

**ANEJO 3.- CAMPAÑAS DE CARACTERIZACIÓN DE
TIEMPO SECO**

DÍA 1 - LUNES 22 DE SEPTIEMBRE DE 2008

CARACTERIZACIÓN SIMPLE

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA MUESTRA 22 DE SEPTIEMBRE DE 2008 (LUNES)

HORA	CAUDAL (L/s)	Nitrógeno total (mg/L)	N-NH ₄ ⁺ (mg/L)	N-NO ₂ ⁻ (mg/L)	N-NO ₃ ⁻ (mg/L)	Alcalinidad (mg/L CaCO ₃)	DQO (mg/L)	DQO soluble (mg/L)	P total (mg/L)	Fosfatos (mg/L)	DBO ₅ (mg/L)	DBO ₅ decantada (mg/L)	Sólidos totales (mg/L)	Sólidos Totales Volátiles (mg/L)	Sólidos en Suspensión (mg/L)	Sólidos en Suspensión Volátiles (mg/L)	Sólidos Disueltos (mg/L)	Sólidos Disueltos Volátiles (mg/L)	pH	T (°C) Lab	Cond. (µs/cm)	TURBIDEZ (UFT)	CF (UFC/100mL)
0	22.5	61.9	43.8	0.26	0.02		724	289	8.7	5.62	380		716	390	352	252	307	125	7.0	21.8	738	183	3.00E+08
2	15.1	46.0	34.7	0.20	0.02		397	158	6.31	4.43	260		406	216	126	104	273	112	7.1	21.4	620	82	1.30E+09
4	10.1	23.7	16.5	0.05	0.00		194	76.7	3.07	2.24	120		264	124	58	50	214	61	7.1	21.3	398	31	2.00E+07
6	9.9	28.3	19.4	0.03	0.00		107	49.3	2.86	1.59	80		210	82	26	16	175	54	7.1	21.3	387	25	4.00E+08
8	29.7	68.2	44.7	0.16	0.02		390	129	7.34	4.99	240		420	210	142	130	253	56	7.8	21.5	723	86	6.00E+08
10	35.6	65.1	40.7	0.26	0.03		619	200	8.2	5.84	380		590	324	206	184	384	131	7.3	21.6	739	111	1.10E+08
12	35.3	47.4	31.9	0.41	0.06		739	313	8.45	8.47	450		680	372	254	200	341	154	7.2	21.8	754	185	7.00E+08
14	32.5	44.0	30.1	0.37	0.06		792	303	6.84	7.62	500		704	414	288	250	420	164	7.0	22.0	705	181	3.20E+08
16	32.6	60.5	33.8	0.45	0.07		1055	371	8.75	8.46	650		844	538	338	289	318	228	6.8	22.1	736	271	1.80E+08
18	28.6	39.6	23.7	0.33	0.06		777	262	7.42	7.35	450		666	400	244	212	421	170	7.0	22.1	638	166	1.00E+09
20	25.3	55.1	40.3	0.24	0.05		586	225	7.22	7.02	320		568	288	172	132	328	149	7.3	22.4	778	98	4.00E+07
22	26.4	53.3	33.5	0.27	0.05		640	207	6.7	5.72	400		572	316	232	186	334	118	7.3	22.6	699	82	7.00E+07
24	21.5	45.1	31.7	0.26	0.05		535	215	5.59	5.02	361		490	270	142	110	300	103	7.2	22.7	655	90	7.00E+07

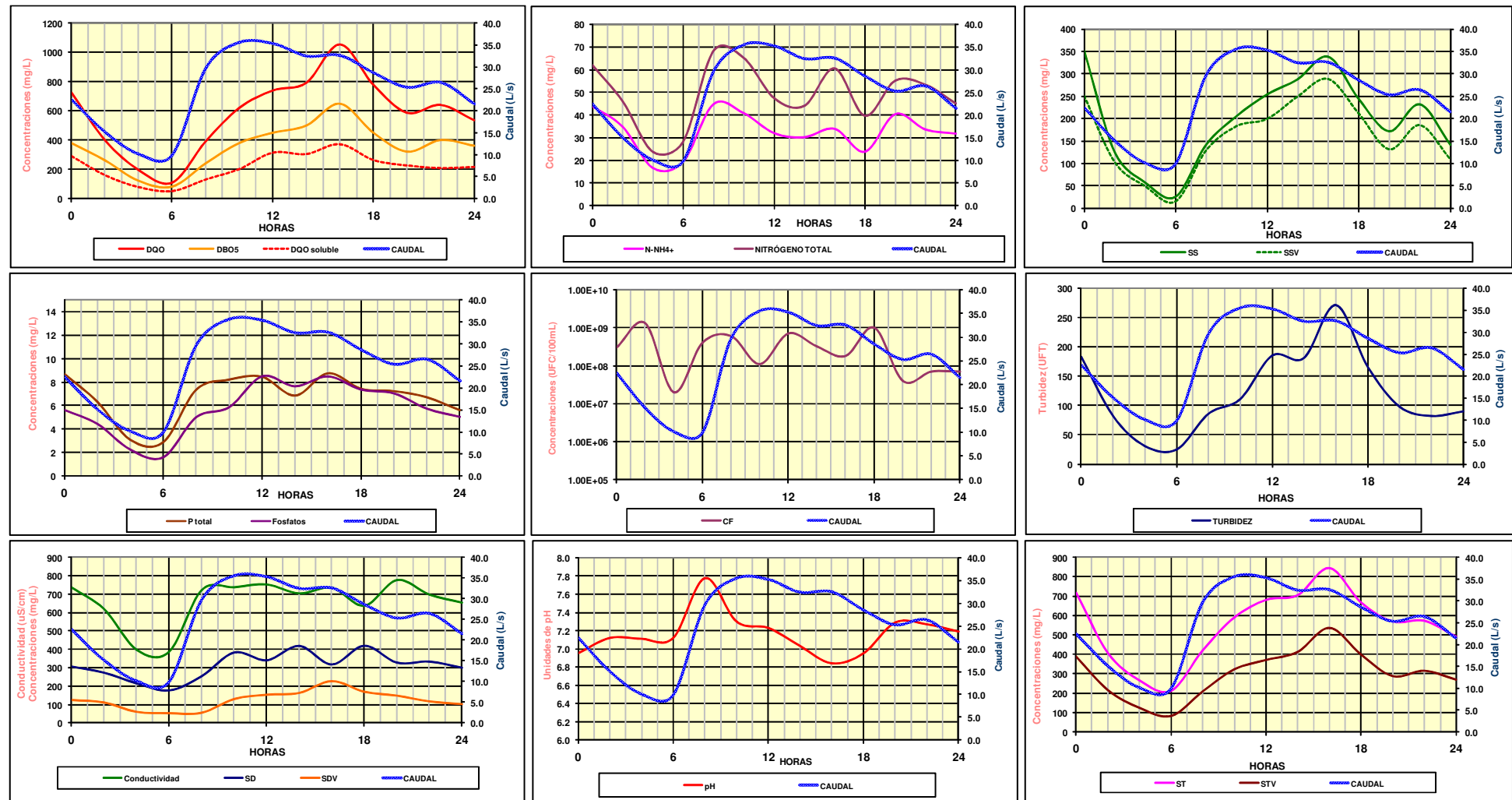
CAUDAL MEDIO 25.3
VOLUMEN (m³) 2185.8

CONC. MÁXIMA	68.2	44.7	0.45	0.1	1055.0	371	9	8	650.0	844	538	352	289	421	228	8	22.6	778.0	271	1.3E+09
CONC. MÍNIMA	23.7	16.5	0.03	0.0	107.0	49	3	2	80.0	210	82	26	16	175	54	7	21.3	387.0	25	2.0E+07
CONC. MEDIA PONDERADA	52.6	34.4	0.29	0.0	655.7	240	7	6	395.2	604	339	227	188	334	138	7	21.9	696.6	142	4.1E+08
kg/día	114.9	75.1	0.6	0.1	1433.2	523.7	16.1	14.0	863.8	1320.2	742.0	496.8	412.0	729.4	301.8					

H-E por Caudal (200 L/(h·d)): 10929
H-E por DBO₅ (60 g/(h·d)): 14396

DBO₅ media 395 mg/L
DQO media 656 mg/L
SS medios 227 mg/L

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA MUESTRA 22 DE SEPTIEMBRE DE 2008 (LUNES)



DÍA 2 – MARTES 23 DE SEPTIEMBRE DE 2008

CARACTERIZACIÓN SIMPLE

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA MUESTRA 23 DE SEPTIEMBRE DE 2008 (MARTES)

HORA	CAUDAL (L/s)	Nitrógeno total (mg/L)	N-NH ₄ ⁺ (mg/L)	N-NO ₂ ⁻ (mg/L)	N-NO ₃ ⁻ (mg/L)	Alcalinidad (mg/L CaCO ₃)	DQO (mg/L)	DQO soluble (mg/L)	P total (mg/L)	Fosfatos (mg/L)	DBO ₅ (mg/L)	DBO ₅ decantada (mg/L)	Sólidos Totales (mg/L)	Sólidos Totales Volátiles (mg/L)	Sólidos en Suspensión (mg/L)	Sólidos en Suspensión Volátiles (mg/L)	Sólidos Disueltos (mg/L)	Sólidos Disueltos Volátiles (mg/L)	pH	T (°C) Lab	Cond. (µs/cm)	TURBIDEZ (UFT)	CF (UFC/100mL)
0	21.5	45.1	31.7	0.26	0.05		535	215	5.6	5.0	361		490	270	142	110	300	103	7.2	22.70	655	90	7.00E+07
2	13.7	47.4	33.6	0.31	0.04		412	177	5.5	5.3	282		410	234	104	82	306	110	7.3	22.60	631	67	3.00E+07
4	8.9	31.8	17.5	0.04	0.00		140	56.2	3.2	1.9	107		246	78	26	12	220	64	7.2	22.50	455	24	1.00E+07
6	9.6	28	20.9	0.03	0.00		228	46.3	3.2	1.9	130		214	64	24	12	177	52	7.2	22.20	435	17	7.00E+07
8	26.7	53	35.9	0.13	0.02		506	101	9.2	4.5	158		494	276	218	200	140	61	7.6	20.80	634	96	7.40E+08
10	34.6	79.8	51.6	0.34	0.06		754	231	10.2	8.1	523		670	384	324	260	338	116	7.8	20.80	793	156	3.00E+09
12	34.7	54.3	23.6	0.30	0.05		692	218	7.0	7.0	400		596	334	236	200	229	109	7.2	21.00	602	124	1.10E+09
14	31.1	49.6	31.1	0.49	0.09		900	391	7.4	6.4	551		684	358	210	174	473	175	7.1	21.00	730	206	5.00E+09
16	31.8	54.8	29.9	0.50	0.09		1103	430	8.3	7.7	850		842	622	406	318	358	129	6.9	20.30	685	291	1.30E+08
18	28.9	55.1	27.6	0.35	0.06		765	303	7.4	6.5	550		616	332	254	208	355	124	7.0	20.30	635	179	1.20E+08
20	26.0	65.6	39.8	0.29	0.04		593	224	7.6	6.8	340		522	242	198	158	256	89	7.3	20.90	752	115	1.10E+08
22	27.2	63.9	40.4	0.28	0.07		640	244	7.6	7.5	380		528	234	192	150	327	94	7.4	21.50	786	104	6.90E+07
24	21.2	45.1	31.7	0.26	0.05		535	215	5.6	5.0	361		490	270	142	110	300	103	7.2	22.70	655	90	7.00E+07

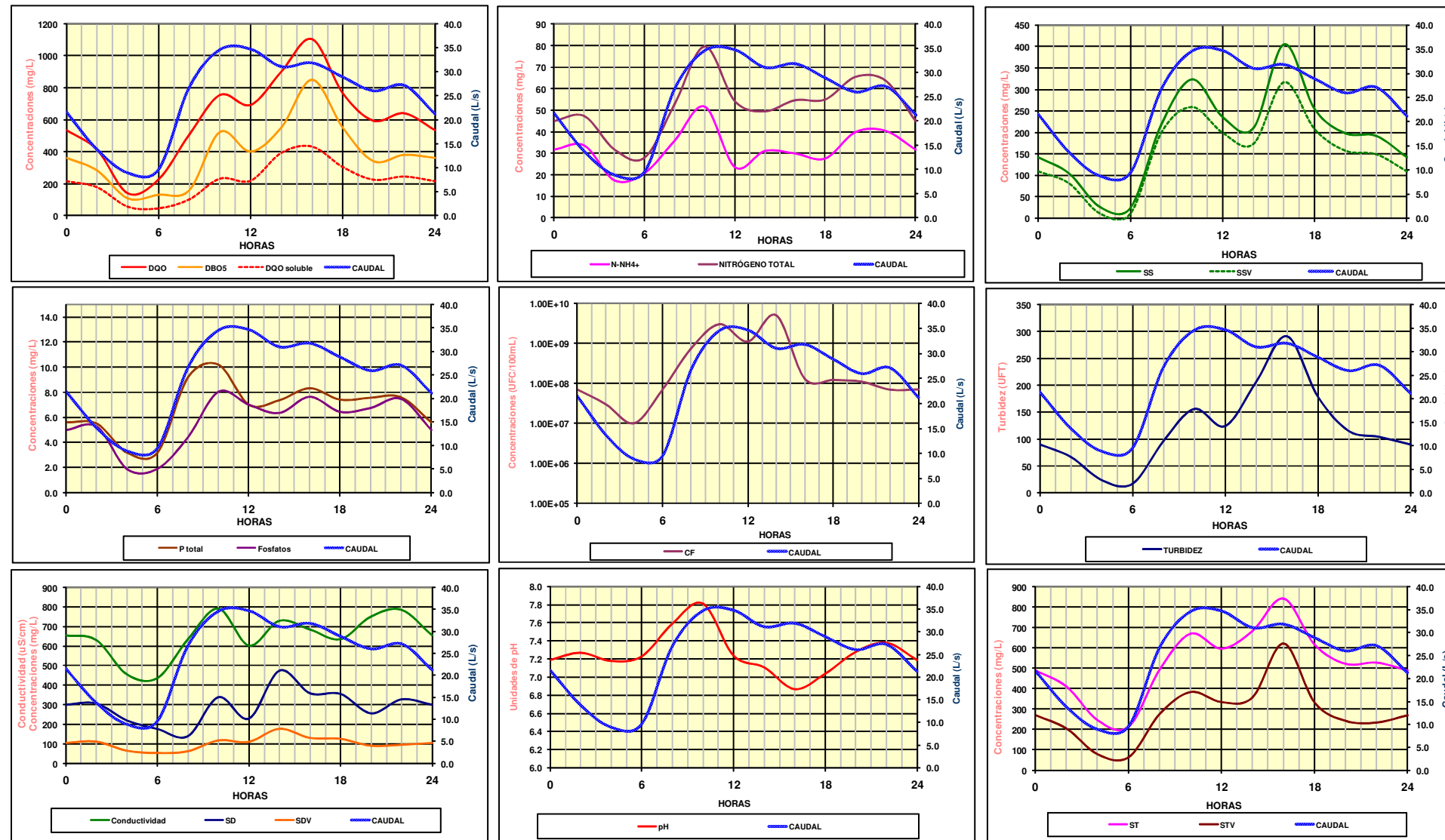
CAUDAL MEDIO: 24.6
VOLUMEN (m3): 2122.0

CONC. MÁXIMA	79.8	51.6	0.50	0.1	1103.0	430	10	8	850.0	842	622	406	318	473	175	8	22.7	793.0	291	5.0E+09
CONC. MÍNIMA	28.0	17.5	0.03	0.0	140.0	46	3	2	107.0	214	64	24	12	140	52	7	20.3	435.0	17	1.0E+07
CONC. MEDIA PONDERADA	56.2	33.6	0.31	0.1	686.0	249	7	6	438.6	581	323	228	186	304	109	7	21.1	678.6	143	1.1E+09
kg/día	119.2	71.4	0.7	0.1	1455.8	527.7	15.9	13.4	930.7	1233.0	686.5	484.8	394.0	645.0	231.9					

H-E por Caudal (200 L/(h-d)): 10610
H-E por DBO₅ (60 g/(h-d)): 15512

DBO₅ media: 439 mg/L
DQO media: 686 mg/L
SS medios: 228 mg/L

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA MUESTRA 23 DE SEPTIEMBRE DE 2008 (MARTES)



DÍA 3 – DOMINGO 28 DE SEPTIEMBRE DE 2008

CARACTERIZACIÓN COMPLETA

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA 28 DE SEPTIEMBRE DE 2008 (DOMINGO)

PARÁMETROS BÁSICOS

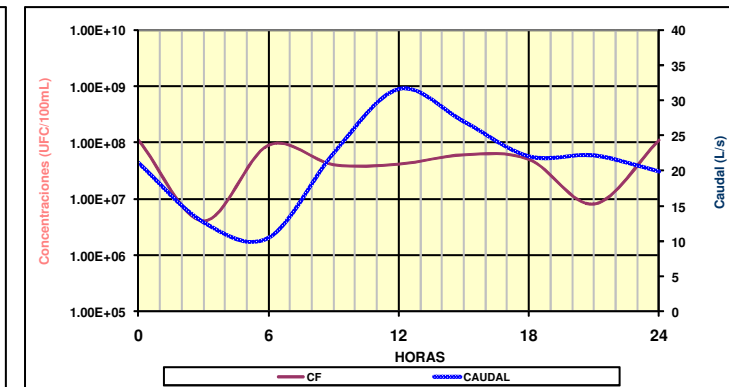
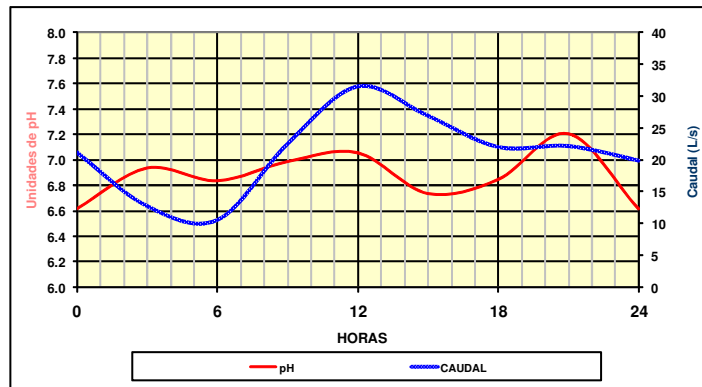
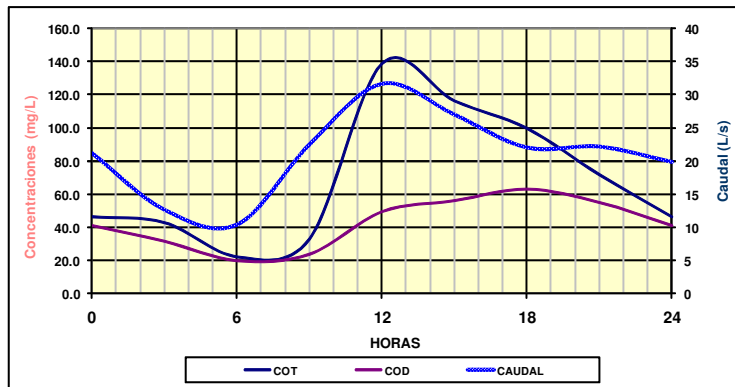
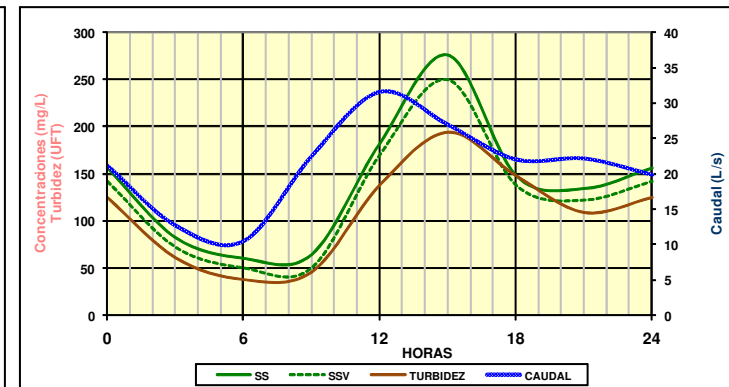
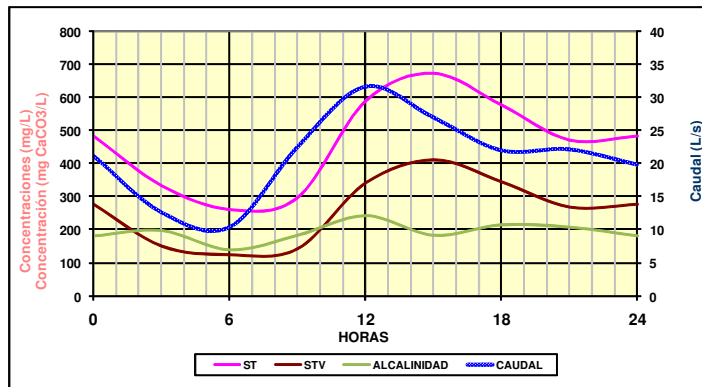
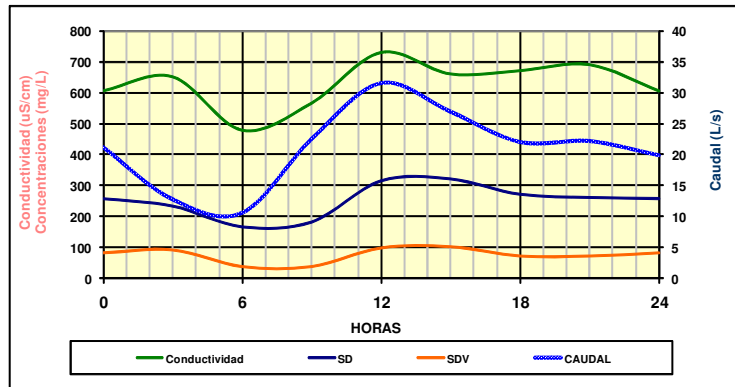
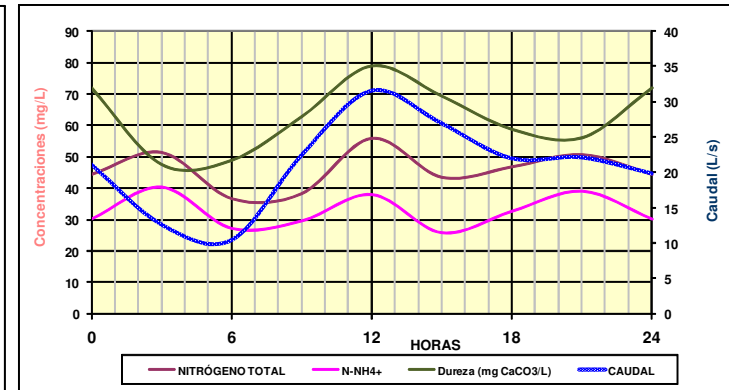
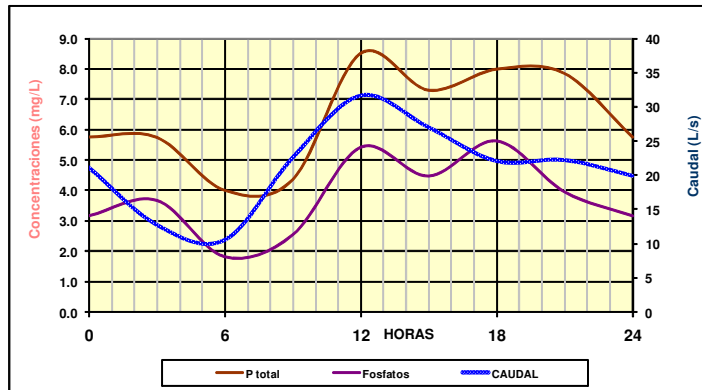
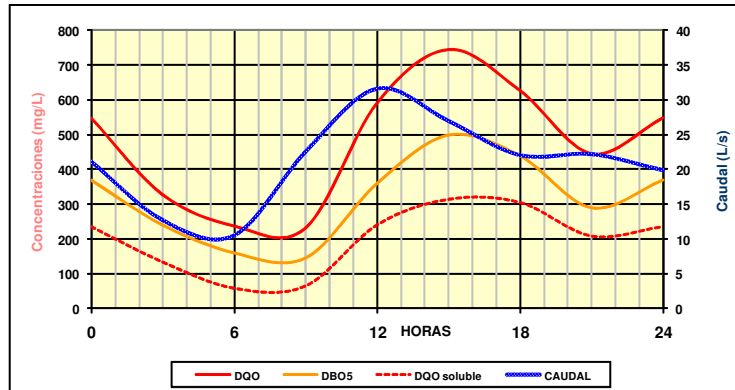
HORA	CAUDAL (L/s)	Nitrógeno total (mg/L)	N-NH ₄ ⁺ (mg/L)	N-NO ₃ ⁻ (mg/L)	COD (mg/L)	COT (mg/L)	Dureza (mg CaCO ₃ /L)	Alcalinidad (mg/L CaCO ₃)	DQO (mg/L)	DQO soluble (mg/L)	P total (mg/L)	Fosfatos (mg/L)	DBO ₅ (mg/L)	Sólidos Totales (mg/L)	Sólidos Totales Volátiles (mg/L)	Sólidos en Suspensión (mg/L)	Sólidos en Suspensión Volátiles (mg/L)	Sólidos Disueltos (mg/L)	Sólidos Disueltos Volátiles (mg/L)	pH	T (°C) Lab	Cond. (µs/cm)	TURBIDEZ (UFT)	CF (UFC/100mL)
0	21.1	44.3	30.2	0.30	41.2	46.5	72.0	181	548	236	5.8	3.2	370	484	276	156	142	258	82	6.6	18.0	606	125	1.10E+08
3	12.7	51.3	40.5	0.13	31.7	43.0	47.6	197	327	134	5.8	3.7	240	334	150	82	72	234	92	6.9	18.3	651	61	4.00E+06
6	10.5	36.6	27.2	0.06	20.0	22.4	48.9	140	237	58	4.0	1.8	160	262	124	60	50	166	38	6.8	19.0	480	38	8.90E+07
9	22.5	38.2	29.6	0.08	23.9	33.2	62.8	183	231	65	4.4	2.5	145	298	142	64	50	182	38	7.0	19.1	567	46	4.00E+07
12	31.6	55.8	38.1	0.31	49.6	138.8	78.9	241	591	241	8.5	5.4	360	590	340	182	170	316	98	7.1	18.0	729	138	4.10E+07
15	27.0	43.4	25.8	0.38	56.2	116.4	69.3	183	745	315	7.3	4.5	500	674	410	276	250	322	102	6.7	17.9	660	194	6.00E+07
18	22.0	46.7	32.7	0.34	63.3	99.8	58.8	214	627	306	8.0	5.6	440	578	344	148	138	272	72	6.9	18.1	671	148	5.00E+07
21	22.2	50.6	39.2	0.24	55.2	71.9	56.1	207	445	209	7.9	4.0	290	472	268	134	122	262	72	7.2	17.9	690	109	8.00E+06
24	19.9	44.3	30.2	0.30	41.2	46.5	72.0	181	548	236	5.8	3.2	370	484	276	156	142	258	82	6.6	18.0	606	125	1.10E+08

CAUDAL MEDIO 21.2
VOLUMEN (m³) 1832.3

CONC. MÁXIMA	55.8	40.5	0.38	63.3	138.8	78.9	241	745	315	8.5	5.6	500	674	410	276	250	322	102	7.2	19.1	729	194	1.1E+08	
CONC. MÍNIMA	36.6	25.8	0.06	20.0	22.4	47.6	140	231	58	4.0	1.8	145	262	124	60	50	166	38	6.6	17.9	480	38	4.0E+06	
CONC. MEDIA PONDERADA	46.7	33.0	0.26	45.6	81.5	64.6	199	506	214	6.8	4.1	335	495	280	152	138	264	78	6.9	18.2	647	119	5.0E+07	
kg/día	85.5	60.4	0.5	83.5	149.4	118.3	364.8	927.7	391.6	12.4	7.5	613.6	906.9	513.8	279.1	253.1	483.3	142.4						

H-E por Caudal (200 L/(h·d)): 9161
H-E por DBO₅ (60 g/(h·d)): 10226

DBO₅ media 335 mg/L
DQO media 506 mg/L
SS medios 152 mg/L

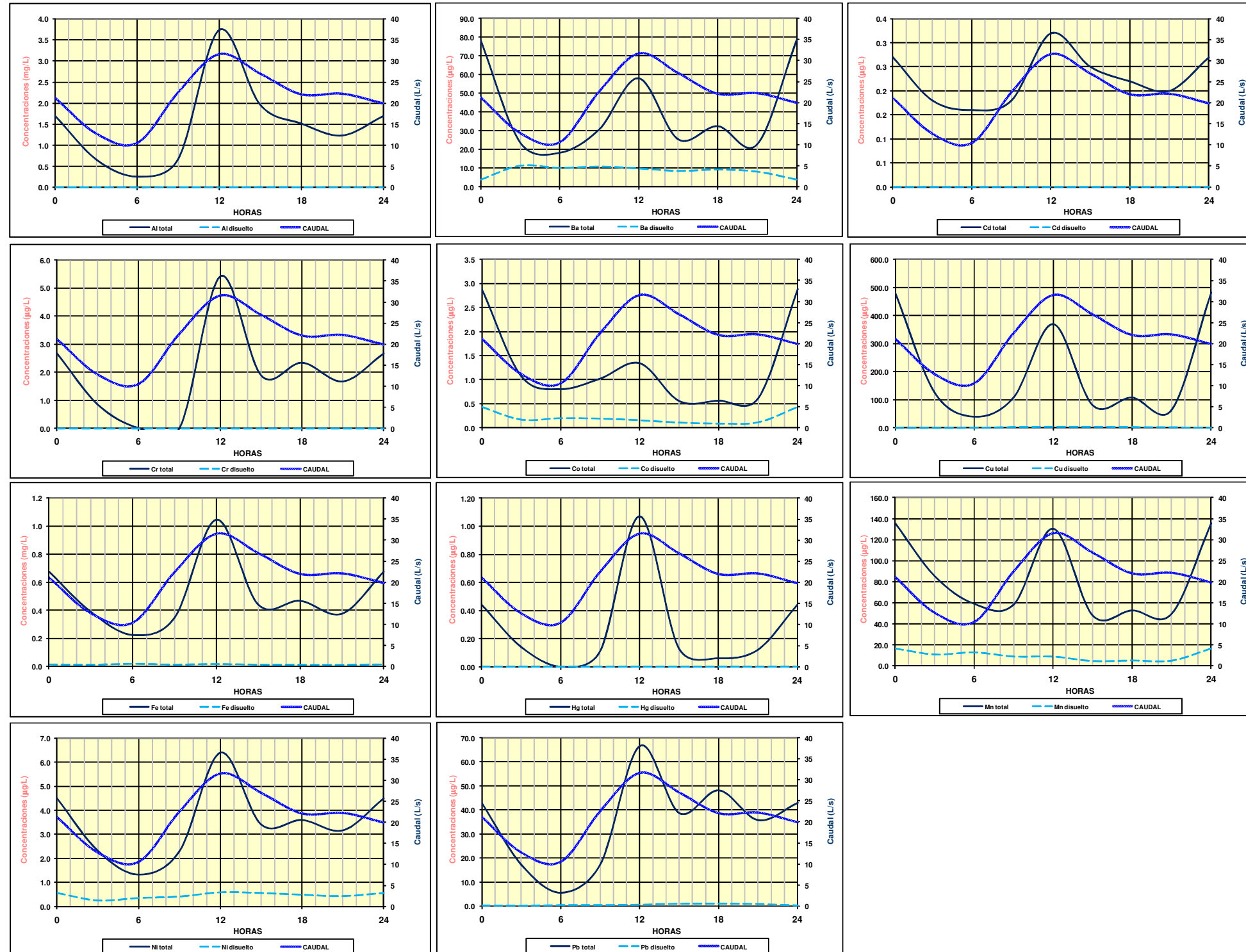


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
 28 DE SEPTIEMBRE DE 2008 (DOMINGO)

METALES I

HORA	CAUDAL (L/s)	Aluminio (mg/L)		Bario (µg/L)		Cadmio (µg/L)		Cromo (µg/L)		Cobalto (µg/L)		Cobre (µg/L)		Hierro (mg/L)		Mercurio (µg/L)		Manganeso (µg/L)		Niquel (µg/L)		Plomo (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	21.1	0.002	1.7	3.7	78.4	<0.05	0.3	<0.5	2.7	0.4	2.9	0.7	483.4	0.0	0.7	<0.05	0.44	16.5	135.6	0.6	4.5	0.5	43.0
3	12.7	0.003	0.7	11.3	23.7	<0.05	0.2	<0.5	0.8	0.2	1.1	0.7	124.7	0.0	0.4	<0.05	0.14	10.9	85.4	0.2	2.3	0.1	17.2
6	10.5	0.001	0.3	10.1	18.2	<0.05	0.2	<0.5	0.0	0.2	0.8	0.8	39.1	0.0	0.2	<0.05	0.00	13.0	59.1	0.4	1.3	0.4	5.5
9	22.5	0.004	0.7	10.8	30.7	<0.05	0.2	<0.5	0.0	0.2	1.0	2.3	108.6	0.0	0.3	<0.05	0.11	9.0	58.4	0.4	2.3	0.4	17.3
12	31.6	0.002	3.7	9.8	58.0	<0.05	0.3	<0.5	5.4	0.2	1.3	3.0	370.1	0.0	1.0	<0.05	1.07	9.0	130.3	0.6	6.4	0.7	66.6
15	27.0	0.006	2.0	8.4	25.4	<0.05	0.3	<0.5	1.9	0.1	0.6	3.1	79.9	0.0	0.4	<0.05	0.13	4.9	48.0	0.6	3.4	1.0	38.7
18	22.0	0.003	1.5	9.2	32.5	<0.05	0.2	<0.5	2.3	0.1	0.6	2.4	107.5	0.0	0.5	<0.05	0.06	5.4	52.9	0.5	3.6	1.1	48.1
21	22.2	0.002	1.2	8.0	22.7	<0.05	0.2	<0.5	1.7	0.1	0.6	2.1	64.0	0.0	0.4	<0.05	0.12	5.2	49.7	0.4	3.2	0.9	35.7
24	19.9	0.002	1.7	3.7	78.4	<0.05	0.3	<0.5	2.7	0.4	2.9	0.7	483.4	0.0	0.7	<0.05	0.44	16.5	135.6	0.6	4.5	0.3	43.0

CONC. MÁXIMA	0.01	3.74	11.29	78.41	0.00	0.32	0.00	5.43	0.43	2.89	3.05	483.41	0.02	1.05	0.00	1.07	16.53	135.57	0.60	6.40	1.07	66.58
CONC. MÍNIMA	0.00	0.26	3.68	18.19	0.00	0.16	0.00	0.00	0.09	0.55	0.68	39.12	0.01	0.22	0.00	0.00	4.86	47.95	0.24	1.33	0.11	5.50
CONC. MEDIA PONDERADA	0.00	1.73	8.77	38.78	0.00	0.24	0.00	2.23	0.17	1.11	2.13	190.40	0.01	0.55	0.00	0.32	8.71	79.97	0.49	3.74	0.66	38.75
g/día	5.5	3173.9	16.1	71.1	0.0	0.4	0.0	4.1	0.3	2.0	3.9	348.9	24.9	1002.7	0.0	0.6	16.0	146.5	0.9	6.9	1.2	71.0

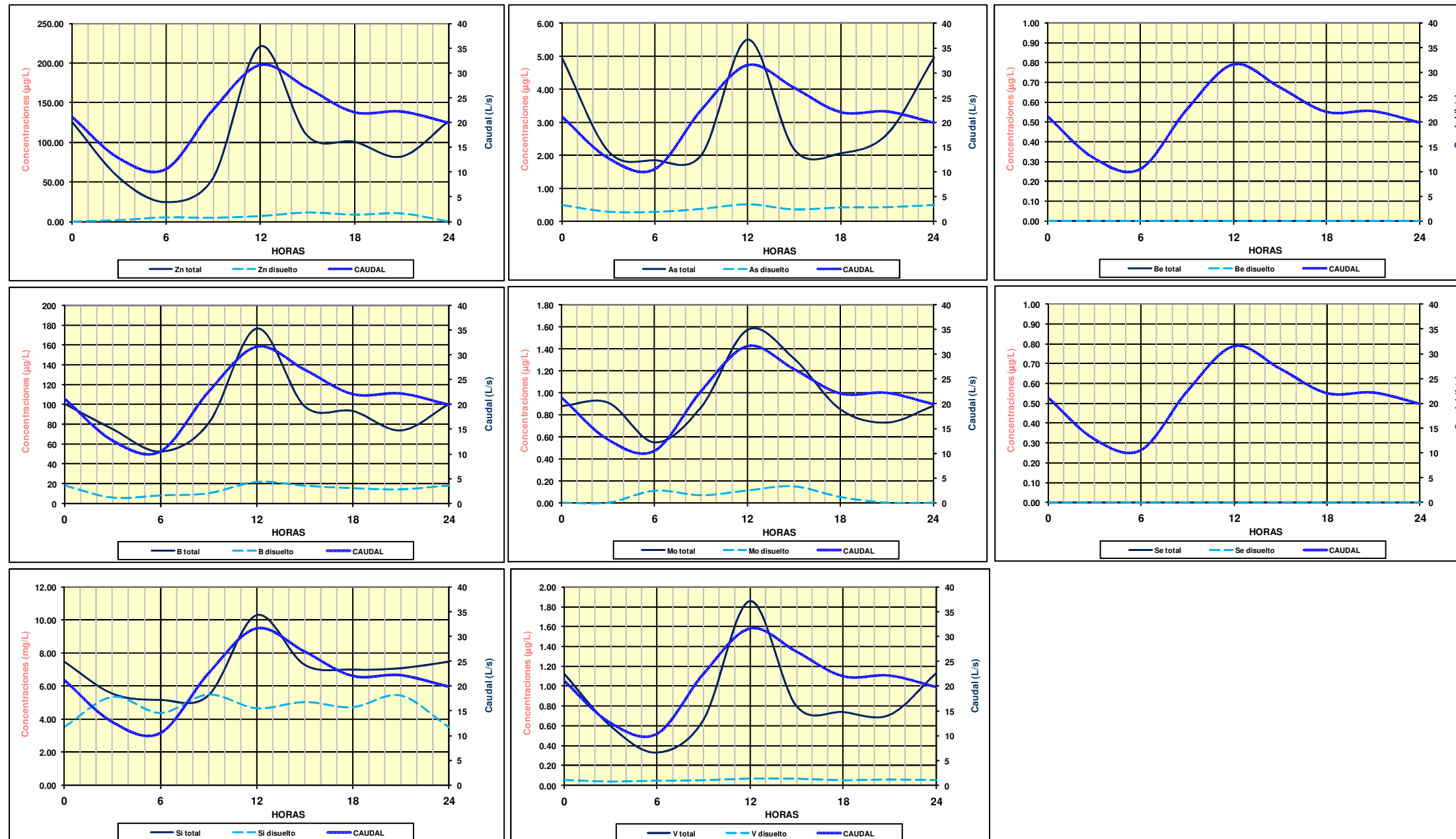


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
 28 DE SEPTIEMBRE DE 2008 (DOMINGO)

METALES II

HORA	CAUDAL (L/s)	Zinc (µg/L)		Arsénico (µg/L)		Berilio (µg/L)		Boro (µg/L)		Molibdeno (µg/L)		Selenio (µg/L)		Silicio (mg/L)		Vanadio (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	21.1	0.00	126.69	0.51	4.96	<0,5	<0,5	18.11	100.77	0.00	0.88	<2,5	<2,5	3.54	7.48	0.06	1.13
3	12.7	1.79	55.80	0.29	2.13	<0,5	<0,5	5.77	75.31	0.00	0.91	<2,5	<2,5	5.33	5.55	0.04	0.60
6	10.5	5.25	24.92	0.29	1.86	<0,5	<0,5	8.00	52.67	0.11	0.55	<2,5	<2,5	4.37	5.18	0.05	0.33
9	22.5	4.78	55.29	0.38	2.02	<0,5	<0,5	10.20	81.27	0.07	0.87	<2,5	<2,5	5.47	5.44	0.05	0.66
12	31.6	6.77	221.08	0.52	5.50	<0,5	<0,5	21.66	176.44	0.11	1.57	<2,5	<2,5	4.65	10.29	0.07	1.86
15	27.0	11.24	108.82	0.37	2.18	<0,5	<0,5	17.80	98.04	0.15	1.31	<2,5	<2,5	5.02	7.30	0.07	0.80
18	22.0	8.51	101.00	0.43	2.07	<0,5	<0,5	15.23	93.39	0.05	0.85	<2,5	<2,5	4.71	7.00	0.05	0.74
21	22.2	10.08	82.35	0.43	2.66	<0,5	<0,5	14.07	73.93	0.00	0.73	<2,5	<2,5	5.41	7.09	0.06	0.71
24	19.9	0.00	126.69	0.51	4.96	<0,5	<0,5	18.11	100.77	0.00	0.88	<2,5	<2,5	3.54	7.48	0.06	1.13

CONC. MÁXIMA	11.24	221.08	0.52	5.50	0.00	0.00	21.66	176.44	0.15	1.57	0.00	0.00	5.47	10.29	0.07	1.86
CONC. MÍNIMA	0.00	24.92	0.29	1.86	0.00	0.00	5.77	52.67	0.00	0.55	0.00	0.00	3.54	5.18	0.04	0.33
CONC. MEDIA PONDERADA	6.57	111.23	0.42	3.15	0.00	0.00	15.22	102.50	0.07	1.03	0.00	0.00	4.82	7.30	0.06	0.96
g/día	12.03	203.80	0.77	5.77	0.00	0.00	27.89	187.81	0.12	1.89	0.00	0.00	8832	13382	0.11	1.75



CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
28 DE SEPTIEMBRE DE 2008 (DOMINGO)

HORA	CAUDAL (L/s)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ total (mg/L)	Ca ²⁺ disuelto (mg/L)	Mg ²⁺ (mg/L)	Fluoruros (µg/L)	Cloruros (mg/L)	Cianuros (µg/L)	Fenoles (µg/L)	COVs (µg/L)	Hidrocarburos totales (µg/L)	Aceites y grasas (mg/L)	HAPs (µg/L)	PLAGUICIDAS (µg/L)
0	21.1	58.3	17.7	21.2	12.2	5.4	35.0	52.5	0.00	17.0	11.3	1.1	93.6	2.311	<0.0007
3	12.7	40.8	15.5	13.9	11.1	3.7	33.0	42.4	8.2	9.8	11.9	0.98	33.8	1.807	<0.0007
6	10.5	44.9	14.6	14.2	11.5	3.8	31.0	31.7	11.1	5.2	12.1	0.82	9.6	11.058	<0.0007
9	22.5	47.0	14.0	18.8	18.8	4.5	35.0	42.1	10.6	3.1	10.0	1.1	24.4	2.991	<0.0007
12	31.6	82.9	22.0	23.3	12.3	5.9	33.0	51.2	12.5	4.4	12.8	2.2	55.7	2.042	<0.0007
15	27.0	96.1	21.6	21.9	10.6	4.2	35.0	57.7	17.2	4.7	11.5	1.37	88.2	2.949	<0.0007
18	22.0	73.6	19.5	17.4	12.7	4.4	31.0	49.9	10.5	5.8	13.5	0.96	74.5	6.744	<0.0007
21	22.2	76.2	19.8	16.4	12.7	4.3	34.0	48.9	12.8	6.5	14.6	1.02	58.4	2.154	<0.0007
24	19.9	58.3	17.7	21.2	12.2	5.4	35.0	52.5	0.00	17.0	11.3	1.1	93.6	2.311	<0.0007

CONC. MÁXIMA	96.1	22.0	23.3	18.8	5.9	35.0	57.7	17.2	17.0	14.6	2.2	93.6	11.1	0.0
CONC. MÍNIMA	40.8	14.0	13.9	10.6	3.7	31.0	31.7	0.0	3.1	10.0	0.8	9.6	1.8	0.0
CONC. MEDIA PONDERADA	69.6	18.8	19.3	12.8	4.7	33.6	48.9	10.8	6.8	12.2	1.3	59.7	3.5	0.0
kg/día	127.5	34.4	35.3	23.5	8.6							109.5		

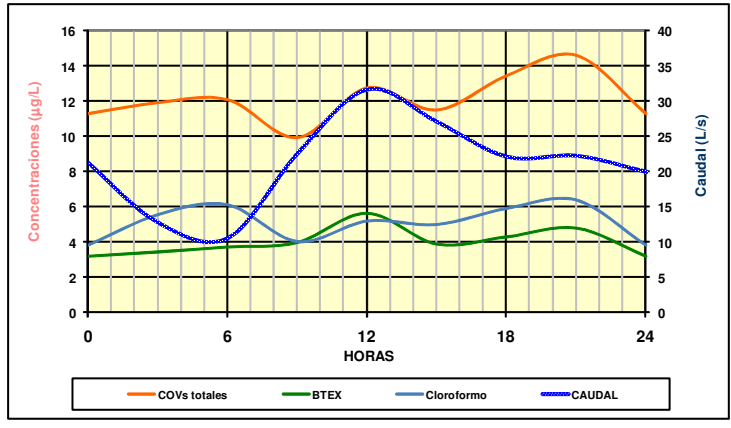
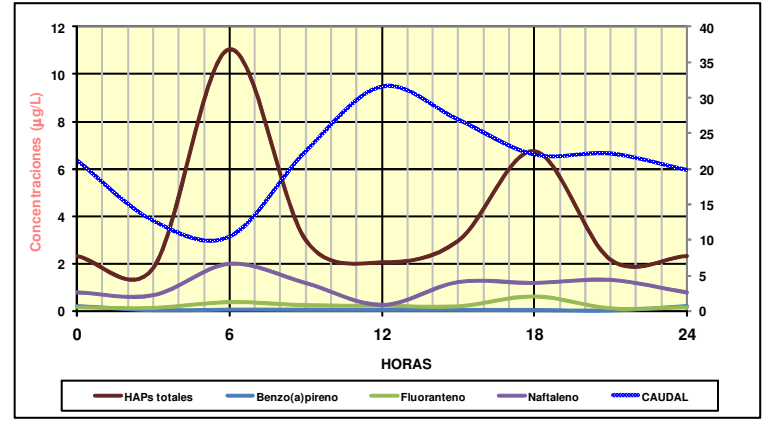
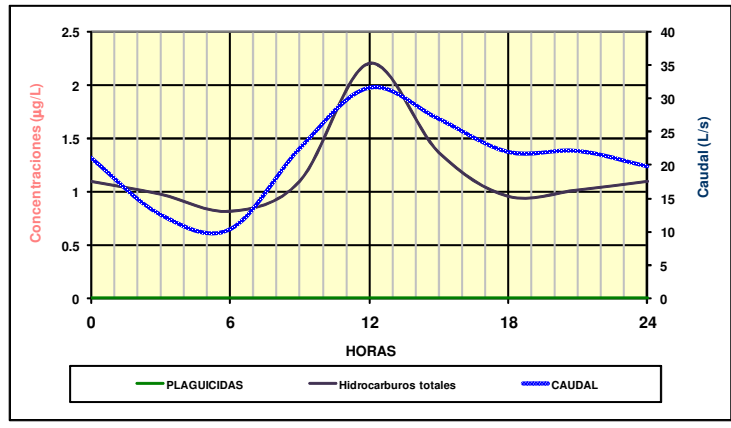
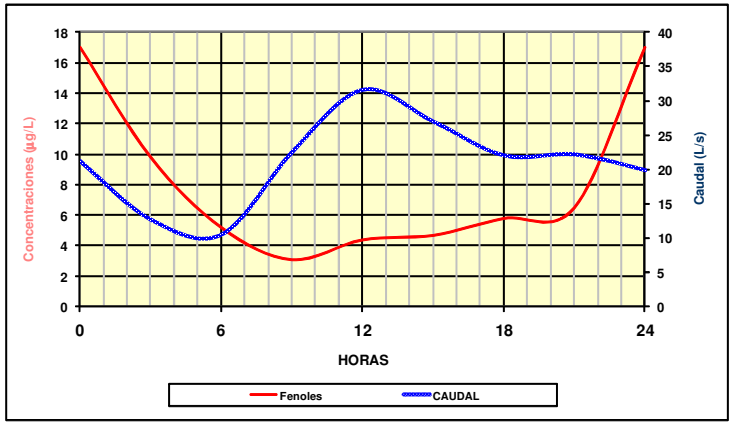
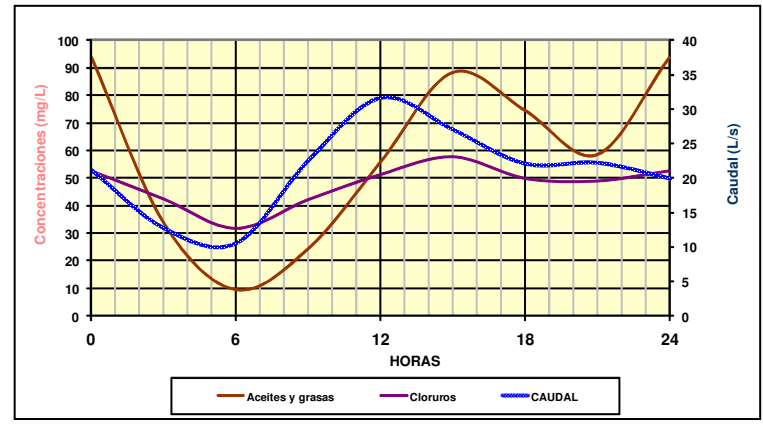
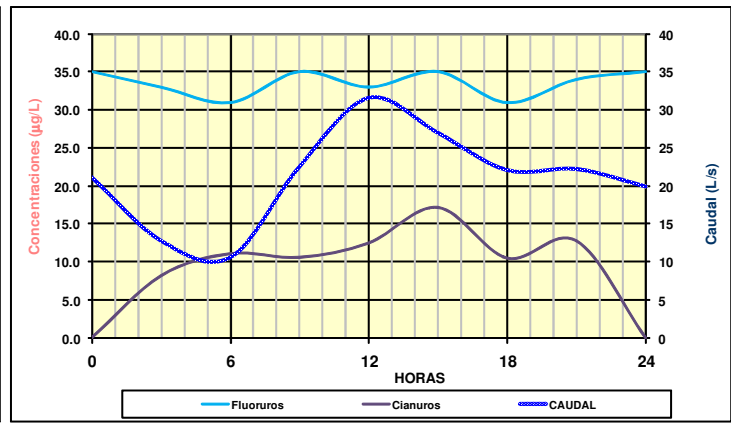
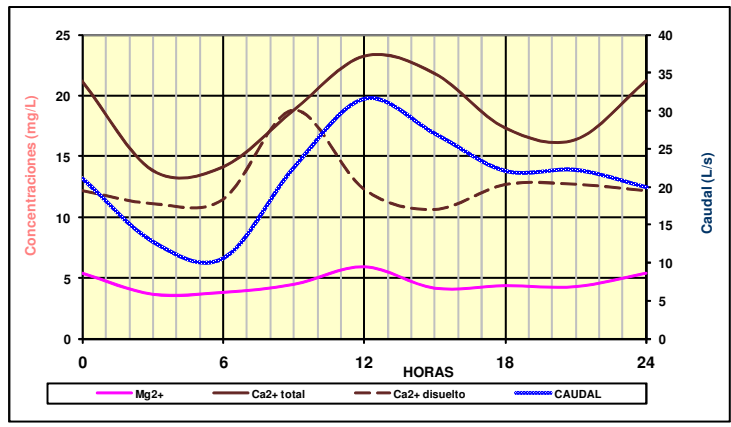
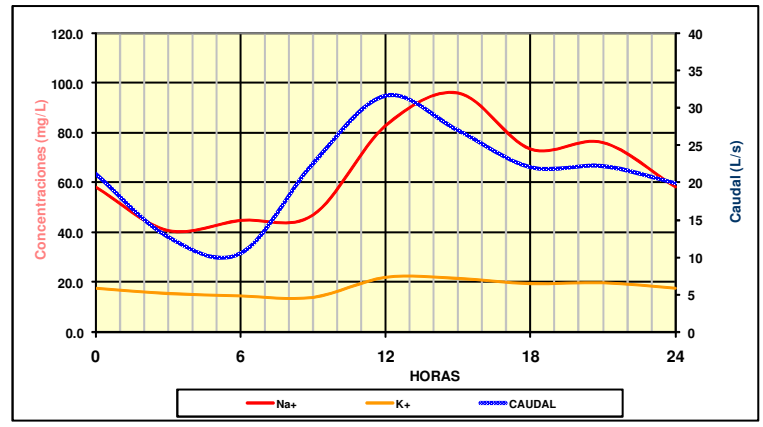
CATIONES / ANIONES / SUSTANCIAS PELIGROSAS

HAPs (µg/L)		
Benzo(a)pireno (µg/L)	Fluoranteno (µg/L)	Naftaleno (µg/L)
0.216	0.147	0.779
0.023	0.115	0.658
0.045	0.375	2.000
0.043	0.232	1.184
0.032	0.215	0.244
0.034	0.190	1.220
0.024	0.621	1.184
0.006	0.103	1.315
0.216	0.147	0.779

COVs (µg/L)	
BTEX (µg/L)	Cloroformo (µg/L)
3.195	3.826
3.442	5.562
3.723	6.131
3.982	4.034
5.642	5.202
3.889	5.006
4.299	5.914
4.804	6.399
3.195	3.826

0.22	0.62	2.00
0.01	0.10	0.24
0.05	0.25	0.99

5.64	6.40
3.20	3.83
4.27	5.18

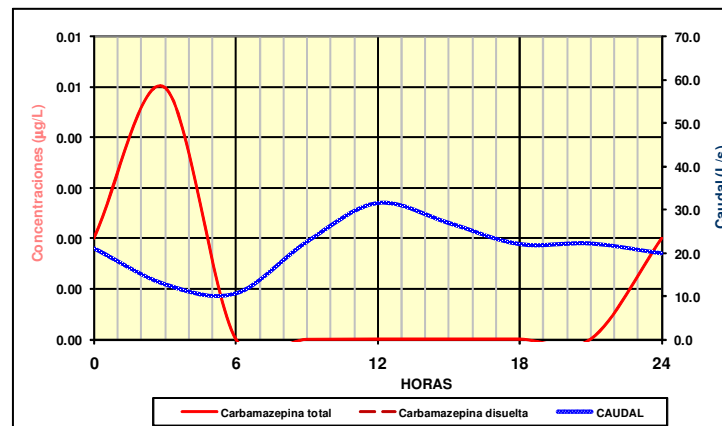
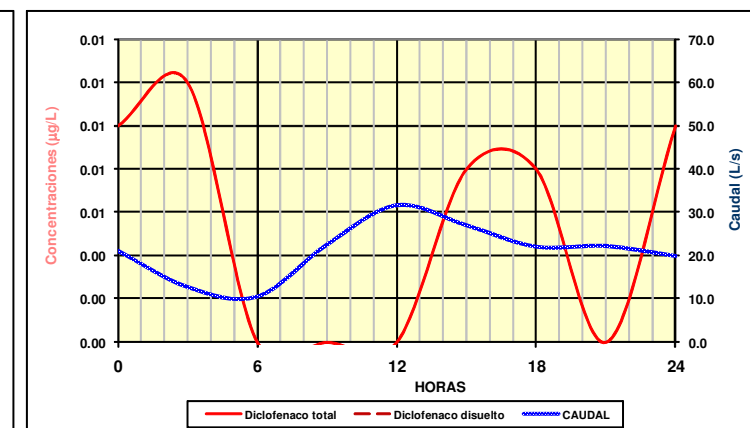
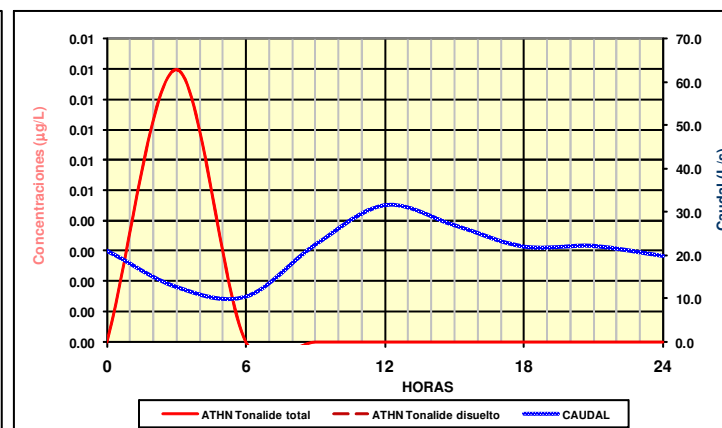
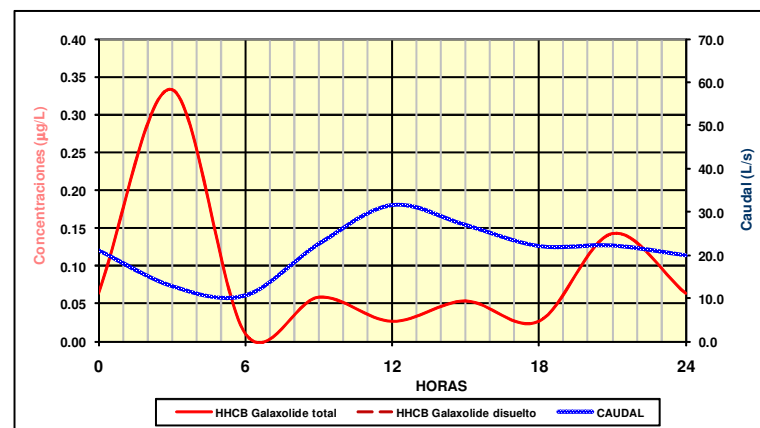
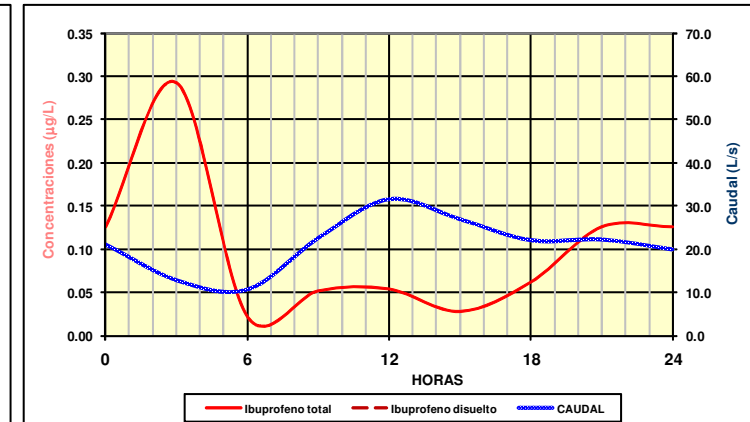
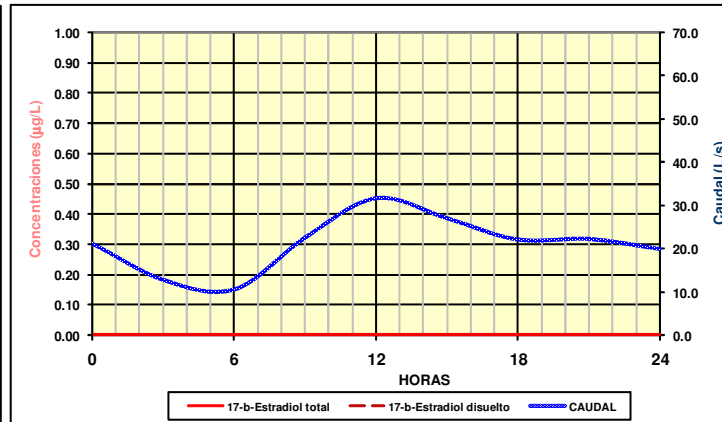
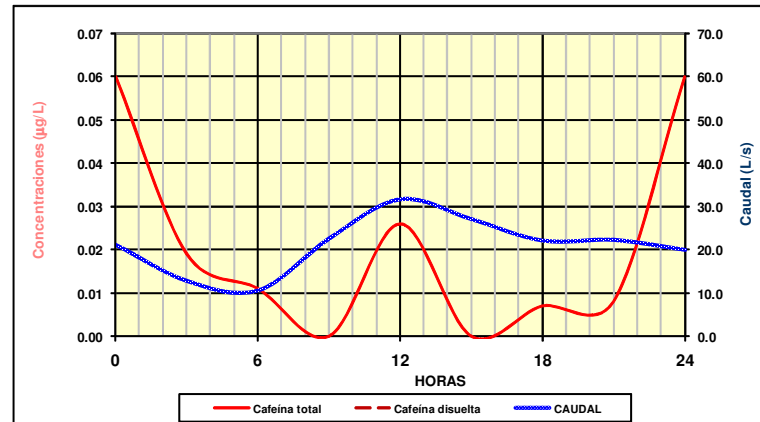


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
 28 DE SEPTIEMBRE DE 2008 (DOMINGO)

CONTAMINANTES EMERGENTES

HORA	CAUDAL (L/s)	HHCB Galaxolide (µg/L)		ATHN Tonalide (µg/L)		17-β-Estradiol (µg/L)		Ibuprofeno (µg/L)		Diclofenaco (µg/L)		Carbamazepina (µg/L)		Cafeína (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	21.1		0.064		0		0		0.126		0.010		0.002		0.060
3	12.7		0.333		0.009		0		0.293		0.012		0.005		0.019
6	10.5		0.011		0		0		0.022		0.000		0		0.011
9	22.5		0.059		0		0		0.052		0.000		0		0.000
12	31.6		0.027		0		0		0.054		0.000		0		0.026
15	27.0		0.054		0		0		0.028		0.008		0		0.000
18	22.0		0.027		0		0		0.062		0.008		0		0.007
21	22.2		0.143		0		0		0.126		0.000		0		0.008
24	19.9		0.064		0.000		0		0.126		0.010		0.002		0.060

CONC. MÁXIMA		0.333	0.009	0.000	0.293	0.012	0.005	0.060
CONC. MÍNIMA		0.011	0.000	0.000	0.022	0.000	0.000	0.000
CONC. MEDIA PONDERADA		0.077	0.001	0.000	0.085	0.004	0.001	0.016
g/día		0.141	0.001	0.000	0.156	0.008	0.001	0.030



DIA 4 – MARTES 30 DE SEPTIEMBRE DE 2008

CARACTERIZACIÓN COMPLETA

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE SEPTIEMBRE DE 2008 (MARTES)

PARÁMETROS BÁSICOS

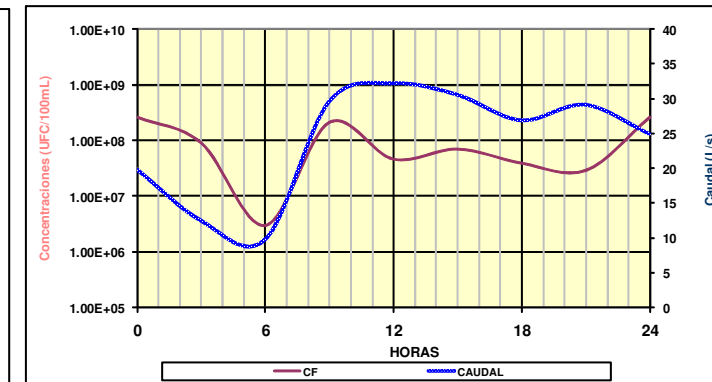
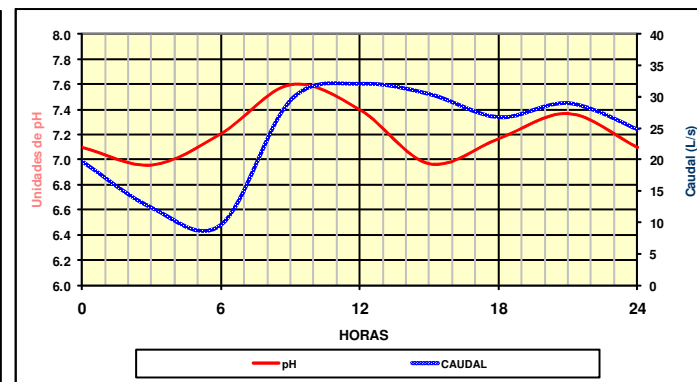
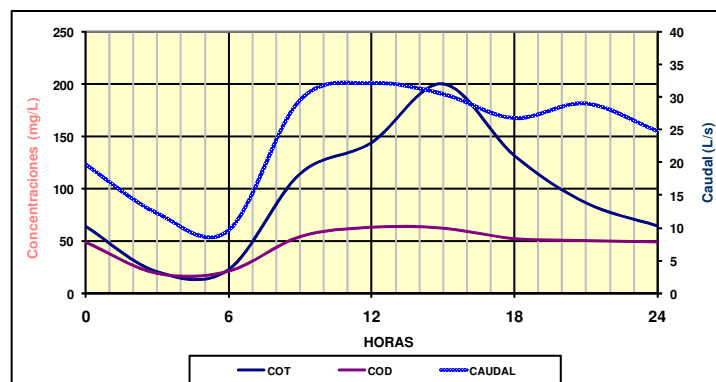
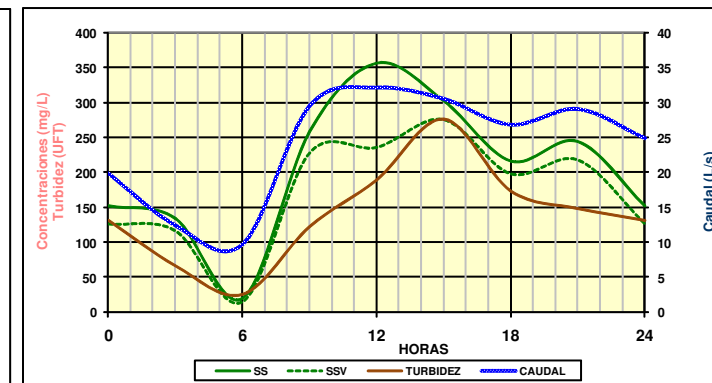
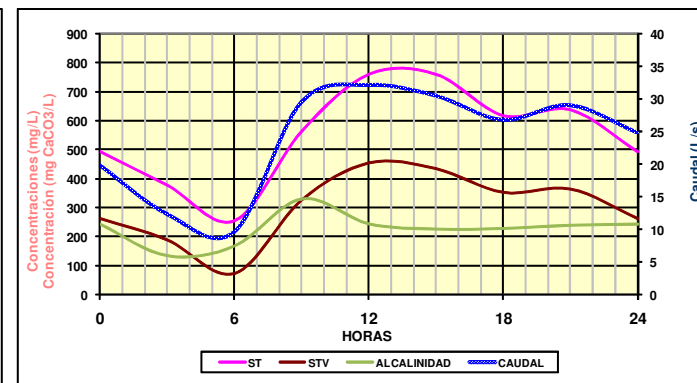
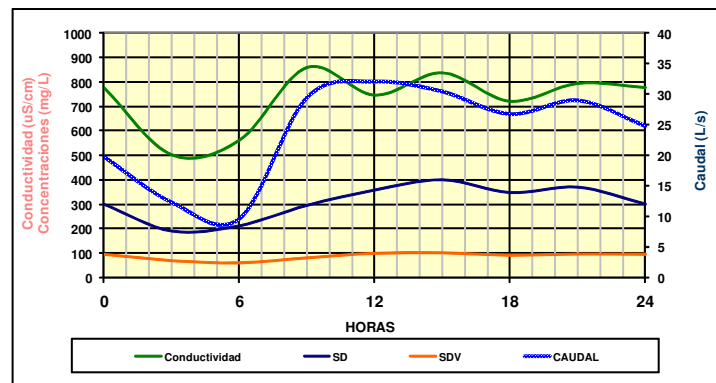
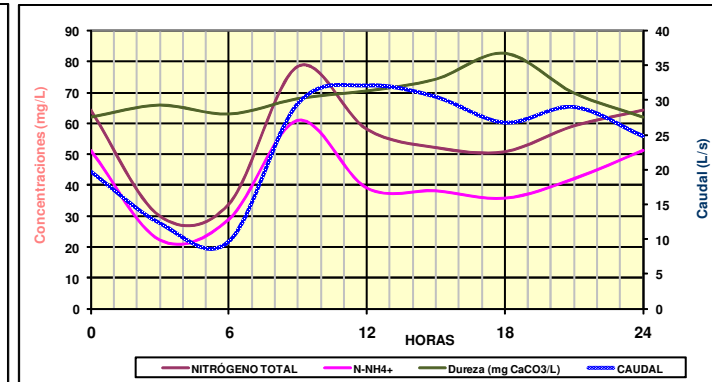
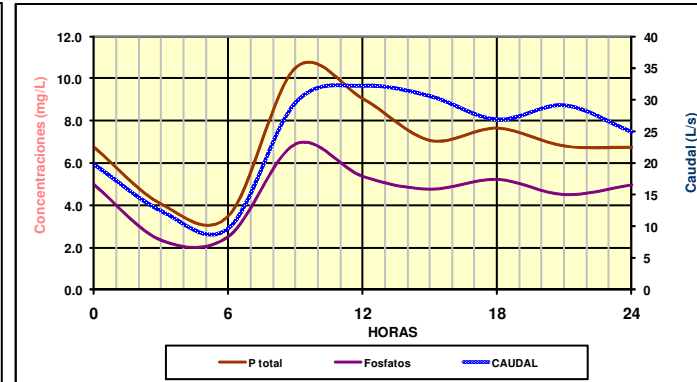
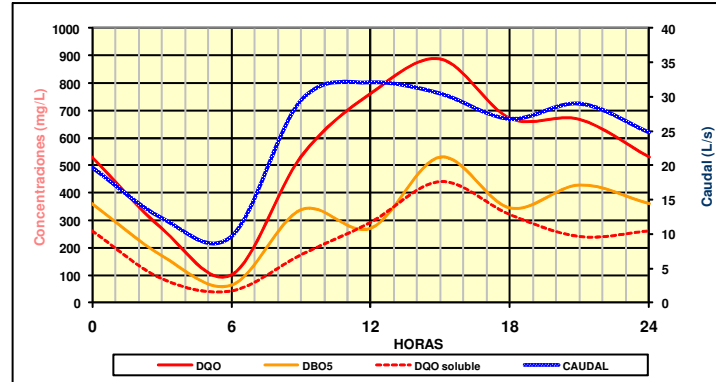
HORA	CAUDAL (L/s)	Nitrógeno total (mg/L)	N-NH ₄ ⁺ (mg/L)	N-NO ₃ ⁻ (mg/L)	COD (mg/L)	COT (mg/L)	Dureza (mg CaCO ₃ /L)	Alcalinidad (mg/L CaCO ₃)	DOO (mg/L)	DOO soluble (mg/L)	P total (mg/L)	Fosfatos (mg/L)	DBO ₅ (mg/L)	Sólidos Totales (mg/L)	Sólidos Totales Volátiles (mg/L)	Sólidos en Suspensión (mg/L)	Sólidos en Suspensión Volátiles (mg/L)	Sólidos Disueltos (mg/L)	Sólidos Disueltos Volátiles (mg/L)	pH	T (°C) Lab	Cond. (µs/cm)	TURBIDEZ (UFT)	CF (UFC/100mL)
0	19.8	64.4	51.3		48.7	64.2	62.1	243	530	263	6.7	5.0	360	494	262	152	126	300	96	7.1	16.0	777	131	2.60E+08
3	12.4	30.2	22.3		19.0	20.3	66.0	134	271	89	4.1	2.4	170	378	188	134	116	190	68	7.0	15.7	503	66	9.00E+07
6	9.7	34.0	28.9		20.9	22.1	63.1	168	102	45	3.5	2.5	62	256	72	20	14	212	58	7.2	15.4	562	25	3.00E+06
9	29.5	78.5	61.0		53.7	114.0	68.1	330	532	176	10.5	6.9	338	564	326	258	238	296	80	7.6	15.5	859	122	2.10E+08
12	32.1	58.2	39.1		62.6	143.9	70.6	244	761	294	9.0	5.4	270	760	454	356	236	358	100	7.4	18.3	746	189	4.60E+07
15	30.5	52.3	38.2		61.8	200.6	74.3	226	886	442	7.1	4.8	530	760	434	302	276	400	102	7.0	15.9	837	276	7.00E+07
18	26.8	51.0	35.8		51.9	131.8	82.7	228	671	322	7.6	5.2	344	618	352	216	198	348	92	7.2	15.7	721	173	3.90E+07
21	29.1	59.3	42.1		49.9	86.5	69.9	239	667	242	6.8	4.5	428	638	364	244	218	370	97	7.4	16.0	794	148	2.90E+07
24	24.9	64.4	51.3		48.7	64.2	62.1	243	530	263	6.7	5.0	360	494	262	152	126	300	96	7.1	16.0	777	131	2.60E+08

CAUDAL MEDIO* 23.7
VOLUMEN (m3) 2050.9

CONC. MÁXIMA	78.5	61.0		62.6	200.6	82.7	330	886	442	10.5	6.9	530	760	454	356	276	400	102	7.6	18.3	859	276	2.6E+08	
CONC. MÍNIMA	30.2	22.3		19.0	20.3	62.1	134	102	45	3.5	2.4	62	256	72	20	14	190	58	7.0	15.4	503	25	3.0E+06	
CONC. MEDIA PONDERADA kg/día	57.1	42.0		51.2	115.3	70.9	240	629	266	7.6	5.0	349	612	346	242	202	331	91	7.3	16.2	760	162	9.5E+07	
	117.2	86.2		105.0	236.4	145.3	492.8	1289.6	545.8	15.5	10.2	716.2	1256.2	709.4	497.0	415.2	679.0	186.6						

H-E por Caudal (200 L/(h-d)): 10255
H-E por DBO₅ (60 g/(h-d)): 11937

DBO₅ media 349 mg/L
DOO media 629 mg/L
SS medios 242 mg/L

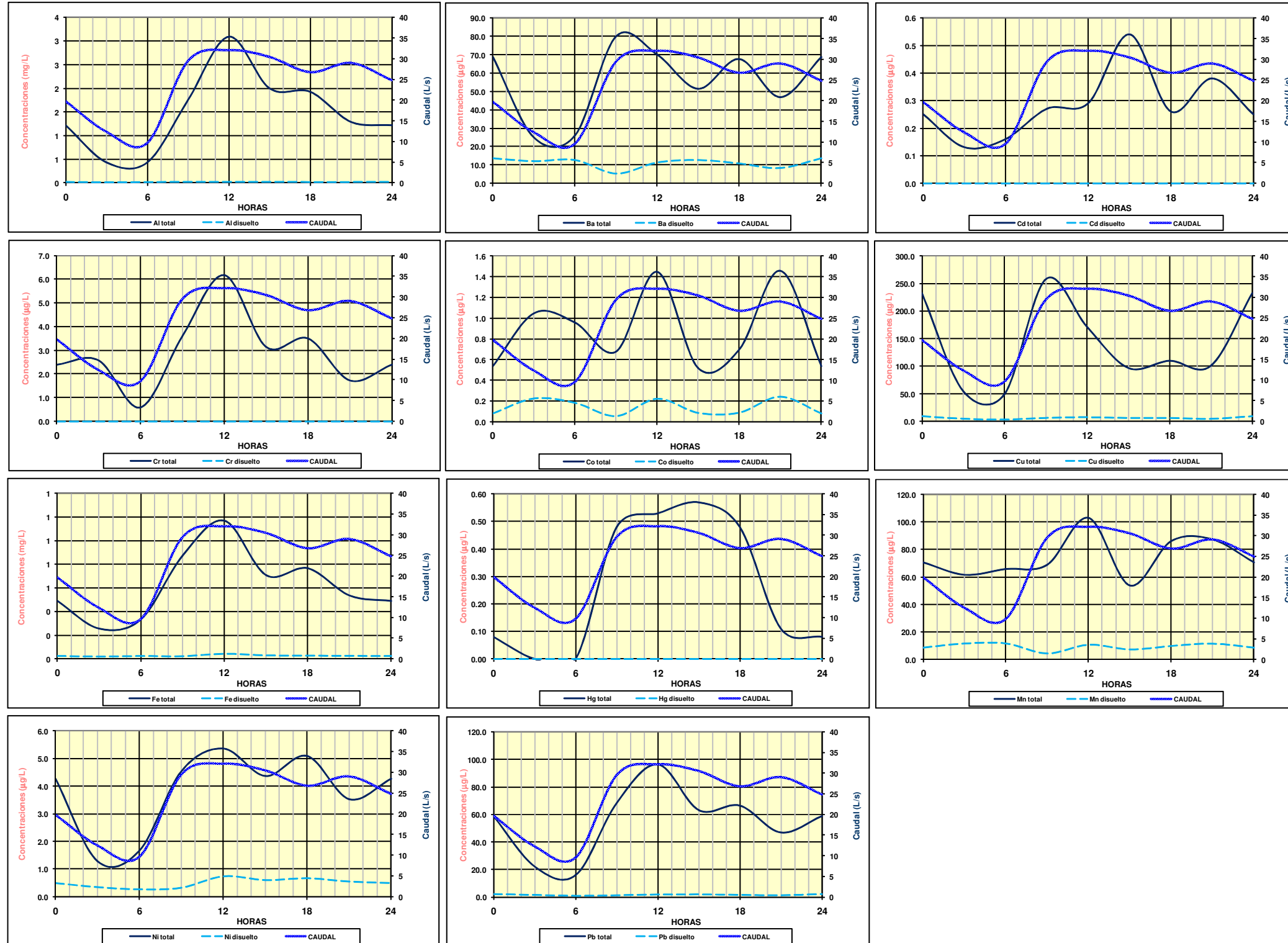


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE SEPTIEMBRE DE 2008 (MARTES)

METALES I

HORA	CAUDAL (L/s)	Aluminio (mg/L)		Bario (µg/L)		Cadmio (µg/L)		Cromo (µg/L)		Cobalto (µg/L)		Cobre (µg/L)		Hierro (mg/L)		Mercurio (µg/L)		Manganeso (µg/L)		Niquel (µg/L)		Plomo (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	19.8	0.020	1.2	13.6	68.7	<0.05	0.3	<0.5	2.4	0.1	0.5	8.8	232.4	0.026	0.5	<0.05	0.08	8.7	70.7	0.5	4.3	2.4	58.9
3	12.4	0.011	0.4	12.0	25.0	<0.05	0.1	<0.5	2.6	0.2	1.1	4.0	55.1	0.022	0.3	<0.05	0.00	11.7	61.7	0.3	1.3	1.6	22.4
6	9.7	0.016	0.4	12.6	26.2	<0.05	0.2	<0.5	0.6	0.2	1.0	2.4	49.5	0.026	0.3	<0.05	0.00	11.8	65.8	0.3	1.7	0.9	16.1
9	29.5	0.023	1.7	5.2	80.0	<0.05	0.3	<0.5	3.6	0.1	0.7	5.7	257.7	0.024	0.9	<0.05	0.48	4.4	68.9	0.3	4.6	1.4	68.4
12	32.1	0.023	3.1	11.3	70.1	<0.05	0.3	<0.5	6.2	0.2	1.5	7.0	171.4	0.044	1.2	<0.05	0.53	10.8	102.9	0.7	5.4	2.0	96.3
15	30.5	0.023	2.0	12.6	51.5	<0.05	0.5	<0.5	3.1	0.1	0.5	5.5	96.9	0.031	0.7	<0.05	0.57	7.3	53.9	0.6	4.4	2.1	63.1
18	26.8	0.018	1.9	10.8	67.7	<0.05	0.3	<0.5	3.5	0.1	0.7	5.5	110.0	0.030	0.8	<0.05	0.48	9.9	86.1	0.7	5.1	1.7	66.4
21	29.1	0.018	1.3	8.2	46.9	<0.05	0.4	<0.5	1.7	0.2	1.5	4.0	101.0	0.027	0.5	<0.05	0.11	11.6	87.3	0.5	3.5	1.3	46.9
24	24.9	0.020	1.2	13.6	68.7	<0.05	0.3	<0.5	2.4	0.1	0.5	8.8	232.4	0.026	0.5	<0.05	0.08	8.7	70.7	0.5	4.3	2.4	58.9

CONC. MÁXIMA	0.02	3.1	13.6	80.0	0.0	0.5	0.0	6.2	0.2	1.5	8.8	257.7	0.04	1.2	0.0	0.6	11.8	102.9	0.7	5.4	2.4	96.3
CONC. MÍNIMA	0.01	0.4	5.2	25.0	0.0	0.1	0.0	0.6	0.1	0.5	2.4	49.5	0.02	0.3	0.0	0.0	4.4	53.9	0.3	1.3	0.9	16.1
CONC. MEDIA PONDERADA	0.02	1.8	10.4	59.4	0.0	0.3	0.0	3.3	0.1	0.9	5.7	146.0	0.03	0.7	0.0	0.3	9.1	77.0	0.5	4.2	1.7	62.0
g/día	41.0	3608.7	21.3	121.9	0.0	0.6	0.0	6.8	0.3	1.9	11.6	299.3	61.6	1482.9	0.0	0.7	18.8	158.0	1.1	8.6	3.6	127.2

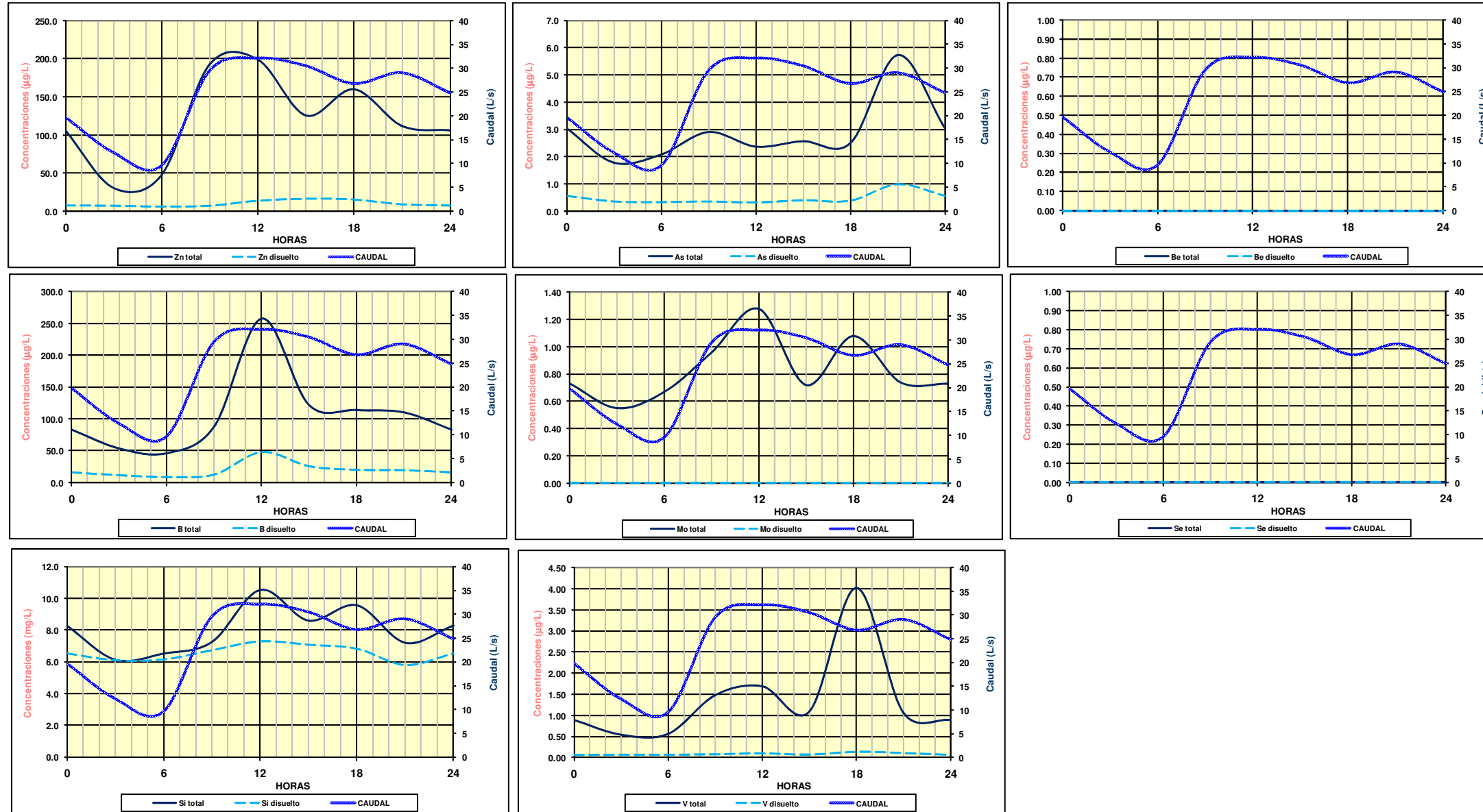


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
 30 DE SEPTIEMBRE DE 2008 (MARTES)

METALES II

HORA	CAUDAL (L/s)	Zinc (µg/L)		Arsénico (µg/L)		Berilio (µg/L)		Boro (µg/L)		Molibdeno (µg/L)		Selenio (µg/L)		Silicio (mg/L)		Vanadio (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	19.8	7.1	106.1	0.6	3.0	<0.5	<0.5	16.0	83.1	<0.10	0.73	<2.5	<2.5	6.5	8.3	0.07	0.89
3	12.4	6.8	30.4	0.4	1.8	<0.5	<0.5	11.4	53.6	<0.10	0.55	<2.5	<2.5	6.1	6.1	0.07	0.54
6	9.7	5.5	47.7	0.3	2.1	<0.5	<0.5	8.6	46.0	<0.10	0.67	<2.5	<2.5	6.2	6.5	0.07	0.56
9	29.5	6.7	192.9	0.3	2.9	<0.5	<0.5	12.4	87.8	<0.10	0.96	<2.5	<2.5	6.7	7.2	0.08	1.48
12	32.1	13.8	199.1	0.3	2.4	<0.5	<0.5	48.2	257.5	<0.10	1.28	<2.5	<2.5	7.3	10.5	0.10	1.69
15	30.5	16.6	125.6	0.4	2.6	<0.5	<0.5	25.8	121.7	<0.10	0.72	<2.5	<2.5	7.1	8.6	0.08	1.09
18	26.8	15.5	160.1	0.4	2.5	<0.5	<0.5	20.1	113.9	<0.10	1.08	<2.5	<2.5	6.8	9.5	0.14	4.02
21	29.1	8.8	111.8	1.0	5.7	<0.5	<0.5	19.4	110.3	<0.10	0.74	<2.5	<2.5	5.8	7.2	0.11	1.06
24	24.9	7.1	106.1	0.6	3.0	<0.5	<0.5	16.0	83.1	<0.10	0.73	<2.5	<2.5	6.5	8.3	0.07	0.89

CONC. MÁXIMA	16.6	199.1	1.0	5.7	0.0	0.0	48.2	257.5	0.0	1.3	0.0	0.0	7.3	10.5	0.1	4.0
CONC. MÍNIMA	5.5	30.4	0.3	1.8	0.0	0.0	8.6	46.0	0.0	0.6	0.0	0.0	5.8	6.1	0.07	0.54
CONC. MEDIA PONDERADA g/día	11.1	139.1	0.5	3.0	0.0	0.0	22.9	124.3	0.0	0.9	0.0	0.0	6.7	8.3	0.1	1.6
	22.67	285.22	0.97	6.21	0.00	0.00	46.94	254.83	0.00	1.83	0.00	0.00	13689	17070	0.20	3.24



CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE SEPTIEMBRE DE 2008 (MARTES)

HORA	CAUDAL (L/s)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ total (mg/L)	Ca ²⁺ disuelto (mg/L)	Mg ²⁺ (mg/L)	Fluoruros (µg/L)	Cloruros (mg/L)	Cianuros (µg/L)	Fenoles (µg/L)	COVs (µg/L)	Hidrocarburos totales (µg/L)	Aceites y grasas (mg/L)	HAPs (µg/L)	PLAGUICIDAS (µg/L)
0	19.8	67.3	20.6	18.8	14.9	4.3	37.0	58.8	16.4	5.5	12.2	0.97	76.8	8.560	0.015
3	12.4	46.9	12.5	20.0	19.5	4.5	36.0	41.1	10.0	2.8	11.6	0.89	19.7	7.245	0
6	9.7	47.8	15.7	19.0	15.5	4.5	37.0	42.4	10.9	3.2	13.7	0.95	10.2	8.908	0
9	29.5	60.3	19.3	20.2	15.6	5.0	36.0	51.0	17.4	12.0	13.9	1.07	51.8	4.962	0
12	32.1	92.7	19.4	21.0	14.5	5.1	46.0	56.3	0.0	8.3	17.6	1.09	80	4.058	0
15	30.5	96.7	22.8	22.8	17.6	4.9	35.0	84.3	35.7	15.8	16.9	1.16	138.6	2.227	0
18	26.8	81.2	25.2	25.3	15.5	5.5	33.0	57.1	7.1	11.0	15.3	1	78.1	1.832	0
21	29.1	72.0	23.2	20.7	15.6	5.2	34.0	70.0	12.5	9.2	15.6	1.04	45.2	6.991	0
24	24.9	67.3	20.6	18.8	14.9	4.3	37.0	58.8	16.4	5.5	12.2	0.97	76.8	8.560	0

CONC. MÁXIMA	96.7	25.2	25.3	19.5	5.5	46.0	84.3	35.7	15.8	17.6	1.2	138.6	8.9	0.0
CONC. MÍNIMA	46.9	12.5	18.8	14.5	4.3	33.0	41.1	0.0	2.8	11.6	0.9	10.2	1.8	0.0
CONC. MEDIA PONDERADA	75.6	20.8	21.4	15.9	5.0	37.0	60.8	14.3	9.7	15.1	1.0	71.6	5.0	0.0
kg/día	155.0	42.7	43.8	32.6	10.2							146.9		

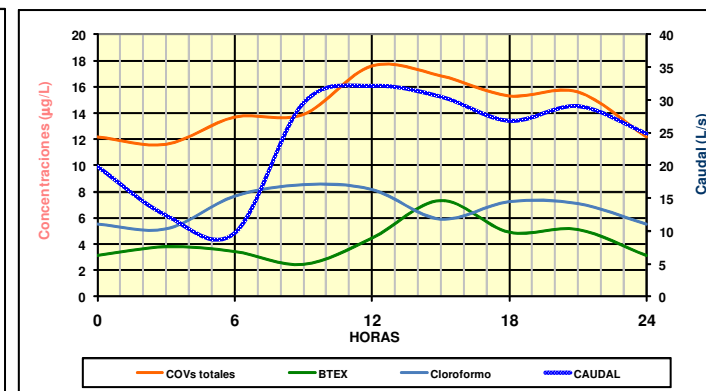
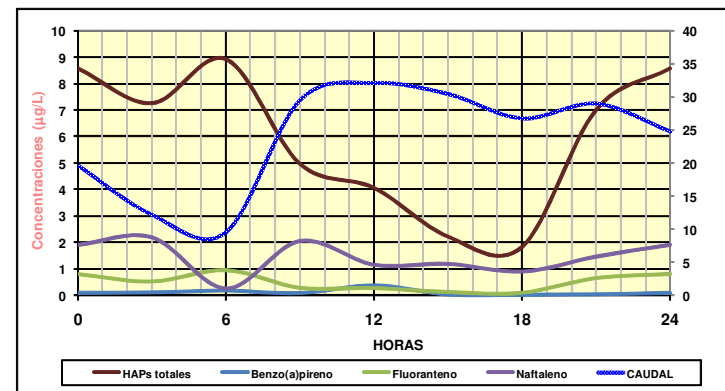
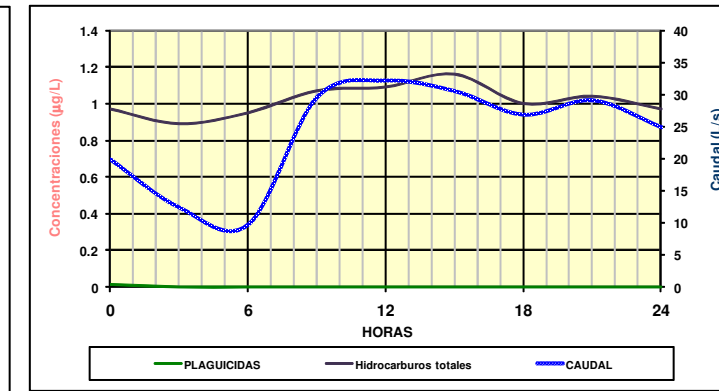
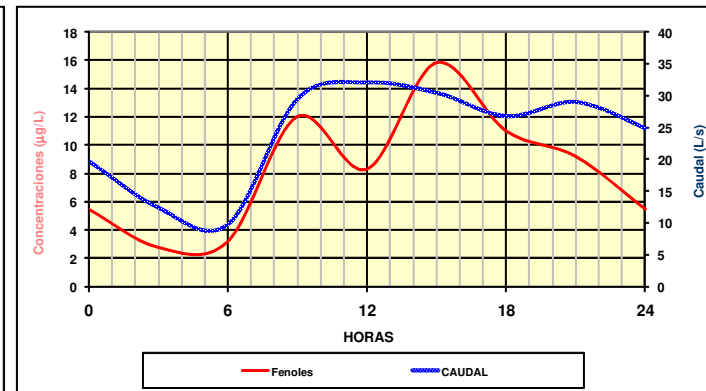
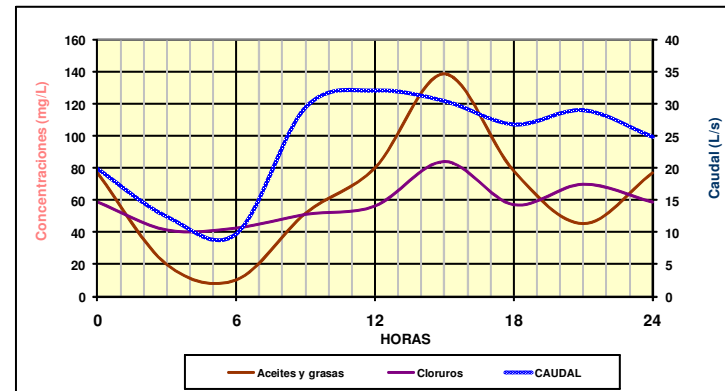
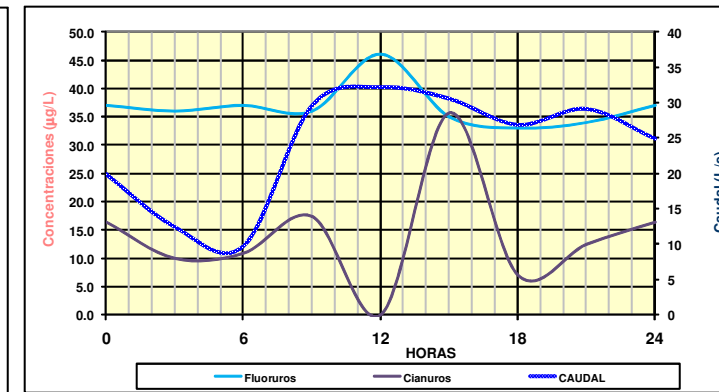
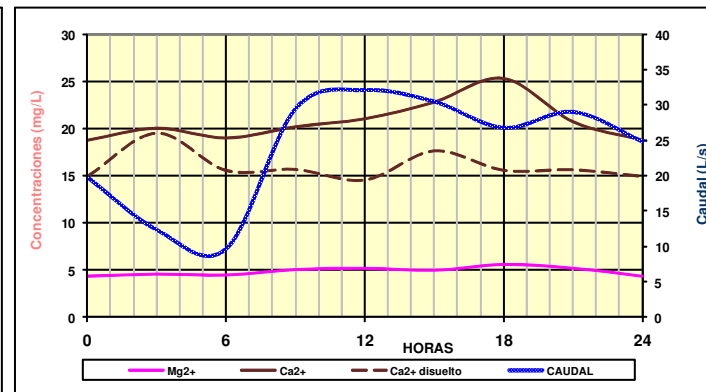
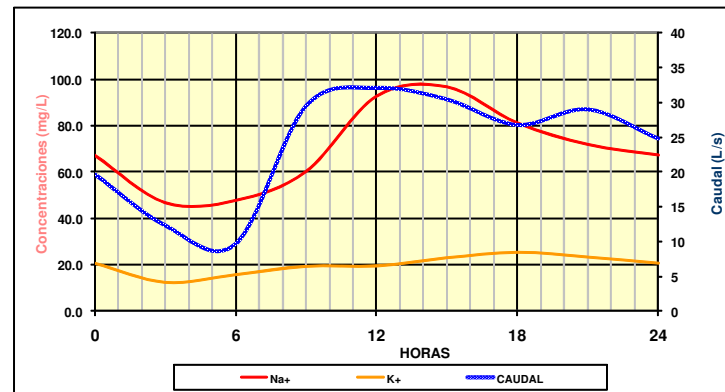
CATIONES / ANIONES / SUSTANCIAS PELIGROSAS

HAPs (µg/L)		
Benzo(a)pireno (µg/L)	Fluoranteno (µg/L)	Naftaleno (µg/L)
0.094	0.803	1.909
0.108	0.522	2.191
0.177	0.947	0.258
0.087	0.290	2.058
0.359	0.280	1.158
0.035	0.128	1.192
0.027	0.103	0.899
0.042	0.653	1.464
0.094	0.803	1.909

COVs (µg/L)	
BTEX (µg/L)	Cloroformo (µg/L)
3.115	5.532
3.796	5.171
3.424	7.642
2.427	8.500
4.453	8.146
7.345	5.915
4.915	7.230
5.122	7.086
3.115	5.532

0.4	0.9	2.2
0.0	0.1	0.3
0.1	0.4	1.4

7.3	8.5
2.4	5.2
4.5	7.1

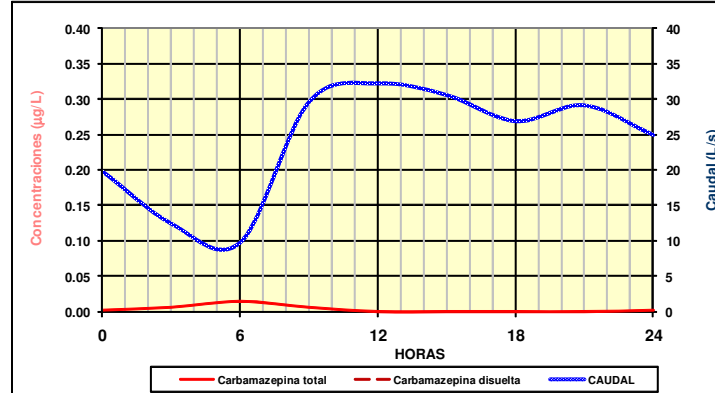
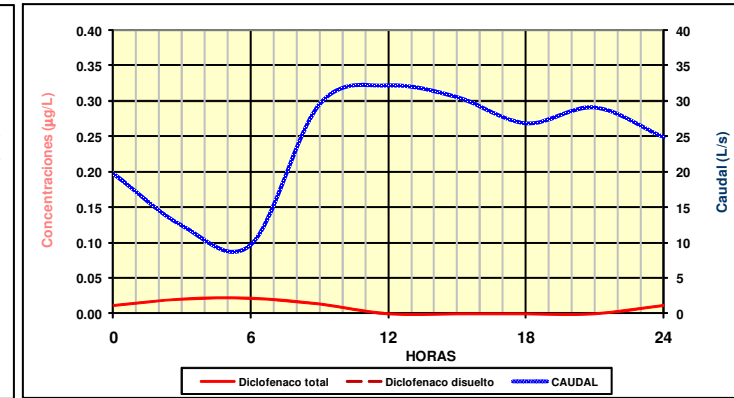
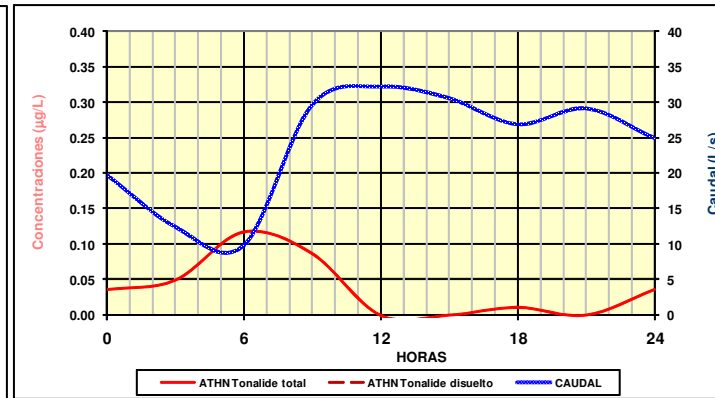
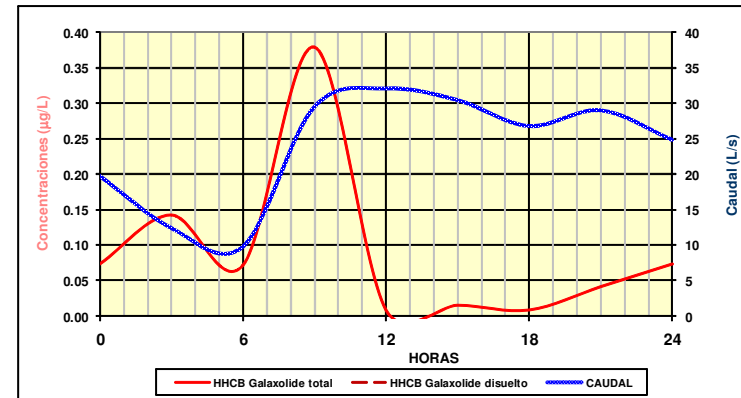
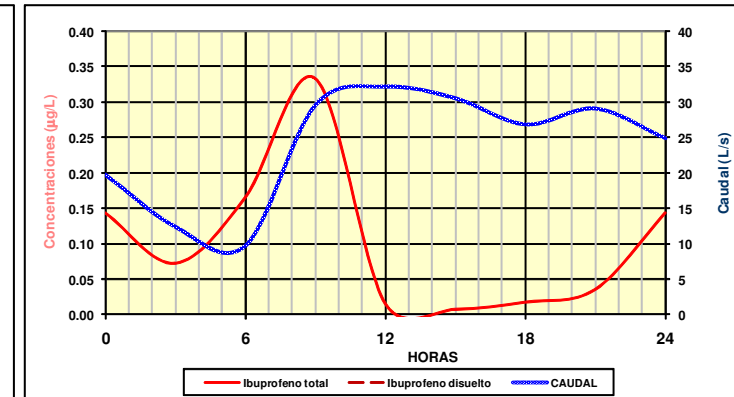
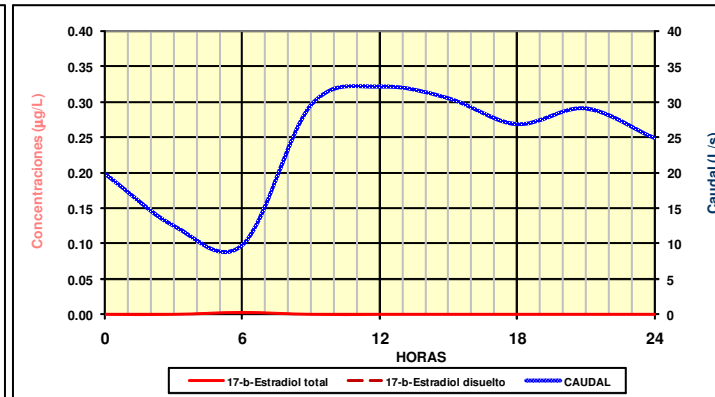
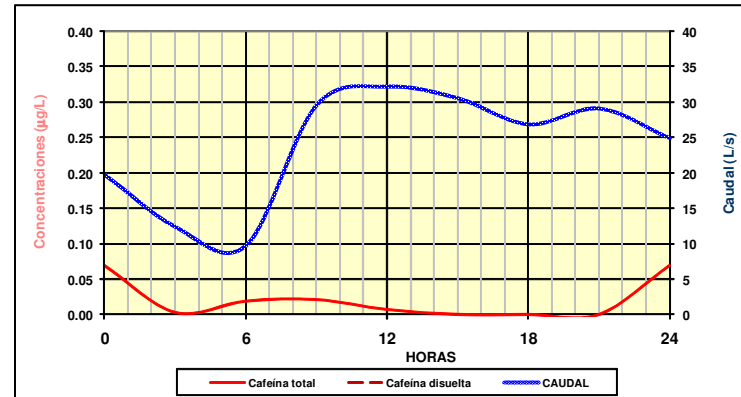


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE SEPTIEMBRE DE 2008 (MARTES)

CONTAMINANTES EMERGENTES

HORA	CAUDAL (L/s)	HHCB Galaxolide (µg/L)		ATHN Tonalide (µg/L)		17-β-Estradiol (µg/L)		Ibuprofeno (µg/L)		Diclofenaco (µg/L)		Carbamazepina (µg/L)		Cafeina (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	19.8		0.073		0.036		0		0.144		0.012		0.002		0.069
3	12.4		0.142		0.049		0		0.073		0.021		0.006		0.003
6	9.7		0.071		0.117		0.002		0.166		0.022		0.014		0.019
9	29.5		0.379		0.087		0		0.334		0.014		0.006		0.021
12	32.1		0.008		0.000		0		0.016		0		0		0.007
15	30.5		0.015		0.000		0		0.008		0		0		0
18	26.8		0.008		0.011		0		0.018		0		0		0
21	29.1		0.041		0.000		0		0.036		0		0		0
24	24.9		0.073		0.036		0		0.144		0.012		0.002		0.069

CONC. MÁXIMA	0.379	0.117	0.002	0.334	0.022	0.014	0.069
CONC. MÍNIMA	0.008	0.000	0.000	0.008	0.000	0.000	0.000
CONC. MEDIA PONDERADA	0.091	0.028	0.000	0.092	0.006	0.002	0.013
g/día	0.19	0.06	0.00	0.19	0.01	0.00	0.03



DÍA 5 – MIÉRCOLES 29 DE JULIO DE 2009

CARACTERIZACIÓN COMPLETA

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
29 DE JULIO DE 2009 (MIÉRCOLES)

PARÁMETROS BÁSICOS

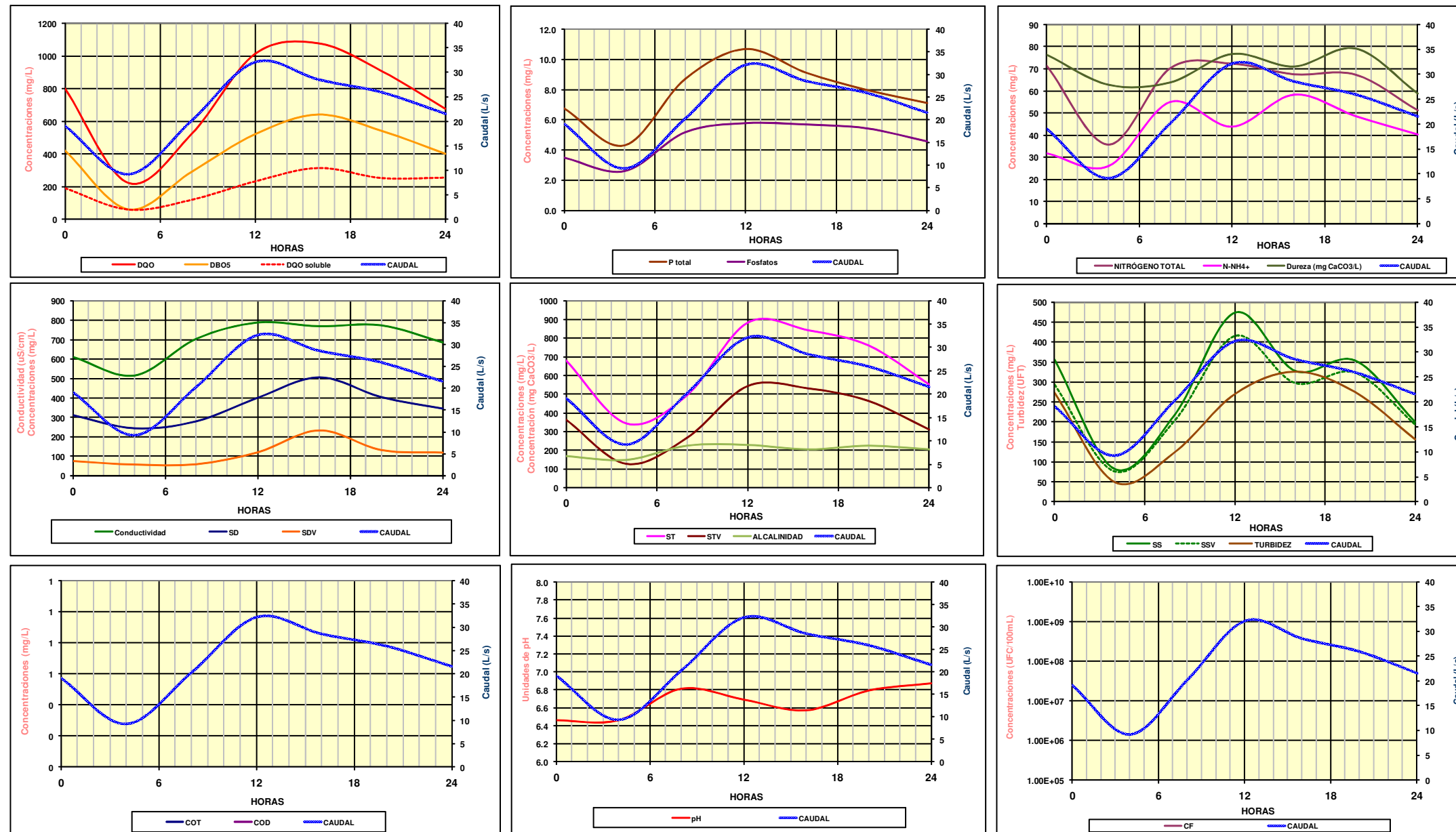
HORA	CAUDAL (L/s)	Nitrógeno total (mg/L)	N-NH ₄ ⁺ (mg/L)	N-NO ₂ ⁻ (mg/L)	COD (mg/L)	COT (mg/L)	Dureza (mg CaCO ₃ /L)	Alcalinidad (mg/L CaCO ₃)	DQO (mg/L)	DQO soluble (mg/L)	P total (mg/L)	Fosfatos (mg/L)	DBO ₅ (mg/L)	Sólidos Totales (mg/L)	Sólidos Totales Volátiles (mg/L)	Sólidos en Suspensión (mg/L)	Sólidos en Suspensión Volátiles (mg/L)	Sólidos Disueltos (mg/L)	Sólidos Disueltos Volátiles (mg/L)	pH	T (°C) Lab	Cond. (µs/cm)	TURBIDEZ (UFT)	CF (UFC/100mL)
0	19.1	71.3	31.7				76.5	168	802	192	6.8	3.5	420	680	364	356	294	312	74	6.5	23.2	612	273	
4	9.2	35.6	25.9				62.8	148	222	61	4.3	2.6	60	342	128	82	76	244	56	6.5	22.5	516	50	
8	20.2	70.2	55.1				63.9	224	523	121	8.7	5.2	290	494	268	218	204	280	58	6.8	22.2	705	125	
12	32.1	72.2	43.8				76.8	228	1014	233	10.7	5.8	520	882	544	474	416	402	120	6.7	22.1	789	270	
16	28.6	67.4	58.4				71.1	204	1079	315	9.1	5.7	640	842	532	328	298	508	234	6.6	22.0	770	326	
20	25.9	67.2	48.6				79.3	224	908	253	8.0	5.4	540	760	464	354	324	406	132	6.8	22.2	775	275	
24	21.6	51.1	40.3				58.8	204	678	256	7.1	4.6	400	552	312	200	194	346	118	6.9	22.4	687	157	

CAUDAL MEDIO 22.4
VOLUMEN (m³) 1934.7

CONC. MÁXIMA	72.2	58.4			79.3	228	1079	315	10.7	5.8	640	882	544	474	416	508	234	6.9	23.2	789	326
CONC. MÍNIMA	35.6	25.9			58.8	148	222	61	4.3	2.6	60	342	128	82	76	244	56	6.5	22.0	516	50
CONC. MEDIA PONDERADA kg/día	73.1	46.6			73.1	208	850	220	8.6	5.1	469	727	431	338	301	383	126	6.7	22.3	726	247
	130.2	90.1			141.4	401.7	1644.5	425.4	16.6	9.8	907.9	1406.0	833.9	654.7	582.9	741.8	244.3				

H-E por Caudal (200 L/(h·d)): 9673
H-E por DBO₅ (60 g/(h·d)): 15132

DBO₅ media 469 mg/L
DQO media 850 mg/L
SS medios 338 mg/L

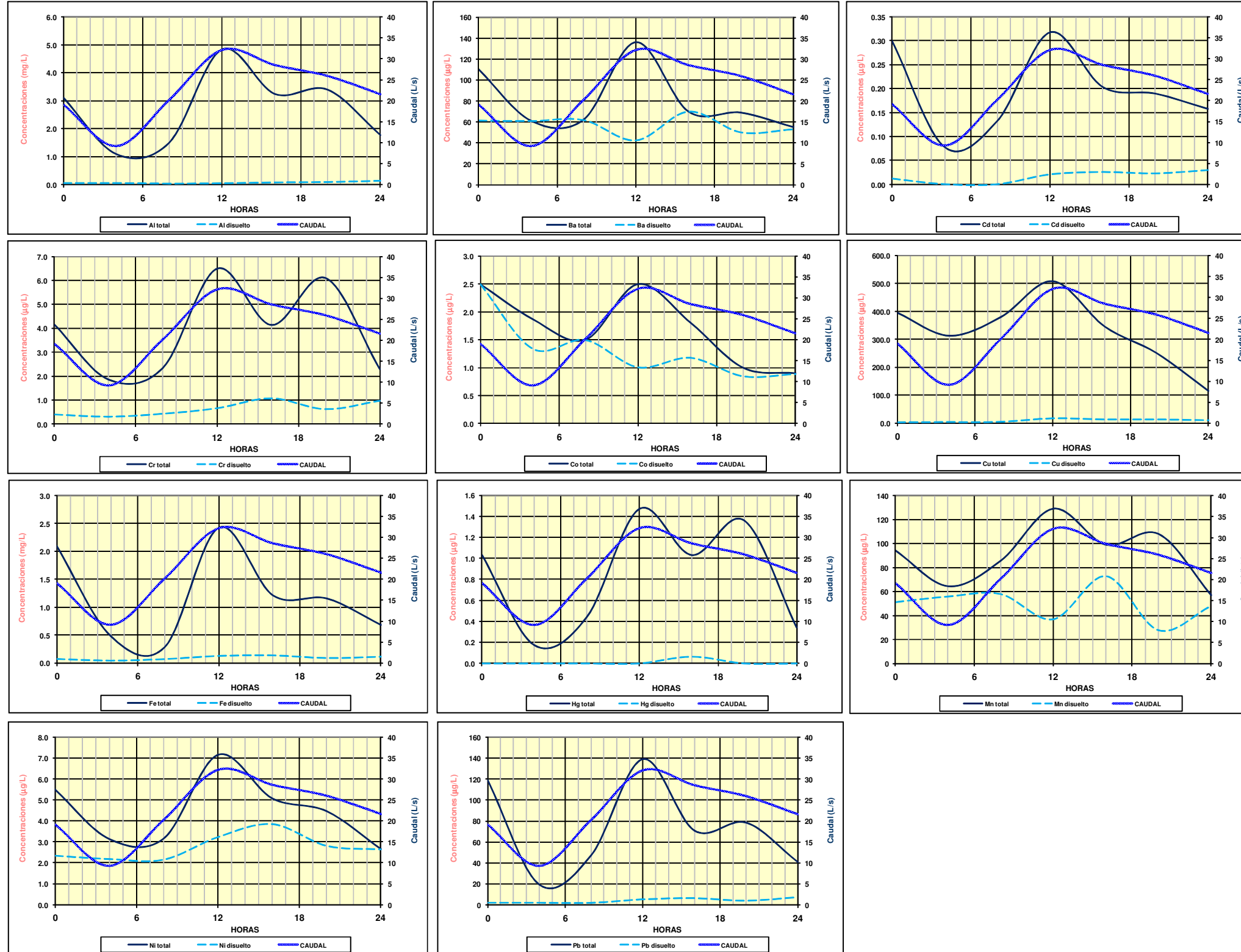


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
 29 DE JULIO DE 2009 (MIÉRCOLES)

METALES I

HORA	CAUDAL (L/s)	Aluminio (mg/L)		Bario (µg/L)		Cadmio (µg/L)		Cromo (µg/L)		Cobalto (µg/L)		Cobre (µg/L)		Hierro (mg/L)		Mercurio (µg/L)		Manganeso (µg/L)		Niquel (µg/L)		Plomo (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	19.1	0.058	3.1	61.2	110.2	0.01	0.3	0.4	4.2	2.5	2.5	3.6	395.7	0.08	2.1	0.0	1.0	51.4	94.3	2.3	5.5	1.8	119.0
4	9.2	0.059	1.1	60.7	61.1	0.00	0.1	0.3	1.9	1.3	1.9	4.5	313.0	0.05	0.5	0.0	0.2	56.1	64.6	2.2	3.1	1.9	19.2
8	20.2	0.038	1.5	61.7	62.1	0.00	0.1	0.4	2.3	1.5	1.5	5.3	380.0	0.07	0.3	0.0	0.4	58.1	85.8	2.1	3.2	1.7	47.0
12	32.1	0.050	4.8	42.2	136.0	0.02	0.3	0.7	6.5	1.0	2.5	17.7	508.0	0.13	2.4	0.0	1.5	37.1	129.0	3.2	7.2	5.1	139.0
16	28.6	0.082	3.2	69.8	69.9	0.03	0.2	1.1	4.1	1.2	1.8	13.8	346.0	0.14	1.2	0.1	1.0	73.1	99.0	3.8	5.1	6.1	70.8
20	25.9	0.097	3.4	49.9	68.9	0.02	0.2	0.6	6.1	0.9	1.0	13.9	251.0	0.09	1.2	0.0	1.4	27.9	108.0	2.8	4.5	3.7	78.4
24	21.6	0.143	1.8	52.8	55.1	0.03	0.2	1.0	2.3	0.9	0.9	10.9	116.0	0.12	0.7	0.0	0.3	48.2	57.2	2.6	2.7	7.1	40.8

CONC. MÁXIMA	0.14	4.8	69.8	136.0	0.0	0.3	1.1	6.5	2.5	2.5	17.7	508.0	0.14	2.4	0.1	1.5	73.1	129.0	3.8	7.2	7.1	139.0
CONC. MÍNIMA	0.04	1.1	42.2	55.1	0.0	0.1	0.3	1.9	0.9	0.9	3.6	116.0	0.05	0.3	0.0	0.2	27.9	57.2	2.1	2.7	1.7	19.2
CONC. MEDIA PONDERADA g/día	0.07	3.2	56.4	89.3	0.0	0.2	0.6	4.6	1.3	1.9	11.4	376.1	0.10	1.4	0.0	1.1	49.4	102.9	2.9	5.1	3.9	88.2
	127.2	6224.1	109.1	172.9	0.0	0.4	1.2	9.0	2.6	3.6	22.0	727.7	199.8	2762.8	0.0	2.0	95.6	199.0	5.6	9.6	7.5	170.6

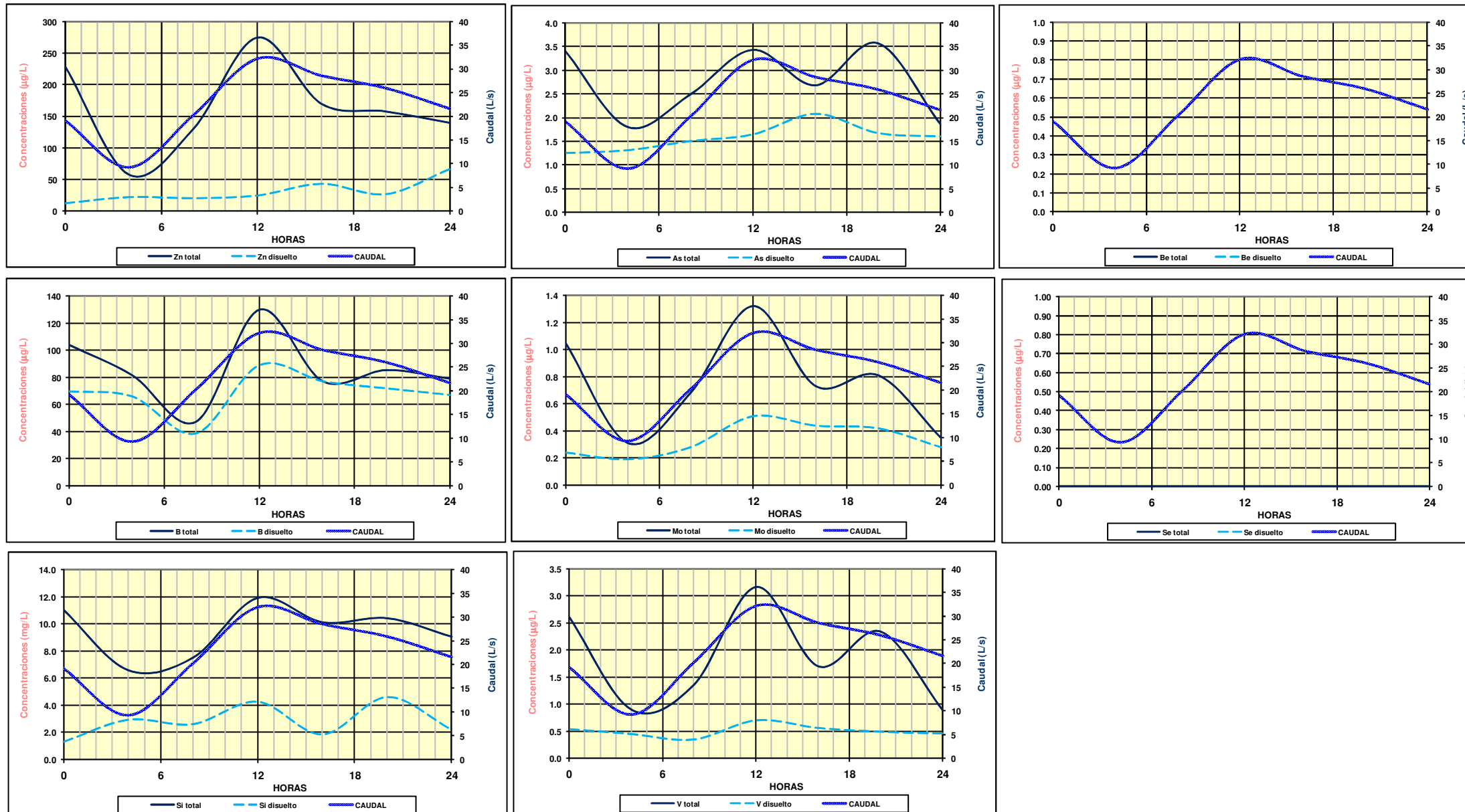


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
29 DE JULIO DE 2009 (MIÉRCOLES)

METALES II

HORA	CAUDAL (L/s)	Zinc (µg/L)		Arsénico (µg/L)		Berilio (µg/L)		Boro (µg/L)		Molibdeno (µg/L)		Selenio (µg/L)		Silicio (mg/L)		Vanadio (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	19.1	12.6	230.0	1.3	3.4			69.6	104.0	0.2	1.1			1.3	11.0	0.5	2.6
4	9.2	22.4	57.7	1.3	1.8			65.8	81.5	0.2	0.3			2.9	6.6	0.5	0.9
8	20.2	20.7	130.0	1.5	2.5			38.6	47.2	0.3	0.7			2.6	7.5	0.4	1.4
12	32.1	24.9	275.0	1.7	3.4			88.8	130.0	0.5	1.3			4.3	11.9	0.7	3.2
16	28.6	43.6	170.0	2.1	2.7			77.0	77.1	0.4	0.7			1.9	10.1	0.6	1.7
20	25.9	27.1	158.0	1.7	3.6			71.8	85.4	0.4	0.8			4.6	10.4	0.5	2.3
24	21.6	66.9	140.0	1.6	1.9			67.0	79.1	0.3	0.4			2.2	9.0	0.5	0.9

CONC. MÁXIMA	66.9	275.0	2.1	3.6	88.8	130.0	0.5	1.3	4.6	11.9	0.7	3.2
CONC. MÍNIMA	12.6	57.7	1.3	1.8	38.6	47.2	0.2	0.3	1.3	6.6	0.4	0.9
CONC. MEDIA PONDERADA g/día	26.7	187.5	1.6	3.0	71.3	90.9	0.4	0.9	3.1	10.1	0.5	2.2
	51.7	362.7	3.2	5.9	137.9	175.9	0.7	1.7	5923.7	19499.0	1.0	4.2



CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
29 DE JULIO DE 2009 (MIÉRCOLES)

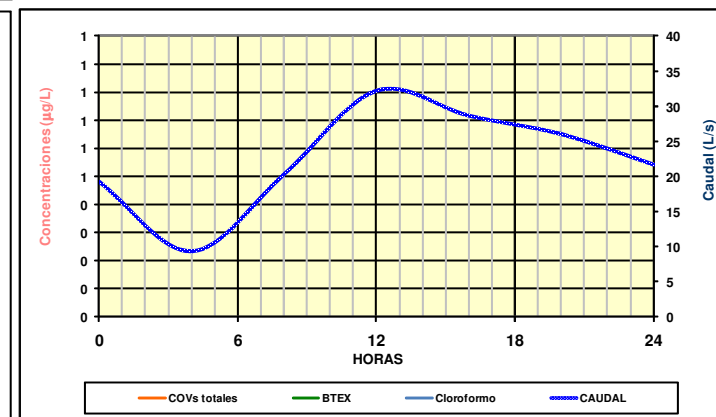
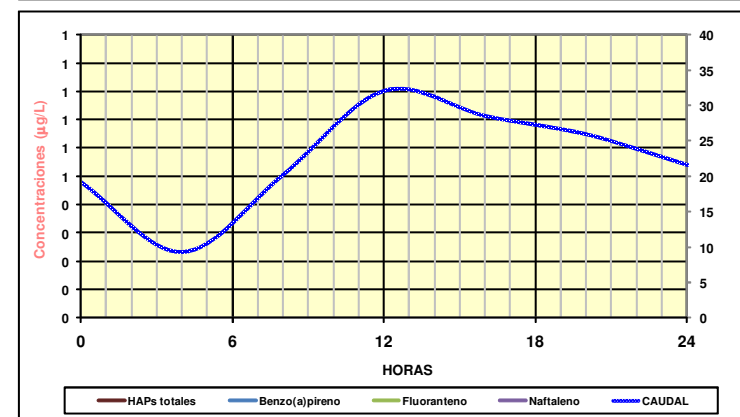
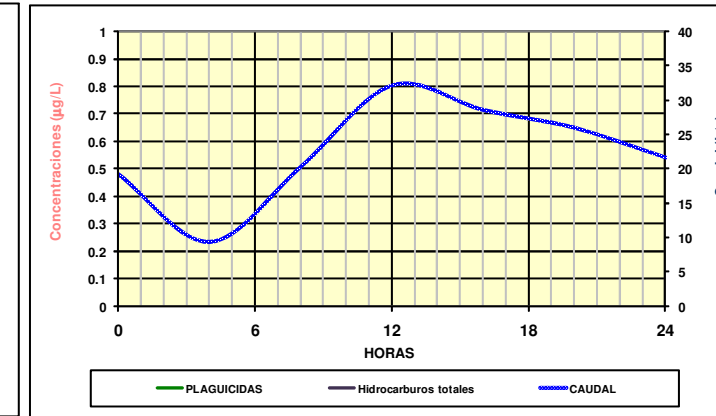
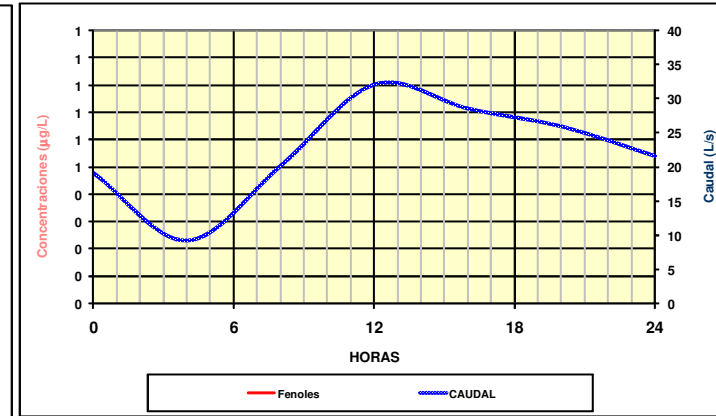
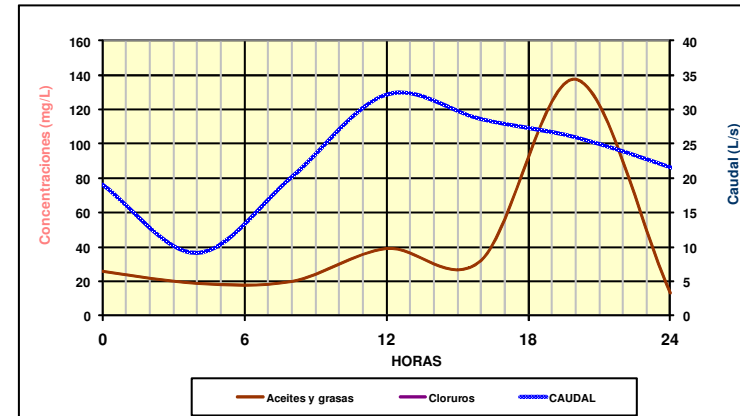
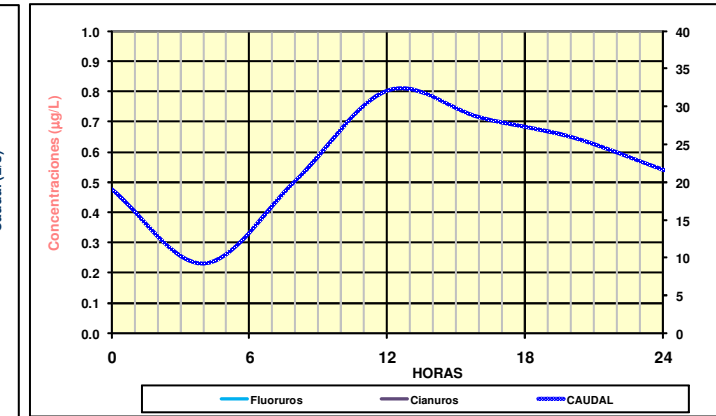
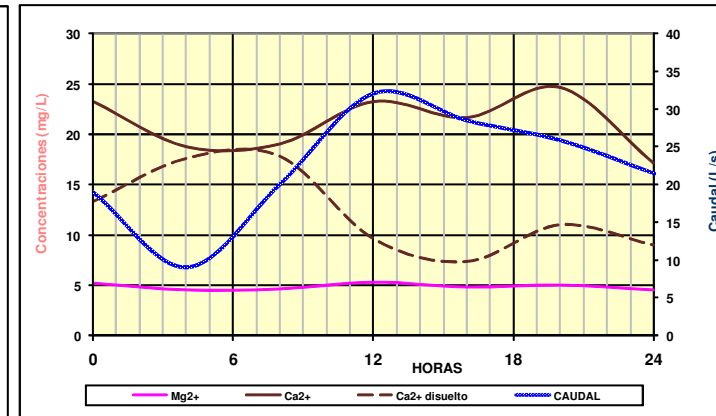
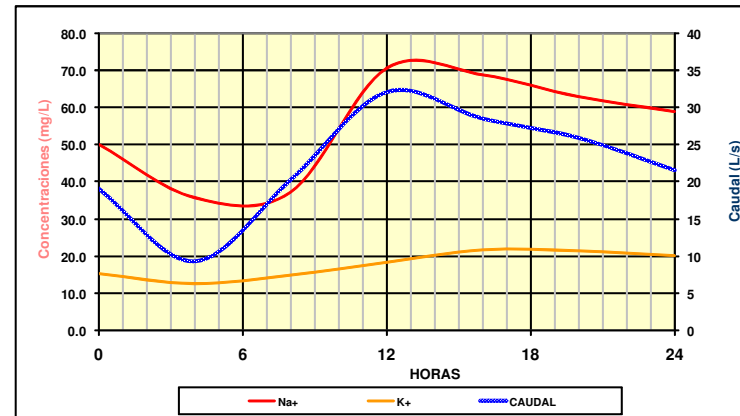
HORA	CAUDAL (L/s)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ total (mg/L)	Ca ²⁺ disuelto (mg/L)	Mg ²⁺ (mg/L)	Fluoruros (µg/L)	Cloruros (mg/L)	Cianuros (µg/L)	Fenoles (µg/L)	COVs (µg/L)	Hidrocarburos totales (µg/L)	Aceites y grasas (mg/L)	HAPs (µg/L)	PLAGUICIDAS (µg/L)
0	19.1	50.2	15.4	23.3	13.4	5.2							25.7		
4	9.2	35.8	12.7	18.8	17.8	4.5							18.7		
8	20.2	37.2	15.0	19.1	17.8	4.6							19.8		
12	32.1	70.6	18.4	23.3	9.6	5.3							38.9		
16	28.6	68.9	21.8	21.7	7.3	4.8							32.1		
20	25.9	63.0	21.5	24.7	11.0	5.0							137.7		
24	21.6	59.0	20.2	17.2	9.0	4.5							13.1		

CONC. MÁXIMA	70.6	21.8	24.7	17.8	5.3								137.7		
CONC. MÍNIMA	35.8	12.7	17.2	7.3	4.5								13.1		
CONC. MEDIA PONDERADA	58.5	18.4	22.3	11.7	5.0								50.3		
kg/día	113.2	35.6	43.1	22.7	9.6								97.3		

CATIONES / ANIONES / SUSTANCIAS PELIGROSAS

HAPs (µg/L)		
Benzo(a)pireno (µg/L)	Fluoranteno (µg/L)	Naftaleno (µg/L)

COVs (µg/L)	
BTEX (µg/L)	Cloroformo (µg/L)

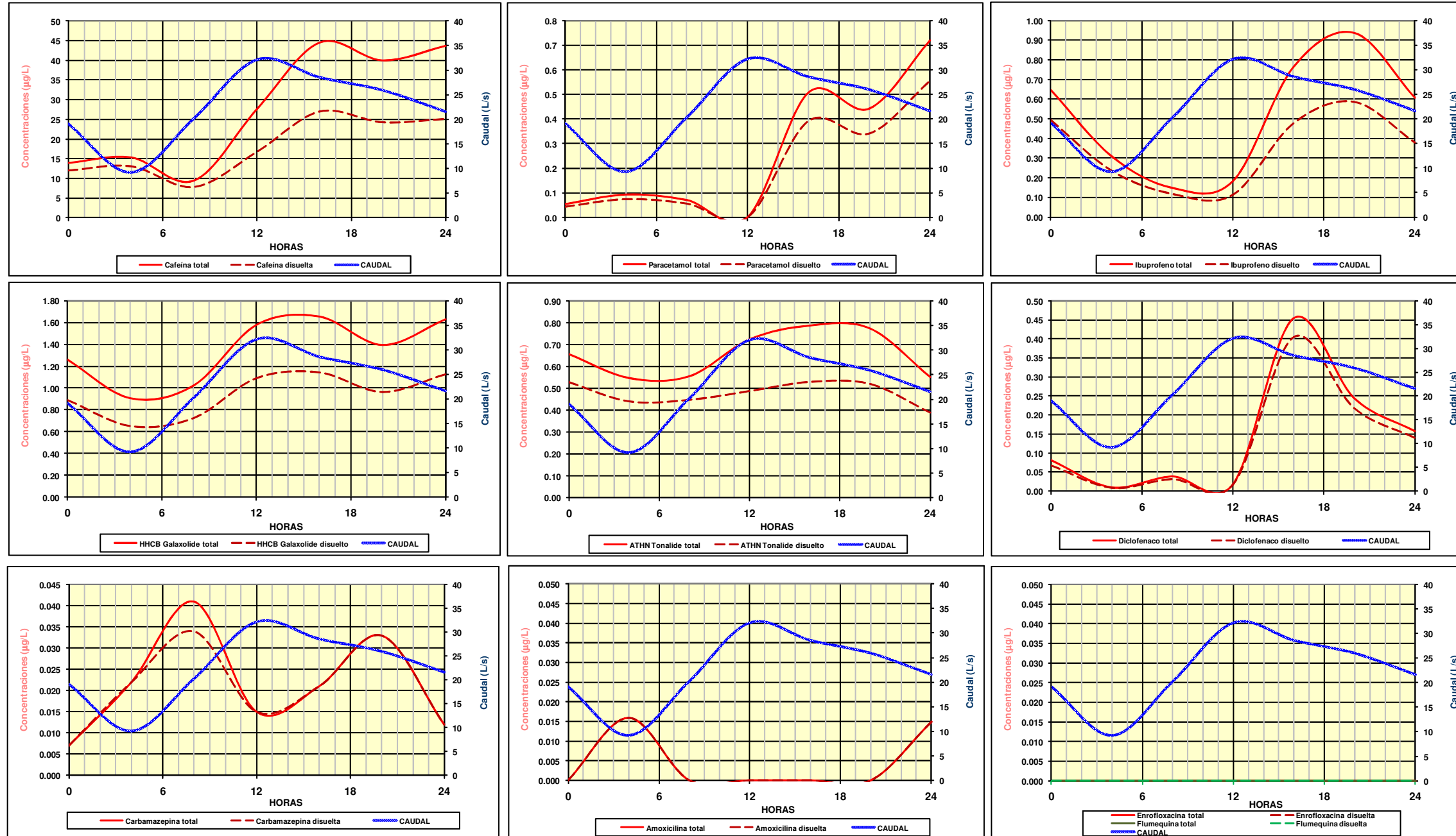


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
29 DE JULIO DE 2009 (MIÉRCOLES)

CONTAMINANTES EMERGENTES

HORA	CAUDAL (L/s)	HHCB Galaxolide (µg/L)		ATHN Tonalide (µg/L)		17-β-Estradiol (µg/L)		Ibuprofeno (µg/L)		Diclofenaco (µg/L)		Carbamazepina (µg/L)		Cafeína (µg/L)		Paracetamol (µg/L)		Amoxicilina (µg/L)		Enrofloxacina (µg/L)		Flumequina (µg/L)		
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	
0	19.1	0.888	1.260	0.528	0.657			0.495	0.646	0.068	0.081	0.007	0.007	11.991	13.970	0.043	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	9.2	0.649	0.908	0.440	0.548			0.238	0.310	0.009	0.009	0.022	0.022	13.074	15.355	0.074	0.092	0.016	0.016	0.000	0.000	0.000	0.000	0.000
8	20.2	0.722	1.024	0.447	0.556			0.120	0.149	0.032	0.038	0.034	0.041	7.805	9.442	0.056	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	32.1	1.089	1.578	0.487	0.724			0.115	0.183	0.017	0.017	0.015	0.015	16.732	27.634	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	28.6	1.141	1.653	0.529	0.787			0.479	0.763	0.404	0.454	0.021	0.021	27.014	44.615	0.392	0.507	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	25.9	0.962	1.394	0.520	0.774			0.588	0.936	0.218	0.244	0.033	0.033	24.254	40.057	0.341	0.442	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	21.6	1.124	1.628	0.389	0.553			0.381	0.607	0.140	0.157	0.012	0.012	25.142	43.766	0.556	0.720	0.015	0.015	0.000	0.000	0.000	0.000	0.000

CONC. MÁXIMA	1.141	1.653	0.529	0.787	0.588	0.936	0.404	0.454	0.034	0.041	27.014	44.615	0.556	0.720	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000
CONC. MÍNIMA	0.649	0.908	0.389	0.548	0.115	0.149	0.009	0.009	0.007	0.007	7.805	9.442	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONC. MEDIA PONDERADA A C/g/día	0.962	1.385	0.499	0.700	0.345	0.519	0.146	0.165	0.022	0.023	18.093	28.117	0.168	0.216	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
	1.86	2.68	0.97	1.35	0.67	1.00	0.28	0.32	0.04	0.04	35.01	54.40	0.32	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



DÍA 6 – JUEVES 29 DE JULIO DE 2009

CARACTERIZACIÓN COMPLETA

CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA 30 DE JULIO DE 2009 (JUEVES)

PARÁMETROS BÁSICOS

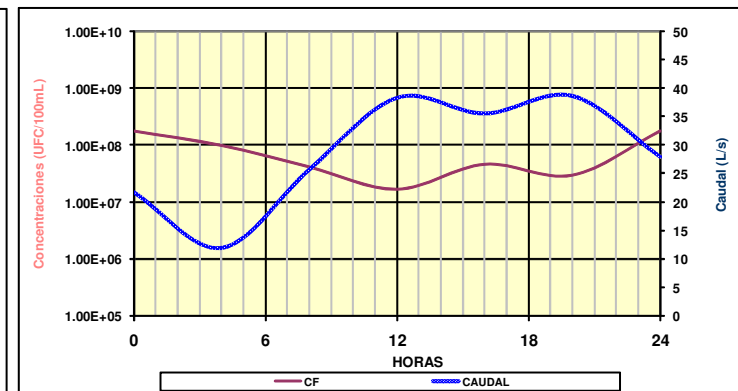
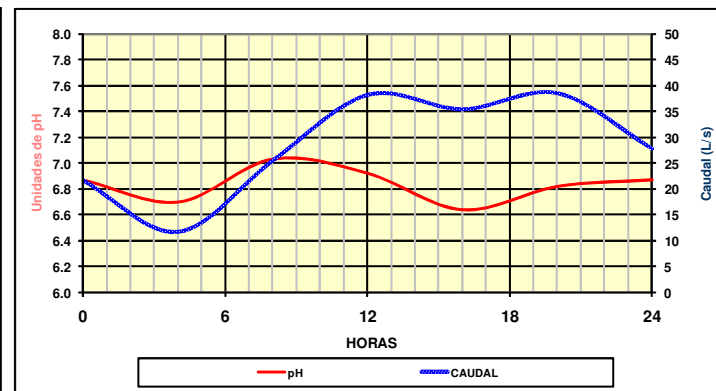
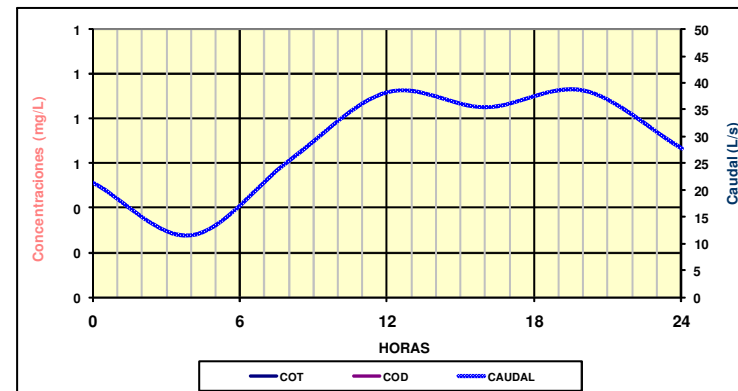
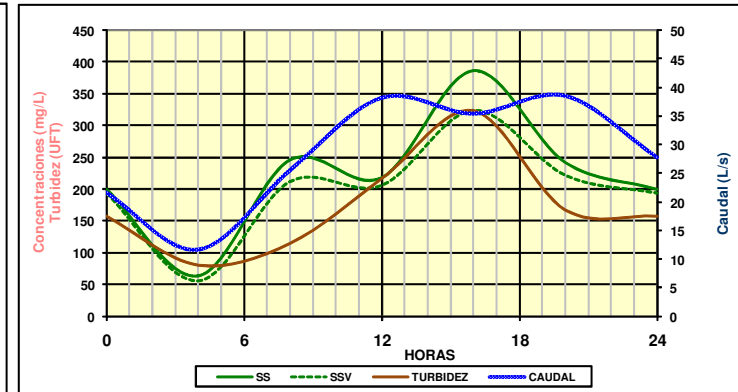
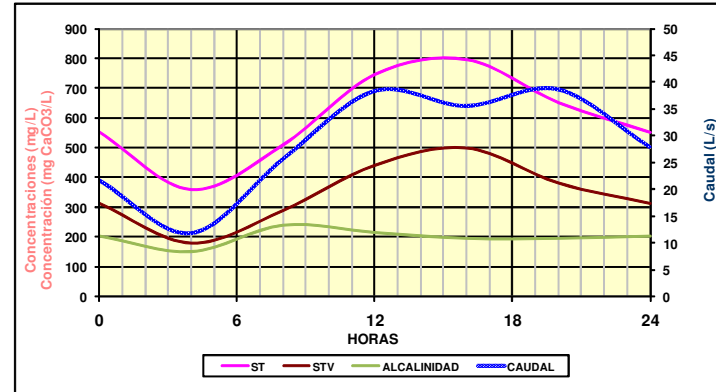
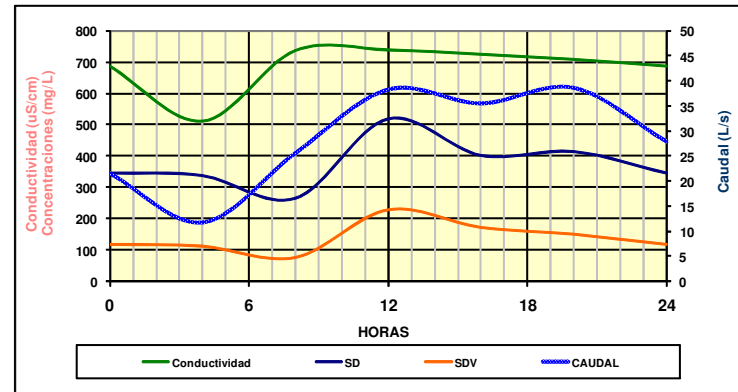
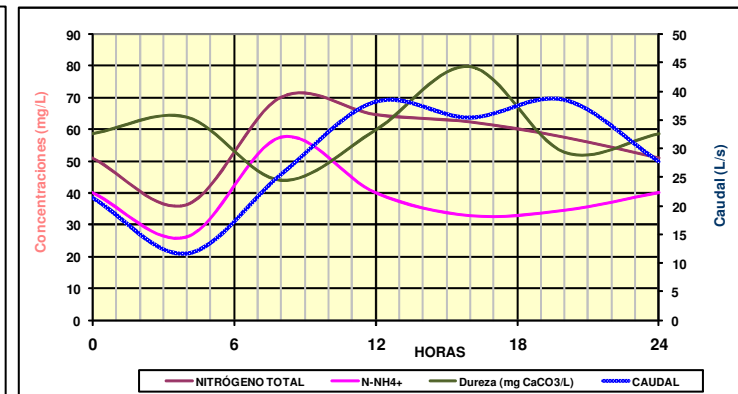
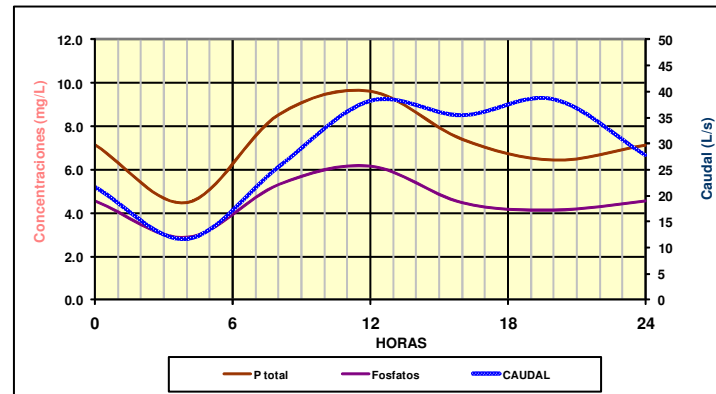
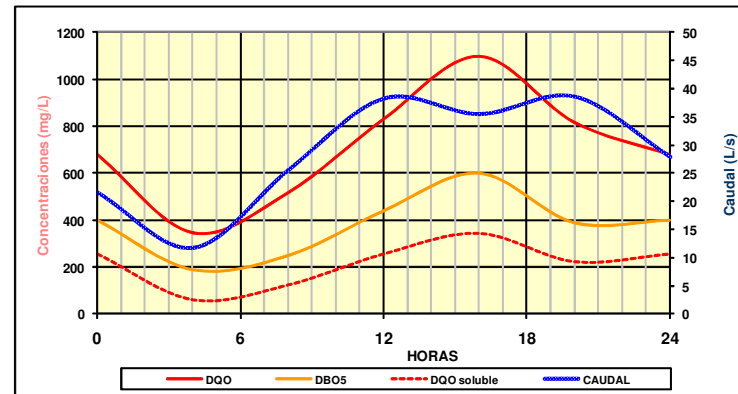
HORA	CAUDAL (L/s)	Nitrógeno total (mg/L)	N-NH ₄ ⁺ (mg/L)	N-NO ₃ ⁻ (mg/L)	COD (mg/L)	COT (mg/L)	Dureza (mg CaCO ₃ /L)	Alcalinidad (mg/L CaCO ₃)	DOO (mg/L)	DOO soluble (mg/L)	P total (mg/L)	Fosfatos (mg/L)	DBO ₅ (mg/L)	Sólidos Totales (mg/L)	Sólidos Totales Volátiles (mg/L)	Sólidos en Suspensión (mg/L)	Sólidos en Suspensión Volátiles (mg/L)	Sólidos Disueltos (mg/L)	Sólidos Disueltos Volátiles (mg/L)	pH	T (°C) Lab	Cond. (µs/cm)	TURBIDEZ (UFT)	CF (UFC/100mL)
0	21.6	51.1	40.3				58.8	204	678	256	7.1	4.6	400	552	312	200	194	346	118	6.9	22.4	687	157	1.80E+08
4	11.7	36.4	26.3				64.0	152	344	59	4.5	2.9	190	360	178	64	56	338	112	6.7	22.2	512	80	1.00E+08
8	25.6	70.2	57.7				44.1	240	516	123	8.5	5.3	250	510	288	246	212	266	76	7.0	22.1	736	114	4.20E+07
12	38.2	64.7	40.2				60.0	216	830	256	9.6	6.2	440	746	440	218	206	518	228	6.9	22.2	738	216	1.70E+07
16	35.5	62.4	33.0				79.9	196	1099	345	7.4	4.5	600	796	498	386	324	402	172	6.6	22.3	724	323	4.70E+07
20	38.6	57.6	34.7				52.9	196	817	223	6.4	4.1	390	652	380	242	222	414	150	6.8	22.7	708	167	3.00E+07
24	27.8	51.1	40.3				58.8	204	678	256	7.12	4.6	400	552	312	200	194	346	118	6.9	22.4	687	157	1.80E+08

CAUDAL MEDIO 28.4
VOLUMEN (m3) 2456.0

CONC. MÁXIMA	70.2	57.7					79.9	240	1099	345	9.6	6.2	600	796	498	386	324	518	228	7.0	22.7	738	323	1.8E+08
CONC. MÍNIMA	36.4	26.3					44.1	152	344	59	4.5	2.9	190	360	178	64	56	266	76	6.6	22.1	512	80	1.7E+07
CONC. MEDIA PONDERADA	59.8	39.1					60.3	205	783	234	7.6	4.8	411	649	382	250	223	399	154	6.8	22.3	706	195	5.6E+07
kg/día	146.8	96.1					148.0	503.6	1924.2	573.9	18.7	11.8	1010.3	1594.0	937.5	613.0	548.1	979.6	379.0					

H-E por Caudal (200 L/(h-d)): 12280
H-E por DBO₅ (60 g/(h-d)): 16838

DBO₅ media 411 mg/L
DOO media 783 mg/L
SS medios 250 mg/L

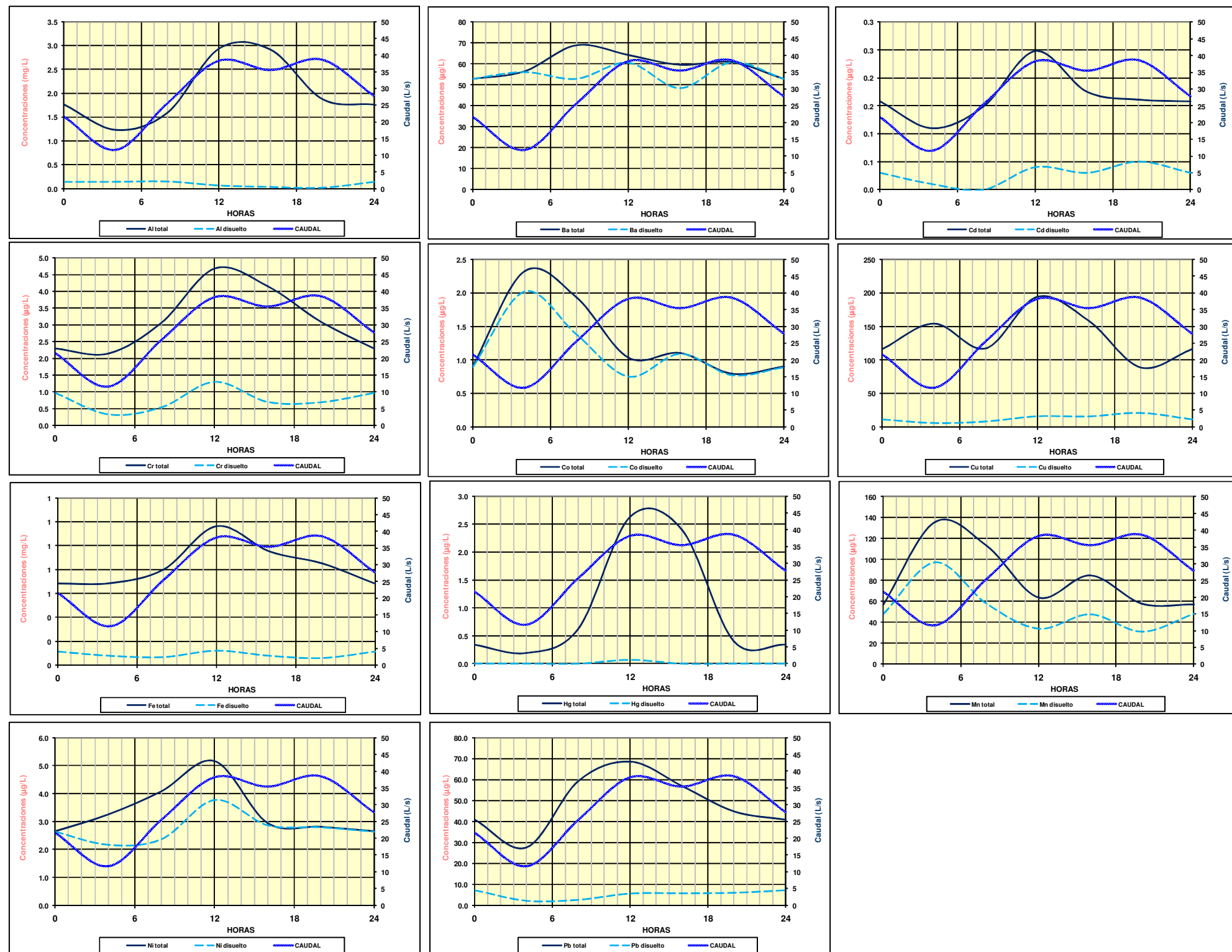


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE JULIO DE 2009 (JUEVES)

METALES I

HORA	CAUDAL (L/s)	Aluminio (mg/L)		Bario (µg/L)		Cadmio (µg/L)		Cromo (µg/L)		Cobalto (µg/L)		Cobre (µg/L)		Hierro (mg/L)		Mercurio (µg/L)		Manganeso (µg/L)		Niquel (µg/L)		Plomo (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	21.6	0.143	1.8	52.8	52.9	0.03	0.2	1.0	2.3	0.9	0.9	10.9	116.0	0.12	0.7	0.00	0.3	48.2	57.2	2.6	2.7	7.1	40.8
4	11.7	0.144	1.2	56.1	56.5	0.01	0.1	0.3	2.1	2.0	2.3	5.4	154.0	0.08	0.7	0.00	0.2	97.4	136.0	2.2	3.3	2.1	27.5
8	25.6	0.151	1.6	52.8	59.9	0.00	0.1	0.5	3.1	1.4	1.9	7.8	117.0	0.07	0.8	0.00	0.6	57.6	113.0	2.4	4.1	2.6	59.4
12	38.2	0.070	2.9	60.6	64.3	0.04	0.2	1.3	4.7	0.8	1.0	15.6	194.0	0.12	1.2	0.07	2.6	34.0	63.7	3.8	5.2	5.5	68.6
16	35.5	0.039	2.9	48.3	59.6	0.03	0.2	0.7	4.2	1.1	1.1	15.4	158.0	0.08	1.0	0.00	2.4	47.7	84.9	2.9	2.9	5.7	56.9
20	38.6	0.024	1.9	60.8	60.9	0.05	0.2	0.7	3.1	0.8	0.8	20.7	88.6	0.06	0.9	0.00	0.4	31.1	57.8	2.8	2.8	5.9	44.8
24	27.8	0.143	1.8	52.8	52.9	0.0	0.2	1.0	2.3	0.9	0.9	10.9	116.0	0.1	0.7	0.0	0.3	48.2	57.2	2.6	2.7	7.1	40.8

CONC. MÁXIMA	0.15	2.9	60.8	60.9	0.1	0.2	1.3	4.7	2.0	2.3	20.7	194.0	0.12	1.2	0.1	2.6	97.4	136.0	3.8	5.2	7.1	68.6
CONC. MÍNIMA	0.02	1.2	48.3	52.9	0.0	0.1	0.3	2.1	0.8	0.8	5.4	88.6	0.06	0.7	0.0	0.2	31.1	57.2	2.2	2.7	2.1	27.5
CONC. MEDIA PONDERADA	0.08	2.2	55.6	61.3	0.0	0.2	0.8	3.5	1.0	1.2	14.2	138.7	0.09	0.9	0.0	1.3	45.8	78.3	2.9	3.6	5.1	53.1
g/día	195.0	5468.6	136.6	150.5	0.1	0.4	2.0	8.6	2.5	2.9	35.0	340.7	215.1	2216.8	0.0	3.3	112.6	192.2	7.1	8.7	12.6	130.5

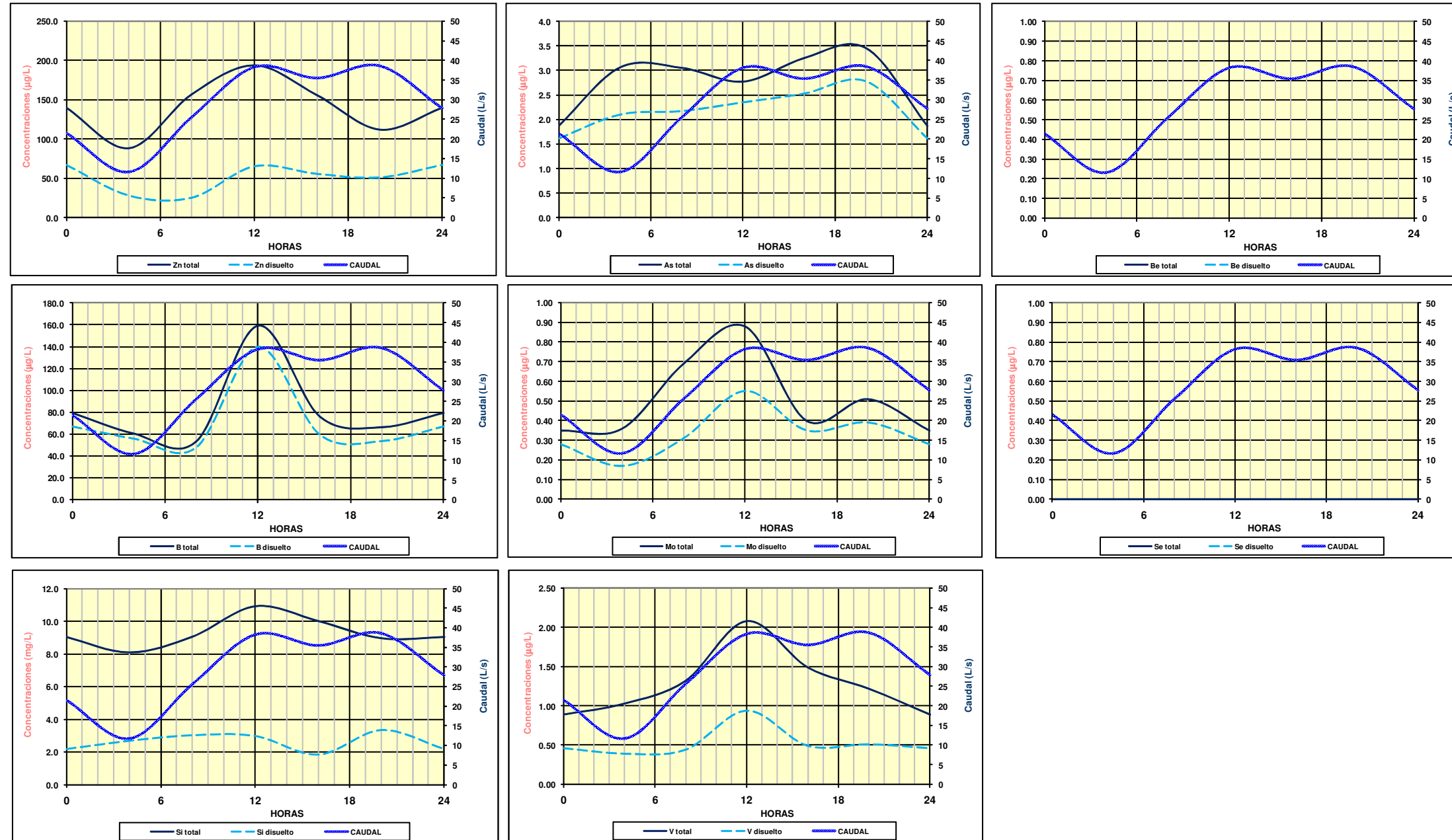


CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE JULIO DE 2009 (JUEVES)

METALES II

HORA	CAUDAL (L/s)	Zinc (µg/L)		Arsénico (µg/L)		Berilio (µg/L)		Boro (µg/L)		Molibdeno (µg/L)		Selenio (µg/L)		Silicio (mg/L)		Vanadio (µg/L)	
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total
0	21.6	66.9	140.0	1.6	1.9			67.0	79.1	0.28	0.35			2.2	9.0	0.46	0.89
4	11.7	27.6	88.4	2.1	3.1			55.7	60.1	0.17	0.36			2.7	8.1	0.39	1.03
8	25.6	24.9	157.0	2.2	3.1			47.6	52.8	0.31	0.69			3.0	9.1	0.44	1.32
12	38.2	65.1	194.0	2.4	2.8			140.0	159.0	0.55	0.88			3.0	10.9	0.94	2.08
16	35.5	55.4	156.0	2.5	3.3			59.4	75.7	0.35	0.40			1.9	10.0	0.49	1.49
20	38.6	50.8	112.0	2.8	3.5			53.5	66.0	0.39	0.51			3.4	9.0	0.51	1.22
24	27.8	66.9	140.0	1.6	1.9			67.0	79.1	0.3	0.4			2.2	9.0	0.5	0.9

CONC. MÁXIMA	66.9	194.0	2.8	3.5	140.0	159.0	0.6	0.9	3.4	10.9	0.9	2.1
CONC. MÍNIMA	24.9	88.4	1.6	1.9	47.6	52.8	0.2	0.4	1.9	8.1	0.4	0.9
CONC. MEDIA PONDERADA	51.5	148.1	2.3	3.0	75.0	88.1	0.4	0.6	2.7	9.6	0.6	1.4
g/día	126.5	363.7	5.8	7.3	184.3	216.3	0.9	1.4	6692.3	23502.4	1.4	3.5



CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
 30 DE JULIO DE 2009 (JUEVES)

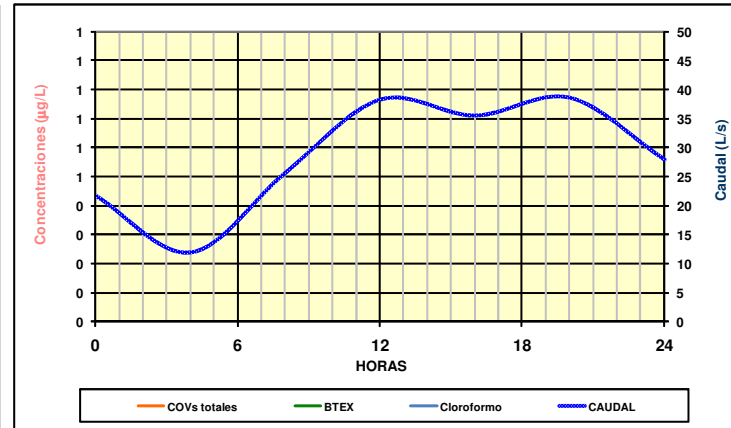
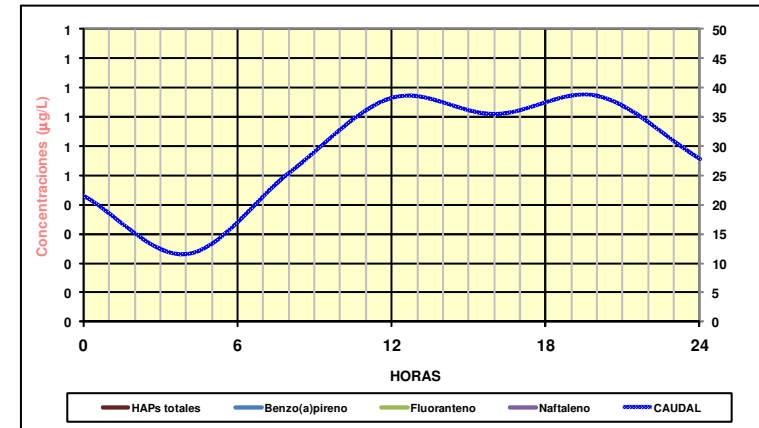
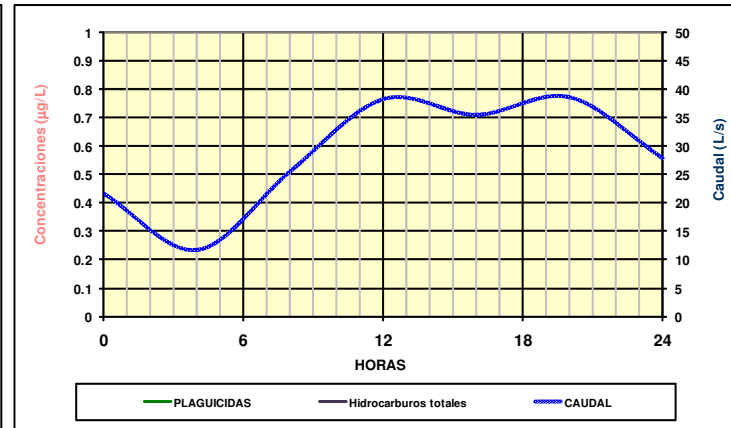
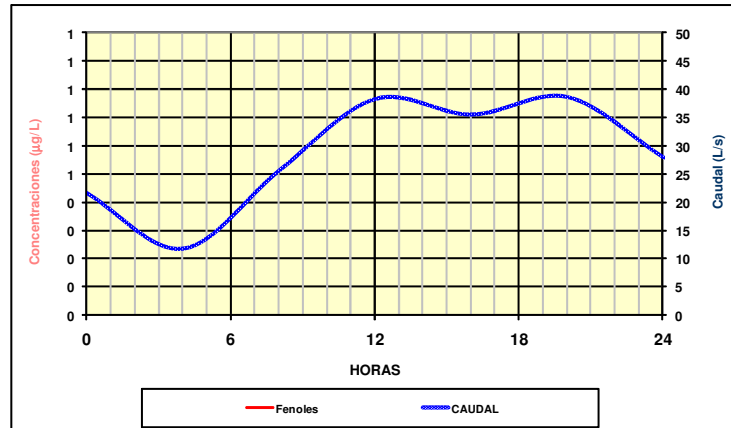
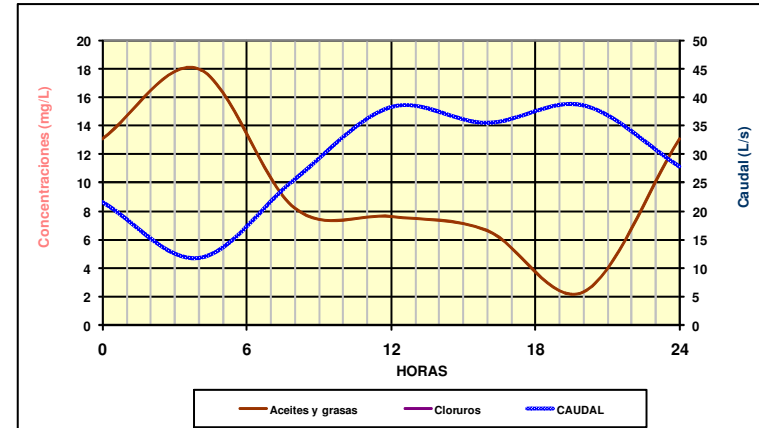
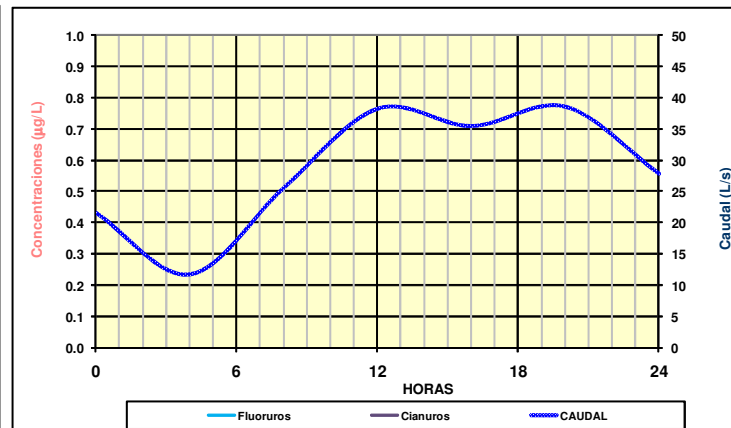
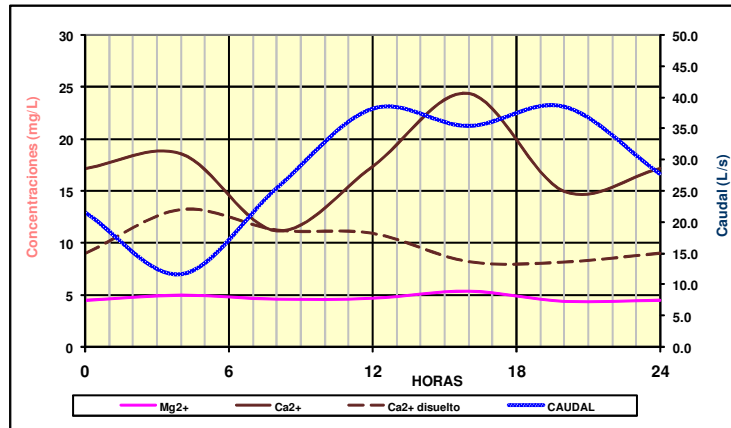
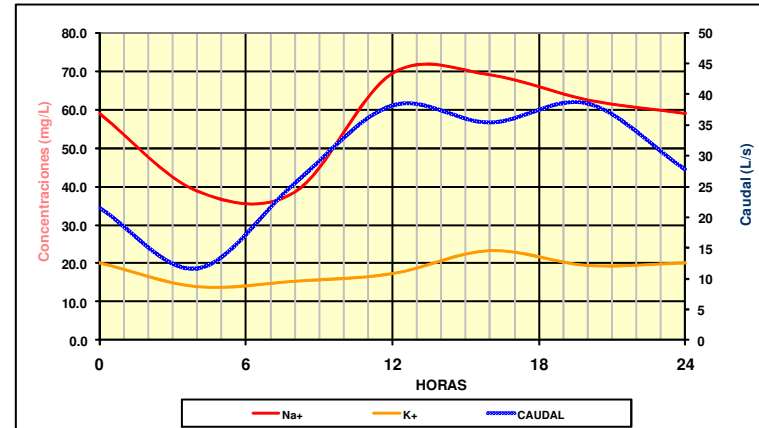
HORA	CAUDAL (L/s)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ total (mg/L)	Ca ²⁺ disuelto (mg/L)	Mg ²⁺ (mg/L)	Fluoruros (µg/L)	Cloruros (mg/L)	Cianuros (µg/L)	Fenoles (µg/L)	COVs (µg/L)	Hidrocarburos totales (µg/L)	Aceites y grasas (mg/L)	HAPs (µg/L)	PLAGUICIDAS (µg/L)
0	21.6	59.0	20.2	17.2	9.0	4.5							13.08		
4	11.7	38.9	14.0	18.6	13.2	5.0							18.01		
8	25.6	38.6	15.4	11.2	11.2	4.6							8.2		
12	38.2	69.4	17.4	17.4	10.9	4.7							7.61		
16	35.5	69.0	23.4	24.4	8.2	5.4							6.63		
20	38.6	62.5	19.5	15.0	8.1	4.4							2.29		
24	27.8	59.0	20.2	17.2	9.0	4.5							13.08		

CONC. MÁXIMA	69.4	23.4	24.4	13.2	5.4								18.0		
CONC. MÍNIMA	38.6	14.0	11.2	8.1	4.4								2.3		
CONC. MEDIA PONDERADA	59.8	18.9	17.4	9.7	4.8								7.7		
kg/día	146.8	46.5	42.8	23.8	11.7								18.9		

CATIONES / ANIONES / SUSTANCIAS PELIGROSAS

HAPs (µg/L)		
Benzo(a)pireno (µg/L)	Fluoranteno (µg/L)	Naftaleno (µg/L)

COVs (µg/L)	
BTEX (µg/L)	Cloroforno (µg/L)



CARACTERIZACIÓN DE TIEMPO SECO EN LA CUENCA UNITARIA DEL ENSANCHE EN SANTIAGO DE COMPOSTELA
30 DE JULIO DE 2009 (JUEVES)

CONTAMINANTES EMERGENTES

HORA	CAUDAL (L/s)	HHCB Galaxolide (µg/L)		ATHN Tonalide (µg/L)		17-β-Estradiol (µg/L)		Ibuprofeno (µg/L)		Diclofenaco (µg/L)		Carbamazepina (µg/L)		Cafeina (µg/L)		Paracetamol (µg/L)		Amoxicilina (µg/L)		Enrofloxacin (µg/L)		Flumequina (µg/L)		
		disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	disuelto	total	
0	21.6	1.124	1.628	0.389	0.553				0.381	0.607	0.140	0.157	0.012	0.012	25.142	43.766	0.556	0.720	0.015	0.015	0.000	0.000	0.000	0.000
4	11.7	0.085	0.123	0.327	0.464				0.023	0.037	0.334	0.383	0.033	0.033	11.665	20.307	0.030	0.039	0.000	0.000	0.000	0.000	0.000	0.000
8	25.6	0.410	0.638	0.238	0.338				0.796	1.269	0.457	0.512	0.030	0.030	14.344	24.970	0.029	0.037	0.000	0.000	0.000	0.000	0.000	0.000
12	38.2	0.767	1.232	0.537	0.763				0.035	0.056	0.076	0.085	0.000	0.000	3.285	6.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	35.5	0.657	1.045	0.381	0.556				0.071	0.114	0.309	0.347	0.018	0.018	12.155	22.369	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	38.6	0.689	0.998	0.366	0.514				0.080	0.127	0.158	0.177	0.000	0.000	9.545	17.566	0.000	0.000	0.015	0.015	0.000	0.000	0.000	0.000
24	27.8	1.124	1.628	0.389	0.553				0.381	0.607	0.140	0.157	0.012	0.012	25.142	43.766	0.556	0.720	0.015	0.015	0.000	0.000	0.000	0.000

CONC. MÁXIMA		1.124	1.628	0.537	0.763				0.796	1.269	0.457	0.512	0.033	0.033	25.142	43.766	0.556	0.720	0.015	0.015	0.000	0.000	0.000	0.000
CONC. MÍNIMA		0.085	0.123	0.238	0.338				0.023	0.037	0.076	0.085	0.000	0.000	3.285	6.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONC. MEDIA PONDERADA		0.672	1.026	0.388	0.554				0.209	0.333	0.225	0.253	0.012	0.012	11.516	20.585	0.077	0.099	0.005	0.005	0.000	0.000	0.000	0.000
g/día		1.65	2.52	0.95	1.36				0.51	0.82	0.55	0.62	0.03	0.03	28.28	50.56	0.19	0.24	0.01	0.01	0.00	0.00	0.00	0.00

