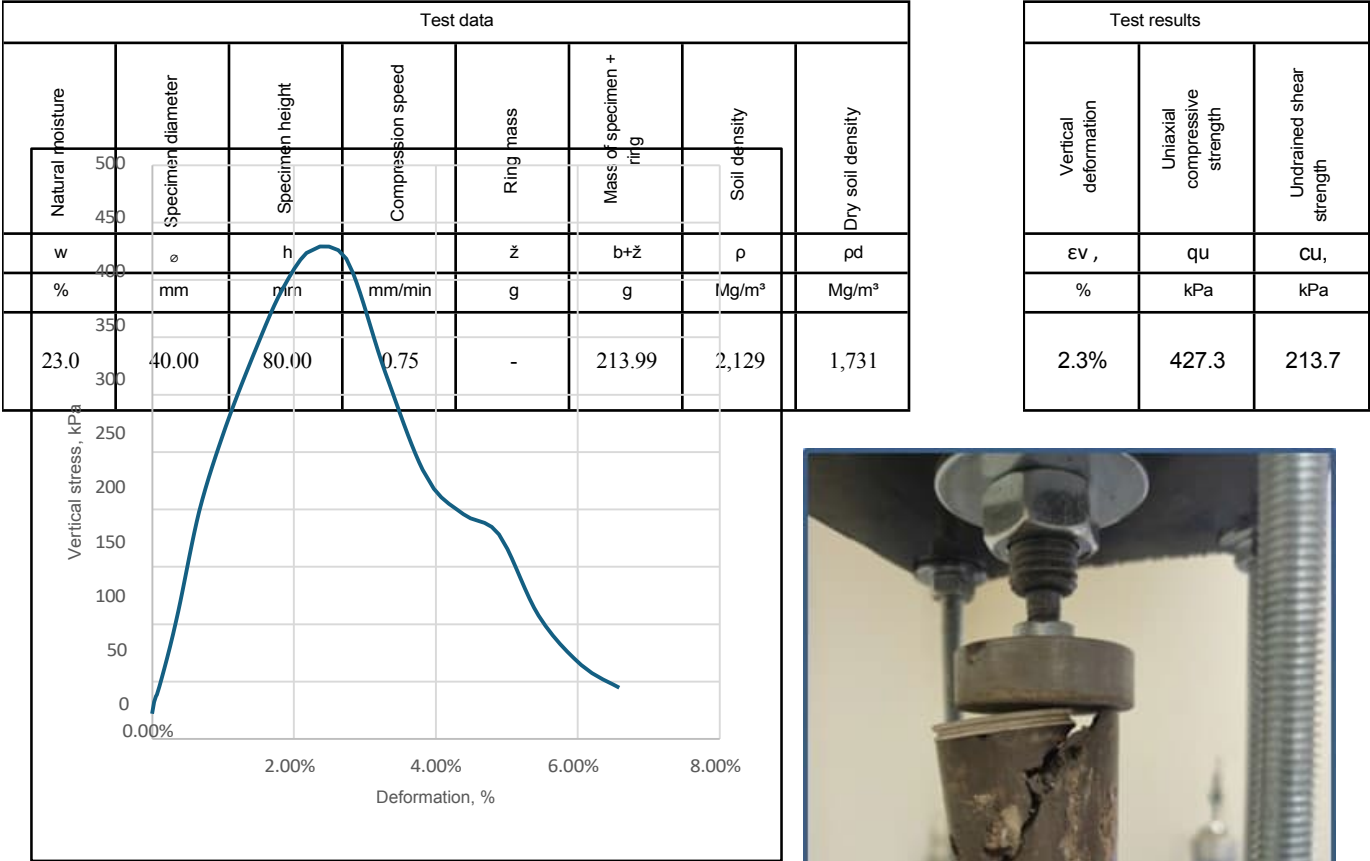
Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_054	Gr.25	9	33.00	33.80
Soil index according to ISO 14688-2*		SiH	Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
25.5	40.00	80.00	0.87	-	217.74	2,166	1.726

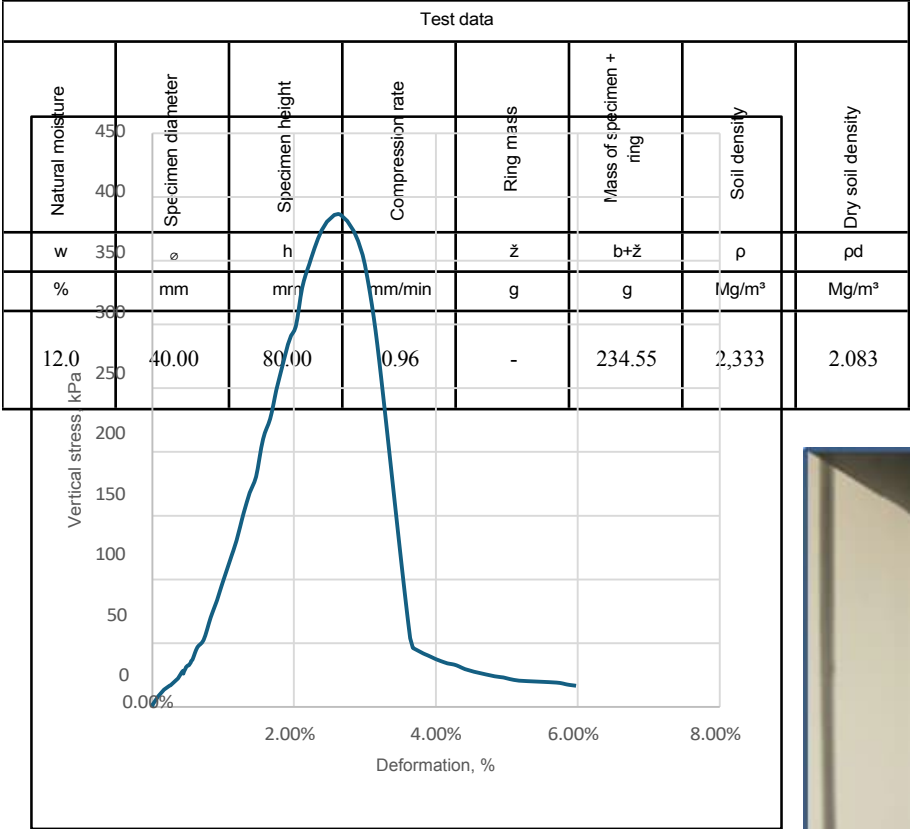
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
3.2%	432.1	216.1



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_055	Gr.25	10	34.00	35.20
Soil index according to ISO 14688-2*		CIH	Sample composition ¹⁾ :		U



Notes:				Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_059	Gr.26	5	16.20	16.70
Soil index according to ISO 14688-2*		saSiL	Specimen configuration ¹⁾ :		U

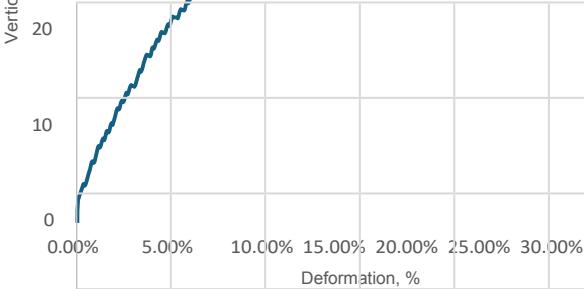


Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
2.6%	386.7	193.4



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_061	Gr.26	6	17.80	18.50
Soil index according to ISO 14688-2*		saCIL	Test specimen composition ¹⁾ :		U

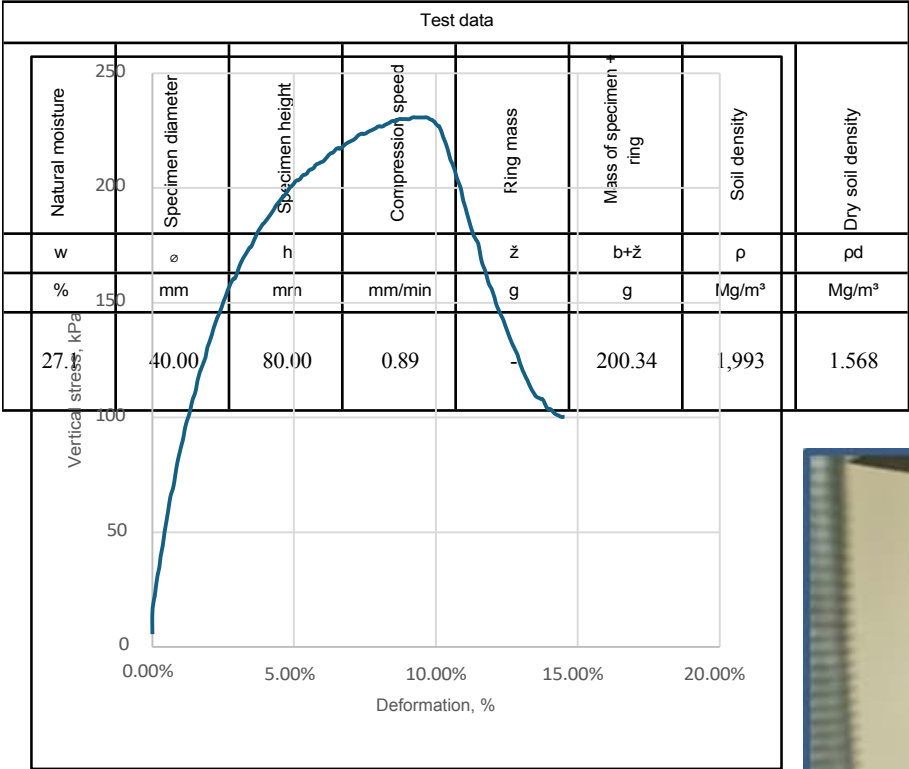
Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		z	b+z	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
20.6	40.00	80.00	0.88	-	223.27	2,221	1.842



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.2%	49.3	24.7



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_064	Gr.26	9	26.50	27.00
Soil index according to ISO 14688-2*		SiH	Specimen composition ¹⁾ :		U

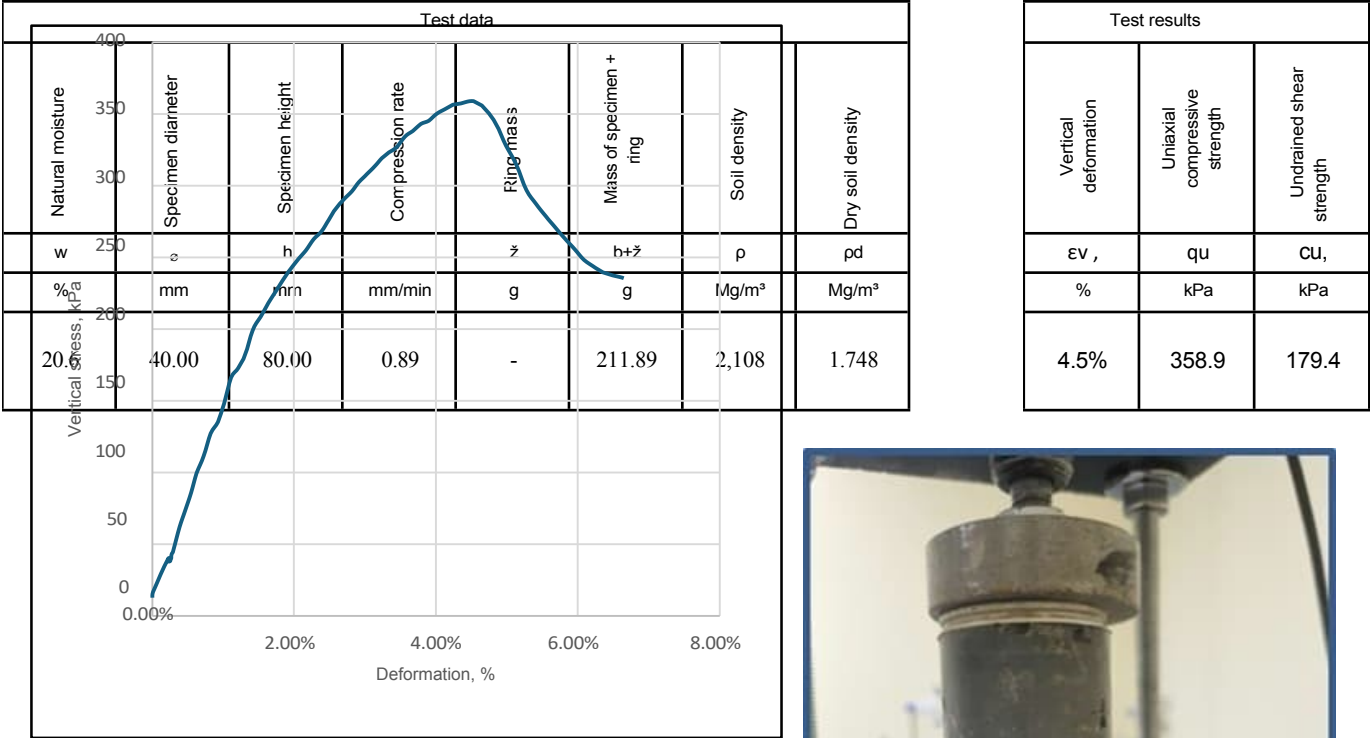


Test results

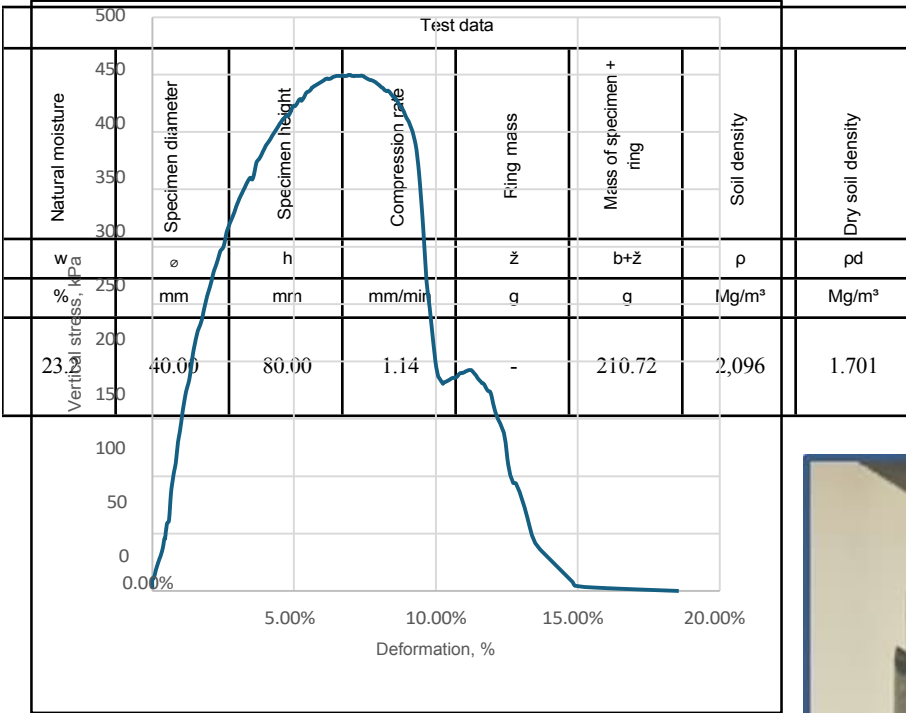
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
9.2%	230.8	115.4



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_066	Gr.26	11	30.00	31.20
Soil index according to ISO 14688-2*		CIM	Specimen composition ¹⁾ :		U



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_067	Gr.26	12	32.10	33.00
Soil index according to ISO 14688-2*		CIH	Specimen composition ¹⁾ :		U



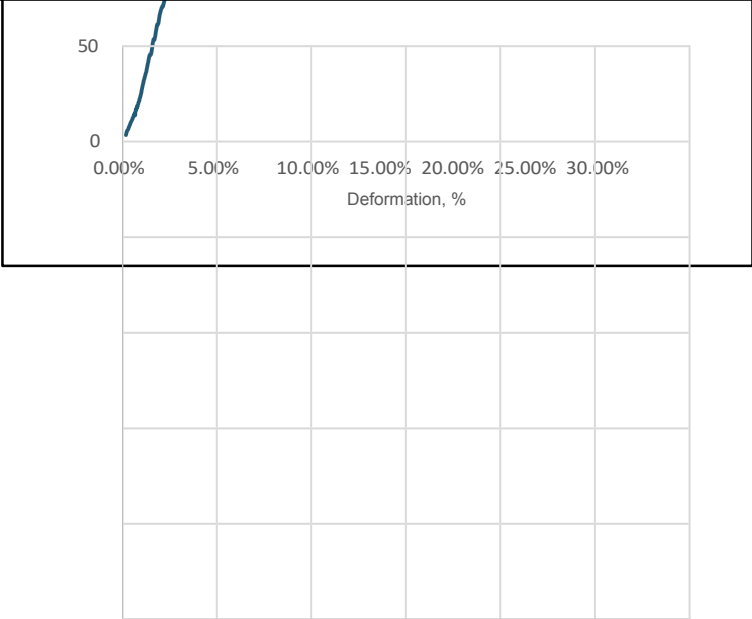
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
7.0%	449.6	224.8



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_071	Gr.27	4	15.00	16.00
Soil index according to ISO 14688-2*		saCIL	Specimen composition ¹⁾ :		U

300							
Test data							
Natural moisture	Sample diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
15.00	51.00	101.00	0.90	-	443.77	2,151	1,861

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.5%	247.7	123.8



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_072	Gr.27	5	18.00	19.00
Soil index according to ISO 14688-2 ²⁾		sacIL		Specimen composition ¹⁾ :	
				U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
16.7	51.00	101.00	0.89	-	439.91	2,132	1.827

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.4%	149.8	74.9



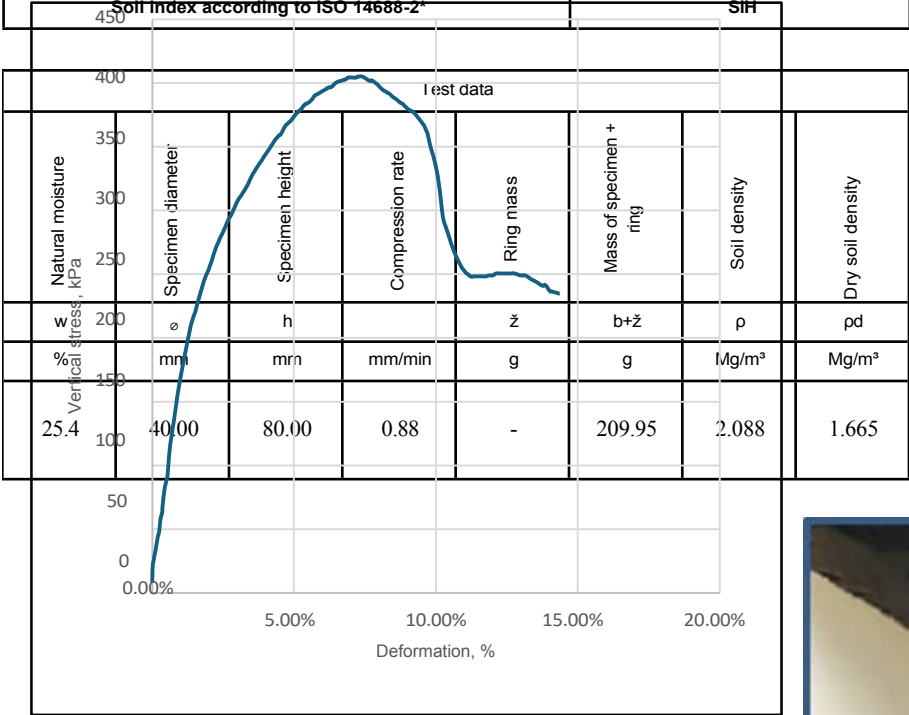
Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_073	Gr.27	6	20.00	21.00	
Soil index according to ISO 14688-2 ¹⁾		CIH	Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
28.7	40.00	80.00	0.91	-	197.87	1.968	1.529

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
13.7%	154.4	77.2



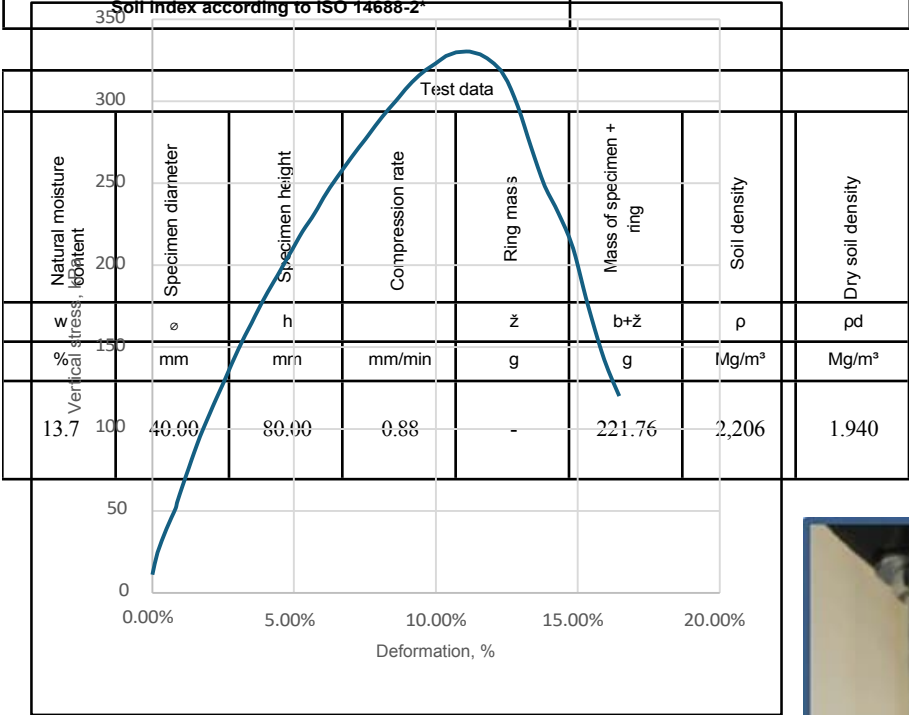
Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_074	Gr.28	1	34.50	35.10
Soil index according to ISO 14688-2		SIH		Specimen composition ¹⁾ :	
				U	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ϵ_v ,	q_u	c_u ,
%	kPa	kPa
7.3%	405.0	202.5



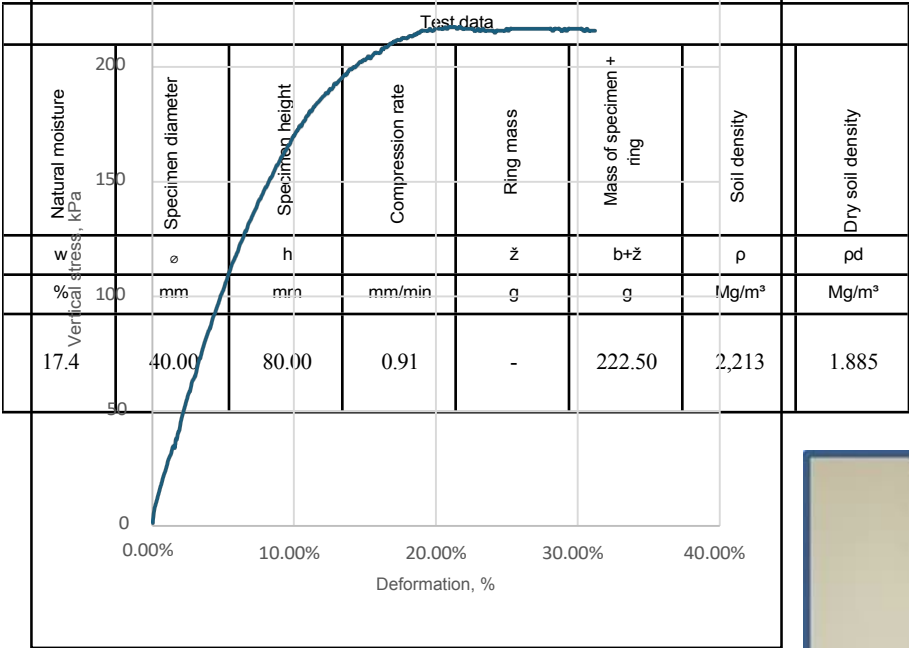
Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_076	Gr.29	2	22.20	22.50
Soil index according to ISO 14688-2				Specimen composition ¹⁾ :	U



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
11.0%	330.2	165.1



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_077	Gr.30	1	16.30	16.90
Soil index according to ISO 14688-2		CIL	Specimen configuration ¹⁾ :		U



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
20.7%	217.2	108.6



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_078	Gr.30	2	17.60	18.20
Soil index according to ISO 14688-2		sacIL		Test specimen composition ¹⁾ :	U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression speed	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
19.4	51.00	101.00	0.91	-	427.96	2,074	1.737

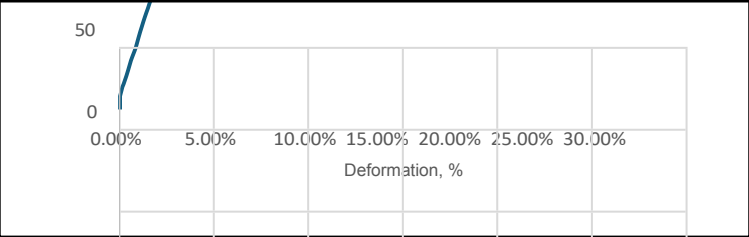
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
23.6%	154.7	77.3



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_082	Gr.35	3	17.00	17.60	
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.7	51.00	101.00	0.90	-	451.13	2,187	1.923

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.6%	285.9	142.9



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_087	Gr.38	3	9.50	9.80
Soil index according to ISO 14688-2 ¹⁾		saSIVO	Test specimen composition ¹⁾ :		D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
87.4	40.00	80.00	0.91	-	145.28	1.445	0.771

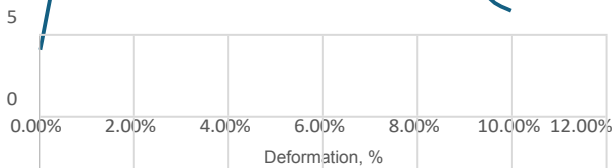
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
8.5%	46.2	23.1



Notes:					Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾		Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_093		Gr.40		4	10.60 10.90
Soil index according to ISO 14688-2 ³⁵			Gy	Specimen composition ¹⁾ :		D

Test data							
Natural moisture	Sample diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
126.0	40.00	80.00	0.88	-	148.38	1.476	0.653

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
5.4%	32.6	16.3



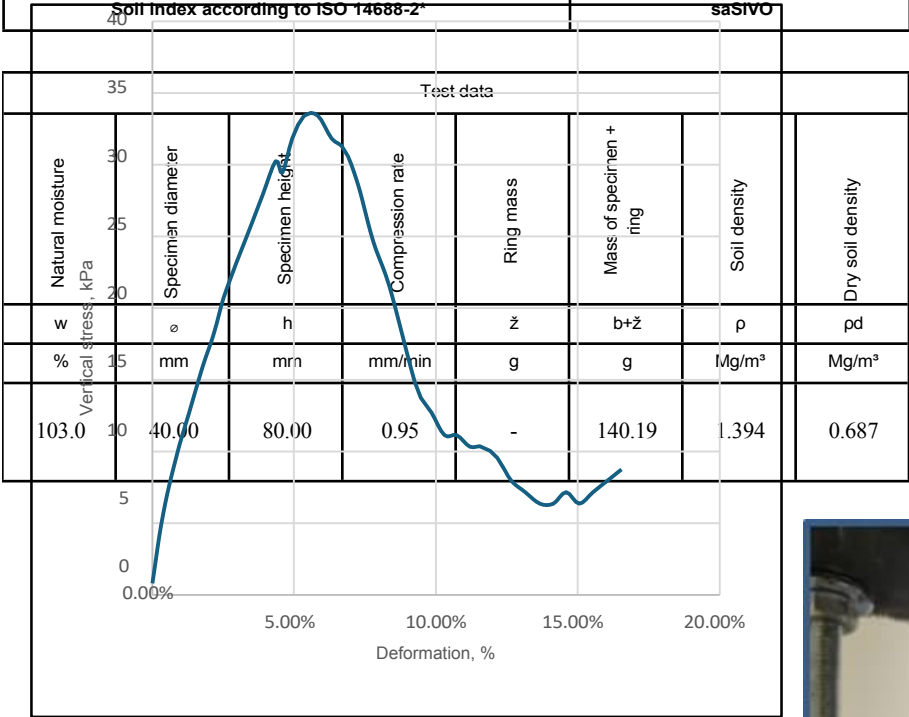
Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_094	Gr.40	5	11.20	11.60	
Soil index according to ISO 14688-2 ¹⁾		Pt	Specimen composition ¹⁾ :		D	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
226.0	40.00	80.00	0.95	-	114.69	1.141	0.350

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
8.3%	112.2	56.1



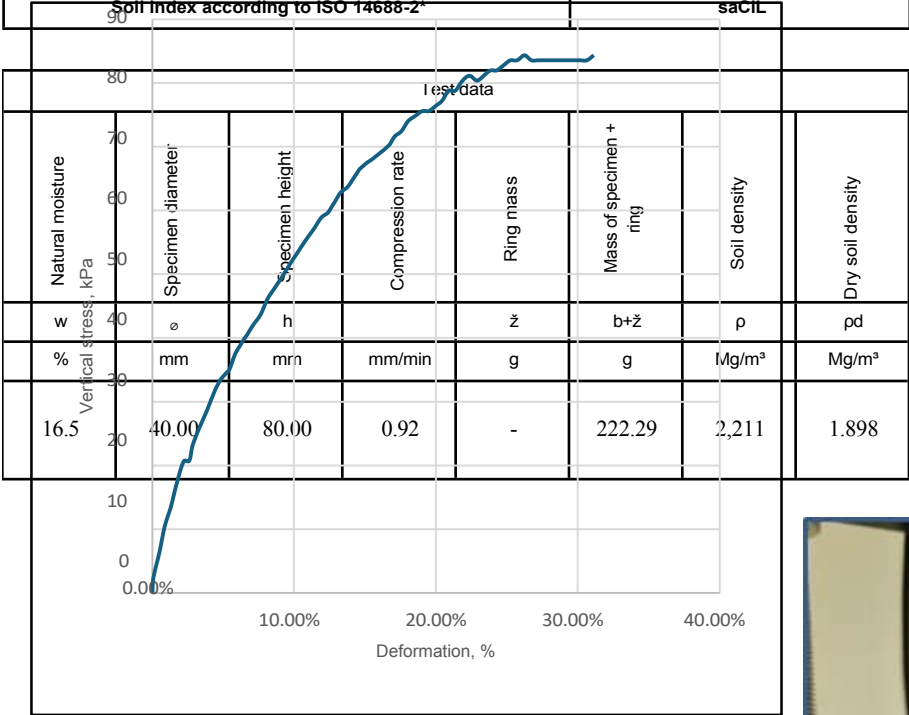
Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_096	Gr.40	7	14.00	14.30	
Soil index according to ISO 14688-2 ⁴⁾		saSIV0	Specimen composition ¹⁾ :		D	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
5.4%	33.4	16.7



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_109	Gr.42	2	17.30	17.80
Soil index according to ISO 14688-2		sacIL		Sample structure ¹⁾ :	U



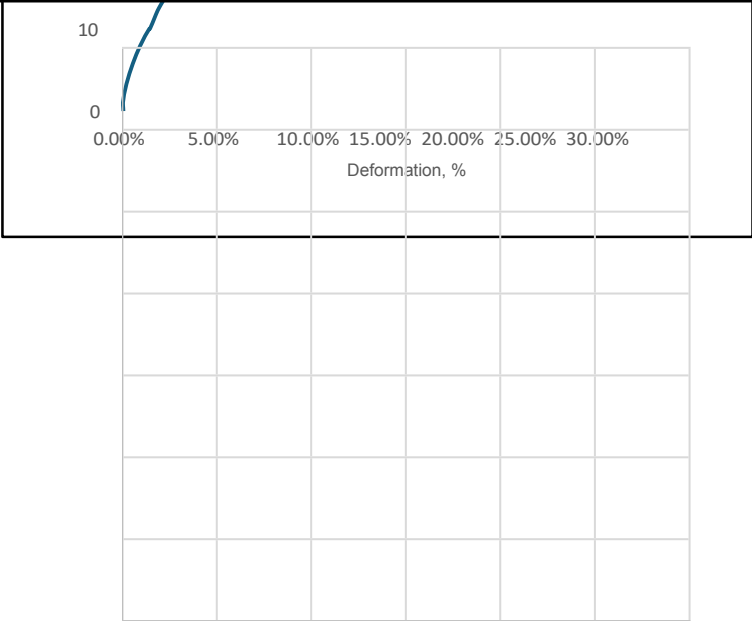
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
26.2%	84.4	42.2



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_117	Gr.44	4	17.00	17.50
Soil index according to ISO 14688-2		sacIL		Specimen composition ¹⁾ :	
70				U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
14.6	51.00	101.00	0.88	-	451.42	2,188	1.909

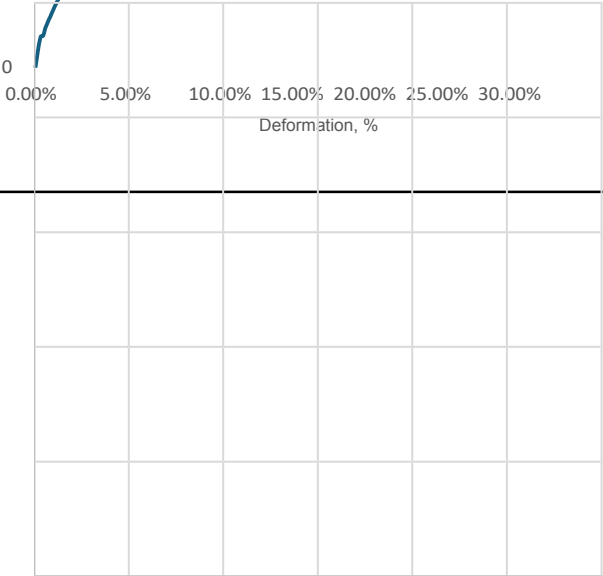
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.4%	65.1	32.6



Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_128	Gr.47	4	17.80	18.30	
Soil index according to ISO 14688-2 ²⁾		sacIL	Test specimen composition ¹⁾ :		D	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
12.9	51.00	101.00	0.91	-	451.81	2,190	1,940

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
20.1%	200.2	100.1



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_131	Gr.48	3	12.10	12.60	
Soil index according to ISO 14688-2 ¹⁾		CIL-SIL	Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
14.8	40.00	80.00	0.84	-	219.85	2,187	1.905

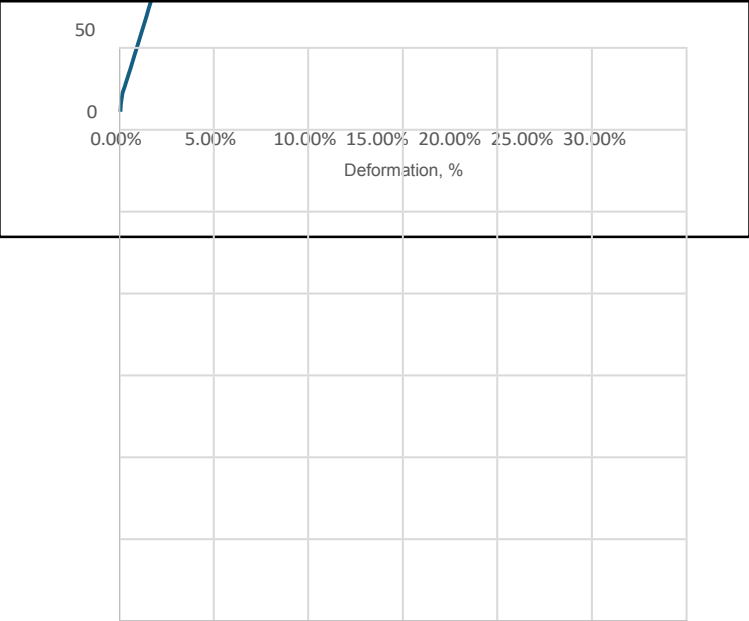
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
4.0%	182.2	91.1



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_133	Gr.48	5	17.30	17.90
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		U

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
11.1	51.00	101.00	0.92	-	456.86	2,214	1.993

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
17.3%	331.9	165.9



Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_137	Gr.50	3	15.10	15.70	
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		U	

Test data							
Natural moisture content, %	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
17.1	51.00	101.00	#####	-	435.51	2,111	1,803

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
23.9%	74.4	37.2



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_140	Gr.51	3	14.00	15.00
Soil index according to ISO 14688-2 ²⁾		sacIL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
14.1	51.00	101.00	0.92	-	448.51	2,174	1.905

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.2%	300.1	150.0



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_146	Gr.52	6	17.70	19.50
Soil index according to ISO 14688-2		CIL	Specimen composition ¹⁾ :		D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
23.5	51.00	101.00	0.95	-	414.17	2.007	1.625

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.1%	40.1	20.1



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_154	Gr.53	8	16.90	17.90
Soil index according to ISO 14688-2 ²⁾		s _u CIL	Test specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
21.6	51.00	101.00	0.95	-	423.63	2,053	1.689

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.1%	40.1	20.1



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾		Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_166	Gr.58		5	15.80	16.30
Soil index according to ISO 14688-2 ¹⁾		CIM		Specimen composition ¹⁾ :		D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
22.8	40.00	80.00	0.79	-	204.86	2,038	1.659

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
6.0%	175.9	87.9



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_167	Gr.31	1	28.80	30.10
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		D

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
16.5	40.00	80.00	0.85	-	221.01	2,198	1.887

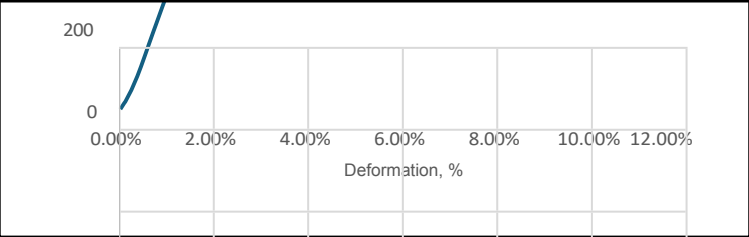
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
4.7%	458.4	229.2



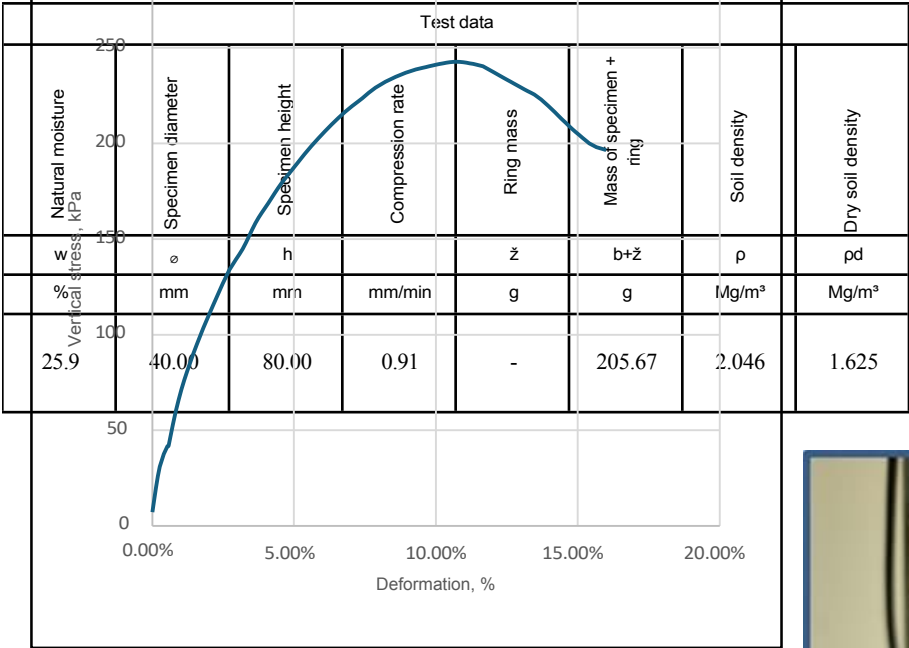
Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_168	Gr.31	2	30.10	30.60
Soil index according to ISO 14688-2			Specimen composition ¹⁾ :		U

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
ω	ø	h		ž	b+ž	ρ	ρ _d
Vertical stress, kPa	mm	mm	mm/min	g	g	mg/m³	Mg/m³
10.9	40.00	80.00	0.78	-	233.61	2,324	2.095

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
7.7%	1,253.3	626.7



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Well No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_171	Gr.32	3	22.50	23.00	
Soil index according to ISO 14688-2*		CIH	Specimen composition ¹⁾ :		U	



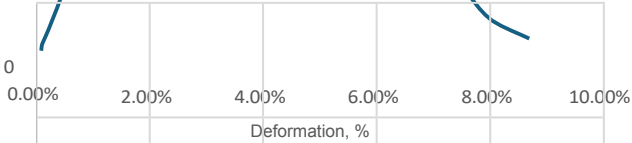
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
10.7%	242.7	121.4



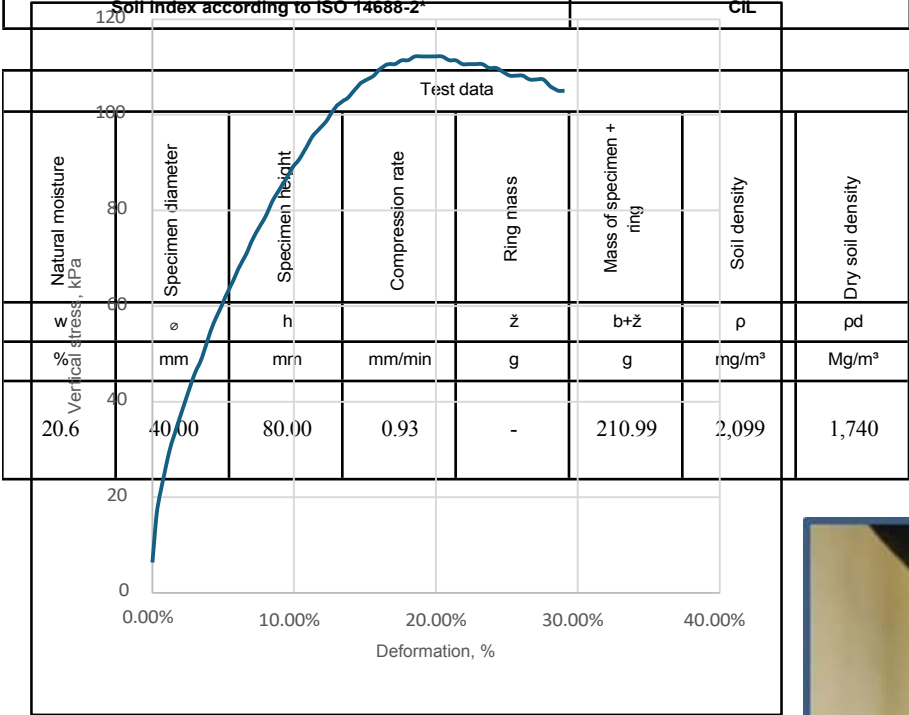
Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_173	Gr.33	2	23.10	23.60
Soil index according to ISO 14688-2		CIM	Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
21.0	51.00	101.00	0.97	-	416.36	2,018	1.668

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
3.4%	220.3	110.1



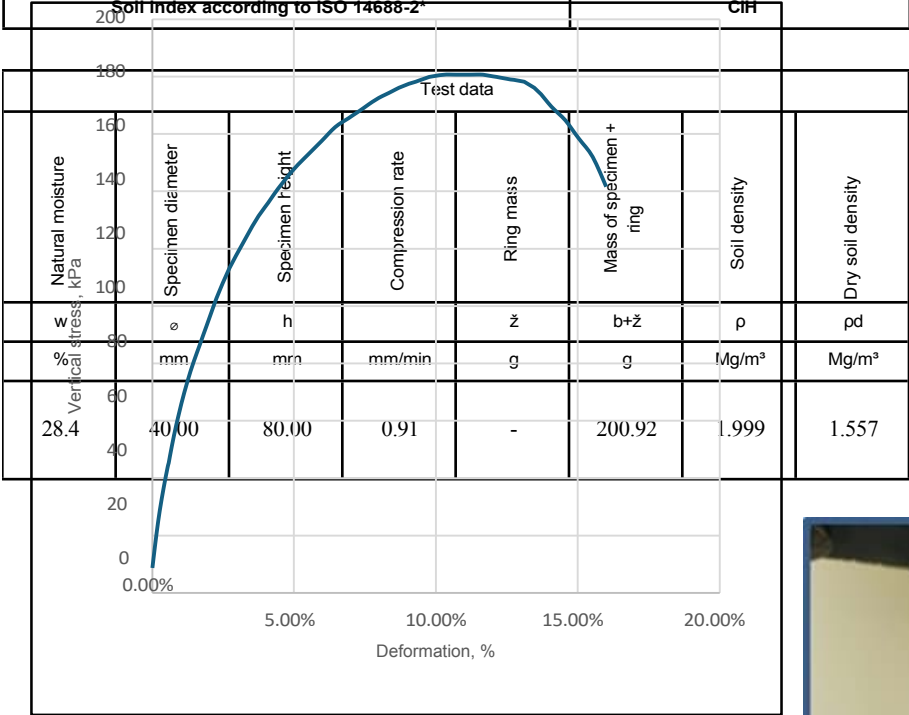
Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_177	Gr.34	4	18.00	18.50	
Soil index according to ISO 14688-2 ¹⁾		CIL	Specimen configuration ¹⁾ :		U	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
18.5%	112.2	56.1



Notes:					Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_178	Gr.34	5	18.70	19.20	
Soil index according to ISO 14688-2 ¹⁾		CIH	Specimen composition ¹⁾ :		U	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
10.3%	180.6	90.3



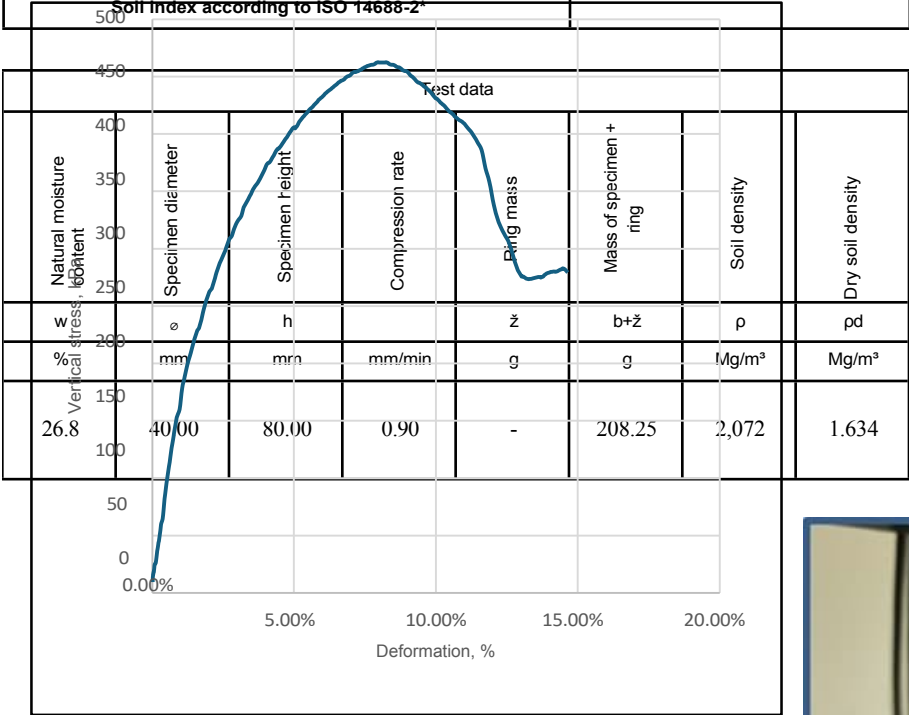
Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_180	Gr.34	7	32.50	33.00
Soil index according to ISO 14688-2		CIM	Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
23.3	40.00	80.00	1.01	-	212.26	2,111	1.712

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
9.7%	530.0	265.0



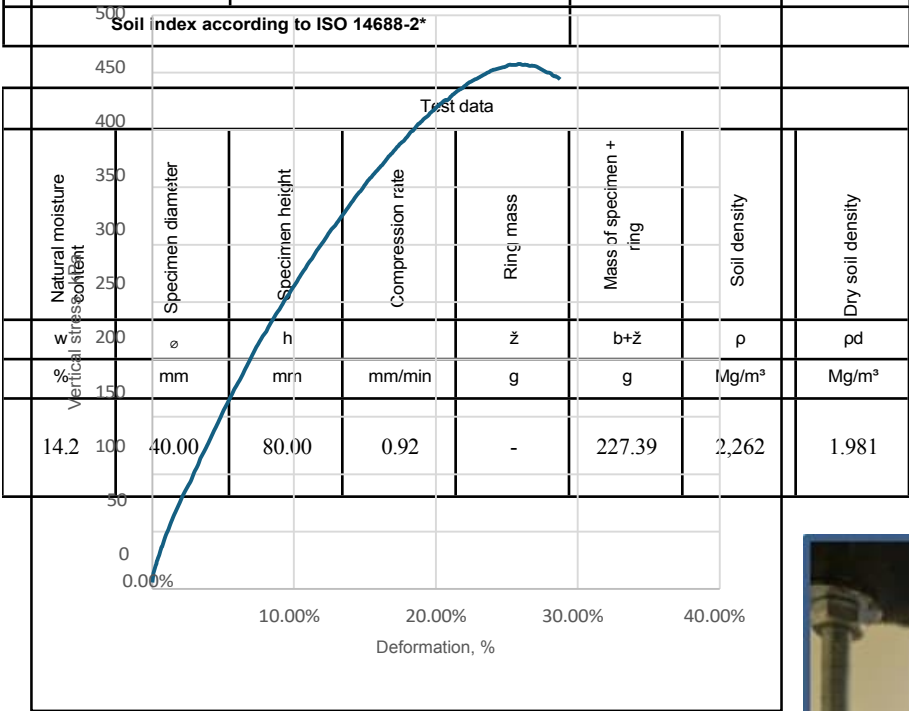
Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_181	Gr.34	8	34.50	35.00	
Soil index according to ISO 14688-2*			Specimen composition ¹⁾ :		U	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v , %	q _u , kPa	c _u , kPa
7.9%	462.3	231.2



Notes:					Prepared by: Engineer L. Slauto	
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_198	Gr.9	2	21.40	21.70	
	Soil index according to ISO 14688-2*			Specimen composition ¹⁾ :		
				U		



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
25.9%	457.6	228.8



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_199	Gr.9	3	18.10	18.40
Soil index according to ISO 14688-2 ²⁾					Specimen composition ¹⁾ : D

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
Vertical stress, kPa	ø	h		ž	b+ž	ρ	ρ _d
	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.2	40.00	80.00	0.90	-	229.99	2,288	2,021

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v , %	q _u , kPa	c _u , kPa
21.0%	1,014.6	507.3



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_201	Gr.8	1	31.10	31.50
Soil index according to ISO 14688-2 ²⁾					Specimen composition ¹⁾ : U

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Density of dry soil
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
9.8	40.00	80.00	0.88	-	232.41	2,312	2.105

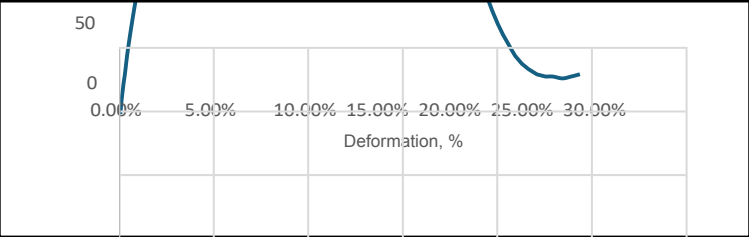
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
6.3%	560.2	280.1



Notes:					Prepared by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_210	Gr.7	3	19.00	19.70
Soil index according to ISO 14688-2			Specimen composition ¹⁾ :		D

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
16.9	40.00	80.00	0.93	-	218.95	2,178	1.863

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
9.5%	424.9	212.5



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_211	Gr.7	4	20.80	21.60
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		D

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
ω	ø	h		ž	b+ž	ρ	ρ _d
Vertical stress, kPa	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
12.5	40.00	80.00	0.91	-	231.05	2,298	2.043

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
20.0%	923.1	461.5



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_214	Gr.17	3	17.90	18.50
Soil index according to ISO 14688-2		sacIL		Test specimen composition ¹⁾ :	U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Mass of the ring	Mass of sample + soil	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
16.6	51.00	101.00	0.92	-	438.13	2,123	1.821

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.6%	56.3	28.1



Notes:					Prepared by: Engineer L. Slauto	
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_215	Gr.17	4	27.30	27.90	
	Soil index according to ISO 14688-2*			Specimen composition ¹⁾ :		U

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		z	b+z	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
10.1	51.00	101.00	0.84	-	456.42	2,212	2.009

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
6.6%	475.8	237.9



Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_219	Gr.5	4	15.10	15.70	
Soil index according to ISO 14688-2		sacIL	Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.5	51.00	101.00	0.89	-	449.75	2,180	1.921

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
16.0%	61.7	30.8



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_223	Gr.4	3	14.90	15.30
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		U

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	mg/m³	Mg/m³
13.3	40.00	80.00	0.93	-	227.50	2,263	1.997

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
18.7%	142.4	71.2



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_224	Gr.4	4	16.00	16.50
Soil index according to ISO 14688-2 ¹⁾		s _u CIL-SIL	Sample composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.2	51.00	101.00	0.91	-	451.27	2,187	1.932

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
13.3%	91.5	45.8



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_226	Gr.4	9	35.00	35.50
Soil index according to ISO 14688-2 ²⁾		sacIL	Test specimen composition ¹⁾ :		D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
Vertical stress, kPa	ø	h		ž	b+ž	ρ	ρ _d
	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
12.9	40.00	80.00	0.87	-	230.63	2,294	2.032

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
11.3%	1,289.2	644.6



Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_231	Gr.59	5	18.40	18.90	
Soil index according to ISO 14688-2 ²⁾		sacIL	Test specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	mg/m³	Mg/m³
14.3	51.00	101.00	0.89	-	447.71	2,170	1.898

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.6%	137.6	68.8



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_232	Gr.59	6	19.60	20.10	
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.6	51.00	101.00	0.92	-	449.34	2,178	1.917

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
24.7%	156.2	78.1



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_267	Gr.15	10	23.40	23.70
Soil index according to ISO 14688-2 ²⁾		sacIL		Test specimen composition ¹⁾ :	D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
16.9	51.00	101.00	0.94	-	430.89	2,088	1.786

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
23.9%	30.4	15.2



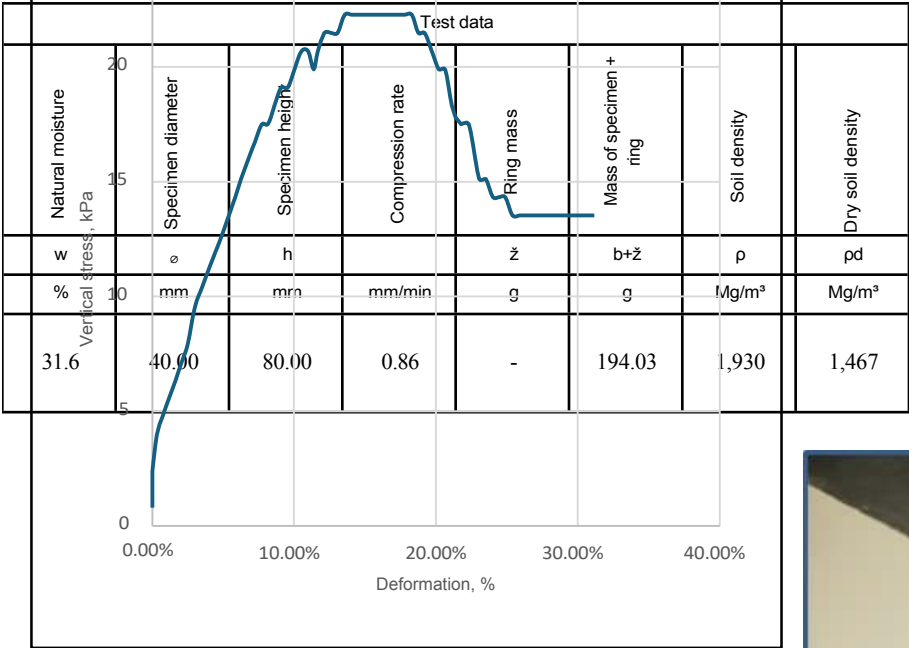
Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_268	Gr.15	11	28.20	28.80
Soil index according to ISO 14688-2					Specimen composition ¹⁾ : U

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
Vertical stress, kPa	ø	h		ž	b+ž	ρ	ρ _d
	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.6	51.00	101.00	0.88	-	448.95	2,176	1.915

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v , %	q _u , kPa	c _u , kPa
12.1%	950.2	475.1



Notes:				Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_273	Gr.13	5	10.50	11.10	
Soil index according to ISO 14688-2 ²⁾		osaCIL	Test specimen composition ¹⁾ :		U	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
13.6%	22.3	11.1



Notes:				Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_285	Gr.57	7	16.50	17.10
Soil index according to ISO 14688-2 ⁴⁵		sacIL	Test specimen composition ¹⁾ :		D

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
15.3	51.00	101.00	0.93	-	439.40	2,130	1.847

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
15.1%	42.6	21.3



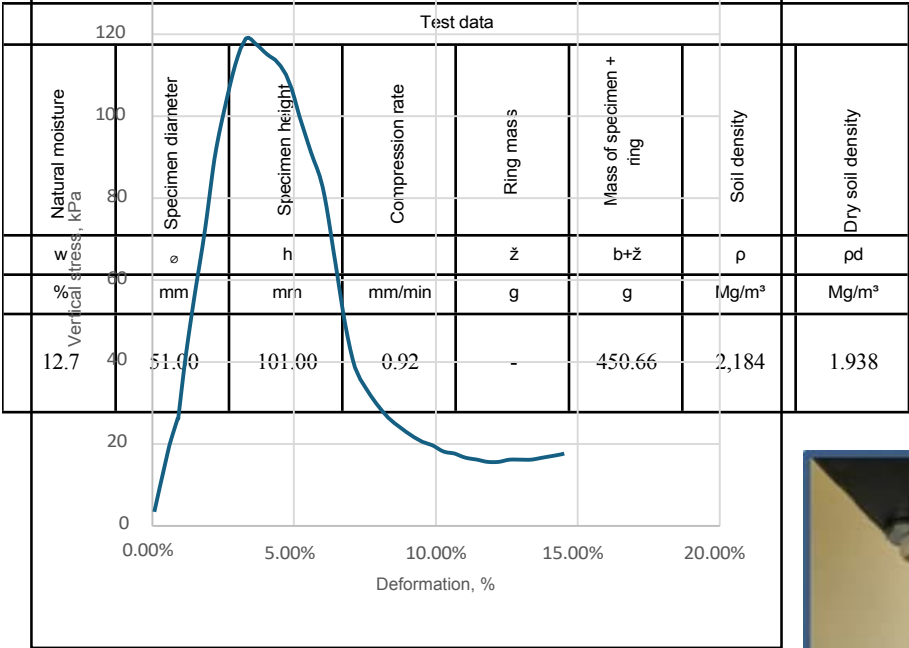
Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_298	Gr.11	6	15.00	16.00	
Soil index according to ISO 14688-2 ²⁾		saCIL	Sample composition ¹⁾ :		D	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.3	51.00	101.00	0.90	-	447.87	2,171	1,916

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
16.0%	143.9	72.0



Notes:				Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_299	Gr.11	7	16.00	16.50
Soil index according to ISO 14688-2 ¹⁾		s _{ac} IL-SIL	Test specimen composition ¹⁾ :		D

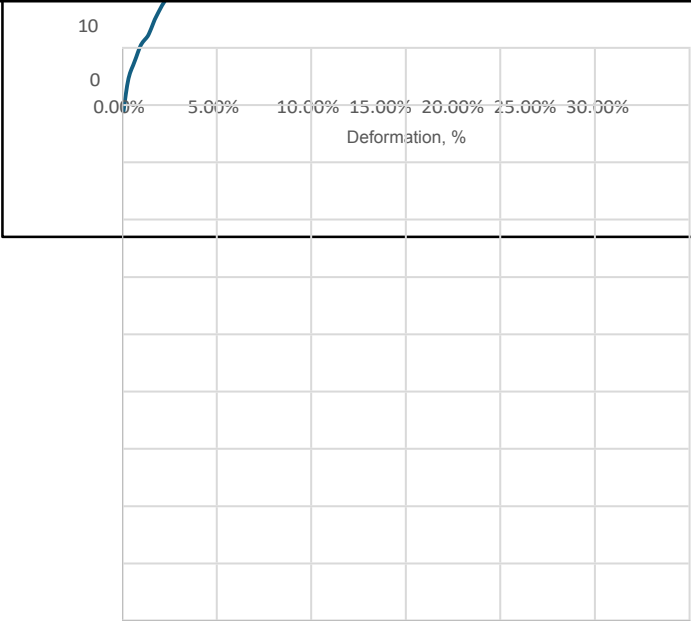


Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
3.3%	119.0	59.5



Notes:				Prepared by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_307	Gr.2	6	15.00	16.00	
Soil index according to ISO 14688-2 ¹⁾		sacIL	Specimen composition ¹⁾ :		U	

Test data								Test results		
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density	Vertical deformation	Uniaxial compressive strength	Undrained shear strength
w	ø	h		ž	b+ž	ρ	ρ _d	ε _v ,	q _u	c _u ,
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³	%	kPa	kPa
15.9	51.00	101.00	0.95	-	446.45	2,164	1.867	24.4%	94.0	47.0



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_309	Gr.2	8	33.90	34.80	
Soil index according to ISO 14688-2 ¹⁾		CIM	Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		z	b+z	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
21.2	40.00	80.00	0.87	-	207.25	2.062	1.701

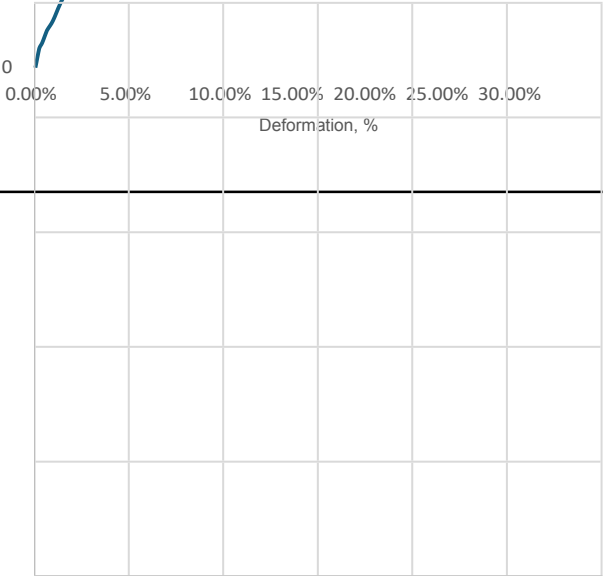
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
5.0%	184.6	92.3



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Well No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_325	Gr.64	3	19.10	19.70
Soil index according to ISO 14688-2		sacIL		Specimen composition ¹⁾ :	
				U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
14.2	51.00	101.00	0.92	-	447.38	2,168	1.899

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
16.6%	228.1	114.1



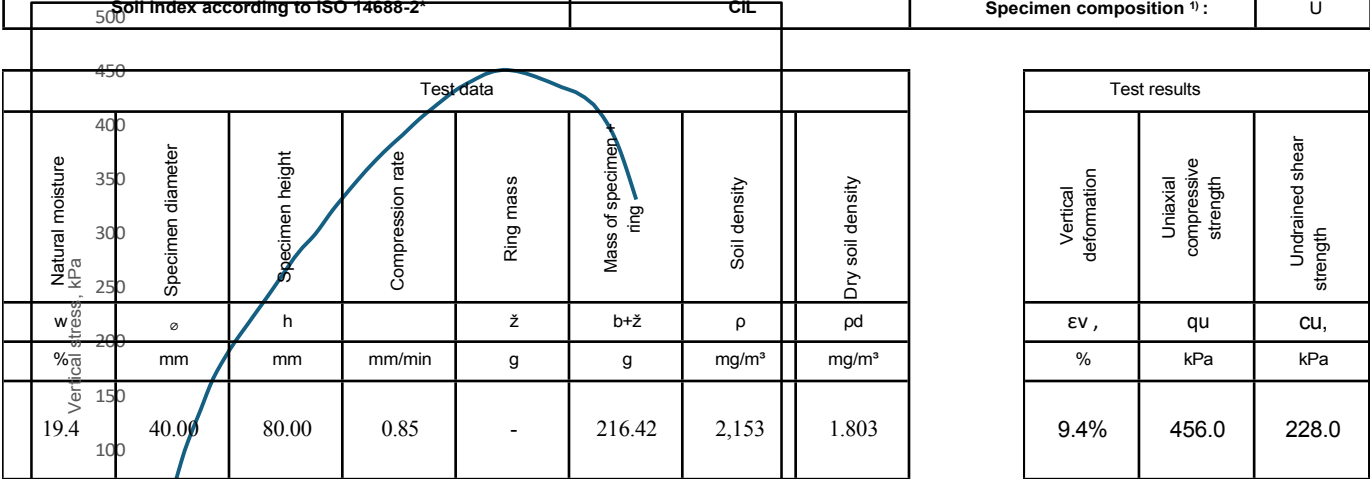
Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_326	Gr.64	4	21.20	21.80	
Soil index according to ISO 14688-2 ²⁾			Specimen composition ¹⁾ :		U	

Test data							
Natural moisture content	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρd
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
13.1	51.00	101.00	0.92	-	451.99	2,191	1,937

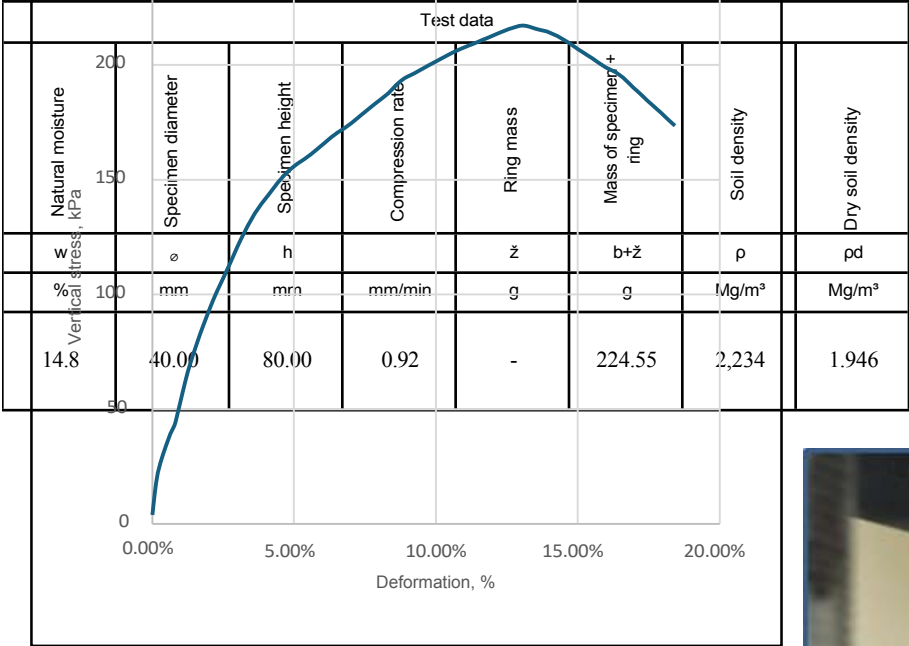
Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
15.2%	425.9	212.9



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_327	Gr.64	5	28.00	28.30	
Soil index according to ISO 14688-2 ¹⁾		CIL	Specimen composition ¹⁾ :		U	



Notes:					Performed by: Engineer L. Slauto		
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report						
Sample information:	Sample ID:	Borehole No. ¹		Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_338		Gr.62		7	19.30	19.90
Soil index according to ISO 14688-2 ²⁾		sacIL		Test specimen composition ¹⁾ :		U	



Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
13.1%	217.2	108.6



Notes:					Prepared by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾		Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_339		Gr.62	8	25.60	26.20
Soil index according to ISO 14688-2 ¹⁾		CIM		Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
19.3	40.00	80.00	0.90	-	216.66	2,155	1.807

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
6.9%	629.5	314.7



Notes:					Performed by: Engineer L. Slauto	
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report					
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾		
	SWEC_2024-321_343	Gr.66	4	35.00	35.40	
Soil index according to ISO 14688-2 ¹⁾		CIM	Specimen composition ¹⁾ :		U	

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	mg/m³	Mg/m³
24.8	40.00	80.00	0.82	-	206.93	2.058	1.649

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
3.9%	255.4	127.7



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_351	Gr.60	8	21.50	22.20
Soil index according to ISO 14688-2		CIM	Specimen configuration ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		z	b+z	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
23.0	40.00	80.00	0.94	-	210.28	2.092	1.701

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
8.8%	319.1	159.6



Notes:					Performed by: Engineer L. Slauto
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No. ¹⁾	Sample No. ¹⁾	Depth, m ¹⁾	
	SWEC_2024-321_352	Gr.67	1	20.00	20.70
Soil index according to ISO 14688-2		CIL	Specimen composition ¹⁾ :		U

Test data							
Natural moisture	Specimen diameter	Specimen height	Compression rate	Ring mass	Mass of specimen + ring	Soil density	Dry soil density
w	ø	h		ž	b+ž	ρ	ρ _d
%	mm	mm	mm/min	g	g	Mg/m³	Mg/m³
26.8	40.00	80.00	0.95	-	217.03	2,159	1.703

Test results		
Vertical deformation	Uniaxial compressive strength	Undrained shear strength
ε _v ,	q _u	c _u ,
%	kPa	kPa
20.6%	108.2	54.1





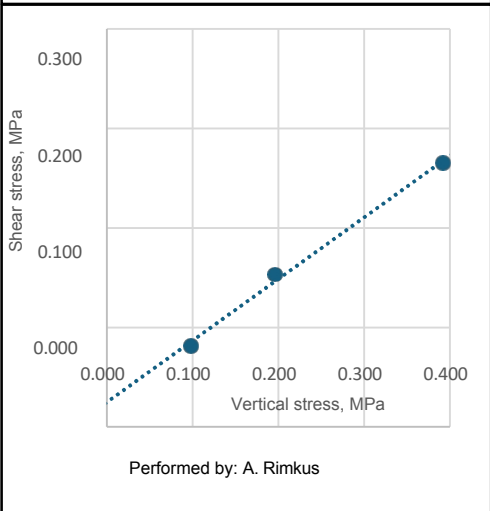
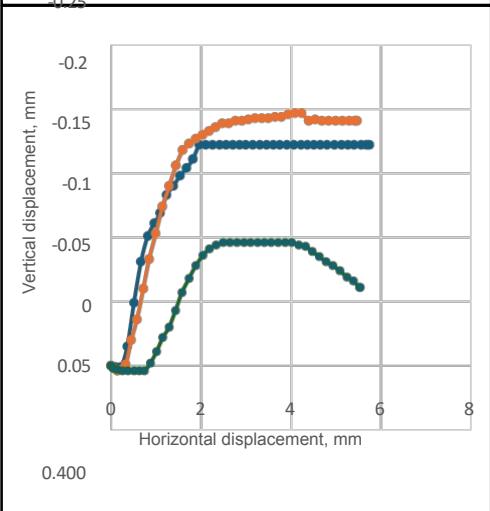
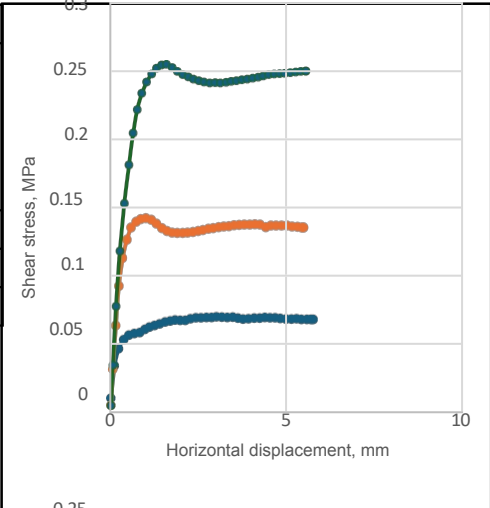
Notes:		Performed by: Engineer L. Slauto

Project:	For the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III; report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_084	Gr.36	2	16.80	17.10

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	2.016	1.662	21.3	0.59	0.37	0.95

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2927	0.098	0.081	2.994	2.016	21.3
0.2796	0.196	0.153	0.992	2.016	
0.2839	0.392	0.265	1.576	2.016	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.6194	32.0	0.025



Notes: Reconstructed specimen structure. Test in an aqueous environment

Performed by: A. Rimkus

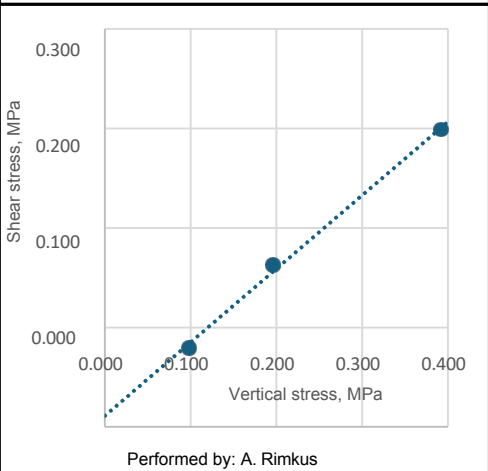
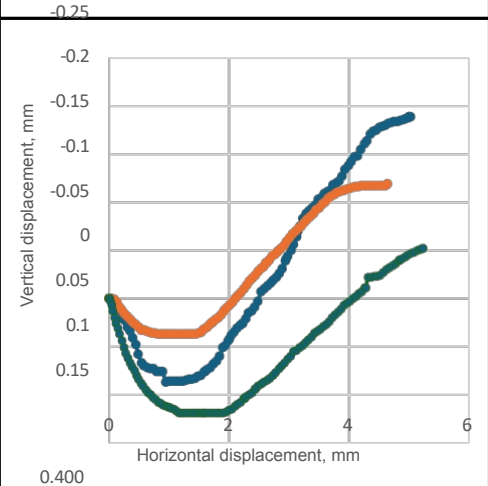
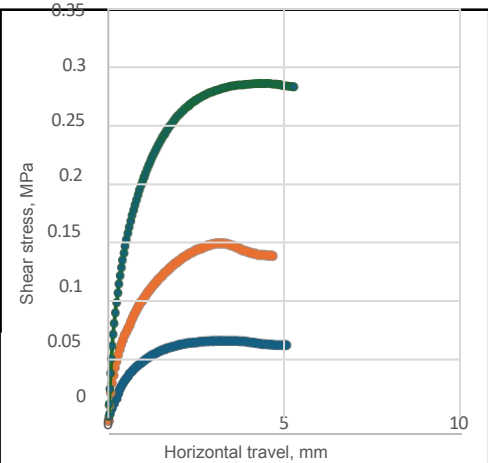
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_091	Gr.40	2	9.10	9.40

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.64	1.891	1.441	31.2	0.83	0.45	0.99

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0501	0.098	0.079	3.035	1.891	31.2
0.0469	0.196	0.162	3.205	1.891	
0.0452	0.392	0.299	4.466	1.891	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.7391	36.5	0.011

Notes: Reconstructed specimen structure. Test in an aqueous environment



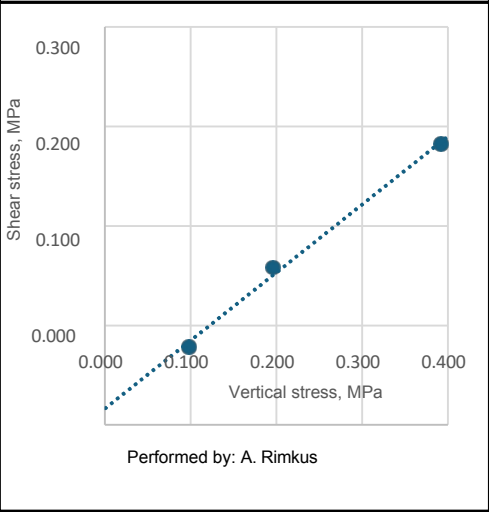
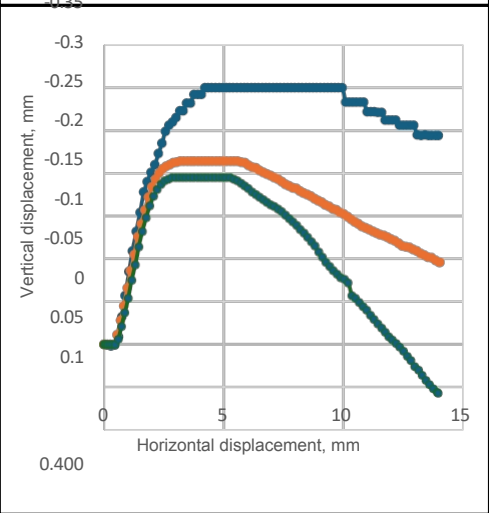
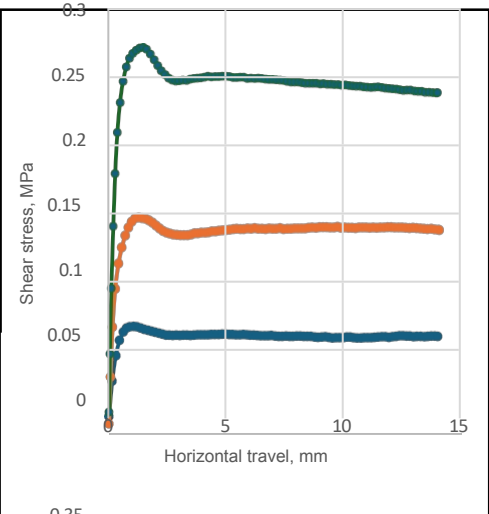
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_124	Gr.46	4	17.80	18.30

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	1.996	1.636	22.0	0.63	0.38	0.94

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3009	0.098	0.078	1.043	1.996	22.0
0.2980	0.196	0.158	1.266	1.996	
0.2961	0.392	0.282	1.455	1.996	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6844	34.5	0.016

Notes: Reconstructed specimen structure. Test in an aqueous environment



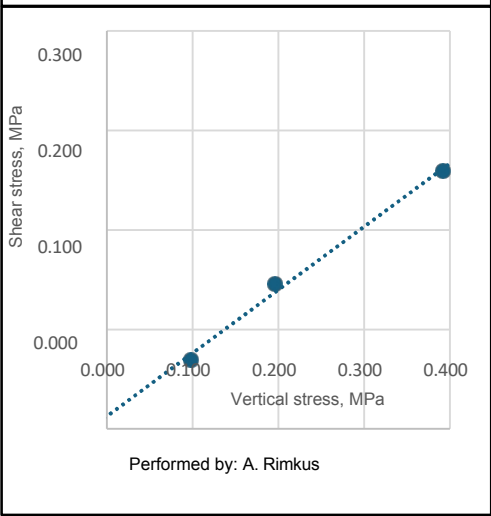
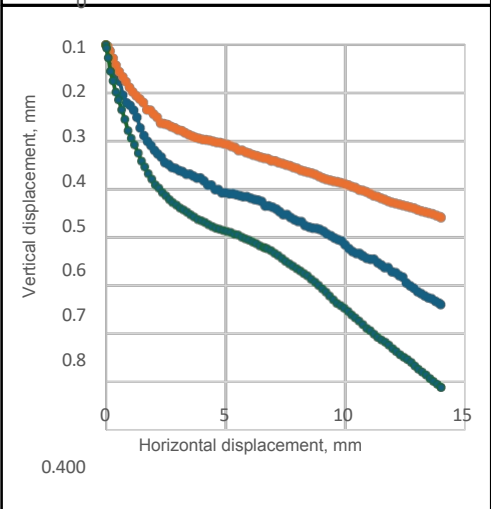
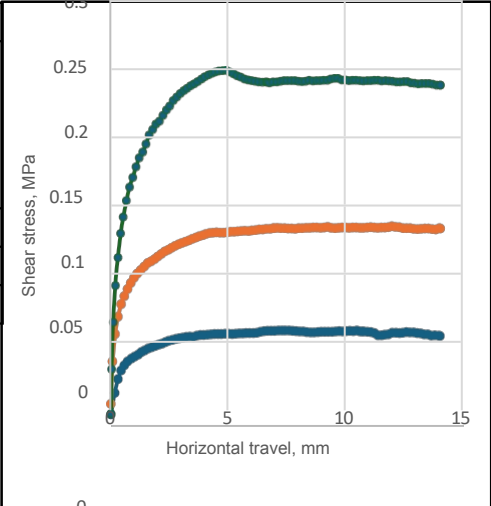
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_143	Gr.52	3	9.20	9.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m³	Mg/m³	Mg/m³	%	1	1	1
2.65	1.796	1.535	17.0	0.73	0.42	0.62

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m³	w , %
0.2993	0.098	0.069	7.565	1.796	17.0
0.2970	0.196	0.145	11.941	1.796	
0.2945	0.392	0.259	4.899	1.796	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6357	32.5	0.013

Notes: Reconstructed specimen structure. Test in an aqueous environment



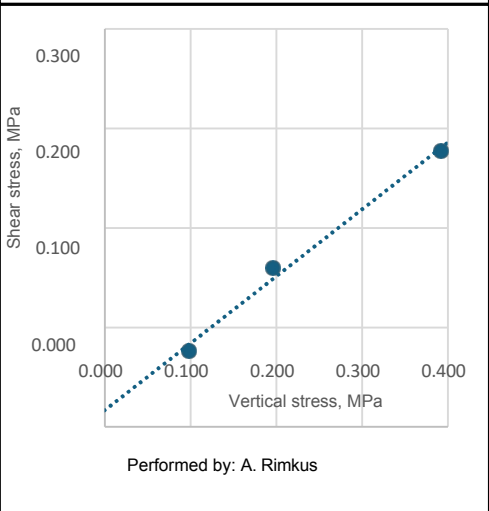
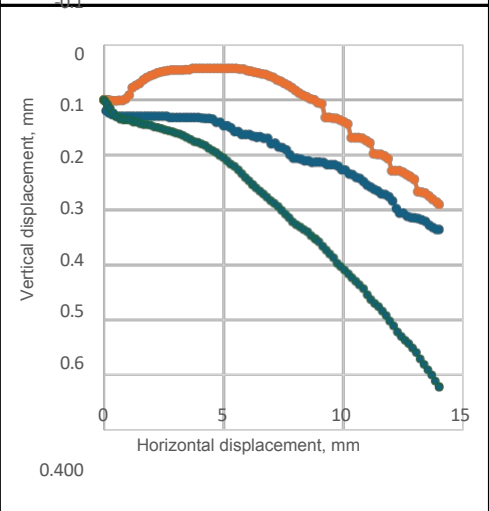
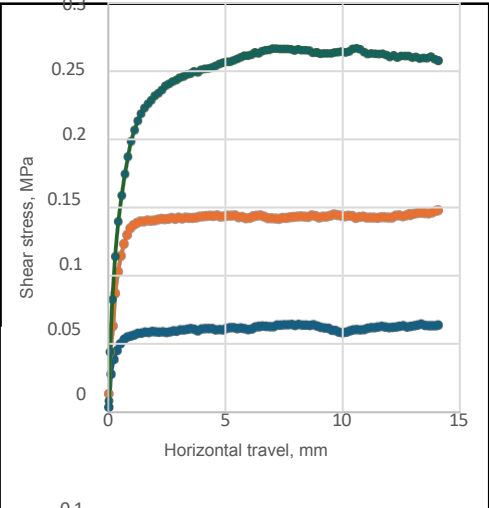
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_164	Gr.58	3	10.40	10.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	U
Mg/m ³	Mg/m ³	Mg/m ³	%	1	0	1
2.65	1.918	1.722	11.4	0.54	1	0.56
					0.35	

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3019	0.098	0.076	13.270	1.918	11.4
0.2987	0.196	0.159	14.000	1.918	
0.3010	0.392	0.277	10.513	1.918	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6733	34.0	0.017

Notes: Reconstructed specimen structure. Test in an aqueous environment

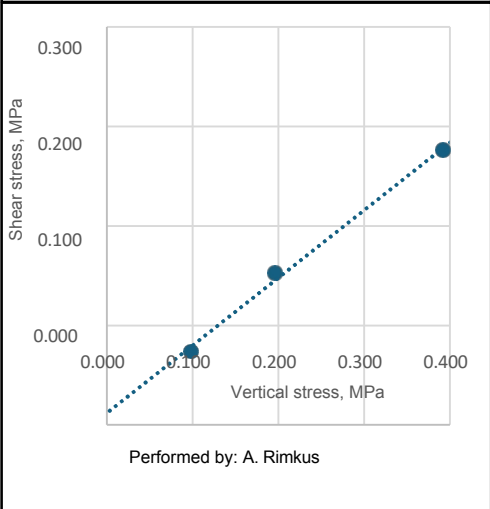
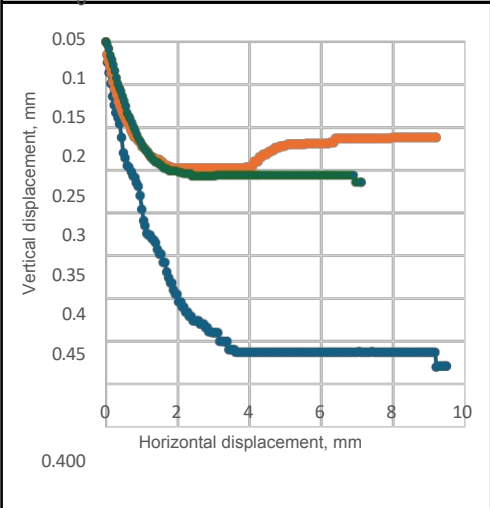
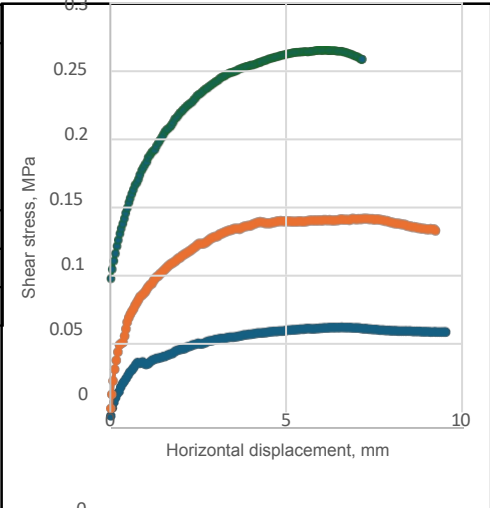


Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_169	Gr.32	1	5.10	5.40

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.62	1.768	1.243	42.3	1.11	0.53	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water volume
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0101	0.098	0.073	6.537	1.768	42.3
0.0098	0.196	0.153	7.154	1.768	
0.0973	0.392	0.276	6.129	1.768	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6798	34.0	0.012



Notes: Reconstructed specimen structure. Test in an aqueous environment

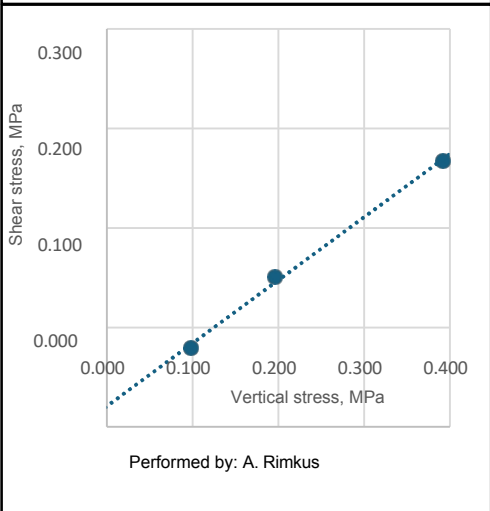
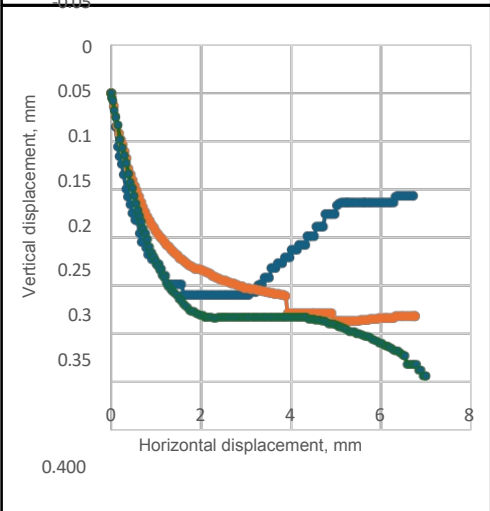
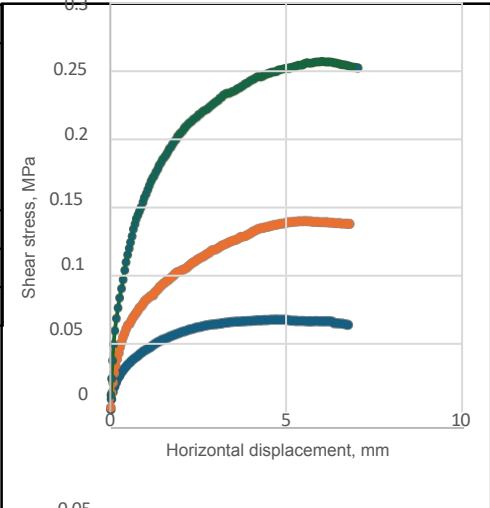
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_184	Gr.37	2	8:10	8:40

Indicators of soil physical condition						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m³	Mg/m³	Mg/m³	%	1	1	1
2.63	1.755	1.221	43.8	1.15	0.54	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m³	w , %
0.0496	0.098	0.079	4.692	1.755	43.8
0.0482	0.196	0.151	5.505	1.755	
0.0485	0.392	0.267	5.964	1.755	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6339	32.5	0.021



Notes: Reconstructed specimen structure. Test in an aqueous environment

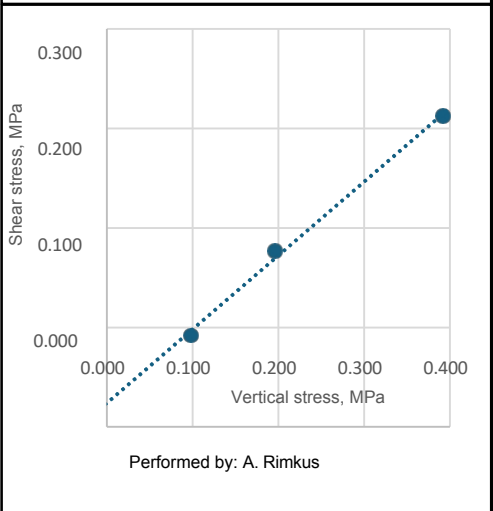
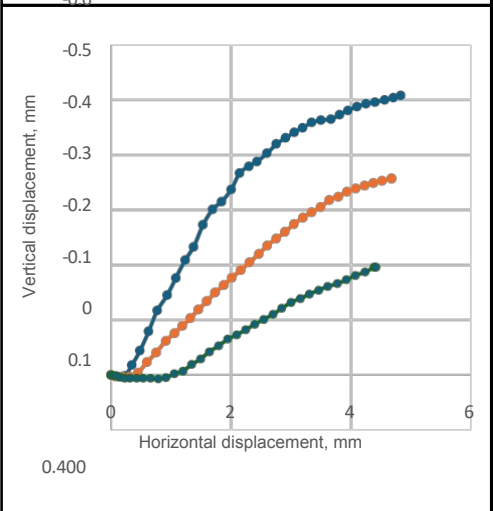
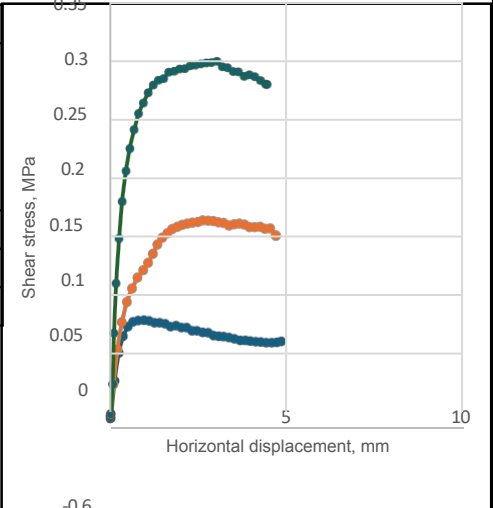
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_243	Gr.18	7	15.10	15.40

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	mg/m ³	Mg/m ³	%	1	1	1
2.67	1.976	1.744	13.3	0.53	0.35	0.67

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2939	0.098	0.092	0.935	1.976	13.3
0.2832	0.196	0.177	2.602	1.976	
0.2662	0.392	0.313	2.999	1.976	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.7422	36.5	0.024



Notes: Reconstructed specimen structure. Test in an aqueous environment

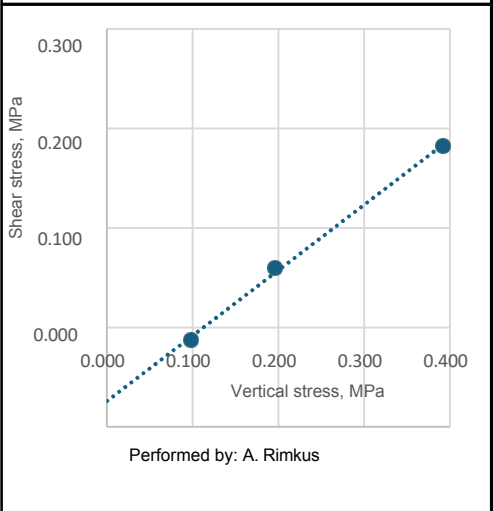
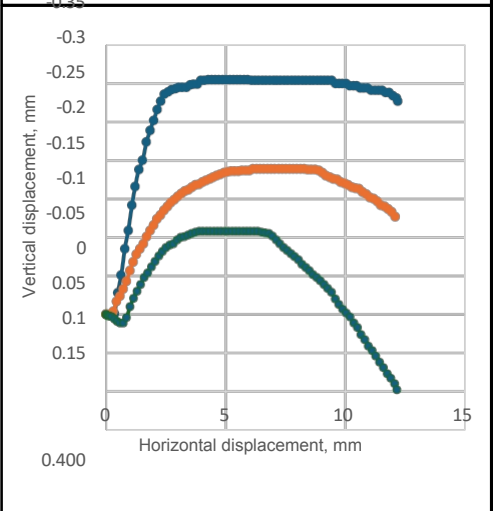
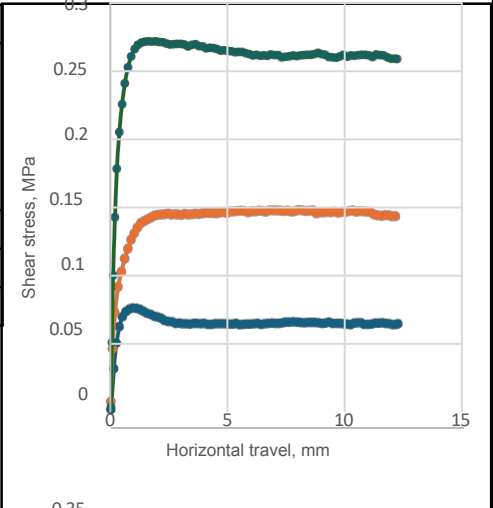
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_244	Gr.18	8	27.50	27.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.70	2.079	1.805	15.2	0.50	0.33	0.83

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2995	0.098	0.088	0.931	2.079	15.2
0.2951	0.196	0.159	7.970	2.079	
0.2940	0.392	0.283	1.591	2.079	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6582	33.5	0.026



Notes: Reconstructed specimen structure. Test in an aqueous environment

Performed by: A. Rimkus

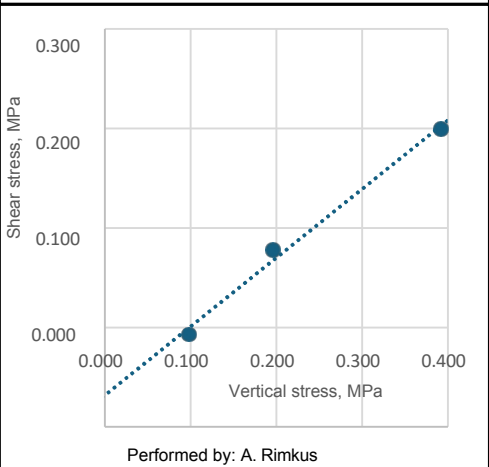
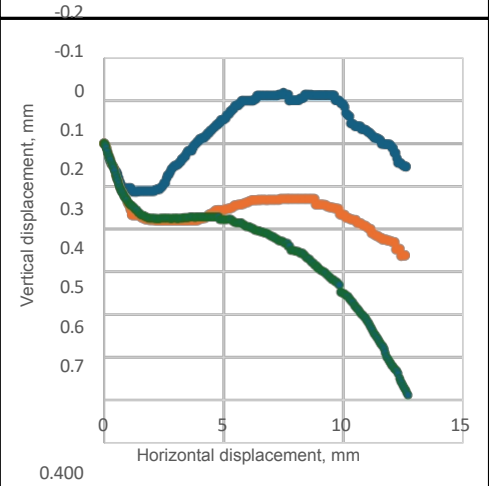
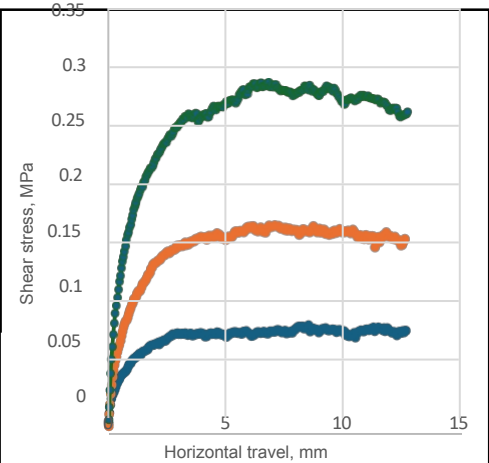
Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_248	Gr.14	3	14.80	15.10

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	2.005	1.858	7.9	0.43	0.30	0.49

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0982	0.098	0.092	8.485	2.005	7.9
0.0981	0.196	0.178	7.055	2.005	
0.0992	0.392	0.300	6.787	2.005	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6915	34.5	0.032

Notes: Reconstructed specimen structure. Test in an aqueous environment



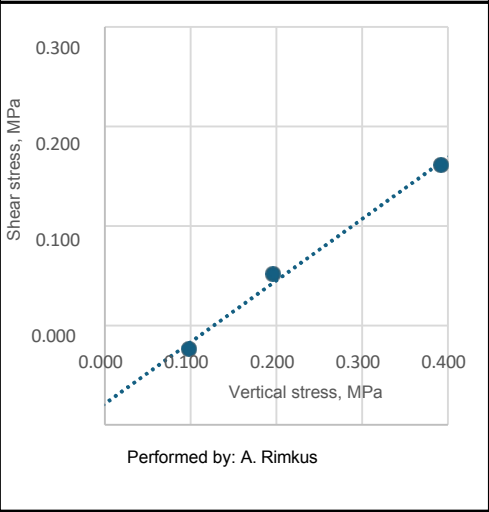
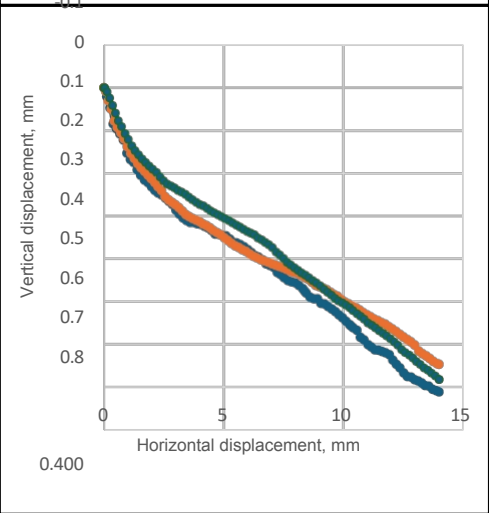
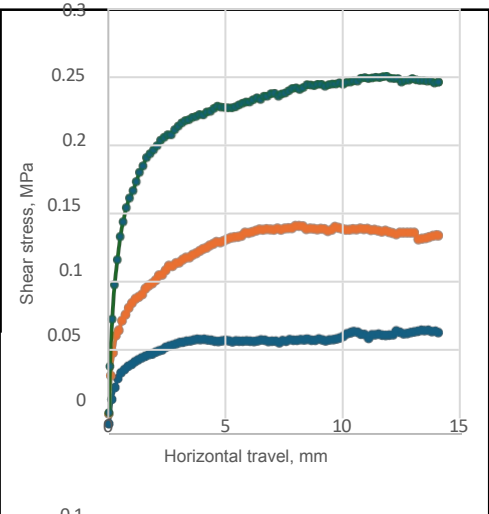
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_253	Gr.16	5	12.50	12.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of satiety
ρ_s	ρ	ρ_d	w	e	n	U
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	1.904	1.579	20.6	0.68	0.40	0.80

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2985	0.098	0.076	13.569	1.904	20.6
0.2961	0.196	0.152	7.925	1.904	
0.2977	0.392	0.261	11.803	1.904	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.6195	32.0	0.021

Notes: Reconstructed specimen structure. Test in an aqueous environment



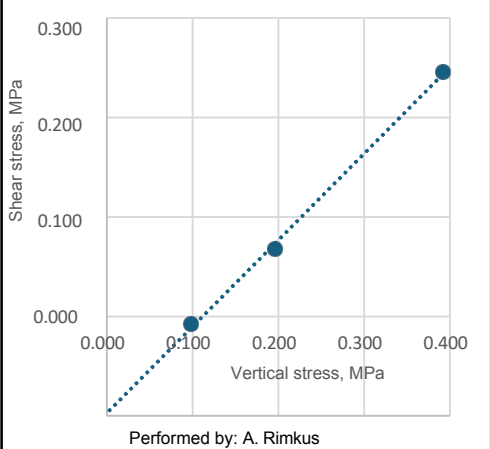
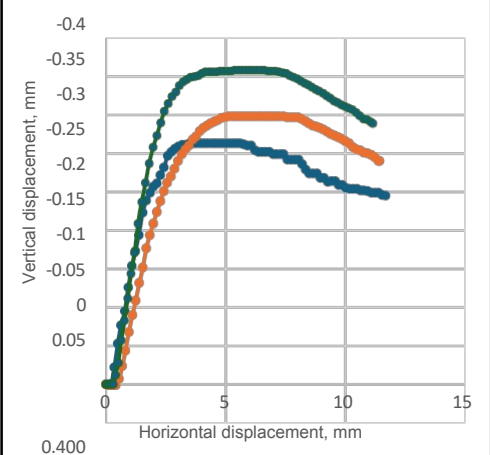
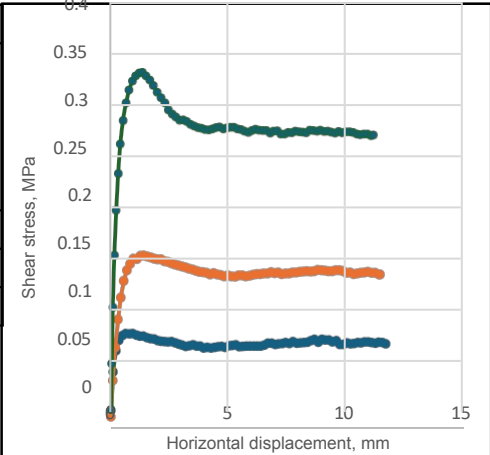
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_254	Gr.16	6	13.30	13.60

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	U
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	1.898	1.635	16.1	0.63	0.39	0.68

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2997	0.098	0.092	0.931	1.898	16.1
0.2958	0.196	0.168	1.396	1.898	
0.2911	0.392	0.346	1.341	1.898	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.8699	41.0	0.003

Notes: Reconstructed specimen structure. Test in an aqueous environment

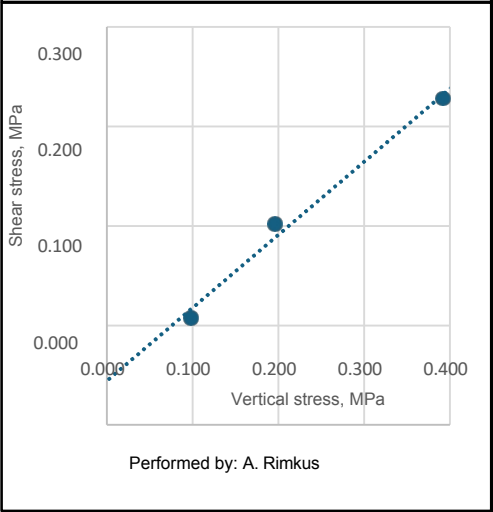
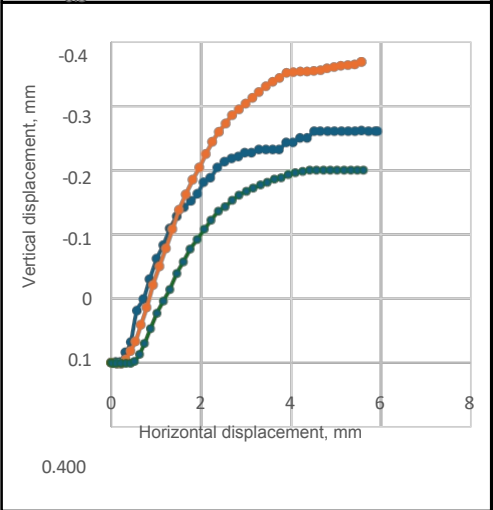
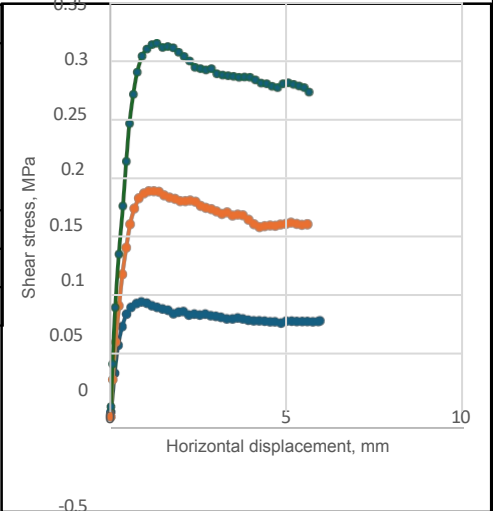


Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_255	Gr.16	7	16.00	4:30

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	2.014	1.803	11.7	0.47	0.32	0.66

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2942	0.098	0.107	0.859	2.014	11.7
0.2782	0.196	0.202	1.218	2.014	
0.2815	0.392	0.328	1.304	2.014	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.7343	36.5	0.044



Notes: Reconstructed specimen structure. Test in an aqueous environment

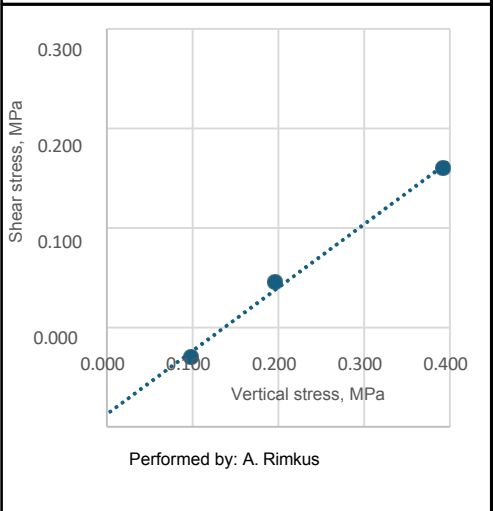
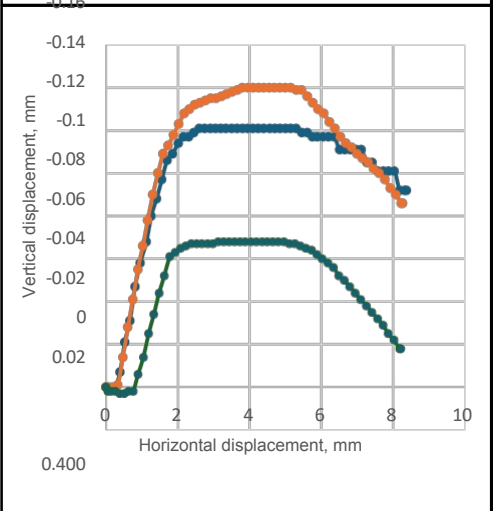
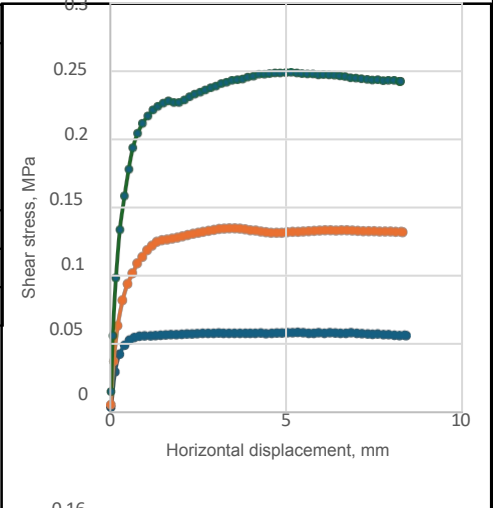
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_266	Gr.15	9	16.80	17.40

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	2.000	1.613	24.0	0.64	0.39	0.99

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2973	0.098	0.070	5.295	2.000	24.0
0.2939	0.196	0.146	3.357	2,000	
0.2921	0.392	0.260	5.106	2,000	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6368	32.5	0.013



Notes: Reconstructed specimen structure. Test in an aqueous environment

Performed by: A. Rimkus

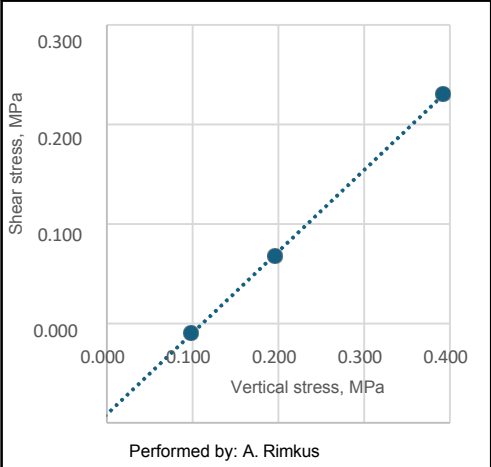
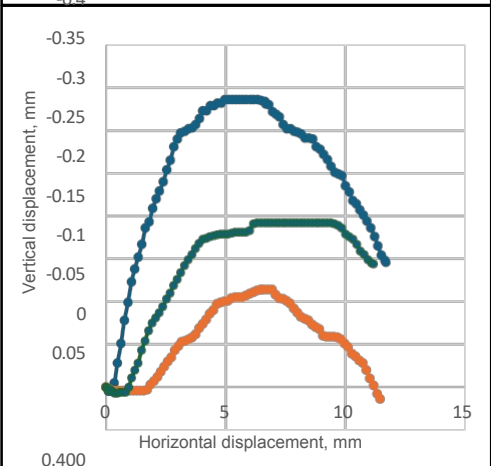
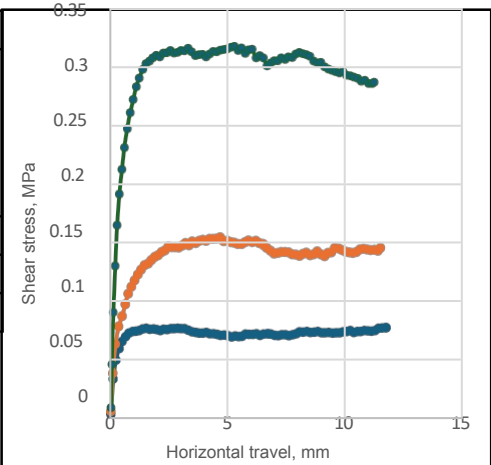
Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_297	Gr.11	5	14.20	14.50

Soil physical condition indicators						
Particle density	Soil density	Density of dry soil	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	1.864	1.675	11.3	0.59	0.37	0.51

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2990	0.098	0.090	11.691	1.864	11.3
0.2945	0.196	0.167	4.634	1.864	
0.2881	0.392	0.330	5.244	1.864	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.8188	39.5	0.009

Notes: Reconstructed specimen structure. Test in an aqueous environment

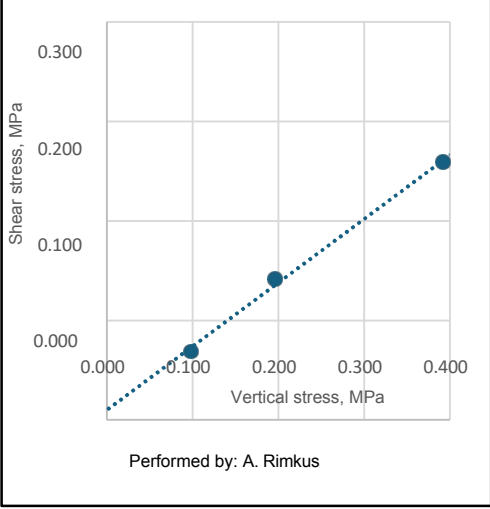
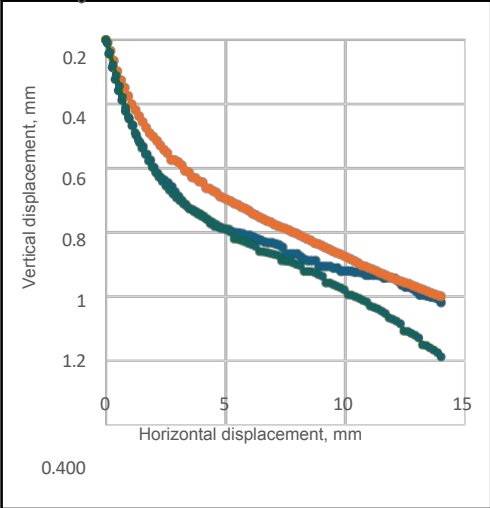
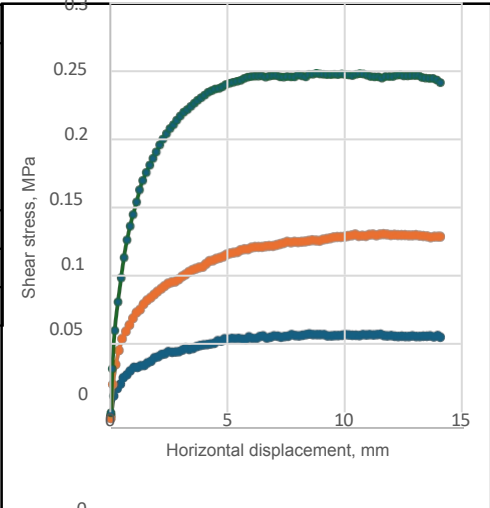


Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_302	Gr.2	1	4.70	6.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.61	1.890	1.553	21.7	0.68	0.40	0.83

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2984	0.098	0.069	8.433	1.890	21.7
0.2990	0.196	0.142	11.588	1.890	
0.2979	0.392	0.259	8.731	1.890	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.6404	32.5	0.010



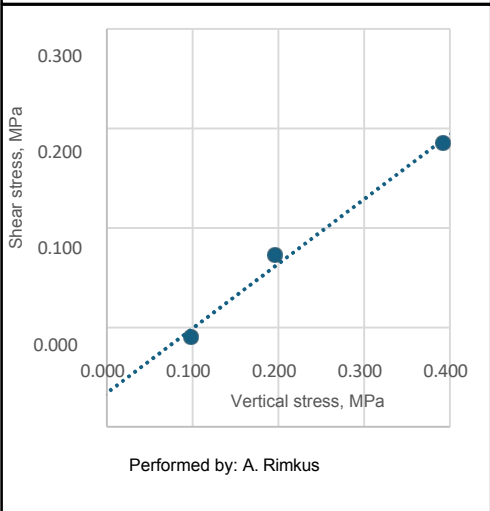
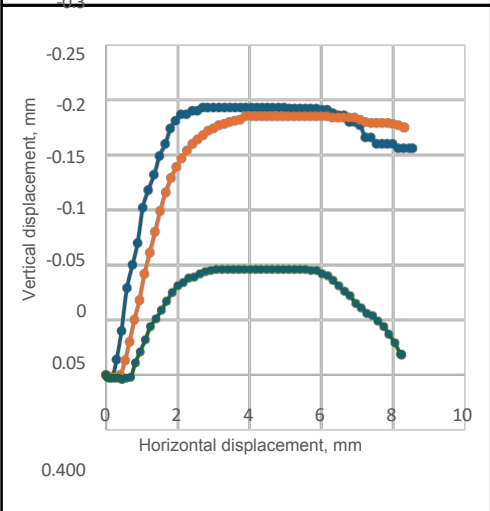
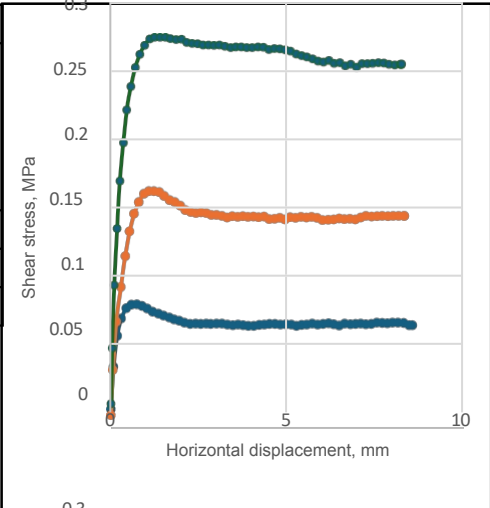
Notes: Sample structure restored. Test in an aqueous environment

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_306	Group 2	5	12.00	1:00

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	2.043	1.866	9.5	0.43	0.30	0.59

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2967	0.098	0.090	0.738	2.043	9.5
0.2912	0.196	0.173	1.073	2.043	
0.2877	0.392	0.285	1.541	2.043	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6497	33.0	0.034



Notes: Reconstructed specimen structure. Test in an aqueous environment

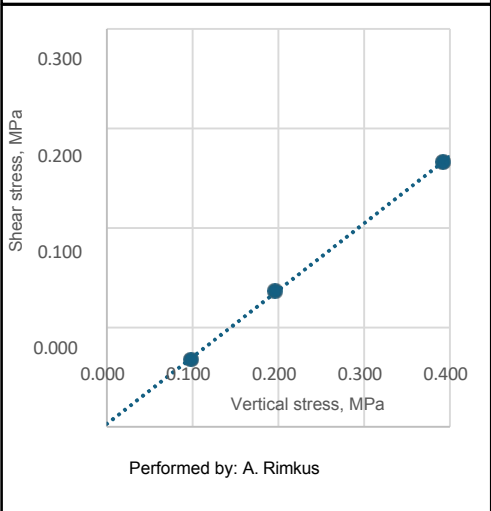
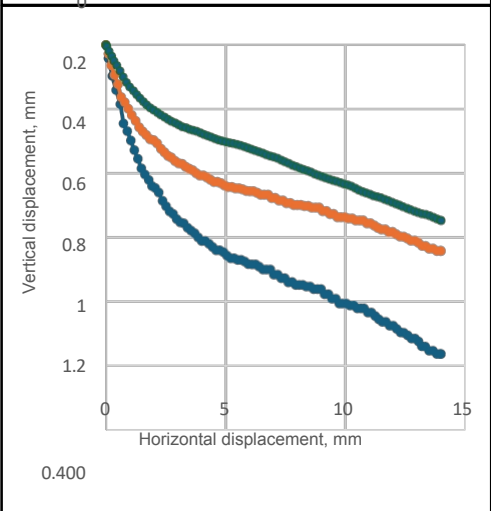
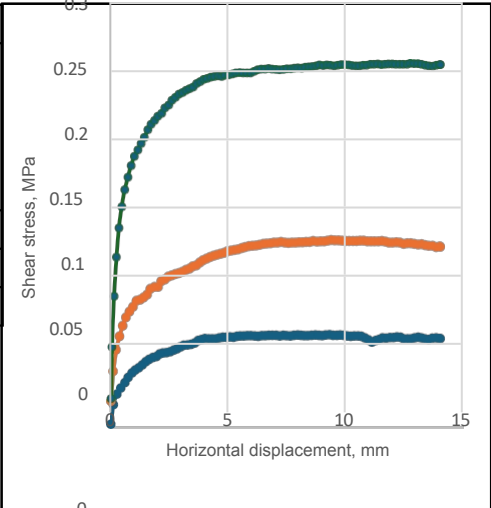
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_347	Gr.60	4	8.80	9.10

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.62	1.858	1.637	13.5	0.60	0.38	0.59

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3002	0.098	0.068	9.289	1.858	13.5
0.3005	0.196	0.137	9.365	1.858	
0.2973	0.392	0.266	12.718	1.858	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.6724	34.0	0.003



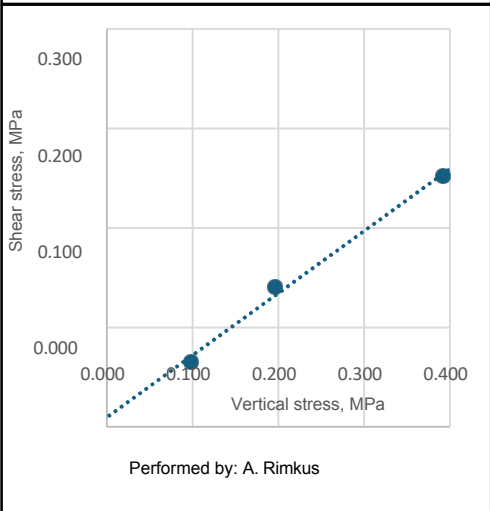
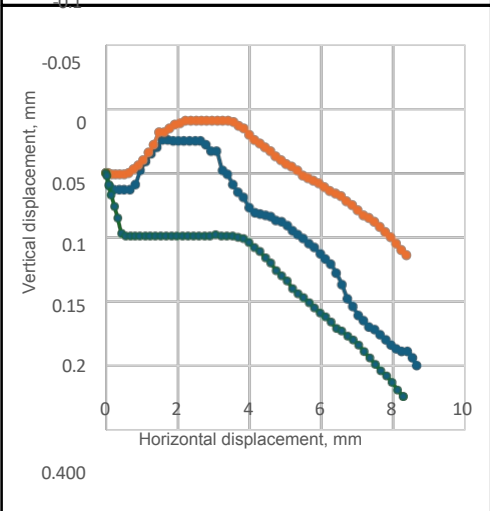
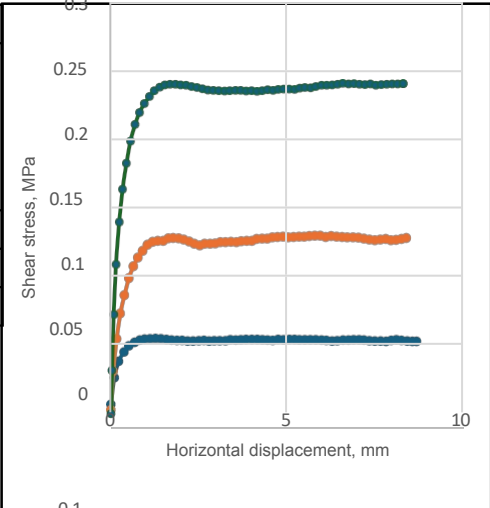
Notes: Reconstructed specimen structure. Test in an aqueous environment

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_004	Gr.1	4	9.60	11.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	1.939	1.719	12.8	0.54	0.35	0.63

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2995	0.098	0.065	1.260	1.939	12.8
0.2890	0.196	0.140	5.932	1.939	
0.2853	0.392	0.252	6.566	1.939	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.6248	32.0	0.009



Notes: Reconstructed specimen structure. Test in an aqueous environment

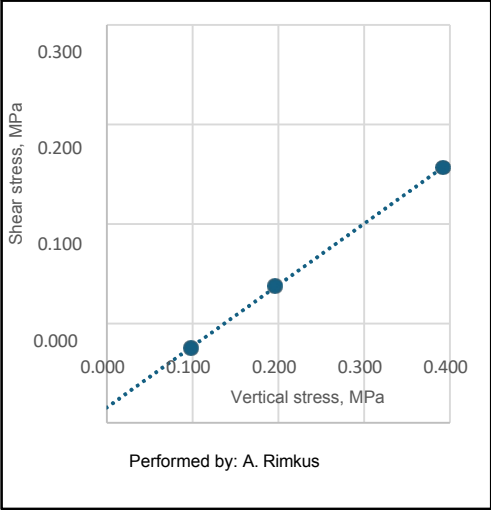
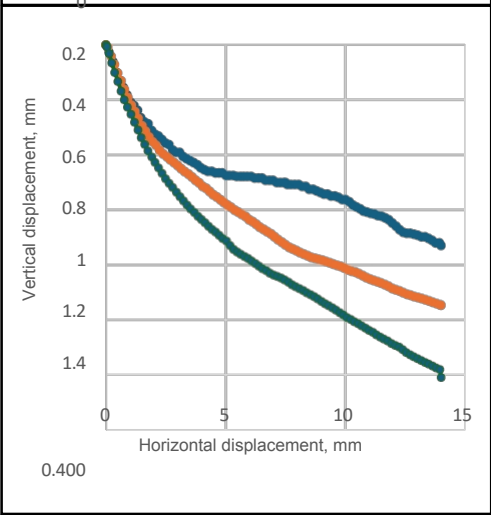
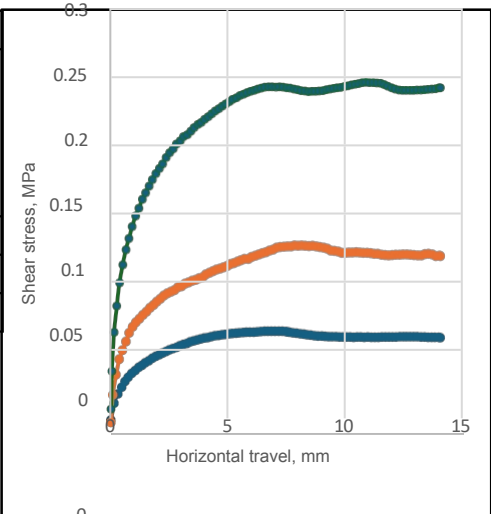
Performed by: A. Rimkus

Project:	For the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III; report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_015	Gr.19	1	4.10	4.30

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.64	1.721	1.161	48.3	1.27	0.56	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear stress	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2998	0.098	0.075	6.824	1.721	48.3
0.3002	0.196	0.138	7.805	1.721	
0.2966	0.392	0.257	10.832	1.721	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6163	31.5	0.015



Notes: Reconstructed specimen structure. Test in an aqueous environment

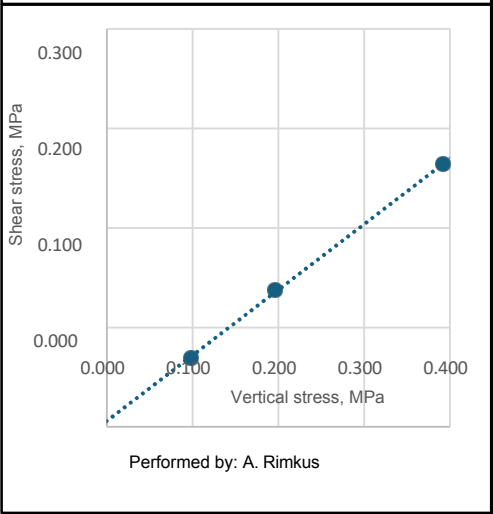
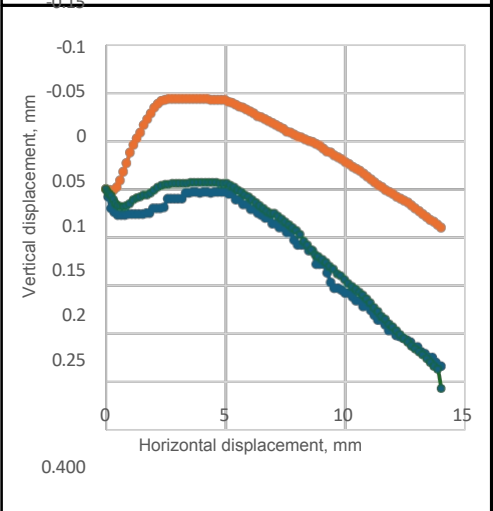
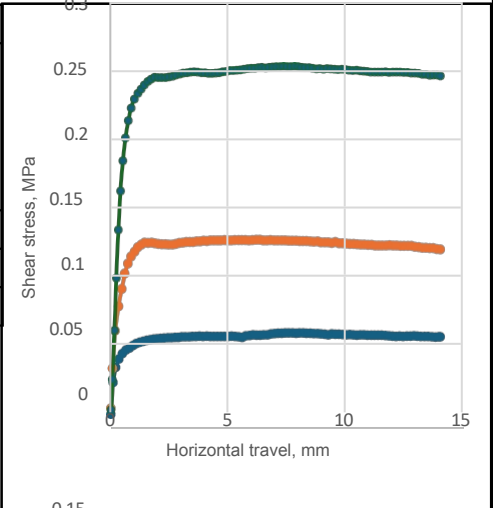
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_019	Gr.19	5	32.10	32.40

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	1.968	1.592	23.6	0.66	0.40	0.94

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2996	0.098	0.069	7.560	1.968	23.6
0.2980	0.196	0.137	6.179	1.968	
0.2948	0.392	0.264	7.337	1.968	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6595	33.5	0.006



Notes: Reconstructed specimen structure. Test in an aqueous environment

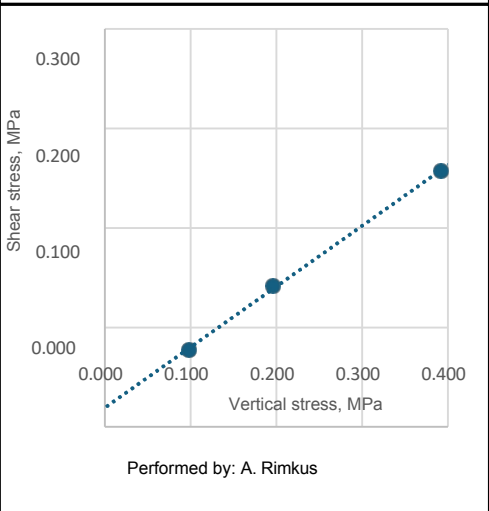
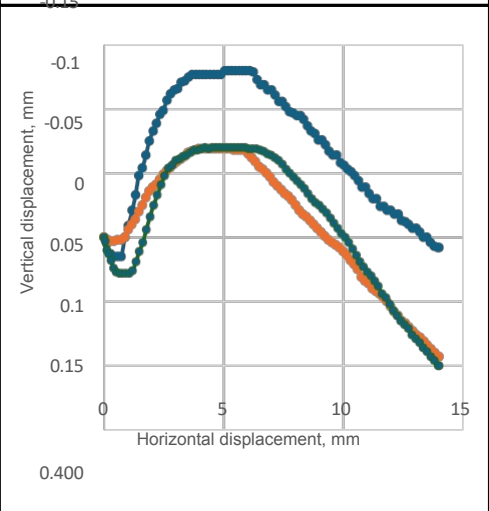
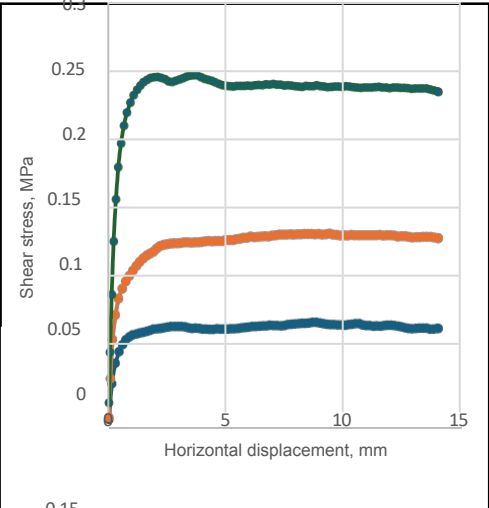
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_020	Gr.20	1	13.40	13.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.62	1.876	1.417	32.4	0.85	0.46	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2999	0.098	0.077	8.654	1.876	32.4
0.2974	0.196	0.142	9.374	1.876	
0.2971	0.392	0.257	3.602	1.876	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.6099	31.5	0.019



Notes: Reconstructed specimen structure. Test in an aqueous environment

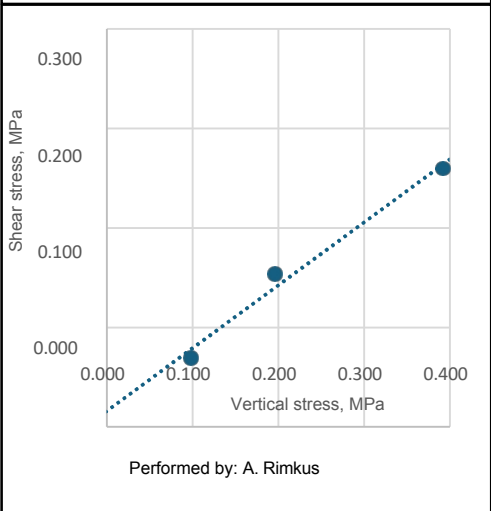
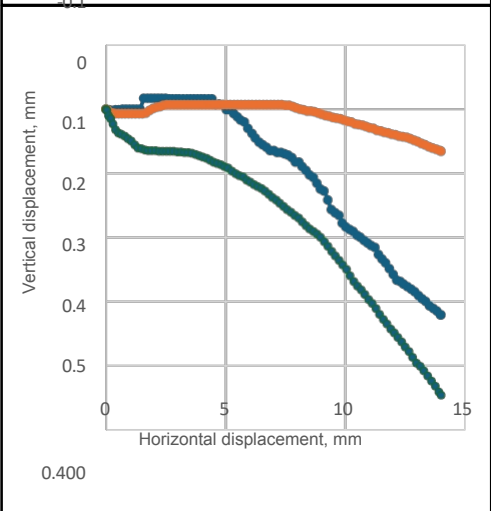
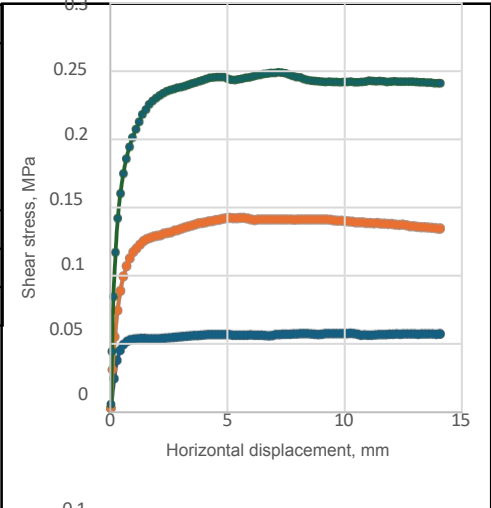
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_069	Gr.27	2	8.70	9.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.64	1.997	1.640	21.8	0.61	0.38	0.94

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3005	0.098	0.069	10.179	1.997	21.8
0.2969	0.196	0.153	5.503	1.997	
0.2959	0.392	0.260	7.105	1.997	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.6326	32.5	0.016



Notes: Reconstructed specimen structure. Test in an aqueous environment

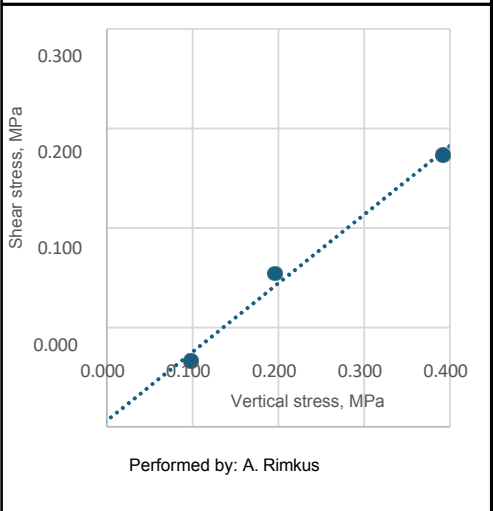
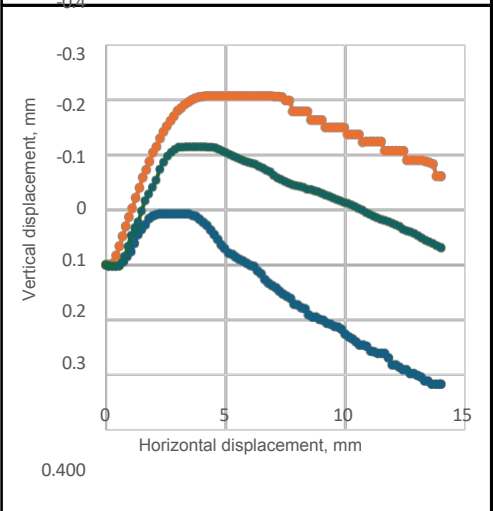
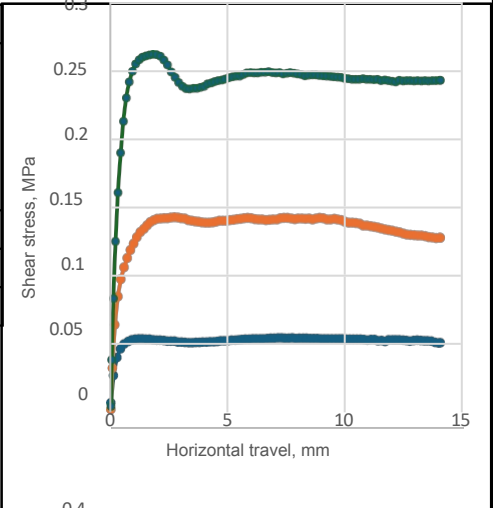
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Drill 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_081	Gr.35	2	13.10	13.40

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	2.008	1.618	24.1	0.64	0.39	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3028	0.098	0.066	7.252	2.008	24.1
0.2973	0.196	0.154	2.698	2.008	
0.2971	0.392	0.273	1.782	2.008	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6907	34.5	0.006



Notes: Reconstructed specimen structure. Test in an aqueous environment

Performed by: A. Rimkus

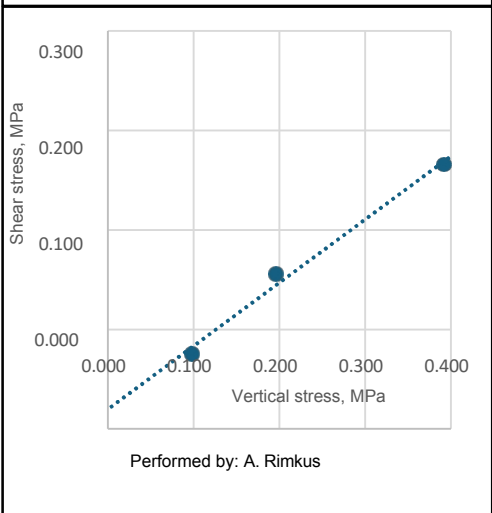
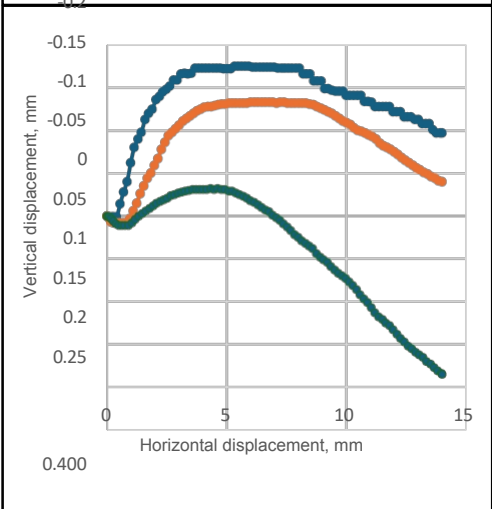
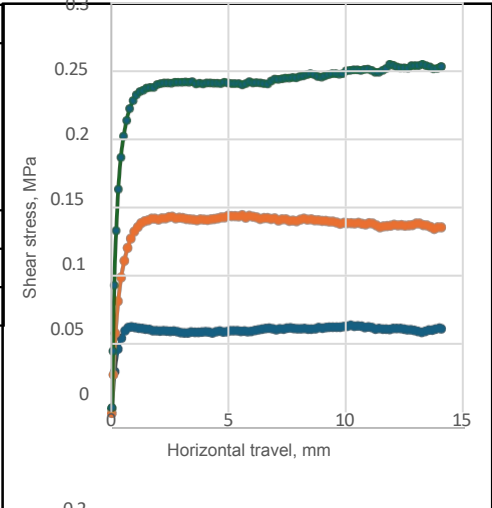
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_106	Gr.41	8	13.20	13.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m³	Mg/m³	Mg/m³	%	1	1	1
2.63	1.862	1.589	17.2	0.66	0.40	0.69

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m³	w , %
0.2994	0.098	0.075	10.144	1.862	17.2
0.2979	0.196	0.155	5.542	1.862	
0.2941	0.392	0.266	13.188	1.862	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.6361	32.5	0.020

Notes: Reconstructed specimen structure. Test in an aqueous environment

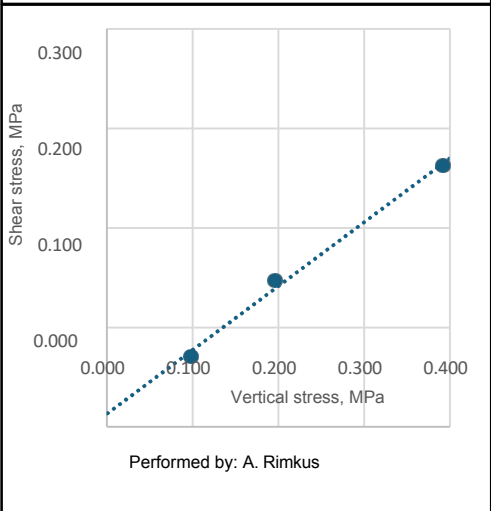
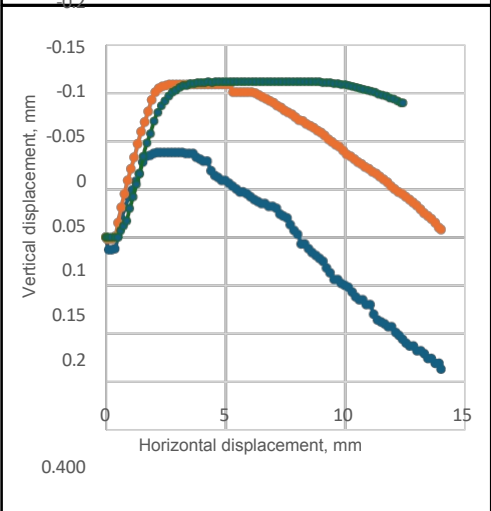
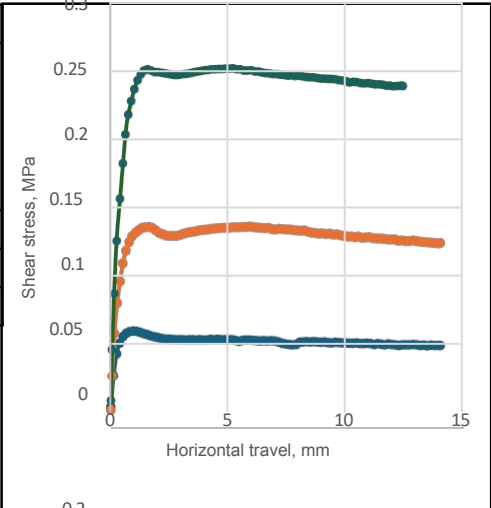


Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_107	Gr.41	9	16.20	16.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.62	1.894	1.580	19.9	0.66	0.40	0.79

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2990	0.098	0.071	0.952	1.894	19.9
0.2960	0.196	0.147	5.922	1.894	
0.2970	0.392	0.262	5.189	1.894	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6427	32.5	0.013



Notes: Reconstructed specimen structure. Test in an aqueous environment

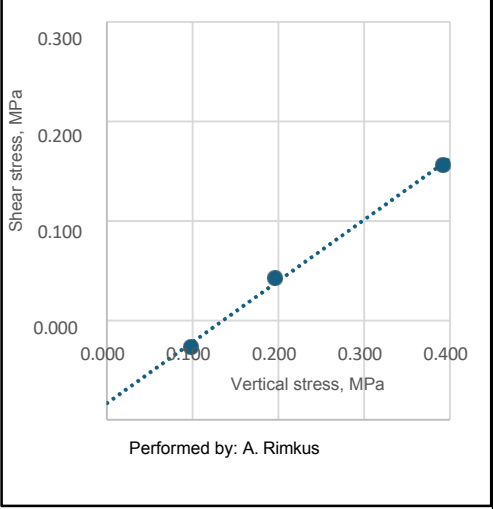
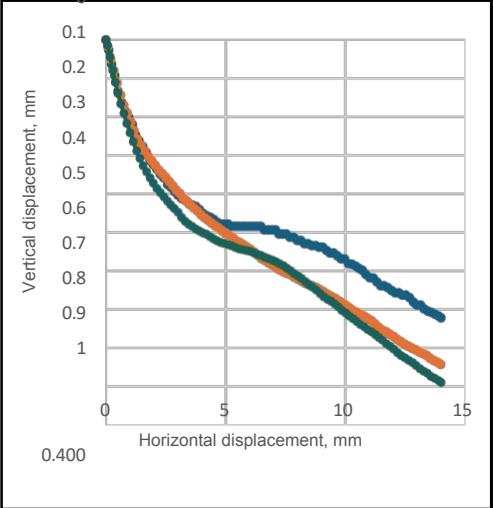
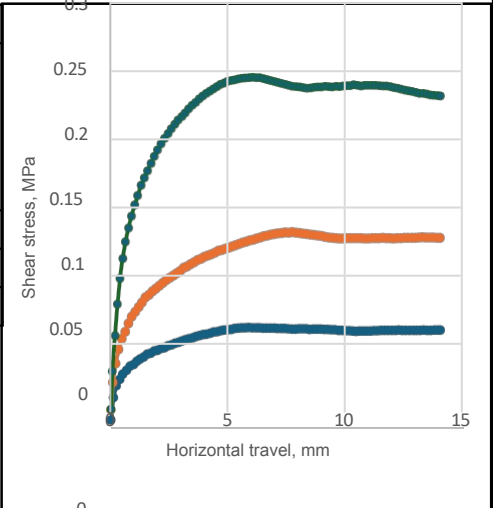
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_119	Gr.45	2	6.20	6.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.64	1.889	1.431	32.0	0.84	0.46	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2988	0.098	0.073	5.858	1.889	32.0
0.2981	0.196	0.143	7.713	1.889	
0.2955	0.392	0.256	6.011	1.889	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6152	31.5	0.017



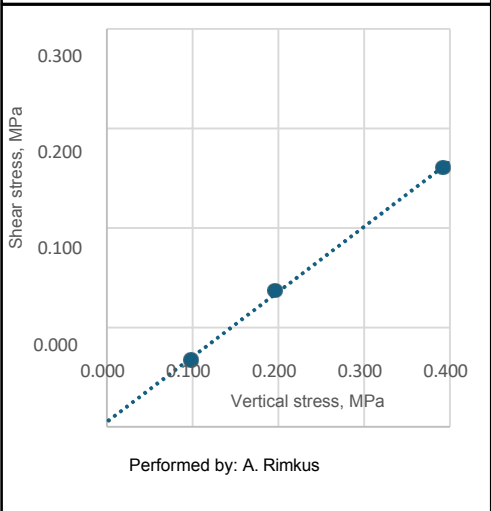
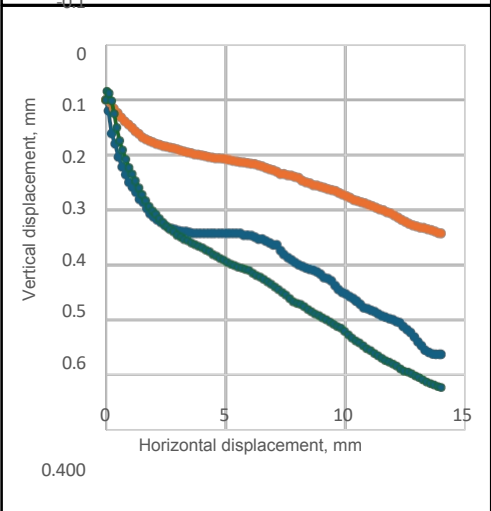
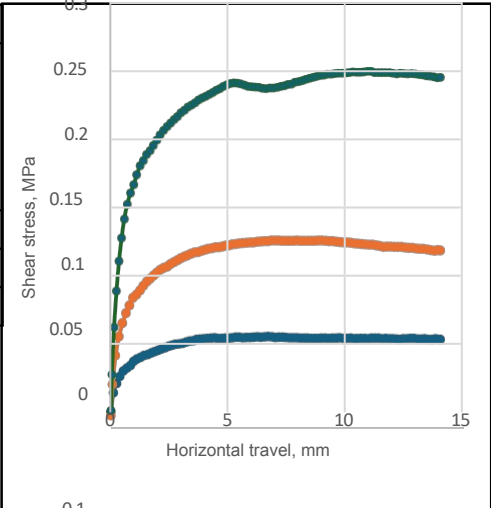
Notes: Reconstructed specimen structure. Test in an aqueous environment

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_162	Gr.58	1	1.40	1.70

Indicators of soil physical condition						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.63	1.998	1.593	25.4	0.65	0.39	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2997	0.098	0.067	6.685	1.998	25.4
0.2990	0.196	0.137	7.132	1.998	
0.2951	0.392	0.261	11.049	1.998	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6544	33.0	0.005



Notes: Reconstructed specimen structure. Test in an aqueous environment

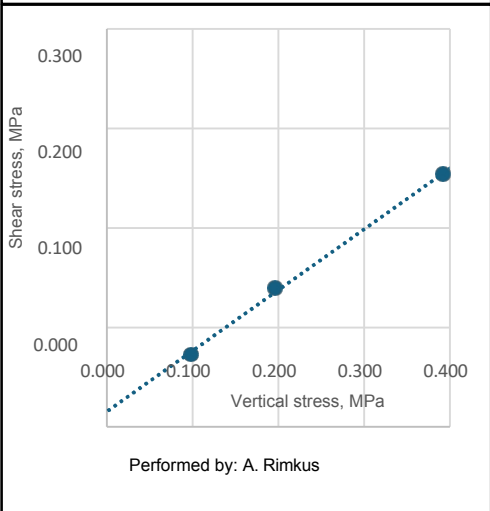
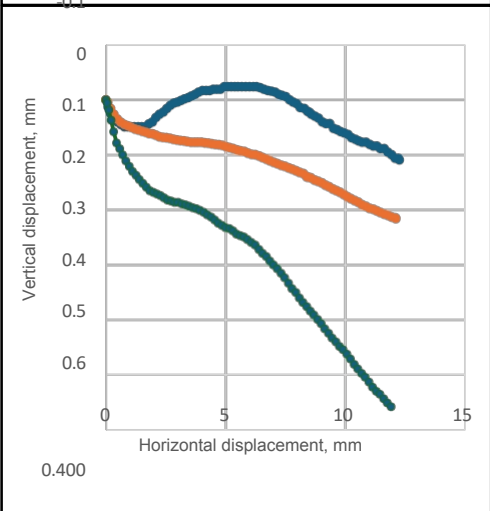
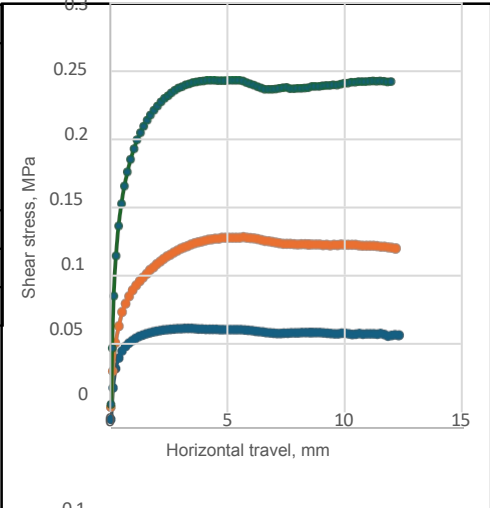
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_170	Gr.32	2	7.40	7.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	mg/m ³	Mg/m ³	%	1	1	1
2.64	1.855	1.380	34.4	0.91	0.48	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2982	0.098	0.073	3.437	1.855	34.4
0.2983	0.196	0.139	5.628	1.855	
0.2939	0.392	0.254	5.150	1.855	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6111	31.5	0.015



Notes: Reconstructed specimen structure. Test in an aqueous environment

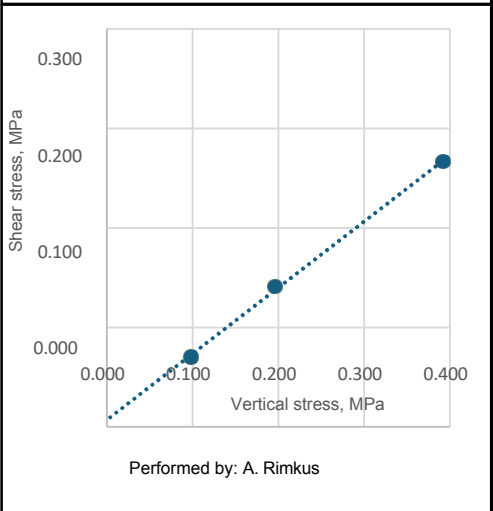
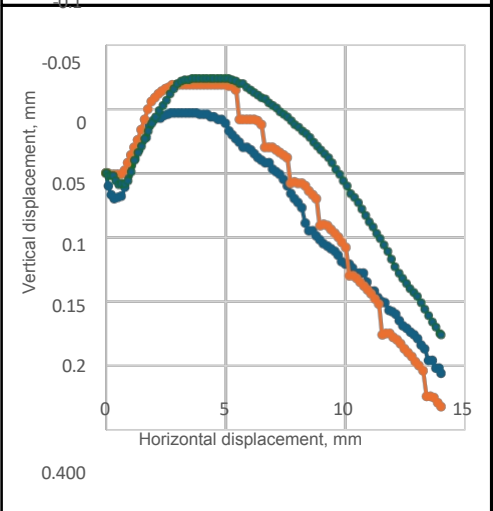
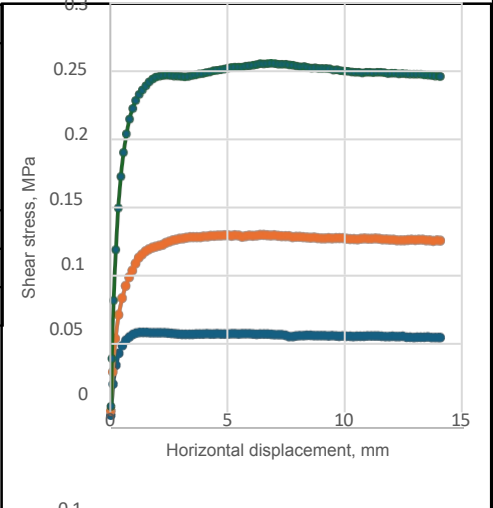
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_186	Gr.37	4	11.50	11.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	1.936	1.623	19.3	0.63	0.39	0.81

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2995	0.098	0.070	1.221	1.936	19.3
0.2982	0.196	0.141	6.339	1.936	
0.2967	0.392	0.267	6.806	1.936	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6650	33.5	0.007



Notes: Reconstructed specimen structure. Test in an aqueous environment

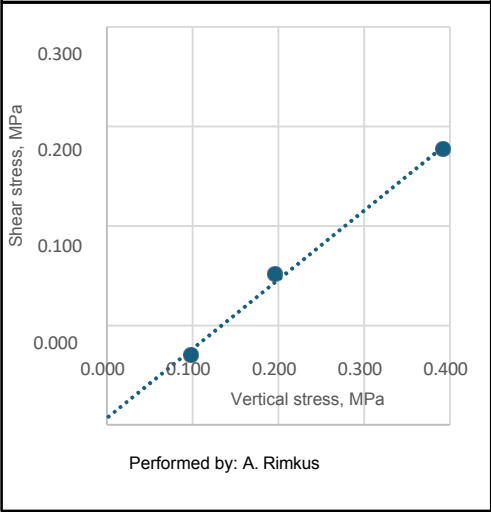
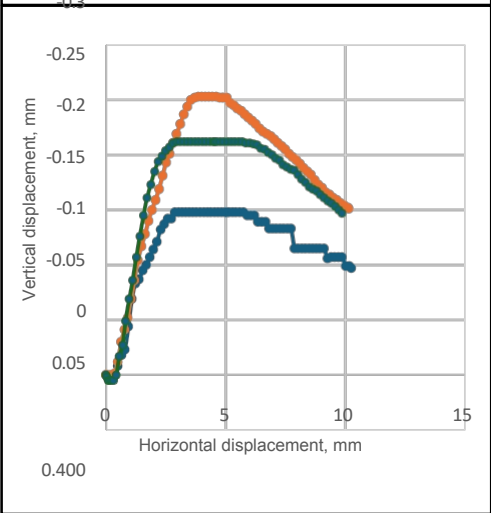
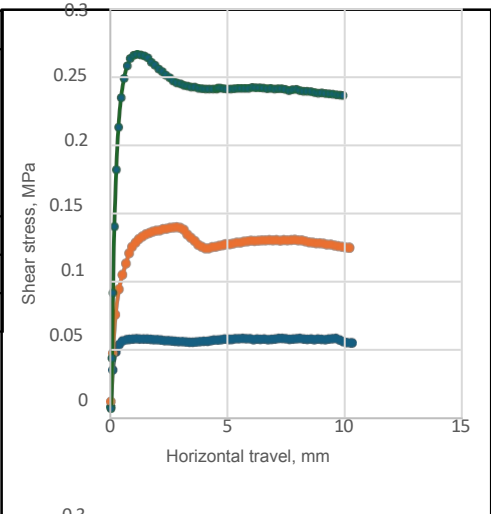
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations assigned to Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; report				
Sample information:	Sample ID	Drill 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_189	Gr.39	3	9.30	9.50

Indicators of soil physical condition						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	1.918	1.576	21.7	0.69	0.41	0.84

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2993	0.098	0.070	7.267	1.918	21.7
0.2974	0.196	0.151	2.801	1.918	
0.2905	0.392	0.277	1.112	1.918	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6958	35.0	0.007



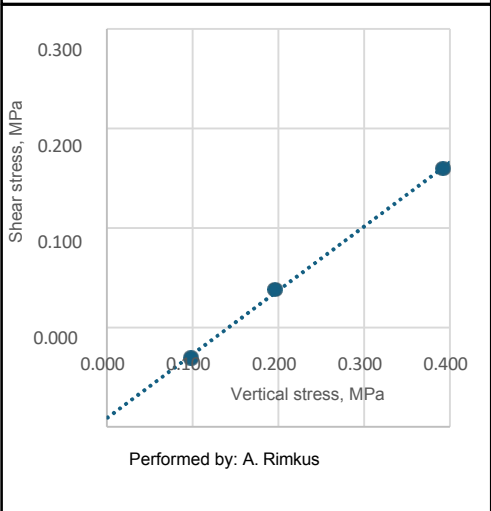
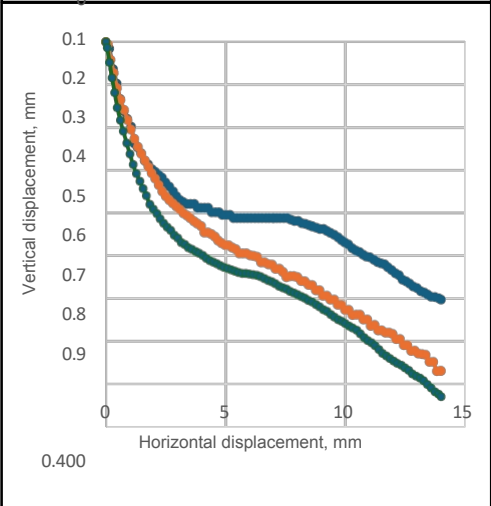
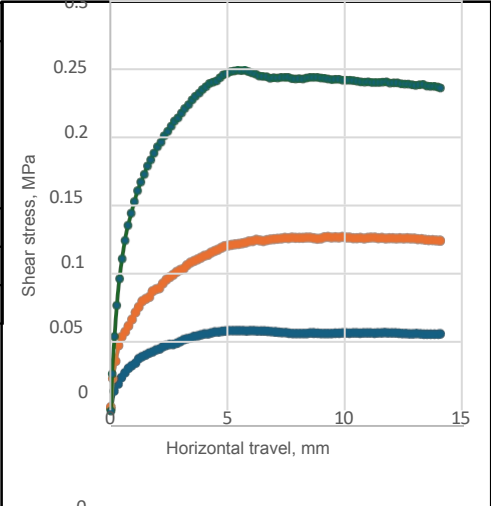
Notes: Reconstructed specimen structure. Test in an aqueous environment

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_197	Gr.9	1	17.20	17.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	2.099	1.765	18.9	0.51	0.34	0.99

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2992	0.098	0.070	5.476	2.099	18.9
0.2974	0.196	0.138	9.224	2.099	
0.2957	0.392	0.260	5.387	2.099	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.6427	32.5	0.009



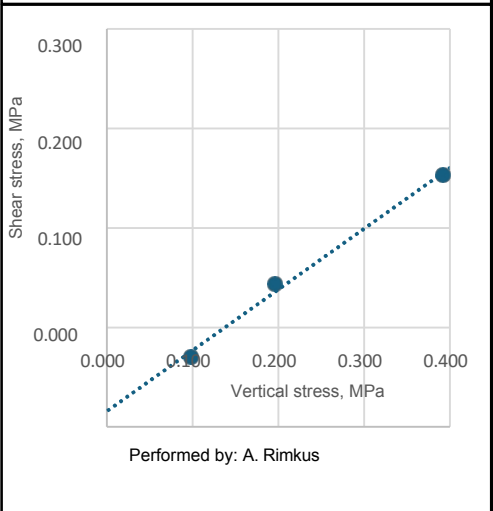
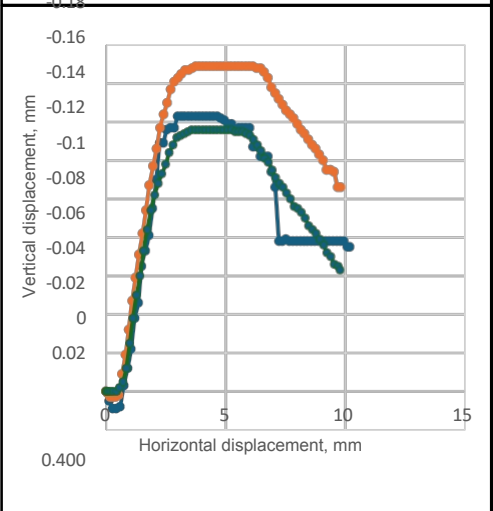
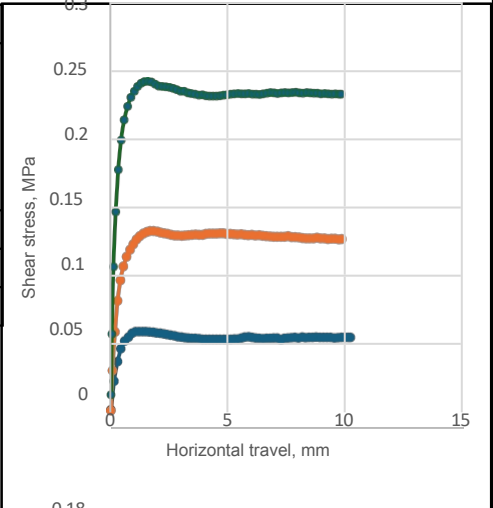
Notes: Reconstructed specimen structure. Test in an aqueous environment

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_229	Gr.59	3	11.40	11.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	1.963	1.567	25.3	0.70	0.41	0.96

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3012	0.098	0.070	1.046	1.963	25.3
0.2934	0.196	0.144	1.812	1.963	
0.2939	0.392	0.253	1.569	1.963	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6119	31.5	0.016



Notes: Reconstructed specimen structure. Test in an aqueous environment

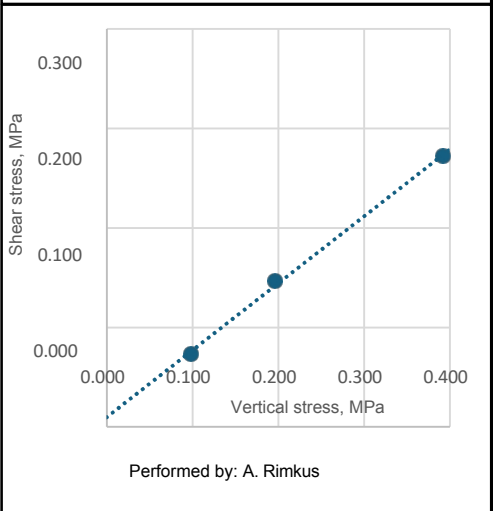
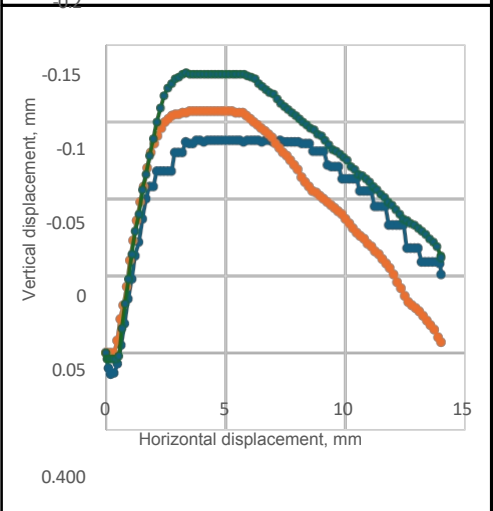
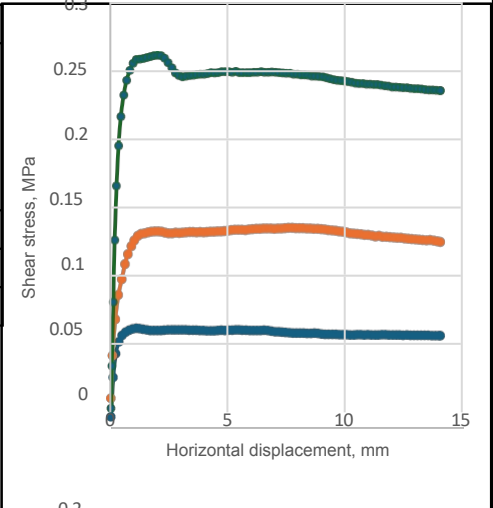
Performed by: A. Rimkus

Project:	Design of new quays and shore reinforcements in the southern part of the port, preparation of a dredging project, design engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_230	Gr.59	4	16.30	16.60

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.65	1.933	1.559	24.0	0.70	0.41	0.91

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.2997	0.098	0.073	1.076	1.933	24.0
0.2983	0.196	0.146	7.548	1.933	
0.2944	0.392	0.272	1.974	1.933	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6731	34.0	0.010



Notes: Reconstructed specimen structure. Test in an aqueous environment

Performed by: A. Rimkus

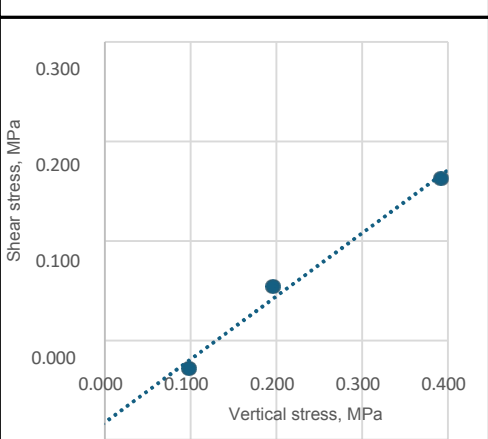
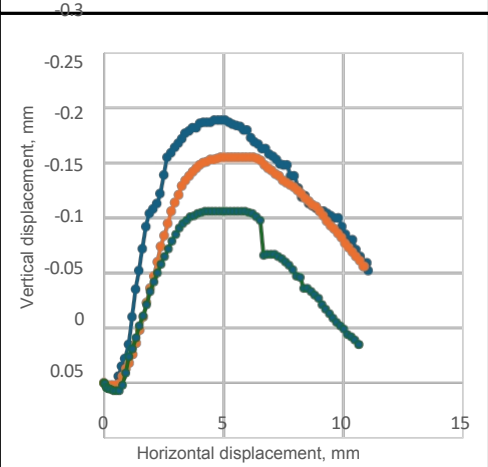
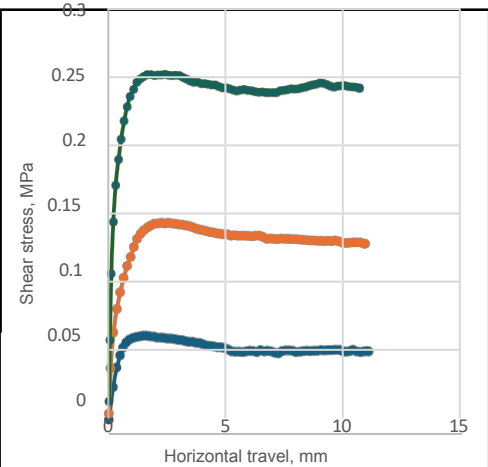
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_242	Gr.18	6	12.90	13.20

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water volume	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.64	1.885	1.468	28.4	0.80	0.44	0.94

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.3008	0.098	0.072	1.464	1.885	28.4
0.2970	0.196	0.154	2.522	1.885	
0.2914	0.392	0.262	2.383	1.885	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6347	32.5	0.017

Notes: Reconstructed specimen structure. Test in an aqueous environment



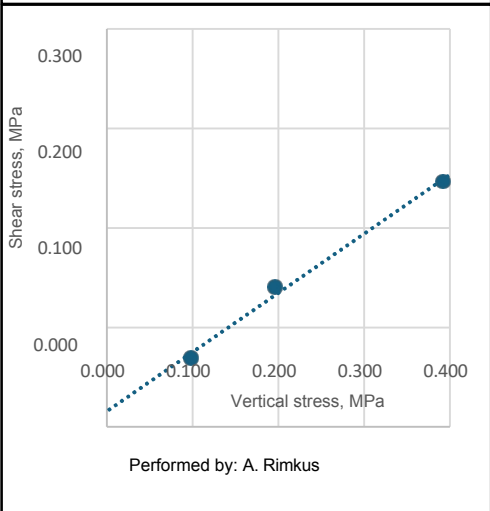
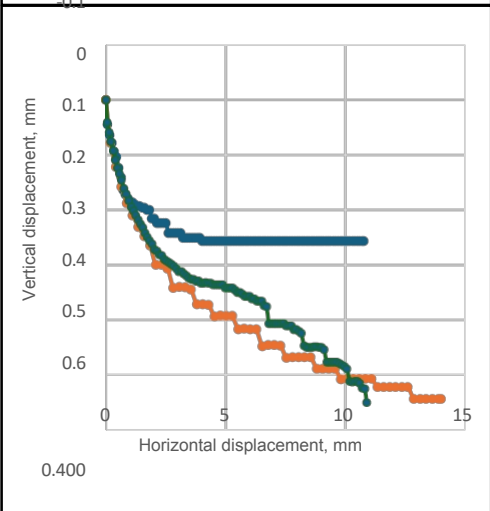
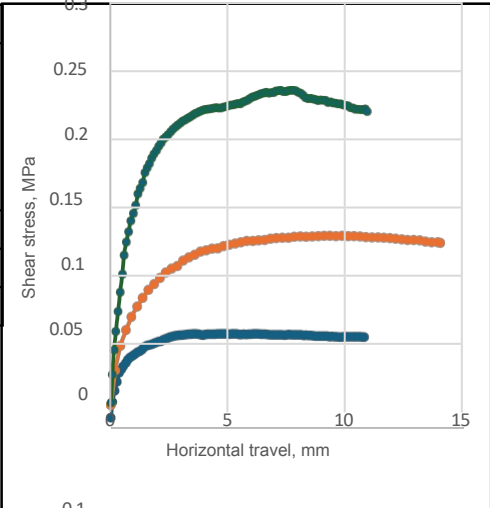
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_029	Gr.23	2	18.50	18.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	mg/m ³	%	1	1	1
2.69	2.128	1.791	18.8	0.50	0.33	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0020	0.098	0.069	5.240	2.124	18.8
0.0020	0.196	0.140	9.818	2.126	
0.0020	0.392	0.246	7.222	2.134	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.5952	31.0	0.016



Notes: Test performed in an aqueous environment

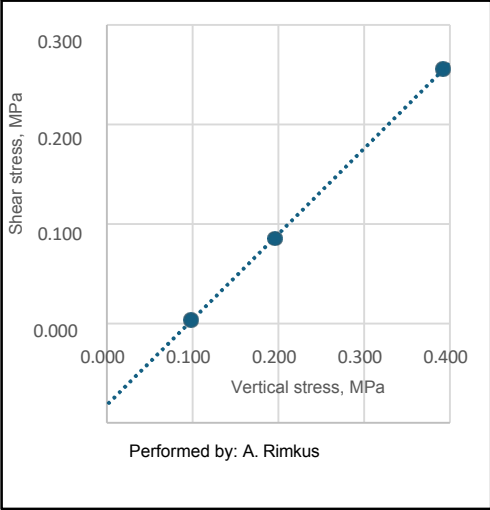
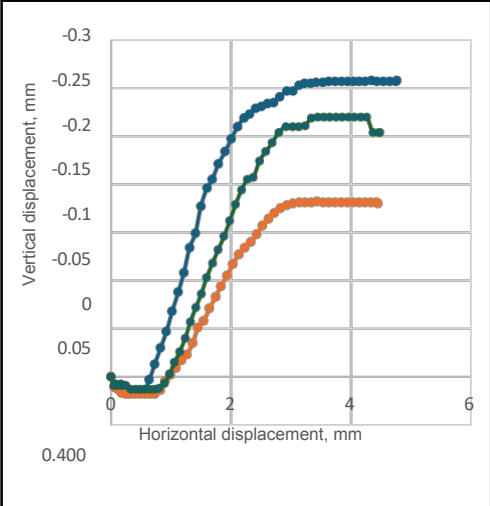
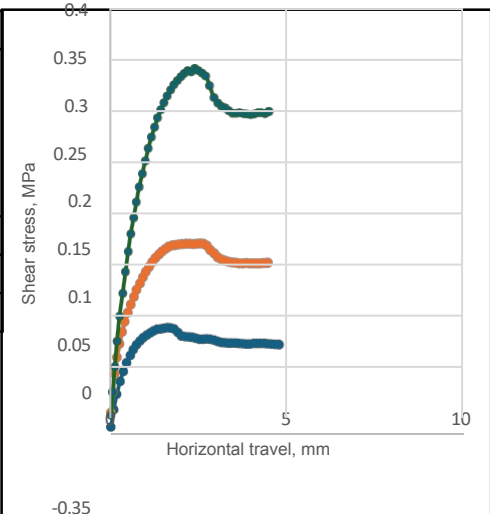
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_038	Gr.24	7	21.50	23.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
-	2.095	1.759	19.1	-	-	-

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0049	0.098	0.103	1.599	2.106	19.1
0.0046	0.196	0.185	2.525	2.077	
0.0047	0.392	0.356	2.370	2.104	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.8597	40.5	0.018



Notes: Test performed in an aqueous environment

Performed by: A. Rimkus

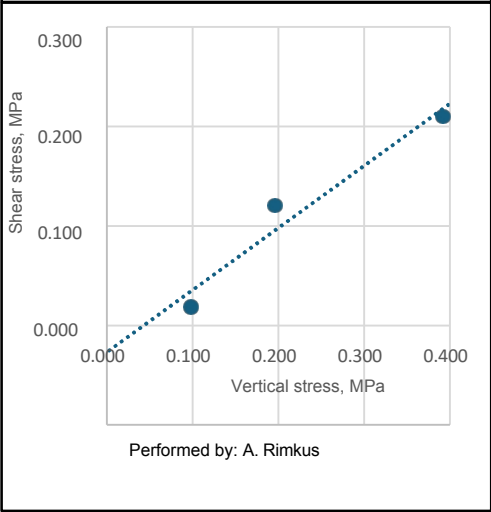
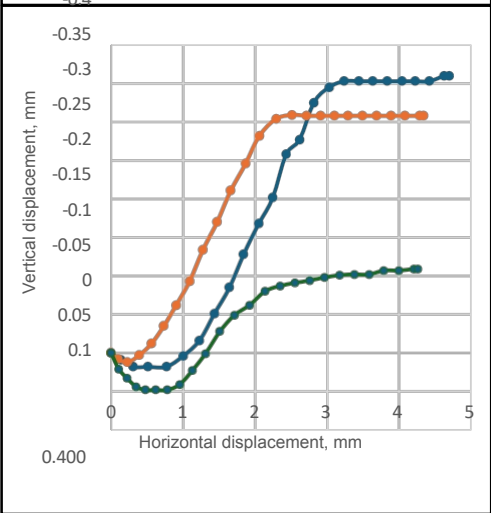
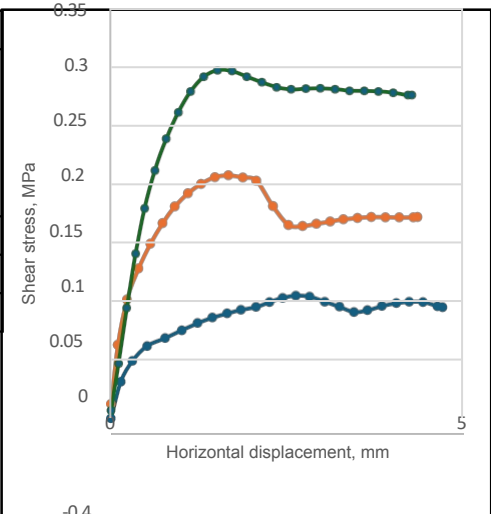
Project:	Design engineering geological and geotechnical investigations assigned to Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; report				
Sample information:	Sample ID	Drill 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_047	Gr.25	2	16.20	17.60

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.69	2.163	1.911	13.2	0.41	0.29	0.87

Test data					
Shear rate	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0101	0.098	0.118	2.620	2.228	13.2
0.0093	0.196	0.220	1.662	2.133	
0.0091	0.392	0.310	1.509	2.128	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ , °	c , MPa
0.6247	32.0	0.073

Notes: Test performed in a water environment. Soil is weakly cemented



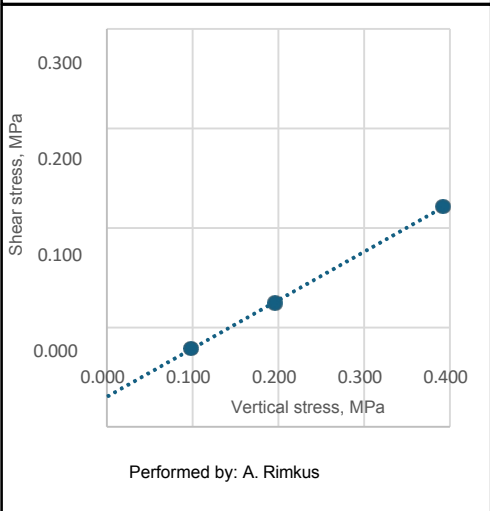
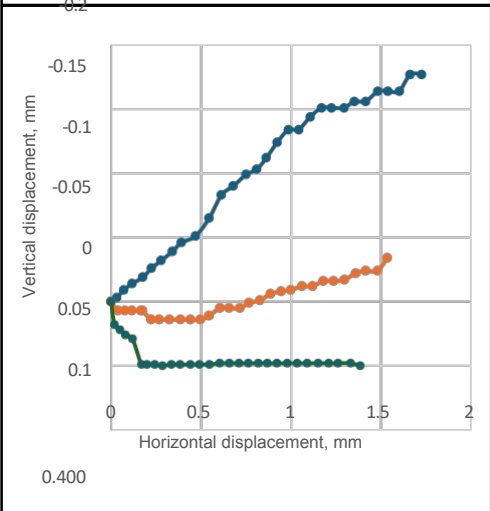
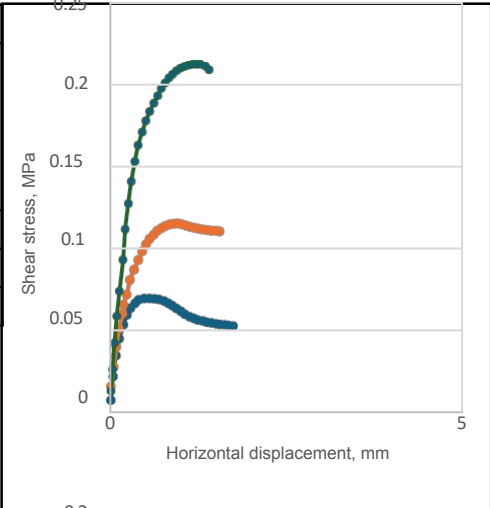
Performed by: A. Rimkus

Project:	For the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III; report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_054	Gr.25	9	33.00	33.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.75	2.098	1.672	25.5	0.64	0.39	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0010	0.098	0.079	0.469	2.096	25.5
0.0009	0.196	0.124	0.944	2.101	
0.0008	0.392	0.221	1.209	2.098	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.4860	26.0	0.030



Notes: Test performed in an aqueous environment

Performed by: A. Rimkus

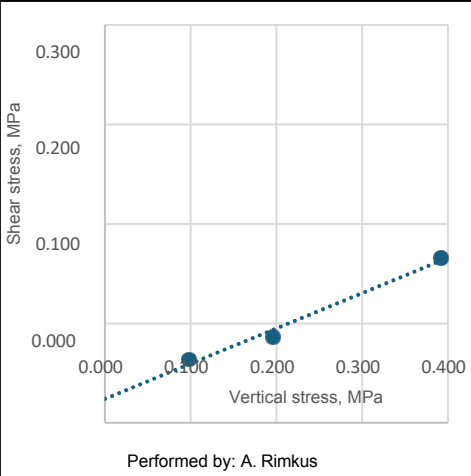
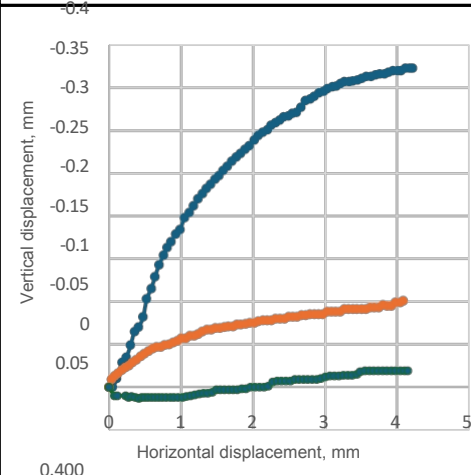
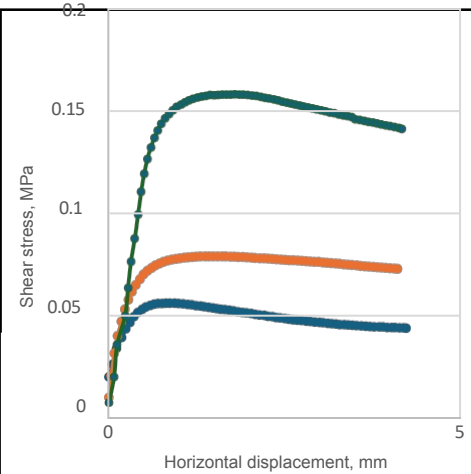
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_055	Gr.25	10	34.00	35.20

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
-	2.085	1.695	23.0	-	-	-

Test data					
Shear rate	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0010	0.098	0.064	0.862	2.110	23.0
0.0010	0.196	0.086	1.418	2.057	
0.0010	0.392	0.166	1.782	2.086	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.3546	19.5	0.024

Notes: Test performed in an aqueous environment

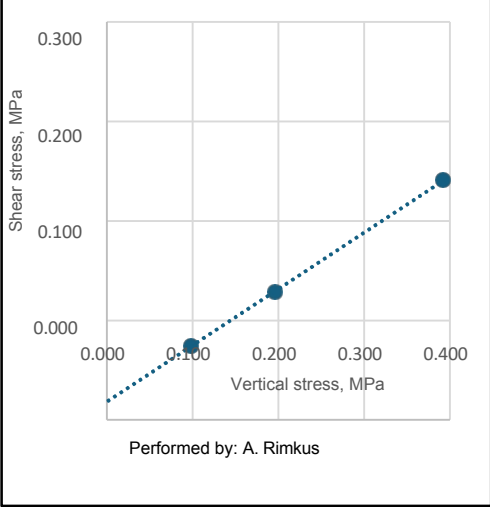
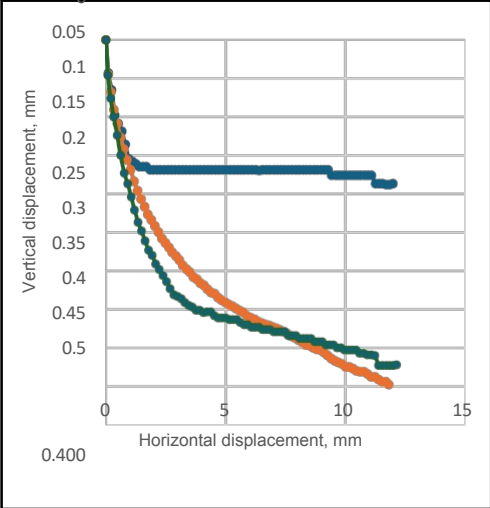
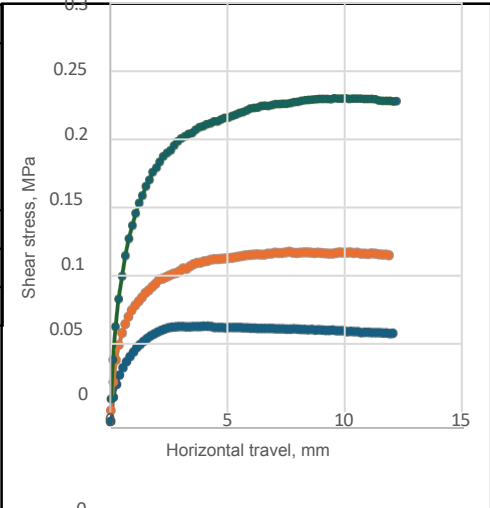


Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_061	Gr.26	6	17.80	18.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.74	2.099	1.740	20.6	0.57	0.36	0.98

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0030	0.098	0.074	3.948	2.144	20.6
0.0030	0.196	0.129	7.584	2.074	
0.0030	0.392	0.241	9.495	2.079	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.5669	29.5	0.018



Notes: Test performed in an aqueous environment

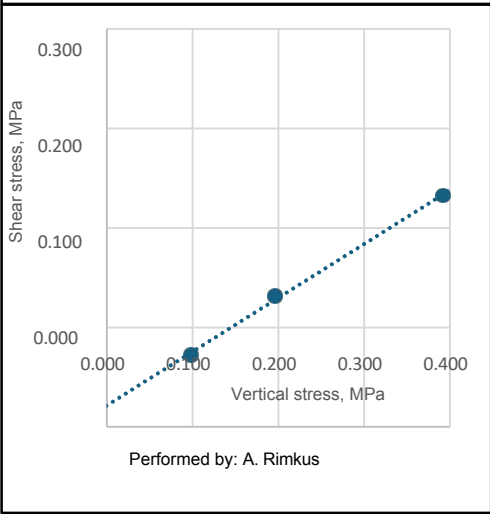
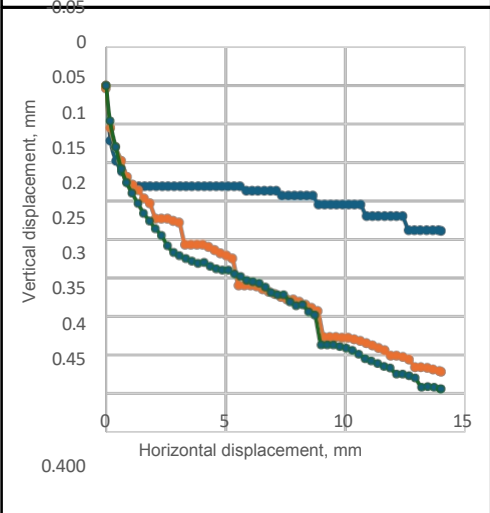
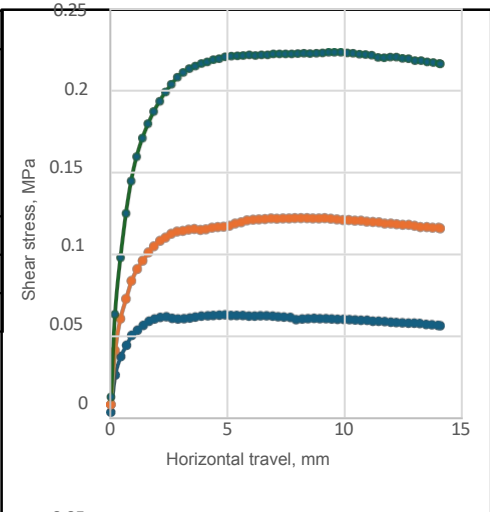
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_071	Gr.27	4	3:00 PM	4:00 PM

Indicators of soil physical condition						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.69	2.159	1.868	15.6	0.44	0.31	0.95

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0050	0.098	0.072	4.853	2.163	15.6
0.0050	0.196	0.131	8.330	2.146	
0.0051	0.392	0.233	9.245	2.169	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.5410	28.5	0.021



Notes: Test performed in an aqueous environment

Performed by: A. Rimkus

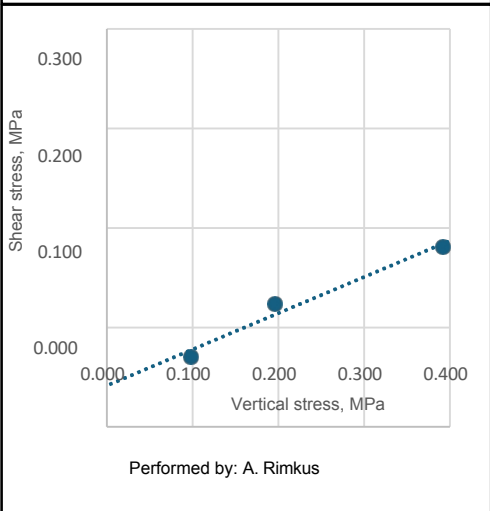
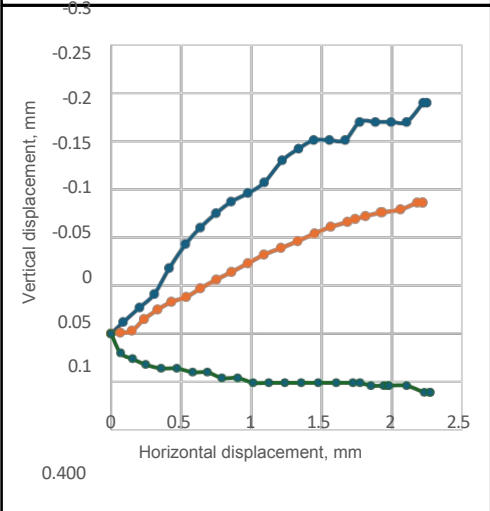
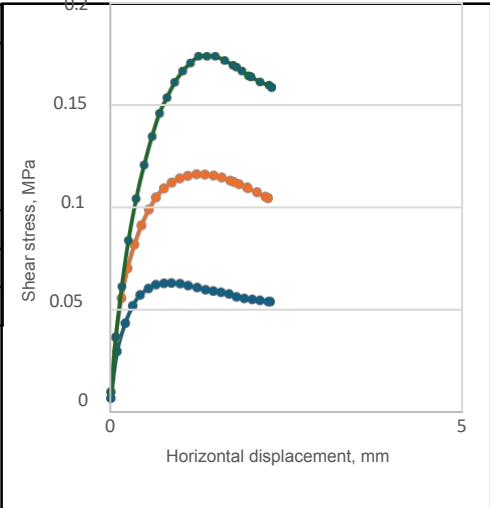
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_074	Gr.28	1	34.50	35.10

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.73	2.061	1.643	25.4	0.66	0.40	1.00

Test data					
Shear rate	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0018	0.098	0.070	0.856	2.082	25.4
0.0018	0.196	0.123	1.211	2.064	
0.0019	0.392	0.181	1.238	2.036	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.3642	20.0	0.041

Notes: Test performed in an aqueous environment

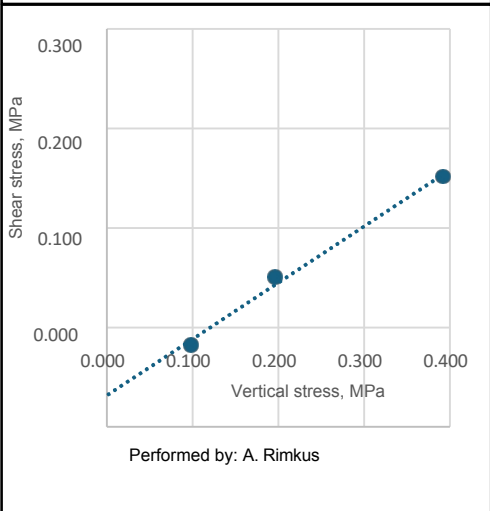
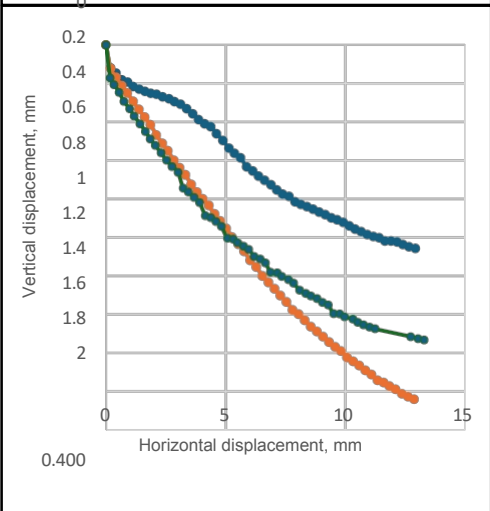
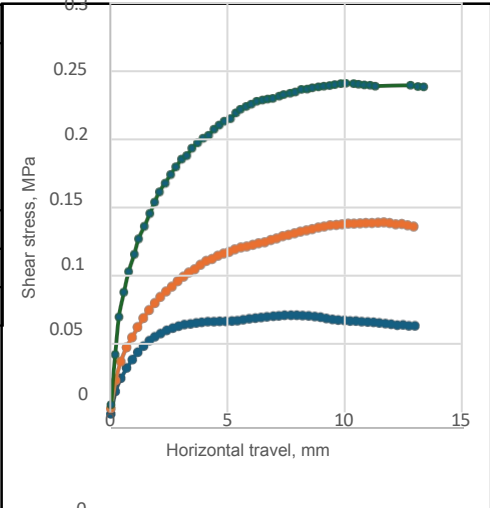


Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_087	Gr.38	3	9.50	9.80

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.53	1.413	0.754	87.4	2.36	0.70	0.94

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0050	0.098	0.082	7.648	1.372	87.4
0.0050	0.196	0.150	11.596	1.409	
0.0051	0.392	0.252	9.968	1.459	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.5668	29.5	0.032



Notes: Test performed in an aqueous environment

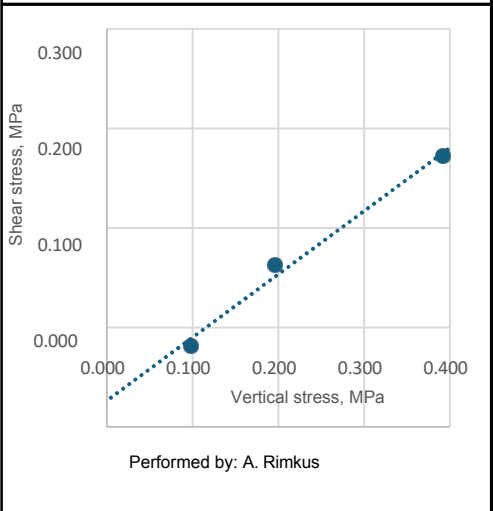
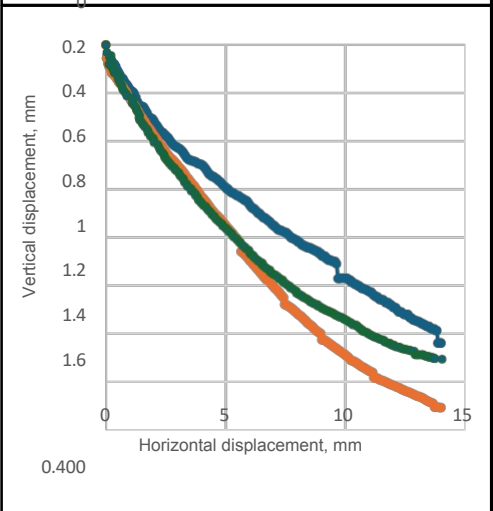
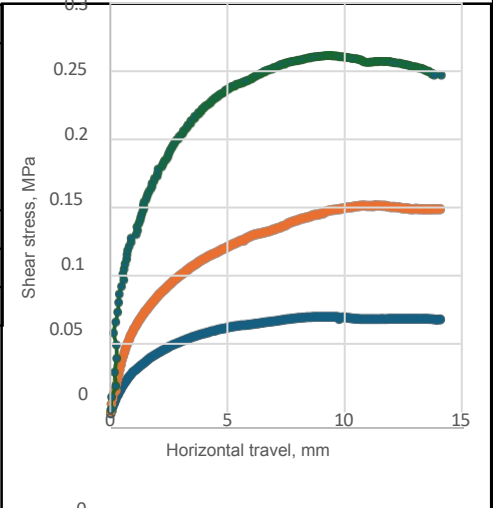
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; report				
Sample information:	Sample ID	Drill 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_096	Gr.40	7	14.00	2:30

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	p	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
-	1.380	0.680	103.0	-	-	-

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0110	0.098	0.081	9.358	1.355	103.0
0.0109	0.196	0.162	11.194	1.357	
0.0103	0.392	0.272	9.305	1.427	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.6355	32.5	0.026



Notes: Test performed in an aqueous environment

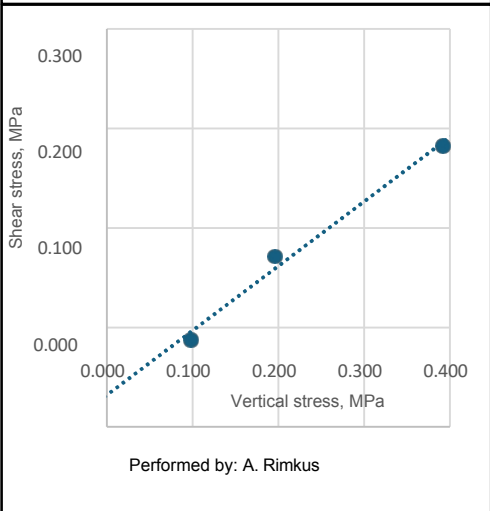
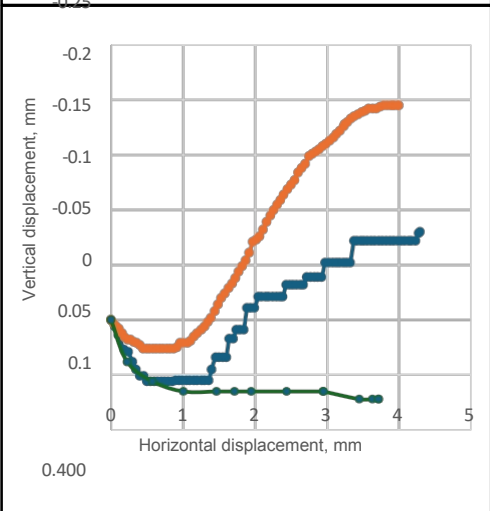
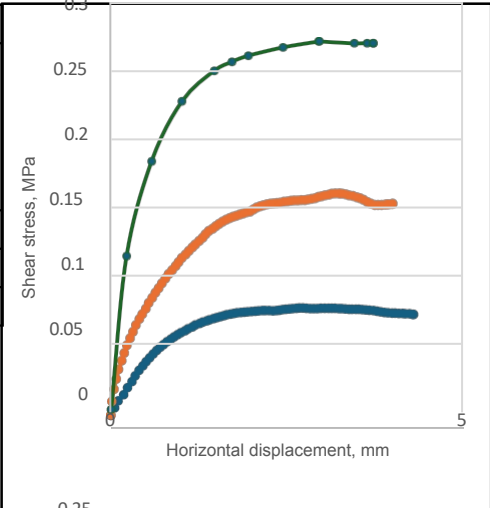
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_131	Gr.48	3	12.10	12.60

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.69	2.165	1.886	14.8	0.43	0.30	0.93

Test data					
Shear rate	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0101	0.098	0.087	2.718	2.176	14.8
0.0094	0.196	0.171	3.179	2.151	
0.0087	0.392	0.282	2.942	2.167	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6489	33.0	0.032



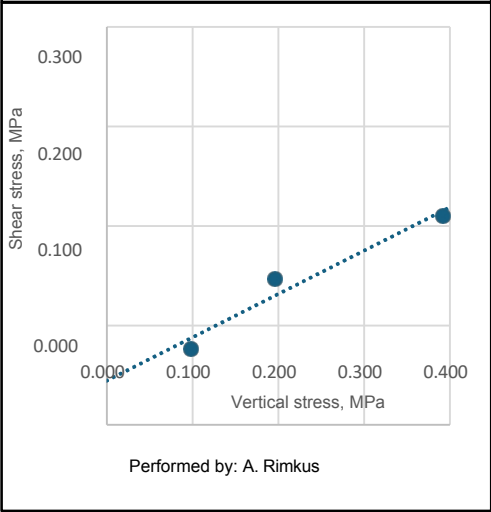
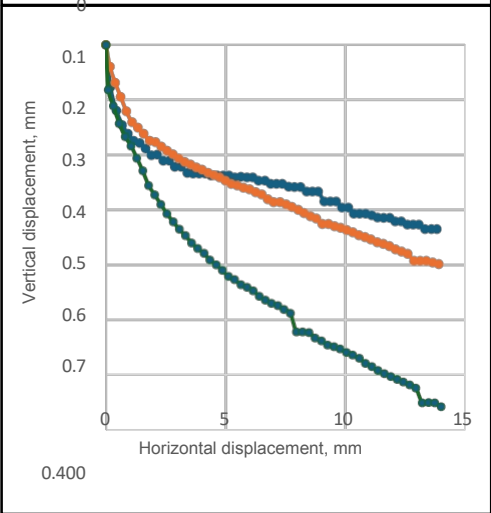
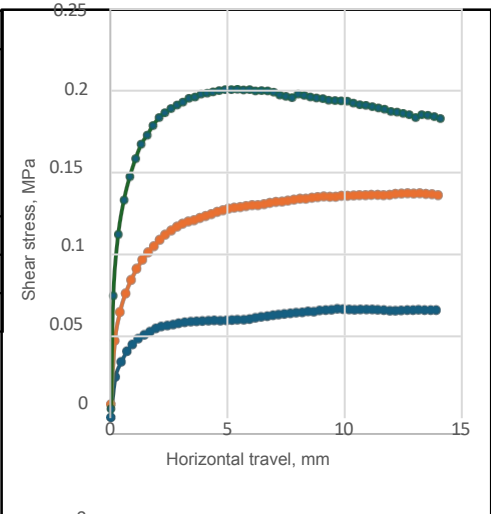
Notes: Test performed in an aquatic environment. Soil is weakly cemented

Project:	For the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III; report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_146	Gr.52	6	17.70	19.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.71	2.082	1.686	23.5	0.61	0.38	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0049	0.098	0.076	9.614	2.102	23.5
0.0050	0.196	0.147	12.606	2.145	
0.0051	0.392	0.210	5.370	1.999	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ , °	c , MPa
0.4359	23.5	0.044



Notes: Test performed in an aqueous environment

Performed by: A. Rimkus

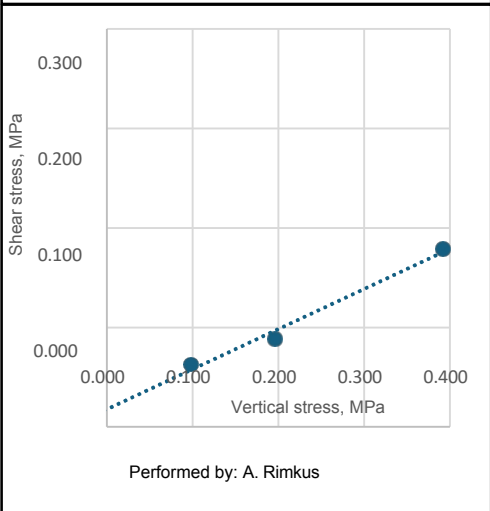
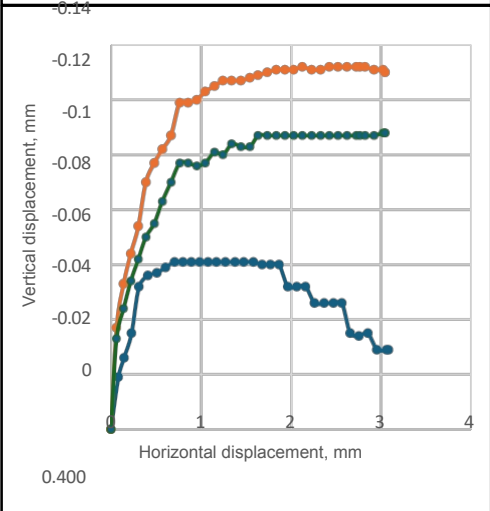
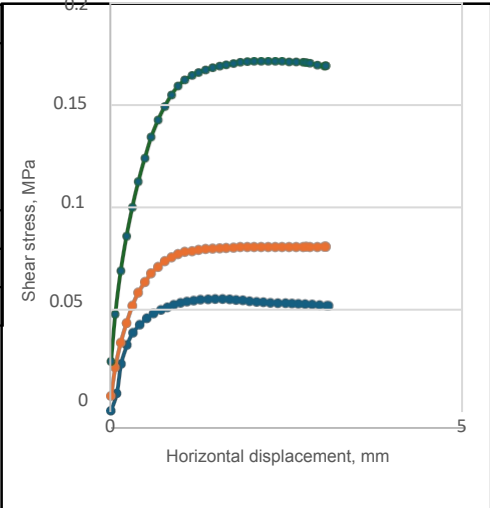
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_166	Gr.58	5	15.80	16.30

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.70	1.997	1.626	22.8	0.66	0.40	0.93

Test data					
Shear rate	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0019	0.098	0.063	1.476	2.008	22.8
0.0019	0.196	0.088	2.766	1.990	
0.0019	0.392	0.179	2.029	1.994	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.4033	22.0	0.018

Notes: Test performed in an aqueous environment

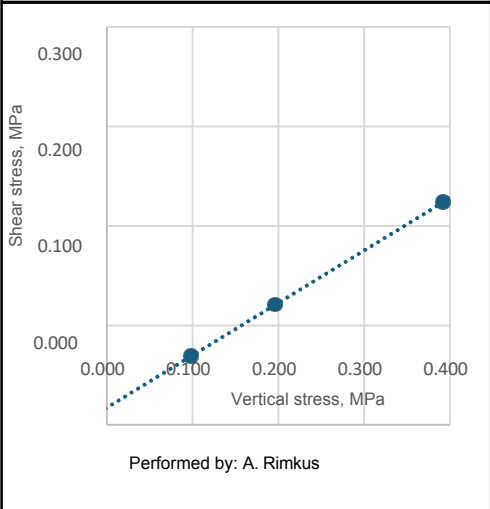
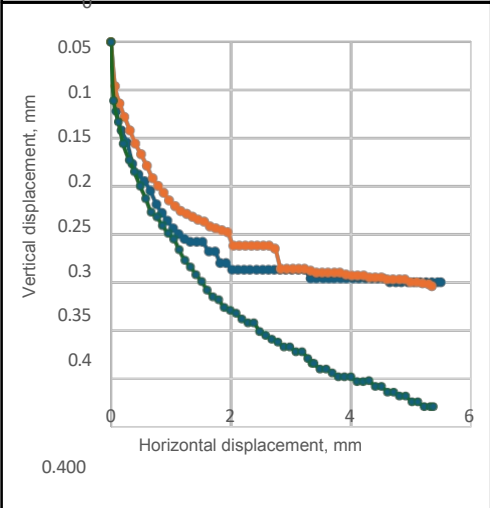
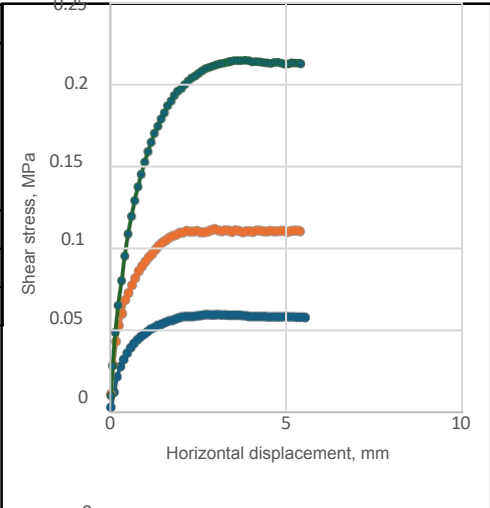


Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_177	Gr.34	4	18.00	18.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.70	2.138	1.773	20.6	0.52	0.34	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0020	0.098	0.069	3.014	2.132	20.6
0.0019	0.196	0.121	2.929	2.124	
0.0019	0.392	0.224	3.789	2.159	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.5268	28.0	0.017



Notes: Test performed in an aqueous environment

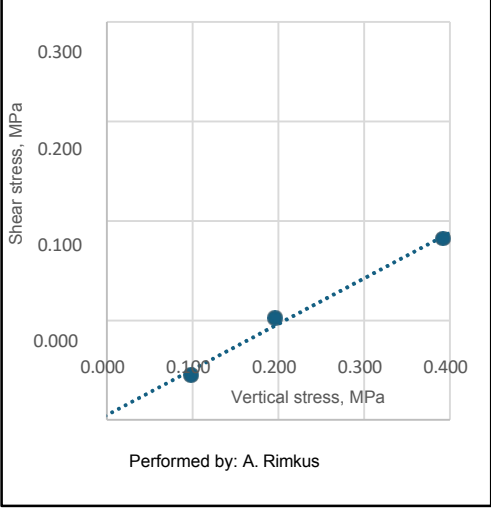
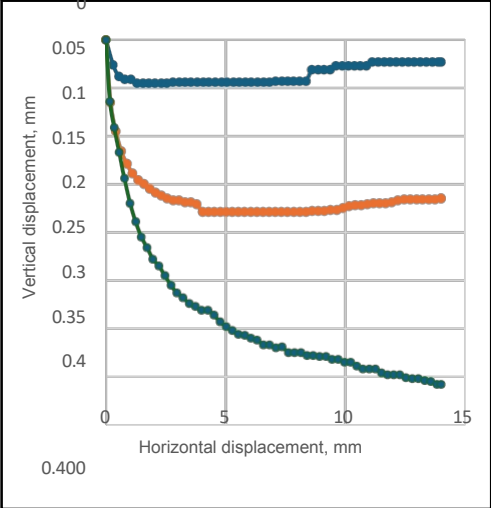
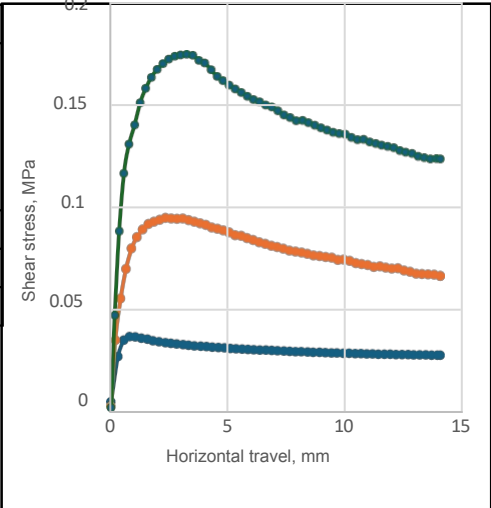
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_178	Gr.34	5	18.70	19.20

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.70	1.976	1.539	28.4	0.75	0.43	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0050	0.098	0.044	0.788	1.960	28.4
0.0050	0.196	0.102	2.314	1.977	
0.0050	0.392	0.182	3.217	1.991	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.4586	24.5	0.005

Notes: Test performed in an aqueous environment

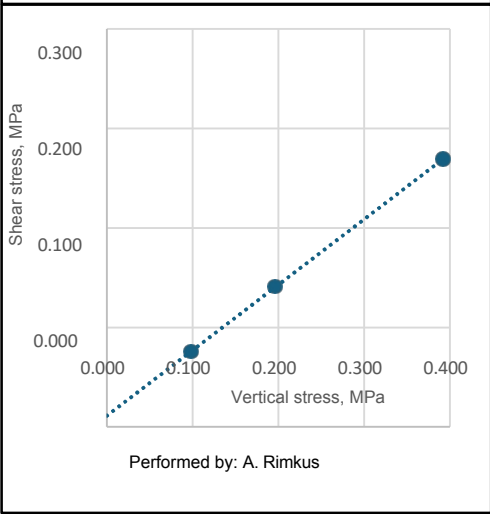
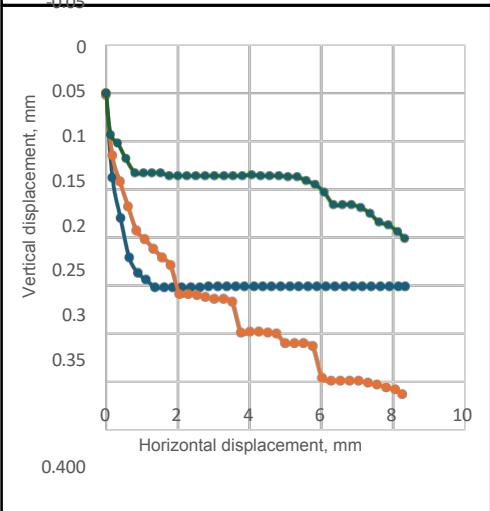
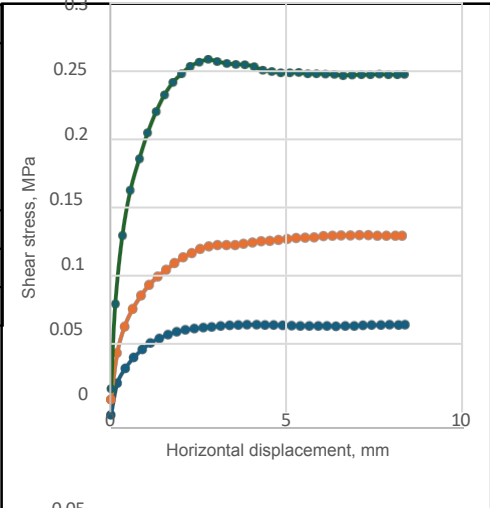


Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_214	Gr.17	3	17.90	18.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.67	2.163	1.855	16.6	0.44	0.31	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0049	0.098	0.075	3.859	2.146	16.6
0.0049	0.196	0.141	7.036	2.150	
0.0049	0.392	0.269	2.755	2.194	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6584	33.5	0.011



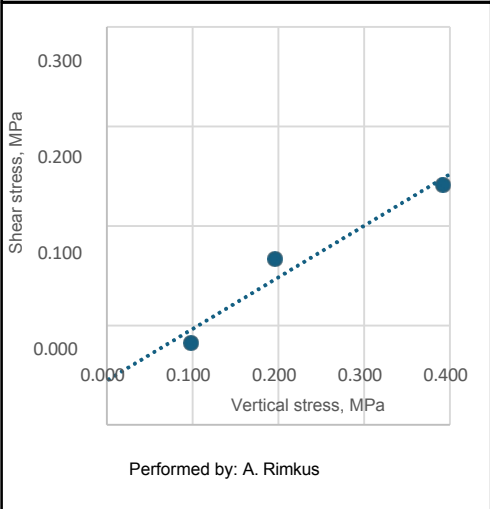
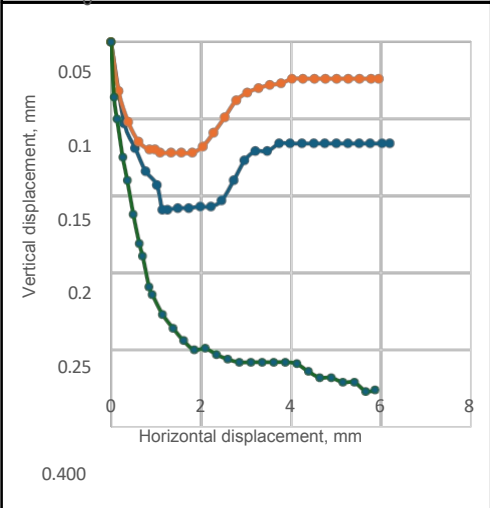
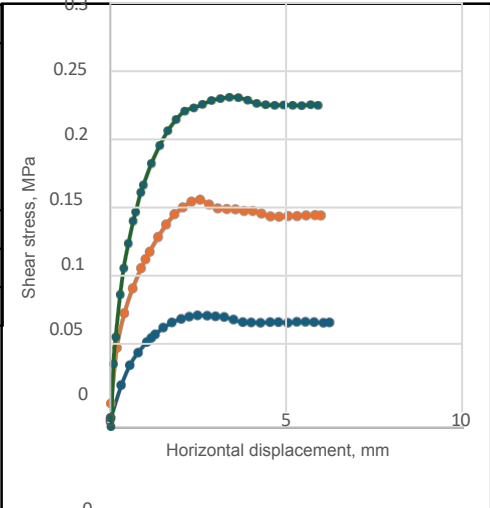
Notes: Test performed in an aqueous environment

Project:	Design engineering geological and geotechnical investigations assigned to Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_224	Gr.4	4	4:00 PM	16.50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.67	2.250	1.988	13.2	0.34	0.26	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0050	0.098	0.082	2.459	2.260	13.2
0.0048	0.196	0.166	2.527	2.272	
0.0054	0.392	0.241	3.359	2.218	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ , °	c , MPa
0.5188	27.5	0.044



Notes: Test performed in an aqueous environment

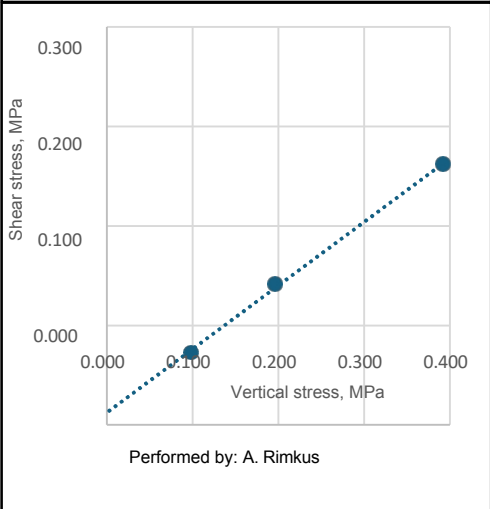
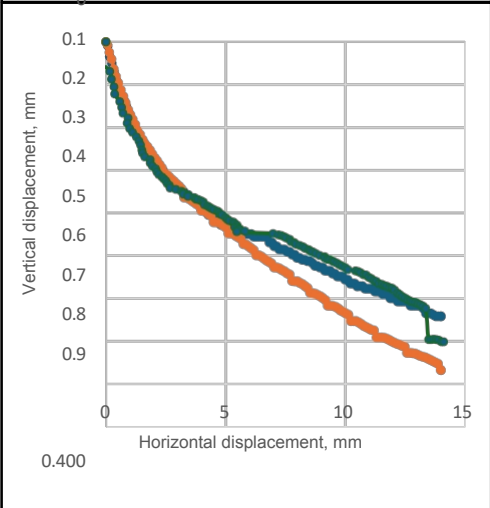
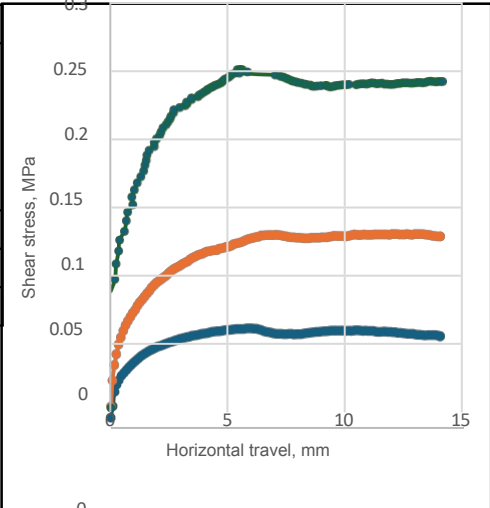
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_273	Gr.13	5	10.50	11.10

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.66	1.909	1.450	31.6	0.83	0.45	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0209	0.098	0.072	5.868	1.894	31.6
0.0209	0.196	0.141	12.047	1.909	
0.0221	0.392	0.262	5.495	1.923	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6389	32.5	0.012



Notes: Test performed in an aqueous environment

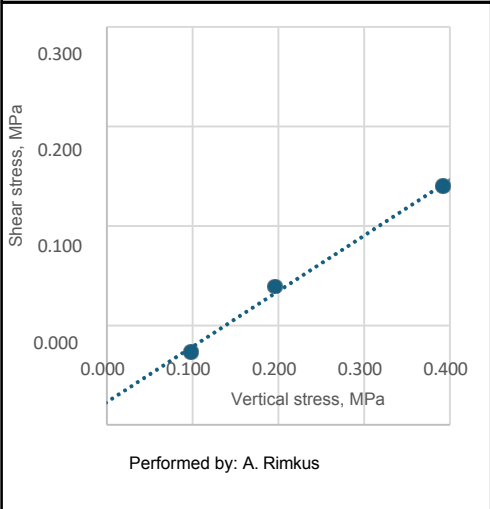
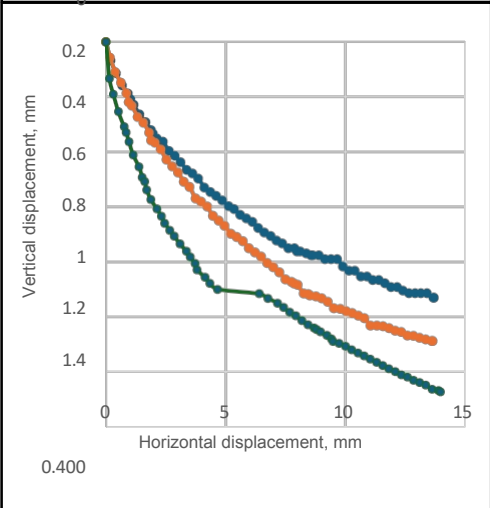
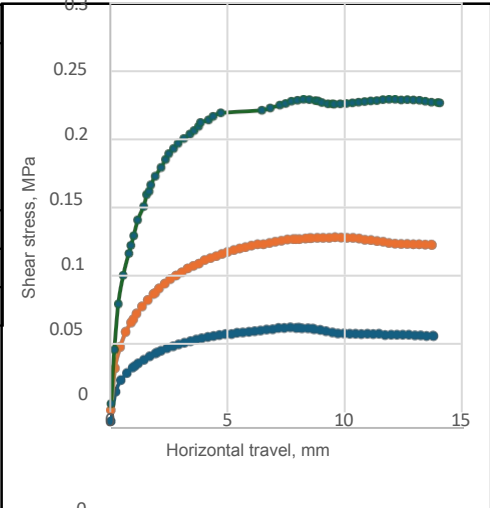
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_274	Gr.13	6	11.60	11.90

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m³	Mg/m³	Mg/m³	%	1	1	1
2.59	1.736	1.216	42.8	1.13	0.53	0.98

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m³	w , %
0.0050	0.098	0.073	7.623	1.739	42.8
0.0050	0.196	0.139	9.525	1.716	
0.0053	0.392	0.240	8.182	1.754	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.5582	29.0	0.023



Notes: Test performed in an aqueous environment

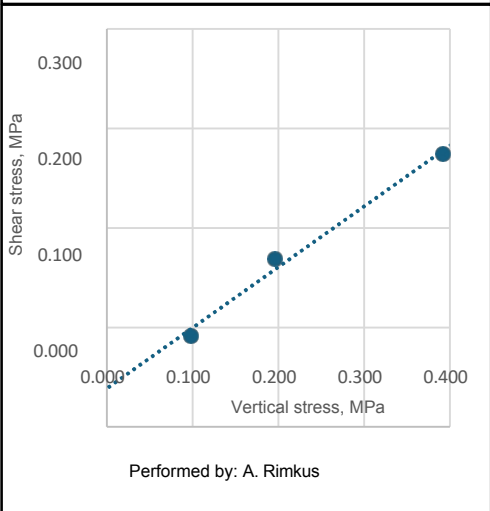
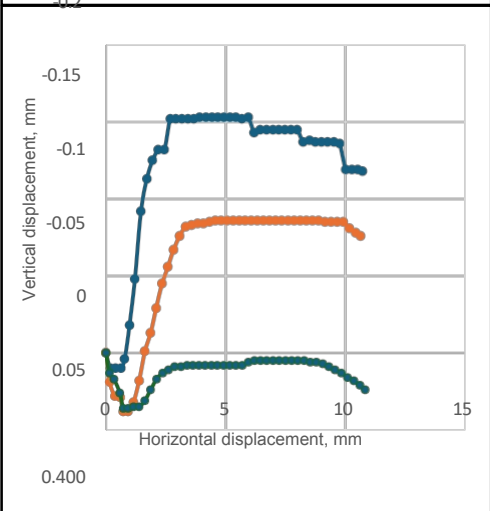
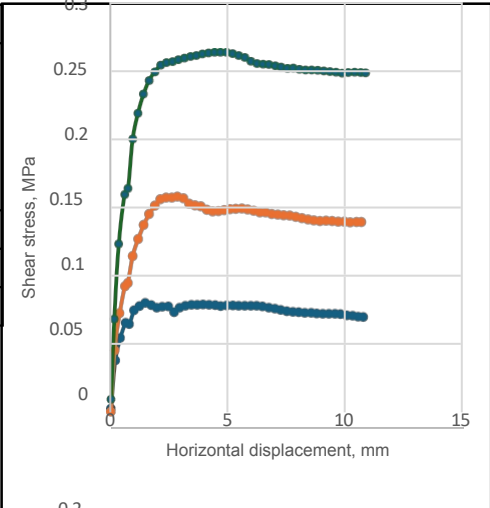
Performed by: A. Rimkus

Project:	Engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III; report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_299	Gr.11	7	16.00	4:50

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.68	2.252	1.998	12.7	0.34	0.25	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0489	0.098	0.091	1.459	2.255	12.7
0.0485	0.196	0.169	2.825	2.256	
0.0494	0.392	0.274	4.652	2.244	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	$\varphi', ^\circ$	c , MPa
0.6103	31.5	0.039



Notes: Test performed in an aqueous environment

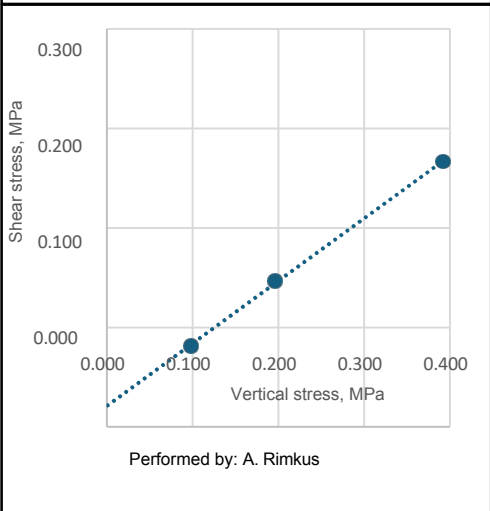
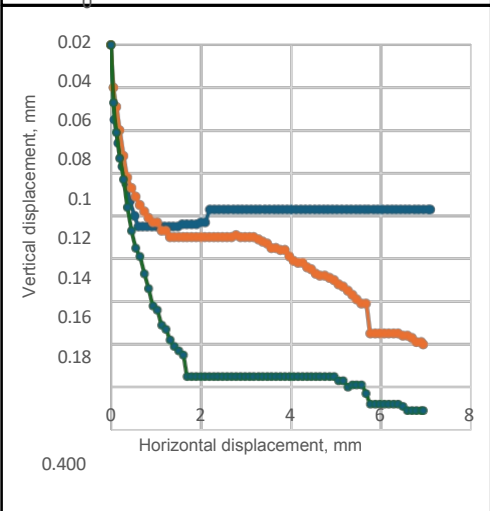
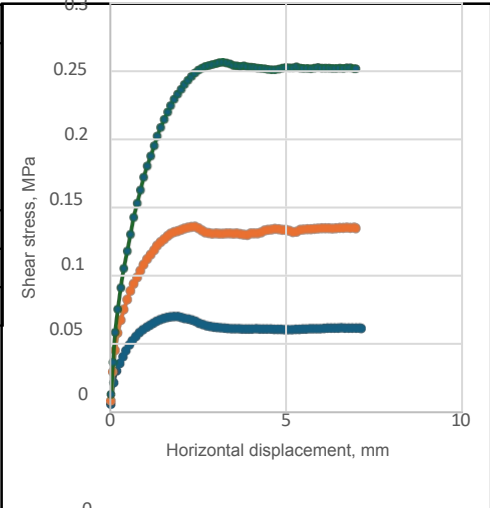
Performed by: A. Rimkus

Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_325	Gr.64	3	19.10	19.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.67	2.205	1.931	14.2	0.38	0.28	0.99

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0050	0.098	0.081	1.792	2.217	14.2
0.0049	0.196	0.147	2.380	2.199	
0.0049	0.392	0.267	3.174	2.200	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.6285	32.0	0.021



Notes: Test performed in an aqueous environment

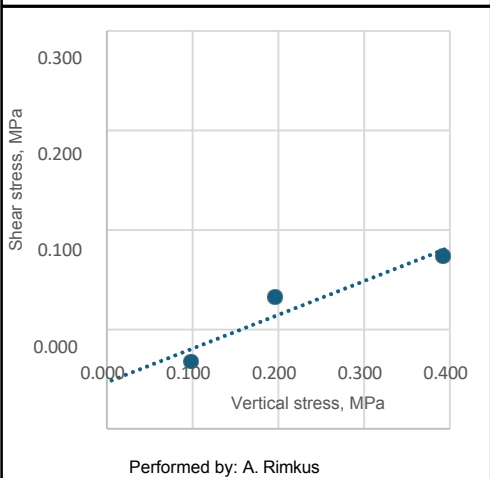
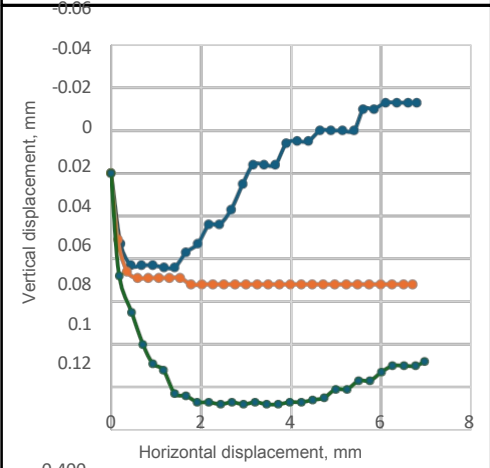
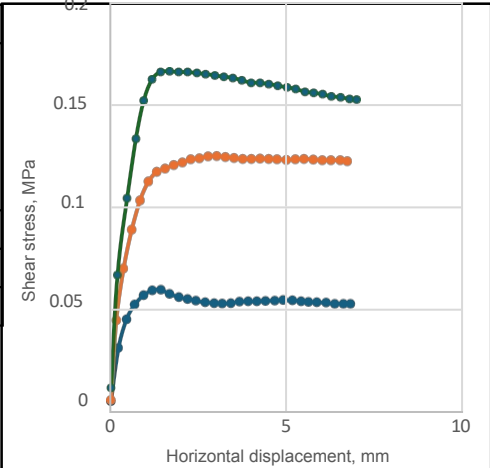
Project:	Design engineering geological and geotechnical investigations for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, classified as Geotechnical Category III, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_327	Gr.64	5	28.00	28.30

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.72	2.135	1.783	19.8	0.53	0.34	1.00

Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water content
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0049	0.098	0.067	1.415	2.091	19.8
0.0048	0.196	0.132	2.996	2.178	
0.0050	0.392	0.174	1.661	2.137	

Test results		
	Angle of internal friction	Friction coefficient
$\tan \varphi$	φ' , °	c , MPa
0.3395	19.0	0.047

Notes: Test performed in an aqueous environment



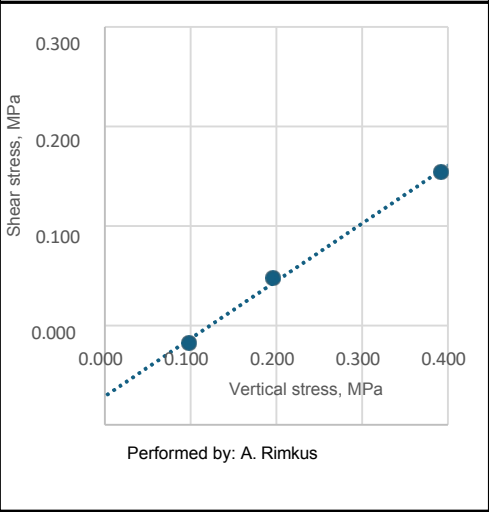
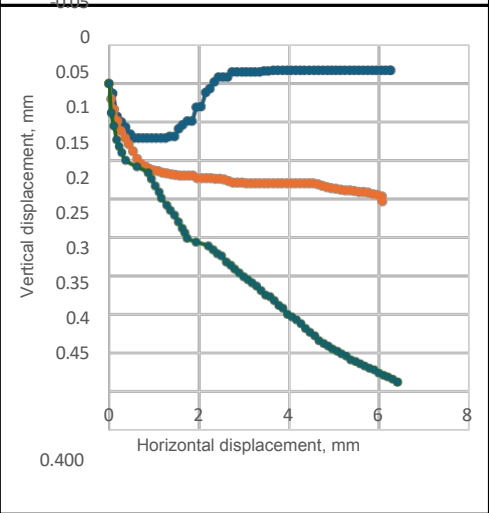
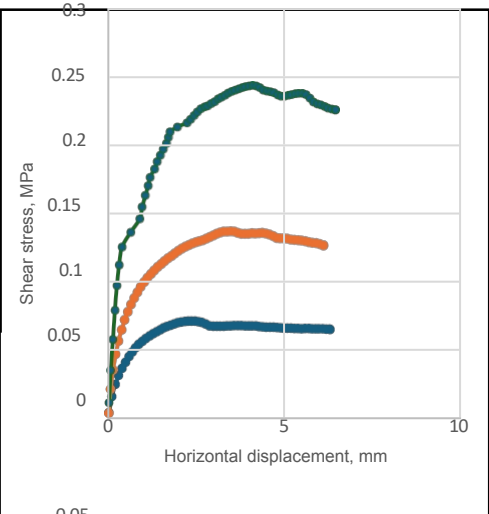
Project:	Design engineering geological and geotechnical investigations assigned to Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works, report				
Sample information:	Sample ID	Borehole 1)	Sample No. 1)	Depth from/to 1)	
	SWEC_2024-321_352	Gr.67	1	20.00	20.70

Soil physical condition indicators						
Particle density	Soil density	Dry soil density	Water content	Porosity coefficient	Porosity index	Degree of saturation
ρ_s	ρ	ρ_d	w	e	n	S_r
Mg/m ³	Mg/m ³	Mg/m ³	%	1	1	1
2.69	1.983	1.983	0.0	0.36	0.26	0.00

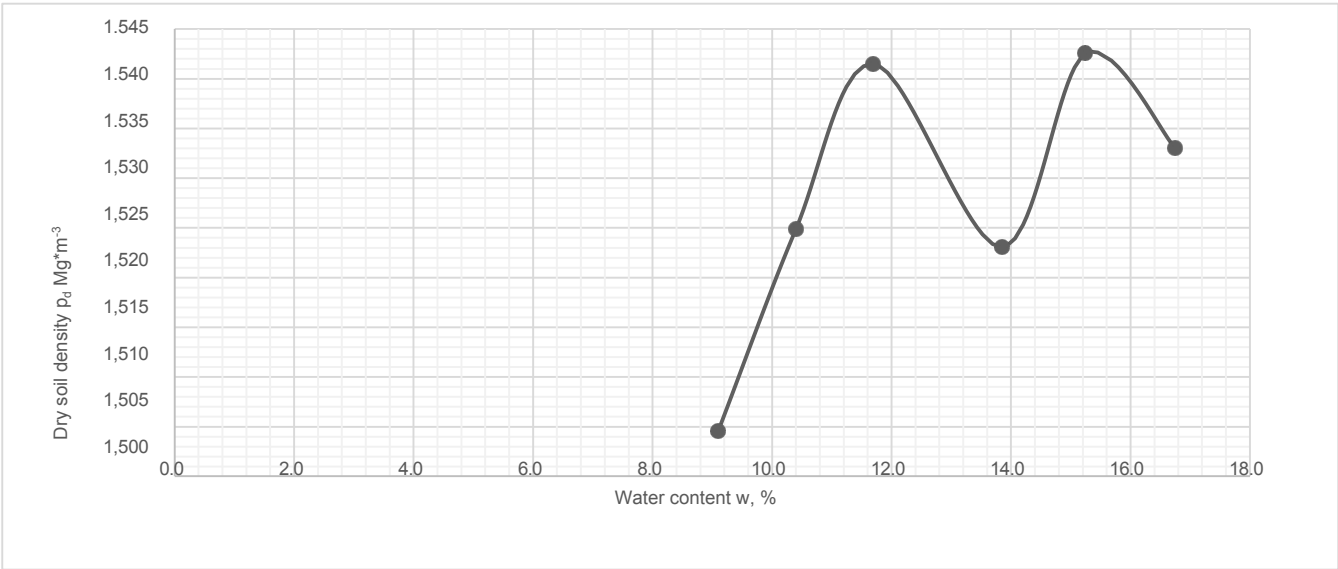
Test data					
Cutting speed	Vertical tension	Maximum shear tension	Horizontal displacement at maximum shear stress	Soil density	Water volume
v , mm/min	σ_v , MPa	τ , MPa	s , mm	ρ , Mg/m ³	w , %
0.0198	0.098	0.082	2.340	2.032	0.0
0.0193	0.196	0.148	3.449	1.977	
0.0203	0.392	0.254	4.065	1.940	

Test results		
	Angle of internal friction	Friction
$\tan \varphi$	φ' , °	c , MPa
0.5794	30.0	0.029

Notes: Test performed in an aqueous environment



Project:	Design of new quays and shore reinforcements in the southern part of the port, dredging works; engineering geological and geotechnical investigations classified as Geotechnical Category III, report				
Sample information:	Sample ID:	Borehole No.	Sample No.	Depth, m	
	SWEC_2024-321_230	Gr.59	4	16.30	16.60
Soil index ISO 14688-2:		SaP		Structure:	U
Test procedure:		Proctor cylinder type A Cylinder height - 120 mm, diameter - 100 mm Falling weight - 2.5 kg, drop height - 305 mm Number of layers - 3, number of impacts per layer - 25			
Preparation procedure:		Undried specimen			
Fractions remaining on the sieves:	63 mm:	-			
	31.5 mm:	-			
	20 mm	-			



Test No.	1	2	3	4	5	6	-	-	-	-
Water content w, %	9.1	10.4	11.7	13.9	15.3	16.8	-	-	-	-
Density of dry soil ρ_d, Mg·m⁻³	1.505	1.525	1.541	1.523	1.543	1.533	-	-	-	-

Test results	
Maximum dry soil density	Optimal water content
ρ _{pr}	w _{pr}
Mg·m ⁻³	%
1,543	15.3

Notes:	At 16.8% water content, water begins to drain from the sample during compaction	Performed by: Engineer B. Beniušis

SOIL CLASSIFICATION: Order of the Minister of the Environment "On the Approval of the Classification of Soils for Engineering Geological and Geotechnical Investigations" (TAR 2019-06-14, Identification Code 2019-09653)

k is the proportionality coefficient, which in this case is: for soft plastic $k=0.2$; for stiff plastic $k=0.3$; for semi-stiff $k=0.4$; for stiff $k=0.5$.

p_{ge} - geostatic pressure, MPa; p_{ge}' - effective geostatic

unit weight, kg/m^3 ; u_{se} - pore pressure of the soil, MPa

LIST OF COORDINATES AND ELEVATIONS OF TEST SITES

COORDINATE SYSTEM – LKS-94

PLANIMETRIC REFERENCE METHOD – INSTRUMENTAL

ELEVATION DETERMINATION METHOD – GEOMETRIC LEVELING ELEVATION SYSTEM

– LAS-07

No.	Survey locations	COORDINATES		Borehole depth, m	Elevations, m (according to LAS07)	Elevations, m (according to BAS77)
		X	Y			
1	Gr. 1	6,172,606.82	320,312.79	36.00	0.00	-0.13
2	Gr. 2	6,172,576.35	320,279.65	36.00	0.00	-0.13
3	Gr. 3	6,171,293.13	319,835.71	36.00	0.00	-0.13
4	Gr. 4	6,172,522.19	320,220.81	36.00	0.00	-0.13
5	Gr. 5	6,172,471.43	320,165.59	36.00	0.00	-0.13
6	Gr. 6	6,172,421.78	320,159.73	36.00	0.00	-0.13
7	Gr. 7	617,237.21	320,153.87	36.00	0.00	-0.13
8	Gr. 8	617,232.47	320,148.01	36.00	0.00	-0.13
9	Gr. 9	6,172,272.81	320,142.14	36.00	0.00	-0.13
10	Gr. 10	617,222.31	320,136.28	36.00	0.00	-0.13
11	Gr. 11	617,217.50	320,130.42	37.50	0.00	-0.13
12	Gr. 12	6,172,125.32	320,126.07	36.00	0.00	-0.13
13	Gr. 13	6,172,065.72	320,107.20	36.00	0.00	-0.13
14	Gr. 14	6,172,024.54	320,112.84	36.00	0.00	-0.13
15	Gr. 15	6,171,999.42	320,121.16	36.00	0.00	-0.13
16	Gr. 16	6,171,914.62	320,090.37	36.00	0.00	-0.13
17	Gr. 17	6,171,875.59	320,095.25	36.00	0.00	-0.13
18	Gr. 18	6,171,825.94	320,089.39	36.00	0.00	-0.13
19	Gr. 19	6,171,776.29	320,083.53	36.00	0.00	-0.13
20	Gr. 20	6,171,726.63	320,077.67	36.00	0.00	-0.13
21	Gr. 21	6,171,676.97	320,071.80	36.00	0.00	-0.13
22	Gr. 22	6,171,627.29	320,065.95	36.00	0.00	-0.13
23	Gr. 23	6,171,577.63	320,060.08	36.00	0.00	-0.13
24	Group 24	6,171,527.98	320,054.22	36.00	0.00	-0.13
25	Gr. 25	6,171,478.32	320,048.35	35.50	0.00	-0.13
26	Group 26	6,171,428.65	320,042.49	36.00	0.00	-0.13
27	Gr. 27	6,171,379.02	320,036.63	36.00	0.00	-0.13
28	Group 28	6,171,329.36	320,030.77	36.00	0.00	-0.13
29	Gr. 29	6,171,279.72	320,024.92	36.00	0.00	-0.13
30	Group 30	6171230.08	320019.05	36.00	0.00	-0.13
31	Gr. 31	6171180.46	320013.18	36.00	0.00	-0.13
32	Gr. 32	6,171,202.70	319,955.36	36.00	0.00	-0.13
33	Gr. 33	617,123.06	319,915.65	36.00	0.00	-0.13
34	Group 34	6,171,263.26	319,875.81	36.00	0.00	-0.13
35	Group 35	6,171,323.94	319,731.17	18.00	0.00	-0.13
36	Group 36	6,171,522.70	319,751.60	20.00	0.00	-0.13
37	Group 37	6,171,408.73	319,916.15	18.00	0.00	-0.13
38	Group 38	6,171,721.61	319,772.63	20.50	0.00	-0.13
39	Group 39	6,171,608.36	319,937.44	20.00	0.00	-0.13

Sweco Lietuva UAB, Geological Surveys Department

Design engineering geological and geotechnical investigations classified as Geotechnical Category III for the preparation of a project for the construction of new quays and shore reinforcements in the southern part of the port, and dredging works; report

No.	Survey locations	COORDINATES		Borehole depth, m	Elevations, m (according to LAS07)	Elevations, m (according to BAS77)
		X	Y			
40	Gr. 40	6171920.03	319,794.91	21.00	0.00	-0.13
41	Group 41	6,171,806.68	319,961.07	21.00	0.00	-0.13
42	Group 42	617,200.68	319,985.19	20.00	0.00	-0.13
43	Group 43	6,172,106.65	319,723.00	21.00	0.00	-0.13
44	Group 44	6,172,206.37	319,971.54	20.00	0.00	-0.13
45	Group 45	6,172,259.01	319,816.27	19.00	0.00	-0.13
46	Group 46	6,172,295.20	319,656.39	21.50	0.00	-0.13
47	Gr. 47	6,172,476.24	319,571.41	21.00	0.00	-0.13
48	Group 48	6,172,430.88	319,835.38	19.00	0.00	-0.13
49	Group 49	6,172,389.19	320,052.65	20.00	0.00	-0.13
50	Gr. 50	6,172,547.65	320,052.07	20.50	0.00	-0.13
51	Group 51	6,172,607.14	319,854.29	21.00	0.00	-0.13
52	Group 52	6,172,598.01	319,680.38	22.00	0.00	-0.13
53	Group 53	6,172,662.19	319,500.12	21.00	0.00	-0.13
54	Group 54	6,172,759.91	319,597.79	21.00	0.00	-0.13
55	Group 55	6,172,860.10	319,691.22	21.00	0.00	-0.13
56	Group 56	6,172,816.28	319,965.43	21.00	0.29	0.16
57	Group 57	6,172,795.32	320,074.87	20.00	0.28	0.15
58	Group 58	6,172,994.38	320,098.32	18.00	0.00	-0.13
59	Group 59	6,172,911.72	319,777.53	36.00	0.00	-0.13
60	Gr. 60	6,172,945.44	319,819.29	36.00	0.28	0.15
61	Gr. 61	6172965.86	319,900.07	36.00	0.25	0.12
62	Gr. 62	617,303.83	319,890.09	36.00	0.24	0.11
63	Gr. 63	617,306.88	319,873.88	36.00	0.29	0.16
64	Gr. 64	617,311.82	319,870.42	36.00	0.27	0.14
65	Gr. 65	617,316.99	319,874.28	36.00	0.27	0.14
66	Gr. 66	6,173,237.23	319,879.39	36.00	0.27	0.14
67	Gr. 67	617,326.06	319,881.68	36.00	0.26	0.13
68	Gr. 68	617,331.74	319,885.24	36.00	0.27	0.14

Report prepared by: Mindaugas Gedaminskas, geological engineer, Geology Department



Test report No. **241220GT389** | Sample receipt date: 2024-12-20 | ID 96325 Client: UAB "Sweco Lietuva" | ernestas.urbonavicius@sweco.lt, +37065056152

Site	Borehole (point)	Sampling Date
New quays in the southern part of the port, shore reinforcement and dredging Project	Gr.34, depth 32.0 m	2024-11-15

Test results
General chemical analysis of water

Analyte	mg/l	mg-eq.d	eq.‰	Analytical method
Anions				
Chloride, Cl ⁻	117	3.30	43.7	LST EN ISO 10304—1:2009
Sulfate, SO ₄ ²⁻	33.3	0.693	9.17	LST EN ISO 10304-1:2009
Hydrocarbonate, HCO ₃ ⁻	212	3.48	46.0	LST EN ISO 9963-1:1999, Section 8.2
Carbonate, CO ₃ ²⁻	0.08	0.003	0.040	Calculated
Nitrite, NO ₂ ⁻	<0.05			LST EN ISO 10304—1:2009
Nitrate, NO ₃ ⁻	5.31	0.085	1.12	LST EN ISO 10304—1:2009
Cations				
Sodium, Na ⁺	65.4	2.84	37.8	LST EN ISO 1491:2000
Potassium, K ⁺	17.4	0.445	5.93	LST EN ISO 1491:2000
Calcium, Ca ²⁺	58.0	2.89	38.5	LST EN ISO 1491:2000
Magnesium, Mg ²⁺	16.1	1.33	17.7	LST EN ISO 1491:2000
Ammonium, NH ₄ ⁺	<0.05			LST EN ISO 1491:2000
Other analyses		Results and measurement	Parameters	
pH	38 (H units)			LST EN ISO 10523:2012
Specific electrical conductivity	640 {Ω/cm at 20°C			LST EN 27888: 1999
CO ₂ (aggressive)	<1.0 mg CO ₂ /l			LST EN 13577:2007 (*)

Anion = 7.56
B, hardness = 4.22

Cation = 7.51
Carbonate hardness = 3.48

Balance = -0.056 (mg-eq./L)
Non-carbonate hardness = 0.74 (mg-eq./L)

Total dissolved solids = 520 mg/l CO₂ (equilibrium) — 16.0 mg/l

Dry residue at 180°C = 414 mg/l

A result below the detection limit is indicated as (+...). N-unaccredited analytical method: cation analysis using ion exchange chromatography using the ion-polarity chromatography method (IonPac CS12A column, 4 × 250 mm, conductometric detector). Calibration and validation of the analytical method were performed) in accordance with ISO 8466-1 requirements.

Tyrimų protokolą parengė



Chemist-Analyst Virginija Jakubauskienė



Test report No. **241220GT389** Sample receipt date: 2024-12-20 | ID 96326 Client: UAB "Sweco Lietuva" | emestas.urbonavičius@sweco.lt,*37065056152

Object	Borehole (point)	Sampling date
Project for the construction of a new quay, shoreline reinforcement, and dredging works in the southern part of the port	Gr.13, depth 25.6 m	November 28, 2024

Study results
General chemical analysis of water

Analysis	t	mg/l	mg-eq./l	eq. %	Analysis method
Anions					
Chloride, Cl ⁻		139	3.92	46.3	LST EN ISO 10304-1:2009
Sulfate, SO ₄ ²⁻		27.1	0.564	6.67	LST EN ISO 10304-1:2009
Hydrocarbonate, HCO ₃ ⁻		233	3.82	45.2	LST EN ISO 9963-1:1999, see section 8.2
Carbonate, CO ₃ ²⁻		00	0.002	0.024	Calculated
Nitrite, NO ₂ ⁻		00.5			LST EN ISO 10304-1:2009
Nitrate, NO ₃ ⁻		9.78	0.157	1.86	LST EN ISO 10304-1:2009
Cations					
Sodium, Na ⁺		79.6	3.46	40.7	LST EN JSO J 49 11:2000
Potassium, K ⁺		16.8	0.430	5.05	LST EN ISO 14911:2000
Calcium, Ca ²⁺		60.2	3.00	35.3	LST EN ISO 14911:2000
Magnesium, Mg ²⁺		19.7	1.62	19.0	LST EN ISO 14911:2000
Ammonium, NH ₄ ⁺		<0.05			LST EN ISO 14911:2000
Other parameters	Results and measurement		enetai		
pH	7.0–9.0 (pH units)		LST EN ISO 10523:2012		
Specific electrical conductivity	720 Ω·cm at 20°C		LST EN 27888: 1999		
CO ₂ (aggressive)	<1.0 mg CO ₂ /l		LST EN 13577:2007 ***		

Anion = 8.46

Cation = 8.5 l

Balance = 0.047

(mg-eq./l)

Total hardness = 4.62

Carbonate hardness = 3.82

Non-carbonate hardness = 0.80

(mg-eq/L)

Total dissolved minerals = 578 mg/l CO₂ (equilibrium) = 27.2 mg/l

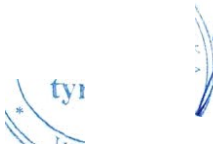
Dry residue at 80°C — 46 mg/l

A result below the detection limit is indicated as (<...)

The analysis was performed using the HPLC method Ion Pac CS 12A column was performed in accordance with the requirements of ISO 8466-1.

method. The analysis was performed using the ion detector). The analytical calibration and evaluation of the results

The test protocol was prepared by



Test Report No. 241220GT389 Date of receipt: 2024-12-20 | ID 96327
Client: UAB "Sweco Lietuva" | ernestas.urbonavičius@sweco.lt,+37065056152

Object	Borehole (point)	Sampling date
New wharf in the southern part of the port, shore reinforcement and dredging Project	Gr.4, depth 20.2 m	2024-11-21

Test results
General chemical analysis of water

Analytes	mg/l	mg-eq.fl	eq. %	Analysis method
Anions				
Chloride, Cl ⁻	177	4.99	48.4	LST EN ISO 10304-1:2009
Sulfate, SO ₄ ²⁻	31.0	0.645	6.26	LST EN ISO 10304-1:2009
Hydrocarbonate, HCO ₃ ⁻	277	4.54	44.1	LST EN ISO 9963-1:1999. is'sk> riis r8.2
Carbonate, CO ₃ ²⁻	0.12	0.004	0.039	Calculated
Nitrite, NO ₂ ⁻	<0.05			LST EN ISO 10304-1:2009
Nitrate, NO ₃ ⁻	8.72	0.140	1.36	LST EN ISO 10304-1:2009
Cations				
Sodium, Na ⁺	113	4.92	45.1	LST EN ISO 14911 :2000
Potassium, K ⁺	6.3	0.161	1.48	LST EN ISO 14911:2000
Calcium, Ca ²⁺	76.9	3.84	35.2	LST EN ISO 14911:2000
Magnesium, Mg ²⁺	23.5	1.93	17.7	LST EN ISO 14911:2000
Ammonium, NH ₄ ⁺	<0.05			LST EN ISO 14911:2000
Test results		Results and measurement		pH
pH	7.44 (pH units)			LST EN ISO 10523:2012
Specific electrical conductivity	917 pS/cm at 20°C			LST EN 27888:1999
CO ₂ (aggressive)	11.0 mg CO ₂ /l			LST EN 13577:2007 *"

Anion q = 10.3 Cation q = 10.9 Balance — 0.532 (mg-eq./l)
Total hardness — 5.77 Carbonate hardness = 4.54 Non-carbonate hardness = 1.23 (mg-eq./L)

Total dissolved minerals — 707 mg/L CO₂ (equilibrium) = 18.2 mg/L Dry residue at 180°C — 568 mg/L

Results below the detection limit are indicated as (<...). N-non-accredited analytical method. Cation analysis performed by ion exchange chromatography (IonPac CS12A column, 4x230 mm, conductometric detector). The analysis was performed in accordance with the requirements of ISO 8406-1 was performed in accordance with ISO 8406-1 requirements.

The study protocol was prepared by



The results apply only to the tested samples and are valid for the specific sample as received. Reproduction of the test report in part with the consent of UAB "Vandens tyrimai". The study is complete and the report is ready (January 10, 2025)

Test report No. **241220GT389** | Sample receipt date: 2024-12-20 | ID 96328 Client: UAB “Sweco Lietuva” | ernestas.urbonavicius@sweco.lt, +37065056152

Object	Borehole (point)	Sampling date
New quay, shore reinforcement, and dredging Project	Gr.60, depth 11.8 m	2024-12-06

Test results
General chemical analysis of water

Analytes	mg/L	mg-eq	eq. %	Analysis method
Anions				
Chloride, Cl ⁻	306	8.63	63.9	LST EN ISO 10304-1:2009
SULFATE, SO ₄ ²⁻	52.3	1.09	8.07	LST EN ISO 10304-1:2009
Hydrocarbonate, HCO ₃ ⁻	230	3.77	27.9	LST EN ISO 9963-1:1999, see section 8.2
Carbonate, CO ₃ ²⁻	0.05	0.002	0.015	Calculated
Nitrite, NO ₂ ⁻	<0.05			LST EN ISO 10304-1:2009
Nitrate, NO ₃ ⁻	2.70	0.043	0.319	LST EN ISO 10304-1:2009
Cations				
Sodium, Na ⁺	178	7.74	56.9	LST EN ISO 14911:2000
Potassium, K ⁺	9.8	0.251	1.85	LST EN ISO 14911:2000
Calcium, Ca ²⁺	59.6	2.97	21.8	LST EN ISO 14911:2000
Magnesium, Mg ²⁺	31.9	2.63	19.3	LST EN ISO 14911:2000
Ammonium, NH ₄ ⁺	<0.05			LST EN ISO 14911:2000
Other analytes		Results and measurement	parameters	
pH	7.10 (pH units)			LST EN ISO 10523:2012
Specific electrical conductivity	1175 S/cm at 20°C			LST EN 27888: 1999
CO ₂ (aggressive)	1.4 mg CO ₂ /l			LST EN 13577:2007 ***

Anion = 13.5
Total hardness = 5.60

Cation = 13.6
Carbonate hardness = 3.77

Balance = 0.056 (ing-eq./L)
Non-carbonate hardness — 1.83 (ing-eq./L)

Total dissolved solids = 868 mg/L CO₂ (equivalent) = 33.1 mg/L

Dry residue at 180°C = 753 mg/L

Result below the detection limit is indicated as (<...). N-non-accredited analytical method. The analysis was performed using the GC-MS method (Lupac CS-12A column, 4x250 mm, conductometric detector). The calibration of the analyte and the evaluation of the test results were performed in accordance with the requirements of UO 8466-I.

The test protocol was prepared by



Test Report No. 241220GT389 | Sample receipt date: 2024-12-20 | ID 96329 Client: UAB "Sweco Lietuva"
| emestas.urbonavičius@sweco.lt,+37065056152

Site	Borehole (point)	Sampling Date
Project for new wharf, shoreline reinforcement, and dredging Project	Gr.66, depth 12.2 m	2024-12-12

Test results
General chemical analysis of water

Analyte	mg/l	mg-eq.fl	eq.%	Analysis method
Anions				
Chloride, Cl	195	5.50	55.0	LST EN ISO 10304-1 :2009
Sulfate, SOA	38.0	0.790	7.90	LST EN ISO 10304-1 :2009
Hydrocarbonate, HCOa ⁻	224	3.67	36.7	LST EN ISO 9963-1:1999, p. S.2
Carbonate, CO ²⁺	0.08	0.003	0.030	Calculated
Nitrite, NO ⁻	<0.05			LST EN ISO 10304-1:2009
Nitrate, NOT ⁻	3.50	0.056	0.560	LST EN ISO 10304-1:2009
Cations				
Sodium, Na	129	5.61	51.9	LST EN ISO 14911:2000
Kaiis. K ⁺	14.3	0.366	3.39	LST EN ISO 14911:2000
Calcium, Ca ²⁺	56.8	2.83	26.2	LST EN ISO 14911:2000
Magnesium, Mg ²⁺	24.5	2.02	18.7	LST EN ISO 14911:2000
Ammonia, NH ⁴⁺	<0.05			LST EN ISO 14911:2000
Other analytes	Results and measurement		Parameters	
pH	7.35 (pH units)			LST EN ISO 10523:2012
Specific electrical conductivity	960 aS/cm at 20°C			LST EN 27888:1999
CO2 (aggressive)	1.0 mg CO2/l			LST EN 13577:2007 *"

Anion 10.0 Cation = 10.8 Balance = 0.807 (mg-eq./L)
Total hardness = 4.85 Carbonate hardness — 3.67 Non-carbonate hardness = 1.18 (mg-eq./L)

Total dissolved solids = 682 mg/l CO2 Dry residue at 180°C = 570 mg/L
(equilibrium) = 18.1 mg/l

A result below the detection limit is denoted as (<...). N—non-accredited analytical method. Cation analysis was performed by ion chromatography (Ion Pac CS 12A Lotone1e, 4x250 mm, conductometric detector). The analytical calibration curve and the validation of the test results were performed in accordance with the requirements of ISO 8466-1.

The test report was prepared by



The results apply only to the tested samples and are valid for the sample as received. Reproduction of the test report in part is permitted only with the consent of UAB "Vandens tyrimai". The test is complete and the report is ready (2025-01-10)

APPROVED

By Order No. 1-207 of the Director of the Lithuanian Geological
Survey under the Ministry of the Environment dated June 11, 2020



LITHUANIAN GEOLOGICAL SERVICE UNDER THE MINISTRY OF THE ENVIRONMENT

PERMIT TO EXPLORE THE SUBSURFACE

September 17, 2020 No. 1867360

Vilnius

UAB “SVAGILAT CORPORATION”

(legal entity data is collected and stored in the Register of Legal Entities, code 300560525, address:
Šalčininkai, Sodų g. 6)

is authorized to conduct:

search for and exploration of groundwater,
geothermal energy exploration and surveying, engineering
geological (geotechnical) investigations.

Director
(job title)

A.V.

(signature)

Giedrius Giparas
(First and Last Name)



Klaipėda State
Seaport Public Limited Company
Management

Sweco Lietuva, UAB
To Justin Čėsna, Head of the Geology Department

REGARDING ENGINEERING GEOLOGICAL SURVEYS

We hereby inform you that on November 19, 2024, Klaipėda State Seaport Authority received a letter from AB "KN Energies" stating that it had conducted an additional assessment of the borehole layout and provided recommendations regarding the placement of boreholes:

- geodetic boreholes GR61, GR62, GR63, GR64, GR65, GR66, GR67, and GR68 are planned too close to the optical cable operated by AB "KN Energies"; therefore, it is recommended to relocate them eastward at a minimum horizontal distance of 20 m from the optical cable route we have provided;
- It is proposed to locate boreholes GR12, GR13, GR14, GR15, and GR16 at a horizontal distance of no less than 20 m from the main gas pipeline and the optical cable, moving GR15 eastward and GR13 westward in the horizontal direction, respectively;
- Considering the possible errors in geodetic measurements and the equipment used for drilling, it is strongly recommended to reduce the depths of the geodetic boreholes located above the main gas pipeline's protection zone (GR12, GR13, GR14, GR15, GR16) to a limit of 30 m.

We have reviewed the program you prepared for the design, engineering-geological, and geotechnical investigations and the preparation of reports required for the construction of new quays and shore reinforcement, and dredging works, and, taking into account that AB "KN Energies" in its letter No. KN-505, does not object to and approves the planned engineering geological and geotechnical investigations, we support this.

In light of the above, we request that you revise the locations and depths of the IGGT boreholes in accordance with the recommendations provided by AB "KN Energies".

Furthermore, given that the depth of the five boreholes will be reduced to –30 m, please submit a price quote for what we believe to be a smaller scope of work than that specified in Agreement No. 34-2024-222, signed on August 27, 2024.

Sincerely

Director of Infrastructure
Paukštė

Vidmantas

G. Sakutis, tel. +370 46 499 719, email g.sakutis@port.lt

UAB "Seco Lietuva"

2024-11-
to 2024-11-21No.
No. 100-10500Justinas.Cesna@Sweco.lt@sweco.lt kaunas@sweco.lt

UAB „Sweco Lietuva“
GAUTA Nr. V2-1424-24
Data 2024-11-22

RESPONSE REGARDING THE REQUEST TO APPROVE THE DRILLING PLAN

On November 21, 2024, UAB "Sweco Lietuva" submitted a request to AB "KN Energies" (hereinafter referred to as the Company) with a request to approve the design solutions for boreholes included in the submitted project "Conducting engineering-geological and geotechnical surveys and preparing a report necessary for the construction of new quays and shore reinforcements in the southern part of the port, as well as dredging works" (hereinafter referred to as the Project) that fall within the boundaries of the protection zones of existing gas networks.

We hereby inform you that the Company has no objections and approves the revised drilling plan.

Please note that prior to the commencement of work in the Kiaulės Nugaros Island area, it is necessary to invite a representative of the Company, who, if possible, will identify the position of the main gas pipeline and the location of the optical cable.

When performing drilling work in the underwater protection zone of the main gas pipeline, please drill as shallowly as necessary to complete the project, but no deeper than 30 meters.

We require that any work within the main gas pipeline protection zone be carried out under the following conditions:

1. Comply with the Main Gas Pipeline Protection Rules approved by Order No. 1-213 of the Minister of Energy of the Republic of Lithuania dated July 16, 2010 (Official Gazette, 2010, No. 87-4625);
2. Comply with the Law of the Republic of Lithuania on Special Conditions for Land Use No. XIII-2166 of June 6, 2019 (Official Gazette, 2019, June 19, 2019)
3. Comply with the Rules for the Installation of Main Gas Pipelines, approved by Order No. 1-12 of the Minister of Energy of the Republic of Lithuania dated January 28, 2014 (Official Gazette 2014, No. 2014-00692).
4. Technical Regulation for Construction STR 1.06.01:2016 "Construction Works. Supervision of Building Construction," approved by Order No. D1-848 of the Minister of the Environment of the Republic of Lithuania dated December 2, 2016;
5. Rules for the Protection of Main Gas Pipelines, approved by Order No. 1-213 of the Minister of Energy of the Republic of Lithuania dated July 16, 2010.

Repair and Maintenance Manual

Giedrius Meiorius

Rasa Šatkauskienė, tel. +37065254980, email r.satkauskiene@kn.lt

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Data is collected and stored in the
Register of Legal Entities. Code
110648893

METADATA	
Document author(s)	KN Energies, AB
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