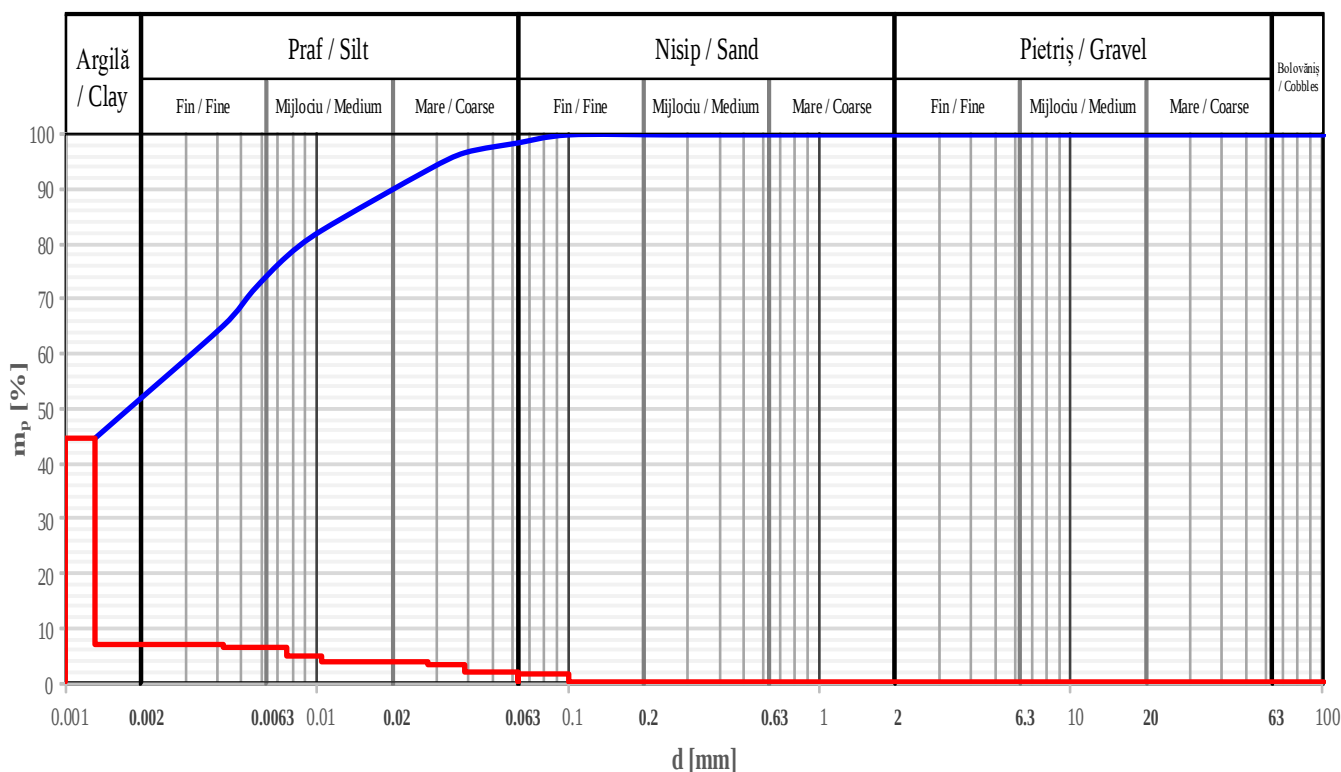


DCC-GEO-TEST CONSULT S.R.L.  
 LABORATOR DE ANALIZE ȘI ÎNCERCĂRI  
 ÎN CONSTRUCȚII - GRAD II  
 Autorizație nr. 2940 din 15.08.2014/24.08.2018

Amplasament / Location: Reabilitarea liniei de cale ferata Roman – Iasi - Frontiera  
 Forajul/Borehole: FTS 64A  
 Proba/Sample: PT 3  
 Adancimea/Depth(m): 3,00

Raport de incercare nr. / Test report no.75 1220

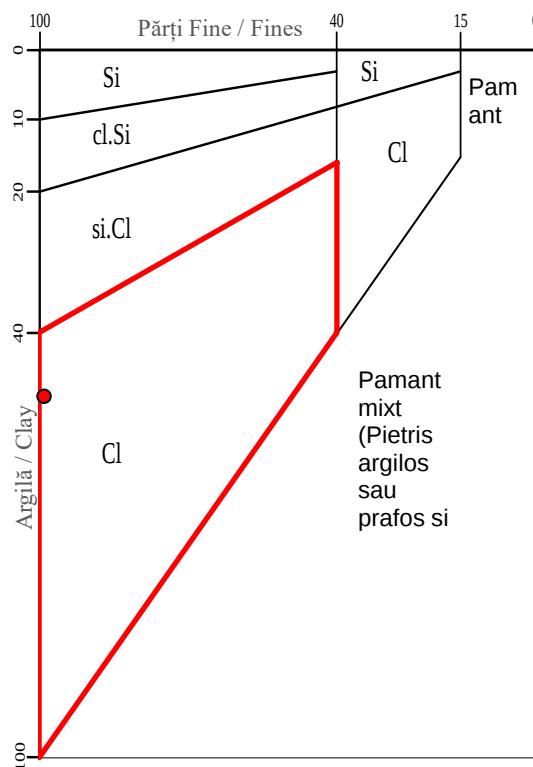
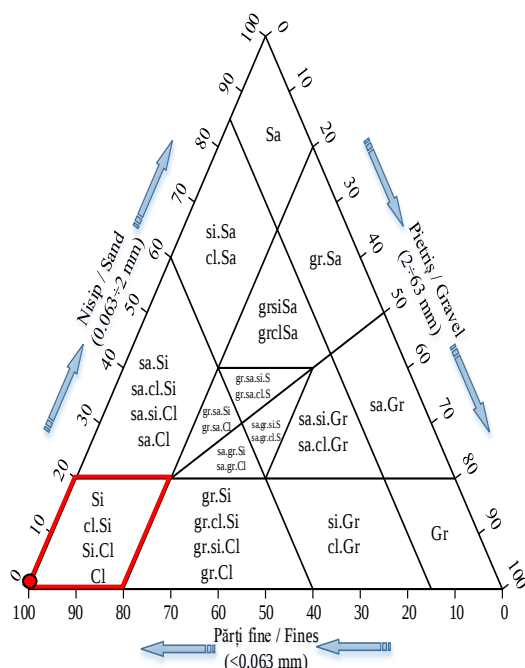


Curba granulometrica / Granulometric curve

| Identificarea si clasificarea pamanturilor SR<br>EN ISO 14688/2-2018 / SR EN ISO 14688/2-2018 / STAS 1913/5-85 |                   |           |             |            |                         |             |            |              |             |            |                                     |
|----------------------------------------------------------------------------------------------------------------|-------------------|-----------|-------------|------------|-------------------------|-------------|------------|--------------|-------------|------------|-------------------------------------|
| Argila / Clay (CI)                                                                                             |                   |           |             |            |                         |             |            |              |             |            |                                     |
| cenusie-negricioasa Un = #N/A                                                                                  |                   |           |             |            |                         |             |            |              |             |            |                                     |
| Conform SR EN ISO 14688/2-2005, la cerinta beneficiarului                                                      | Pamant fin / Fine |           |             |            | Pamant grosier / Coarse |             |            |              |             |            | Pamant foarte grosier / Very coarse |
|                                                                                                                | Argila (CI)       | Praf (Si) |             |            | Nisip (Sa)              |             |            | Pietris (Gr) |             |            | Bolovanis (Co)                      |
|                                                                                                                |                   | Fin (fSi) | Mediu (mSi) | Mare (cSi) | Fin (fSa)               | Mediu (mSa) | Mare (cSa) | Fin (fGr)    | Mediu (mGr) | Mare (cGr) |                                     |
|                                                                                                                | 49                | 50        |             |            | 1                       |             |            | 0            |             |            | 0                                   |
|                                                                                                                | < 0,002           | < 0,0063  | < 0,02      | < 0,063    | < 0,2                   | < 0,63      | < 2        | < 6,3        | < 20        | < 63       | < 200mm                             |
|                                                                                                                | %                 | 49        | 25          | 16         | 9                       | 1           | 0          | 0            | 0           | 0          | 0                                   |

**Raport de incercare nr. / Test report no.75 1220**

|  | d (mm) | mp (%) |
|--|--------|--------|
|  | 100    | 100,0  |
|  | 100    | 100,0  |
|  | 100    | 100,0  |
|  | 100    | 100,0  |
|  | 100    | 100,0  |
|  | 100    | 100,0  |
|  | 90     | 100,0  |
|  | 63     | 100,0  |
|  | 45     | 100,0  |
|  | 31,5   | 100,0  |
|  | 22,4   | 100,0  |
|  | 16     | 100,0  |
|  | 11,2   | 100,0  |
|  | 5,6    | 100,0  |
|  | 3,15   | 100,0  |
|  | 2      | 100,0  |
|  | 0,5    | 100,0  |
|  | 0,25   | 100,0  |
|  | 0,10   | 100,0  |
|  | 0,063  | 98,5   |
|  | 0,063  | 98,54  |
|  | 0,039  | 96,74  |
|  | 0,028  | 93,58  |
|  | 0,020  | 89,89  |
|  | 0,014  | 86,20  |
|  | 0,010  | 82,51  |
|  | 0,008  | 77,77  |
|  | 0,006  | 71,44  |
|  | 0,004  | 65,12  |
|  | 0,003  | 58,26  |
|  | 0,002  | 51,41  |
|  | 0,001  | 44,56  |



**Clasificarea pamantului dupa SR EN ISO 14688-1:2018 / SR EN ISO 14688-2:2018**

| Tip pamant / Soil group             | Tip fractiune |    | %  | C <sub>u</sub> (Un) | C <sub>c</sub> | Forma curbei granulometrice / Shape of grading curve | C <sub>u</sub> (Un) | C <sub>c</sub> |
|-------------------------------------|---------------|----|----|---------------------|----------------|------------------------------------------------------|---------------------|----------------|
| Pamant fin / Fine                   | Argila        | Cl | 49 | <3                  | < 1            | Foarte uniforma / Very uniform                       | #N/A                | #####          |
|                                     | Praf          | Si | 50 |                     |                |                                                      |                     |                |
| Pamant grosier / Coarse             | Nisip         | Sa | 1  | 3---6               | < 1            | Uniforma / Uniform                                   | #N/A                | #####          |
|                                     | Pietris       | Gr | 0  | 6---15              | < 1            | Uniformitate medie / Medium uniformity               |                     |                |
| Pamant foarte grosier / Very coarse | Bolovanis     | Co |    | >15                 | 1---3          | Neuniforma / Non-uniform                             | #N/A                | #####          |
|                                     |               |    |    | >15                 | <0,5           | Discontinua / Gap graded                             |                     |                |

Executat de / Performed by :  
 ing. Nina IOSIF

*Nina IOSIF*

Sef Laborator / Laboratory head: Constanta ANDREI



COD PROBA 75 1220

Raport de incercare nr. / Test report no.75 1221

**DETERMINAREA LIMITELOR DE PLASTICITATE /  
DETERMINATION OF ATTEBERG LIMITS  
STAS 1913/4-86**

| Nr. de caderi ale cupei (N)                 | 25 | UMIDITATE NATURALA<br>NATURAL MOISTURE<br>STAS 1913/1-82 |       |  | LIMITA DE CURGERE<br>LIQUID LIMIT<br>W <sub>L</sub> % |       |       |       | LIMITA DE FRAMANTARE<br>PLASTIC LIMIT<br>W <sub>P</sub> % |       |       |
|---------------------------------------------|----|----------------------------------------------------------|-------|--|-------------------------------------------------------|-------|-------|-------|-----------------------------------------------------------|-------|-------|
| Adancimea de patrundere a<br>conului (S) mm | 10 |                                                          |       |  | Metoda cu cupa                                        |       |       |       |                                                           |       |       |
|                                             |    |                                                          |       |  | 46                                                    | 32    | 21    | 15    |                                                           |       |       |
| PROBA UMEDA + TARA A (gr)                   |    | 150,00                                                   |       |  | 31,21                                                 | 33,18 | 31,29 | 33,81 | 19,06                                                     | 19,23 | 19,87 |
| PROBA USCATA + TARA B (gr)                  |    | 101,40                                                   |       |  | 23,65                                                 | 25,04 | 23,73 | 25,41 | 18,18                                                     | 18,30 | 18,86 |
| TARA C (gr)                                 |    |                                                          |       |  | 13,14                                                 | 14,16 | 13,92 | 14,73 | 14,59                                                     | 14,48 | 14,76 |
| A - B                                       |    | 48,60                                                    |       |  | 7,56                                                  | 8,14  | 7,56  | 8,40  | 0,88                                                      | 0,93  | 1,01  |
| B - C                                       |    | 101,40                                                   |       |  | 10,51                                                 | 10,88 | 9,81  | 10,68 | 3,59                                                      | 3,82  | 4,10  |
| W(%) = (A-B)/(B-C)*100                      |    | 47,93                                                    |       |  | 71,89                                                 | 74,78 | 77,00 | 78,62 | 24,54                                                     | 24,42 | 24,76 |
| W(%) MEDIU                                  |    |                                                          | 47,93 |  |                                                       |       | 76,20 |       |                                                           | 24,57 |       |

DESCRIEREA PROBEI /  
DESCRIPTION OF THE SOIL:

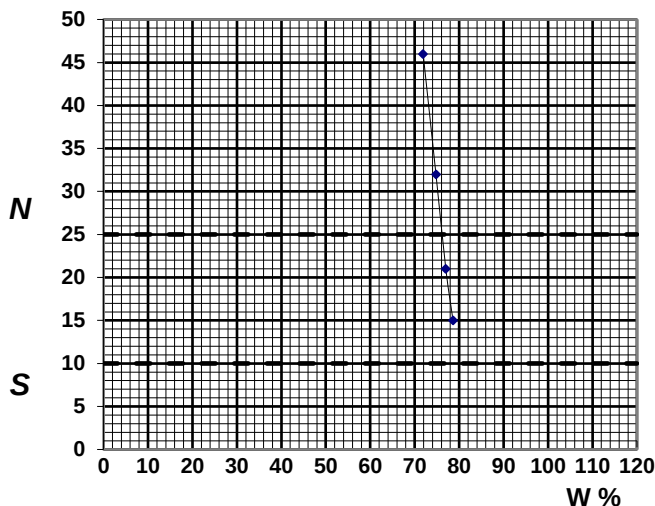
Argila cenusie-negricioasa maloasa plastic consistenta / firm  
consistency

SR EN ISO 14688/1/2-2018

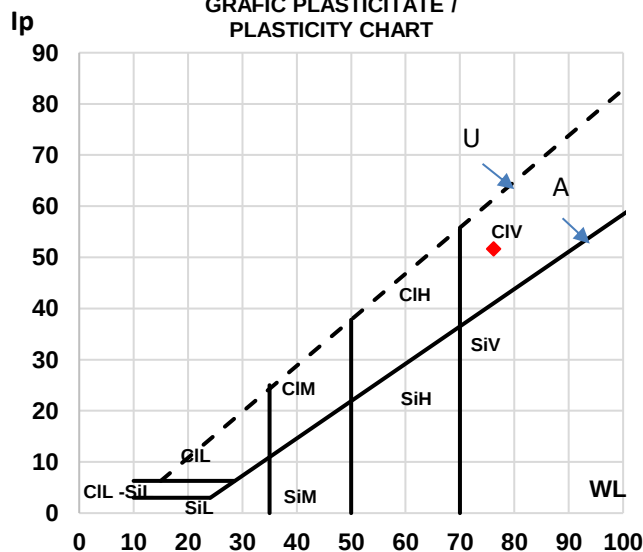
Pamant fin cu plasticitate foarte mare / Fine soil, very high plasticity

CIV

GRAFICUL LIMITEI SUPERIOARE DE PLASTICITATE  
UPPER LIMIT OF PLASTICITY CHART



GRAFIC PLASTICITATE /  
PLASTICITY CHART



|                                              |                                                            |       |   |  | SR EN ISO 14688/2-2018       |                              |                                     |
|----------------------------------------------|------------------------------------------------------------|-------|---|--|------------------------------|------------------------------|-------------------------------------|
| LIMITA DE FRAMANTARE /<br>PLASTIC LIMIT      | W <sub>P</sub> =                                           | 24,57 | % |  | Tip pamant /<br>Type of Soil | Plasticitate /<br>Plasticity | Limita de curgere /<br>Liquid limit |
| UMIDIT. NATUR. / NATURAL MOISTURE            | W =                                                        | 47,93 | % |  | Cl Clay                      | Low redusa                   | <35                                 |
| LIMITA DE CURGERE / LIQUID LIMIT             | W <sub>L</sub> =                                           | 76,20 | % |  | Si Silt                      | Medium medie                 | 35----50                            |
| INDICE DE PLASTICIT./PLASTICITY INDEX        | I <sub>P</sub> =W <sub>L</sub> -W <sub>P</sub>             | 51,63 | % |  |                              | Heigh mare                   | 50----70                            |
| INDICE DE CONSISTENȚĂ /<br>CONSISTENCY INDEX | I <sub>C</sub> = (W <sub>L</sub> -<br>W) / I <sub>P</sub>  | 0,55  |   |  |                              | Very<br>heigh mare           | >70                                 |
| INDICE DE LICHIDITATE/<br>LIQUIDITY INDEX    | I <sub>L</sub> = (W -<br>W <sub>P</sub> ) / I <sub>P</sub> | 0,45  |   |  |                              | O organig                    |                                     |

Executat de / Performed by: Laborant Emilia Dumitru

Data / Date: 14.01.2021

COD PROBA 75

1221

Sef Laborator / Laboratory head: Constanta ANDREI

