Table AII.7.12 Summary of Analysis Results for Groundwater

Parameters	Braila					Galati					Constanta		
	WWTP Upstream	WWTP Downstream	Sludge Disposal site Upstream	Sludge Disposal site Downstream 1	Sludge Disposal site Downstream 2	WWTP Upstream	WWTP Downstream	Sludge Disposal site Upstream	Sludge Disposal site Downstream 1	Sludge Disposal site Downstream 2	Controlled Landfill Upstream	Controlled Landfill Downstream	Max. Desirable (MD) - Max. Permissible (MP)
Aspect	Clear supernatant, high quantity of sediment	Clear supernatant, high quantity of sediment	Clear supernatant	Clear supernatant	Clear supernatant	Turbid supernatant, yellow -red	Turbid supernatant, yellow -red	Clear supernatant	Opalescent	Opalescent	Clear supernatant	Clear supernatant; yellow -red sediment	
Colour	9.1	9.9	1.2	9.7	8.5	45.15	45.37	1.95	2.43	2.86	0.9	3.2	2 - 2
Turbidity (grade SiO_2)	-	-	15.3	39	29.3	71.85	72	9.7	28.49	9.4	-	-	2 - 2
Suspended solids (mg/dm^3)	151.560	11.580	34.55	97	115.15	118.55	121	12.05	18.3	16.2	32	332	
pH at 20°C (units)	6.93	7.28	7.34	7.8	7.28	7.42	7.53	7.72	7.9	7.7	7.68	7.75	6.5~7.4 - 8.5
Conductivity (μ S/cm)	2,306	1,802	886.6	1,369.50	1,250.10	1207.14	1,225.36	805.6	814.5	1,253	741	778	1000 - 3000
Total sulphides – agitated sample (as H_2S) (mg/dm^3)	136.32 / 0 *	1.34	-	-	-	0.04	0.05	-	-	-	-	8.34	0 - 0.1
Carbon Dioxide (mg/dm^3)	23.6	10.25	2.45	3.6	2.64	17.32	17.6	2.24	2.2	1.76	3.6	2.95	
Temperature (°C)	16	16	17	16	17	18	18	17	16	16	17		22/normal
CATIONS													
Calcium – Ca (mg/dm^3)	212.42	157.11	46.1	76.15	79.61	85.26	88.17	47.45	48.1	60.12	20.04	100.2	100 - 180
Magnesium – Mg(mg/dm^3)	147	121	54.68	36.27	44.5	65.25	65.6	39.15	40.2	37.5	10.23	26.73	50 - 80
Sodium and Potassium – Na + K (mg/dm^3)	262.1	209.12	169.2	202.8	169.7	149.3	149.3	67.2	68	239	165.2	170.46	
Iron – Fe (mg/dm^3)	1,304.10 / 0.34 *	500 / 0.51 *	0.28	0.33	1.48	6.55	7.99	0.08	0.09	0.08	0.85	192	0.1 - 0.3
Manganese – Mn (mg/dm^3)	24.00 / 0.32 *	1.792 / 0.144 *	0.105	0.176	0.144	0.36	0.373	0.025	0.036	0.026	0.048	1.2	0.05 - 0.3
Aluminium – Al (mg/dm^3)	1.072 / 0.04 *	0.792 / 0.152 *	0.064	0.096	0.096	0.233	0.232	0.08	0.12	0.08	0.084	0.76	0.05 - 0.2
Copper – Cu (mg/dm^3)	1.759 / 0 *	0.325 / 0 *	0	0.003	0	0	0	0	0	0	0	0.142	0.05 - 0.1
Chromium – Cr (mg/dm^3)	0.148 / 0 *	0.045 / 0 *	0	0.005	0.006	0.001	0.002	0.002	0.002	0.009	0	0.015	0.05
Zinc – Zn (mg/dm^3)	0.320 / 0.192 *	0.256 / 0.154 *	0.352	0.488	0.8	0.457	0.469	0.5	0.52	0.67	0.084	0.712	5 - 7
Nickel – Ni (mg/dm^3)	0.764 / 0.032 *	0.724 / 0 *	0	0.022	0	0	0	0.003	0.003	0.004	0	0.297	0.1
Cadmium – Cd (mg/dm^3)	0.027 / 0.006 *	0.019 / 0.004 *	0	0.004	0.003	0.002	0.004	0.002	0.002	0.0008	0	0.015	0.005
Lead – Pb (mg/dm^3)	0.359 / 0.094 *	0.451 / 0 *	0.02	0.025	0.035	0.057	0.062	0.024	0.046	0.014	0	0.319	0.05
Ammonia – NH_4 (mg/dm^3)	0.64	4.2	0.07	0.13	0.16	5.52	7.75	0.01	0.01	0.38	0.45	1.62	0 - 0.5
ANIONS and OTHER ITEMS													
Nitrites - NO_2 (mg/dm^3)	* 0.008	0.1	0.04	0.1	0.04	0	0	0.005	0.008	0.05	0.03	0.037	0 - 0.3
Nitrates - NO_3 (mg/dm^3)	5.37	0	1.72	5.3	1.74	1.44	1.84	4.15	3.07	31.16	1.32	1.36	45
Chlorides - Cl' (mg/dm^3)	205.6	150.7	58.5	166.62	58.5	163	163.07	76.83	78	110	76.2	76.22	250 - 400
Bicarbonates - HCO'_3 (mg/dm^3)	1,586.50	793.26	625.45	707.8	628.5	738.34	744.44	512.57	518.67	549.18	417.99	427.14	
Carbonates - CO^{2-}_3 (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	
Sulphates - SO^{2-}_4 (mg/dm^3)	116.25	480.05	108.35	161.40	109.1	9.25	9	57.75	57.8	385	90.05	90.05	200 - 400
Total phosphates - PO^{3-}_4 (mg/dm^3)	0.34 / 0.005 *	3.14 / 0.46 *	0.03	0.185	0.04	0.08	0.098	0.08	0.08	0.098	0.005	0.18	0.1 - 0.5
Cyanide - CN (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	0.01*
Oxyzne Substances - $KMnO_4$ (mg/dm^3)	7,152 / 62.00 *	398 / 22.12 *	10.12	42.32	20.54	4.11	4.12	3.05	4.12	6.23	3.8	37.92	10 - 12
Oil and grease (mg/dm^3)	4.87	4.05	1.05	1.2	1.9	1.93	2.93	1.72	8.84	2.08	0.67	10.3	-
Phenols (mg/dm^3)	1.3	0.33	0	0	0	0	0	0	0	0	0	0.015	0.001*
Alkalinity- permanent "p" (mval/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	
Alkalinity - total "m" (mval/dm^3)	550 / 26 *	13	10.25	11.6	10.3	12.1	12.2	8.4	8.5	9	6.85	7	
Acidity (mval/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	
Dissolved solids at 105 °C (mg/dm^3)	1,805.20	1,329.50	761.3	1,056.45	998	861.57	863	600.8	602	1,192.50	590.12	593.16	max. 1500/max. 3000 - max. 2000/max. 4200
Hardness - total (German degrees)	63.8	40.84	19.04	30.5	30.55	26.95	27.44	25.1	25.2	28.6	8.96	18.2	20 - 30
BACTERIA													
Total number of bacteria at 37°C, UFC / cm^3	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over300	over 300	under 300
Probable number of coliform bacteria /100 cm^3	920,000	172	1,600	24,000	5,400	16,000	16,000	920	16,000	1,600	1,600	54,200	under 10
Probable number of coliform-thermotolerabil bacteria (fecal coliforms) / 100 cm^3	542,600	2	22	180	27	240	240	94	1,600	240	920	5,400	under 2
Probable number of fecal streptococcus/100 cm^3	9,200	54,800	-	70	2	5	5	26	22	33	542	17,200	under 2

*: Agitated Sample/Supernatant of Sample

: means the parameters analysed not respect the Romanian Standard 1342/1991 - "Drinking Water"

Table AII.7.12 Summary of Analysis Results for Groundwater

Parameters	Braila					Galati					Constanta		
	WWTP Upstream	WWTP Downstream	Sludge Disposal site Upstream	Sludge Disposal site Downstream 1	Sludge Disposal site Downstream 2	WWTP Upstream	WWTP Downstream	Sludge Disposal site Upstream	Sludge Disposal site Downstream 1	Sludge Disposal site Downstream 2	Controlled Landfill Upstream	Controlled Landfill Downstream	Max. Desirable (MD) - Max. Permissible (MP)
Aspect	Clear supernatant, high quantity of sediment	Clear supernatant, high quantity of sediment	Clear supernatant	Clear supernatant	Clear supernatant	Turbid supernatant, yellow -red	Turbid supernatant, yellow -red	Clear supernatant	Opalescent	Opalescent	Clear supernatant	Clear supernatant, yellow -red sediment	
Colour	9.1	8.9	1.2	9.7	8.5	35.45	45.37	1.95	2.53	2.86	0.9	3.2	2 - 2
Turbidity (grade SiO_2)	-	-	15.3	19	25.6	71.05	73	9.7	28.05	9.4	-	-	2 - 2
Suspended solids (mg/dm^3)	151,560	11,580	36.55	97	115.15	118.55	121	12.05	18.3	16.2	32	332	
pH at 20 °C (units)	6.93	7.28	7.36	7.8	7.28	7.42	7.53	7.22	7.9	7.7	7.68	7.75	6.5÷7.4 - 8.5
Conductivity (μ S/cm)	2,306	1,802	886.6	1,309.50	1,250.10	1207.14	1,225.36	805.6	814.5	1,253	741	778	1000 - 3000
Total sulphides - agitated sample (as H_2S) (mg/dm^3)	130.32 / 0 *	4.04	-	-	-	0.04	0.05	-	-	-	-	8.34	0 - 0.1
Carbon Dioxide (mg/dm^3)	23.6	10.25	2.45	3.6	2.64	17.32	17.6	2.24	2.2	1.76	3.6	2.95	
Temperature (°C)	16	16	17	16	17	18	18	17	16	16	17		22/normal
CATIONS													
Calcium - Ca (mg/dm^3)	212.42	157.11	46.1	76.15	79.61	85.26	88.17	47.45	48.1	60.12	20.04	100.2	100 - 180
Magnesium - Mg(mg/dm^3)	147	121	56.68	86.27	84.3	65.25	65.6	50.35	30.2	37.5	10.23	26.73	50 - 80
Sodium and Potassium - Na + K (mg/dm^3)	202.1	209.12	169.2	202.8	169.7	149.3	149.3	67.2	68	239	165.2	170.46	
Iron - Fe (mg/dm^3)	1,504.10 / 0.58 *	900 / 0.51 *	0.28	0.33	1.48	4.55	7.90	0.08	0.09	0.08	0.85	592	0.1 - 0.3
Manganese - Mn (mg/dm^3)	24.00 / 0.32 *	1.792 / 0.144 *	0.105	0.176	0.144	0.36	0.378	0.025	0.036	0.026	0.048	1.2	0.05 - 0.3
Aluminium - Al (mg/dm^3)	1.072 / 0.04 *	0.792 / 0.152 *	0.064	0.096	0.096	0.233	0.232	0.08	0.12	0.08	0.084	0.76	0.05 - 0.2
Copper - Cu (mg/dm^3)	1.759 / 0 *	0.325 / 0 *	0	0.003	0	0	0	0	0	0	0	0.342	0.05 - 0.1
Chromium - Cr (mg/dm^3)	0.148 / 0 *	0.045 / 0 *	0	0.005	0.006	0.001	0.002	0.002	0.002	0.009	0	0.115	0.05
Zinc - Zn (mg/dm^3)	0.329 / 0.192 *	0.256 / 0.154 *	0.352	0.488	0.8	0.457	0.469	0.5	0.52	0.67	0.084	0.712	5 - 7
Nickel - Ni (mg/dm^3)	0.764 / 0.032 *	0.724 / 0 *	0	0.022	0	0	0	0.003	0.003	0.004	0	0.245	0.1
Cadmium - Cd (mg/dm^3)	0.057 / 0.006 *	0.019 / 0.004 *	0	0.004	0.003	0.002	0.004	0.002	0.002	0.0008	0	0.015	0.005
Lead - Pb (mg/dm^3)	0.159 / 0.093 *	0.451 / 0 *	0.02	0.025	0.035	0.052	0.062	0.024	0.046	0.014	0	0.319	0.05
Ammonia - NH_4 (mg/dm^3)	0.67	0.2	0.07	0.13	0.16	5.52	7.75	0.01	0.01	0.38	0.45	1.65	0 - 0.5
ANIONS and OTHER ITEMS													
Nitrites - NO_2 (mg/dm^3)	0.008	0.1	0.04	0.1	0.04	0	0	0.005	0.008	0.05	0.03	0.037	0 - 0.3
Nitrates - NO_3 (mg/dm^3)	5.37	0	1.72	5.3	1.74	1.44	1.84	4.15	3.07	31.16	1.32	1.36	45
Chlorides - Cl (mg/dm^3)	205.6	150.7	58.5	166.62	58.5	163	163.07	76.83	78	110	76.2	76.22	250 - 400
Bicarbonates - HCO_3 (mg/dm^3)	1,586.50	793.26	625.45	707.8	628.5	738.34	744.44	512.57	518.67	549.18	417.99	427.14	
Carbonates - CO^{2-}_3 (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	
Sulphates - SO^{2-}_4 (mg/dm^3)	116.25	480.05	108.35	161.43	109.1	9.25	9	57.75	57.8	385	90.05	90.05	200 - 400
Total phosphates - PO^{3-}_4 (mg/dm^3)	0.34 / 0.005 *	3.14 / 0.46 *	0.03	0.185	0.04	0.08	0.098	0.08	0.08	0.098	0.005	0.18	0.1 - 0.5
Cyanide - CN (mg/dm^3)	0	0	0	0	0	0	0	9	0	0	0	0	0.01*
Organic Substances - $KMnO_4$ (mg/dm^3)	7.162 / 6.200 *	3.96 / 2.12 *	10.12	32.82	20.58	41.1	45.12	3.05	4.12	6.23	3.8	37.92	10 - 12
Oil and grease (mg/dm^3)	4.87	4.05	1.05	1.2	1.9	1.93	2.93	1.72	8.84	2.08	0.67	10.3	-
Phenols (mg/dm^3)	0.6	0.28	0	0	0	0	0	0	0	0	0	0.015	0.001*
Alkalinity- permanent "p" (mval/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	
Alkalinity - total "m" (mval/dm^3)	550 / 26 *	13	10.25	11.6	10.3	12.1	12.2	8.4	8.5	9	6.85	7	
Acidity (mval/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	
Dissolved solids at 105 °C (mg/dm^3)	3,695.20	1,529.50	761.3	1,056.45	998	861.57	863	600.8	602	1,192.50	590.12	593.16	min. 100/max. 860 - min. 1000/max. 1500
Hardness - total (German degrees)	43.8	47.32	19.04	30.5	30.55	26.95	27.44	25.1	25.2	28.6	8.96	18.2	20 - 30
BACTERIA													
Total number of bacteria at 37°C UFC / cm^3	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	over 300	under 300
Probable number of coliform bacteria /100 cm^3	>920,000	172	1,600	24,000	5,400	16,000	16,000	920	16,000	1,600	5,400	54,200	under 10
Probable number of coliform-thermotolerabil bacteria (fecal coliforms) / 100 cm^3	540,000	2	22	180	27	240	240	94	5,600	240	920	5,380	under 2
Probable number of fecal streptococcus/100 cm^3	9,200	34,800	7	79	2	5	4	26	79	33	542	17,200	under 2

*: Agitated Sample/Supernatant of Sample

: means the parameters analysed not respect the Romanian Standard 1342/1991 - "Drinking Water"

Table AII.7.13 Summary of Analysis Results for Leachate from Existing Solid Disposal Site

Parameters	Braila Solid Waste Disposal Site	Galati Solid Waste Disposal Site	Tulcea Solid Waste Disposal Site	Constanta Solid Waste Disposal Site	NTPA 002
pH at 20°C (units)	8.22	8.3	8.18	8.12	6.5 - 8.5
BOD_5 (mg/dm^3)	3,824	4,135	3,465	2,988	300
COD_{Cr} (mg/dm3)	7,742	8,780	7,440	6,770	500
Chlorides (Cl^-) (mg/dm^3)	4,220	4,608	3,162	2,020	-
SS (mg/dm^3)	684	768	625	468	300
(NH_4 – N) (mg/dm^3)	592	635	590	548	30
Total Nitrogen (mg/dm^3)	7.36	756	722	677	-
Total Phosphorus (mg/dm^3)	4.3	5	4.25	3.8	5.0
$H_2S + S^{-2}$ (mg/dm^3)	18.8	22.4	16.3	11.08	0.5
Sulphates (SO_4^{2-}) (mg/dm^3)	20.6	31	28	24	400
Total Coliform Group (no./100 ml)	3.48×10^8	3.48×10^8	5.42×10^8	3.48×10^6	-
Fecal Coliform Bacteria (no./100 ml)	1.41×10^8	1.72×10^8	1.75×10^8	1.61×10^5	-
Fecal Streptococcus Group (no./100 ml)	1.61×10^6	1.75×10^6	1.41×10^6	5.42×10^5	-
Arsenic (As) (mg/dm^3)	0	0	0	0	-
Lead (Pb) (mg/dm^3)	0.265	0.322	0.135	0.085	0.5
Cadmium (Cd) (mg/dm^3)	0.042	0.047	0.042	0.033	0.1
Total Chromium (mg/dm^3)	0	0.075	0	0	Cr^{3+}1.0/Cr^{6+}0.1
Copper (Cu) (mg/dm^3)	0.142	0.185	0.022	0.014	0.1
Nickel (Ni) (mg/dm^3)	0.136	0.149	0.013	0.11	1
Zinc (Zn) (mg/dm^3)	0.41	0.5	0.316	0.225	1
Manganese (Mn) (mg/dm^3)	0.14	0.18	0.08	0.06	1
Cyanide (mg/dm^3)	0	0	0	0	0.5
Oil and Grease (mg/dm3)	528	580	462	278	20
Phenols (mg/dm^3)	1.32	1.48	1.16	0.88	30

: means the parameters analyzed not respect the Romanian Standard NTPA 002/1997- Quality Indicators of Waste Water Discharged into Municipal Sewage Systems

Table AII.7.13 Summary of Analysis Results for Leachate from Existing Solid Disposal Site

Parameters	Braila Solid Waste Disposal Site	Galati Solid Waste Disposal Site	Tulcea Solid Waste Disposal Site	Constanta Solid Waste Disposal Site	NTPA 002
pH at 20 C (units)	8.22	8.3	8.18	8.12	6.5 - 8.5
BOD_5 (mg/dm^3)	3,824	4,135	3,465	2,988	300
COD_{Cr} (mg/dm3)	7,742	8,780	7,440	6,770	500
Chlorides (Cl) (mg/dm^3)	4,220	4,608	3,162	2,020	-
SS (mg/dm^3)	684	768	625	468	300
(NH_4 – N) (mg/dm^3)	592	635	590	548	30
Total Nitrogen (mg/dm^3)	7.36	756	722	677	-
Total Phosphorus (mg/dm^3)	4.3	5	4.25	3.8	5.0
$H_2S + S^{-2}$ (mg/dm^3)	18.8	22.4	16.3	11.08	0.5
Sulphates (SO_4^{2-}) (mg/dm^3)	20.6	31	28	24	400
Total Coliform Group (no./100 ml)	3.48×10^8	3.48×10^8	5.42×10^8	3.48×10^6	-
Fecal Coliform Bacteria (no./100 ml)	1.41×10^8	1.72×10^8	1.75×10^8	1.61×10^5	-
Fecal Streptococcus Group (no./100 ml)	1.61×10^6	1.75×10^6	1.41×10^6	5.42×10^5	-
Arsenic (As) (mg/dm^3)	0	0	0	0	-
Lead (Pb) (mg/dm^3)	0.265	0.322	0.135	0.085	0.5
Cadmium (Cd) (mg/dm^3)	0.042	0.047	0.042	0.033	0.1
Total Chromium (mg/dm^3)	0	0.075	0	0	Cr^{3+}1.0/Cr^{6+}0.1
Copper (Cu) (mg/dm^3)	0.142	0.185	0.022	0.014	0.1
Nickel (Ni) (mg/dm^3)	0.136	0.149	0.013	0.11	1
Zinc (Zn) (mg/dm^3)	0.41	0.5	0.316	0.225	1
Manganese (Mn) (mg/dm^3)	0.14	0.18	0.08	0.06	1
Cyanide (mg/dm^3)	0	0	0	0	0.5
Oil and Grease (mg/dm3)	528	580	462	278	20
Phenols (mg/dm^3)	1.32	1.48	1.16	0.88	30

: means the parameters analyzed not respect the Romanian Standard NTPA 002/1997- Quality Indicators of Waste Water Discharged into Municipal Sewage Systems

Table AII.7.14 Summary of Analysis Results for Industrial Wastewater in Braila

Parameters	S.C. BLAZER S.A. (Clothes Factory)			S.C. MAREX S.A. (Wine Factory)			S.C. PAL S.A. (Furniture Factory)						NTPA 002
	99/7/15 9:00	99/7/15 12:00	99/7/15 15:00	99/7/15 9:00	99/7/15 12:00	99/7/15 15:00	99/7/15 9:00	99/7/15 12:00	99/7/15 15:00	Min.	Max.	Average	
Water Temperature (°C)	29	30	31	34	31	32	27	31	31	27	34	31	40
pH at 20°C (units)	8.23	7.94	6.92	4.41	4.31	4.08	7.85	7.46	7.78	4.08	8.23	6.6	6.5 – 8.5
BOD_5 (mg/dm^3)	126	55.3	182.5	366	210	352	12.4	16.9	17.4	12.4	366	149	300
COD_{Cr} (mg/dm3)	316.3	111.4	441	7,172	5,430	683	17.8	28.9	27.8	17.8	7,172	1,586	500
COD_{Mn} (mg/dm3)	146	66	311.8	4,220	1,535	412	17.2	20	23.9	17.2	4,220	750	-
Chlorides (Cl^-) (mg/dm^3)	113.5	221.2	251.8	6,130	6,067	283.7	67.9	79	35.5	35.5	6,130	1,472	-
SS (mg/dm^3)	197.2	60.6	679.6	3,600	3,423	2,753	38.2	37	24	24	2,753	757	300
(NH_4 – N) (mg/dm^3)	46.5	28.4	61	1.5	1.37	3.24	3.3	2.45	2.45	1.37	61	17	30
Total Nitrogen (mg/dm^3)	53.93	37.52	78.2	87.53	81.76	122.36	6.72	6.05	7	6.05	122.36	53	-
Total Phosphorus (mg/dm^3)	1.37	1.6	1.7	3.43	7	8.3	0.47	0.54	0.37	0.37	8.3	3	5
$H_2S + S^{-2}$ (mg/dm^3)	0.16	0.12	0.32	0.14	0.2	0.2	0.02	0.02	0.02	0.02	0.32	0	0.5
Sulphates (SO_4^{2-}) (mg/dm^3)	138	93	120	198	183	210.2	42	37.5	39	37.5	210.2	118	400
Total Coliform Group (no./100 ml)	1.6×10^7	5.4×10^7	9.2×10^7	3.5×10^6	9.2×10^4	9.2×10^6	3.5×10^6	3.5×10^5	3.5×10^5	9.2×10^4	9.2×10^7	2.0×10^7	-
Fecal Coliform Bacteria (no./100 ml)	3.5×10^5	3.5×10^6	3.5×10^7	9.2×10^4	1.6×10^4	5.4×10^4	5.4×10^5	9.2×10^4	5.4×10^4	1.6×10^4	3.5×10^7	4.4×10^6	-
Fecal Streptococcus Group (no./100 ml)	7.9×10^1	3.5×10^3	3.5×10^4	5.4×10^2	5.4×10^4	3.5×10^3	9.2×10^3	3.5×10^3	1.7×10^3	7.9×10^1	5.4×10^4	1.2×10^4	-
Arsenic (As) (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0.00	-
Lead (Pb) (mg/dm^3)	0.005	0.002	0.006	0.083	0.092	0.075	0	0	0	0	0.092	0.03	0.5
Cadmium (Cd) (mg/dm^3)	0.022	0.016	0.027	0	0	0	0	0	0	0	0.027	0.01	0.1
Total Chromium (mg/dm^3)	0	0	0	0	0	0	0.005	0.01	0.055	0	0.055	0.01	Cr^{3+}1.0/Cr^{6+}0.1
Copper (Cu) (mg/dm^3)	0.052	0.038	0.066	0	0	0	0.008	0.007	0.007	0	0.066	0.0	0.1
Nickel (Ni) (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	1
Zinc (Zn) (mg/dm^3)	0.27	0.92	0.98	0.52	0.61	0.66	0.49	0.58	0.52	0.27	0.98	0.62	1
Manganese (Mn) (mg/dm^3)	0.18	0.1	0.26	0.22	0.26	0.25	0.09	0.2	0.1	0.09	0.26	0.18	1
Cyanide (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	0.5
Phenols (mg/dm^3)	0.4	0.15	0.1	0.47	0.35	0.1	0.04	0.02	0.06	0.02	0.47	0.19	30
Oil and Grease (mg/dm^3)	1.6	0.8	1.2	8.2	12.2	6.6	16.2	14.6	14.2	0.8	16.2	8.4	20
Detergents (mg/dm^3)	5.7	0.22	1.8	0	0	0	0.01	0.07	0.06	0	5.7	0.9	30

: means the parameters analyzed not respect the Romanian Standard NTPA 002/1997- Quality Indicators of Waste Water Discharged into Municipal Sewage Systems

Table AII.7.14 Summary of Analysis Results for Industrial Wastewater in Braila

Parameters	S.C. BLAZER S.A. (Clothes Factory)			S.C. MAREX S.A. (Wine Factory)			S.C. PAL S.A. (Furniture Factory)						NTPA 002
	99.7.15 9:00	99.7.15 12:00	99.7.15 15:00	99.7.15 9:00	99.7.15 12:00	99.7.15 15:00	99/7/15 9:00	99/7/15 12:00	99/7/15 15:00	Min.	Max.	Average	
Water Temperature (°C)	29	30	31	34	31	32	27	31	31	27	34	31	40
pH at 20°C (units)	8.23	7.94	6.92	4.41	4.33	4.08	7.85	7.46	7.78	4.08	8.23	6.6	6.5 - 8.5
BOD_5 (mg/dm^3)	126	55.3	182.5	366	210	352	12.4	16.9	17.4	12.4	366	149	300
COD_{Cr} (mg/dm3)	316.3	111.4	441	7,172	5,430	683	17.8	28.9	27.8	17.8	7,172	1,586	500
COD_{Mn} (mg/dm3)	146	66	311.8	4,220	1,535	412	17.2	20	23.9	17.2	4,220	750	-
Chlorides (Cl^-) (mg/dm^3)	113.5	221.2	251.8	6,130	6,067	283.7	67.9	79	35.5	35.5	6,130	1,472	-
SS (mg/dm^3)	197.2	60.6	679.6	5,600	1,423	2,753	38.2	37	24	24	2,753	757	300
(NH_4 - N) (mg/dm^3)	46.5	28.4	61	1.5	1.37	3.24	3.3	2.45	2.45	1.37	61	17	30
Total Nitrogen (mg/dm^3)	53.93	37.52	78.2	87.53	81.76	122.36	6.72	6.05	7	6.05	122.36	53	-
Total Phosphorus (mg/dm^3)	1.37	1.6	1.7	3.43	7	8.3	0.47	0.54	0.37	0.37	8.3	3	5
$H_2S + S^{-2}$ (mg/dm^3)	0.16	0.12	0.32	0.14	0.2	0.2	0.02	0.02	0.02	0.02	0.32	0	0.5
Sulphates (SO_4^{2-}) (mg/dm^3)	138	93	120	198	183	210.2	42	37.5	39	37.5	210.2	118	400
Total Coliform Group (no./100 ml)	1.6×10^7	5.4×10^7	9.2×10^7	3.5×10^6	9.2×10^4	9.2×10^6	3.5×10^6	3.5×10^5	3.5×10^5	9.2×10^4	9.2×10^7	2.0×10^7	-
Fecal Coliform Bacteria (no./100 ml)	3.5×10^5	3.5×10^6	3.5×10^7	9.2×10^4	1.6×10^4	5.4×10^4	5.4×10^5	9.2×10^4	5.4×10^4	1.6×10^4	3.5×10^7	4.4×10^6	-
Fecal Streptococcus Group (no./100 ml)	7.9×10^1	3.5×10^3	3.5×10^4	5.4×10^2	5.4×10^4	3.5×10^3	9.2×10^3	3.5×10^3	1.7×10^3	7.9×10^1	5.4×10^4	1.2×10^3	-
Arsenic (As) (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0.00	-
Lead (Pb) (mg/dm^3)	0.005	0.002	0.006	0.083	0.092	0.075	0	0	0	0	0.092	0.03	0.5
Cadmium (Cd) (mg/dm^3)	0.022	0.016	0.027	0	0	0	0	0	0	0	0.027	0.01	0.1
Total Chromium (mg/dm^3)	0	0	0	0	0	0	0.005	0.01	0.055	0	0.055	0.01	Cr^{3+}1.0/Cr^{6+}0.1
Copper (Cu) (mg/dm^3)	0.052	0.038	0.066	0	0	0	0.008	0.007	0.007	0	0.066	0.0	0.1
Nickel (Ni) (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	1
Zinc (Zn) (mg/dm^3)	0.27	0.92	0.98	0.52	0.61	0.66	0.49	0.58	0.52	0.27	0.98	0.62	1
Manganese (Mn) (mg/dm^3)	0.18	0.1	0.26	0.22	0.26	0.25	0.09	0.2	0.1	0.09	0.26	0.18	1
Cyanide (mg/dm^3)	0	0	0	0	0	0	0	0	0	0	0	0	0.5
Phenols (mg/dm^3)	0.4	0.15	0.1	0.47	0.35	0.1	0.04	0.02	0.06	0.02	0.47	0.19	30
Oil and Grease (mg/dm^3)	1.6	0.8	1.2	8.2	12.2	6.6	16.2	14.6	14.2	0.8	16.2	8.4	20
Detergents (mg/dm^3)	5.7	0.22	1.8	0	0	0	0.01	0.07	0.06	0	5.7	0.9	30

: means the parameters analyzed not respect the Romanian Standard NTPA 002/1997- Quality Indicators of Waste Water Discharged into Municipal Sewage Systems

Table AII.7.15 Summary of Analysis Results for the Air in Braila, Galati, Tulcea, Roman and Constanta WWTPs

City	Parameters	0 m from WWTP Boundary	50 m from WWTP Boundary	150 m from WWTP Boundary	Limits for 30 Minutes Sampling Period (R.S. 12574/1987)
Braila	H_2S	0	0	0	0.015 mg/m^3
	NH_3	0.105	0.105	0.105	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Galati Free Zone Area	H_2S	0	0	0	0.015 mg/m^3
	NH_3	0.08	0.05	0.02	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Galati Pumping Station No.3 Area	H_2S	0.0006	0.0004	0.0003	0.015 mg/m^3
	NH_3	0.018	0.012	0.01	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Tulcea	H_2S	0	0	0	0.015 mg/m^3
	NH_3	0.115	0.105	0.095	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Roman	H_2S	0.45	0.48	0.42	0.015 mg/m^3
	NH_3	0.33	0.35	0.35	0.3 mg/m^3
	Odor Level	4	4	4	1 - 5
Constanta	H_2S	0.35	0.05	0.033	0.015 mg/m^3
	NH_3	0.30	0.11	0.10	0.3 mg/m^3
	Odor Level	4	3	3	1 - 5

Table AII.7.15 Summary of Analysis Results for the Air in Braila, Galati, Tulcea, Roman and Constanta WWTPs

City	Parameters	0 m from WWTP Boundary	50 m from WWTP Boundary	150 m from WWTP Boundary	Limits for 30 Minutes Sampling Period (R.S. 12574/1987)
Braila	H_2S	0	0	0	0.015 mg/m^3
	NH_3	0.105	0.105	0.105	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Galati Free Zone Area	H_2S	0	0	0	0.015 mg/m^3
	NH_3	0.08	0.05	0.02	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Galati Pumping Station No.3 Area	H_2S	0.0006	0.0004	0.0003	0.015 mg/m^3
	NH_3	0.018	0.012	0.01	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Tulcea	H_2S	0	0	0	0.015 mg/m^3
	NH_3	0.115	0.105	0.095	0.3 mg/m^3
	Odor Level	1	1	1	1 - 5
Roman	H_2S	0.45	0.48	0.42	0.015 mg/m^3
	NH_3	0.33	0.35	0.35	0.3 mg/m^3
	Odor Level	4	4	4	1 - 5
Constanta	H_2S	0.35	0.05	0.033	0.015 mg/m^3
	NH_3	0.30	0.11	0.10	0.3 mg/m^3
	Odor Level	4	3	3	1 - 5

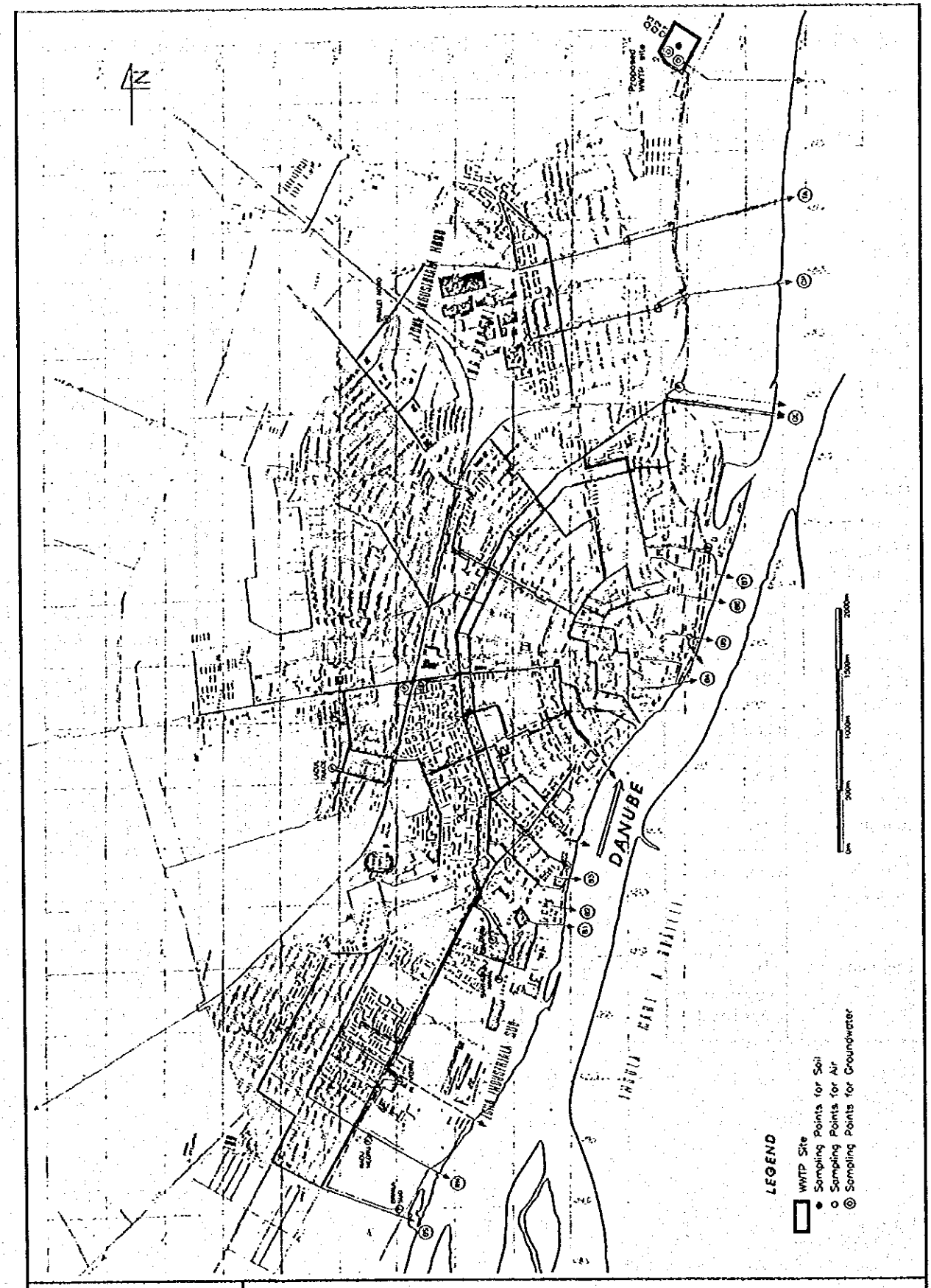


Figure AII.7.1	Location Map of Braila Wastewater Treatment Plant and Sampling Points

APPENDIX-8 GEOLOGICAL SURVEY

A geological survey was conducted to prepare basic information on the soil conditions, which are necessary to investigate the type of foundation and temporally work for planning of wastewater treatment plant.

The geological survey consists of borings at the potential sites of the proposed wastewater treatment plant, and in-situ test and laboratory test to examine the soil characteristics. Contents of the survey are as follows:

Boring (depth: 20m)	3 sites
Boring (depth: 30m)	1 site
Standard Penetration Test	4 boring sites
Physical Test at Laboratory (Specific gravity, Liquid/Plastic Limit and Grain Size)	4 samples
Unconfined compression test at Lab.	4 samples
Consolidation test at Lab.	4 samples

A report of the geological survey, which was prepared by the contractor "SETA S.A.", is attached hereinafter, and the contents of the report consists of a location map of samping points, geological results, dynamic penetration test, analytical results of laboratory and result of consolidation test.

SETA S.A. SOCIETATE DE ECOLOGIE ªI TEHNOLOGIE A APEI

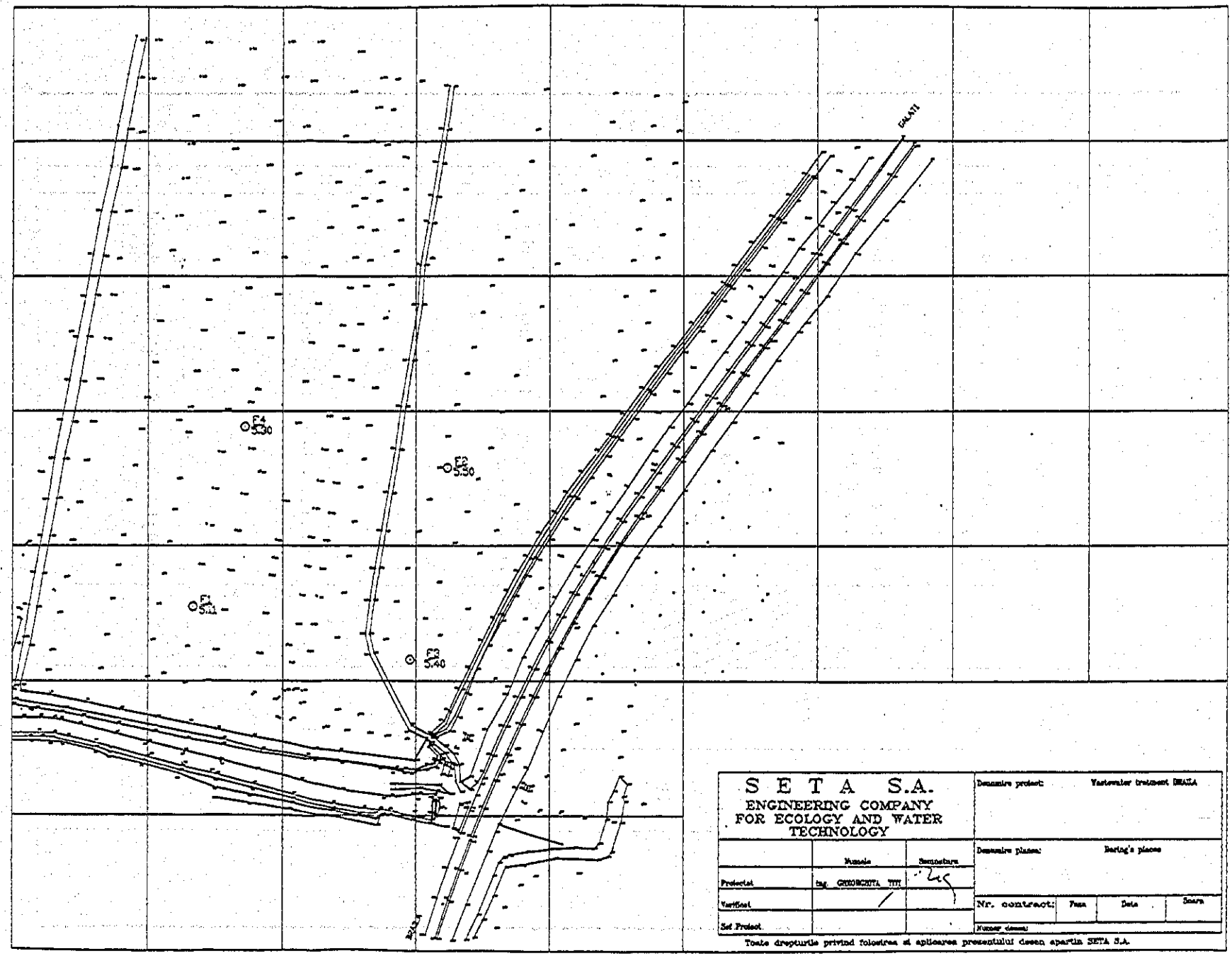
SEDIUL: str. Tudor Arghezi, nr.21 Sector 2, 70132, Bucure¿ti - J 40/4771/1995 - Cod fiscal R 7470611
Tel/fax: 211.32.20 ; 211.41.77; E-mail : Error! Reference source not found.

GEOLOGICAL SURVEY

Subject : THE FEASIBILITY STUDY ON WASTEWATER TREATMENT

Locality : BRAILA

To : JAPAN INTERNATIONAL COOPERATION AGENCY


BRAILA
F4
5.30
F2
5.50
F1
5.11
F3
5.40
SETA S.A.
ENGINEERING COMPANY
FOR ECOLOGY AND WATER
TECHNOLOGY
Denumire proiect: Wastewater treatment BRAILA
Denumire planse: Boring's places
Nr. contract:
Data
Scara
Toate drepturile privind folosirea si aplicarea prezentului desen apartin SETA S.A.

SETA SA BUCURESTI

Comanda:Wasterwater treatment
Working place: Braila
Date: July 1999

GEOTEHNICAL RESULTS BOREHOLE Nr. F1 - 5.11 rBS

Mark of the underground water	Marks to 0.00 borehole	Bigness of the layer	Layers structure	THE NAME OF LAYER	Depth	Dynamic penetration SPT
m	m	m			m	shocks
	0.80	0.80		Vegetable soil	1	20
NH: 1.40				Thickly plastic black clay, with limestony slices	2	24
	2.60	1.40			3	16
				Consistent plastic grey-yellow clay with sandy portions	4	16
					5	16
	5.40	2.80			6	17
				Consistent plastic grey clay silt	7	16
					8	18
	8.50	3.10			9	16
				Compressed grey medium - fine sand, clay glasses, immerged	10	35
					11	42
					12	41
					13	37
					14	41
	14.80	6.30			15	32
				Black peat with vegetable remainings	16	28
					17	27
					18	29
	18.60	3.80			19	40
				Compressed, immerged, grey medium sand	20	44
	20.00	1.40				

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Comanda:Wasterwater treatment
Working place: Braila
Date: July 1999

GEOTEHNICAL RESULTS BOREHOLE Nr. F2 - 5.50 rBS

Mark of the underground water	Marks to 0.00 borehole	Bigness of the layer	Layers structure	THE NAME OF LAYER	Depth	Dynamic penetration SPT
m	m	m			m	shocks
NH: 1.10	0.90	0.90		Vegetable soil	1	20
	1.50	0.60		Plastic thickly black clay, with limestony slices	2	9
	2.60	1.10		Broken up, grey-yellow clay sand, soft plasric	3	19
					4	23
				Black or grey clay soft plastic to consistent plastic with fine sandy slices	5	18
					6	17
	7.20	4.60			7	16
					8	16
				Grey clay silt soft plastic to consistent plastic	9	19
	9.60	2.40			10	37
					11	40
					12	42
				Grey, immerged, thick, medium sand	13	43
					14	42
					15	42
	15.30	5.70			16	30
					17	28
				Black peat with preserved plants	18	27
	19.10	3.80			19	27
	20.00	0.90		Grey, immerged, thick, medium sand	20	44

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Working place: Braila
Date: July 1999

GEOTEHNICAL RESULTS BOREHOLE Nr. F3 - 5.40 rBS

Mark of the underground water	Marks to 0.00 borehole	Bigness of the layer	Layers structure	THE NAME OF LAYER	Depth	Dynamic penetration SPT
m	m	m			m	shocks
	0.80	0.80		Vegetable soil	1	19
	1.60	0.80		Grey-yellow clay silt, soft plastic with limestony slices	2	16
NH: 2.70					3	23
					4	19
				Soft plastic black or grey-yellow clay	5	20
					6	17
	7.20	5.60			7	15
					8	15
				Immerged, grey silty sand with medium compression	9	15
	9.80	2.60			10	19
	10.80	1.00		Soft plastic grey sandy silt	11	21
					12	20
				Soft plastic to consistent plastic grey clay with snails and shells	13	21
	14.40	3.60			14	19
					15	28
					16	27
				Black peat with preserved plants	17	28
					18	27
	18.50	4.10			19	22
				Soft plastic to consistent plastic grey clay	20	23
	20.00	1.50				

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Comanda:Wasterwater treatment
Working place: Braila
Date: July 1999

GEOTEHNICAL RESULTS BOREHOLE Nr. F4 - 5.30 rBS

Mark of the underground water	Marks to 0.00 borehole	Bigness of the layer	Layers structure	THE NAME OF LAYER	Depth	Dynamic penetration SPT
m	m	m			m	shocks
	0.90	0.90		Vegetable soil	1	
NH: 2.20	2.20	1.30		Grey, stiff, silty clay, with limestony concretions	2	20
	3.20	1.00		Broken-yellow or grey clayish sandy silt consistent plastic, with thin sandy lenses	3	17
	4.00	0.80		Brown-grey stiff clay with broken shells	4	36
	5.80	1.80		Grey-yellow clayish sandy silt, consistent plastic, with thin sandy lenses	5	16
					6	18
					7	38
					8	46
				Grey clayish sand of an strong compaction, with clayish stiff zones	9	44
					10	36
					11	21
	12.80	7.00			12	23
					13	15
	14.70	1.90		Grey, clayish silt, consistent plastic, with brown peat interlayers, between 13.40 - 13.60 m depth	14	28
					15	26
					16	19
				Black peat with preserved plants, strong gaseous emanations	17	17
					18	21
	19.10	4.40			19	20
					20	23
	20.90	1.80		Grey, fine sand, with strong compresion	21	26
					22	37

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Comanda:Wasterwater treatment
Working place: Braila
Date: July 1999

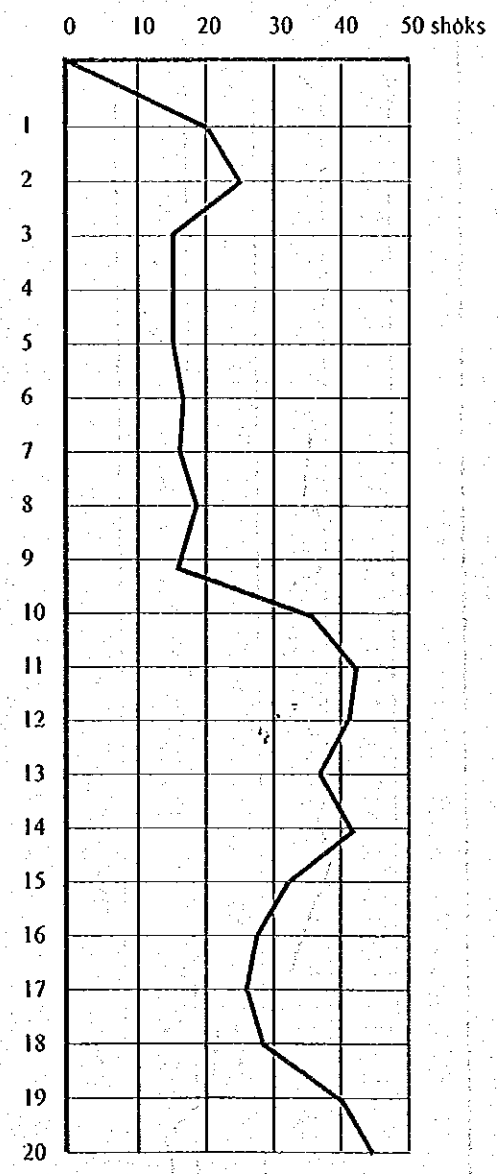
GEOTEHNICAL RESULTS BOREHOLE Nr. F4

Mark of the underground water	Marks to 0.00 borehole	Bigness of the layer	Layers structure	THE NAME OF LAYER	Depth	Dynamic penetration SPT
m	m	m			m	shocks
				Grey clayish sandy silt, alternating with sandy silt and silty sand, sometimes with vegetable remainings	23	39
					24	44
					25	43
					26	37
					27	39
					28	32
					29	30
	30.00	9.10			30	35

DRAFTED:
Eng. T. Gheorghita

Dynamic penetration test

F 1



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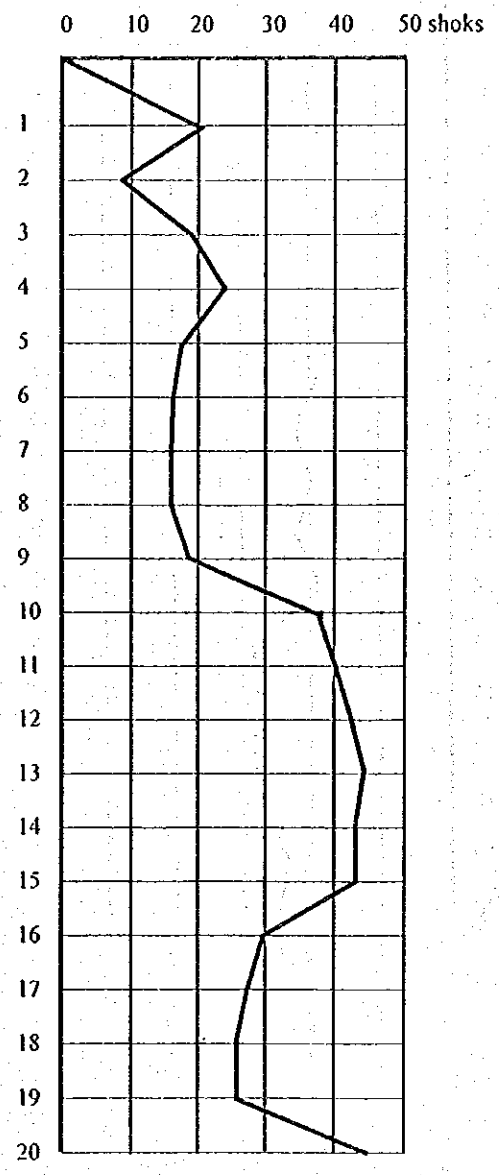

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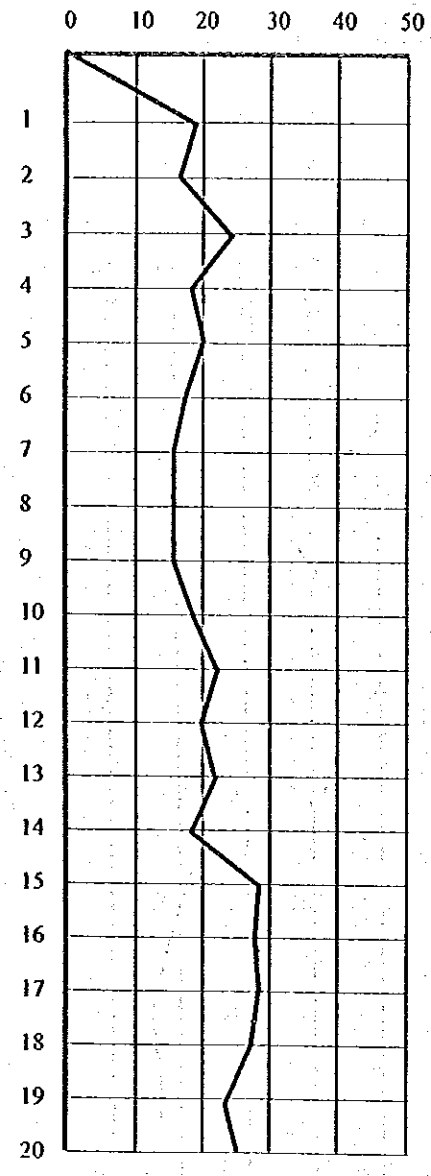
SETA SA BUCURESTI

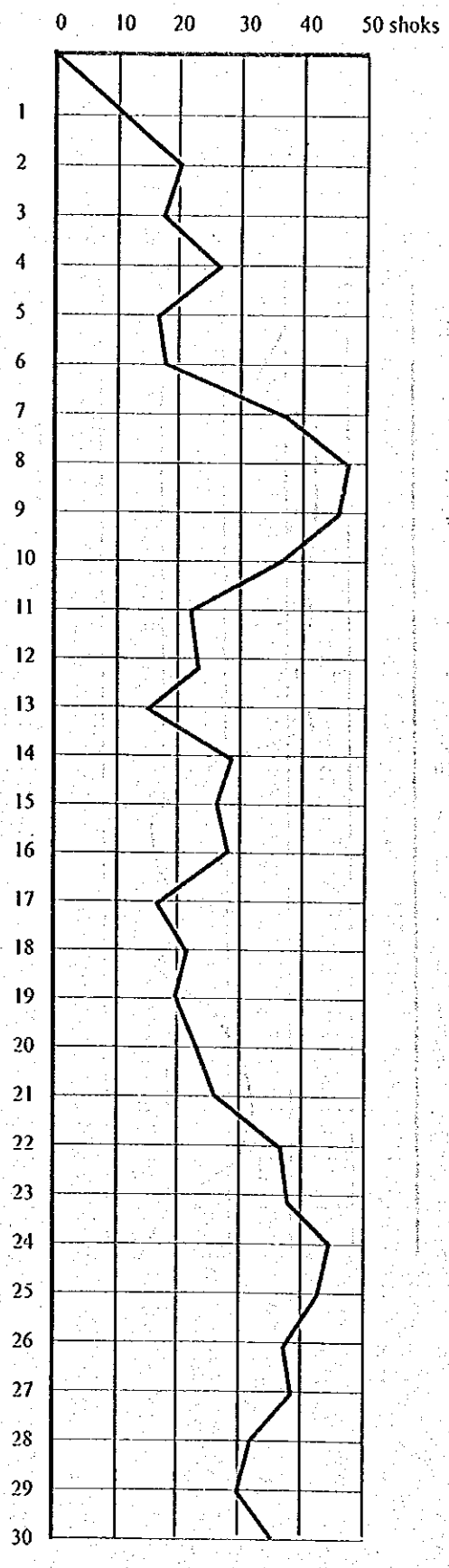
Comand:Wastewater treatment
Working place: Braila
Date: July 1999

Dynamic penetration test

F 3



F 4



DRAFTED :
Eng.. T. Gheorghita

SETA SA BUCURESTI

ANALYSIS RESULTS OF LABORATORY

Comanda: Wasterwater treatment
Working place: Braila
Date: July 1999

Drilling level 0.00	Layer thickness	Underground water depth	Layers	Name of layer	☐ Bottle ☐ Sleeve ☐ Monolith		Granulometric components (d in mm)					Plasticity limits		Plasticity index	Humidity	Consistency index	Volume weigh	Dry volume weigh	Porosity	Pore index	Humidity level	Specific weigh	Consolidation					Resistance to cutting	
					No. samples	Depth	Clay	Dust	Fine sand	Medium sand	Great sand	Flow limit	Knead limit										Pressure	Primary consolidation time	Primary consolidation coeficient	Specific supplementary compression by damping	Specific compresion	Internal abrasion angle	Cohesion
	m	m		Drilling - no: 1/8"		m	<0.005	0.005 - 0.06	0.06 - 0.25	0.25 - 0.5	0.5 - 2.00	Wl	Wp	Ip	W	Ic	γ	γ_d	n	e	S_r	γ_s	σ	$t_{50}\%$	c_v 10^{-4}	C_a	K 10^{-7}	φ^o	c
												%	%	%	%		KN/m³	KN/m³	%			KN/m³	KPa	s	cm²/s		cm/s		KPa
				Soft plastic grey yellow silty cloy	1	5.0	41	45	14			47.0	15.9	31.1	32.0	0.48	18.9	14.3	46.5	0.87	1.0	26.69	200	798	2.14	0.00056	6.15		
																							300	1020	1.60	0.00115	2.87	13	6.
																							400	1581	1.00	0.0014	1.19		
				Drilling - no: 2/8"																									
				Soft plastic grey yellow silty cloy	1	5.0	32	44	24			39.8	14.0	25.8	29.3	0.40	19.3	14.9	44.1	0.79	1.0	26.60	200	332	5.08	0.00210	17.6		
																							300	515	3.1.	0.0044	6.45	13.	6
																							400	839	1.83	0.00155	3.00		

Elaboration: Eng. Ana Stefanescu

Verification: Eng. Titi Gheorghita

AII-8-11

SETA SA BUCURESTI

ANALYSIS RESULTS OF LABORATORY

Comanda: Wasterwater treatment
Working place: Braila
Date: July 1999

Drilling level 0.00	Layer thickness	Underground water depth	Layers	Name of layer	☐ Bottle ☐ Sleeve ☐ Monolith		Granulometric components (d in mm)					Plasticity limits		Plasticity index	Humidity	Consistency index	Volume weigh	Dry volume weigh	Porosity	Pore index	Humidity level	Specific weigh	Consolidation					Resistance to cutting	
					No. samples	Depth	Clay	Dust	Fine sand	Medium sand	Great sand	Flow limit	Knead limit										Pressure	Primary consolidation time	Primary consolidation coeficient	Specific supplementary compression by damping	Specific compresion	Internal abrasion angle	Cohesion
	m	m		Drilling - no: 3/8"		m	<0.005	0.005 - 0.05	0.05 - 0.25	0.25 - 0.5	0.5 - 2.00	w_l	w_p	I_p	w	I_c	γ	γ_d	n	e	S_r	γ_s	σ	$t_{50\%}$	c_v 10^{-4}	C_a	K 10^{-7}	$\varphi°$	c
												%	%	%	%		KN/m³	KN/m³	%			KN/m³	KPa	s	cm²/s		cm/s		KPa
				Soft plastic grey fet cloy with snails and shells	1	13.0	54	28	18			66.0	20.7	45.5	47.1	0.42	17.2	11.7	56.2	1.28	1.0	26.70	200	596	2.8	0.0031	16.3		
																							300	971	1.5	0.0025	5.4	12	8
																							400	1434	0.96	0.0017	2.3		
				Drilling - no: 4/8"																									
				Soft plastic grey yellow silty cloy	1	5.0	39	45	16			37.5	13.8	23.7	25.5	0.49	19.7	15.7	41.1	0.70	0.98	26.64	200	760	2.32	0.0009	5.34		
																							300	925	1.80	0.0014	2.96	17	8
																							400	1124	1.45	0.0013	1.95		

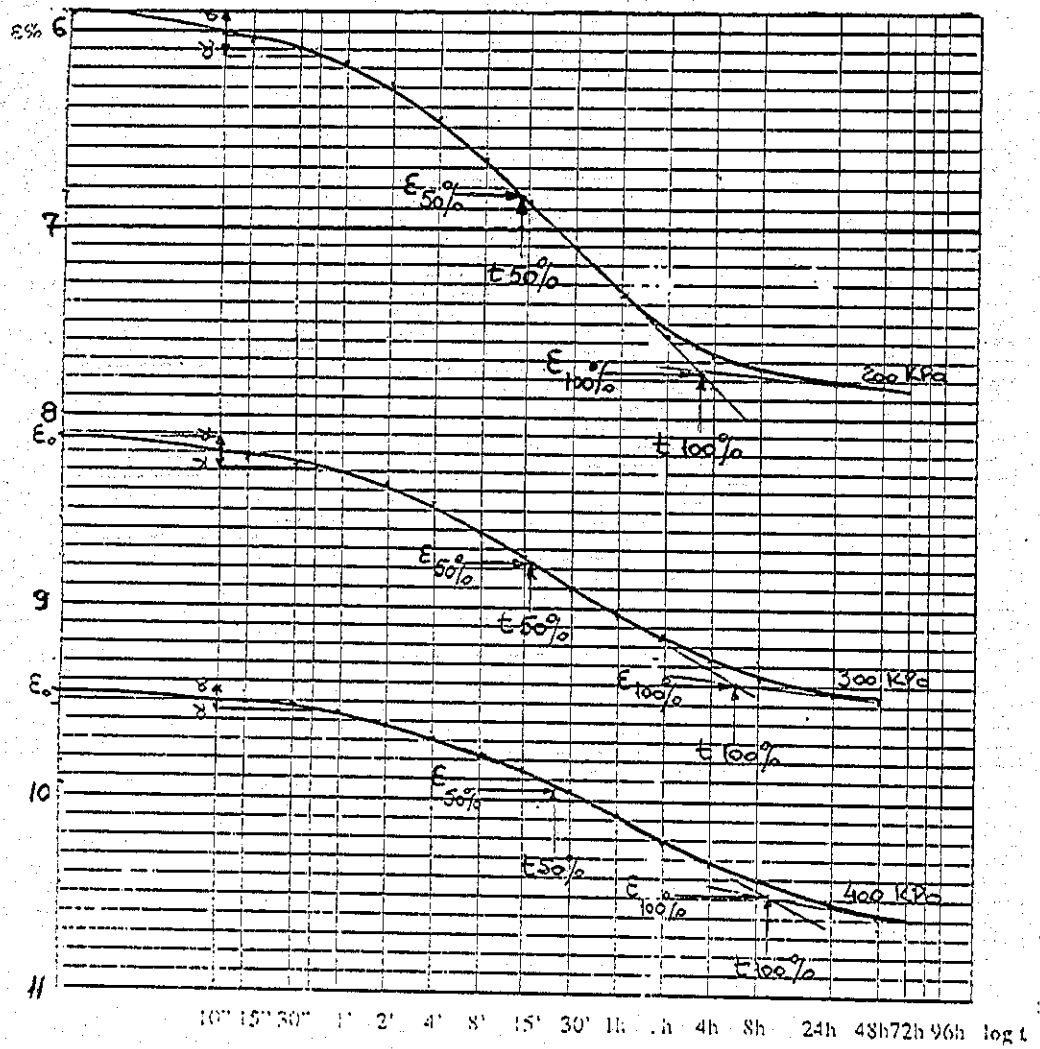
Elaboration: Eng. Ana Stefanescu

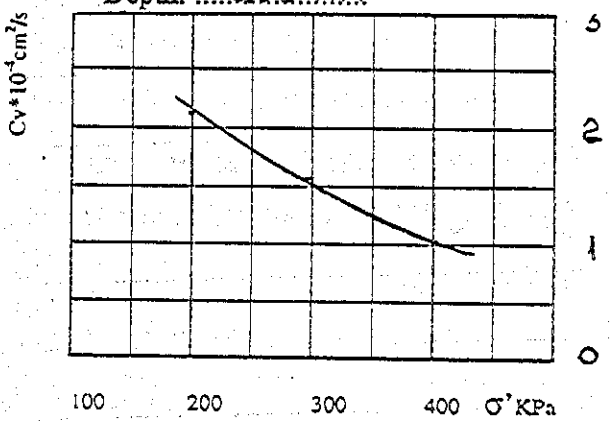
Verification: Eng. Titi Gheorghita

SETA SA BUCURESTI

EDOMETRIC CONSOLIDATION CURBE

Comanda: Wasterwater treatment
Working place: Braila
Drilling: F.1/8
Depth: 5.00 m





σ' KPa	$t_{50\%}$ sec	$H_{50\%}$ cm	c_v Cm^2/s	c_α	K Cm/s
200	798	0.9318	$2.14 \cdot 10^{-4}$	0.00056	$6.15 \cdot 10^{-7}$
300	1020	0.9125	$1.60 \cdot 10^{-4}$	0.00115	$2.87 \cdot 10^{-7}$
400	1581	0.9008	$1.0 \cdot 10^{-4}$	0.00140	$1.19 \cdot 10^{-7}$

Date: Iulie 1999 Elaboration: Eng. A. Stefanescu

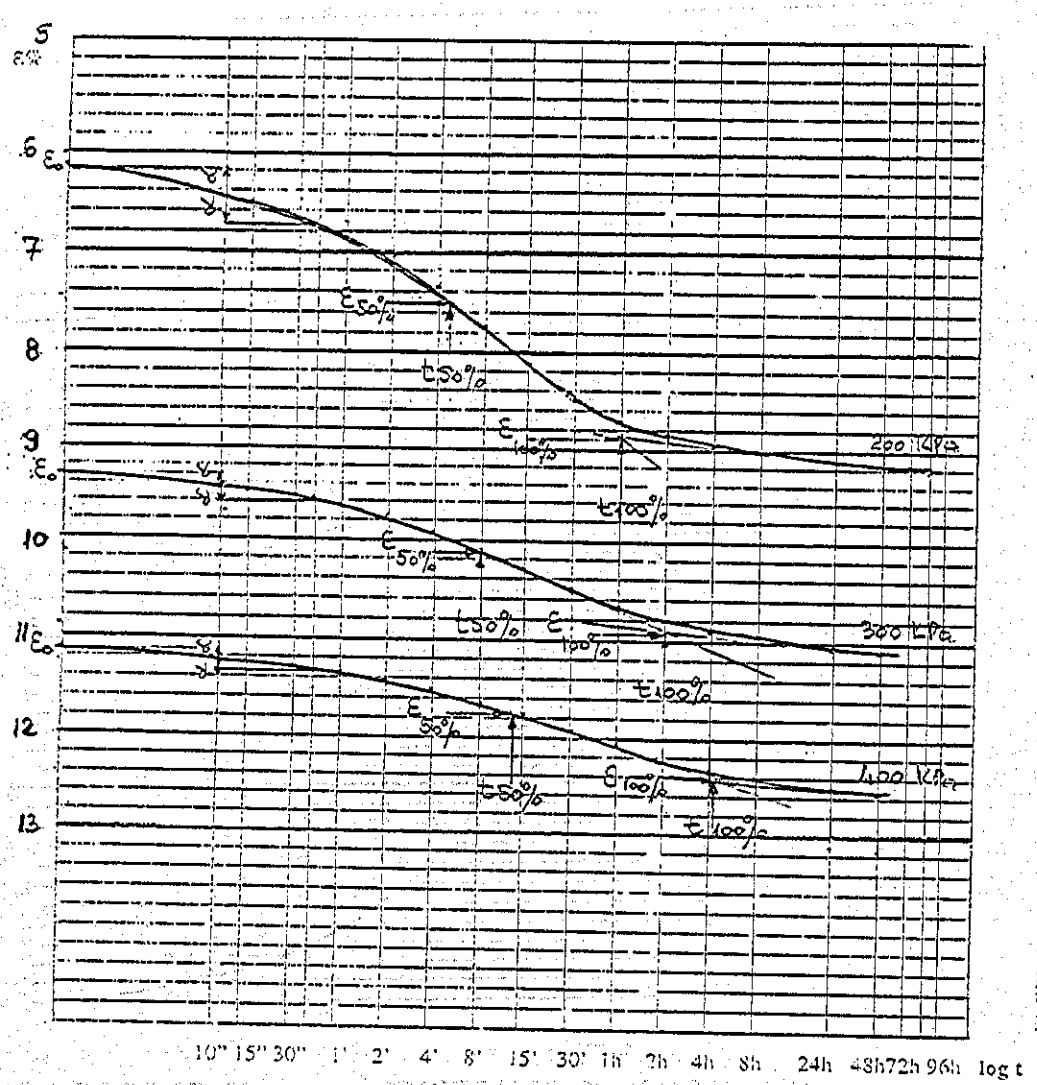
Verification: Eng. T. Gheorghita

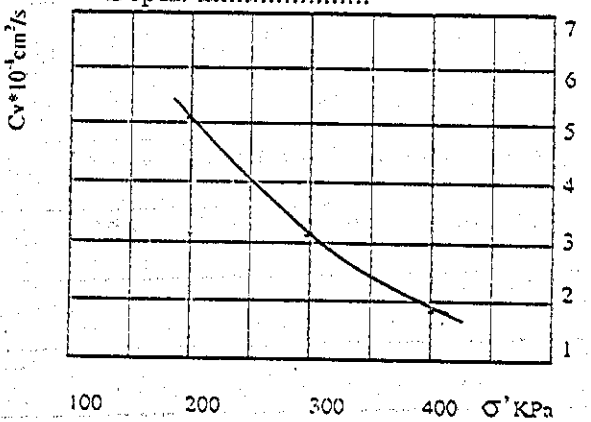
All-8-13

SETA SA BUCURESTI

EDOMETRIC CONSOLIDATION CURBE

Comanda: Wasterwater treatment
Working place: Braila
Drilling: F 2/8"
Depth: 5.00 m.





σ' KPa	$t_{50\%}$ sec	$H_{50\%}$ cm	c_v Cm^2/s	c_α	K Cm/s
200	332	0.9255	$5.08 \cdot 10^{-4}$	0.0021	$17.6 \cdot 10^{-7}$
300	515	0.899	$3.1 \cdot 10^{-4}$	0.0044	$6.45 \cdot 10^{-7}$
400	839	0.8821	$1.83 \cdot 10^{-4}$	0.00155	$3.0 \cdot 10^{-7}$

Date: Iulie 1999 Elaboration: Eng. A. Stefanescu

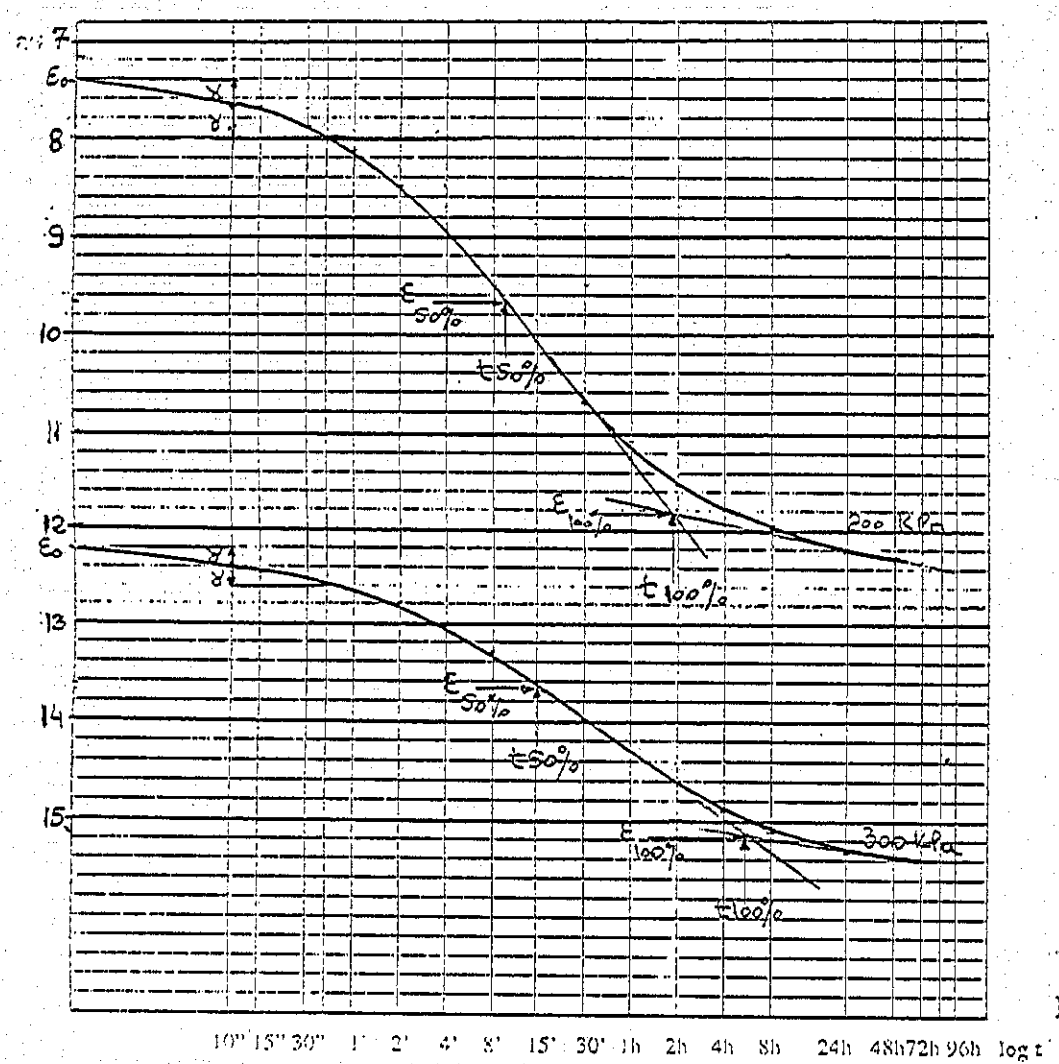
Verification: Eng. T. Gheorghita

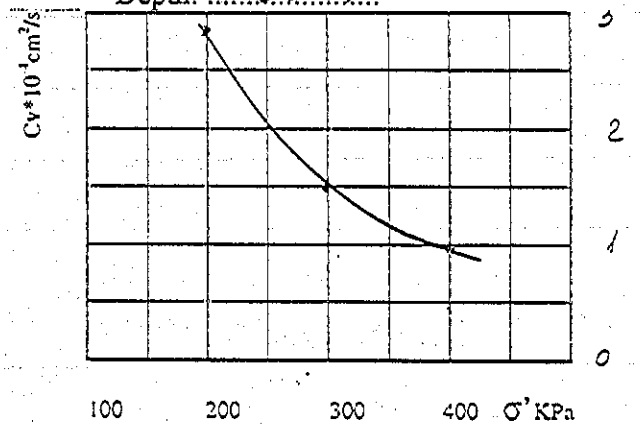
AII-8-14

SETA SA BUCURESTI

EDOMETRIC CONSOLIDATION
CURBE

Comanda: Wasterwater treatment
Working place: Braila
Drilling: F 3/8"
Depth: 13.00 m





σ' KPa	$t_{50\%}$ sec	$H_{50\%}$ cm	c_v Cm^2/s	c_α	K Cm/s
200	596	0.938	$2.8 \cdot 10^{-4}$	0.0031	$16.3\ 10^{-7}$
300	971	0.868	$1.5 \cdot 10^{-4}$	0.0025	$5.4 \cdot 10^{-7}$
400	1434	0.836	$0.96 \cdot 10^{-4}$	0.0017	$2.3 \cdot 10^{-7}$

Date: Iulie 1999 Elaboration: Eng. A. Stefanescu

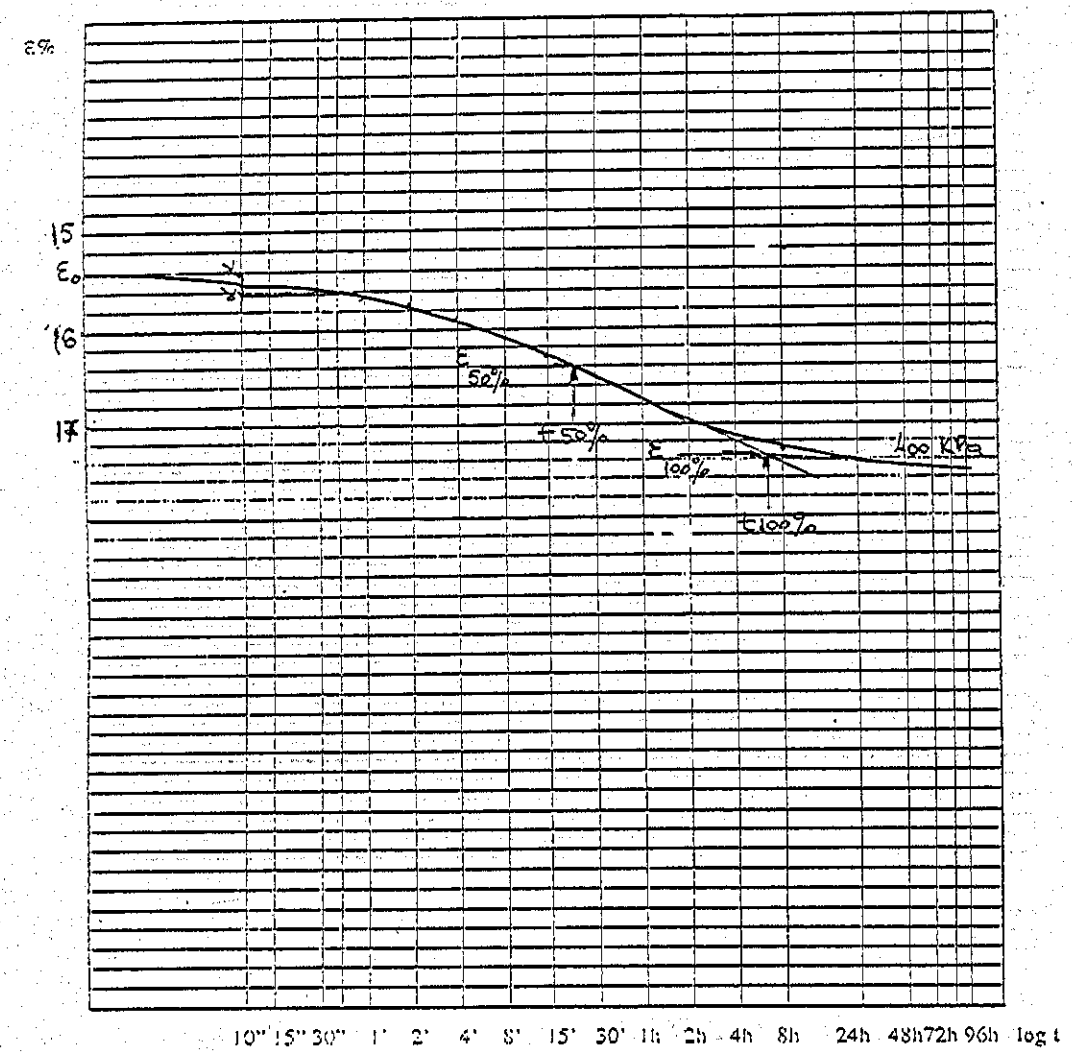
Verification: Eng. T. Gheorghita

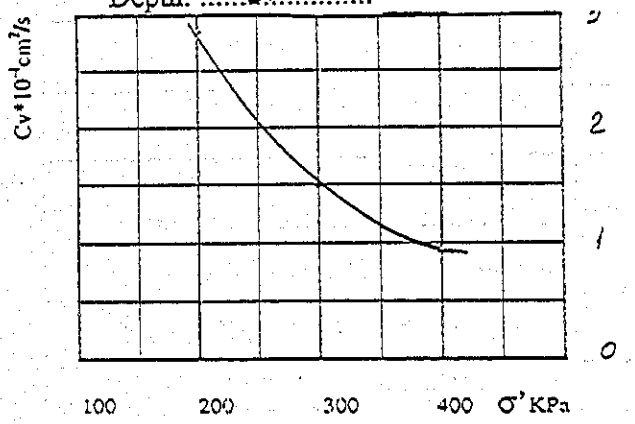
AII-8-15

SETA SA BUCURESTI

EDOMETRIC CONSOLIDATION CURBE

Comanda: Wasterwater treatment
Working place: Braila
Drilling: F 3/8"
Depth: 13.00 m





σ' KPa	t50% sec	H50% cm	Cv Cm²/s	Cα	K Cm/s
400	1434	0.836	$0.96 \cdot 10^{-4}$	0.0017	$2.3 \cdot 10^{-7}$

Date: Iulie 1999 Elaboration: Eng. A. Stefanescu

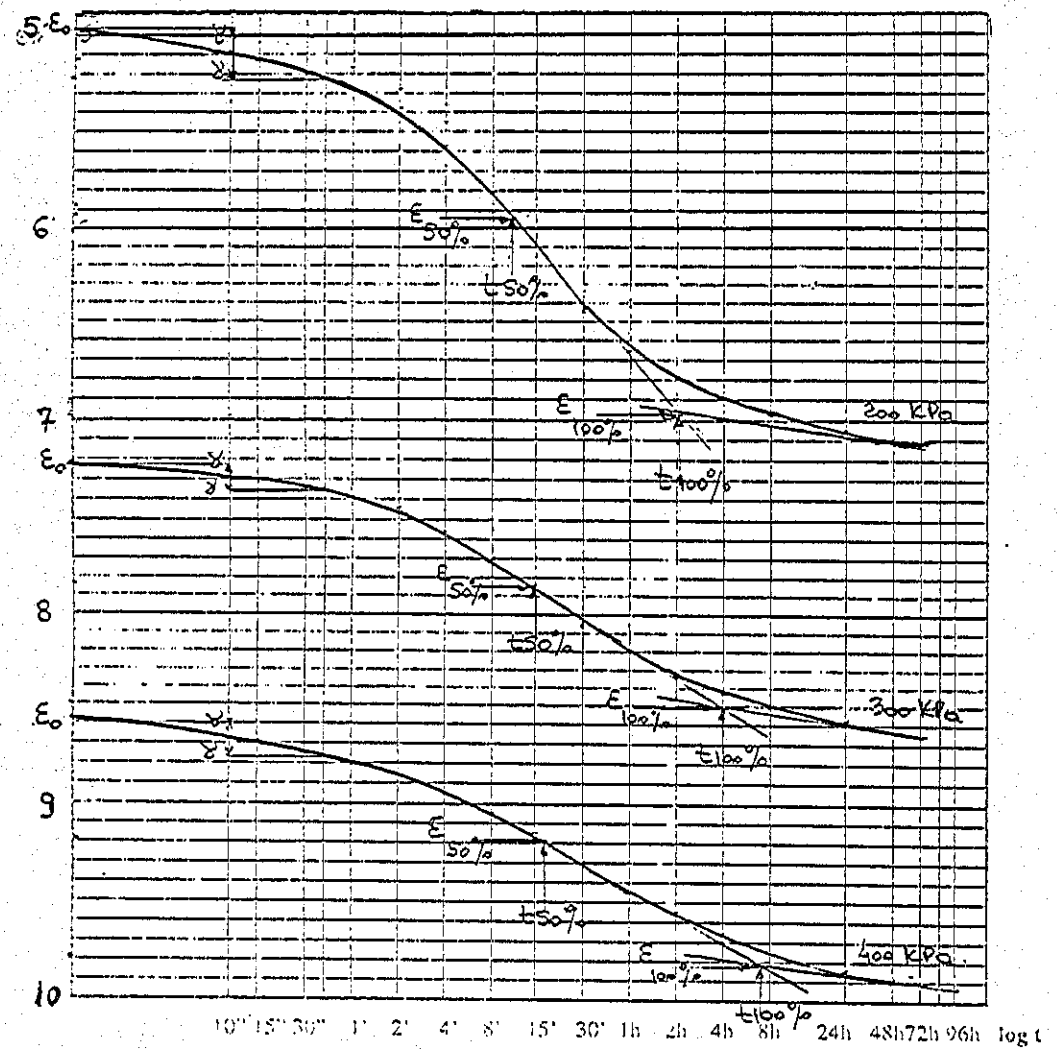
Verification: Eng. T. Gheorghita

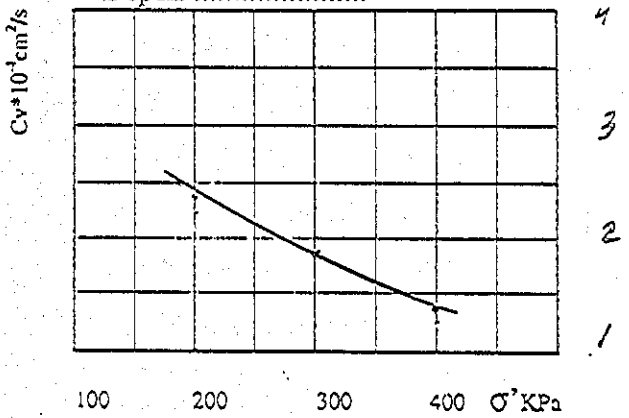
AII-8-16

SETA SA BUCURESTI

EDOMETRIC CONSOLIDATION
CURBE

Comanda: Wasterwater treatment
Working place: Braila
Drilling: F4/18
Depth: 500 m





σ' KPa	$t_{50\%}$ sec	$H_{50\%}$ cm	c_v Cm^2/s	c_α	K Cm/s
200	760	0.948	$2.32 \cdot 10^{-4}$	0.0009	$5.34 \cdot 10^{-7}$
300	925	0.928	$1.80 \cdot 10^{-4}$	0.0014	$2.96 \cdot 10^{-7}$
400	1124	0.9081	$1.45 \cdot 10^{-4}$	0.0013	$1.95 \cdot 10^{-7}$

Date: Iulie 1999 Elaboration: Eng. A. Stefanescu

Verification: Eng. T. Gheorghita

AII-8-17