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VIA ORIENTAL NO CONCELHO DE CASCAIS TROÇO 1

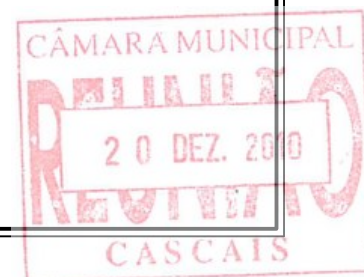
PROJECTO DE EXECUÇÃO VOLUME 7

PROJECTO DE VALORIZAÇÃO E REABILITAÇÃO DA RIBEIRA DE SASSOEIROS

PEÇAS ESCRITAS

- Anexos

ABRIL 2009



VIA ORIENTAL NO CONCELHO DE CASCAIS - TROÇO 1

**PROJECTO DE VALORIZAÇÃO E REABILITAÇÃO DA RIBEIRA DE
SASSOEIROS**

PROJECTO DE EXECUÇÃO

ANEXOS

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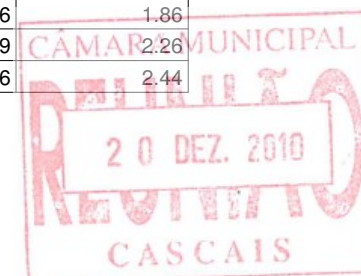
ANEXO I

CALCULOS E PERFIS PARA A CHEIA CENTENÁRIA T=100
30.0/33.33 m³/seg



HEC-RAS Plan: SassoierT100 River: sassoeiros Reach: montante Profile: PF 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
montante	66	PF 1	30.00	66.00	68.22	67.33	68.33	0.001232	1.99	24.55	22.31	0.43
montante	65.6	PF 1	30.00	65.00	67.43	67.43	68.24	0.004880	4.21	9.39	7.84	0.86
montante	64	PF 1	30.00	64.00	65.00	65.77	67.79	0.083395	7.40	4.05	6.00	2.38
montante	62	PF 1	30.00	62.00	62.97	63.47	64.32	0.030610	5.16	5.85	6.10	1.68
montante	61.25	PF 1	30.00	61.00	62.51	62.73	63.88	0.020098	5.42	6.25	5.00	1.41
montante	60	PF 1	30.00	60.00	61.40	62.12	63.50	0.031751	6.99	5.54	6.69	1.88
montante	59.6	PF 1	30.00	59.60	60.49	61.19	62.94	0.065099	7.28	4.59	6.38	2.46
montante	57	PF 1	30.00	56.90	58.78	59.59	61.06	0.027762	8.45	5.60	5.34	1.97
montante	56.5	PF 1	30.00	56.50	57.54	58.21	60.11	0.087331	7.11	4.23	6.73	2.82
montante	54.5	PF 1	30.00	54.50	56.28	56.97	59.22	0.084922	8.40	4.53	7.32	2.05
montante	52.5	PF 1	30.00	52.50	53.58	54.42	57.05	0.072585	9.44	4.13	5.66	2.90
montante	52	PF 1	30.00	52.00	52.80	53.30	56.18	0.165220	9.57	4.40	13.50	3.46
montante	49	PF 1	30.00	49.00	50.59	51.32	52.74	0.022501	6.81	5.47	6.35	1.72
montante	47.51	PF 1	30.00	47.00	50.07	48.50	50.08	0.000141	0.79	62.45	50.00	0.15
montante	47	PF 1	30.00	46.75	49.99		50.07	0.001195	1.62	25.47	21.29	0.29
montante	46.75	PF 1	30.00	46.75	49.41	49.41	49.92	0.004761	4.42	12.76	11.59	0.86
montante	46	PF 1	30.00	46.00	47.27	47.78	49.50	0.070270	6.85	5.11	11.70	2.17
montante	44.01	PF 1	30.00	44.00	44.56	45.20	46.82	0.101766	6.65	4.51	8.00	2.83
montante	42.51	PF 1	30.00	42.50	43.27	43.62	44.49	0.038883	4.90	6.13	8.00	1.79
montante	40.5	PF 1	30.00	40.50	41.19	41.66	42.69	0.053601	5.43	5.53	8.00	2.08
montante	38	PF 1	33.33	38.00	38.93	39.23	39.95	0.031666	4.47	7.45	8.00	1.48
montante	37.51	PF 1	33.33	37.20	38.31	38.42	39.03	0.015380	3.76	8.86	8.00	1.14
montante	36.51	PF 1	33.33	35.50	36.34	36.73	37.59	0.035589	4.94	6.75	8.00	1.72
montante	34.01	PF 1	33.33	33.70	35.26	34.91	35.63	0.005470	2.67	12.51	8.00	0.68
montante	33.91	PF 1	33.33	33.20	34.52	34.52	35.18	0.012470	3.61	9.22	7.00	1.01
montante	32.70	PF 1	33.33	32.70	33.61	33.94	34.76	0.004913	4.76	7.00	7.70	1.59
montante	32.58	PF 1	33.33	32.58	33.48	33.82	34.65	0.005011	4.79	6.96	7.70	1.61
montante	32.51	PF 1	33.33	32.40	33.24	33.73	34.55	0.037724	5.07	6.57	7.80	1.76
montante	32.01	PF 1	33.33	31.40	33.41	32.61	33.63	0.002640	2.08	16.04	8.00	0.47
montante	31.01	PF 1	33.33	31.00	32.89	32.89	33.54	0.001488	3.80	12.62	11.97	0.88
montante	30.51	PF 1	33.33	30.50	31.73	32.15	33.36	0.006617	5.98	9.93	35.89	1.73
montante	30.01	PF 1	33.33	30.00	31.30	31.90	33.15	0.005189	6.16	7.40	18.62	1.72
montante	29.51	PF 1	33.33	29.50	30.77	31.64	32.94	0.008520	6.53	5.11	4.06	1.86
montante	29.01	PF 1	33.33	28.78	29.87	30.62	32.54	0.011410	7.37	5.44	9.79	2.26
montante	28.01	PF 1	33.33	28.00	29.06	29.96	32.18	0.014308	7.83	4.26	4.06	2.44

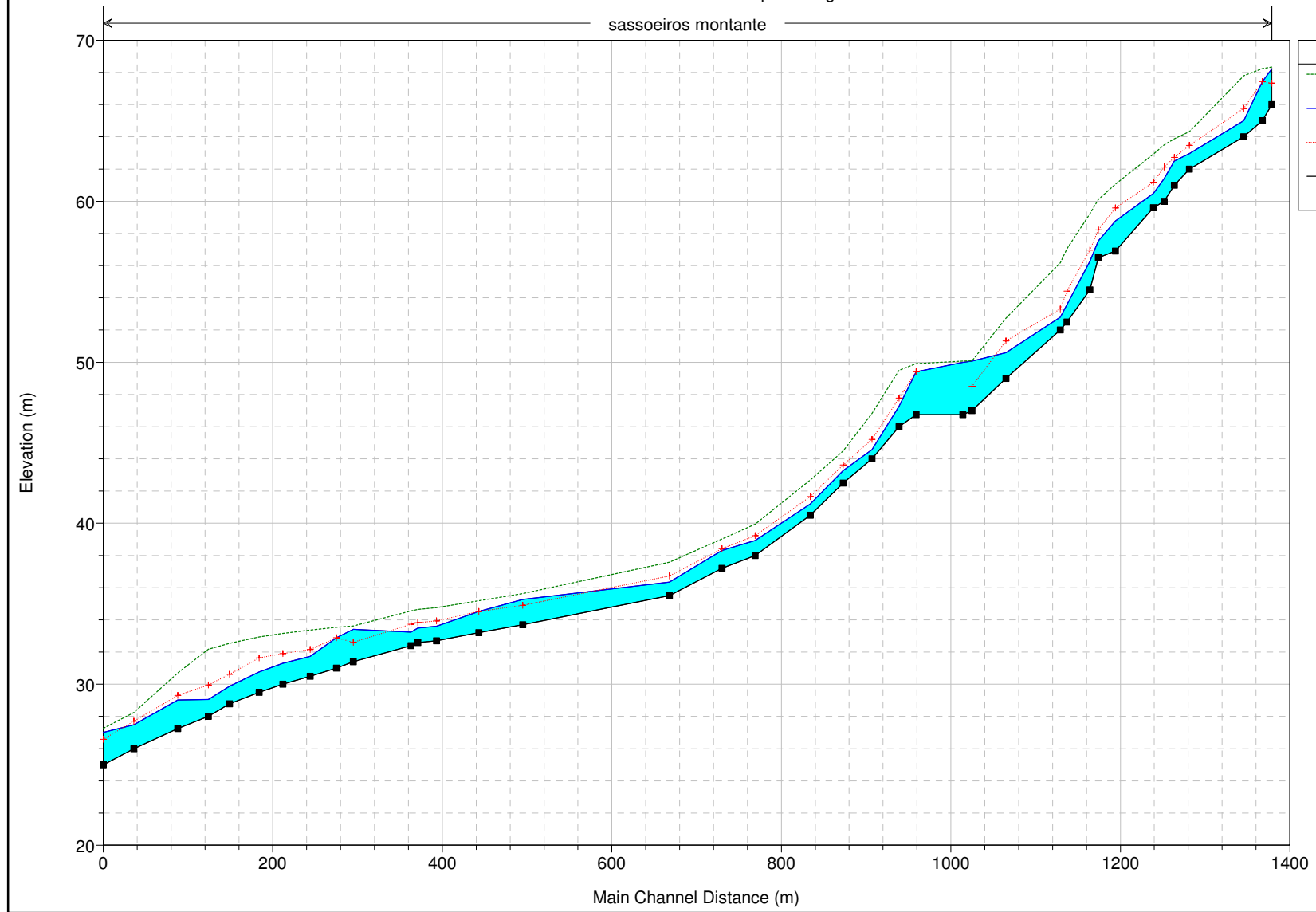


HEC-RAS Plan: SassoeirT100 River: sassoeiros Reach: montante Profile: PF 1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
montante	27.5	PF 1	33.33	27.25	29.03	29.30	30.70	0.087119	6.74	7.70	31.96	1.65
montante	25.5	PF 1	33.33	26.00	27.49	27.71	28.24	0.024593	4.78	10.17	20.25	1.29
montante	25	PF 1	33.33	25.00	27.00	26.58	27.27	0.003181	2.47	15.98	12.87	0.56

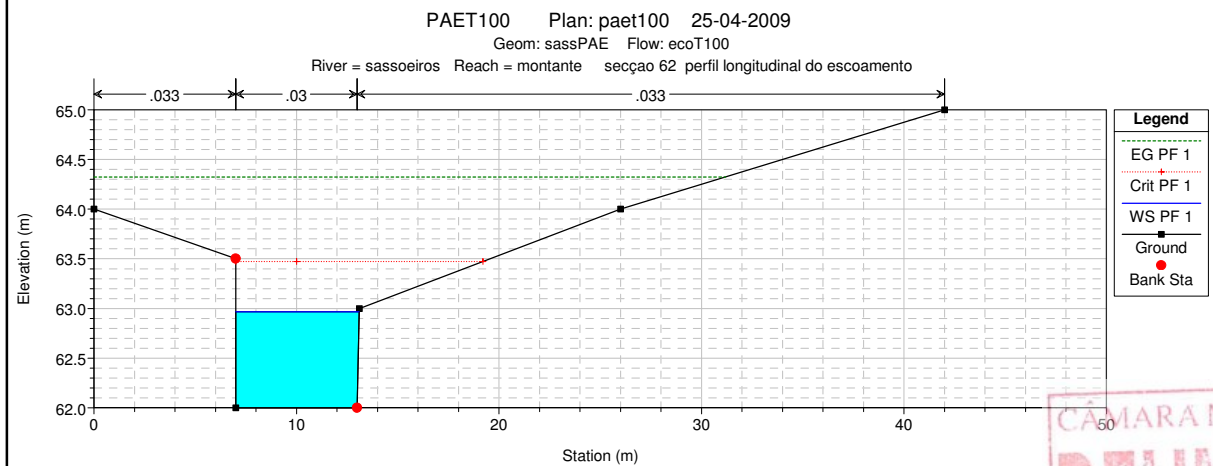
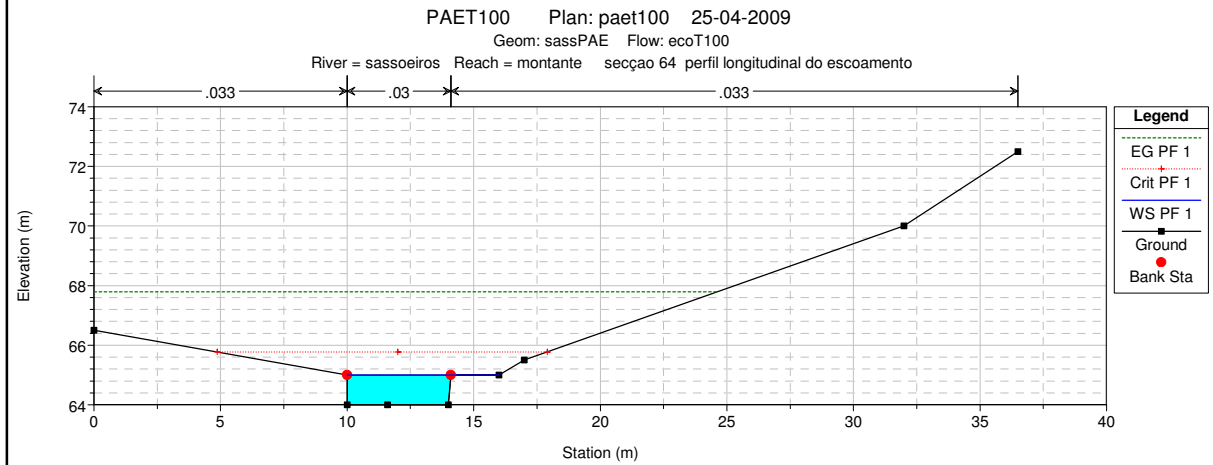
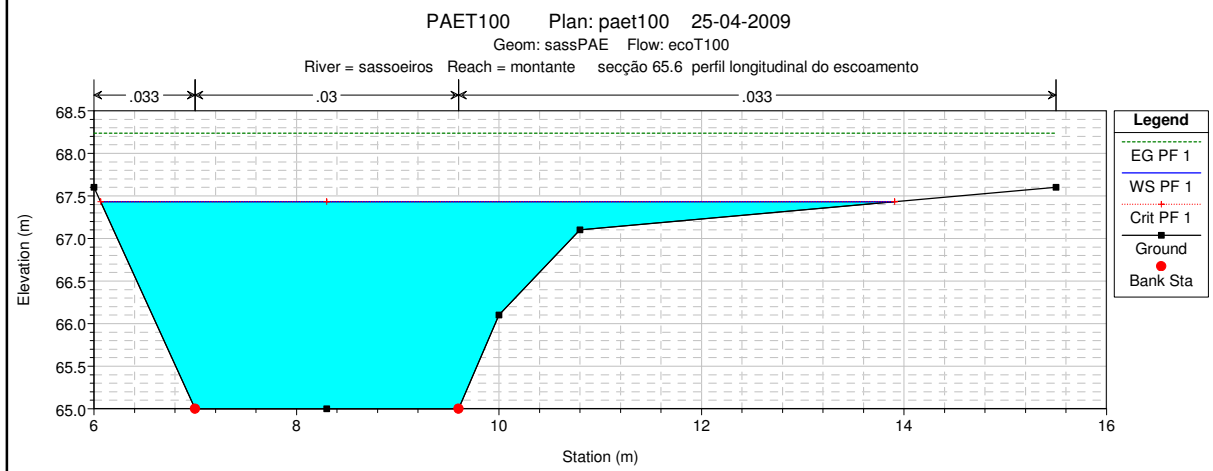
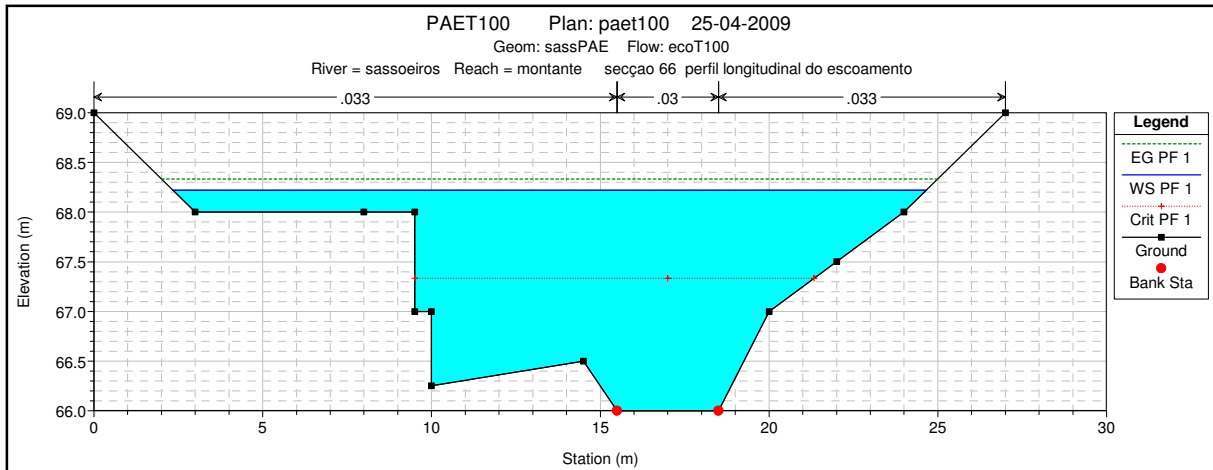


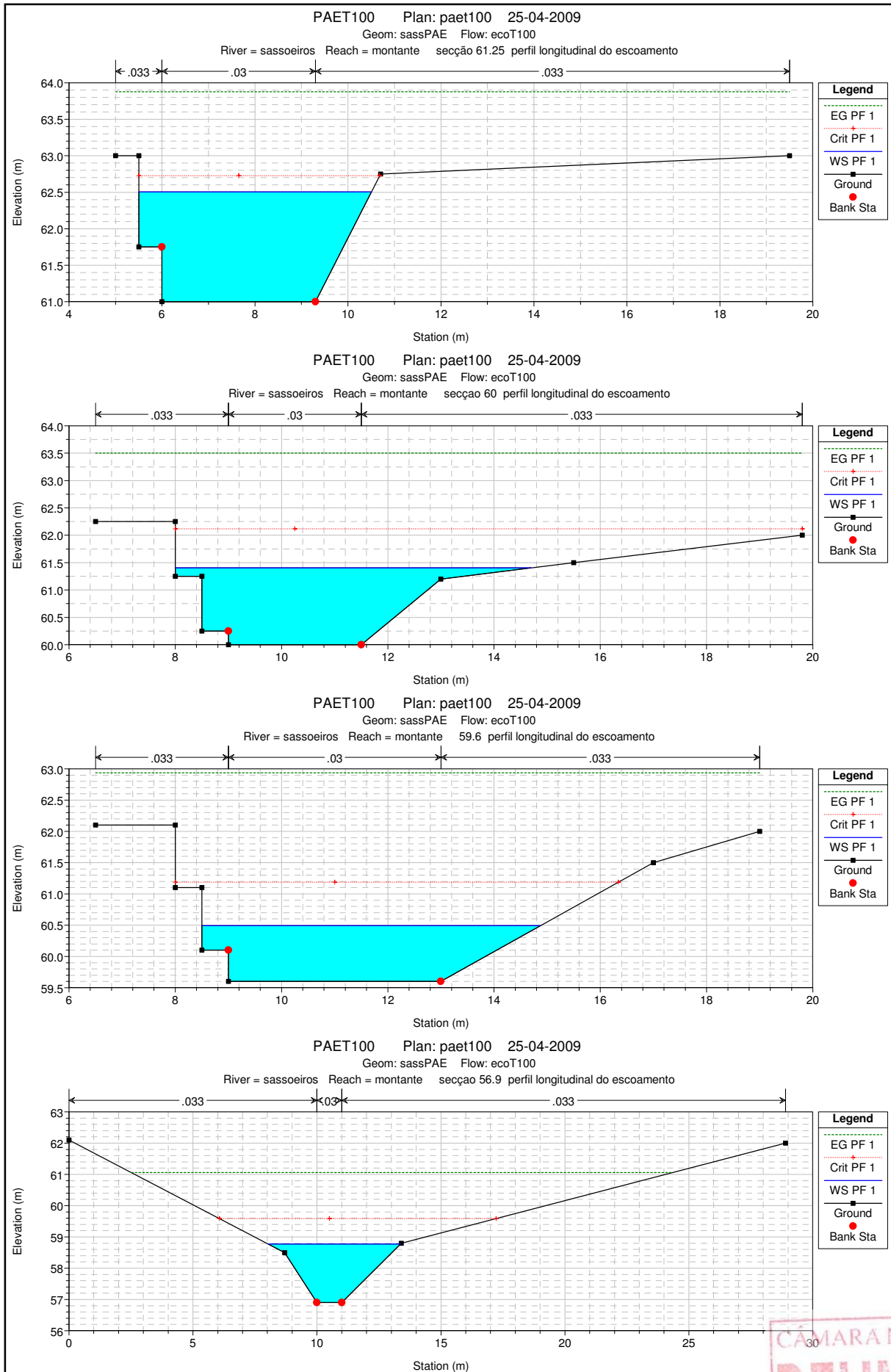
PAET100 Plan: paet100 25-04-2009
Geom: sassPAE Flow: ecoT100 perfil longitudinal do escoamento

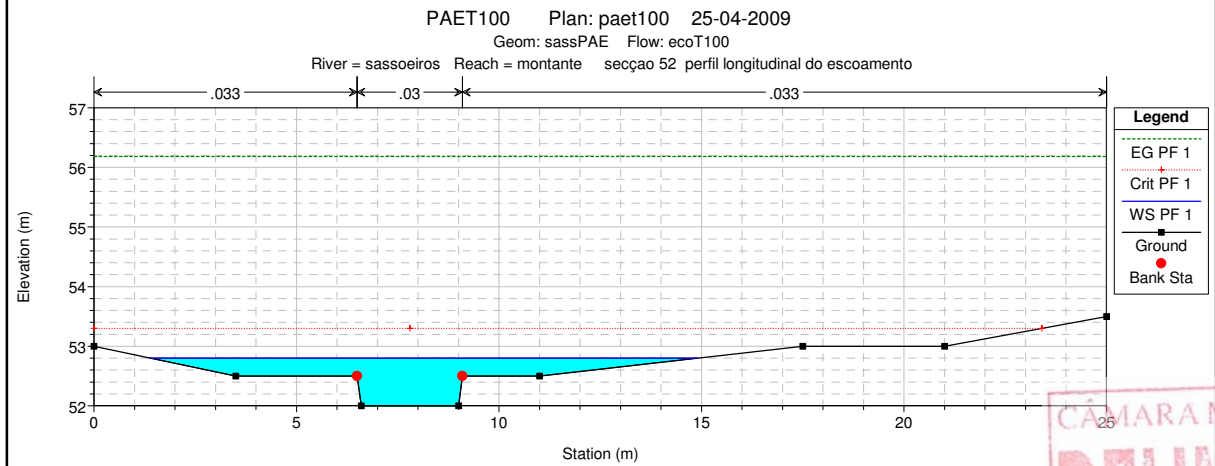
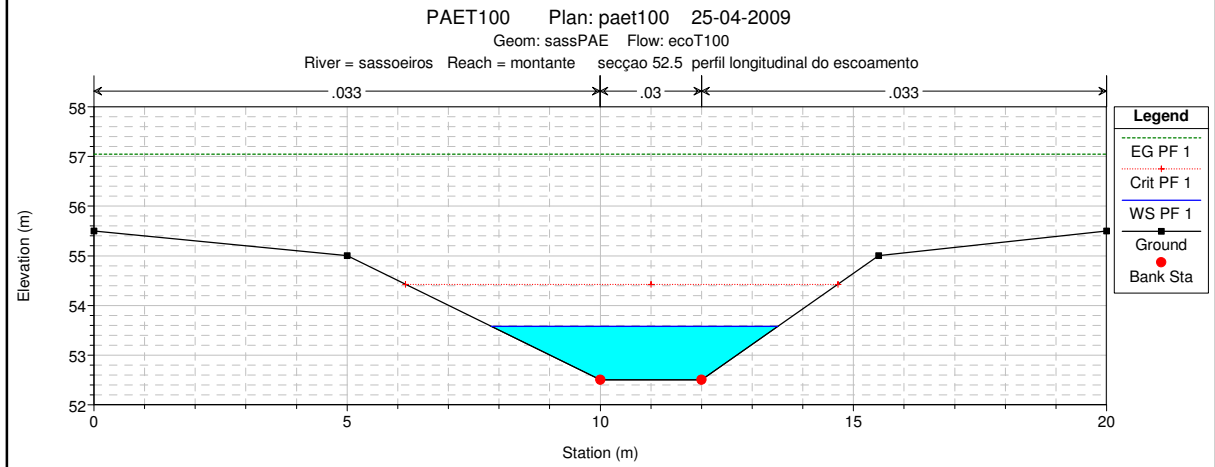
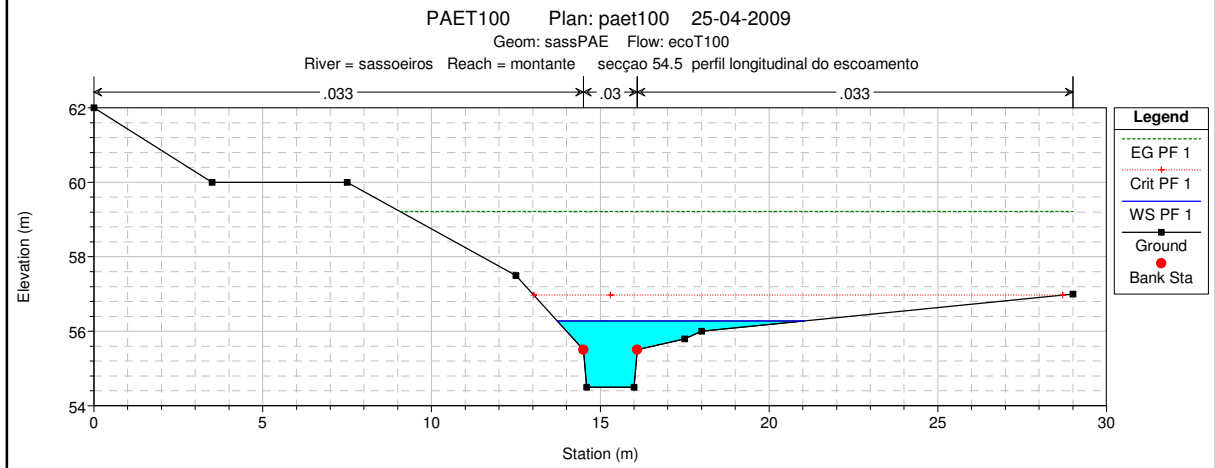
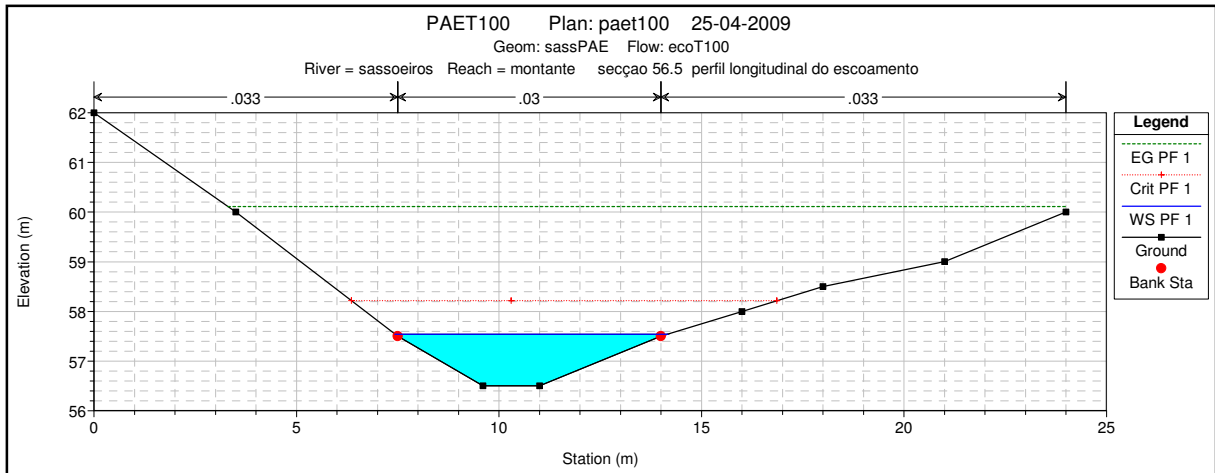


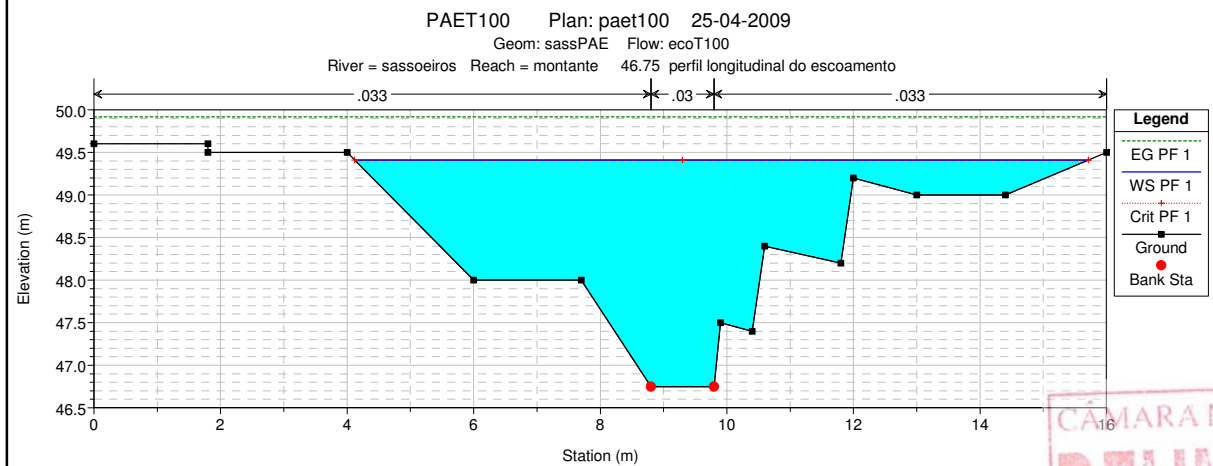
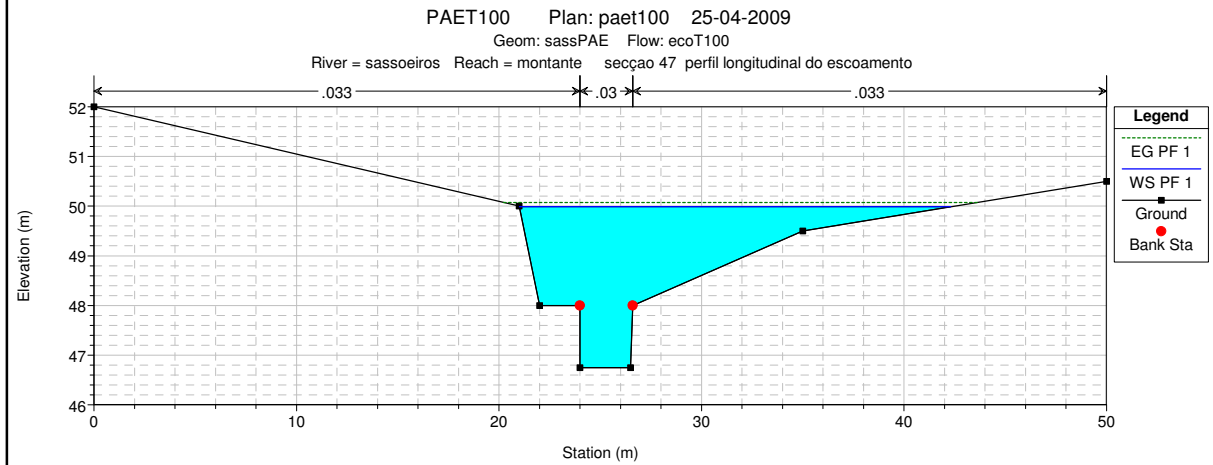
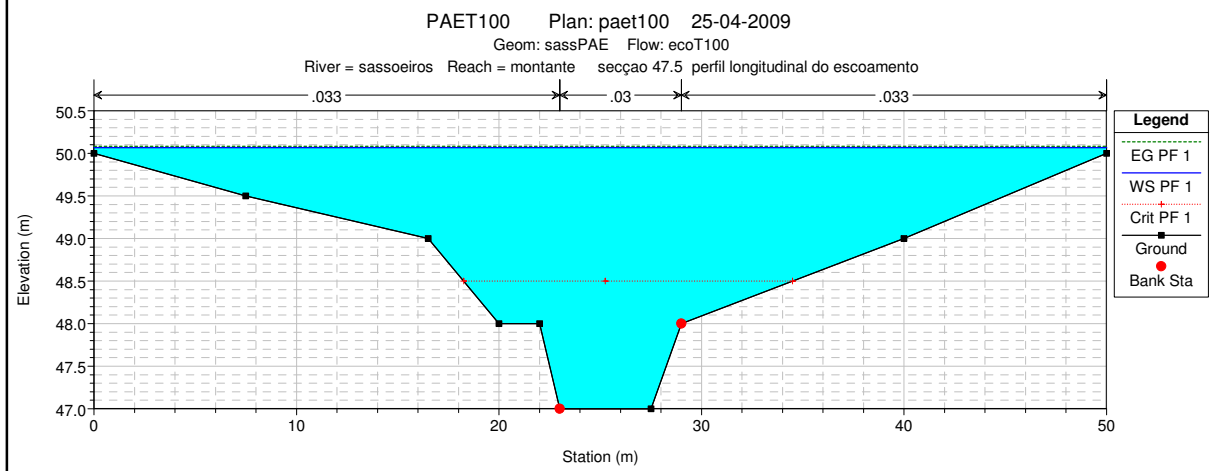
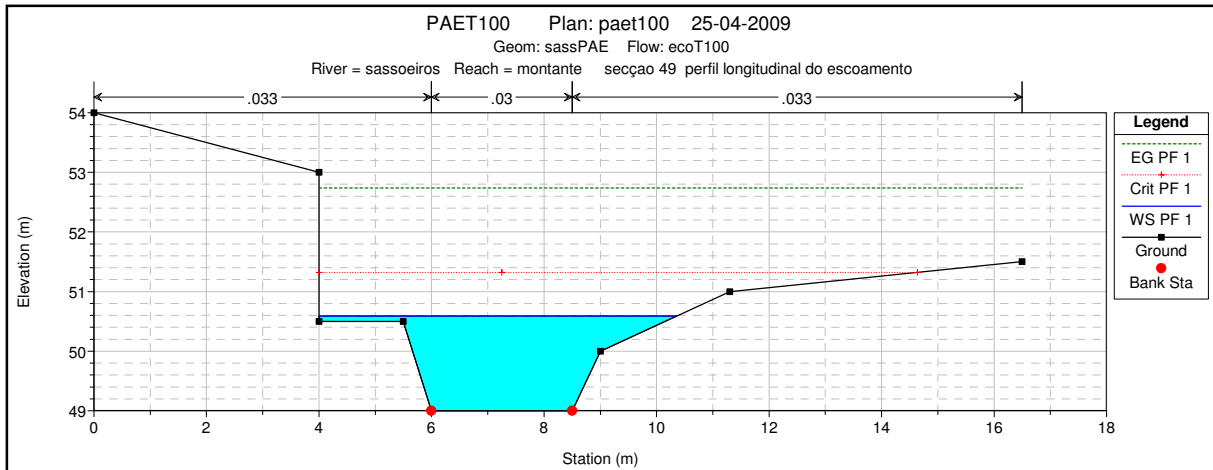
Legend	
EG PF 1	--- (green dashed line)
WS PF 1	— (blue solid line)
Crit PF 1	... (red dotted line)
Ground	■ (black square)

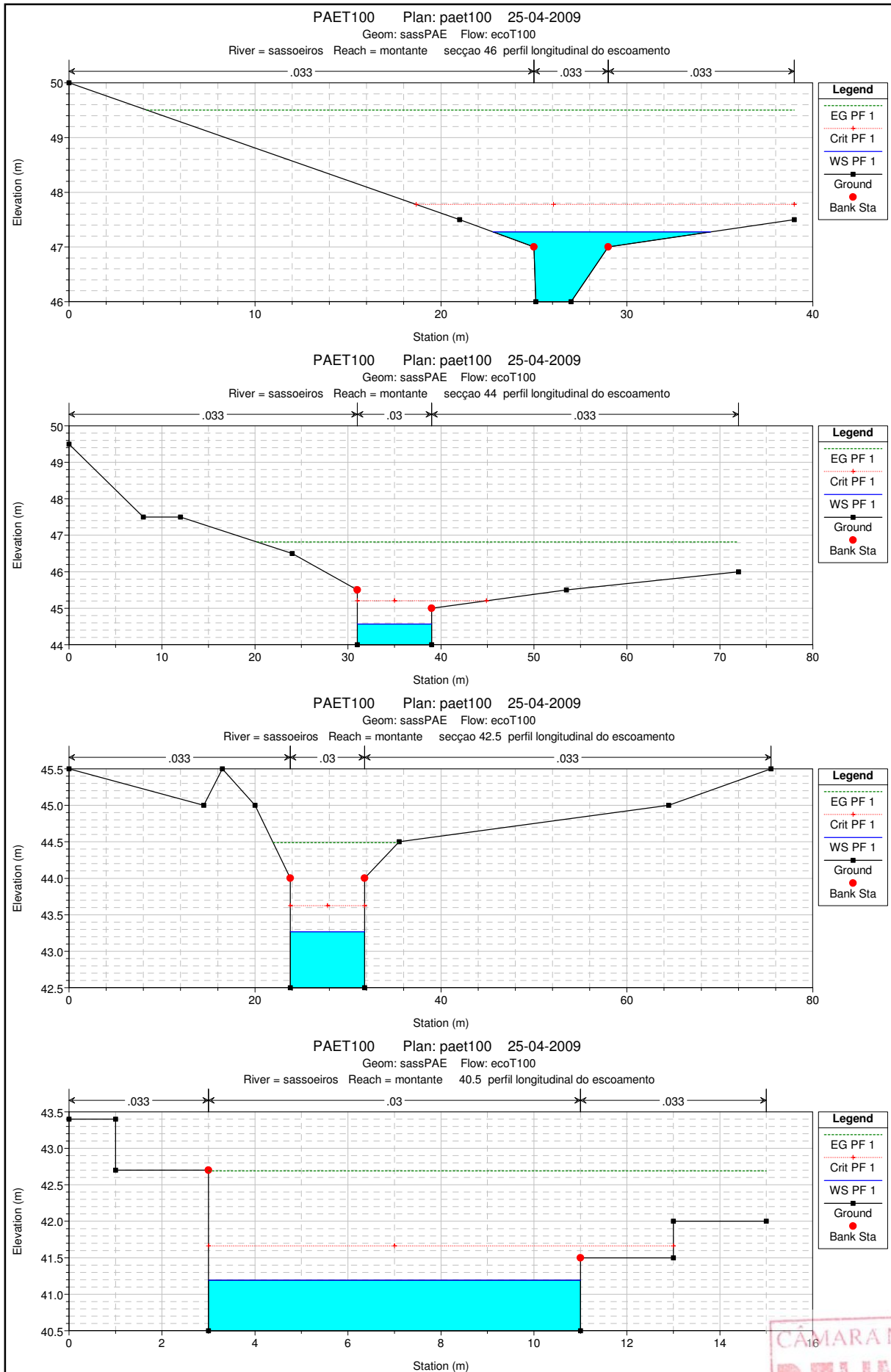


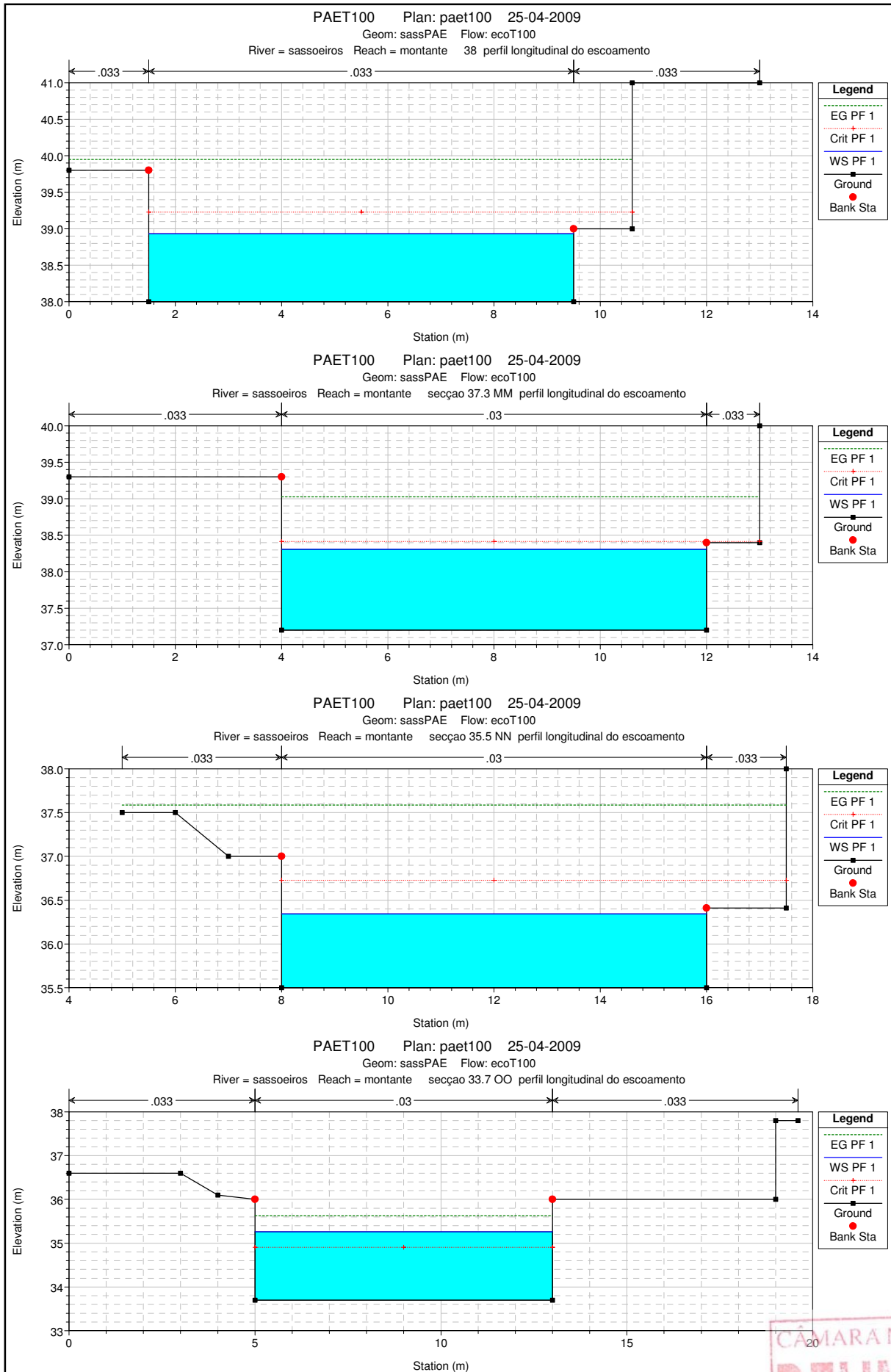


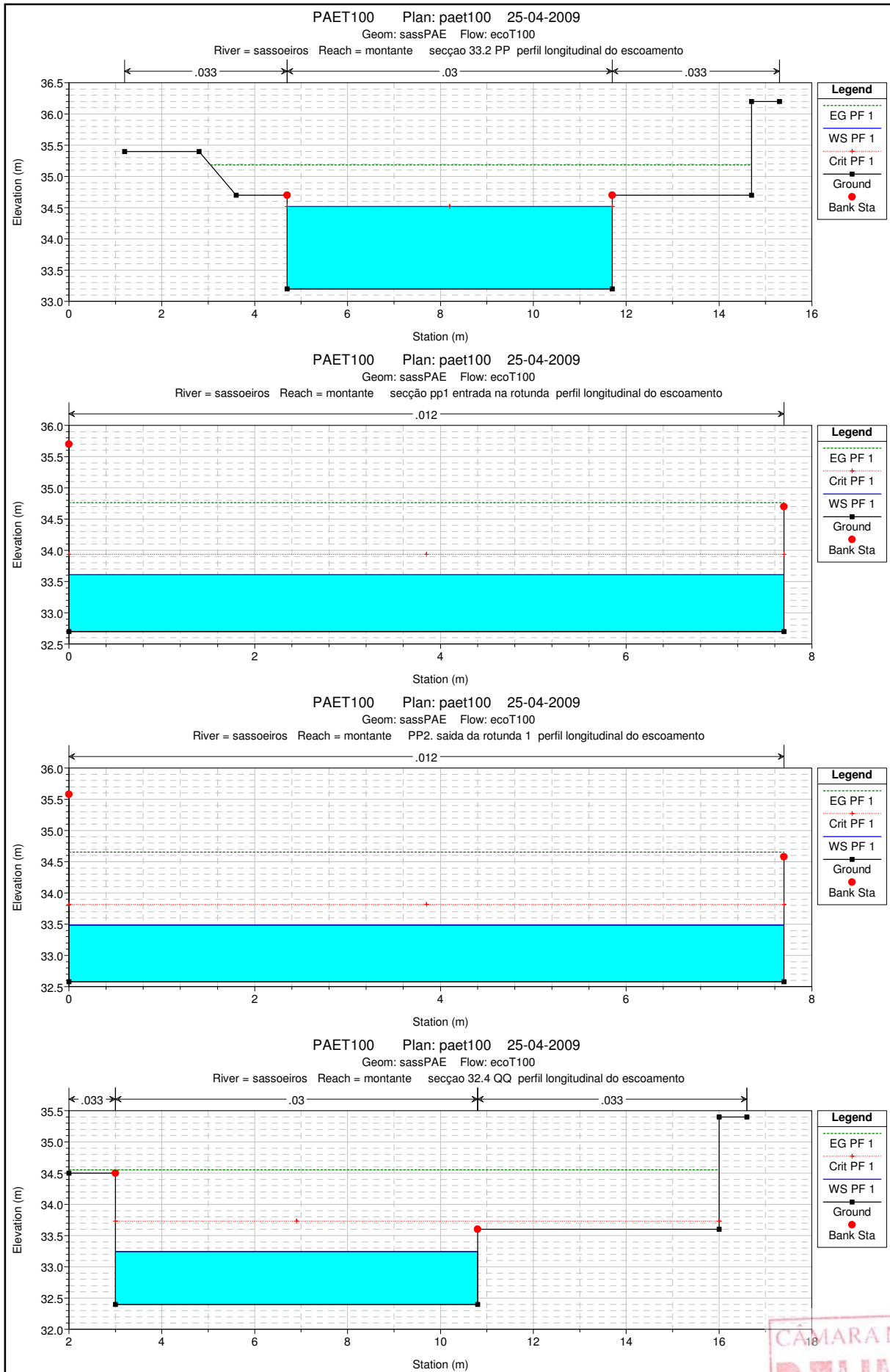


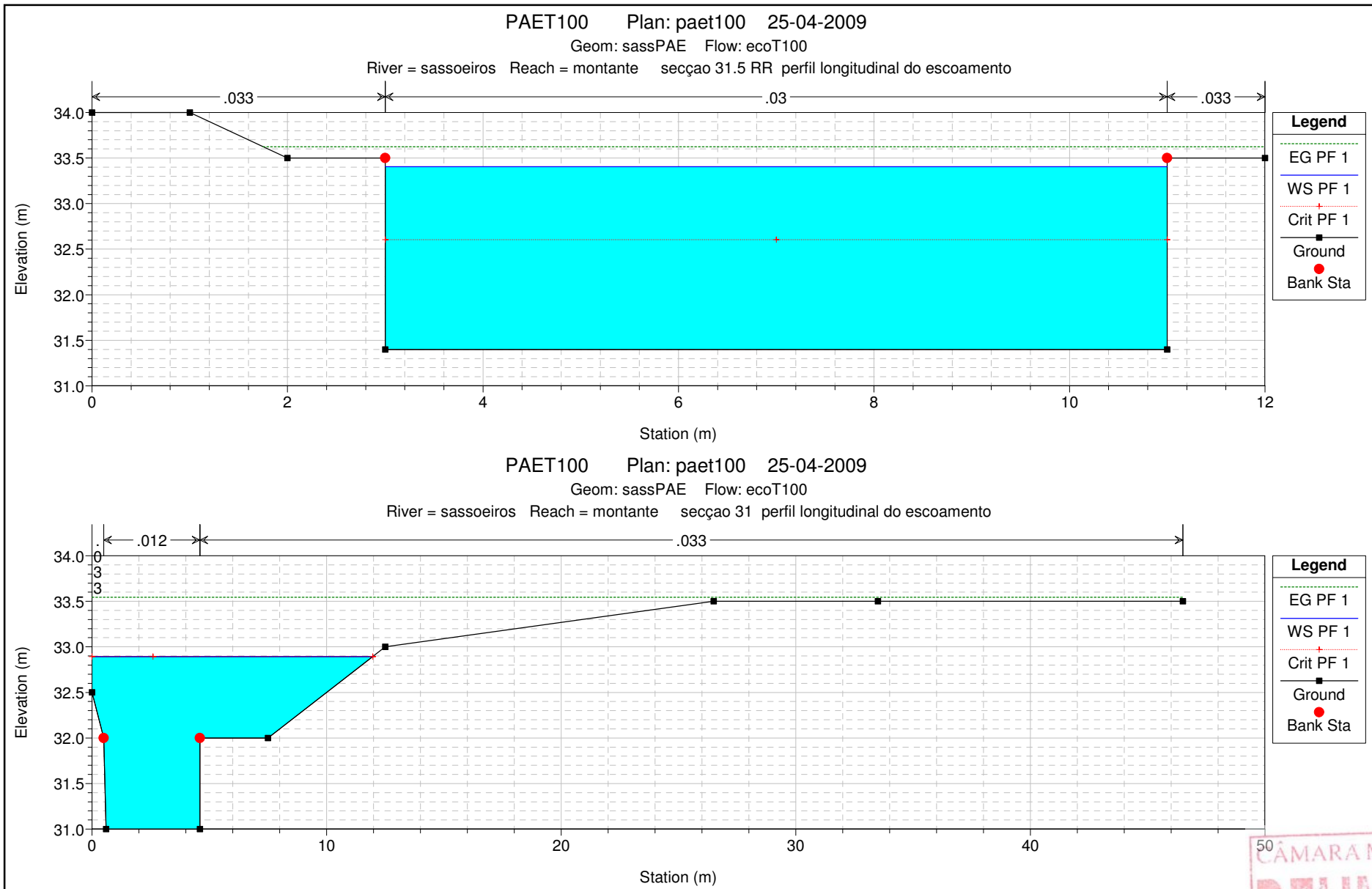












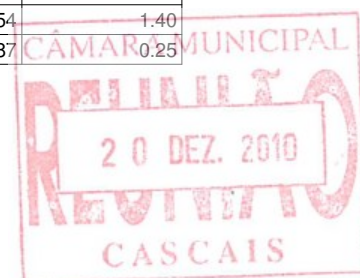
ANEXO II

**CÁLCULOS E PERFIS HIDRAULICOS PARA UMA CHEIA BIANUAL T=2
13.5/15 m³/seg**

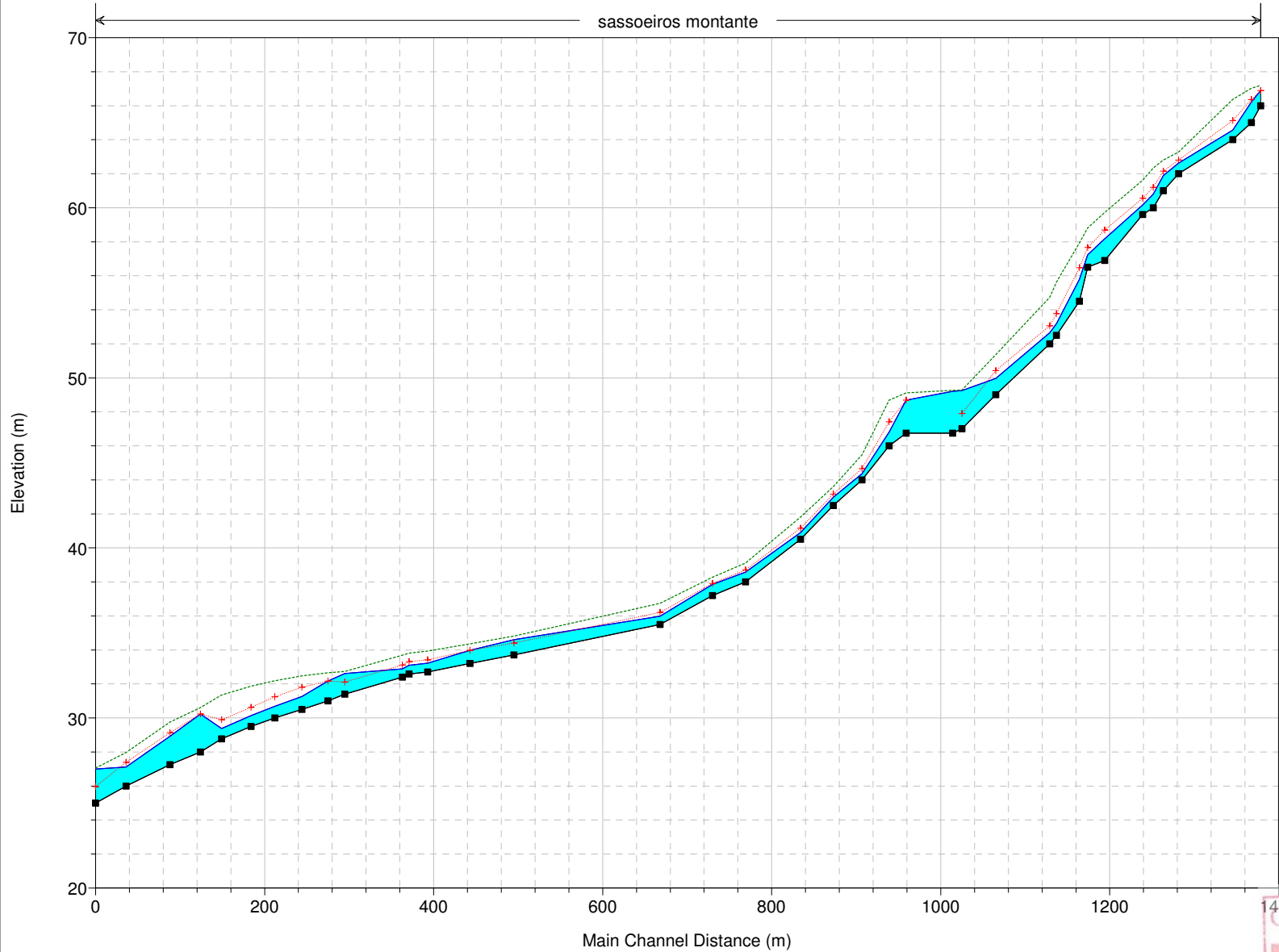


HEC-RAS Plan: Plan 07 River: sassoeiros Reach: montante Profile: PF 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
montante	66	PF 1	13.50	66.00	66.88	66.88	67.19	0.008822	2.88	6.16	9.83	0.98
montante	65.6	PF 1	13.50	65.00	66.22	66.36	67.02	0.011372	4.06	3.73	3.56	1.17
montante	64	PF 1	13.50	64.00	64.56	65.13	66.37	0.094526	5.95	2.27	4.06	2.54
montante	62	PF 1	13.50	62.00	62.63	62.80	63.28	0.024342	3.57	3.80	6.06	1.44
montante	61.25	PF 1	13.50	61.00	61.89	62.15	62.80	0.025602	4.32	3.34	4.52	1.46
montante	60	PF 1	13.50	60.00	60.80	61.19	62.33	0.046789	5.81	2.66	4.00	2.08
montante	59.6	PF 1	13.50	59.60	60.16	60.57	61.62	0.068763	5.51	2.62	5.68	2.34
montante	57	PF 1	13.50	56.90	58.17	58.69	59.73	0.028252	6.58	2.96	3.64	1.86
montante	56.5	PF 1	13.50	56.50	57.24	57.66	58.82	0.082351	5.57	2.42	5.16	2.60
montante	54.5	PF 1	13.50	54.50	55.79	56.48	57.94	0.082414	6.62	2.19	3.23	1.91
montante	52.5	PF 1	13.50	52.50	53.18	53.77	55.63	0.086578	7.60	2.16	4.32	2.94
montante	52	PF 1	13.50	52.00	52.64	53.06	54.72	0.116032	6.91	2.54	10.38	2.79
montante	49	PF 1	13.50	49.00	49.96	50.43	51.36	0.027172	5.35	2.79	3.30	1.74
montante	47.51	PF 1	13.50	47.00	49.26	47.90	49.27	0.000167	0.69	28.94	30.67	0.15
montante	47	PF 1	13.50	46.75	49.20		49.26	0.001110	1.30	13.10	11.92	0.27
montante	46.75	PF 1	13.50	46.75	48.69	48.69	49.12	0.005087	3.70	6.31	6.82	0.85
montante	46	PF 1	13.50	46.00	46.81	47.42	48.70	0.104177	6.09	2.22	3.60	2.47
montante	44.01	PF 1	13.50	44.00	44.36	44.66	45.47	0.084597	4.65	2.90	8.00	2.47
montante	42.51	PF 1	13.50	42.50	42.98	43.16	43.60	0.033531	3.49	3.87	8.00	1.60
montante	40.5	PF 1	13.50	40.50	40.90	41.16	41.82	0.063470	4.26	3.17	8.00	2.16
montante	38	PF 1	15.00	38.00	38.58	38.71	39.11	0.028296	3.24	4.63	8.00	1.36
montante	37.51	PF 1	15.00	37.20	37.86	37.91	38.27	0.015758	2.86	5.25	8.00	1.13
montante	36.51	PF 1	15.00	35.50	35.99	36.21	36.75	0.041053	3.86	3.88	8.00	1.77
montante	34.01	PF 1	15.00	33.70	34.60	34.41	34.82	0.005982	2.09	7.16	8.00	0.71
montante	33.91	PF 1	15.00	33.20	33.97	33.97	34.36	0.012694	2.77	5.41	7.00	1.01
montante	32.70	PF 1	15.00	32.70	33.22	33.43	33.93	0.005601	3.72	4.03	7.70	1.64
montante	32.58	PF 1	15.00	32.58	33.11	33.31	33.81	0.005552	3.71	4.04	7.70	1.63
montante	32.51	PF 1	15.00	32.40	32.88	33.12	33.70	0.044817	4.00	3.75	7.80	1.84
montante	32.01	PF 1	15.00	31.40	32.61	32.11	32.73	0.002372	1.55	9.70	8.00	0.45
montante	31.01	PF 1	15.00	31.00	32.18	32.18	32.66	0.001853	3.08	5.41	8.08	0.91
montante	30.51	PF 1	15.00	30.50	31.26	31.81	32.48	0.007546	4.89	3.07	4.08	1.80
montante	30.01	PF 1	15.00	30.00	30.69	31.25	32.19	0.008596	5.43	2.77	4.02	2.09
montante	29.51	PF 1	15.00	29.50	30.14	30.62	31.88	0.012831	5.84	2.57	4.03	2.34
montante	29.01	PF 1	15.00	28.78	29.38	29.90	31.36	0.015612	6.23	2.41	4.02	2.57
montante	28.01	PF 1	15.00	28.00	30.23	30.23	30.61	0.014929	2.98	5.74	7.03	0.65
montante	27.5	PF 1	15.00	27.25	28.92	29.13	29.76	0.037221	4.28	4.63	21.89	1.08
montante	25.5	PF 1	15.00	26.00	27.12	27.39	27.97	0.031990	4.46	4.38	11.54	1.40
montante	25	PF 1	15.00	25.00	27.00	25.97	27.05	0.000644	1.11	15.98	12.87	0.25



PAEbaixo Plan: Plan 07 25-04-2009
Geom: sassPAE Flow: ecoT2 perfil longitudinal do escoamento



Legend	
EG PF 1	(Green dotted line)
WS PF 1	(Blue solid line)
Crit PF 1	(Red dashed line with '+')
Ground	(Black solid line with square)



