



FISA COMPLEXA [Complex bore hole profile]: **17B F**

LUCRAREA [Working]: Autostrada de Centura București Sud [South Bucharest belt motor way]
POZIȚIA km [Kilometric position]: km ACBS 48+027.10, in ax.

COTA [Level]: 63.388 m

[illegible]



POZITIA km [Kilometric position]: km ACBS 47+918.69, in ax.

COTA [Level]: 63.117 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIMEA STRATULUI [Stratum thickness] [m]	GROSIMEA STRATULUI [Stratum thickness] [m]	NIVELUL APEI SUBTERANE [Underground water level] [m]	PROBE [Sample]		GRANULOMETRIE [Granular size]				LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]						COMPRESIBILITATE INCONJUGATA [Compressibility and non-linearity]		PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]		
					NUMARUL [Number]	ADANCIMEA [Depth] [m]	PIETRIS 2-70 mm [Gravel] %	NISIP 0.05-2 mm [Sand] %	PRAF 0.005-0.05 mm [Silt] %	ARGILA < 0.005 mm [Clay] %	UMIDITATEA NATURALA (Natural humidity) w [%]	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit] w _L [%]	LIMITA INFERIOARA DE PLASTICITATE (plasticity limit) w _p [%]	INDICELE DE PLASTICITATE (Plasticity index) I _p [%]	INDICELE DE CONSISTENTA (Consistency index) I _c	DENSITATEA VOLUMICA LA UMIDITATEA NATURALA (Density humidity) ρ [g/cm³]	DENSITATEA VOLUMICA IN STARE USCATA (Density in dry state) ρ _d [g/cm³]	POROZITATE (Porosity) n [%]	INDICELE PORILOR (Void ratio) e	GRADUL DE UMIDITATE (Degree of saturation) Sr	MODULUL DE DEFORMARE EDOMETRIC (Oedometer deformation modulus) M [kPa]	TASAREA SPECIFICA LA 200 kPa (Specific settlement to 200 kPa) ε ₂ [mm]	ADANCIMEA [Depth] [m]	NUMARUL DE LOVITURI PENTRU 30 cm PENETRARE (Number of the blows - to 30 cm)		
Umplutura autostrazii Bucuresti - Constanta, alcatuita din argile uscate, foarte tari. [Bucuresti - Constanta motor way filling: very stiff, dry, clays]	U	(62.117) 1.00	1.00		1	1.00																				
	///				2	1.30		17	53	30	19.4	40	15	25	0.82	2.07	1.73	35.6	0.55	0.95	16600	1.4				
	///				3	1.80																				
Argila foarte prafoasa, cafenie - roscata, plastica vartoasa. [Stiff, reddish brown silty clay]	///	(60.017) 3.10	2.10		4	2.80	50	45	5																	
	///				6	3.80	15	85																		
Nisip fin si mijlociu, cafeniu galbui, cu pietris mic, umed, indesat mijlociu. [Medium compact, moist, yellowish brown, sand with gravel]	.				7	4.80																5.00	23			
	.				8	5.80																				
Pietris mic si mare de rau, cu nisip mijlociu si mare cafeniu, saturat cu apa, indesar mijlociu. [Medium compact, saturation with water, brown gravel with sand]	.o				9	6.80																7.00	15			
	.o				10	7.80																				
Nisip argilos cafeniu, cu papusi calcaroase, plastic vartos. [Stiff, brown clayey sand, with big limestone concretions]	.oo	(53.817) 9.30	6.20	(53.817) 9.30	11	8.80	5	95	Agresivitate foarte slab carbonica fata de betoane si medie fata de metale [Very weak carbonic aggressiveness to the concretes and medium aggressiveness to the metals]																9.00	16
	.oo	(53.117) 10.00	0.70		12	9.80	77	23																		
	.oo				13	10.80	36	24	18	22	19.4	34	16	18	0.81	2.05	1.72	35.9	0.57	0.93						
Nisip galben, saturat cu apa, indesat mijlociu. [Medium compact, saturation with water, yellow sand]	-	(51.417) 11.70	1.70		15	11.80																				
	-	(50.717) 12.40	0.70		16	12.80																				
Nisip mediu, galben, saturat cu apa, indesat mijlociu. [Medium compact, saturation with water, yellow sand]	-.	(49.317) 13.80	1.40		17	13.80																				
	-.				18	14.80																				
Nisip argilos cafeniu galbui, cu intercalatii cenusii, lentile de argila si concretiuni calcaroase, plastic consistent. [Firm, yellowish brown clayey sand with clayey lens and limestone concretions]	-o				19	15.80		10	32	58	23.4	44	15	29	0.71	2	1.62	40	0.67	0.95						
	-o				20	15.80																				
	-o				21	16.80	5	42	27	26	17	34.5	16.3	18.2	0.96	2.1	1.79	33	0.49	0.92						
	-o	(45.117) 18.00	4.20		23	17.80																				
Nisip argilos galbui, indesar mijlociu. [Medium compact, yellow clayey sand]	-o	(44.017) 19.10	1.10		24	18.80																19.00	18			
Nisip galbui, indesat mijlociu [Medium compact, yellow sand]	-o	(43.117) 20.00	0.90		25	20.00																				

16 F

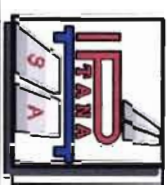


LUCRAREA [working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
POZITIA km [kilometric position]: km ACBS 46-5-586.38, stanga [left] 150.46 m, pe malul drept

COTA [Level]: 50.563 m

[illegible]

FISA COMPLEXA [Complex bore hole profile]: 15 F



LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
POZITIA km [Kilometric position]: km ACBS 41+295, in ax; pe malul drept al Calnaului, la 6 m vest de apa [in the right shore, on the 6 m west of water].

COTA [Level]: 61.048 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIMEA STRATULUI [Stratum thickness]	GROSIMEA STRATULUI [Stratum thickness]	NIVELUL APEI SUBTERANE [Underground water level]	PROBE [Sample]		GRANULOMETRIE [Granular size]					LIMITE DE PLASTICITATE [Plasticity limits]							CARACTERISTICI DE STARE [State characteristics]					FORFECARE DIRECTA [Direct shear tests]		PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]	NUMARUL DE LOVITURI PENTRU 30 cm PENETRARE [Number of the blows - to 30 cm]
					NUMARUL [Number]	ADANCIMEA [Depth]	PIETRIS 2-70 mm [Gravel]	NISIP 0.05-2 mm [Sand]	PRAF 0.005-0.05 mm [Silt]	ARGILA < 0.005 mm [Clay]	UMIDITATEA NATURALA [Natural humidity]	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit]	LIMITA INFERIOARA DE PLASTICITATE [Plasticity limit]	INDICELE DE PLASTICITATE [Plasticity index]	INDICELE DE CONSISTENTA [Consistency index]	DENSITATEA LA UMIDITATEA NATURALA [Density humidity]	DENSITATEA LA UMIDITATEA NATURALA [Density dry state]	POROZITATEA [Porosity]	INDICELE PORILOR [Void ratio]	GRADUL DE UMIDITATE [Degree of saturation]	UNGHUL DE FRECARE INTERIOARA [Angle of internal friction]	COEZIUNEA [Cohesion]	ADANCIMEA [Depth]				
Sol negricios. [Blackish soil]		0.50	0.50		1	0.90																					
Praef argilos cafeniu, cu urne ruginii, plastic vartos. [Stiff, rust-coloured brown clayey silt]		(59.248) 1.80	1.30	1.80	2	1.00																					
					Agresivitate foarte slab carbonica fața de beton și ciment și puternică față de metale [Very weak carbonic aggressiveness to the concretes and strong aggressiveness to the metals]																						
Praef nisipos argilos cafeniu galbui, plastic vartos, cu papusi calcaroase. [Stiff, yellowish brown clayey sandy silt, with big calcareous concretions]		(57.448) 3.60	1.80		4	2.90	20	14	44	22	21.4	37	18	19	22.3	0.91	2.13	1.83	31.4	0.46	0.94						
					5	3.00																					
Praef nisipos argilos cafeniu galbui, cu papusi calcaroase, plastic vartos. [Stiff, yellowish brown clayey sand with big limestone concretions]		(56.148) 4.90	1.30		6	3.80	11	51	18	20	16.1	36.3	14														
					8	5.00																					
Praef nisipos argilos cafeniu galbui, cu papusi calcaroase, plastic vartos. [Stiff, yellowish brown clayey sand with big limestone concretions]		(54.148) 6.90	2.00	6.90	9	5.90		30	41	29	18	32	19	13	1.08	2.05	1.74	35.2	0.54	0.89							
					10	6.00																					
Praef nisipos argilos cafeniu galbui, sfaramicios. [Brittle, yellowish brown clayey sandy silt]					11	7.00																					
					12	8.00	20	80																			
Praef nisipos argilos cafeniu galbui, sfaramicios. [Brittle, yellowish brown clayey sandy silt]					13	9.00	28	72																			
					14	10.00																					
Praef nisipos argilos cafeniu galbui, sfaramicios. [Brittle, yellowish brown clayey sandy silt]					15	11.00	22	78																			
					16	12.00																					
Praef nisipos argilos cafeniu galbui, sfaramicios. [Brittle, yellowish brown clayey sandy silt]					17	13.00	9	91																			
					18	14.00																					
Praef nisipos argilos cafeniu galbui, cu pietris mic, saturat cu apa, indesar. De la 14.90 m este cenusiu.[Compact, yellow, saturation with water sand. Starting from 14.90 m it is grey]					19	15.00	20	80																			
					20	16.00																					
Praef nisipos argilos cafeniu galbui, cu pietris mic, saturat cu apa, indesar. De la 14.90 m este cenusiu.[Compact, yellow, saturation with water sand. Starting from 14.90 m it is grey]					21	17.00	5	95																			
					22	18.00	7	93																			
Praef nisipos argilos cafeniu galbui, cu pietris mic, saturat cu apa, indesar. De la 14.90 m este cenusiu.[Compact, yellow, saturation with water sand. Starting from 14.90 m it is grey]					23	19.00																					
					24	20.00	4	96																			
		(41.048) 20.00	13.10																								



FISA COMPLEXA [Complex bore hole profile]: **13 F**

13E

LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
 POZITIA km [Kilometric position]: km ACBS 31+450, stanga [left] 112.96 m; dreapta 5 m din m

COTA [Level]: 70.848 m

DESCRIEREA STRATULUI [Stratum description]		SIMBOL [Symbol]	ADÂNCIMEA STRATULUI [Stratum thickness]	GROSIMEA STRATULUI [Stratum thickness]	NIVELUL APEI SUBTERANE [Underground water level]	PROBE [Sample]		GRANULOMETRIE [Granular size]						LIMITE DE PLASTICITATE [Plasticity limits]							CARACTERISTICI DE STARE [State characteristics]							FORȚECĂRE DIRECTĂ [Direct shear tests]		CARACTERISTICI DE COMPACTARE - PROCTOR [Compaction characteristics]	
			[m]	[m]	[m]	NUMĂRUL [Number]	ADÂNCIMEA [Depth]	PIETRIS 2-70 mm [Gravel]	NISIP 0.05-2 mm [Sand]	PRAF 0.005-0.05 mm [Silt]	ARGILĂ < 0.005 mm [Clay]	UMIDITATE NATURALĂ [Natural humidity]	LIMITA SUPERIOARĂ DE PLASTICITATE [Liquid limit]	LIMITA INFERIOARĂ DE PLASTICITATE [Plasticity limit]	INDICELE DE PLASTICITATE [Plasticity index]	INDICELE DE CONSISTENȚĂ [Consistency index]	DENSITATEA LA UMIDITATE NATURALĂ [Density natural humidity]	DENSITATEA VOLUMICĂ ÎN STARE USCĂ [Density in dry state]	POROSITATEA [Porosity]	INDICELE PORILOR [Void ratio]	GRADUL DE UMIDITATE [Degree of saturation]	UNGHIL DE FRECARĂ INTERIOARĂ [Angle of internal friction]	COEZIUNEA [Cohesion]	UMIDITATEA OPTIMĂ DE COMPACTARE [PROCTOR] [Optimum moisture content]	DENSITATEA MAXIMĂ ÎN STARE USCĂ [Maximum density in dry state]	SPORIȚ LA 1 m ² DE ÎMBLÂNȚIRE [Grass cover after 1 m ² mowing]					
Sol argilos cafeniu, uscat [Dry, brown, clayey soil]			0.30	0.30				%	%	%	%	w [%]	w _L [%]	w _P [%]	I _P [%]	I _C	ρ [g/cm ³]	ρ _d [g/cm ³]	n [%]	e	Sr	φ [°]	c [kPa]	W _{opt} [%]	ρ _{max} [g/cm ³]						
			(70.548)	(69.148)	1.70	1.40																									
Praf argilos loessoid, cafeniu, uscat, sfaramicios, sensibil la umezire. [Brittle, dry, brown, loessoid clayey silt]						1	1.30		11	67	22	15.2	40.3	19.6	20.7	1.21	1.78	1.55	42.3	0.73	0.55				20	1.68	108				
						2	2.00																								
Argila prafoasa cafenie plastica vartoasa. [Stiff, brown silty clay]						3	3.30		3	60	37	19.5	37.4	17	20.4	0.88	2.03	1.7	37.1	0.59	0.89										
						4	4.00		17	46	37																				
Praf argilos galbui, plastic consistent. [Firm, yellow clayey silt]						5	5.00		17	63	20	22.7					2.02	1.65	38.6	0.63	0.97	19	25								
						6	6.00		8	55	37																				
Argila prafoasa cafenie galbuie, plastica consistenta. [Firm, yellowish brown, silty clay]						7	7.30		29	40	19	12	17.5				2.08	1.77	33.5	0.5	0.93										
						8	8.00																								
Nisip prafoș cafeniu galbui, cu pietris mic si mare, saturat cu apa. [Saturation with water, yellowish brown silty sand with gravel]						9	9.00																								
						10	10.00																								
Argila nisipoasa galbuie, plastica consistenta. [Firm, yellow sandy clay]						11	11.00																								
						12	12.00	41	57	2																					
Nisip mijlociu si mare, cenusiu albicios, cu pietris mic si mare, saturat cu apa, indesarat mijlociu. [Medium compact, saturation with water, whitish grey sand with gravel]						13	13.00																								
						14	14.00																								
						15	15.00																								
						16	16.00																								
						17	17.00																								
						18	18.00																								
						19	19.00																								
						20	20.00																								

FISA COMPLEXA [Complex bore hole profile]:

11 F



LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
POZITIA km [Kilometric position]: km ACBS 30+124.30, stanga [left] 283.07 m

COTA [Level]: 67.062 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIMEA STRATULUI [Stratum thickness] [m]	GROSIMEA STRATULUI [Stratum thickness] [m]	NIVELUL APEI SUBTERANE [Underground water level] [m]	PROBE	GRANULOMETRIE [Granular size]					LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]					COMPRESIBILITATE [Compressibility and consolidation]		FORFECARE DIRECTA [Direct shear tests]		PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]		
					[Sample]	NUMARUL [Number]	ADANCIMEA [Depth] [m]	PIETRIS 2-70 mm [Gravel] %	NISIP 0.05-2 mm [Sand] %	PRAF 0.005-0.05 mm [Silt] %	ARGILA < 0.005 mm [Clay] %	UMIDITATEA NATURALA [Natural humidity] w [%]	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit] w _L [%]	LIMITA INFERIOARA DE PLASTICITATE [Plasticity limit] w _p [%]	INDICELE DE PLASTICITATE [Plasticity index] I _p [%]	INDICELE DE CONSISTENTA [Consistency index] I _c	DENSITATEA VOLUMICA LA UMIDITATEA NATURALA [Density in dry state] ρ [g/cm ³]	DENSITATEA VOLUMICA IN STARE USCATA [Density in dry state] ρ _s [g/cm ³]	POROSITATE [Porosity] n [%]	INDICELE PORILOR [Void ratio] e	GRADUL DE UMIDITATE [Degree of saturation] s _r	MODULUL DE DEFORMARE EDOMETRIC [Oedometer deformation modulus] M [kPa]	TASAREA SPECIFICA LA 200 kPa [Specific settlement to 200 kPa] E _s [cm/m]	UNGHIIA DE FRECARE INTERIOARA [Angle of internal friction] φ [°]	COEZIUNEA [Cohesion] c [kPa]	ADANCIMEA [Depth] [m]	NUMARUL DE LOVITURI PENTRU 30 cm PENETRARE [Number of blows - to 30 cm]
Umplutura din pietris cu argila cafenie, uscata. [Dry, brown filling of gravel with clay]	U	0.40 (66.862)	0.40 (66.262)		1	0.60		21	46	33	12.4	39.4	14.5	24.9	1.08	1.74	1.55	42.7	0.74	0.45							
Argila prafoasa cafenie negricioasa, uscata, tare. [Very stiff, dry, blackish brown silty clay]					2	1.00		14	47	39																	
Argila prafoasa cafenie galbuie, cu mici concretiuni calcaroase, uscata, sfaramicioasa. [Brittle, dry, yellowish brown silty clay with fine calcareous concretions]					3	2.00																					
Argila prafoasa cafenie galbuie, cu mici concretiuni calcaroase, uscata, sfaramicioasa. [Brittle, dry, yellowish brown silty clay with fine calcareous concretions]					4	2.50	23	23	22	32	17.7	35.5	17.7	17.8	1	1.98	1.68	37.5	0.61	0.79			23	24			
Pruf argilos nisipos cafeniu galbui, cu pietris mic, plastic consistent. [Firm, yellowish brown sandy clayey silt]					5	3.00	6	30	39	25																	
Nisip mediu si mare, cu pietris mic si mare si elemente rare de bolovanis, cafeniu galbui, saturat cu apa, indesat. [Compact, yellowish brown, saturation with water, sand with gravel and rare cobble]					6	4.00	48	52																			
Pruf argilos cafeniu galbui, plastic consistent. [Firm, yellowish brown clayey silt]					7	5.00																					
Nisip prafos, cafeniu galbui, cu rare concretiuni calcaroase, uscat, indesat. [Compact, dry, yellowish brown silty sand with rare limestone concretions]					8	6.00																					
Argila cafenie cu intercalatii cenusii, lentile de argila prafoasa si rare concretiuni calcaroase, plastica vartoasa. [Stiff, gray brown clay, with silty clay lens and rare calcareous concretions]					9	7.00																					
Argila prafoasa cenusie, plastica vartoasa. [Stiff, gray silty clay]					10	8.00	2	21	43	34		37.5	18	19.5													
Praf nisipos, uneori mai argilos, cenusiu, plastic vartos. [Stiff, grey sandy silt, occasionally clayey]					11	8.80		27	47	26	27.1	39	19	20	0.6	1.98	1.56	41.9	0.72	1.01	14300	1.4					
					12	9.00																					
					13	10.00	2	66	27	5																	
					14	11.00		62	35	3																	
					15	12.00																					
					16	13.00																					
					17	14.00	3	22	25	50																	
					18	14.50	12	8	42	38	21.6	48	19	29	0.91	2.06	1.69	37.3	0.59	0.98							
					19	15.00		8	44	48																	
					20	16.00		27	40	33																	
					21	16.50		17	42	41	27.3	40	25	15	0.85	1.93	1.52	43.8	0.78	0.94							
					22	17.00		34	43	23																	
					23	18.00																					
					24	18.50		40	47	13	30.1					1.9	1.46	45.1	0.82	0.97							
					25	19.00																					
					26	20.0	8	26	53	13																	

**FISA COMPLEXA [Complex bore hole profile]:****10 F**LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
POZITIA km [Kilometric position]: km ACBS 27+159.3, in ax

COTA [Level]: 62.370 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIIMEA STRATULUI [Stratum thickness] [m]	GROSIMEA STRATULUI [Stratum thickness] [m]	NIVELUL APRI SIETTERE [Underground water level] [m]	PROBE	GRANULOMETRIE [Granular size]				LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]					COMPRESIBILITATE SI CONSOLIDARE [Compressing and consolidation]			PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]		
					[Sample]	ADANCIIMEA [Depth] [m]	PIETRIS 2-75 mm [Gravel] %	NISSIP 0.05-2 mm [Sand] %	PRAF 0.005-0.05 mm [Silt] %	ARGILA < 0.005 mm [Clay] %	UMIDITATEA NATURALA [Natural humidity] w [%]	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit] w _L [%]	LIMITA INFERIOARA DE PLASTICITATE [Plasticity index] w _p [%]	INDICELE DE PLASTICITATE [Plasticity index] I _p [%]	INDICELE DE CONSISTENTA [Consistency index] I _c	DENSITATEA VOLUMICA LA UMIDITATEA NATURALA [Density in dry state] ρ _n [g/cm ³]	DENSITATEA VOLUMICA IN STARE USCATA [Density in dry state] ρ _s [g/cm ³]	POROSITATEA [Porosity] n [%]	INDICELE PORILOR [Void ratio] e	GRADUL DE UMIDITATE [Degree of saturation] Sr	MODULUL DE DEFORMATIE EDOMETRIC [Edometric deformation modulus] M [kPa]	TASAREA SPECIFICA LA 200 kPa [Specific settlement to 200 kPa] ε _s [mm]	TASAREA SPECIFICA LA 400 kPa [Specific settlement to 400 kPa] ε _s [mm]	ADANCIIMEA [Depth] [m]	NUMARUL DE LOXTURI PENTRU 30 cm PENETRARE [Number of the blows - to 30 cm]
					[m]	[m]	[m]	[m]	[m]	%	%	%	%	w [%]	w _L [%]	w _p [%]	I _p [%]	I _c	ρ _n [g/cm ³]	ρ _s [g/cm ³]	n [%]	e	Sr	M [kPa]	ε _s [mm]
Sol cafeniu, uscat [Dry, brown soil]		0.20	0.20																						
Praf argilos loessoid, galbui, sfaramicios, sensibil la umezire. [Brittle, yellow, loessoid clayey silt]		62.17			1	0.70		21	53	26	9	37	23	14	2	1.53	1.4	47.6	0.91	0.27	11100	1.8	4.1		
		61.17			2	1.00																			
Argila prafoasa cafenie negricioasa, cu pietris mic, uscata, tare. [Very stiff, dry, blackish brown silty clay, with gravel]		1.20	1.00																						
					3	2.00																			
Bolovanis cu pietris si nisip argilos cafeniu, uscat. [Dry, brown cobble with gravel and clayey sand]		60.07																							
		2.30	1.10		4	2.20	10	20	40	30	17.7	48	20.5	27.5	1.1	1.95	1.66	38.6	0.63	0.76					
Bolovanis si pietris mic si mare, cafeniu galbui, umed. De la 4.40 m este saturat cu apa. [Moist, yellowish brown cobble and gravel. Starting from 4.40 m there are saturation with water]		59.07			5	3.00																			
		3.30	1.00		6	4.00	82	18																	
Argila cafenie galbuie, cu mici concretiuni calcaroase, plastica vartoasa. [Stiff, yellowish brown clay, with calcareous concretions]		57.97																							
		4.40			7	5.00																			
Argila nisipoasa cafenie galbuie, plastica vartoasa. [Stiff, yellowish brown sandy clay]		56.77																							
		5.60	2.30		8	6.00	3	22	30	45															
Argila galbuie, cu rare concretiuni calcaroase, plastica vartoasa. [Stiff, yellow clay, with calcareous concretions]		56.12																							
		6.25	0.65		9	6.50		35	26	39	21.8	46	19.5	26.5	0.91	2.02	1.66	38.6	0.63	0.94	25000	0.6			
Argila prafoasa cafenie galbuie, cu concretiuni calcaroase, plastica vartoasa. [Stiff, yellowish brown clay, with limestone concretions]		6.75	0.50		10	7.00	2	15	26	57															
		55.62																							
Nisip argilos cafeniu cenusiu, plastic vartos. [Stiff, grey brown clayey sand]		7.75	1.00																						
		54.62			11	8.00																			
Nisip prafo argilos cenusiu, cu rar pietris mic, umed, indesar mediu spre indesar. [Compact - medium compact, moist, grey clayey silty sand with rare gravel]					12	8.50	5	10	52	33	20.8	47	17.5	29.5	0.89	2.08	1.72	36.2	0.57	0.99					
					13	9.00																			
Argila cenusie, cu rare concretiuni calcaroase, plastica vartoasa. [Stiff, gray clay, with rare calcareous concretions]		52.07			14	10.00																			
		10.30	2.55		15	10.50		49	36	15	21.5	37	17.6	19.4	0.8	2.04	1.68	37.1	0.59	0.97	14300	1.4			
Nisip prafo argilos cenusiu, cu pietris mic si mare si concretiuni calcaroase, plastic vartos. [Stiff, grey clayey silty sand with gravel and limestone concretions]		10.70	0.40		16	11.00		25	47	28															
		51.67																							
Argila nisipoasa cenusie verzuie, plastica vartoasa. [Stiff, greenish grey silty clay]		49.57			17	12.50		47	33	20	27.2	33	18	15	0.39	1.92	1.51	43.6	0.77	0.94					
		12.80	2.10		18	13.00	4	74	8	14															
Argila nisipoasa cenusie verzuie, plastica vartoasa, continand concretiuni calcaroase. [Stiff, greenish grey clay, with calcareous concretions]					19	14.00	2	13	39	46															
					20	15.00																			
Argila nisipoasa cenusie verzuie, plastica vartoasa, continand concretiuni calcaroase. [Stiff, greenish grey clay, with calcareous concretions]		46.47																							
		15.90	3.10		21	16.00																			
Argila nisipoasa cenusie verzuie, plastica vartoasa, continand concretiuni calcaroase. [Stiff, greenish grey clay, with calcareous concretions]		16.20	0.30		22	16.50	37	15	36	12	28.4	41	25	16	0.79	1.89	1.47	44.8	0.81	0.93	7692	3.1			
		46.17			23	17.00	2	31	47	20															
Argila nisipoasa cenusie verzuie, plastica vartoasa, continand concretiuni calcaroase. [Stiff, greenish grey clay, with calcareous concretions]		45.57																							
		17.50	0.70		24	18.00		13	48	39															
Argila nisipoasa cenusie verzuie, plastica vartoasa, continand concretiuni calcaroase. [Stiff, greenish grey clay, with calcareous concretions]		44.87			25	18.50	19	21	21	39															
		18.20	0.70		26	19.00																			
Argila nisipoasa cenusie verzuie, plastica vartoasa, continand concretiuni calcaroase. [Stiff, greenish grey clay, with calcareous concretions]		44.17																							
					27	20.00																			

13.50 29

FISA COMPLEXA [Complex bore hole profile]: **8 B F**

LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]

POZITIA km [Kilometric position]: km ACBS 24+072.39, dreapta [right] 254.1 m

COTA [Level]: 65.072 m

[illegible]

FISA COMPLEXA [Complex bore hole profile]: 8A F																											
LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way] POZITIA km [Kilometric position]: km ACBS 23+795.34, dreapta [right] 190.86 m COTA [Level]: 67.375 m																											
DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIMEA STRATULUI [Stratum thickness] [m]	GROSIMEA STRATULUI [Stratum thickness] [m]	NIVELUL APEI SUBTERANE [Underground water level] [m]	PROBE [Sample]	GRANULOMETRIE [Granular size]					LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]					COEZIUNEA [Cohesion]		FORFECARE DIRECTA [Direct shear tests]		CONTRACTIE, UMFLARE [Shrinkage, expanding]		
					NUMARUL [Number]	ADANCIMEA [Depth] [m]	PIETRIS 2-70 mm [Gravel] %	NISIP 0.05-2 mm [Sand] %	PRAF 0.005-0.05 mm [Silt] %	ARGILA < 0.005 mm [Clay] %	UMIDITATEA NATURALA [Natural humidity] w [%]	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit] w _L [%]	LIMITA INFERIOARA DE PLASTICITATE [Plasticity limit] w _p [%]	INDICELE DE PLASTICITATE [Plasticity index] I _p [%]	INDICELE DE CONSISTENTA [Consistency index] I _c	DENSITATEA VOLUMICA LA UMIDITATEA NATURALA [Density humidity] ρ _g [g/cm ³]	DENSITATEA VOLUMICA IN STARE USCATA [Density in dry state] ρ _d [g/cm ³]	POROZITATEA [Porosity] n [%]	INDICELE PORILOR [Void ratio] e	GRADUL DE UMIDITATE [Degree of saturation] s _r	MODULUL DE DEFORMARE EDOMETRIC [Oedometer deformation modulus] M [kPa]	TASAREA SPECIFICA LA 200 kPa [Specific settlement to 200 kPa] S ₂ [cm/m]	UNGHUL DE FRECARA INTERIOARA [Angle of internal friction] φ [°]	COEZIUNEA [Cohesion] c [kPa]	UMFLAREA LIBERA [Unconfined swelling] U _L [%]	CONTRACTIA VOLUMICA [Volume shrinkage] C _v [%]	
Sol [Soil]		0.30	0.30																								
Argila prafoasa cafenie galbuie, uneori feruginoasa, continand concretiuni calcaroase [Brown yellow silty clay with limestone calcareous]		(67.075) (66.225) 1.15	0.85		1	1.00	2	11	55	32																	
		1.65	0.50		2	1.30		5	32	63	23.4	43	14.5	28.5	0.98	1.95	1.58	41.9	0.72	0.88				12	60	130	95
Argila grasa cafenie, plastica vartoasa [Stiff brown tough clay]		(65.725) 2.70	1.05		3	2.00		12	60	28																	
Praf argilos cafeniu, plastic vartos [Stiff brown clayey silt]		(64.675) 3.60	0.90		4	3.00	2	11	28	59		59	24	35													
		(63.775) 4.20	0.80		5	3.30	2	3	39	56	31.8	53	22	31	0.68	1.88	1.43	47.4	0.9	0.96	8330	3.4					
Argila cafenie, plastica consistenta, cu rare concretiuni calcaroase [Firm brown clay with rare limestone calcareous]		(63.175) 5.00	0.80		6	4.00		10	20	70		66.4	24	42.4													
		(62.375) 5.50	0.50		7	5.00		8	62	30		48	26	22													
Argila grasa cafenie negricioasa, plastica consistenta [Firm bluish brown tough clay]		(61.875) 6.00	0.50		8	5.50	69	25	6																		
Argila cenusie, plastica consistenta, cu intercalatii feruginoase, filme de nisip si concretiuni calcaroase [Firm gray clay with sand and limestone calcareous]		(61.375) 9.00	3.00		9	6.50	75	22	3																		
		(58.375) 12.50			10	7.50	79	16	5																		
Argila foarte prafoasa, cenusie albastruie [Blue gray, very silt clay]					11	8.50	70	27	3																		
Pietris mic si mare cu nisip mijlociu si mare, saturat cu apa. [Saturation with water gravel with sand]					12	9.50	64	26	8	2																	
Pietris si nisip, saturate cu apa, cu fragmente de lemne si lentile argiloase. Lentilele argiloase au miros de balta si se umfla pe coloana. [Saturation with water gravel and sand with piece of wood and clayey lens. The clayey lens have moor odour and fill on the tube]					13	10.50	63	34	3																		
					14	11.50	69	29	2																		
					15	12.50	66	28	6																		
Pietris mic si mare cu nisip prafos cenusiu albastrui si rare elemente de bolovanis rulat. Stratul este saturat cu apa. [Saturation with water, gray blue gravel and silty sand lens, with rare cobble]		(52.375) 15.00	6.00		16	13.50	73	18	9																		
					17	14.50	70	30																			



FISA COMPLEXA [Complex bore hole profile]: 7 F

LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
POZITIA km [Kilometric position]: km ACBS 20+479.73, stanga [left] 28.92 m

COTA [Level]: 70.316 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIMEA STRATULUI [Stratum thickness] [m]	GROSIMEA STRATULUI [Stratum thickness] [m]	NIVELUL APEI SUBTERANE [Underground water level] [m]	PROBE [Sample]	GRANULOMETRIE [Granular size]				LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]					COMPRESIBILITATE SI CONSISTENTA [Compressibility and consistency]		FORFECARE DIRECTA [Direct shear tests]		PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]			
					NUMARUL [Number]	ADANCIMEA [Depth] [m]	PIETRIS 2-70 mm [Gravel] %	NISIP 0.05-2 mm [Sand] %	PRAF 0.005-0.05 mm [Silt] %	ARGILA < 0.005 mm [Clay] %	UMIDITATEA NATURALA [Natural humidity] w [%]	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit] w _L [%]	LIMITA INFERIOARA DE PLASTICITATE [Plasticity limit] w _p [%]	INDICELE DE PLASTICITATE [Plasticity index] I _p [%]	INDICELE DE CONSISTENTA [Consistency index] I _c	DENSITATEA VOLUMICA LA UMIDITATEA NATURALA [Density humidity] ρ _d [g/cm ³]	DENSITATEA VOLUMICA IN STARE USCATA [Density in dry state] ρ _s [g/cm ³]	POROZITATEA [Porosity] n [%]	INDICELE PORILOR [Void ratio] e	GRADUL DE UMIDITATE [Degree of saturation] s _r	MODULUL DE DEFORMARE EDOMETRIC [Oedometer deformation modulus] M [kPa]	TASAREA SPECIFICA LA 200 kPa [Specific settlement to 200 kPa] e _s [cm/m]	UNGHIIA DE FRECARA INTERIOARA [Angle of internal friction] φ [°]	COEZIUNEA [Cohesion] c [kPa]	ADANCIMEA [Depth] [m]	NUMARUL DE LOVITURI PENTRU 30 cm PENETRARE [Number of the blows - to 30 cm]	
Sol negricios [Blackish soil]		0.30	0.30																								
Praf foarte argilos, loessoid, uneori nisipos, cafeniu, uscat [Dry, brown loessoid very clayey silt, occasionally sandy]		(70.016)			1	1.00	8	36	41	15																	
		1.30	1.00		2	1.20		24	44	30	6					1.6	1.51	43.8	0.78	0.21							
		(69.016)			3	2.00	2	77	19	2																	
Nisip praos, cu pietris mic si mare, cafeniu, saturat cu apa, indesat mijlociu. [Medium compact, saturation with water, brown, silty sand with gravel]		2.60	1.30	(67.216)	4	3.00	6	28	33	33																	
		(67.716)		3.10	5	4.00		15	48	37																	
		3.40	0.80		6	4.30	16	34	35	37	25	42	19.8	22.2		1.87	1.5	43.9	0.78	0.85			19	25			
		(66.916)			7	5.00	81	19																			
		(66.016)			8	6.00	72	28																			
Argila prafoasa nisipoasa, cafenie, plastica vartoasa, cu intercalatii de pietris mic si mare. [Stiff, brown sandy silty clay with gravel]		4.60	0.30		9	7.00	78	22																			
		(65.716)			10	8.50																					
Argila prafoasa cenusie galbuie, umeda. [Moist, gray yellow, silty clay]					11	9.50																					
Nisip praos argilos, cenusiu, cu pietris mic si mare, umed, indesat mijlociu. [Medium compact, moist, gray, clayey silty sand with gravel]		9.80	5.20		12	10.50	22	66	10	2															9.15	16	
		(60.516)			13	11.50	15	74	11																		
Pietris mic si mare de rau, cu nisip mijlociu si mare galbui cafeniu, saturat cu apa, indesat mijlociu. [Medium compact, saturation with water, yellow brown, gravel with sand]					14	12.50	20	67	13																		
		(56.116)			15	13.50	11	63	18	8																13.15	18
		14.20	4.40		16	14.70	16	65	16	3																	
Nisip praos cafeniu, cu pietris mic si mare, saturat cu apa, indesat mijlociu. [Medium compact, saturation with water, brown, silty sand with gravel]		(55.816)			17	15.70	14	72	12	2																15.15	21
					18	16.70																					
Argila cenusie galbuie. [Gray yellow gray clay]					19	17.70	16	61	15	8																17.15	22
Nisip praos cafeniu, cu pietris mic, saturat cu apa, indesar mijlociu. [Medium compact, saturation with water, brown, silty sand with gravel]		(50.316)			20	18.70	14	75	11																		
		20.00	5.50		21	19.70	18	72	10																	19.15	25



POZITIA km [Kilometric position]: km ACBS 16+042.41, dreapta [right] 97.86 m

COTA [Level]: 76.239 m

[illegible]



FISA COMPLEXA [Complex brothel profile]:

5 F

LUCRAREA [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motor way]
POZITIA km [Kilometric position]: km ACBS 12+695.27, dreapta [right] 22.86 m

COTA [Level]: 81.396 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIIMEA STRATULUI [Stratum thickness] [m]	GROSIMEA STRATULUI [Stratum thickness] [m]	NIVELUL APEI SUBTERANE [Subterranean water level] [m]	PROBE [Sample]	GRANULOMETRIE [Granular size]				LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]							PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]	
						PIETRIS [Gravel] %	NIȘIP 0.05-2 mm [Sand] %	PRAF 0.005-0.05 mm [Silt] %	ARGILA < 0.005 mm [Clay] %	UMIDITATEA NATURALA [Natural humidity] %	LIMITA SUPERIOARA DE PLASTICITATE [Liquid limit] %	LIMITA INFERIOARA DE PLASTICITATE [Plastic limit] %	INDICELE DE PLASTICITATE [Plasticity index] %	INDICELE DE CONSISTENTA [Consistency index] %	DENSI-TATEA VOLUMICA LA UMIDITATE NATURALA [Density humidity] g/cm ³	DENSI-TATEA VOLUMICA IN STARE USCATA [Density in dry state] g/cm ³	POROSITATEA [Porosity] %	INDICELE POROSITATII [Porosity index] %	GRADUL DE UMIDITATE [Degree of saturation] %	MODULUL DE DEFORMARE EDOMETRIC [Edometric deformation modulus] kPa	TASAREA SPECIFICA LA 200 kPa [Specific settlement to 200 kPa] mm	ADANCIIMEA [Depth] [m]	NUMARUL DE LOZTUROS PENTRU 30 cm PENETRARE [Number of the blows - to 30 cm]
Sol [Soil]																							
Argila prafoasa cafenie, uscata, tare. [Very stiff, dry, brown silty clay]		0.50	0.50		1	0.60	20	44	36	17.4	36.4	20.5	15.9	1.19	1.99	1.70	37.2	0.59	0.79				
Argila foarte prafoasa, cu rare elemente de pietris mic, cafenie, uscata, tare. [Very stiff, dry, brown very silty clay, with rare gravel]		1.20	0.70		2	1.00																	
Pietris mic si mare, cu nisip mijlociu si mare si bolovanis rar, cafeniu galbui, uscat. De la 3.50 m este umed si cu intercalatii cenusii. [Dry, brown yellowish gravel with sand and rare cobble. Starting from 3.50 m they are dry and green]		2.30	1.10		3	2.00	4	24	42	30													
Pietris mic si mare, cu nisip mare si bolovanis rar, cafeniu galbui, saturat cu apa. De la 6.50 m este cafeniu cenusiu. [Brown yellowish gravel with sand and rare cobble. They are saturation with water. Starting from 6.50 m they are brown gray]		4.20	1.90		4	3.00	73	27															
Pietris mic si mare, cu nisip mare si bolovanis rar, cafeniu galbui, saturat cu apa. De la 6.50 m este cafeniu cenusiu. [Brown yellowish gravel with sand and rare cobble. They are saturation with water. Starting from 6.50 m they are brown gray]		7.40	3.20		5	4.00	78	22															
Pietris mic si mare, cu nisip mijlociu si mare, cenusiu, saturat cu apa. [Gray, saturation with water gravel with sand]		8.20	0.80		6	5.00	95	5															
Nisip argilos galbui cu intercalatii cenusii si lentile de praf nisipos argilos, cu papusi calcaroase, uscat, tare. [Very stiff, dry, yellow gray clayey sand with sandy silt intercalations and limestone concretions]		9.60	1.40		7	6.00	90	10															
Nisip prafoș cafeniu galbui cu rare elemente de pietris mic, umed. [Moist, brown yellow silty sand with rare gravel]		10.40	0.80		8	7.00	86	14															
Nisip fin si mediu galbui, saturat cu apa, indesat. [Compact, saturation with gravel, yellow sand]		11.80	1.40		9	8.00	52	48															
Praf argilos cenusiu, plastic vartos. [Stiff, gray clayey silt]		12.20	0.40		10	8.50	26	29	18	27	18.5	39	18.6	20.4	1	1.95	1.65	38.6	0.63	0.79	20000	0.5	
Nisip prafoș cafeniu galbui, saturat cu apa, indesat. De la 15.80 m refuleaza. [Compact, saturation with water, brown yellow silty sand. Starting from 15.80 m they suppress]		13.80	1.60		11	9.00	2	35	40	23													
Praf nisipos argilos galbui, cu intercalatii cenusii si papusi calcaroase, uscat, tare. [Very stiff, dry, yellow gray clayey sandy silt]		16.80	3.00		12	10.00	2	64	22	12													
Nisip prafoș argilos galbui, cu intercalatii cenusii si rare concretioni calcaroase, uscat. [Dry, yellow gray clayey sandy silt with rare concretions]		17.30	0.50		13	10.50																	
Praf argilos galbui, cu intercalatii cenusii si concretioni calcaroase degradate, uscat. [Dry, yellow gray clayey sandy silt with rare weathering concretions]		17.70	0.40		14	11.00	100																
Nisip prafoș argilos cenusiu galbui, cu concretioni calcaroase si grezoase, uscat. [Dry, gray yellow clayey silty silt with limestone and sandstone concretions]		18.50	0.80		15	12.00	10	66	24		43.2	22	21.2										
Praf nisipos cenusiu galbui, cu rare concretioni calcaroase, uscat. [Dry, gray yellow sandy silt with rare limestone concretions]		19.10	0.60		16	13.00	8	92															
		19.10	0.60		17	14.00	75	21	4														
		19.50			18	14.50																	
		20.00			19	15.00																	
		20.00			20	16.00																	
		20.00			21	17.00	19	20	40	21													
		20.00			22	17.50	1	43	41	15	22.9				1.98	1.61	39.5	65	93				
		20.00			23	18.00	7	23	50	20													
		20.00			24	19.00	10	35	41	14													
		20.00			25	19.50	2	28	58	12	27.6				1.91	1.50	43.7	0.78	0.94	14300	1.1		
		20.00			26	20.00	4	28	54	14													

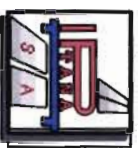
Agresivitate foarte slabă carbonică față de beton și medie față de metale
[Very weak carbonic aggressiveness to the concrete and medium aggressiveness to the metals]

10.50 42

14.50 37

FISA COMPLEXA [Complex borehole profile]:

4 F



Lucrarea [Working]: Autostrada de Centura Bucuresti Sud [South Bucharest belt motorway]
 Pozitia km [Kilometric position]: km ACBS 9+410, dreapta [right] 26.52 m

COTA [Level]: 87.973 m

DESCRIEREA STRATULUI [Stratum description]	SIMBOL [Symbol]	ADANCIMEA STRATULUI [Stratum thickness]	GROSIMEA STRATULUI [Stratum thickness]	NIVELUL SUBSTRATULUI [Underground water level]	PROBE [Sample]	GRANULOMETRIE [Granular size]					LIMITE DE PLASTICITATE [Plasticity limits]					CARACTERISTICI DE STARE [State characteristics]							FORECARE DIRECTA [Direct shear tests]		PENETRARE DINAMICA STANDARD [Depth of the standard penetration test]	NOTATII [Remarks]
						ADANCIMEA [Depth]	PIETRIS 2.70 mm [Gravel]	NISIP 0.062-2.70 mm [Sand]	GRAF 0.002-0.06 mm [Silt]	ARGILA < 0.006 mm [Clay]	UMIDITATE NATURALA [Natural humidity]	LIMTA SUPERIOARA DE PLASTICITATE [Liquid limit]	LIMTA INFERIOARA DE PLASTICITATE [Plastic limit]	INCELE DE PLASTICITATE [Plasticity index]	INCELE DE CONSISTENTA [Consistency index]	DENSITATE VOLUMICA LA NATURALA [Density natural]	DENSITATE VOLUMICA IN STARE SATURATA [Density saturated]	POROZITATE [Porosity]	INDICELE PORILOR [Void ratio]	GRADUL DE UMIDITATE [Degree of saturation]	UNGELE DE FRECARE INTERIOARA [Angle of internal friction]	COEZIUNEA [Cohesion]	ADANCIMEA [Depth]			
Sol [Soil]		0.60	0.60																							
Prat nisipos argilos loessoid, cafeniu negricios, sfaramicios. [Brittle brown blakish loess clayey sandy silt]		1.20	0.60		1	0.90		34	41	25	9.9	29	16	13	1.47	1.59	1.45	46	0.85	0.31						
		1.90	0.70		2	1.00		7	61	32		38.5	16.5	22												
					3	2.00																				
					4	2.50																				
Argila neagra si cafenie, uscata. [Dry black and brown clay]		3.80	1.90		5	3.00																				
		(84.173)			6	4.00	56	36	8															4.00	24	
		(83.273)			7	5.00	80	20																		
Argila galbena, putin umeda. [Little moist yellow clay]		4.70	0.90		8	6.00	76	24																		
					9	7.00	72	28																		
Pietris mic si mare de rau, nisip prafos galbui, saturat cu apa, indesarat mijlociu. [Gravel with silty sand. They are medium compact, saturation with water and yellow]		(79.373)			10	8.00	73	27																		
		8.60	3.90		11	9.00																				
		(78.173)			12	10.00																				
		9.80	1.20		13	10.50																				
					14	11.00																				
					15	12.00																				
					16	12.50	2	17	42	39	20	42.3	17.5	24.8	0.9	2.06	1.72	36.3	0.57	0.95	17	50				
					17	13.00																				
					18	14.00		23	45	32		39.6	15	24.6												
		(73.873)			19	14.50	13	87																		
		14.10	4.30		20	15.50	8	92																		
					21	16.50	5	95																		
					22	17.50																				
					23	18.50	9	91																		
		(67.973)			24	19.50																				
		20.00	5.90																							