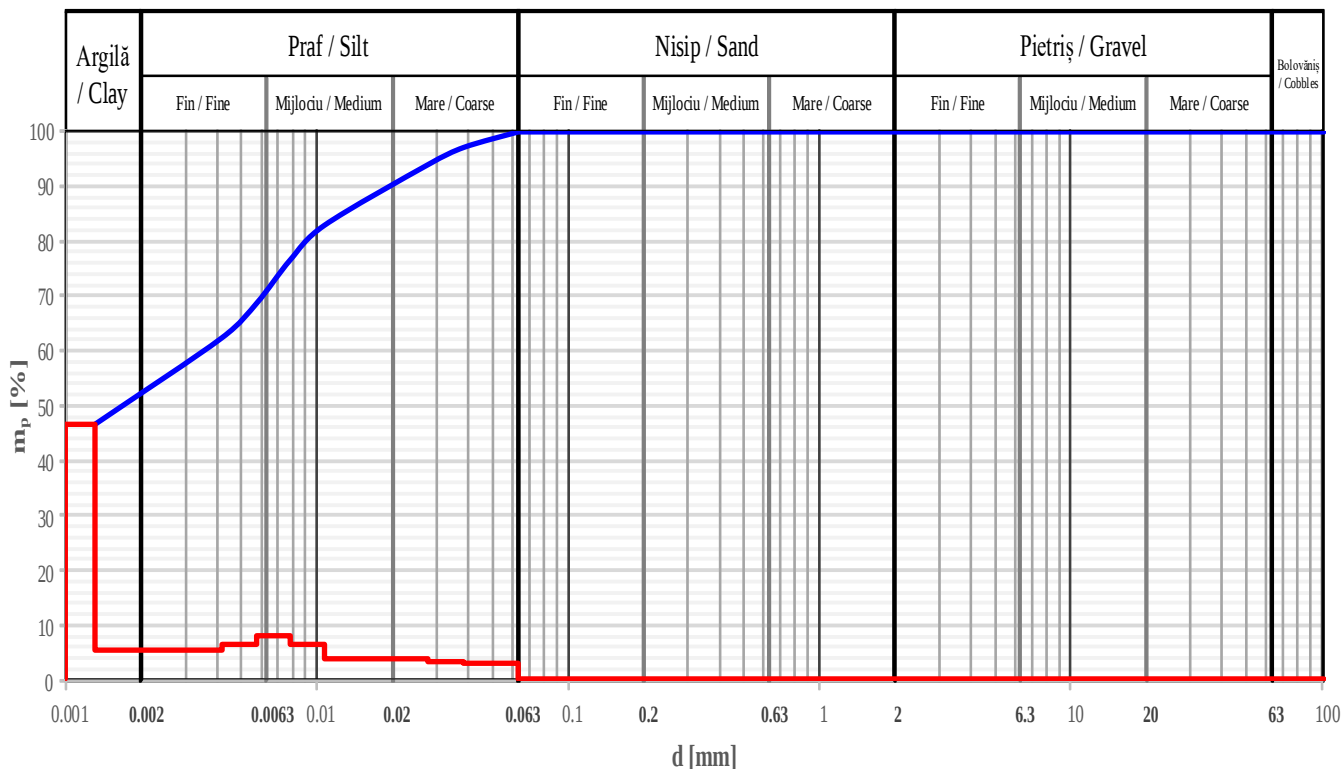


DCC-GEO-TEST CONSULT S.R.L.
 LABORATOR DE ANALIZE ȘI ÎNCERCĂRI
 ÎN CONSTRUCȚII - GRAD II
 Autorizație nr. 2940 din 15.08.2014/24.08.2018

Amplasament / Location: Reabilitarea liniei de cale ferata Roman – Iasi - Frontiera
 Forajul/Borehole: PODET 25
 Proba/Sample: PNT 2
 Adancimea/Depth(m): 2,00

Raport de incercare nr. / Test report no.75 644



Curba granulometrica / Granulometric curve

Identificarea si clasificarea pamanturilor SR EN ISO 14688/2-2018 / SR EN ISO 14688/2-2018 / STAS 1913/5-85											
Argila / Clay (CI)											
cenusie-cafenie 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)	
	51	49			0			0			0
	< 0,002	< 0,0063	< 0,02	< 0,063	< 0,2	< 0,63	< 2	< 6,3	< 20	< 63	< 200mm
%	51	20	19	10	0	0	0	0	0	0	0

CLASIFICAREA PAMANTURILOR /SR Pamant fin / Fine soil
 EN ISO 14688/2-2018 / SR EN ISO 14688/2-2018 #N/A

Executat de / Performed by:
 ing. Nina IOSIF

Nina IOSIF

Sef Laborator / Laboratory head: Constanta ANDREI

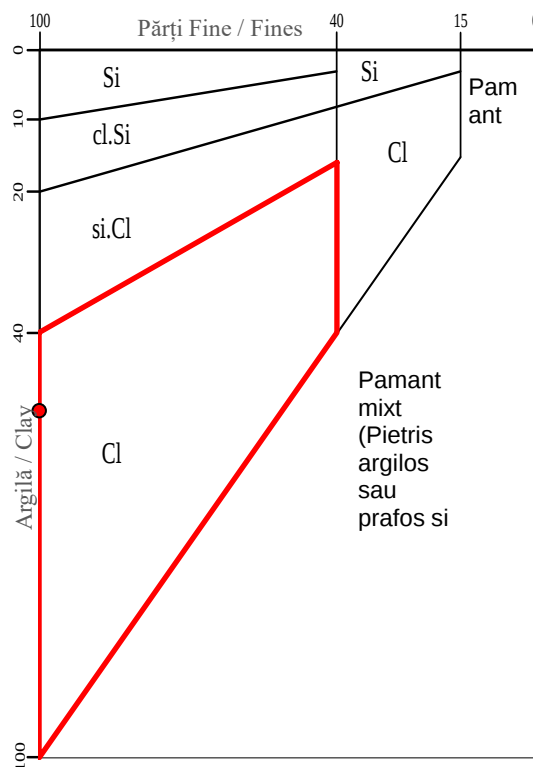
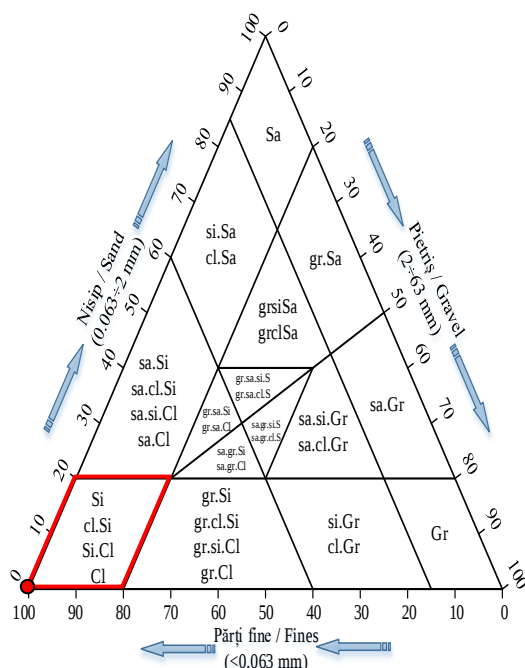


Data / Date: 16.12.2020

COD PROBA 75 644

Raport de incercare nr. / Test report no.75 644

	d (mm)	mp (%)
CERNERE	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
SEDIMENTARE	2	100,0
	0,5	100,0
	0,25	100,0
	0,10	100,0
	0,063	100,0
	0,063	#####
	0,038	97,15
	0,028	93,99
	0,020	90,30
	0,014	86,61
	0,011	82,92
	0,008	76,59
	0,006	68,69
	0,004	62,36
	0,003	57,09
	0,002	51,82
	0,001	46,55



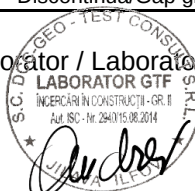
Clasificarea pamantului dupa SR EN ISO 14688-1:2018 / SR EN ISO 14688-2:2018

Tip pamant / Soil group	Tip fractiune		%	C _u (Un)	C _c	Forma curbei granulometrice / Shape of grading curve	C _u (Un)	C _c
Pamant fin / Fine	Argila	Cl	51	<3	< 1	Foarte uniforma / Very uniform	#N/A	#####
	Praf	Si	49			Uniforma / Uniform		
Pamant grosier / Coarse	Nisip	Sa	0	3---6	< 1	Uniformitate medie / Medium uniformity		
	Pietris	Gr	0	6---15	< 1	Neuniforma / Non-uniform		
Pamant foarte grosier / Very coarse	Bolovanis	Co		>15	1---3	Discontinua / Gap graded		
				>15	<0,5			

Executat de / Performed by :
 ing. Nina IOSIF

Nina IOSIF

Sef Laborator / Laboratory head: Constanta ANDREI



COD PROBA 75 644

Raport de incercare nr. / Test report no.75 645

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

Nr. de caderi ale cupei (N)	25	UMIDITATE NATURALA NATURAL MOISTURE STAS 1913/1-82			LIMITA DE CURGERE LIQUID LIMIT W _L %				LIMITA DE FRAMANTARE PLASTIC LIMIT W _P %		
Adancimea de patrundere a conului (S) mm	10				Metoda cu cupa						
					44	33	23	15			
PROBA UMEDA + TARA A (gr)		150,00			29,59	31,48	29,66	32,22	17,31	17,47	18,11
PROBA USCATA + TARA B (gr)		126,32			22,19	23,58	22,27	23,95	16,47	16,59	17,15
TARA C (gr)					11,31	12,33	12,09	12,90	12,76	12,65	12,93
A - B		23,68			7,40	7,90	7,39	8,27	0,83	0,88	0,95
B - C		126,32			10,88	11,25	10,18	11,05	3,71	3,94	4,22
W(%) = (A-B)/(B-C)*100		18,75			67,99	70,23	72,57	74,81	22,45	22,31	22,59
W(%) MEDIU			18,75				72,10			22,45	

DESCRIEREA PROBEI /
DESCRIPTION OF THE SOIL:

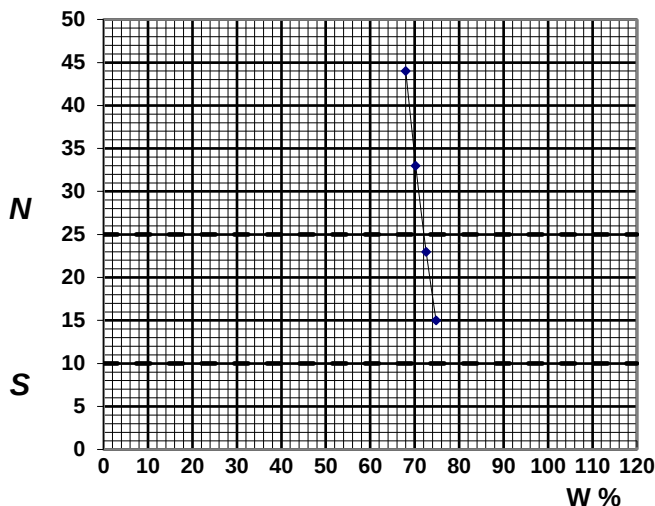
Argila cenusie-cafenie cu concretii calcaroase tare / very stiff consistency

SR EN ISO 14688/1/2-2018

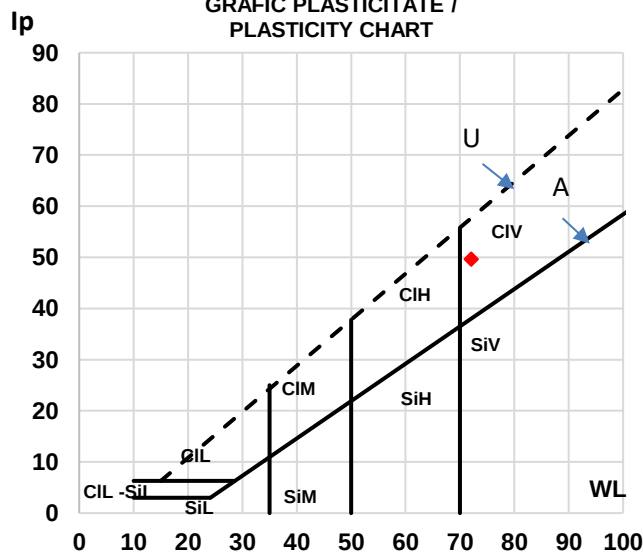
Pamant fin cu plasticitate foarte mare / Fine soil, very high plasticity

CIV

GRAFICUL LIMITEI SUPERIOARE DE PLASTICITATE
UPPER LIMIT OF PLASTICITY CHART



GRAFIC PLASTICITATE /
PLASTICITY CHART



					SR EN ISO 14688/2-2018		
LIMITA DE FRAMANTARE / PLASTIC LIMIT	W _P =	22,45	%		Tip pamant / Type of Soil	Plasticitate / Plasticity	Limita de curgere / Liquid limit
UMIDIT. NATUR. / NATURAL MOISTURE	W =	18,75	%		Cl Clay	Low redusa	<35
LIMITA DE CURGERE / LIQUID LIMIT	W _L =	72,10	%		Si Silt	Medium medie	35----50
INDICE DE PLASTICIT./PLASTICITY INDEX	I _P =W _L -W _P	49,65	%			Heigh mare	50----70
INDICE DE CONSISTENȚĂ / CONSISTENCY INDEX	I _C = (W _L - W) / I _P	1,07				Very heigh mare	>70
INDICE DE LICHIDITATE/ LIQUIDITY INDEX	I _L = (W - W _P) / I _P	-0,07				O organig	

Executat de / Performed by: Laborant Emilia Dumitru

Data / Date: 16.12.2020

COD PROBA 75

645

Sef Laborator / Laboratory head: Constanta ANDREI

Raport de incercare nr. / Test report no.75 646

**DETERMINAREA REZISTENȚEI PAMANTURILOR LA FORFECARE PRIN ÎNCERCAREA DE
FORFECARE DIRECTĂ / DIRECT SHEAR TESTS
STAS 8942/2-82**

**TEST DE FORFECARE DIRECTĂ NE CONSOLIDATĂ NEDRENATĂ (FUU) /
UNCONSOLIDATED UNDRAINED DIRECT SHEAR TEST**

viteza: 1.0
mm/min

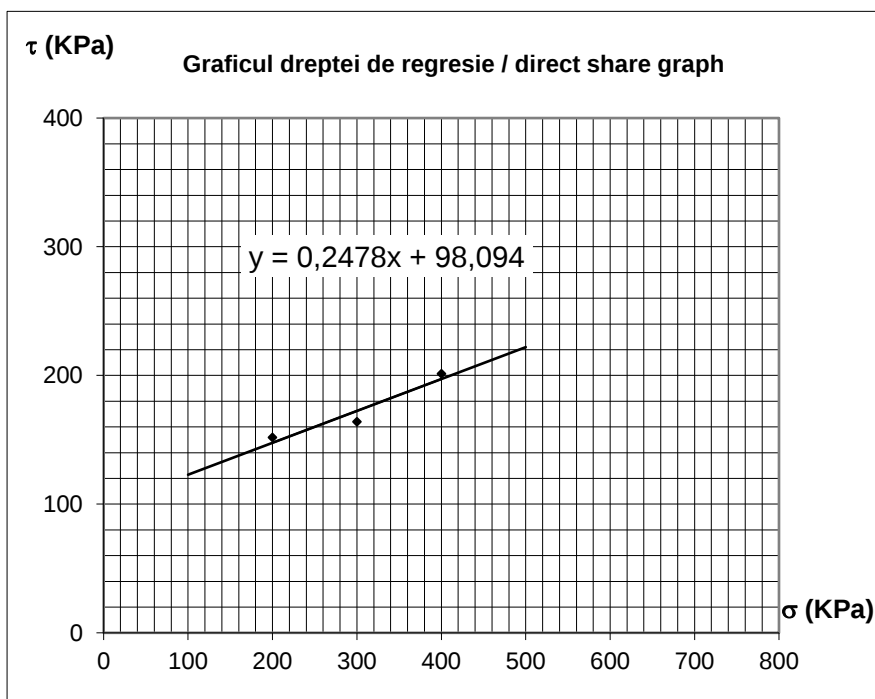
DESCRIEREA PROBEI /
DESCRIPTION OF SOIL: :

Argila cenusie-cafenie cu concreții calcaroase

tare / very stiff
consistency

INDICI FIZICI AI MATERIALULUI / PHYSICAL INDEX OF SOIL	EPRUVETA 1		EPRUVETA 2		EPRUVETA 3		MEDIA
	INIȚIAL	FINAL	INIȚIAL	FINAL	INIȚIAL	FINAL	INIȚIAL
Umiditatea w %	18,74	18,12	18,72	18,42	18,89	18,34	18,78
Densitatea în stare umedă r (g/cm^3)	1,94		1,94		1,94		1,94
Densitatea în stare uscată r_d (g/cm^3)	1,63		1,64		1,63		1,63
Densitatea scheletului r_s (g/cm^3)	2,72		2,72		2,72		2,72
Porozitatea $n = (1 - \rho_d / \rho_s) \cdot 100$ %	39,91		39,85		39,93		39,90
Indicele porilor $e = n / (1 - n)$	0,66		0,66		0,66		0,66
Gradul de Saturație $S_r = \rho_s \cdot w / (e \cdot \rho_w \cdot 100)$	0,77		0,77		0,77		0,77

SR EN ISO 14688/2-2018:



Natural /
Natural soil

Valori obținute /
Values obtained:

$\phi = 13^\circ 55'$
 $c = 98,1 \text{ kPa}$



SEF LABORATOR
LABORATORY HEAD

Constanta ANDREI

**VALORILE MAXIME ALE EFORTURILOR DE RUPERE /
APPLIED NORMAL STRESS, MAXIMUM SHEAR STRESS**

	epruveta 1	epruveta 2	epruveta 3
σ (kPa)	200	300	400
τ (kPa)	152	164	201

Data / Date: 16.12.2020

Executat de/Performed by: ing.geol.

COD PROBA 75 646