2016

Appendix 1 to Report 1

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APPENDIX 1

Diel experiments

Survey No 1

Diel experiments included the deployment of a couple of YSI sondes at each canal as shown in Figure 3 (Report). Sondes were placed inside a perforated PVC pipe; one was positioned close to surface (about 1 ft deep) and the second sonde at about 1 ft above the canal bottom. Results are shown in figures 16 to 76.

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Survey No 1

Canal #28. Surface

Key Largo stations, located on the bay side of the island are little or no affected by tidal cycles, and perhaps some variability may be only as a consequence of underground tidal pumping, and if so, the signal would be lagged.

Water Depth does not display tidal cycles, hence variability may be due to winds and/or underground tidal pumping with a range of only 0.4 ft

Water Temperature begins to drop after sunset and rises again in the morning. Range of variation is about 1 ^{O}C

Salinity and Specific Conductance display their higher values during “high water” level, contributing additional evidence in favor of tidal pumping

Dissolved Oxygen and Oxygen saturation do not change significantly and water remains well oxygenated, without exceeding the regulation levels (all values above 42% DO Sat)

pH remains very stable on the low-alkaline side with values around 7.67

Turbidity is low, and drops slightly (aprox. 1 NTU) from mid-night to mid-morning. Waters are rather clear at about 0.8 NTU

Table 3: Basic statistics of diel data for surface waters of site 28A

	C28A-Bottom Temp C	C28A-Bottom SpCond mS/cm	C28A-Bottom Sal ppt	C28A-Bottom Depth meters	C28A-Bottom pH	C28A-Bottom Turbid NTU	C28A-Bottom ODOsat %	C28A-Bottom ODO mg/L
Average	23.90	50.90	33.43	6.18	7.82	0.79	81.74	5.69
Median	23.87	50.94	33.45	6.196	7.82	0.80	81.4	5.65
Stand. Dev	0.192	0.067	0.047	0.030	0.057	0.332	11.235	0.775
%DO Sat Exceedances	0%							

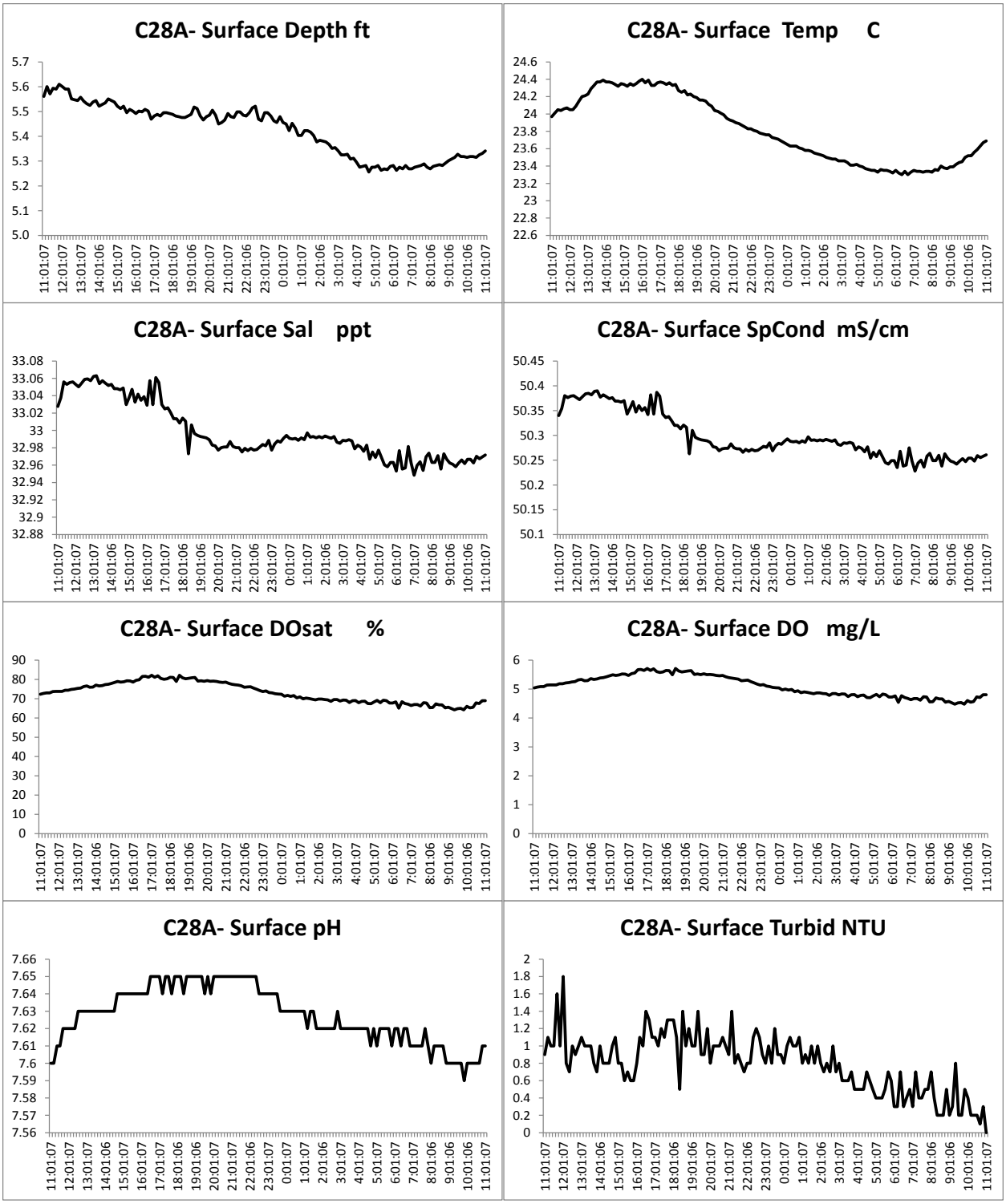

Figure 16: Time-series of physical-chemical data for surface water at site A in canal #28 during a 24-hour cycle (Diel cycle)

Canal #28. Bottom

Observation of time series suggest as follows:

Water Depth does not display a tidal cycle, and the small variability (range=0.3 ft) may be due to winds and/or underground tidal pumping

Water Temperature begins to drop after sunset and rises again in the morning. Range of variation is about 1 ^{O}C

Salinity and Specific Conductance display their higher values during high water level, contributing more evidence in favor of tidal pumping

Dissolved Oxygen and Oxygen saturation do not change significantly and water remains well oxygenated, without any exceedance of the regulation (all values above 42% DO Sat).

pH remains on the low-alkaline side, with a mild drop from evening hours to mid-morning. In general it displays stable values around 7.67

Turbidity drops slightly from mid-night to mid-morning. Waters are rather clear

	C28A-Bottom Temp C	C28A-Bottom SpCond mS/cm	C28A-Bottom Sal ppt	C28A-Bottom Depth meters	C28A-Bottom pH	C28A-Bottom Turbid NTU	C28A-Bottom ODOsat %	C28A-Bottom ODO mg/L
Average	23.90	50.90	33.43	6.18	7.82	1.83	81.74	5.69
Median	23.87	50.94	33.45	6.196	7.82	1.90	81.4	5.65
Stand. Dev	0.192	0.067	0.047	0.030	0.057	1.142	11.235	0.775
%DO Sat Exceedances	0%							

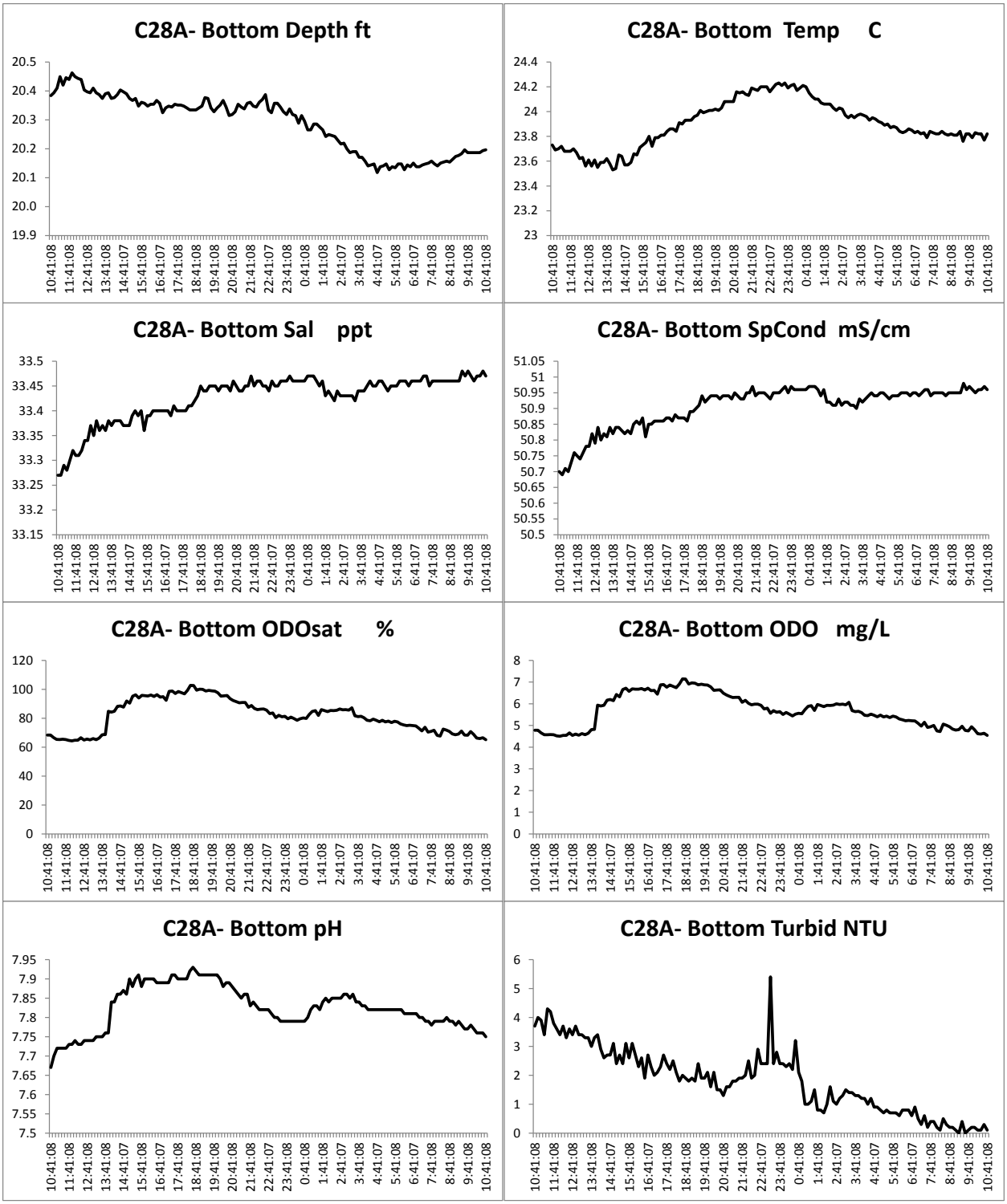

Figure 17: Time-series of physical-chemical data for bottom water at site A in canal #28 during a 24-hour cycle (Diel cycle)

Canal #29. Surface

Water Depth displays what seems to be a 4-5 hour lagged tidal cycles with amplitude of only 0.2 ft. This variability may also be due to winds.

Water Temperature began to drop after sunset and rose again the next morning. Range of variation is about 1.5 ^{O}C

Salinity and Specific Conductance show an increasing tendency but the change is of only 0.06 PSU.

Dissolved Oxygen and Oxygen saturation show declines beginning at sunset, extending to morning hours the next day, following both, daylight and temperature trends. The water column remained well oxygenated, without exceeding the regulation levels (all values above 42% DO Sat).

pH displays an increase of about 0.2 pH units in the early afternoon to remains very stable on the low-alkaline side with values around 7.67 the rest of the diel cycle.

Turbidity dropped from 2.5 NTU to practically zero NTU.

	C29A- Surface Temp C	C29A- Surface SpCond mS/cm	C29A- Surface Sal ppt	C29A- Surface Depth meters	C29A- Surface pH	C29A- Surface Turbid NTU	C29A- Surface DOsat %	C29A- Surface DO mg/L
Average	23.20	50.33	33.01	1.47	7.84	0.81	77.01	5.44
Median	23.13	50.32	33.01	1.473	7.86	0.70	76.3	5.42
Stand. Dev	0.337	0.060	0.043	0.014	0.058	0.568	8.284	0.582
%DO Sat Exceedances	0%							

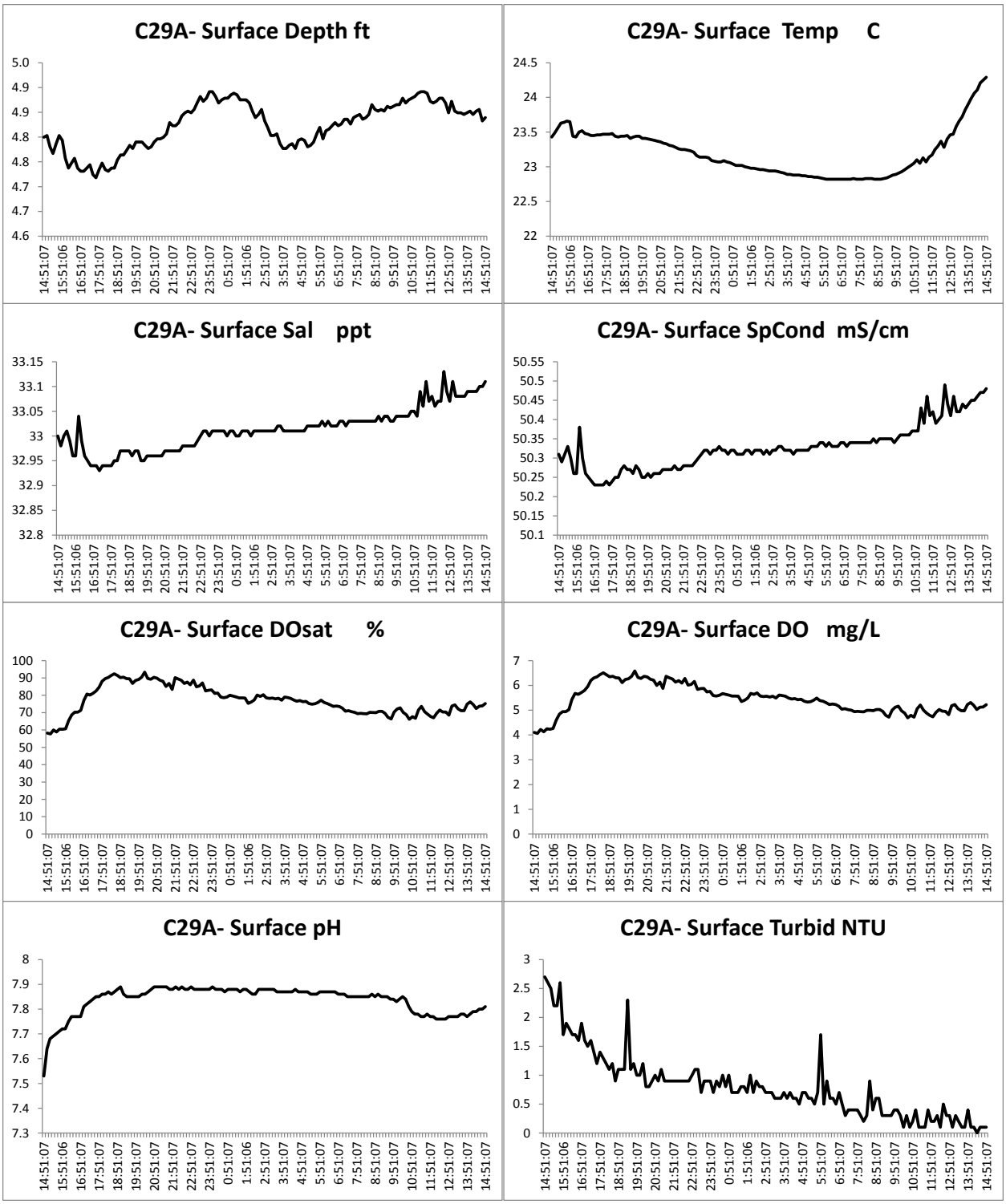

Figure 18: Time-series of physical-chemical data for surface water at site A in canal #29 during a 24-hour cycle (Diel cycle)

Canal #29. Bottom

Water Depth also displays what seems to be a 4-5 hour lagged tidal cycles with amplitude of only 0.2 ft. This variability may also be due to winds.

Water Temperature shows continuous increase. Range of variation is about 1.5 ^{O}C

Salinity and Specific Conductance are practically constants. Given the sensitivity of the sensors it is possible to define an increasing tendency although the change is of only 0.06 PSU, similar to the one observed in surface waters.

Dissolved Oxygen and Oxygen saturation show declines beginning at sunset, extending to mid night and then mostly constancy the rest of the diel cycle, when the water column remained at low DO concentrations exceeding the regulation levels (values below 42% DO Sat) most of the time after 8PM. %DO Saturation exceedances reached 43%

pH remains rather constant on the low-alkaline side with values around 7.65 the rest of the diel cycle.

Turbidity dropped from 2.5 NTU to practically zero NTU.

	C29A- Bottom Temp C	C29A- Bottom SpCond mS/cm	C29A- Bottom Sal ppt	C29A- Bottom Depth meters	C29A- Bottom pH	C29A- Surface Turbid NTU	C29A- Bottom DOsat %	C29A- Bottom DO mg/L
Average	23.09	50.65	33.25	4.79	7.77	0.81	44.25	3.13
Median	23.09	50.63	33.24	4.792	7.77	0.70	42.6	3.01
Stand. Dev	0.034	0.043	0.032	0.016	0.029	0.568	4.764	0.338
%DO Sat Exceedances	**43%**							

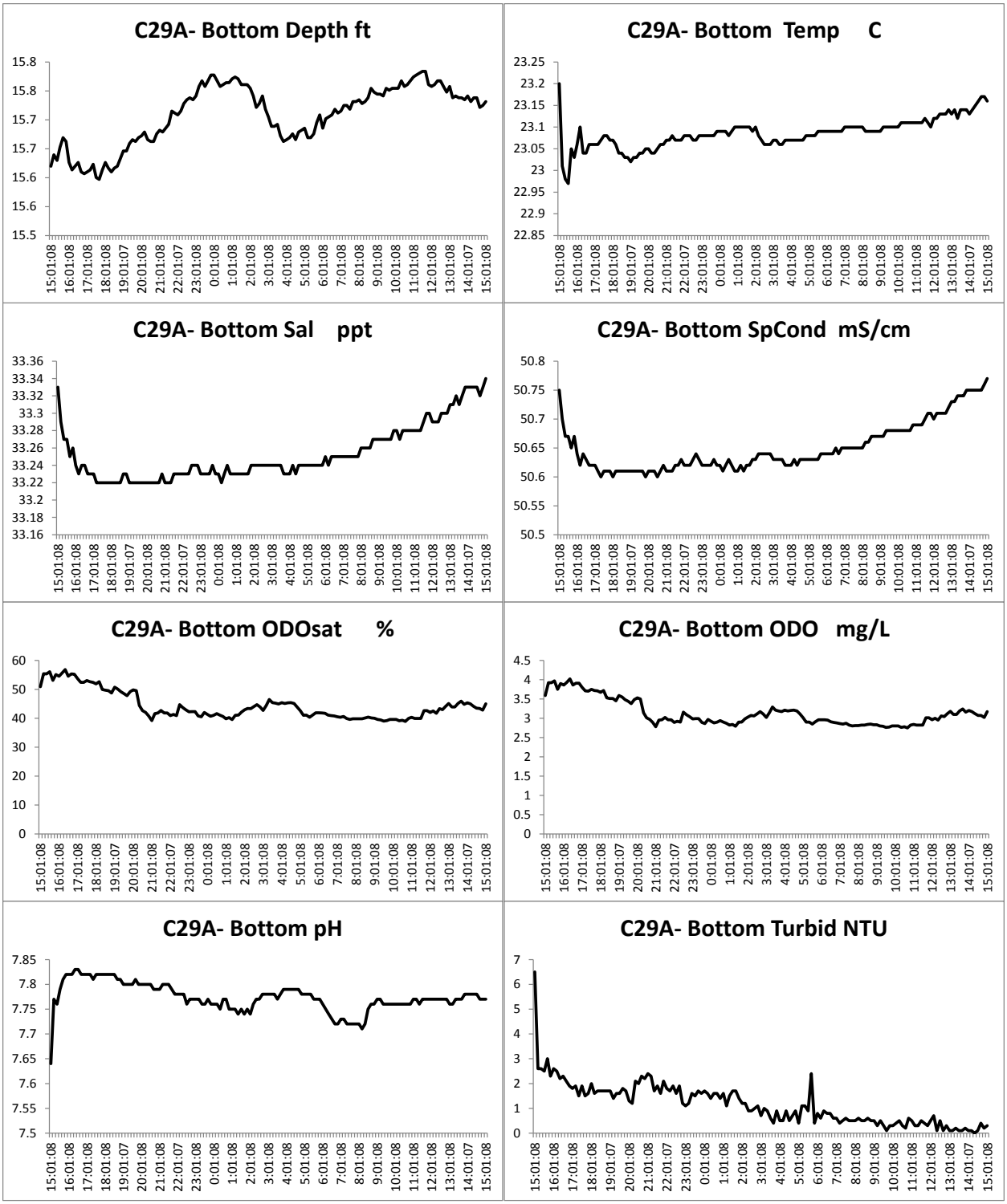

Figure 19: Time-series of physical-chemical data for bottom water at site A in canal #29 during a 24-hour cycle (Diel cycle)

Canal #132. Surface

Water Depth displays a very regular tidal cycle with a 2.6 ft tidal range.

Water Temperature shows a decline in late afternoon extending to the following morning, followed by an increase to evening hours. Temperature range is a little over 1^{O}C range

Salinity and Specific Conductance remained practically constants from Wednesday 4/2/14 to Thursday 4/3/14 when a sudden drop of about 1 PSU occurred at about 5 PM.

Dissolved Oxygen and Oxygen saturation daily cycles usually display an increase starting during daytime and extending to into the night, but here the cycle seems to be interrupted by the same lower salinity event occurring at 5 PM on 4/3/14. There were 41% of %DO saturation exceedances.

pH follows very closely the DO and %DO Saturation patterns.

Turbidity is relatively high especially during low tides

	C132A - Surface Temp C	C132A - Surface SpCond mS/cm	C132A - Surface Sal ppt	C132A - Surface Depth meters	C132A - Surface pH	C132A - Surface Turbid+ NTU	C132A - Surface DOsat %	C132A - Surface DO mg/L
Average	23.72	55.80	37.07	1.62	7.41	5.49	44.37	3.03
Median	23.72	55.87	37.12	1.616	7.4	4.8	43.8	3.01
Stand. Dev	0.387	0.166	0.128	0.247	0.027	2.886	5.592	0.366
%DO Sat Exceedances	41%							

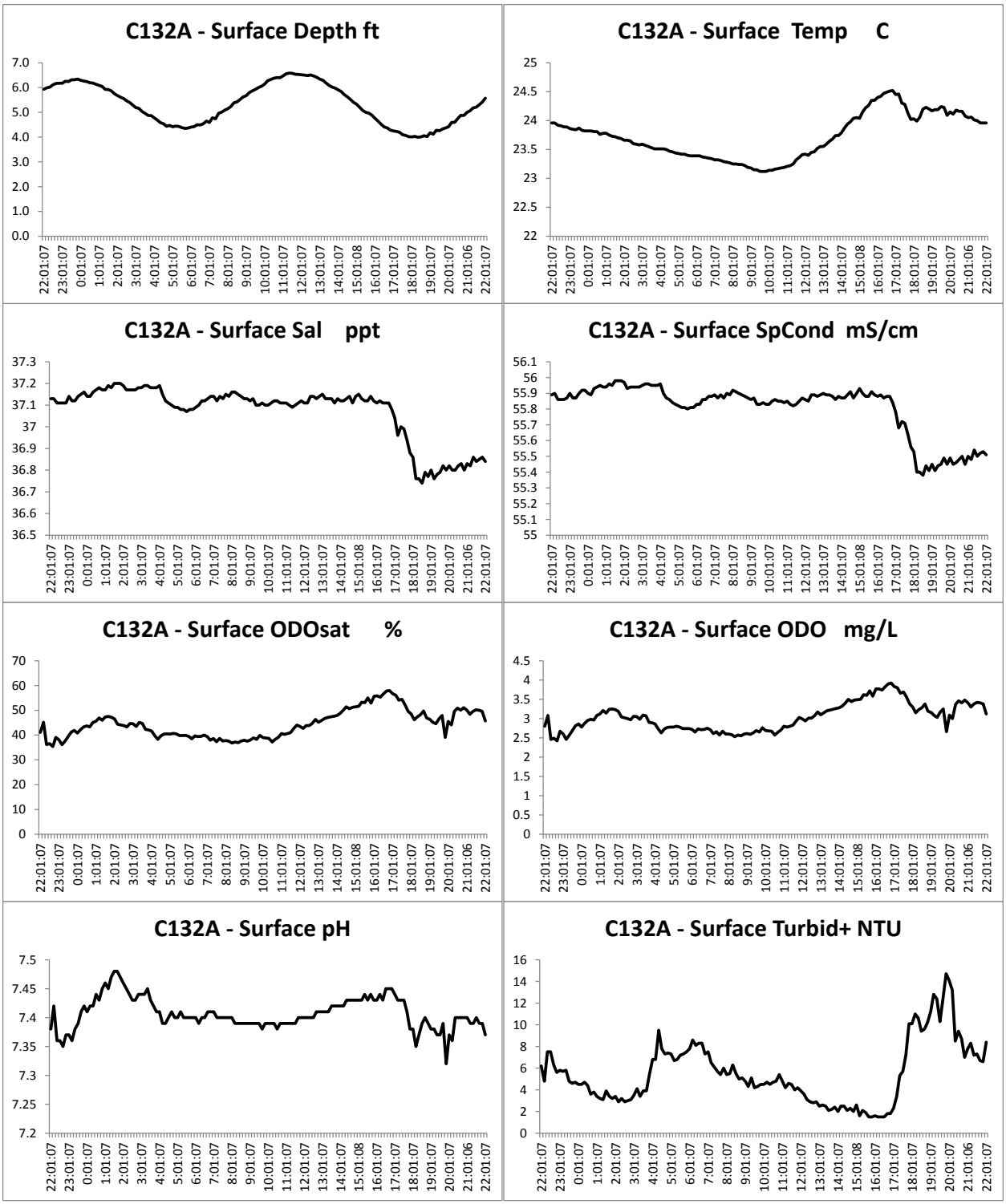

Figure 20: Time-series of physical-chemical data for surface water at site A in canal #132 during a 24-hour cycle (Diel cycle)

Canal #132. Bottom

Water Depth displays a very regular tidal cycle with less than 2.5 ft tidal range.

Water Temperature shows with a decline from early evening extending to the following morning, when a sudden drop of temperature occurs, marking the beginning of a higly variable increasing trend extending back to the evening hours. Overal T range is 2 ^{O}C

Salinity and Specific Conductance remained practically constants from the evening hours (7 PM) to 10 AM when a sudden increase disrupts the system and high variability begins, extending to evening hours.

Dissolved Oxygen and Oxygen saturation display periods of relatively higher values bound by sudden declines. It begins with a short one from 8 PM to 10 PM. The second one displays a slight but continuous decline with low variability which extends from midnight to 9 AM. Finally, another one, showing higher variability follows, extending from about 10 AM to 6 PM. There were 56% DO saturation exceedances.

pH remains slightly above 7, and follows very closely the DO and % DO Saturation patterns (r^2=0.81).

Turbidity is relatively high especially during night hours and has a highly significant negative correlation with DO and and %DO Sat (r^2=0.65).

	C132A - Bottom Temp C	C132A - Bottom SpCond mS/cm	C132A - Bottom Sal ppt	C132A - Bottom Depth meters	C132A - Bottom pH	C132A - Bottom Turbid NTU	C132A - Bottom DOsat %	C132A - Bottom DO mg/L
Average	24.35	55.75	37.02	2.96	7.46	6.32	37.67	2.55
Median	24.49	55.76	37.03	2.977	7.47	4.6	39.7	2.68
Stand. Dev	0.521	0.200	0.149	0.245	0.118	5.221	14.437	0.986
%DO Sat Exceedances	56%							

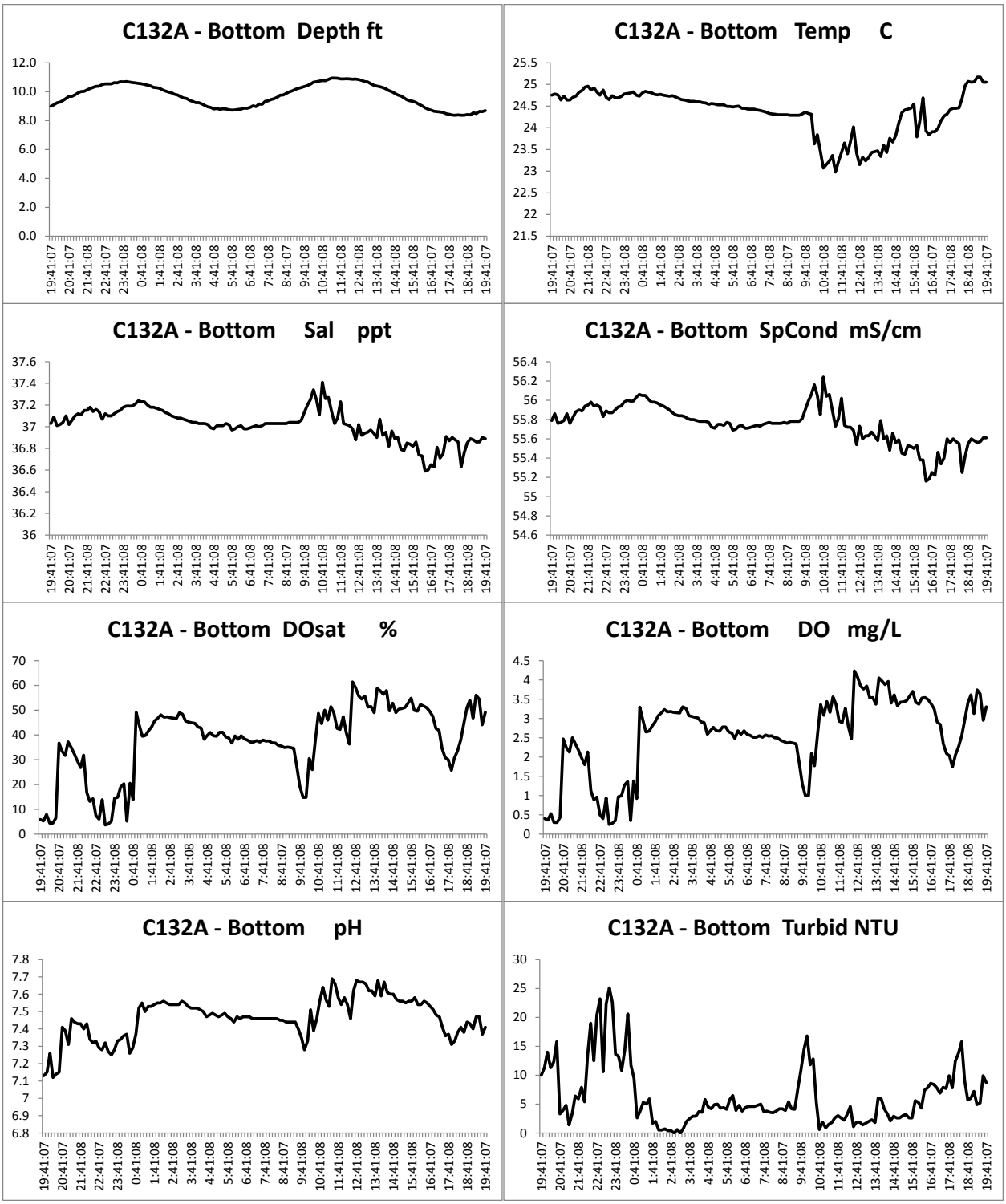

Figure 21: Time-series of physical-chemical data for bottom water at site A in canal #132 during a 24-hour cycle (Diel cycle)

Canal #137. Surface

Water Depth displays a very regular tidal cycle with a 3 ft tidal range.

Water Temperature shows a decline during night hours extending to the following morning, when an increasing trend starts and continues to evening hours. Evenings are characterized by relatively higher variability. Temperature range is a little over 2ºC range

Salinity and Specific Conductance display highly variable values in the afternoon and extending to midnight. Values remain very constant until midmorning (10 AM) when slightly higher variability initiates, followed by a very slight concentration increase extending into afternoon hours

Dissolved Oxygen and Oxygen saturation daily display low and rather constant values only interrupted by an isolated and higher concentration event from 7 PM to midnight. %DO Sat exceedances reach 83%

pH follows closely the % DO Saturation pattern.

Turbidity is low with a relatively higher variability along a slightly increasing trend from mid-afternoon to early morning (5 AM), followed by a less noisy decline the rest of the day.

	C137A- Surface Temp C	C137A- Surface SpCond mS/cm	C137A- Surface Sal ppt	C137A- Surface Depth meters	C137A- Surface pH	C137A- Surface Turbid NTU	C137A- Surface ODOsat %	C137A- Surface ODO mg/L
Average	23.84	56.43	37.53	1.61	7.39	2.08	40.77	2.77
Median	23.74	56.42	37.53	1.63	7.35	2.1	35.5	2.43
Stand. Dev	0.437	0.072	0.054	0.274	0.138	0.992	17.003	1.139
%DO Sat Exceedances	83%							

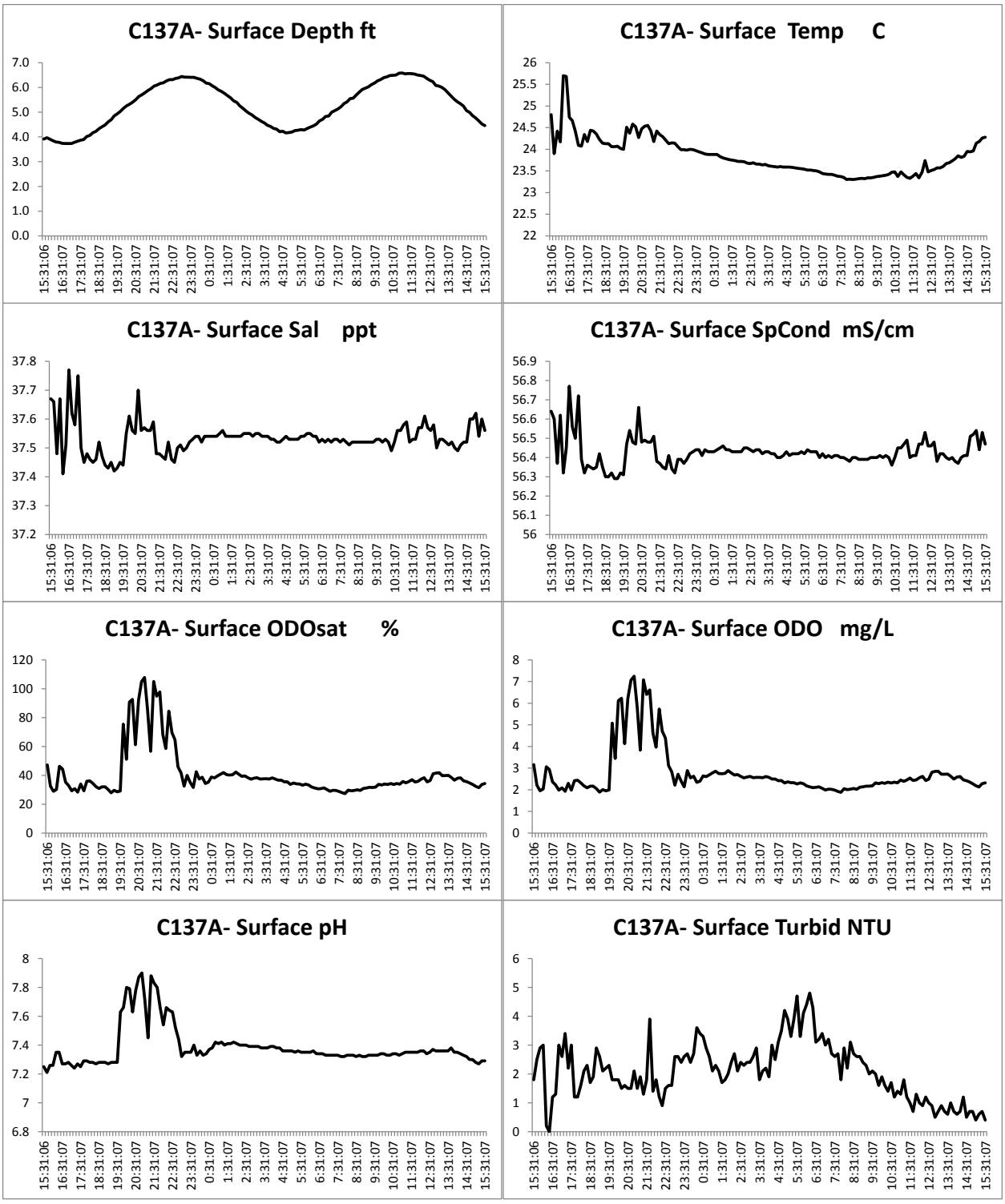

Figure 22: Time-series of physical-chemical data for surface water at site A in canal #137 during a 24-hour cycle (Diel cycle)

Canal #137. Bottom

Water Depth displays a very regular tidal cycle with a 2.8 ft tidal range.

Water Temperature shows a decline during night hours extending to the following morning, when an increasing trend starts and continues to evening hours. Afternoon and evenings hours are characterized by relatively higher variability. Temperature range is a little over 1.5^{O}C range

Salinity and Specific Conductance display highly variable values in the afternoon and extending into the evening. Values remain very constant until early morning (10 AM) when a sudden increase initiates slightly higher variability extending back to evening hours

Dissolved Oxygen and Oxygen saturation decline from mid afternoon to midnight, when a sudden increase occurs. Values remain high and slightly declining until early morning (8 AM) when an increasing trend with high variability begins. %DO Sat exceedances reach 100%

pH follows very closely the DO and %DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.92.

Turbidity is highly variable but without a defined pattern

	C137A- Bottom Temp C	C137A- Bottom SpCond mS/cm	C137A- Bottom Sal ppt	C137A- Bottom Depth meters	C137A- Bottom pH	C137A- Bottom Turbid NTU	C137A- Bottom DOsat %	C137A- Bottom DO mg/L
Average	24.43	56.17	37.33	3.70	7.38	4.23	26.37	1.78
Median	24.58	56.15	37.31	3.718093148	7.37	4.1	27.4	1.87
Stand. Dev	0.456	0.145	0.115	0.272	0.099	2.309	9.407	0.641
%DO Sat Exceedances	100%							

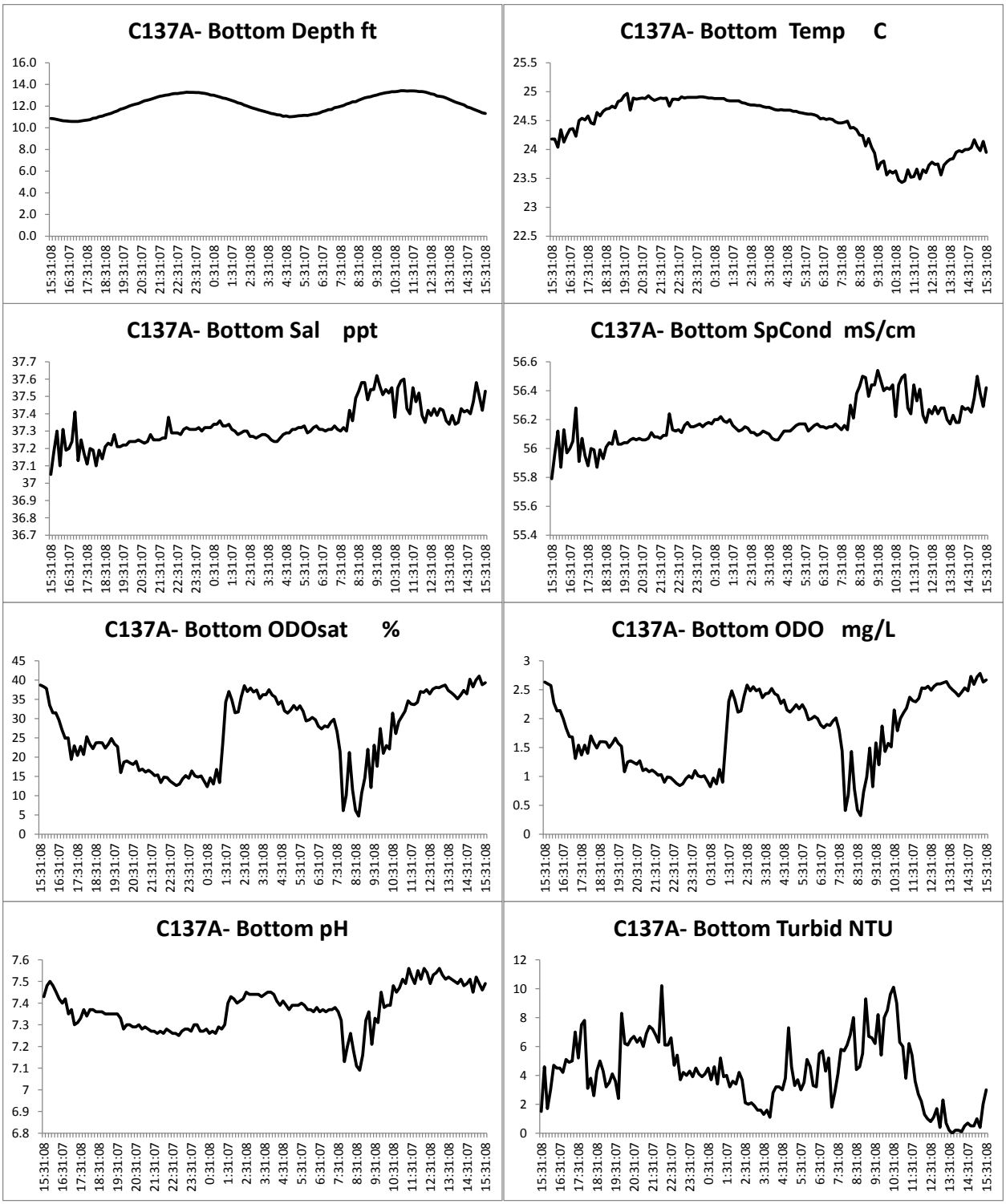

Figure 23: Time-series of physical-chemical data for bottom water at site A in canal #137 during a 24-hour cycle (Diel cycle)

Canal #147. Surface.

Water Depth displays a very regular tidal cycle with a 1.4 ft tidal range.

Water Temperature shows an increase from mid-morning to evening, followed by a decline extending to early morning hours. It follows daylight cycle.

Salinity and Specific Conductance show a low slightly declining tendency from early evening to early morning, followed by a sharp increase. Declining values resume soon after

Dissolved Oxygen and Oxygen saturation display increasing tendency during daylight and declining trend the rest of the time. % DO Saturation exceedances reach 38%

pH remains slightly above 7, and follows very closely the DO and % DO Saturation patterns (r2=0.95)

Turbidity is very low without definite pattern

	C147A- Surface Temp C	C147A- Surface SpCond mS/cm	C147A- Surface Sal ppt	C147A- Surface Depth meters	C147A- Surface pH	C147A- Surface Turbid NTU	C147A- Surface ODOsat %	C147A- Surface ODO mg/L
Average	26.04	55.69	36.93	1.40	7.64	0.59	55.56	3.65
Median	25.98	55.68	36.93	1.401	7.62	0.40	52.7	3.47
Stand. Dev	0.337	0.108	0.075	0.124	0.106	0.410	26.240	1.706
%DO Sat Exceedances	38%							

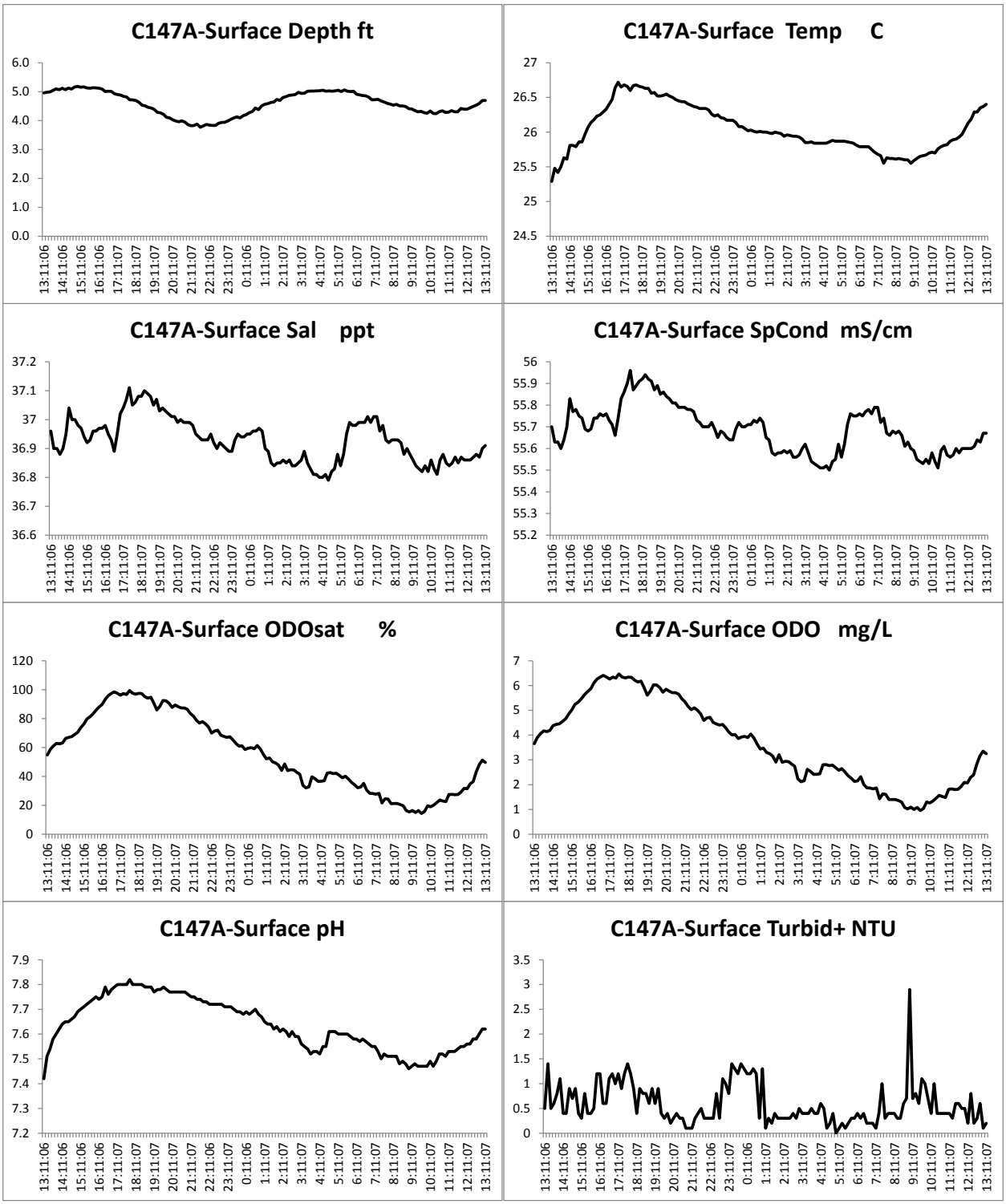

Figure 24: Time-series of physical-chemical data for surface water at site A in canal #147 during a 24-hour cycle (Diel cycle)

Canal #147. Bottom

Water Depth displays a very regular tidal cycle with a 1.4 ft tidal range.

Water Temperature shows a decline during night hours extending to the following morning, when an increasing trend starts and continues to evening hours.

Salinity and Specific Conductance display highly variable values in the afternoon and extending to midnight. Values remain about constant the rest of the time

Dissolved Oxygen and Oxygen saturation follow a similar pattern as that of temperature %DO Sat exceedances reach 46%

pH follows very closely the DO and %DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.96.

Turbidity is low with a relatively higher variability along a slightly increasing trend from mid-afternoon to early morning (5 AM), followed by a less noisy decline the rest of the day.

	C147A-Bottom Temp C	C147A-Bottom SpCond mS/cm	C147A-Bottom Sal ppt	C147A-Bottom Depth meters	C147A-Bottom pH	C147A-Bottom Turbid+ NTU	C147A-Bottom ODOsat %	C147A-Bottom ODO mg/L
Average	27.04	55.94	37.09	2.21	7.72	1.80	45.03	2.91
Median	26.96	55.94	37.09	2.211	7.73	1.4	47.4	3.06
Stand. Dev	0.265	0.072	0.056	0.124	0.106	1.630	26.448	1.701
%DO Sat Exceedances	46%							

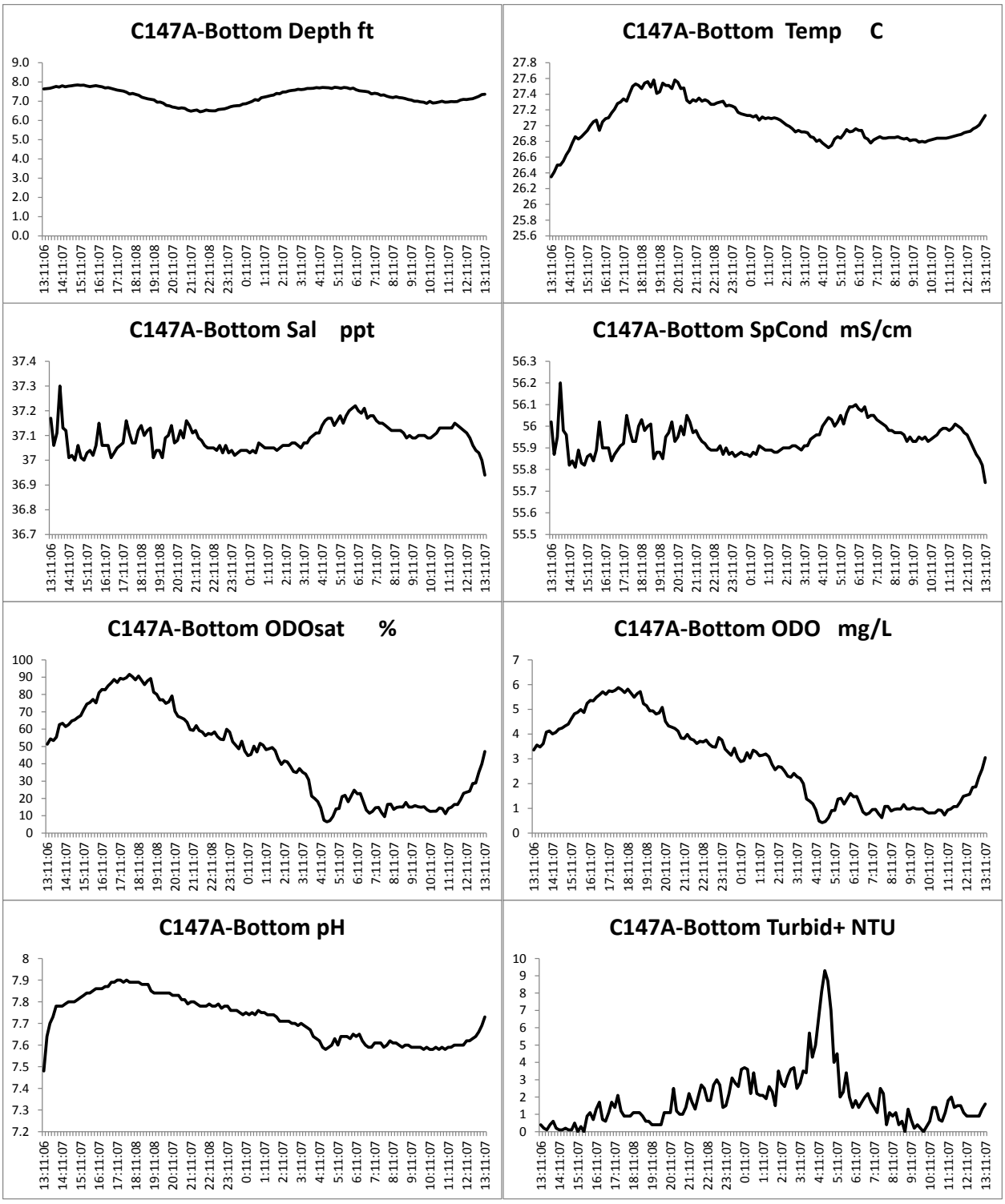

Figure 25: Time-series of physical-chemical data for bottom water at site A in canal #147 during a 24-hour cycle (Diel cycle)

Canal #148. Surface

Water Depth displays a very regular tidal cycle with a 2 ft tidal range.

Water Temperature shows a decline from late afternoon to early morning followed by an increase extending back to afternoon hours.

Salinity and Specific Conductance is coarsely related to tidal cycle, but display steeper declines and increases during afternoon and evening hours. There is a slight decline from midnight to very early morning, followed by a mild increase up to early afternoon

Dissolved Oxygen and Oxygen saturation experience a singificant drop from afternoon to midnight, followed by slight increase until noon time, when another steeper increase follow %DO Sat exceedances reach 46%

pH follows very closely the DO and %DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.98.

Turbidity is low with only a period of higher values starting at night, peaking at midnight and returning to low values by 4 AM

	C148A-Surface Temp C	C148A-Surface SpCond mS/cm	C148A-Surface Sal ppt	C148A-Surface Depth meters	C148A-Surface pH	C148A-Surface Turbid+ NTU	C148A-Surface ODOsat %	C148A-Surface ODO mg/L
Average	24.17	54.62	36.17	1.47	7.77	2.80	72.09	4.89
Median	23.97	54.6	36.15	1.474	7.69	1.70	47.2	3.24
Stand. Dev	0.650	0.309	0.230	0.183	0.166	3.022	48.459	3.235
%DO Sat Exceedances	46%							

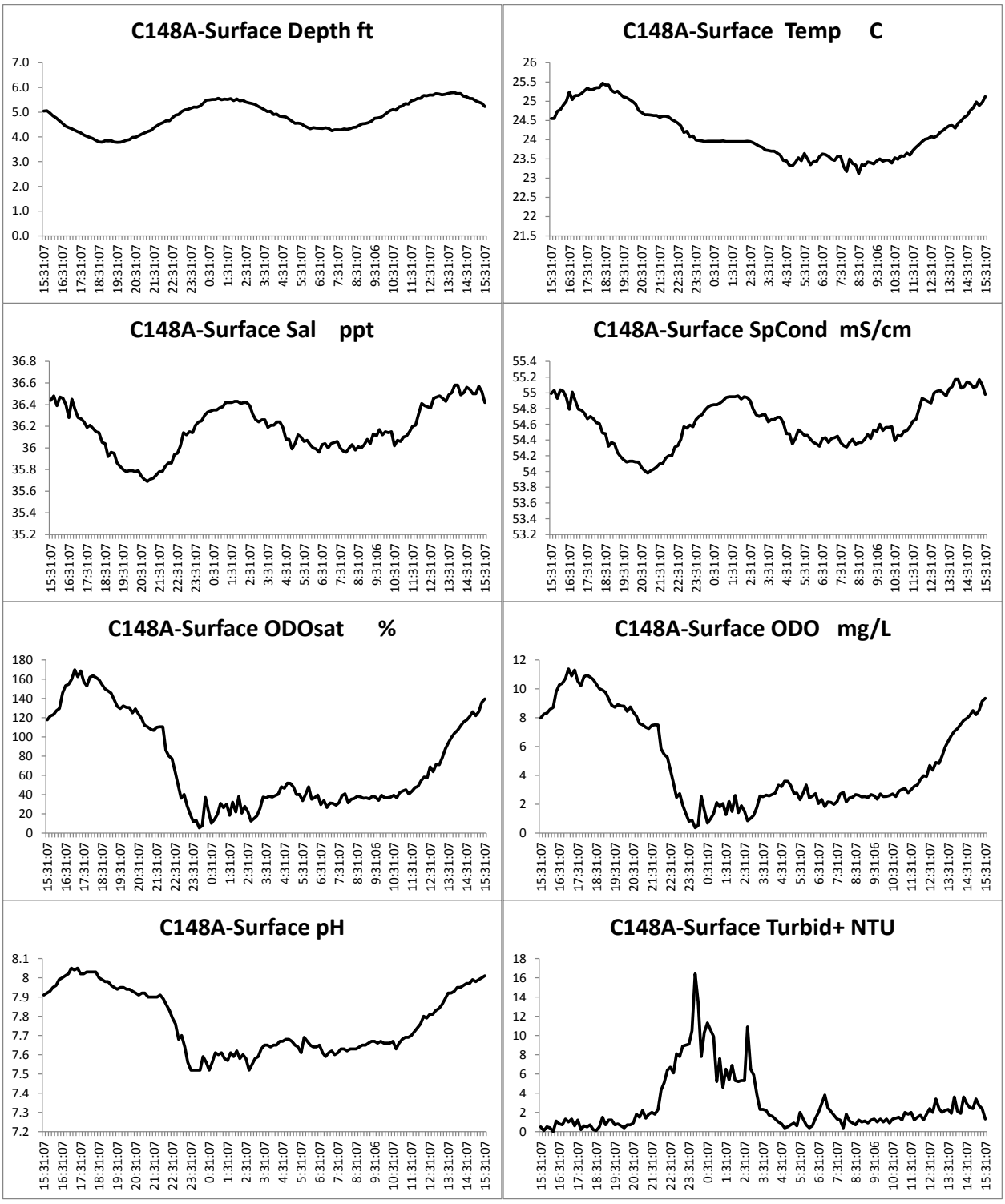

Figure 26: Time-series of physical-chemical data for surface water at site A in canal #148 during a 24-hour cycle (Diel cycle)

Canal #148. Bottom

Water Depth displays a very regular tidal cycle with a 2 ft tidal range.

Water Temperature shows an increase during afternoon and evening hours. Stays unchanged until mid-morning when a sudden drop occurs followed by an increasing trend

Salinity and Specific Conductance is coarsely related to tidal cycle, but display steeper declines and increases during afternoon and evening hours. There is a slight decline from midnight to very early morning, followed by a mild increase up to early afternoon

Dissolved Oxygen and Oxygen saturation experience a significant drop from afternoon to midnight, followed by slight increase until midnight. Follows a decline to mid morning hours to finally increase again the afternoon. %DO Sat exceedances reach 24%

pH follows very closely the DO and %DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.98.

Turbidity is low with only a period of higher values starting at mid-afternoon peaking at late night and dropping sharply at midnight, to remain low the rest of the time

	C148A-Bottom Temp C	C148A-Bottom SpCond mS/cm	C148A-Bottom Sal ppt	C148A-Bottom Depth meters	C148A-Bottom pH	C148A-Bottom Turbid+ NTU	C148A-Bottom ODOsat %	C148A-Bottom ODO mg/L
Average	24.93	55.44	36.77	2.36	7.91	3.09	68.54	4.61
Median	25.06	55.42	36.77	2.356	7.91	2.20	68.4	4.57
Stand. Dev	0.333	0.193	0.144	0.182	0.130	2.909	26.580	1.803
%DO Sat Exceedances	24%							

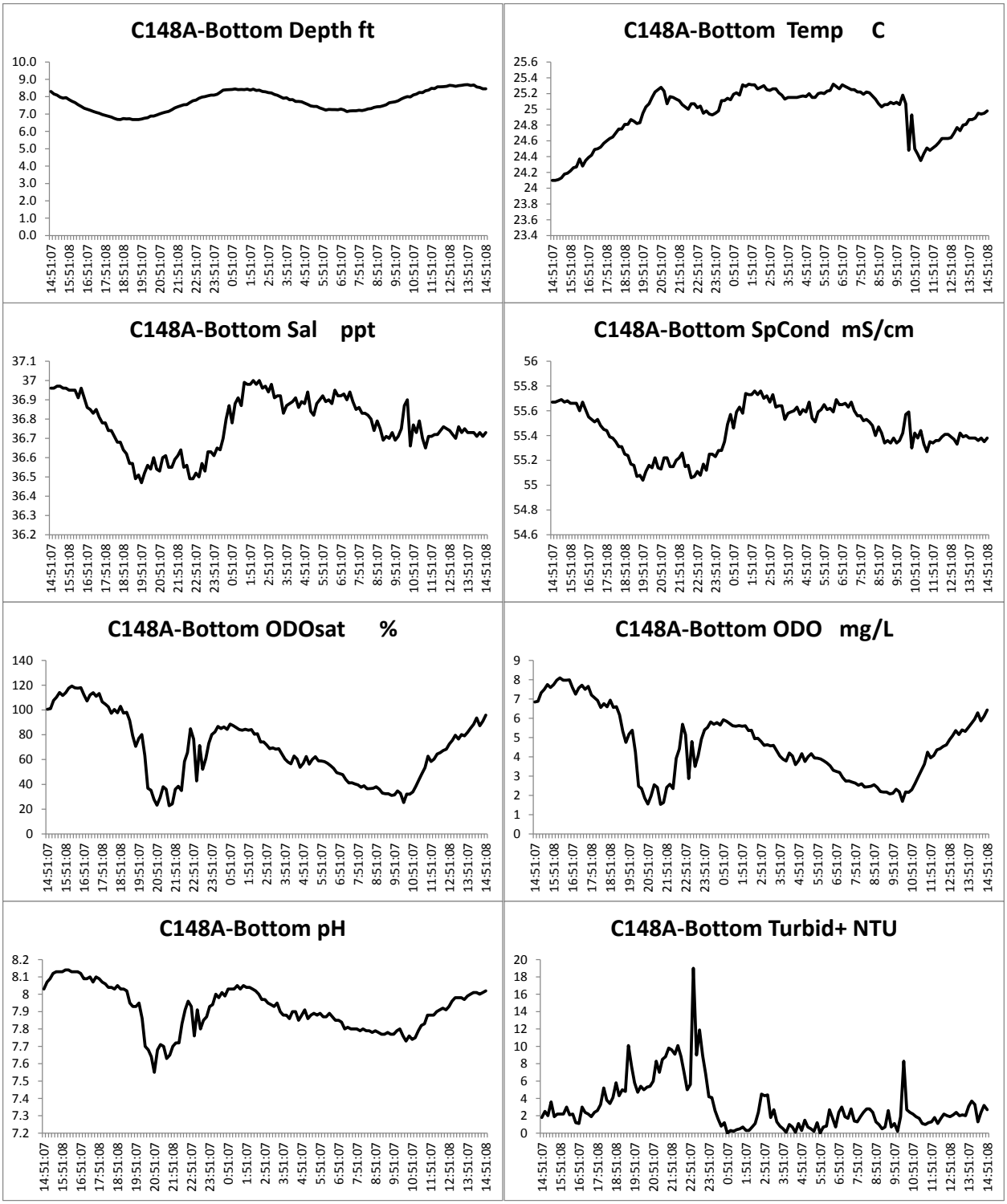

Figure 27: Time-series of physical-chemical data for bottom water at site A in canal #148 during a 24-hour cycle (Diel cycle)

Canal #266. Surface

Water Depth displays an irregular tidal cycle with a relatively large hump peaking at 10 AM. Totaling 1 ft tidal range.

Water Temperature declines from the evening to noon time next day, when values increase.

Salinity and Specific Conductance stays without major changes from evening to early morning hours, when a hump, similar to that of temperature occur.

Dissolved Oxygen and Oxygen saturation remain constant and close to zero with just a few relatively larger values, all smaller than 1 mg/l, during the afternoon. %DO Sat exceedances reach 100%

pH follows very closely the salinity pattern with a highly significant linear correlation coefficients of r^2=0.70.

Turbidity is low with only a period of higher values starting at noon peaking at 2 PM and dropping sharply

	C266A- Surface Temp C	C266A- Surface SpCond mS/cm	C266A- Surface Sal ppt	C266A- Surface Depth meters	C266A- Surface pH	C266A- Surface Turbid+ NTU	C266A- Surface ODOsat %	C266A- Surface ODO mg/L
Average	31.61	56.68	37.49	0.32	7.40	10.04	1.60	0.10
Median	31.2	56.65	37.46	0.306	7.37	6.80	1	0.06
Stand. Dev	1.031	0.197	0.147	0.121	0.060	9.791	1.579	0.091
%DO Sat Exceedances	100%							

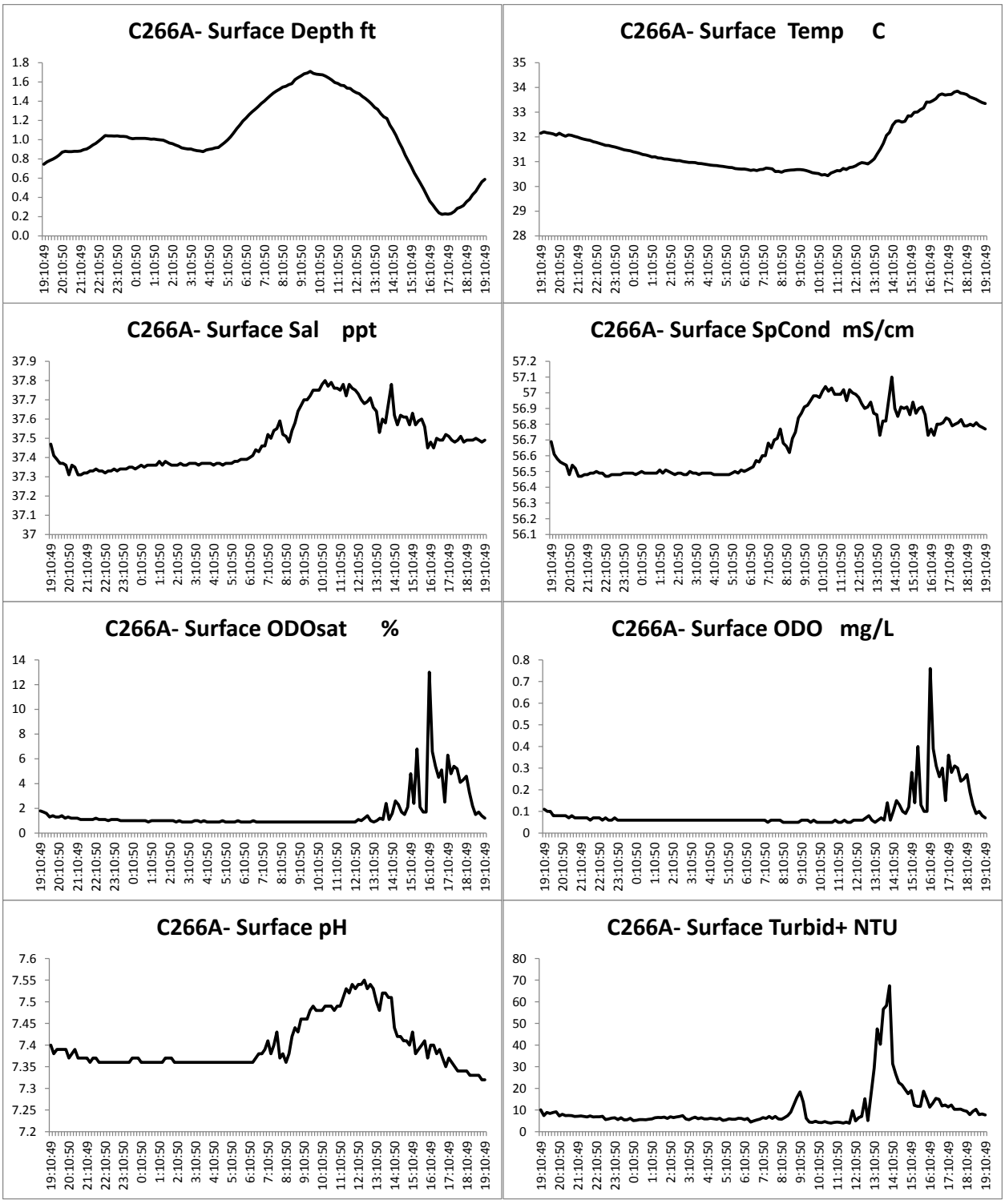

Figure 28: Time-series of physical-chemical data for surface water at site A in canal #266 during a 24-hour cycle (Diel cycle)

Canal #266. Bottom

Water Depth displays a flat constant depth of about 3.5 ft

Water Temperature remains constant with mild variation during the morning and a sharp drop temperature about 5 PM.

Salinity and Specific Conductance stays without major changes from evening to early afternoon hours, when an increase of 1 ^{O}C occur.

Dissolved Oxygen and Oxygen saturation remain constant and close to zero with just a few relatively larger values, all smaller than 2 mg/l, during the afternoon. %DO Sat exceedances reach 100%

pH remains constant at about 7.2 and only experiences some slightly higher readings in the afternoon, when salinity is also higher.

Turbidity is low and declines from evening to mid-morning hours. Then, began an increase with higher variability from noon time into early evening.

	C266A-Bottom Temp C	C266A-Bottom SpCond mS/cm	C266A-Bottom Sal ppt	C266A-Bottom Depth meters	C266A-Bottom pH	C266A-Bottom Turbid+ NTU	C266A-Bottom ODOsat %	C266A-Bottom ODO mg/L
Average	30.10	57.92	38.47	1.14	7.24	81.59	1.29	0.08
Median	30.09	57.94	38.49	1.125	7.23	73.90	1.3	0.08
Stand. Dev	0.139	0.309	0.236	0.064	0.141	24.720	0.199	0.013
%DO Sat Exceedances	100%							

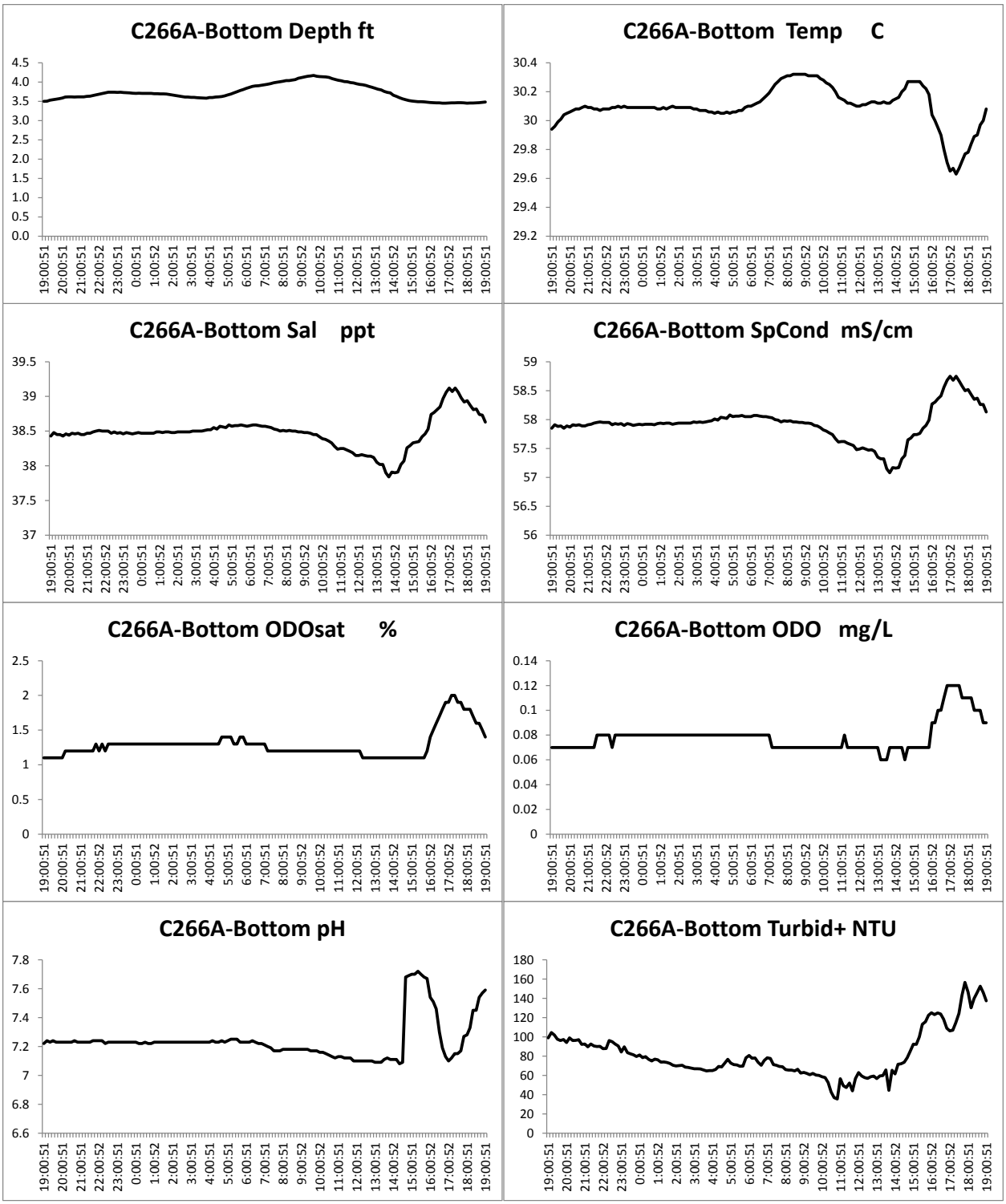

Figure 29: Time-series of physical-chemical data for bottom water at site A in canal #266 during a 24-hour cycle (Diel cycle)

Canal #277. Surface

Water Depth displays a very regular tidal cycle with a 0.7 ft tidal range.

Water Temperature stays about constant except for a slight decrease from morning hours till early afternoon

Salinity and Specific Conductance remain constant until early afternoon when an increasing tendency occurs and peaking at around noon. Total range is just 1.5 ^{O}C

Dissolved Oxygen and Oxygen saturation declines from midafternoon, and amid significant variability, to mid-morning, when values increase rapidly peaking at about 10 AM. %DO Sat exceedances reach 99%

pH follows very closely the DO and % DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.91.

Turbidity is low with only a period of increasing values starting at early afternoon and peaking at evening hours.

	C277A- Surface Temp C	C277A- Surface SpCond mS/cm	C277A- Surface Sal ppt	C277A- Surface Depth meters	C277A- Surface pH	C277A- Surface Turbid+ NTU	C277A- Surface ODOsat %	C277A- Surface ODO mg/L
Average	29.58	51.33	33.59	0.47	7.34	1.42	23.88	1.51
Median	29.52	50.89	33.26	0.466	7.36	1.20	26.7	1.69
Stand. Dev	0.258	0.822	0.605	0.058	0.050	0.771	9.956	0.632
%DO Sat Exceedances	99%							

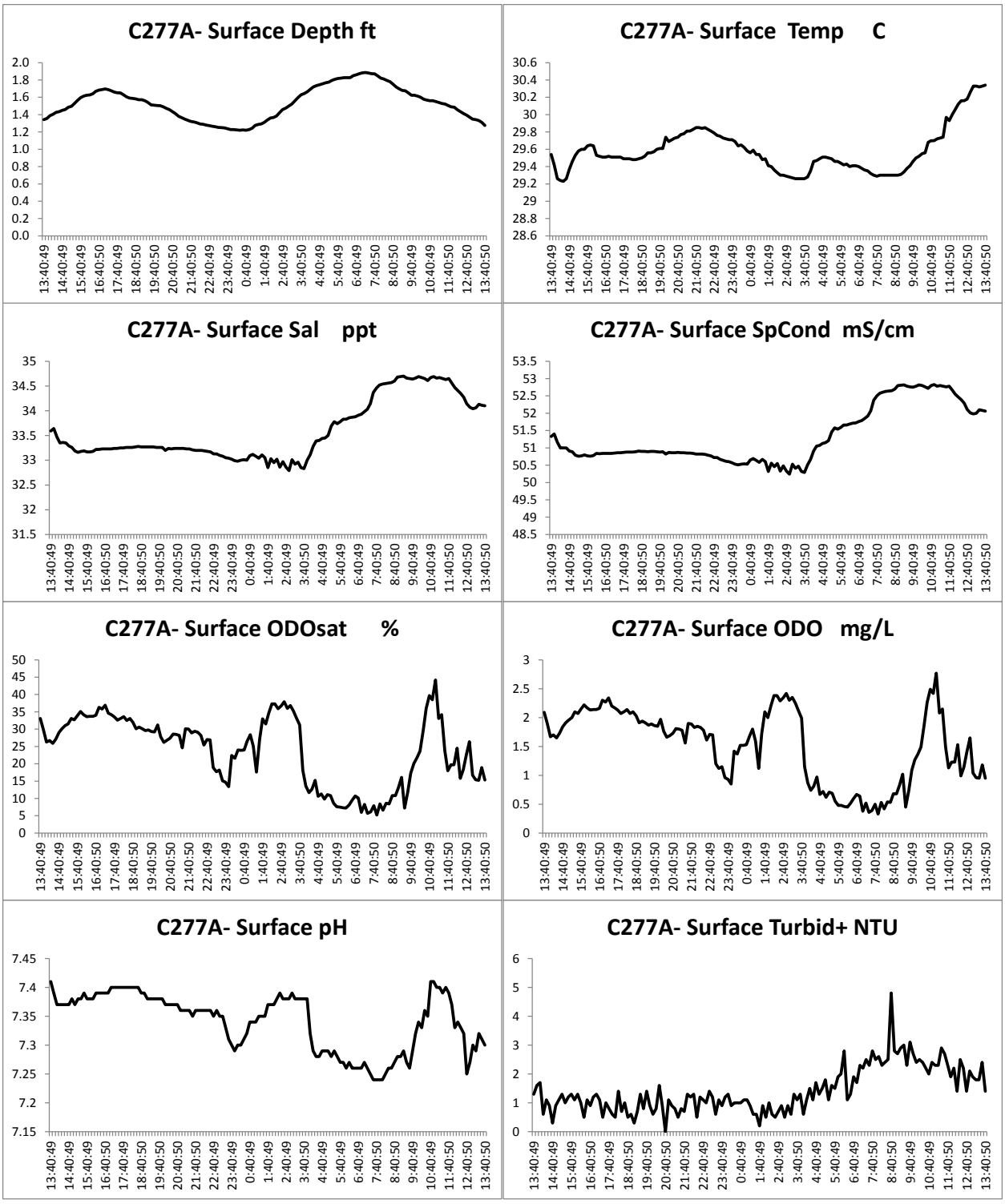

Figure 30: Time-series of physical-chemical data for surface water at site A in canal #277during a 24-hour cycle (Diel cycle)

Canal #277. Bottom

Water Depth displays a very regular tidal cycle with a 0.8 ft tidal range.

Water Temperature increased constantly

Salinity and Specific Conductance decrease slightly from noon to very early morning, when a sudden increase began at about 2 AM

Dissolved Oxygen and Oxygen saturation decline from midafternoon, continuously until midnight. %DO Sat exceedances reach 99%

pH follows very closely the DO and %DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.92.

Turbidity is low and declines from early afternoon to 2 AM, when a sudden increase in turbidity occurs with a strong peak at 4 AM and continuously increasing to early morning.

	C277A- Surface Temp C	C277A- Surface SpCond mS/cm	C277A- Surface Sal ppt	C277A- Surface Depth meters	C277A- Surface pH	C277A- Surface Turbid+ NTU	C277A- Surface ODOsat %	C277A- Surface ODO mg/L
Average	29.58	51.33	33.59	0.47	7.34	1.42	23.88	1.51
Median	29.52	50.89	33.26	0.466	7.36	1.20	26.7	1.69
Stand. Dev	0.258	0.822	0.605	0.058	0.050	0.771	9.956	0.632
%DO Sat Exceedances	99%							

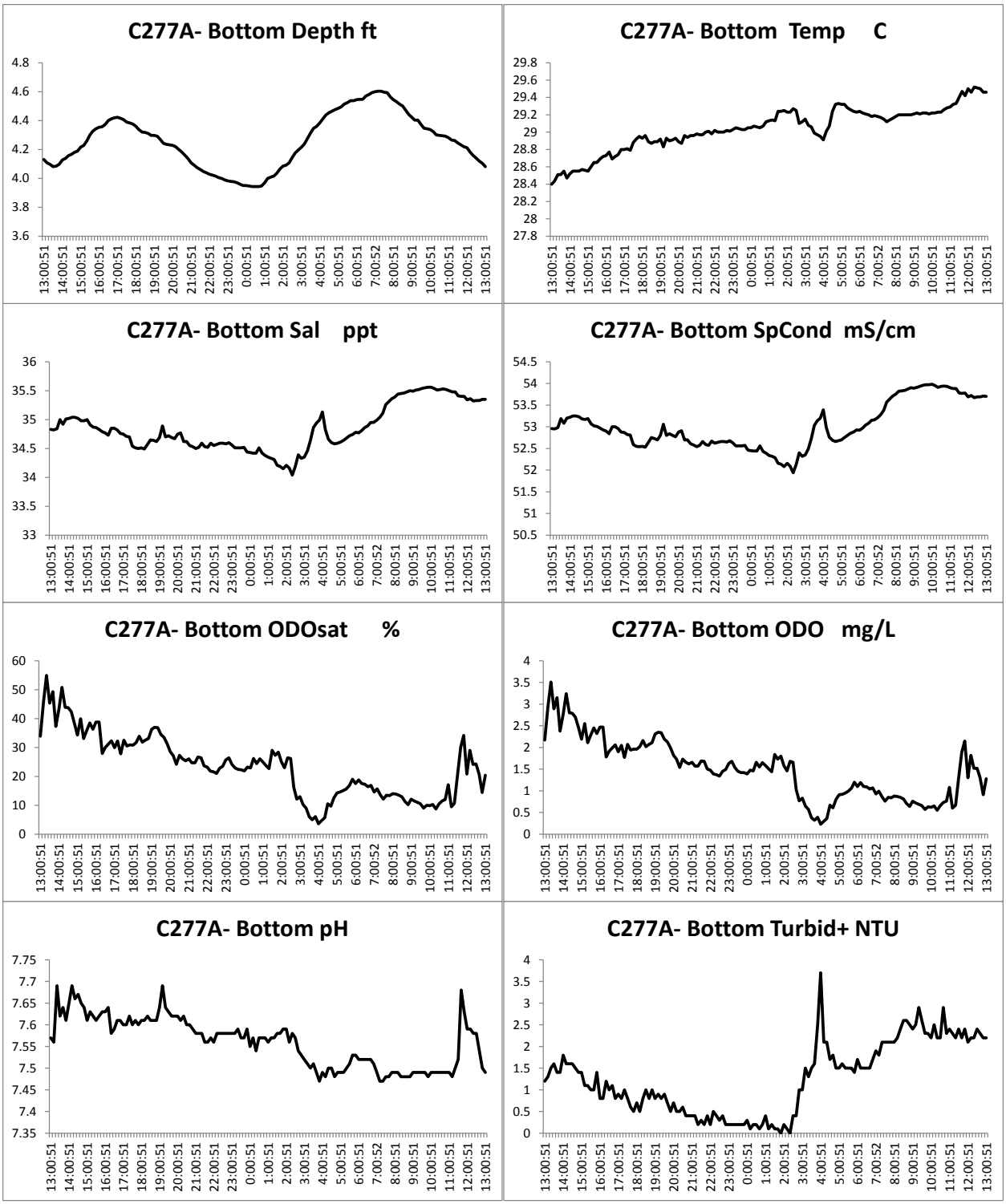

Figure 31: Time-series of physical-chemical data for bottom water at site A in canal #277during a 24-hour cycle (Diel cycle)

Canal #278. Surface

Water Depth displays a very regular tidal cycle with a 1.8 ft tidal range.

Water Temperature decreased from afternoon to very early morning hours, then increases until afternoon hours

Salinity and Specific Conductance follows tides coarsely. Decrease slightly from afternoon to midnight, when a sudden increase began at midnight

Dissolved Oxygen and Oxygen saturation declines from mid afternoon, continuously until mid-morning and then slightly increase. %DO Sat exceedances reach 48%

pH roughly follows DO and %DO Saturation patterns with a highly significant linear correlation coefficients of r^2=0.82.

Turbidity is low and declines from early afternoon to 2 AM, when a sudden increase in turbidity occurs with a strong peak at 4 AM and continuously increasing to early morning.

	C278A- Bottom Temp C	C278A- Bottom SpCond mS/cm	C278A- Bottom Sal ppt	C278A- Bottom Depth meters	C278A- Bottom pH	C278A- Bottom Turbid+ NTU	C278A- Bottom ODOsat %	C278A- Bottom ODO mg/L
Average	31.65	52.24	34.19	1.60	7.61	0.41	41.51	2.53
Median	31.62	52.2	34.16	1.608	7.61	0.40	42	2.57
Stand. Dev	0.219	0.161	0.112	0.083	0.018	0.204	4.904	0.303
%DO Sat Exceedances	48%							

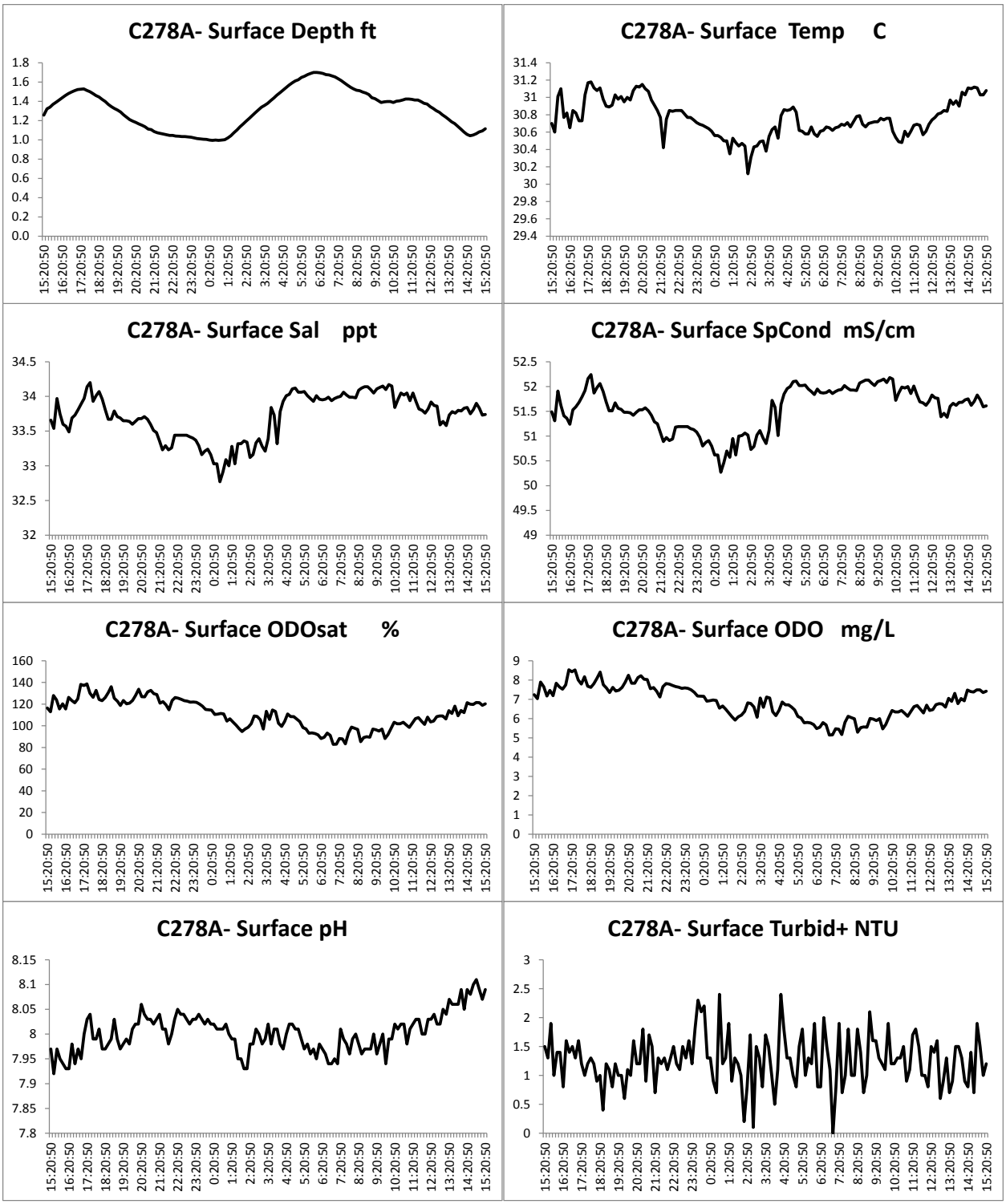

Figure 32: Time-series of physical-chemical data for surface water at site A in canal #278 during a 24-hour cycle (Diel cycle)

Canal #278. Bottom

Water Depth displays a very regular tidal cycle with a 0.8 ft tidal range.

Water Temperature increased constantly

Salinity and Specific Conductance remain constant and begging to decline in early morning when the variability increases.

Dissolved Oxygen and Oxygen saturation declines from midafternoon, continuously until midmorning, when there is a slight increase. %DO Sat exceedances reach 99%

pH continuous decline

Turbidity is low and irregular

	C278A- Bottom Temp C	C278A- Bottom SpCond mS/cm	C278A- Bottom Sal ppt	C278A- Bottom Depth meters	C278A- Bottom pH	C278A- Bottom Turbid+ NTU	C278A- Bottom ODOsat %	C278A- Bottom ODO mg/L
Average	31.65	52.24	34.19	1.60	7.61	0.41	41.51	2.53
Median	31.62	52.2	34.16	1.608	7.61	0.40	42	2.57
Stand. Dev	0.219	0.161	0.112	0.083	0.018	0.204	4.904	0.303
%DO Sat Exceedances	48%							

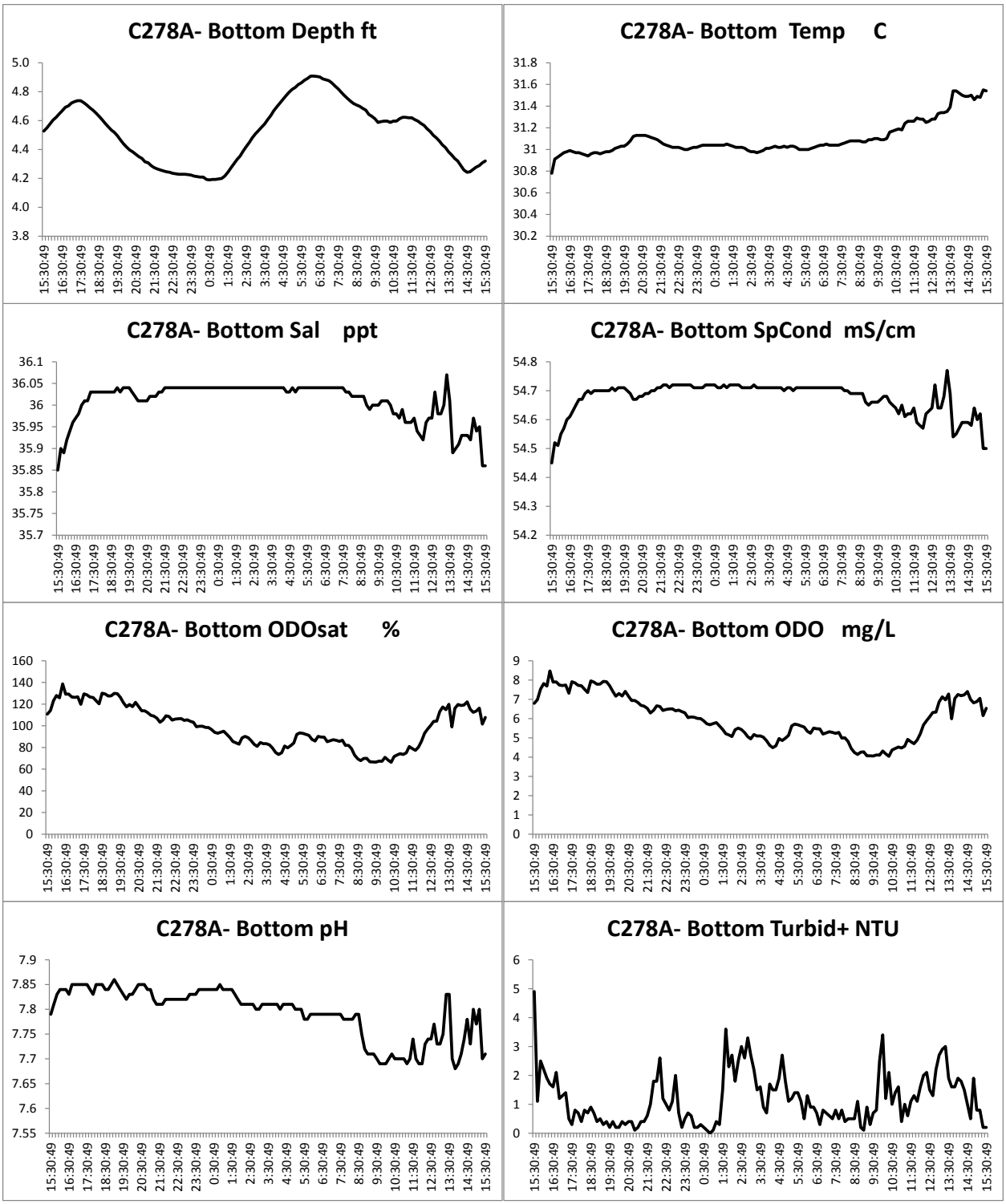

Figure 33: Time-series of physical-chemical data for bottom water at site A in canal #278during a 24-hour cycle (Diel cycle)

Canal #282. Surface

Water Depth displays an asymmetric tidal cycle with a strong decline from 9Am to 3 PM. 0.8 ft tidal range.

Water Temperature declines constantly from afternoon to morning next day when begins to climb back

Salinity and Specific Conductance continuously increases

Dissolved Oxygen and Oxygen saturation declines from early evening to noon next day, when begin to increase again , continuously until midmorning, when there is a slight increase. There are not %DO Sat exceedances

pH continuous decline

Turbidity is low and irregular

	C278A- Bottom Temp	C278A- Bottom SpCond	C278A- Bottom Sal	C278A- Bottom Depth	C278A- Bottom pH	C278A- Bottom Turbid+	C278A- Bottom ODOsat	C278A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	31.10	54.67	36.01	1.38	7.79	1.18	98.89	6.03
Median	31.04	54.7	36.03	1.389	7.81	1	98.3	5.99
Stand. Dev	0.158	0.056	0.045	0.066	0.052	0.881	19.283	1.176
%DO Sat Exceedances	0%							

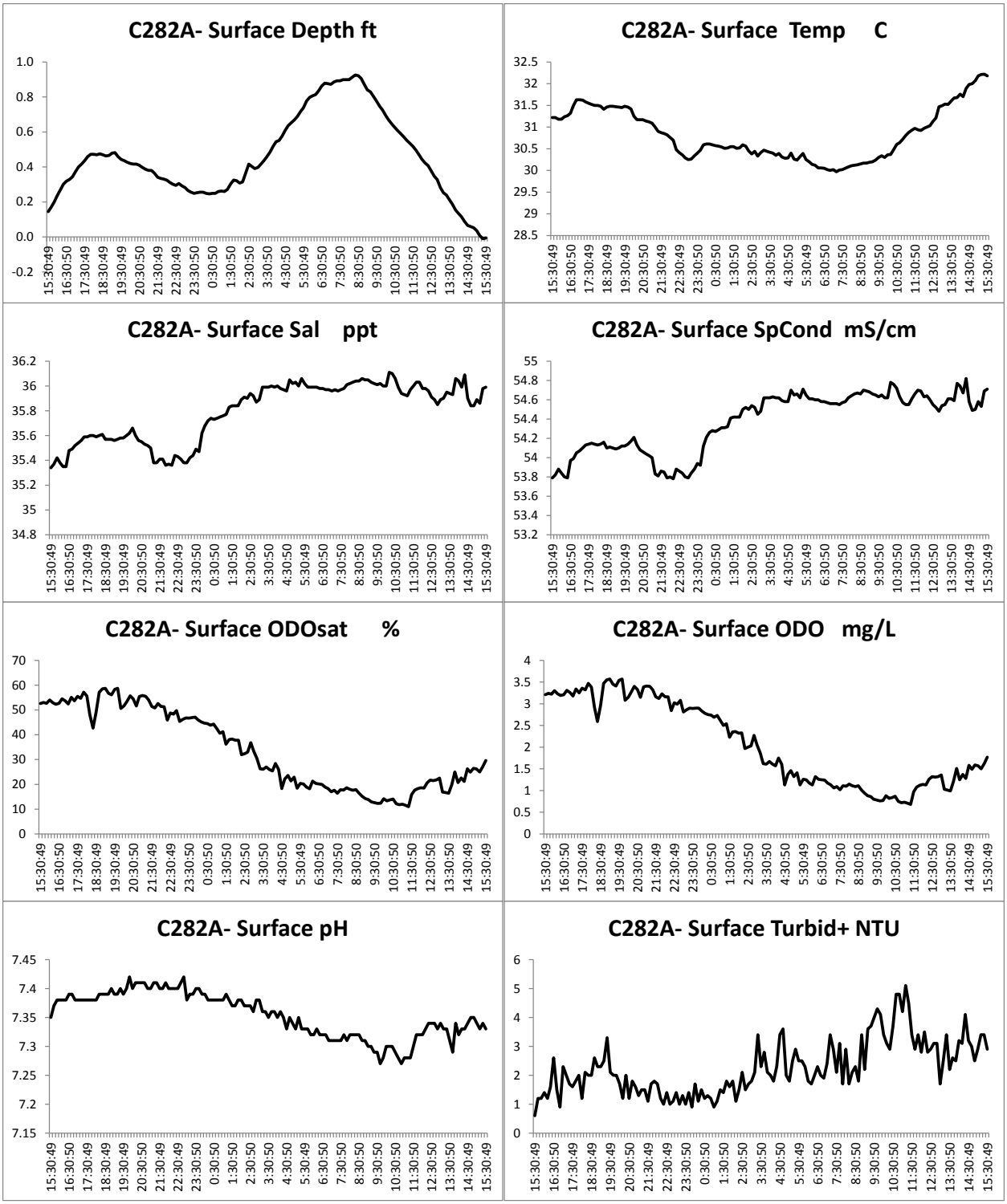

Figure 34: Time-series of physical-chemical data for surface water at site A in canal #282 during a 24-hour cycle (Diel cycle)

Canal #282. Bottom

Water Depth displays rather flat depth curve just 0.5 ft depth range.

Water Temperature increases from afternoon hours to early morning, where values decline rapidly to early morning, when an increasing tendency resumes.

Salinity and Specific Conductance continuously increases from late afternoon hours to mid-morning next day when values decline until afternoon hours

Dissolved Oxygen and Oxygen saturation describe an opposite tendency as that of salinity. %DO Sat exceedances reach 90%

pH is highly correlated with DO and %DO Sat (r2=.98)

Turbidity shows high turbidity from mid-afternoon to late night hours, when it becomes very small and constant around 3 NTU

	C282A- Bottom Temp	C282A- Bottom SpCond	C282A- Bottom Sal	C282A- Bottom Depth	C282A- Bottom pH	C282A- Bottom Turbid+	C282A- Bottom ODOsat	C282A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.31	55.07	36.33	1.26	7.56	7.57	22.89	1.41
Median	30.33	55.04	36.3	1.249	7.54	5.3	19.9	1.23
Stand. Dev	0.190	0.204	0.154	0.074	0.068	5.441	14.102	0.870
%DO Sat Exceedances	90%							

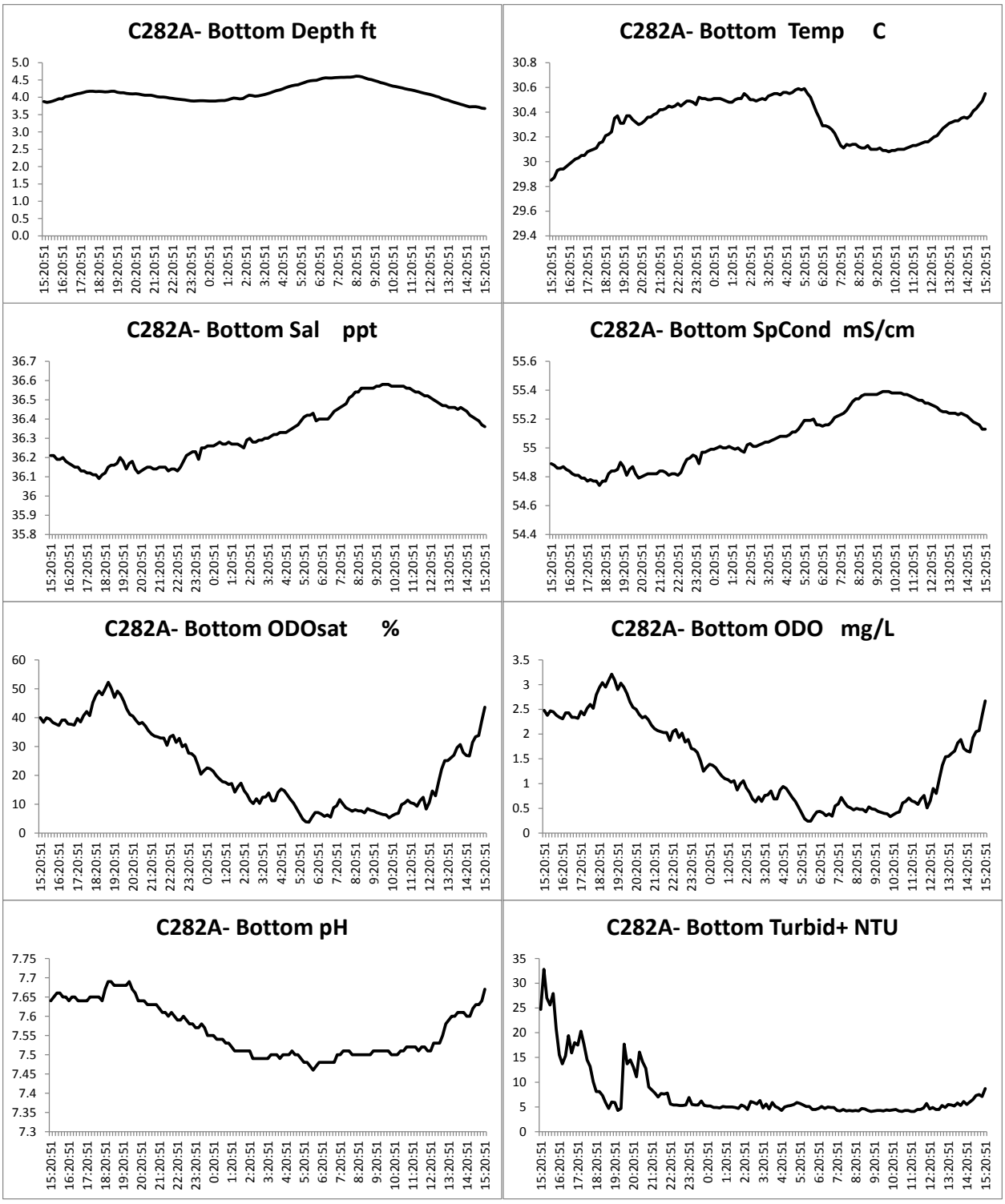

Figure 35: Time-series of physical-chemical data for bottom water at site A in canal #282 during a 24-hour cycle (Diel cycle)

Canal #287. Surface

Water Depth displays an asymmetrical tidal curve with maximum at 7 AM. 0.8ft tidal range.

Water Temperature declines from mid afternoon to early morning next day when an increasing tendency resumes.

Salinity and Specific Conductance declines especially at low tide, with higher variability

Dissolved Oxygen and Oxygen saturation follow very closely the temperature pattern. %DO Sat exceedances reach 18%

pH. Follows very closely the pattern of DO and %DO Sat (r2=0.87)

Turbidity is generally low and with noisy signal

	C287A- Surface Temp	C287A- Surface SpCond	C287A- Surface Sal	C287A- Surface Depth	C287A- Surface pH	C287A- Surface Turbid+	C287A- Surface ODOsat	C287A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.61	53.02	34.84	0.42	7.45	0.37	48.58	3.05
Median	29.88	53.31	35.03	0.425	7.45	0.3	49.2	3.1
Stand. Dev	0.501	0.645	0.461	0.014	0.045	0.232	9.603	0.599
%DO Sat Exceedances	18%							

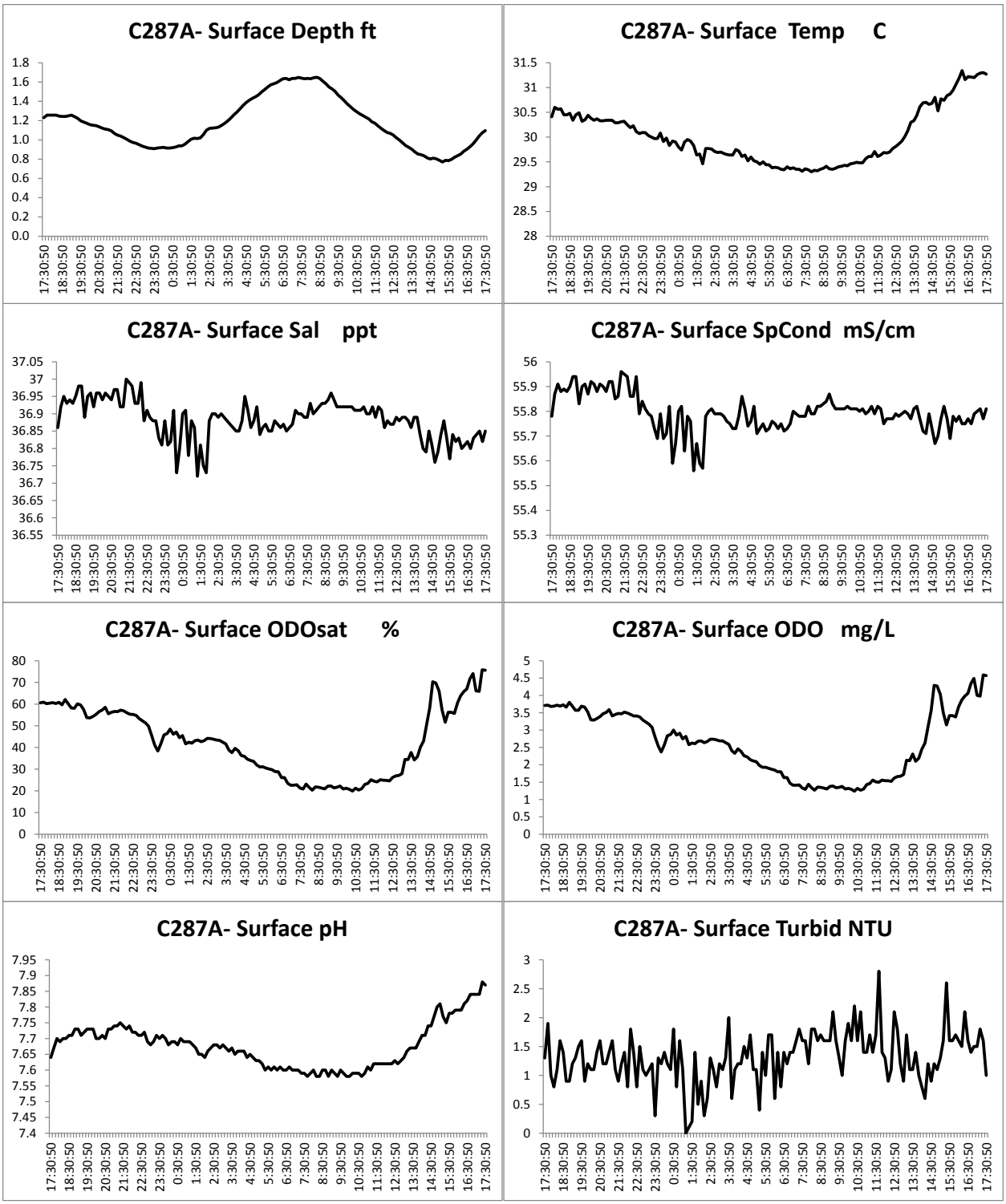

Figure 36: Time-series of physical-chemical data for surface water at site A in canal #287 during a 24-hour cycle (Diel cycle)

Canal #287. Bottom

Water Depth displays an asymmetrical tidal curve with 0.8ft tidal range.

Water Temperature remain constant from early evening to noon time next day when an increasing tendency resumes.

Salinity and Specific Conductance declines in evening-night time an then remains constant the rest of the time

Dissolved Oxygen and Oxygen saturation show a period where values remain totally flat at zero from late night to noon next day,At both sides of this period, values are higher and with relatively large variability. %DO Sat exceedances reach 100%

pH signal is noisy and displays a declining tendency from mid afternoon to mid morning, when a slightly decreasing tendency sets in.

Turbidity shows similar tendency as that of pH

	C287A- Bottom Temp	C287A- Bottom SpCond	C287A- Bottom Sal	C287A- Bottom Depth	C287A- Bottom pH	C287A- Bottom Turbid+	C287A- Bottom ODOsat	C287A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.54	53.87	35.47	2.25	7.30	10.40	4.84	0.30
Median	29.57	53.88	35.48	2.253	7.29	8.1	2	0.13
Stand. Dev	0.144	0.087	0.064	0.117	0.032	6.931	3.994	0.252
%DO Sat Exceedances	100%							

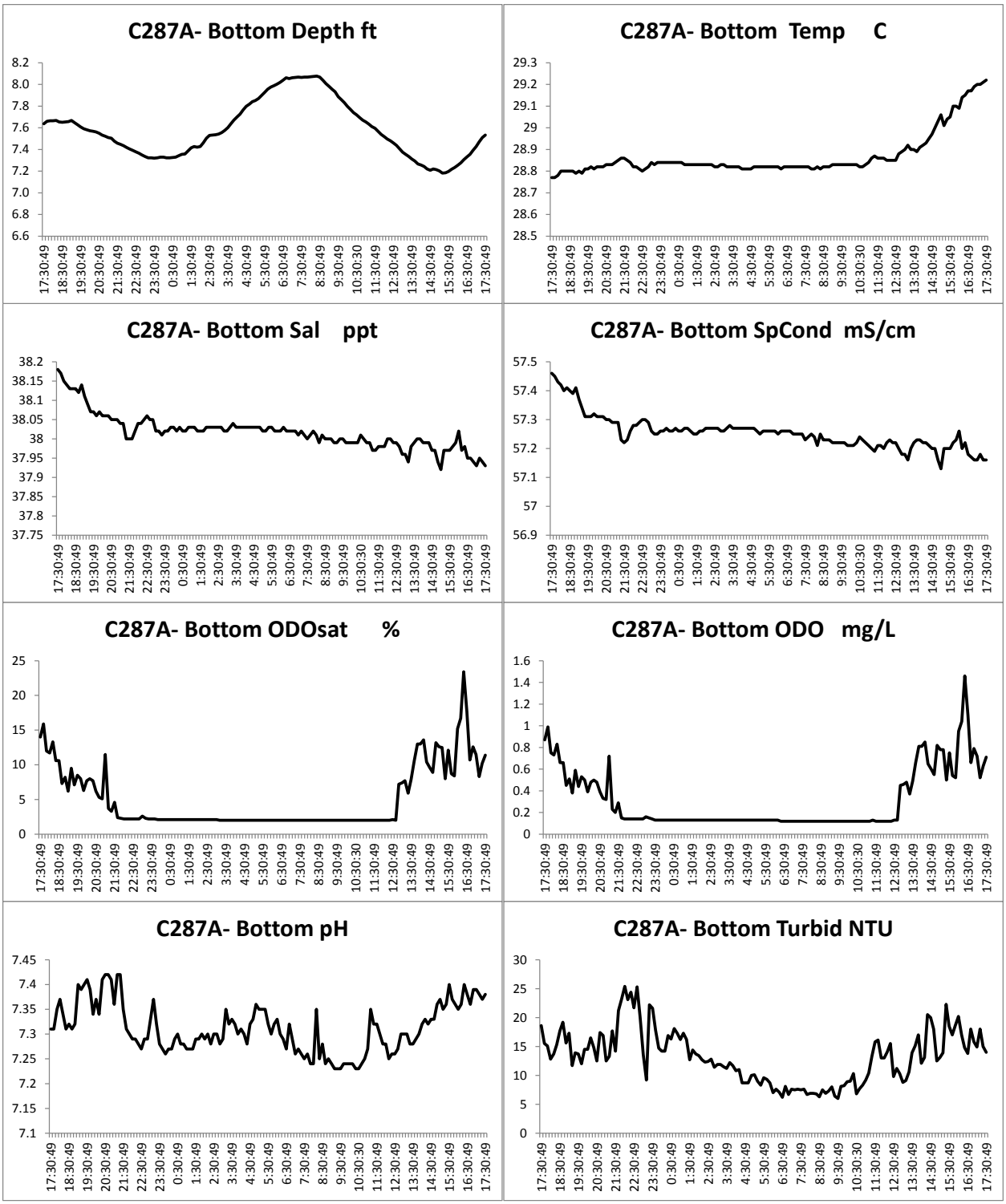

Figure 37: Time-series of physical-chemical data for bottom water at site A in canal #287 during a 24-hour cycle (Diel cycle)

Canal #290. Surface

Water Depth displays an asymmetrical tidal curve with 1.2 ft tidal range.

Water Temperature remain constant from evening to morning hours, when it increases until mid-afternoon

Salinity and Specific Conductance show a slight declining trend from evening hours to early morning and then remains about constant to slightly increasing

Dissolved Oxygen and Oxygen saturation display low to zero values from evening to mid-morning next day, when a steep increase begins peaking at mid afternoon. Total %DO exceedances reach 97%

pH displays a constant tendency from evening to morning hours, when a slightly increasing tendency sets in.

Turbidity shows low and very noisy signal with a poorly defined increasing tendency from midnight and peaking at mid-morning

	C290A- Surface Temp	C290A- Surface SpCond	C290A- Surface Sal	C290A- Surface Depth	C290A- Surface pH	C290A- Surface Turbid	C290A- Surface ODOsat	C290A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.95	55.68	36.77	0.45	7.65	1.34	14.04	0.84
Median	30.64	55.68	36.76	0.434	7.62	1.2	9.7	0.6
Stand. Dev	1.024	0.146	0.092	0.097	0.093	0.578	12.942	0.763
%DO Sat Exceedances	97%							

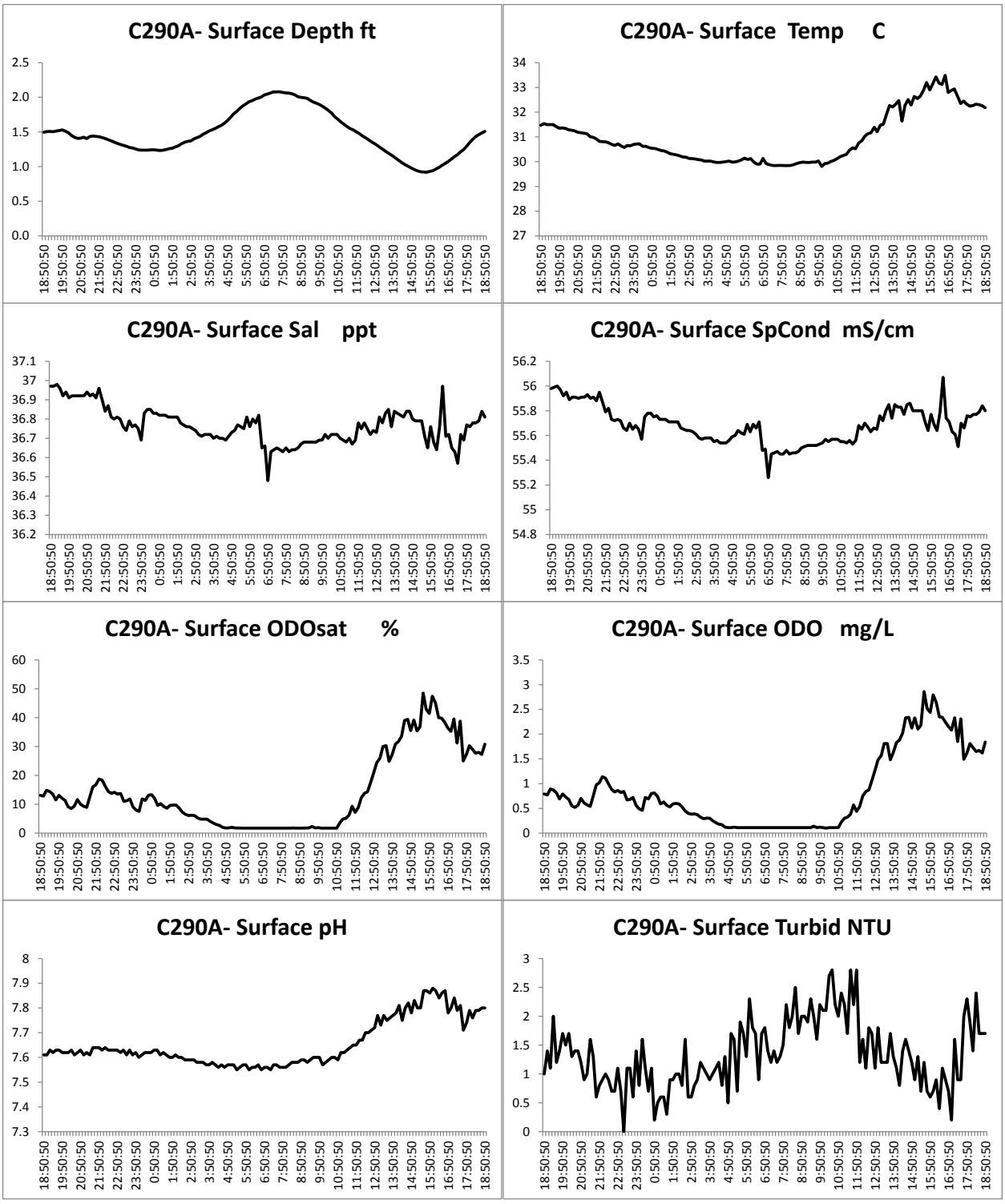

Figure 38: Time-series of physical-chemical data for surface water at site A in canal #290 during a 24-hour cycle (Diel cycle)

Canal #290. Bottom

Water Depth displays an rather flat tidal curve with 0.8ft tidal range.

Water Temperature remain constant from evening to early morning hours, when it declines until mid-morning to resume increases again until evening hours

Salinity and Specific Conductance show a little increase from night hours to early morning when values suddenly drop and stay low the rest of the day.

Dissolved Oxygen and Oxygen saturation show a period where values remain totally flat at zero from late night to noon next day, Values at night hours are very low, and values increase drastically at noon and remain relatively high (2.5 mg/l) until evening hours. %DO Sat exceedances reach 94%

pH displays a declining tendency from evening to early morning, when a slightly increasing tendency sets in.

Turbidity shows low values from afternoon to very early morning hours, when a slight and highly variable tendency ensues

	C290A- Bottom Temp	C290A- Bottom SpCond	C290A- Bottom Sal	C290A- Bottom Depth	C290A- Bottom pH	C290A- Bottom Turbid	C290A- Bottom ODOsat	C290A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.56	56.36	37.28	1.40	7.30	3.71	10.53	0.64
Median	30.7	56.39	37.3	1.383	7.29	3.6	2.4	0.15
Stand. Dev	0.290	0.087	0.061	0.098	0.060	1.347	14.252	0.867
%DO Sat Exceedances	94%							

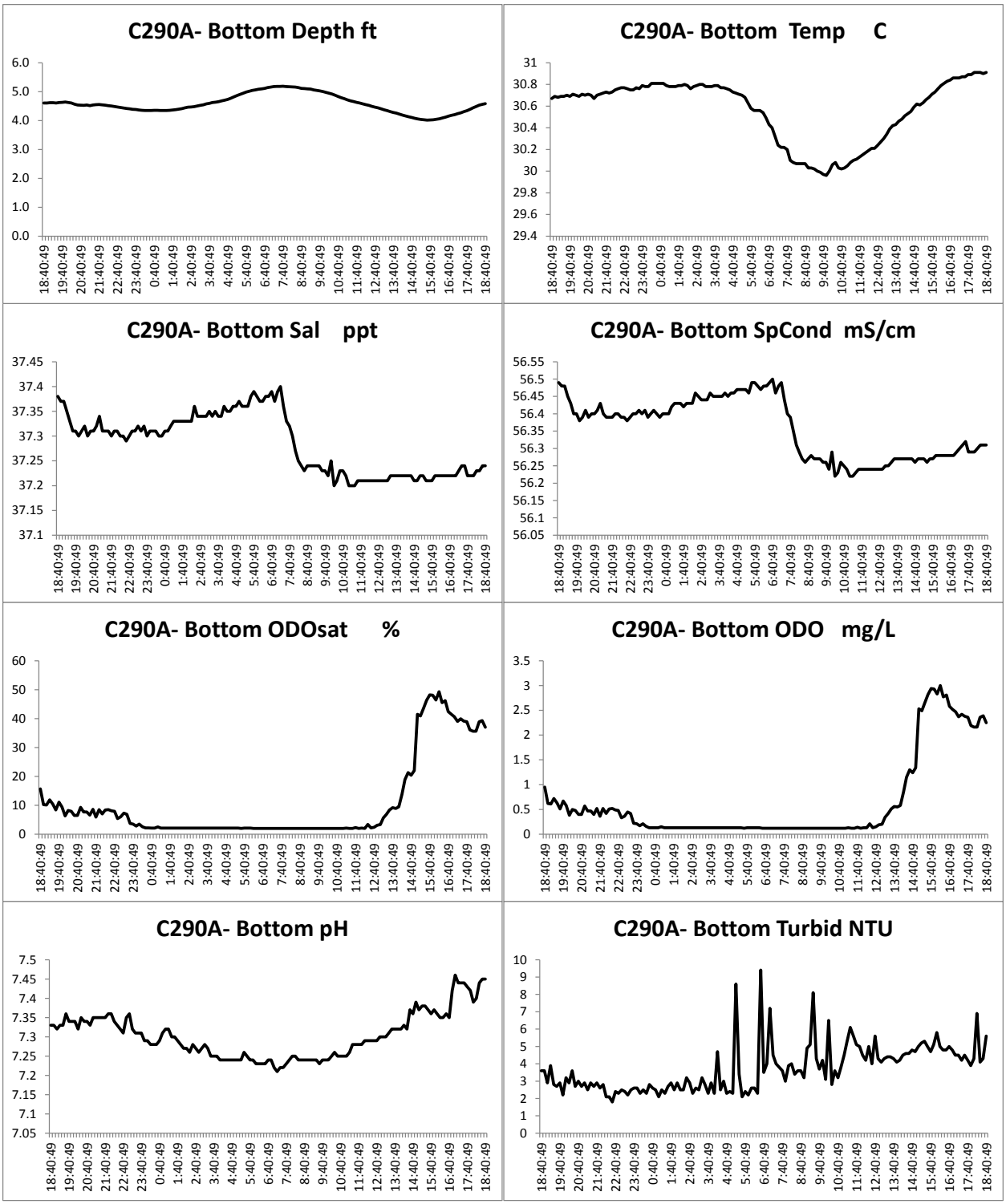

Figure 39: Time-series of physical-chemical data for bottom water at site A in canal #290 during a 24-hour cycle (Diel cycle)

Canal #293. Surface

Water Depth displays an asymmetric tidal curve with 1.5 ft tidal range.

Water Temperature remain constant from evening to early morning hours, when it increases until mid-afternoon hours

Salinity and Specific Conductance coarsely relate to salinity, declining from evening to mid-night, increasing to early morning and declining again until late afternoon

Dissolved Oxygen and Oxygen saturation remains practically at zer except for afternoon hours %DO Sat exceedances reach 100%

pH stais close to 7.2 units and displays a slightly increasing tendency

Turbidity declines from afternoon hours to 2 AM, when it remains about constant the rest of the time

	C293A- Surface Temp	C293A- Surface SpCond	C293A- Surface Sal	C293A- Surface Depth	C293A- Surface pH	C293A- Surface Turbid	C293A- Surface ODOsat	C293A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.83	56.12	37.10	0.58	7.23	3.12	2.67	0.16
Median	30.65	56.13	37.08	0.569	7.22	3.1	0.9	0.06
Stand. Dev	0.777	0.207	0.162	0.099	0.037	0.727	4.594	0.271
%DO Sat Exceedances	100%							

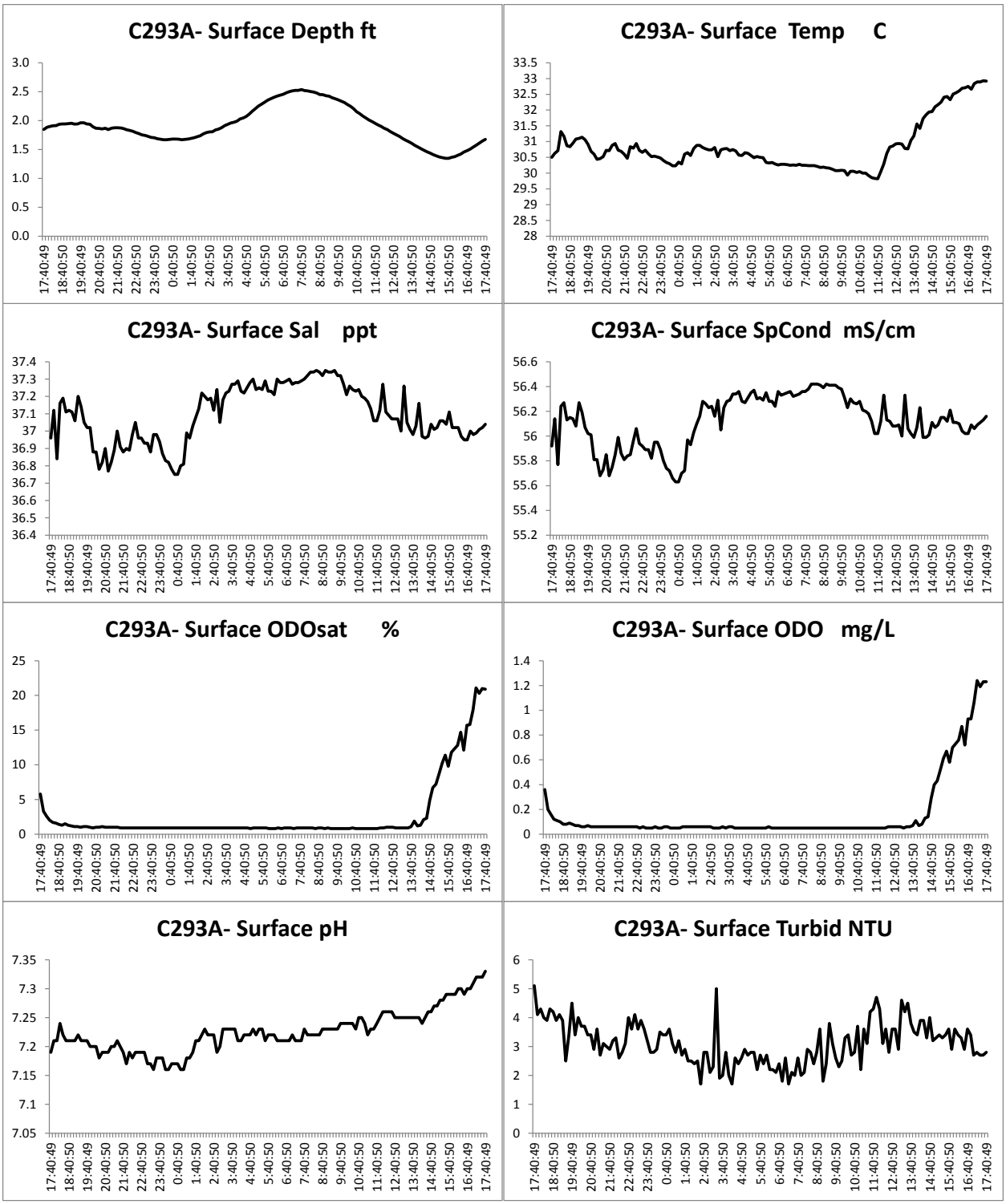

Figure 40: Time-series of physical-chemical data for surface water at site A in canal #293 during a 24-hour cycle (Diel cycle)

Canal #293. Bottom

Water Depth displays a flat depth curve with just 0.8 ft range.

Water Temperature is noisy and without definite pattern

Salinity and Specific Conductance are noisy and without well defined tendency

Dissolved Oxygen and Oxygen saturation remains practically at zero. %DO Sat exceedances reach 100%

pH shows slightly higher values from morning to evening hours

Turbidity displays a pattern similar to that of pH

	C293A- Surface Temp	C293A- Surface SpCond	C293A- Surface Sal	C293A- Surface Depth	C293A- Surface pH	C293A- Surface Turbid	C293A- Surface ODOsat	C293A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.83	56.12	37.10	0.58	7.23	3.12	2.67	0.16
Median	30.65	56.13	37.08	0.569	7.22	3.1	0.9	0.06
Stand. Dev	0.777	0.207	0.162	0.099	0.037	0.727	4.594	0.271
%DO Sat Exceedances	100%							

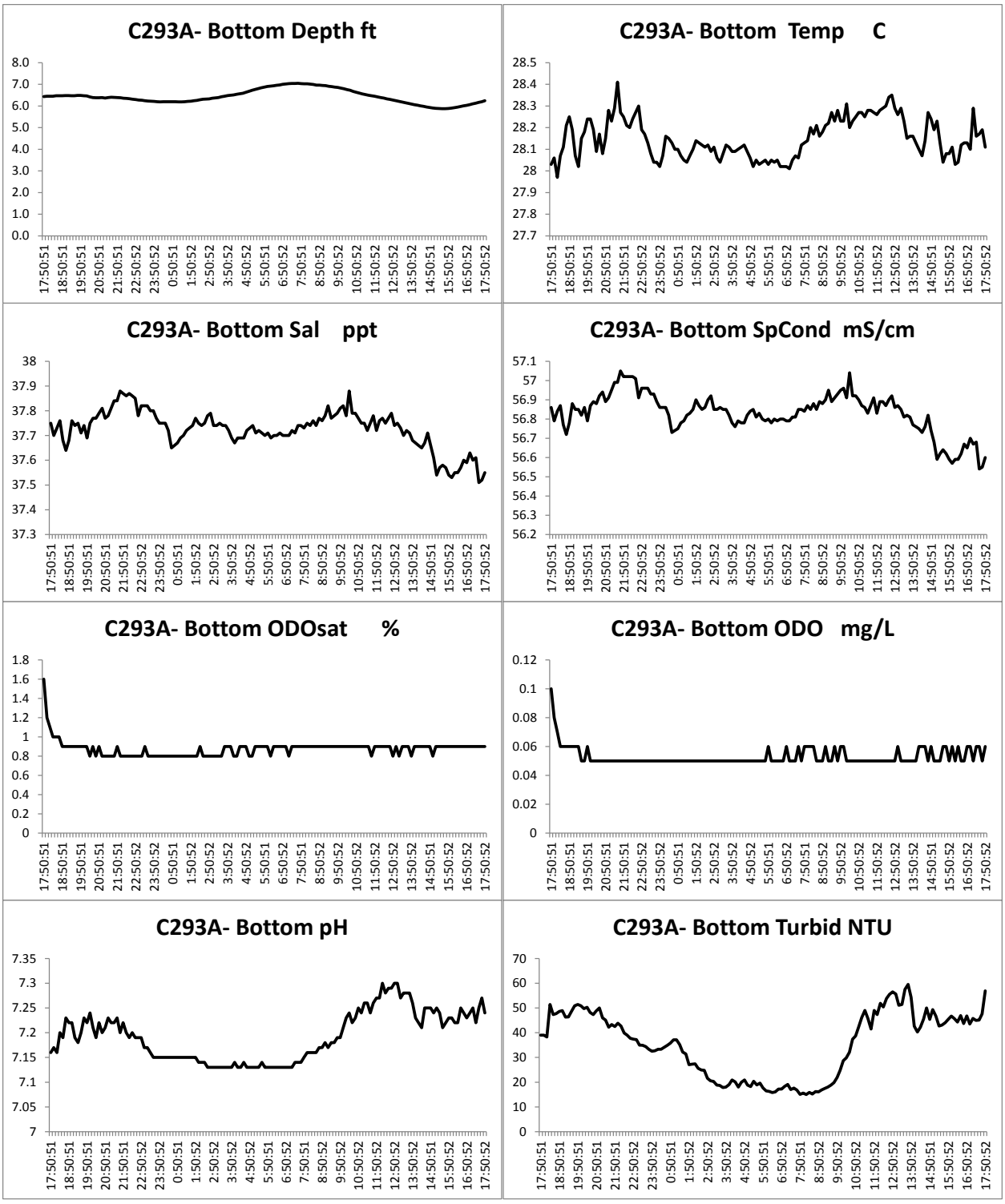

Figure 41: Time-series of physical-chemical data for bottom water at site A in canal #293 during a 24-hour cycle (Diel cycle)

Canal #459. Surface

Water Depth displays a well-defined tidal cycle of 0.4 ft range.

Water Temperature increases during the afternoon hours and declines to early morning when it slightly increases again.

Salinity and Specific Conductance decrease during afternoon and evening hours. Increase continuously to early morning, when a significant drop occurs at about 6 AM

Dissolved Oxygen and Oxygen saturation describe a similar pattern as that of temperature. There were no %DO Sat exceedances.

pH is highly correlated with DO and %DO Sat (r2=.86)

Turbidity shows low values especially noisy from evening to afternoon hours next day

	C459A- Surface Temp	C459A- Surface SpCond	C459A- Surface Sal	C459A- Surface Depth	C459A- Surface pH	C459A- Surface Turbid	C459A- Surface ODOsat	C459A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	25.96	58.44	39.00	1.29	7.95	1.28	90.37	5.88
Median	25.73	58.45	39.02	1.282	7.95	1.2	87.6	5.73
Stand. Dev	0.623	0.109	0.089	0.082	0.039	0.458	16.299	1.002
%DO Sat Exceedances	0%							

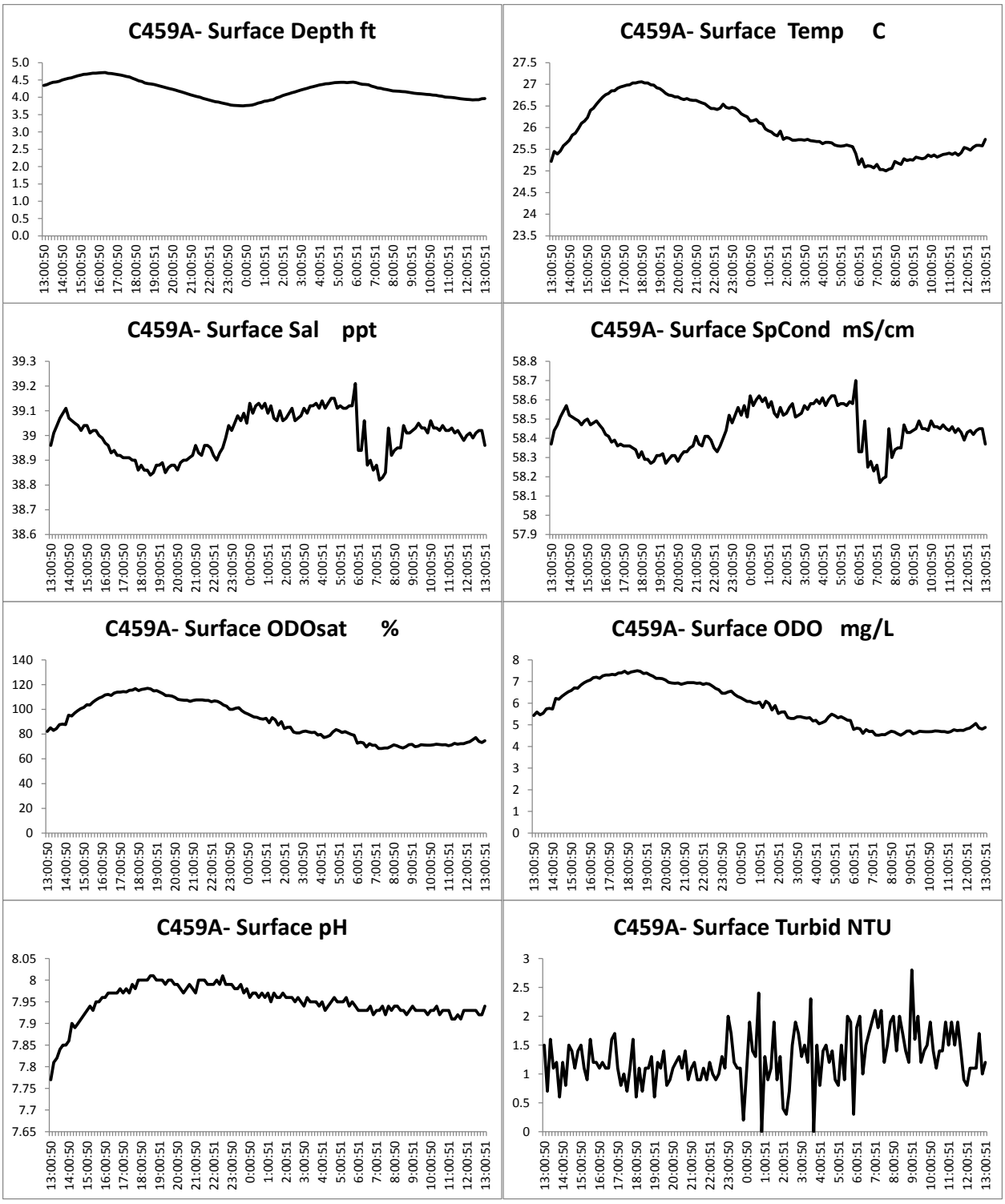

Figure 42: Time-series of physical-chemical data for surface water at site A in canal #459 during a 24-hour cycle (Diel cycle)

Canal #459. Bottom

Water Depth displays a well-defined tidal cycle of 0.8 ft range.

Water Temperature increases during the afternoon hours and declines the rest of the time.

Salinity and Specific Conductance declines from noon to evening, when an increase in salinity begins and extends to midnight. Finally, remains constant until noon next day

Dissolved Oxygen and Oxygen saturation describe a similar pattern as that of temperature. There were no %DO Sat exceedances.

pH is highly correlated with DO and %DO Sat (r2=.86)

Turbidity shows low values especially noisy from evening to afternoon hours next day

	C459A- Bottom Temp	C459A- Bottom SpCond	C459A- Bottom Sal	C459A- Bottom Depth	C459A- Bottom pH	C459A- Bottom Turbid	C459A- Bottom ODOsat	C459A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	26.36	57.43	38.23	1.95	8.06	2.30	86.04	5.59
Median	26.22	57.46	38.27	1.942	8.06	2.3	82.2	5.36
Stand. Dev	0.581	0.119	0.100	0.057	0.031	0.678	13.223	0.807
%DO Sat Exceedances	0%							

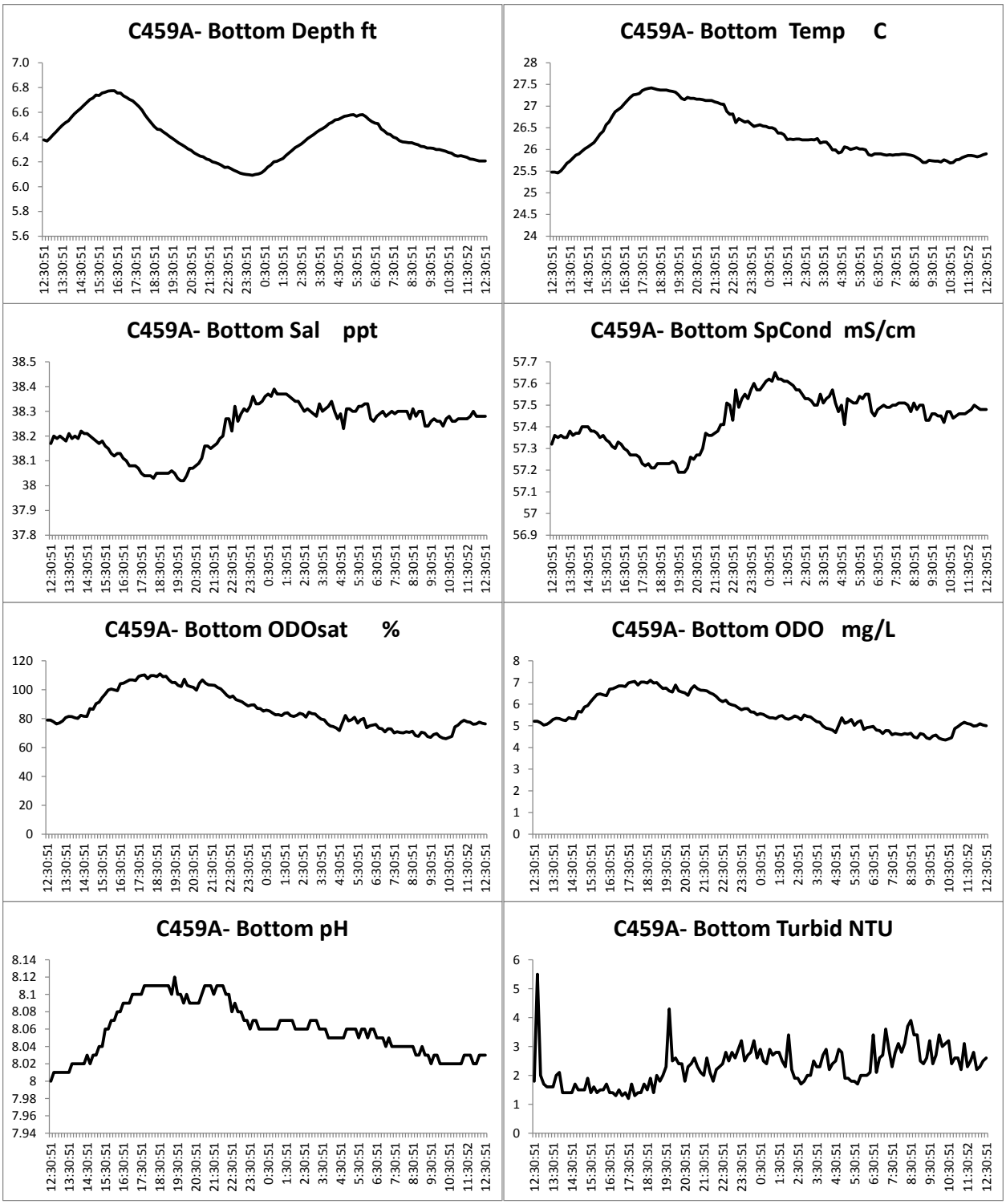

Figure 42: Time-series of physical-chemical data for bottom water at site A in canal #459 during a 24-hour cycle (Diel cycle)

Canal #472. Surface

NOTE: The sonde emerged from the water during low tide.

Water Depth only the highest portions of the tidal curve are shown

Water Temperature seems to display increasing values during daylight hours

Salinity and Specific Conductance. Seems to hold constant

Dissolved Oxygen and Oxygen saturation display a continuous decline. From values which were inside the water, total %DO exceedances reach 91%

pH is about constant to slightly declining and seems to decline strongly during morning hours

Turbidity not well defined pattern

	C472A- Surface Temp	C472A- Surface SpCond	C472A- Surface Sal	C472A- Surface Depth	C472A- Surface pH	C472A- Surface Turbid	C472A- Surface ODOsat	C472A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	26.77	58.14	38.75	1.12	7.93	0.93	80.67	5.19
Median	26.61	58.17	38.76	1.146	7.93	0.9	79.8	5.11
Stand. Dev	0.464	0.092	0.078	0.087	0.030	0.318	5.416	0.319
%DO Sat Exceedances	0%							

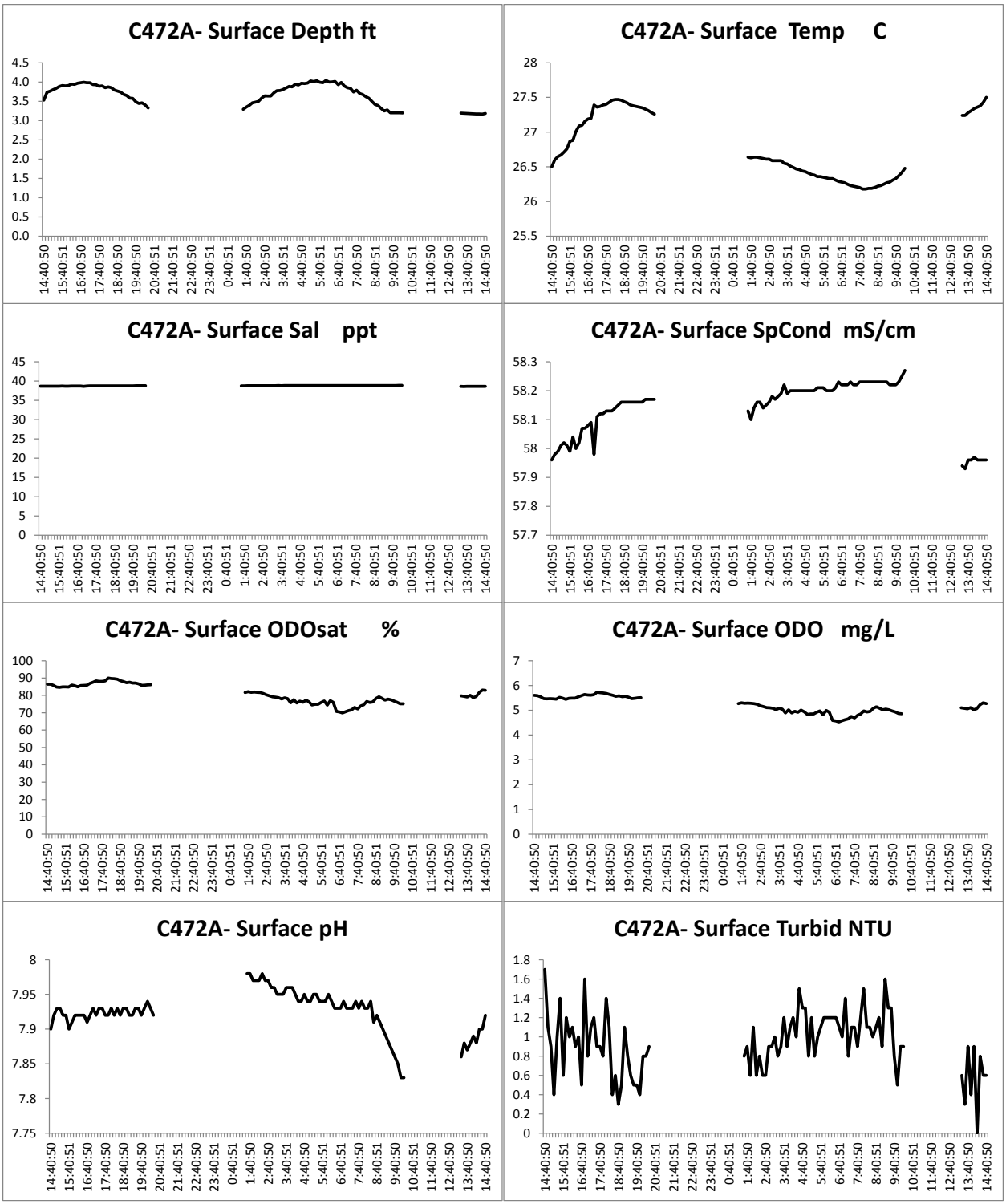

Figure 43: Time-series of physical-chemical data for surface water at site A in canal #472 during a 24-hour cycle (Diel cycle)

Canal #472. Bottom

Water Depth displays a well-defined tidal cycle of 0.8 ft range.

Water Temperature increases continuously

Salinity and Specific Conductance show higher variability from mid-morning to sunset hours

Dissolved Oxygen and Oxygen saturation display a continuous decline. Total %DO exceedances reach 91%

pH is about constant to slightly declining

Turbidity shows low values from afternoon to late night hours followed by increasing tendency peaking at midnight. Another relatively high set of values occur from mid-morning to mid-afternoon

	C472A- Bottom Temp	C472A- Bottom SpCond	C472A- Bottom Sal	C472A- Bottom Depth	C472A- Bottom pH	C472A- Bottom Turbid	C472A- Bottom ODOsat	C472A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	26.11	58.41	38.97	4.06	7.83	5.25	32.04	2.08
Median	26.1	58.4	38.97	4.064	7.82	3.9	30.5	1.98
Stand. Dev	0.090	0.075	0.055	0.064	0.025	3.178	7.030	0.459
%DO Sat Exceedances	91%							

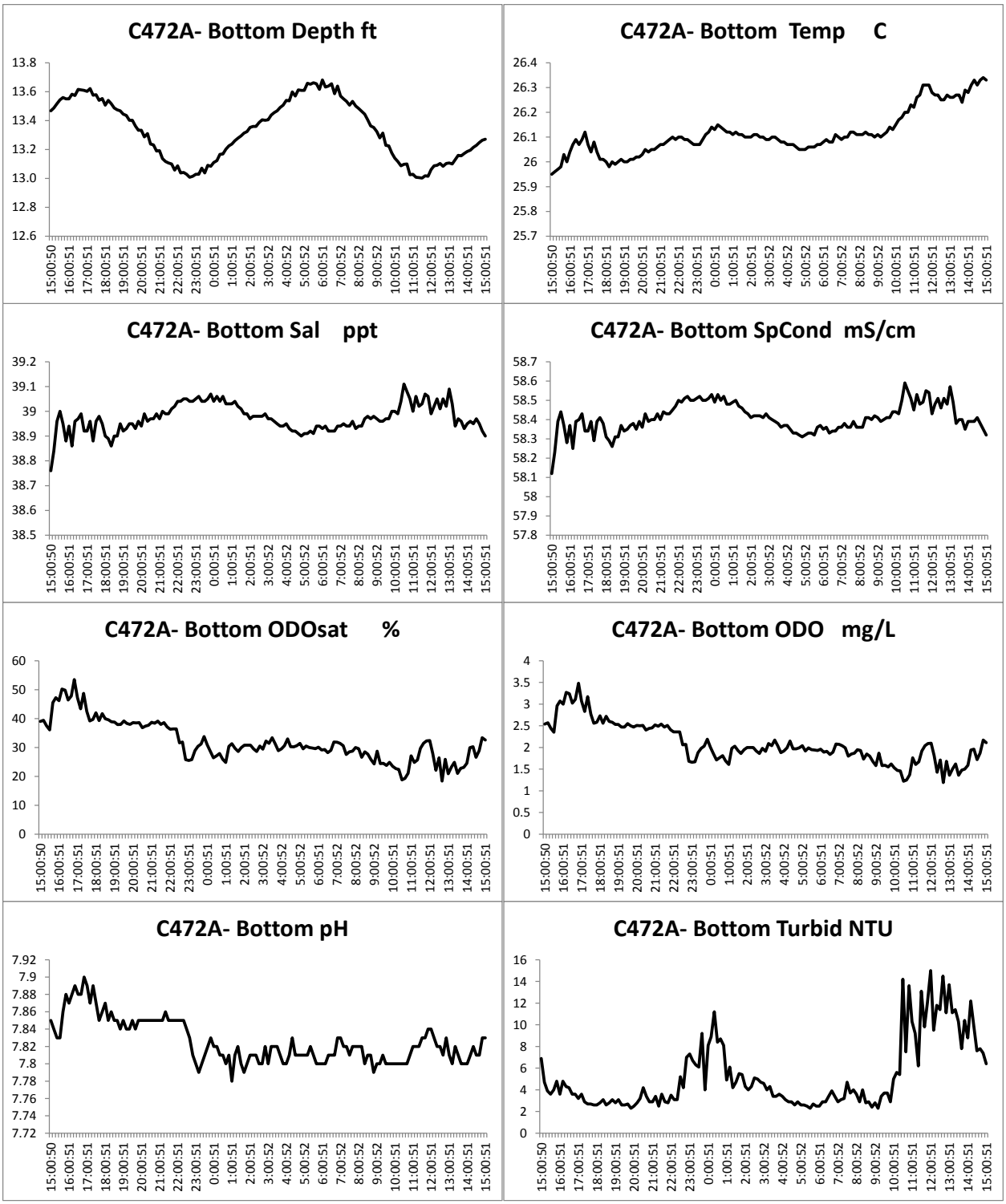

Figure 44: Time-series of physical-chemical data for bottom water at site A in canal #472 during a 24-hour cycle (Diel cycle)

Diel experiments

Survey No 2

Canal #132. Surface

Water Depth remains rather constant.

Water Temperature seems to display increasing values during daylight hours.

Salinity and Specific Conductance. Seems to hold constant.

Dissolved Oxygen and Oxygen saturation show declines beginning at sunset, extending to morning hours next day, following temperature trends. The water column remains well oxygenated, without exceeding the regulation levels (all values above 42% DO Sat).

pH is about constant but it seems to increase slightly during daylight hours.

Turbidity does not show any well-defined pattern and it ranges between zero and 14 NTU.

	C132A- Surface Temp	C132A- Surface SpCond	C132A- Surface Sal	C132A- Surface Depth	C132A- Surface pH	C132A- Surface Turbid	C132A- Surface ODOsat	C132A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.32	52.93	34.74	0.28	7.47	8.96	69.33	4.30
Median	30.34	52.94	34.77	0.28	7.45	10.30	63.40	3.93
Stand. Dev	0.46	0.16	0.13	0.01	0.06	3.75	15.06	0.91
%DO Sat Exceedances	0%							

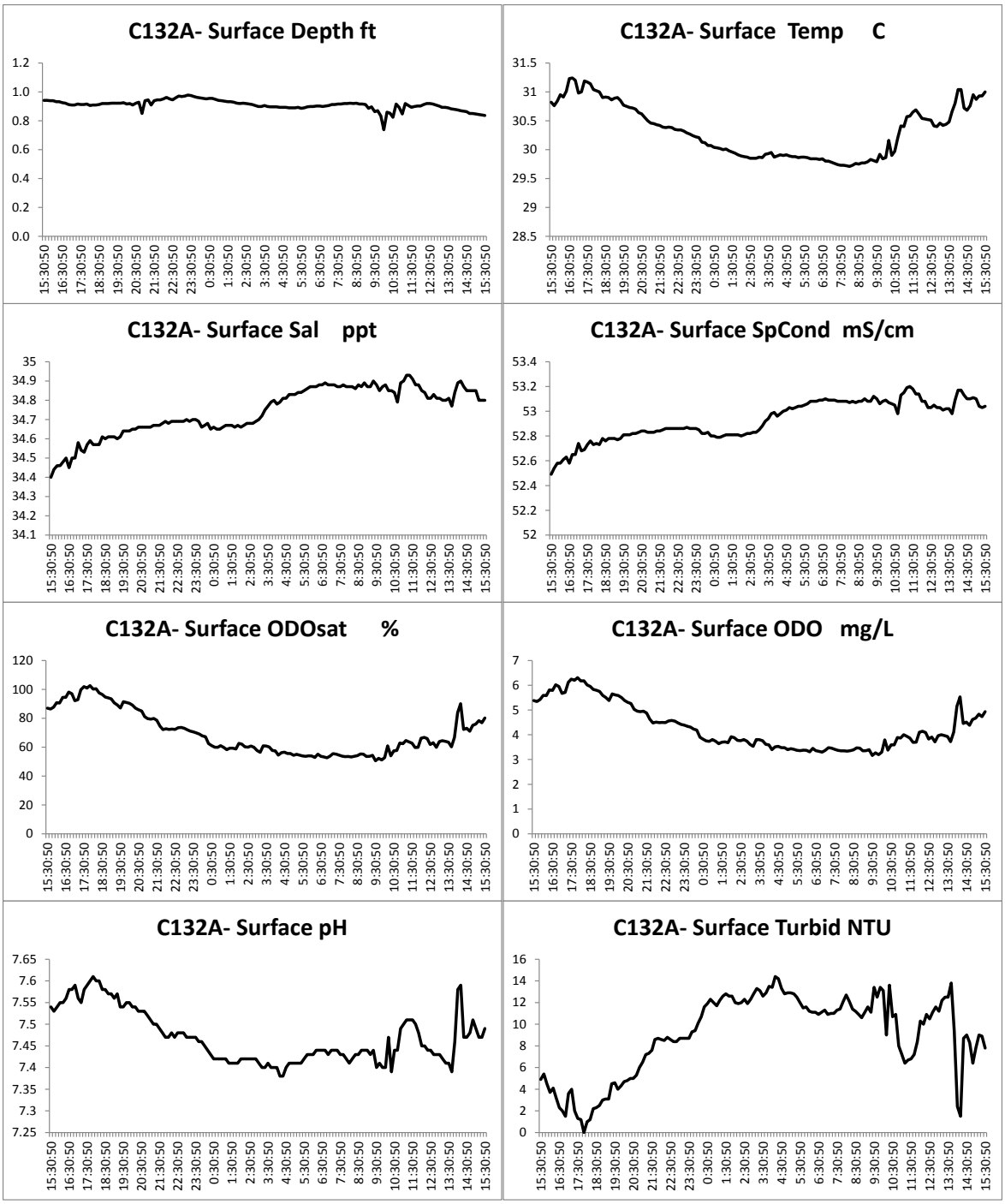

Figure 45: Time-series of physical-chemical data for surface water at site A in canal #132 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #132. Bottom

Water Depth displays a well-defined tidal cycle of 1.6 ft range.

Water Temperature increases continuously.

Salinity and Specific Conductance show higher variability from mid-morning to sunset hours

Dissolved Oxygen and Oxygen saturation do not change significantly and water remains well oxygenated, without any exceedance of the regulation (all values above 42% DO Sat).

pH follows closely the salinity pattern with an increase in the afternoon.

Turbidity shows a relatively high set of values occurring at midnight and another at mid-morning.

	C132A-Bottom Temp C	C132A-Bottom SpCond mS/cm	C132A-Bottom Sal ppt	C132A-Bottom Depth meters	C132A-Bottom pH	C132A-Bottom Turbid NTU	C132A-Bottom ODOsat %	C132A-Bottom ODO mg/L
Average	29.73	52.95	34.77	1.82	7.41	1.16	51.97	3.26
Median	29.76	53.00	34.81	1.83	7.40	0.90	51.20	3.21
Stand. Dev	0.17	0.13	0.09	0.15	0.04	1.09	4.34	0.27
%DO Sat Exceedances	0%							

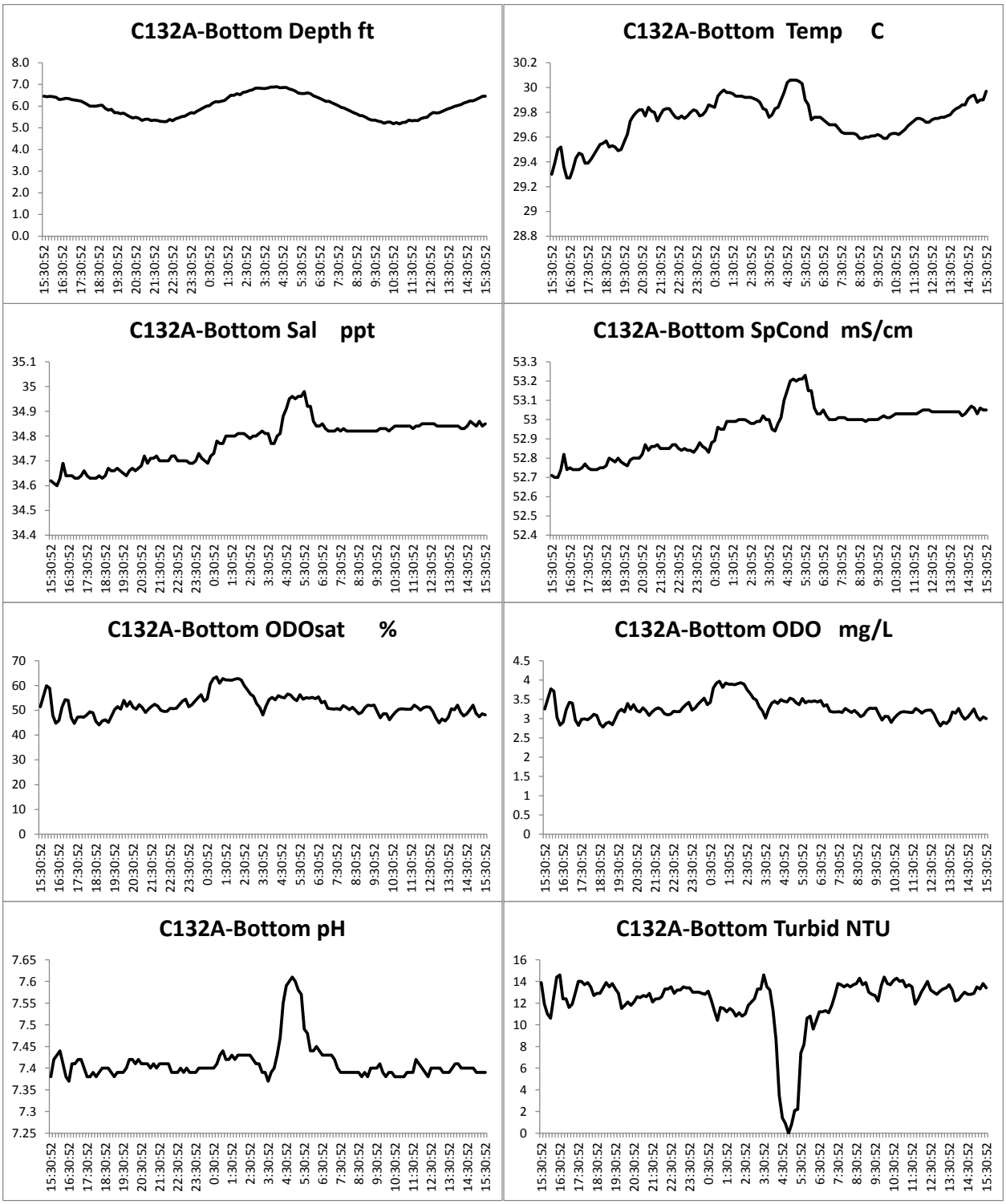

Figure 46: Time-series of physical-chemical data for bottom water at site A in canal #132 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #137. Bottom

Water Depth displays a very regular tidal cycle with a 2.0 ft tidal range.

Water Temperature displays increasing values during daylight hours of about 1ºC.

Salinity and Specific Conductance show an increasing tendency but the change is of only 0.1 PSU.

Dissolved Oxygen and Oxygen saturation do not show significantly. There are 5% of %DO saturation exceedances.

pH displays an increase in the early afternoon and then remains relative stable with values around 7.36

Turbidity drops from 9 NTU to practically zero NTU.

	C137A-Bottom Temp	C137A-Bottom SpCond	C137A-Bottom Sal	C137A-Bottom Depth	C137A-Bottom pH	C137A-Bottom Turbid	C137A-Bottom ODOsat	C137A-Bottom ODO	C137A-Bottom Turbid
	C	mS/cm	ppt	meters		NTU	%	mg/L	
Average	28.76	52.77	34.68	1.94	7.36	-28.24	54.63	3.48	2.76
Median	28.79	52.76	34.67	1.93	7.36	-28.70	55.70	3.55	2.30
Stand. Dev	0.23	0.04	0.03	0.18	0.03	1.98	5.32	0.33	1.98
%DO Sat Exceedances	5%								

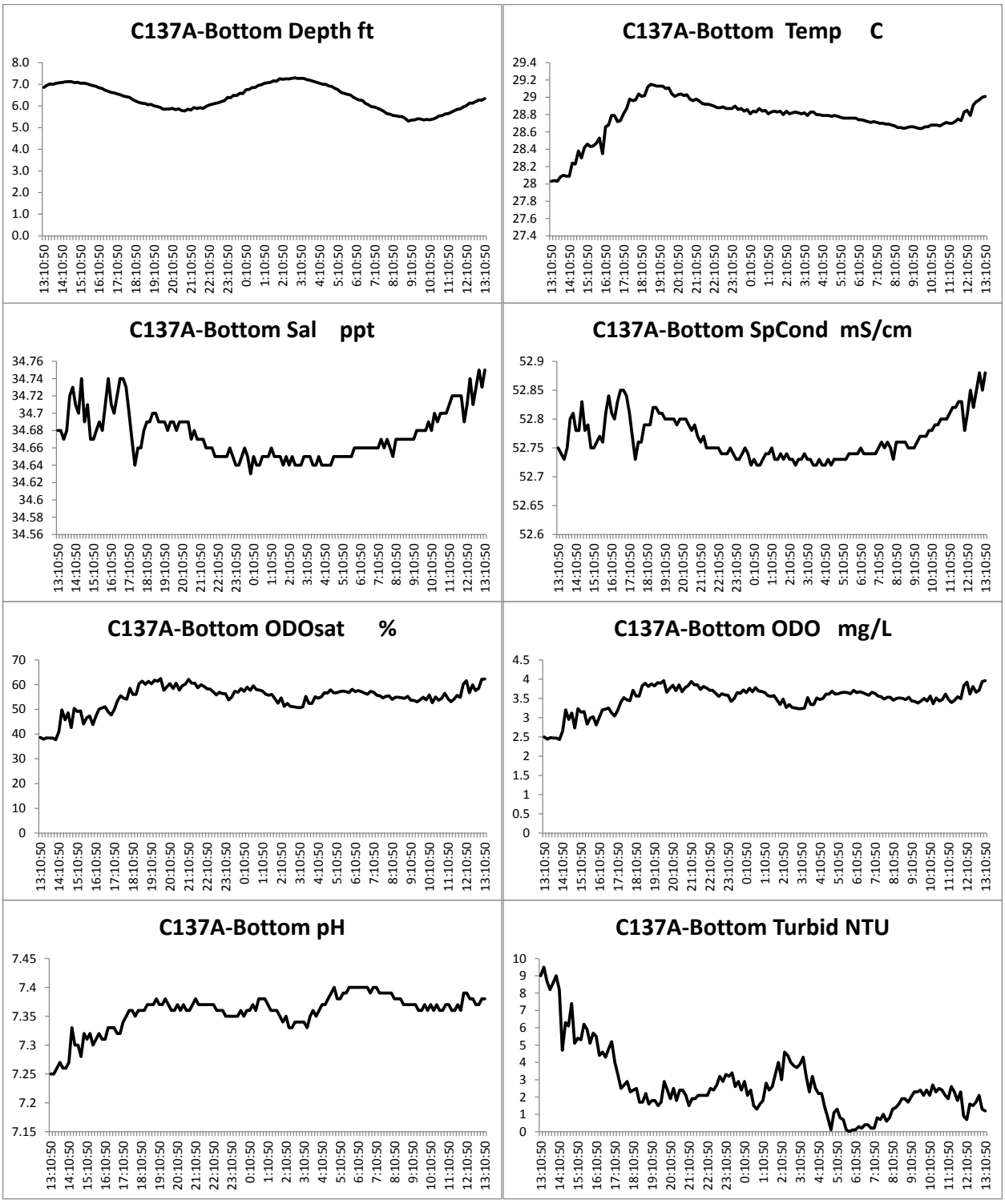

Figure 47: Time-series of physical-chemical data for bottom water at site A in canal #137 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #137. Surface

Water Depth does not display tidal cycles.

Water Temperature displays increasing values during daylight hours of about 1ºC.

Salinity and Specific Conductance show an increasing tendency but the change is of only 0.1 PSU.

Dissolved Oxygen and Oxygen saturation do not show significantly. The water column remains well oxygenated, without exceeding the regulation levels (all values above 42% DO Sat).

pH follows very closely the DO and %DO Saturation patterns.

Turbidity drops from mid-night to mid-morning.

	C137A- Surface Temp C	C137A- Surface SpCond mS/cm	C137A- Surface Sal ppt	C137A- Surface Depth meters	C137A- Surface pH	C137A- Surface Turbid+ NTU	C137A- Surface ODOsat %	C137A- Surface ODO mg/L
Average	29.07	52.50	34.46	0.32	7.44	0.75	63.09	4.00
Median	29.02	52.50	34.46	0.33	7.42	0.60	61.70	3.92
Stand. Dev	0.27	0.09	0.07	0.03	0.06	0.60	7.28	0.45
%DO Sat Exceedances	0%							

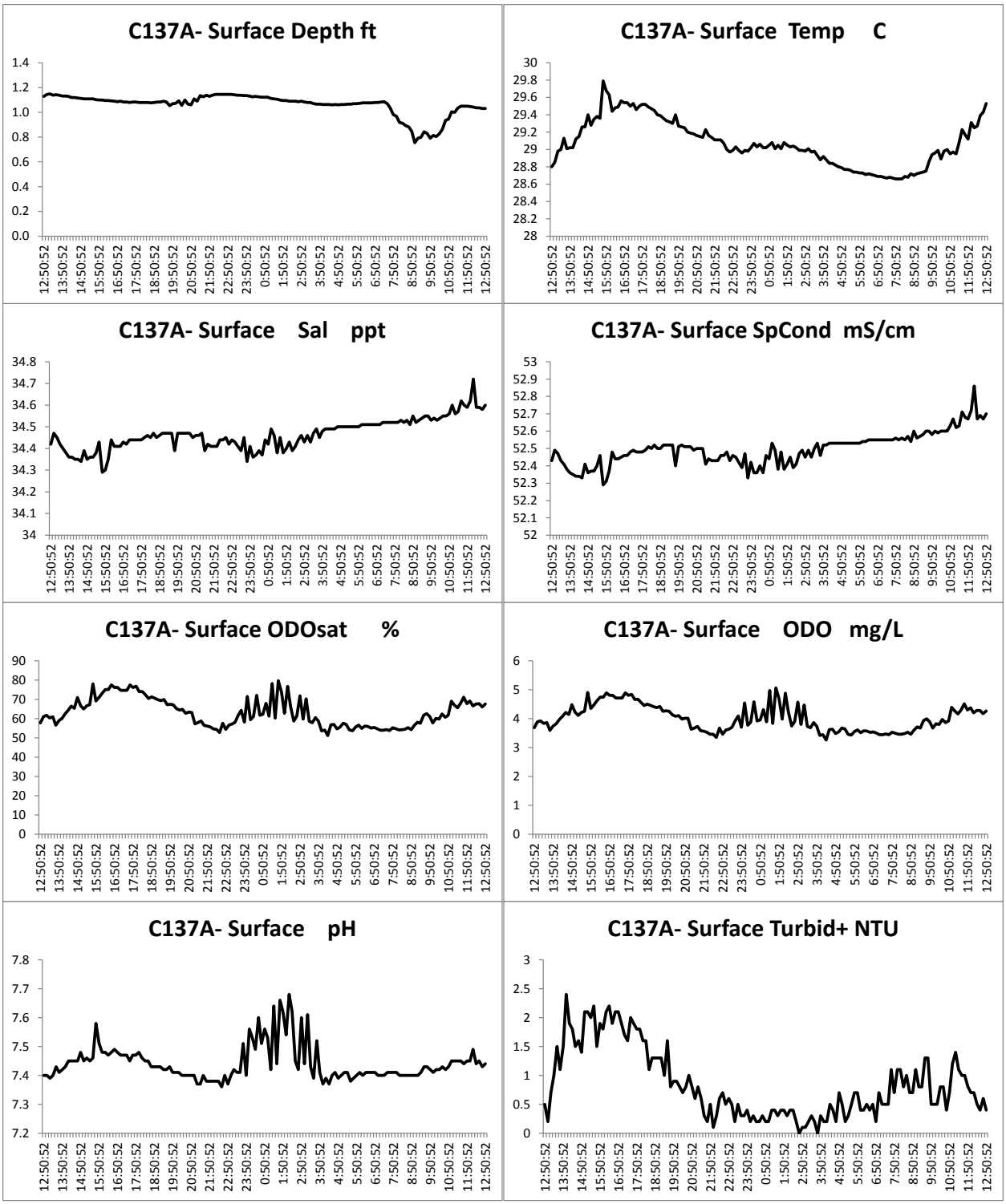

Figure 48: Time-series of physical-chemical data for surface water at site A in canal #137 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #147. Bottom

Water Depth displays a very regular tidal cycle with a 1.4 ft tidal range.

Water Temperature remains practically constant.

Salinity and Specific Conductance show an increase beginning at sunset.

Dissolved Oxygen and Oxygen saturation do not show significantly and values are practically zero (all values exceeding the regulation levels).

pH drops slightly at night and rises again in the morning.

Turbidity follows closely the pH pattern.

	C147A- Bottom Temp C	C147A- Bottom SpCond mS/cm	C147A- Bottom Sal ppt	C147A- Bottom Depth meters	C147A- Bottom pH	C147A- Bottom Turbid+ NTU	C147A- Bottom ODOsat %	C147A- Bottom ODO mg/L
Average	25.94	56.47	37.52	1.91	7.13	46.77	0.59	0.04
Median	25.93	56.66	37.66	1.93	7.12	46.20	0.60	0.04
Stand. Dev	0.03	0.36	0.27	0.15	0.04	8.37	0.09	0.00
%DO Sat Exceedances	100%							

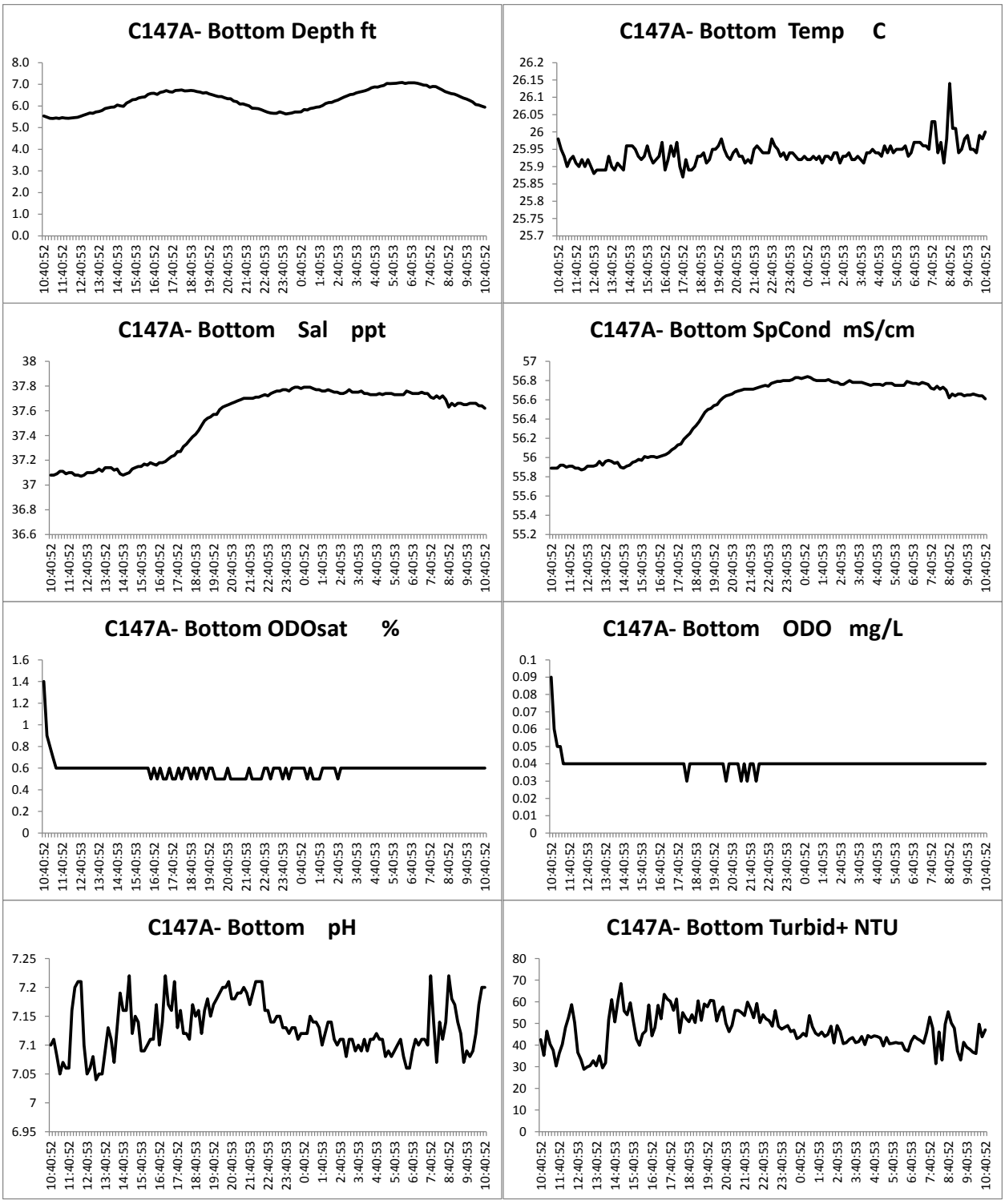

Figure 49: Time-series of physical-chemical data for bottom water at site A in canal #147 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #147. Surface

Water Depth displays what seem to be lagged tidal cycles but the variability may be due to winds.

Water Temperature displays an increase in the early morning and starts to drop at midnight.

Salinity and Specific Conductance show an increase from mid-morning to noon then remains relatively stable.

Dissolved Oxygen and Oxygen saturation drop at night but the water column remains well oxygenated, without exceeding the regulation levels (all values above 42% DO Sat).

pH follows very closely the dissolved oxygen and DO Saturation patterns.

Turbidity displays the highest values from noon to the early afternoon.

	C147A- Surface Temp C	C147A- Surface SpCond mS/cm	C147A- Surface Sal ppt	C147A- Surface Depth meters	C147A- Surface pH	C147A- Surface Turbid NTU	C147A- Surface ODOsat %	C147A- Surface ODO mg/L
Average	30.51	52.63	34.51	0.31	7.82	0.43	76.64	4.75
Median	30.60	52.64	34.52	0.31	7.79	0.30	67.70	4.24
Stand. Dev	0.43	0.15	0.11	0.01	0.11	0.36	30.14	1.84
%DO Sat Exceedances	0%							

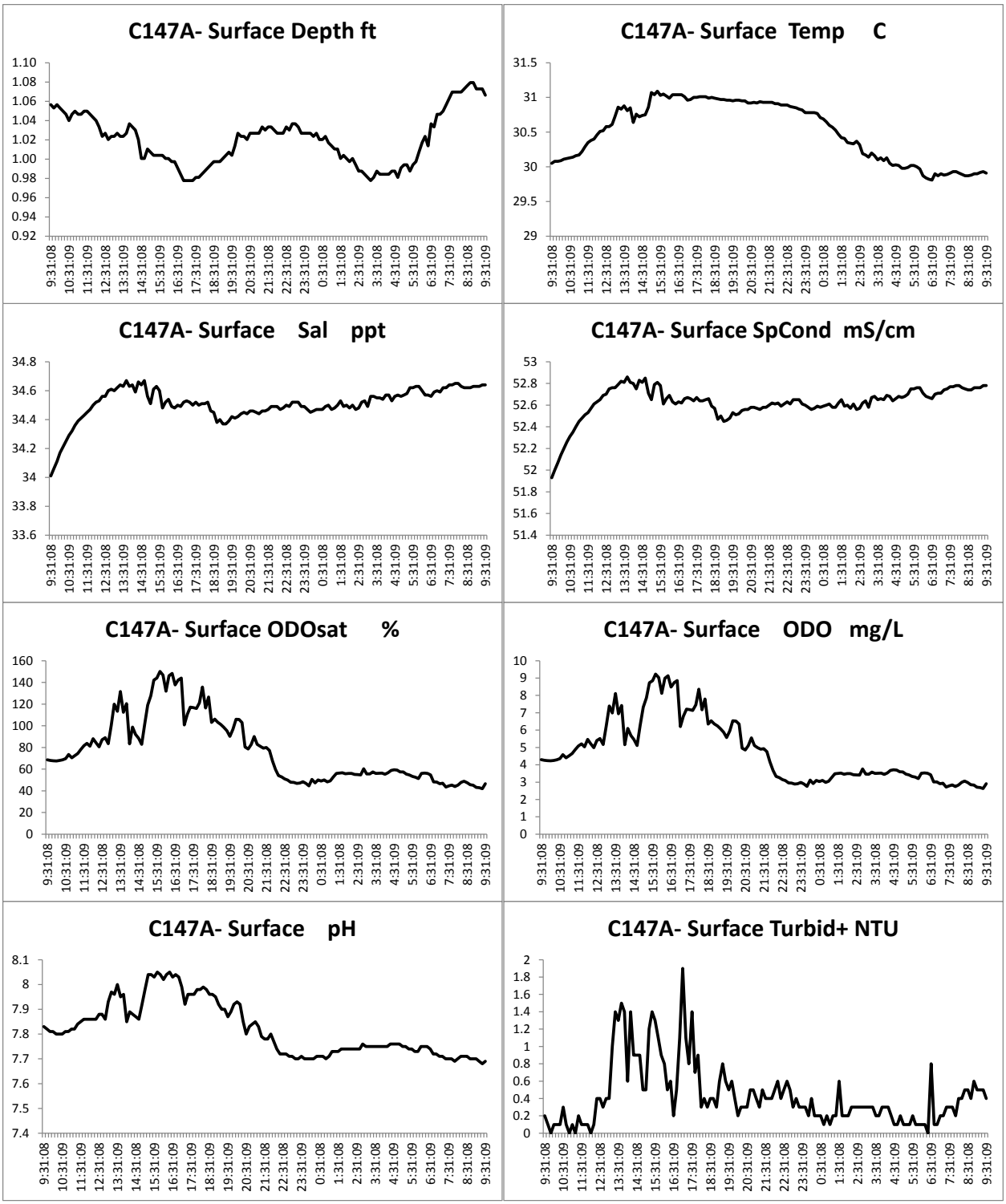

Figure 50: Time-series of physical-chemical data for surface water at site A in canal #147 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #148. Surface

Water Depth displays what seem to be lagged tidal cycles but the variability may be due to winds.

Water Temperature starts to increase in the early morning extending to the noon, followed by relatively constant values until the midafternoon.

Salinity and Specific Conductance show declines at noon and rising again in the midafternoon.

Dissolved Oxygen and Oxygen saturation drop at night but the water column remains well oxygenated. There are 1% of %DO saturation exceedances (values below 42% DO Sat).

pH follows very closely the dissolved oxygen and DO Saturation patterns.

Turbidity displays the highest values in the early afternoon to remain very stable with values practically zero NTU.

	C148A- Surface Temp C	C148A- Surface SpCond mS/cm	C148A- Surface Sal ppt	C148A- Surface Depth meters	C148A- Surface pH	C148A- Surface Turbid	C148A- Surface ODOsat %	C148A- Surface ODO mg/L
Average	30.55	51.08	33.37	0.34	8.00	1.25	115.28	7.18
Median	30.64	50.75	33.12	0.34	8.01	0.90	109.00	6.80
Stand. Dev	0.33	1.14	0.85	0.01	0.15	1.38	41.11	2.54
%DO Sat Exceedances	1%							

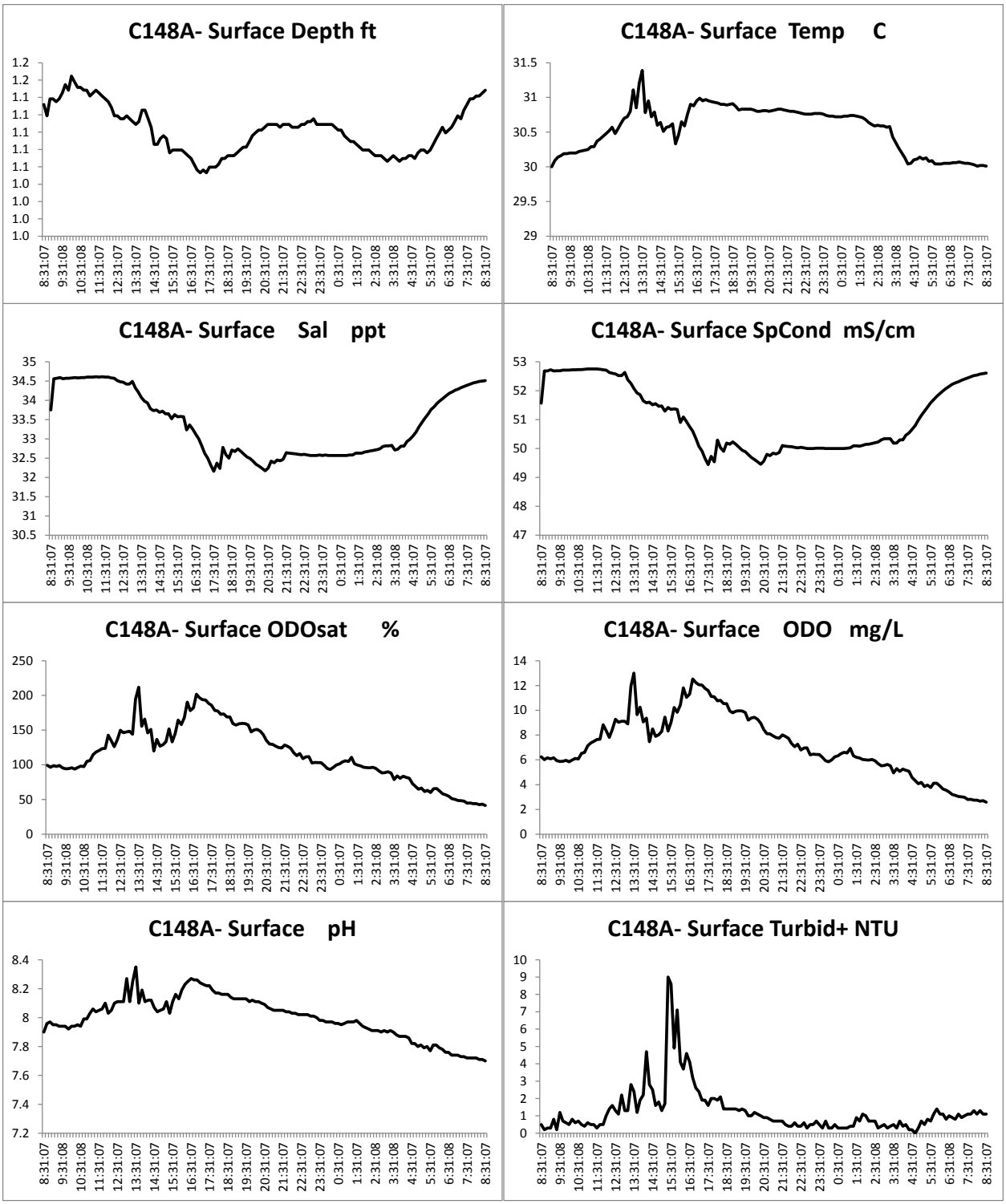

Figure 51: Time-series of physical-chemical data for surface water at site A in canal #148 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #148. Bottom

Water Depth displays a very regular tidal cycle.

Water Temperature starts to increase in the early morning extending to the noon, followed by relatively constant values until the midafternoon.

Salinity and Specific Conductance are practically constant with some slightly higher values around noon

Dissolved Oxygen and Oxygen saturation start to drop in the midafternoon and reach values very close to zero. Water column remains at low DO concentrations exceeding the regulation levels.

pH remains constant with values around 7.4.

Turbidity follows very closely the salinity and specific conductance patterns.

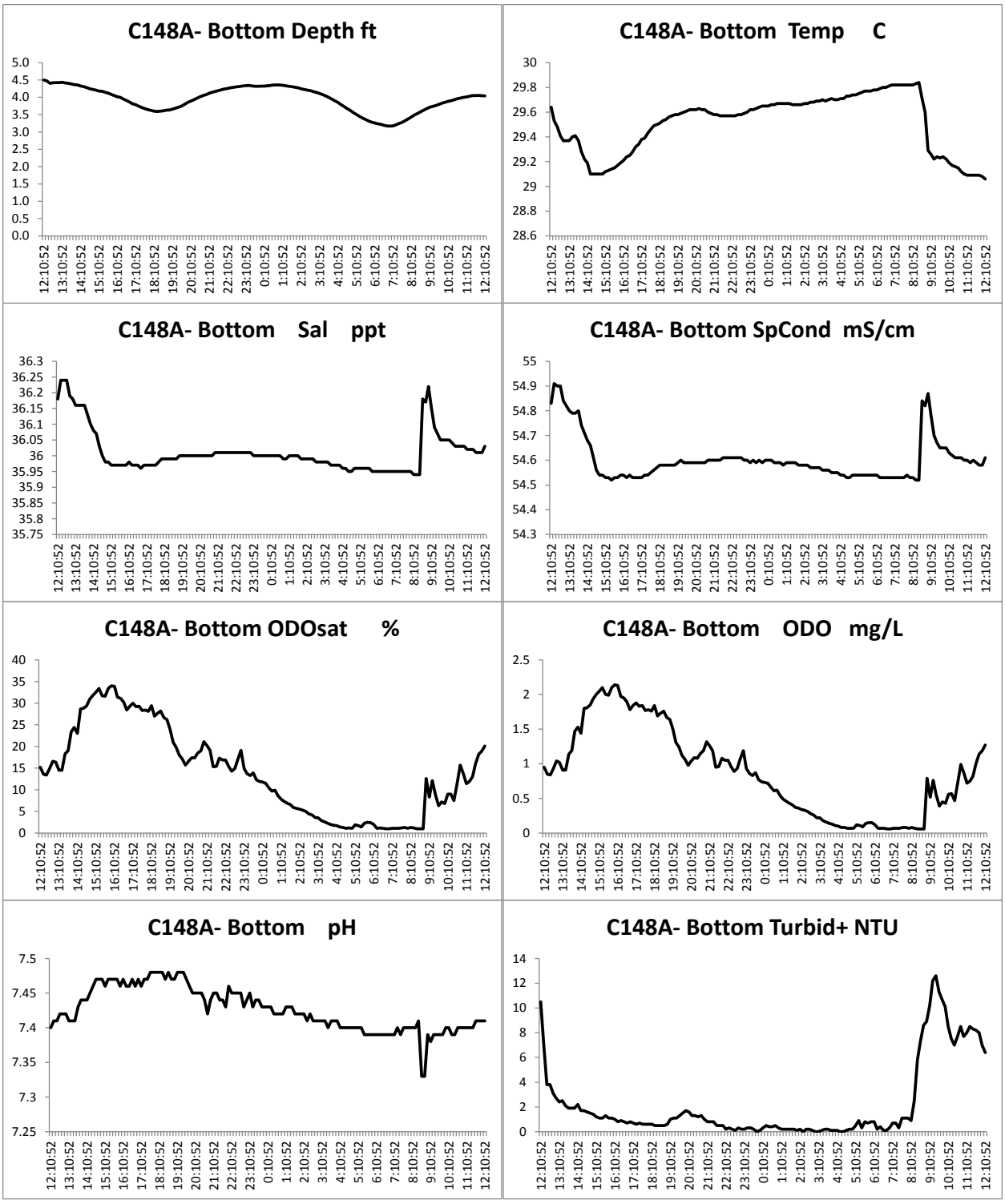

Figure 52: Time-series of physical-chemical data for bottom water at site A in canal #1148 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #266. Bottom

Water Depth displays a very regular cycle with a 1 ft tidal range.

Water Temperature seems to have an increase at midafternoon, and then a decrease in the next early morning but the range of variability is of 0.8 ^{O}C.

Salinity and Specific Conductance remains stable with a mild drop from midafternoon to next early morning.

Dissolved Oxygen and Oxygen saturation show a decline beginning at midafternoon until the next day early morning. Water column remained at low DO concentrations exceeding the regulation levels (values below 42% DO Sat).

pH follows closely the DO and %DO Saturation patterns.

Turbidity follows closely the salinity pattern.

	C266A- Bottom Temp C	C266A- Bottom SpCond mS/cm	C266A- Bottom Sal ppt	C266A- Bottom Depth meters	C266A- Bottom pH	C266A- Bottom Turbid+ NTU	C266A- Bottom ODOsat %	C266A- Bottom ODO mg/L
Average	29.51	54.60	36.01	1.20	7.43	2.12	14.04	0.88
Median	29.58	54.59	36.00	1.22	7.42	0.80	13.70	0.86
Stand. Dev	0.24	0.08	0.07	0.11	0.03	3.08	10.28	0.65
%DO Sat Exceedances	100%							

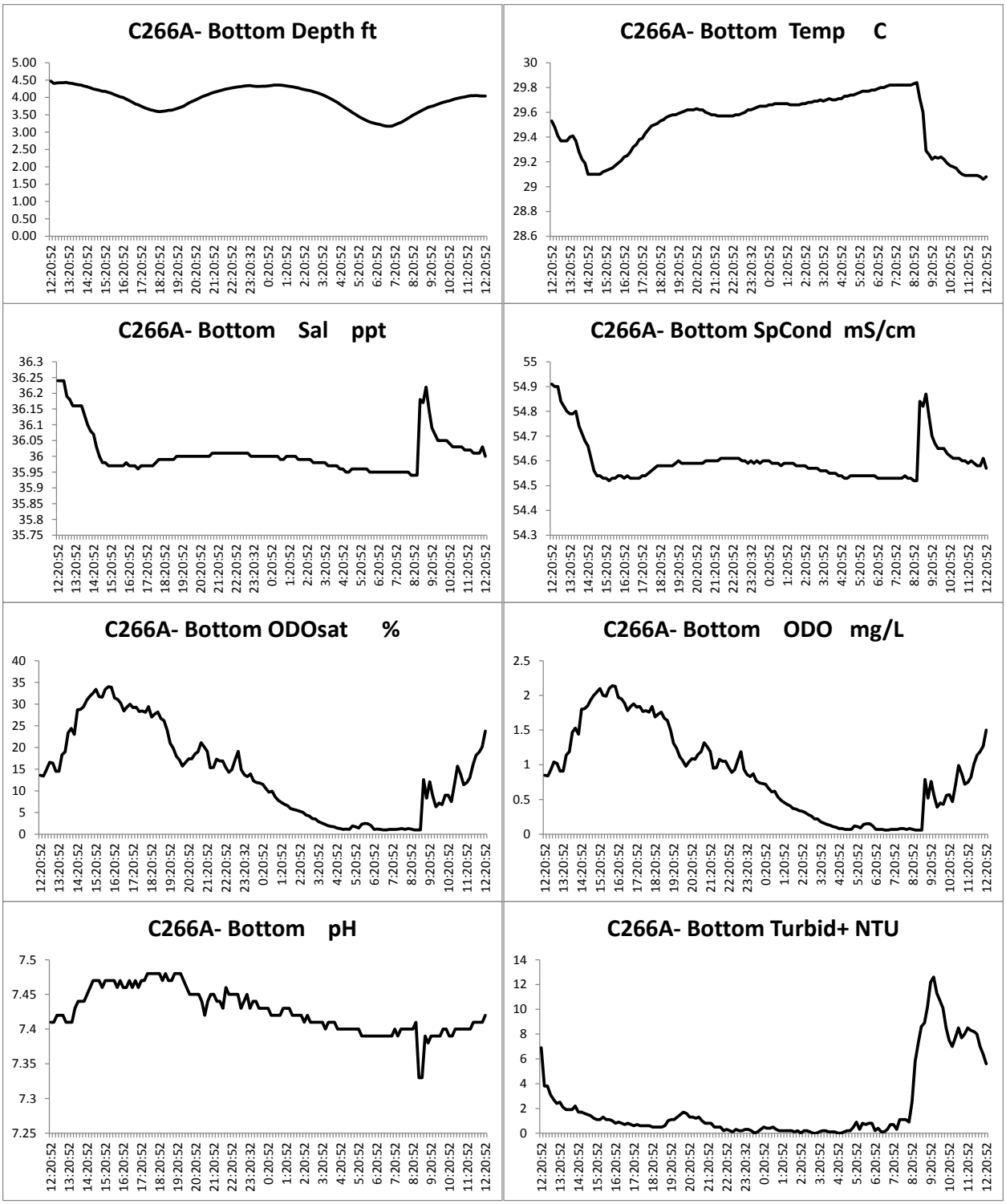

Figure 53: Time-series of physical-chemical data for bottom water at site A in canal #266 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #266. Surface

Water Depth displays what seem to be lagged tidal cycles but the variability may be due to winds.

Water Temperature shows an increase in the afternoon, and then drops at mid-afternoon. Temperature range is a little over 1^{O}C range.

Salinity and Specific Conductance slightly increased except for a sudden drop that occurred at about 4 PM.

Dissolved Oxygen and Oxygen saturation do not change significantly and there were 32% of %DO saturation exceedances.

pH follows closely the DO and %DO Saturation patterns.

Turbidity does not show any well-defined pattern and water remain at values less than 1.1 NTU.

	C266A- Surface Temp C	C266A- Surface Salinity ppt	C266A- Surface SpCond mS/cm	C266A- Surface Depth meters	C266A- Surface pH	C266A- Surface Turbidity NTU	C266A- Surface DO% %	C266A- Surface DO mg/L
Average	30.06	34.99	53.25	0.34	7.53	0.43	46.40	2.91
Median	30.06	34.92	53.15	0.34	7.53	0.40	45.30	2.84
Stand. Dev	0.26	0.29	0.40	0.01	0.04	0.20	8.22	0.52
%DO Sat Exceedances	32%							

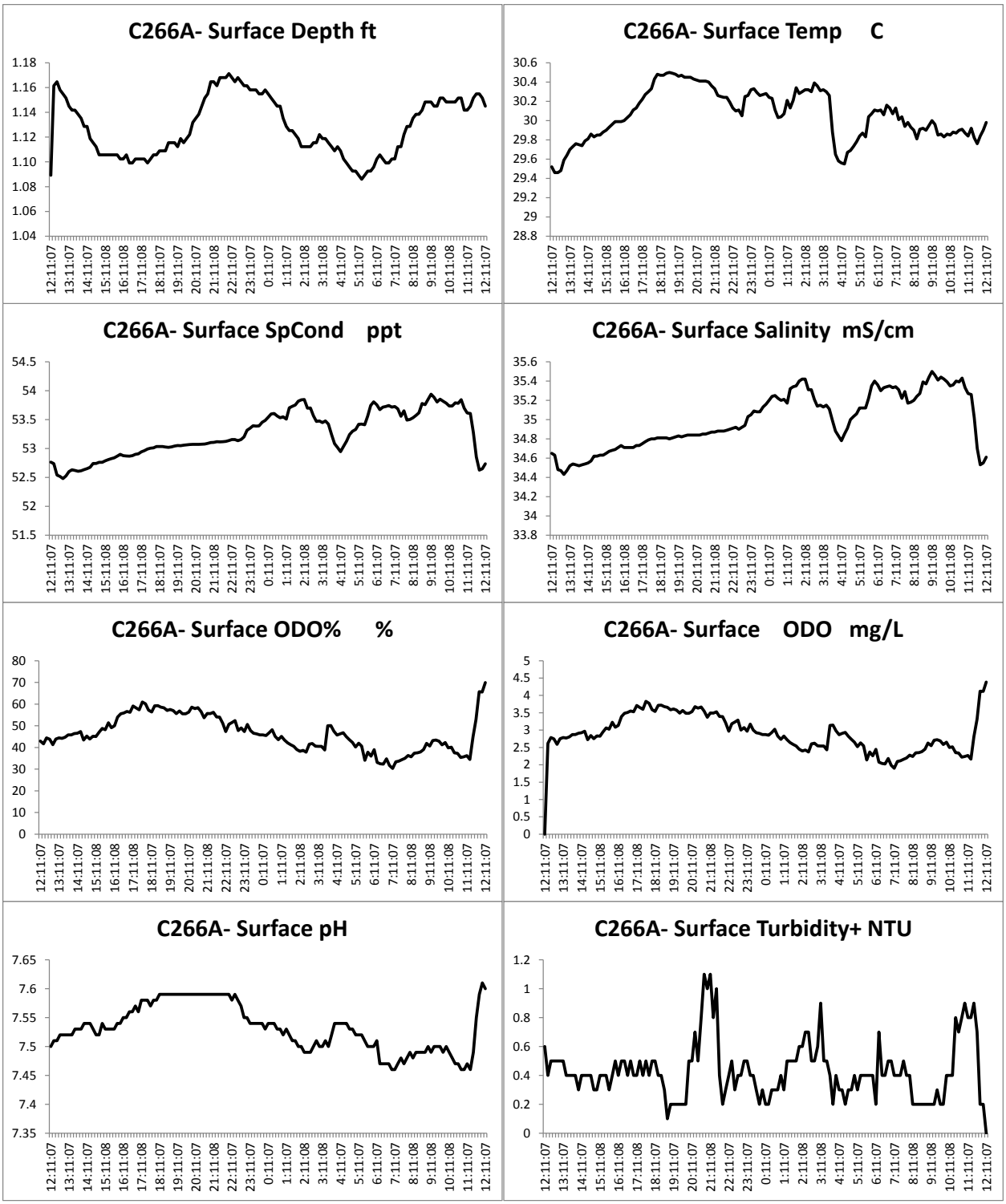

Figure 54: Time-series of physical-chemical data for surface water at site A in canal #266 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #277. Bottom

Water Depth displays a very regular cycle.

Water Temperature drops at night and rises again in the morning.

Salinity and Specific Conductance continuously decrease.

Dissolved Oxygen and Oxygen saturation show an increase at night. Water column remained at low DO concentrations exceeding the regulation levels, with 78% of %Do saturation exceedances (values above 42% DO Sat).

pH follows closely the DO and %DO Saturation patterns.

Turbidity follows closely the salinity pattern.

	C277A- Bottom Temp C	C277A- Bottom SpCond mS/cm	C277A- Bottom Sal ppt	C277A- Bottom Depth meters	C277A- Bottom pH	C277A- Bottom Turbid+ NTU	C277A- Bottom ODOsat %	C277A- Bottom ODO mg/L
Average	29.40	54.53	35.96	1.00	7.48	0.84	33.16	2.08
Median	29.33	54.54	35.98	1.02	7.49	0.70	33.20	2.07
Stand. Dev	0.20	0.24	0.17	0.09	0.04	0.56	10.82	0.68
%DO Sat Exceedances	78%							

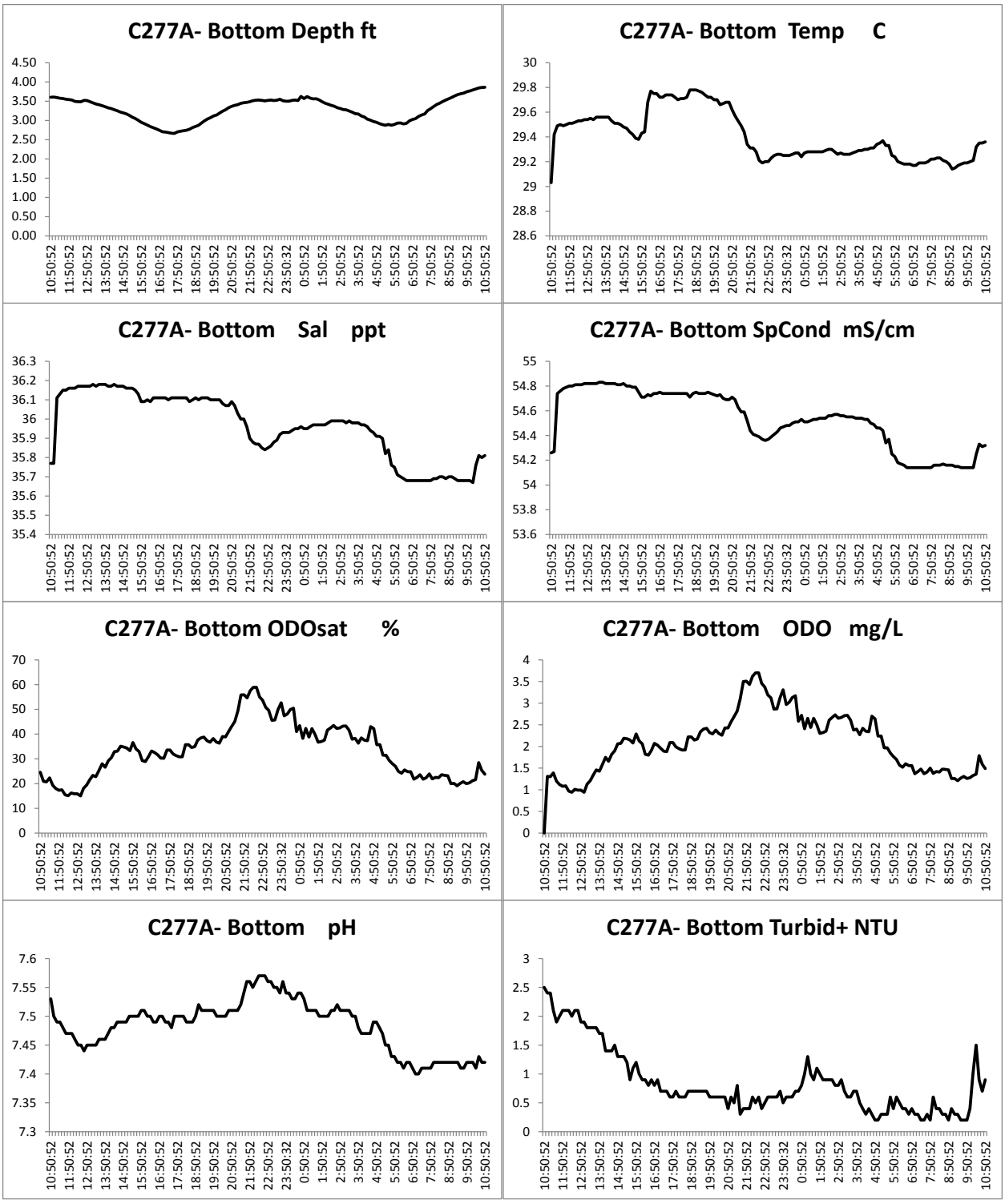

Figure 55: Time-series of physical-chemical data for bottom water at site A in canal #277 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #277. Surface

Water Depth displays what seem to be lagged tidal cycles but the variability may be due to winds.

Water Temperature drops at night and rises again in the morning.

Salinity and Specific Conductance remain practically constant and then a drop of about 1 PSU occurred in the early afternoon.

Dissolved Oxygen and Oxygen saturation do not change significantly and water column remained at low DO concentrations exceeding the regulation levels, with 83% of %DO saturation exceedances (values above 42% DO Sat).

pH drops slightly with the lowest values observed in the late afternoon.

Turbidity drops from 0.8 NTU to practically zero NTU.

	C277A- Surface Temp C	C277A- Surface SpCond mS/cm	C277A- Surface Sal ppt	C277A- Surface Depth meters	C277A- Surface pH	C277A- Surface Turbid+ NTU	C277A- Surface ODOsat %	C277A- Surface ODO mg/L
Average	29.46	53.80	35.42	0.48	7.49	0.36	35.73	2.24
Median	29.40	53.94	35.51	0.48	7.49	0.30	35.50	2.22
Stand. Dev	0.54	0.41	0.29	0.01	0.03	0.18	5.08	0.32
%DO Sat Exceedances	83%							

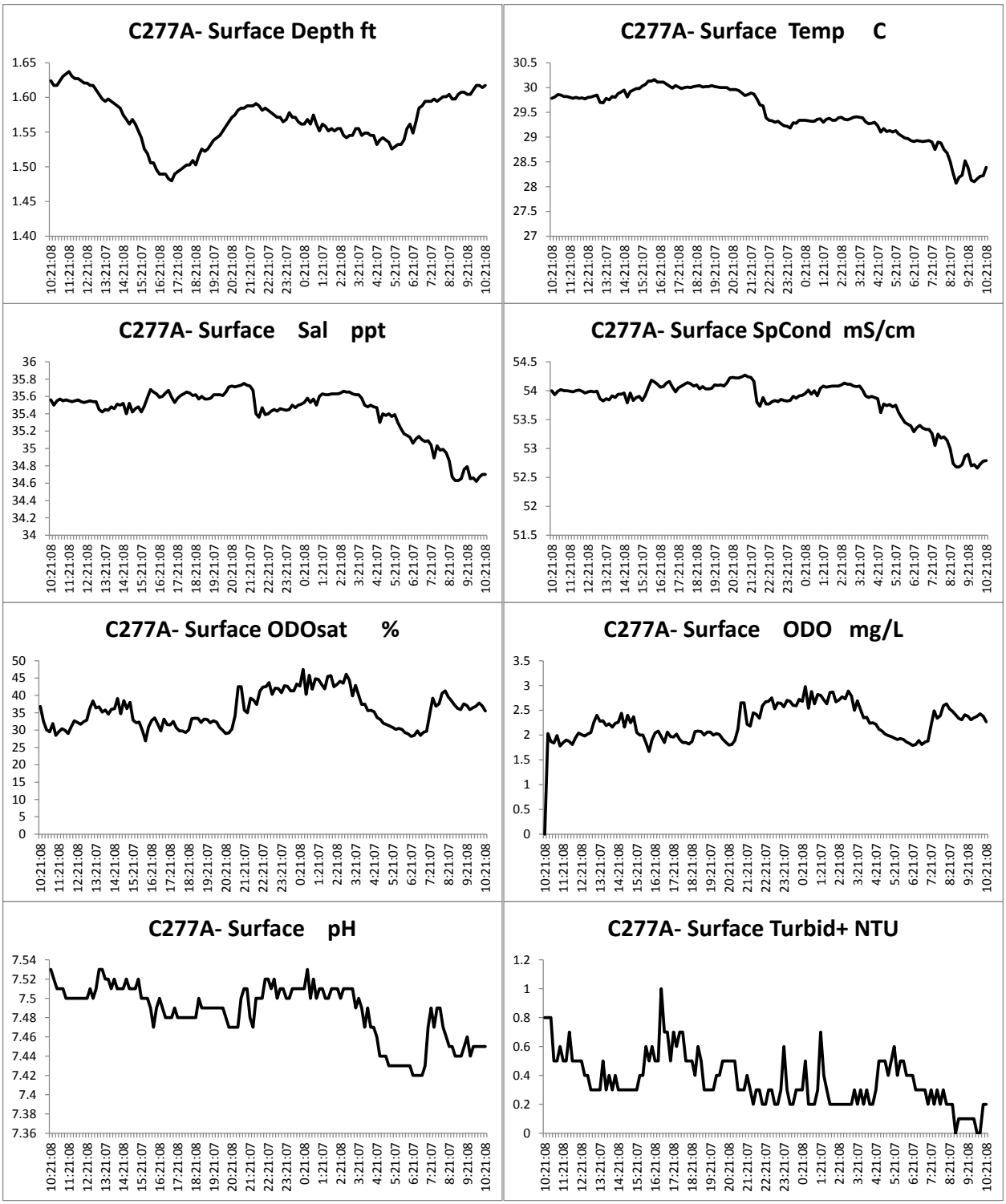

Figure 56: Time-series of physical-chemical data for surface water at site A in canal #277 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #278. Bottom

Water Depth displays a flat constant depth of about 5.3 ft

Water Temperature drops at midafternoon and rises again in the early morning.

Salinity and Specific Conductance shows a decreasing tendency but the change is of only 0.5 PSU.

Dissolved Oxygen and Oxygen saturation do not change significantly with 48% of %DO saturation exceedances (values above 42% DO Sat).

pH remains very stable around 7.61 along the diel cycle.

Turbidity drops from 0.8 NTU to practically zero NTU.

	C278A- Bottom Temp C	C278A- Bottom SpCond mS/cm	C278A- Bottom Sal ppt	C278A- Bottom Depth meters	C278A- Bottom pH	C278A- Bottom Turbid+ NTU	C278A- Bottom ODOsat %	C278A- Bottom ODO mg/L
Average	31.65	52.24	34.19	1.60	7.61	0.41	41.51	2.53
Median	31.62	52.2	34.16	1.608	7.61	0.40	42	2.57
Stand. Dev	0.219	0.161	0.112	0.083	0.018	0.204	4.904	0.303
%DO Sat Exceedances	48%							

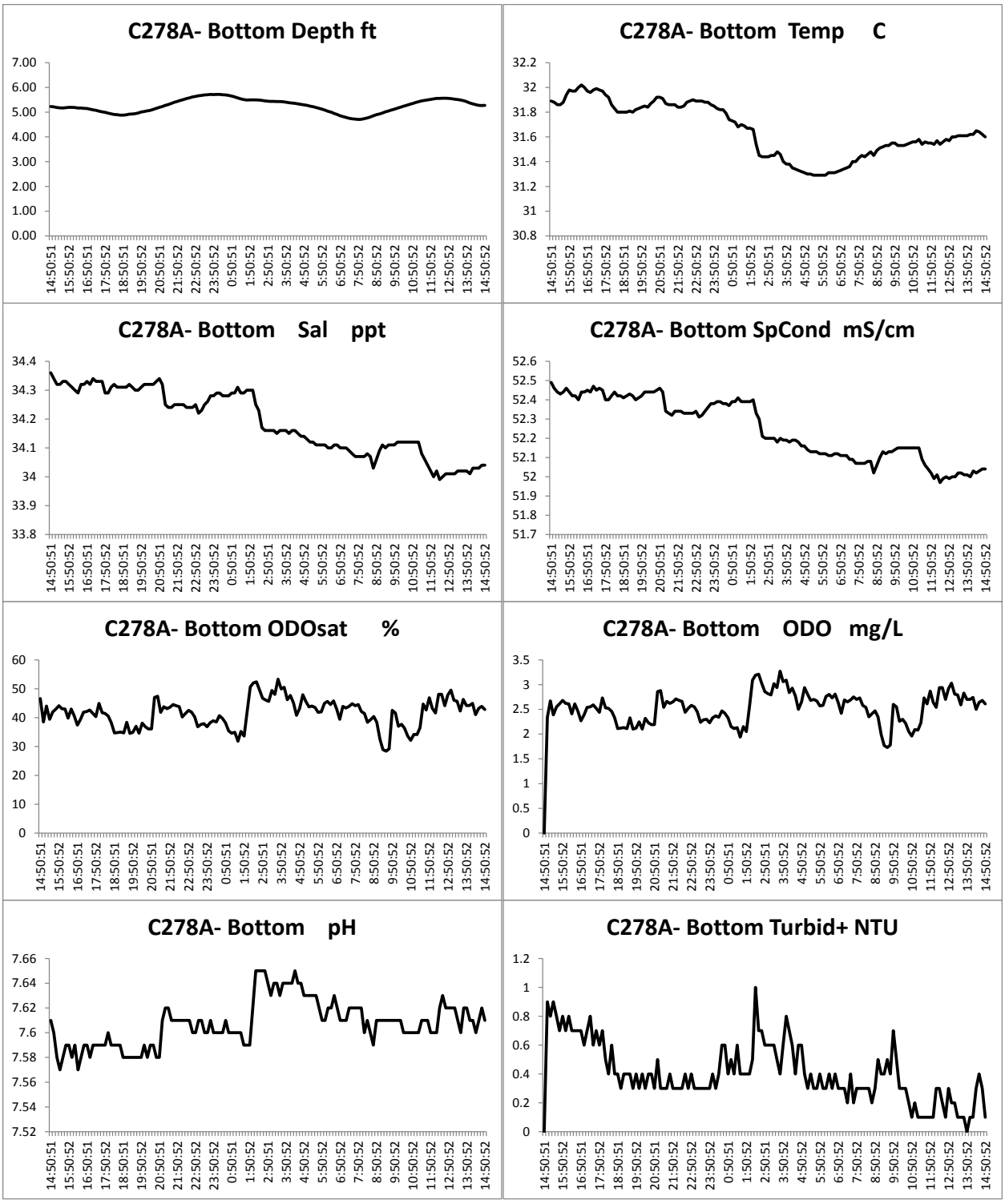

Figure 57: Time-series of physical-chemical data for bottom water at site A in canal #278 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #278. Surface

Water Depth displays what seem to be lagged tidal cycles but the variability may be due to winds.

Water Temperature drops at midafternoon and rises again in the early morning.

Salinity and Specific Conductance remains relatively constant with a slight increase in the early morning.

Dissolved Oxygen and Oxygen saturation do not change significantly and water remains well oxygenated, without any exceedance of the regulation (all values above 42% DO Sat).

pH remains stable with slightly higher values in the afternoon until midnight.

Turbidity do not show any specific trend and values are low along the diel cycle.

	C278A- Surface Temp C	C278A- Surface Salinity mS/cm	C278A- Surface SpCond ppt	C278A- Surface Depth meters	C278A- Surface pH	C278A- Surface Turbidity NTU	C278A- Surface DO% %	C278A- Surface DO mg/L
Average	30.85	32.48	49.88	0.33	7.65	0.30	62.72	3.84
Median	30.77	32.46	49.85	0.33	7.66	0.30	63.90	3.92
Stand. Dev	0.50	0.09	0.14	0.01	0.02	0.13	6.90	0.43
%DO Sat Exceedances	0%							

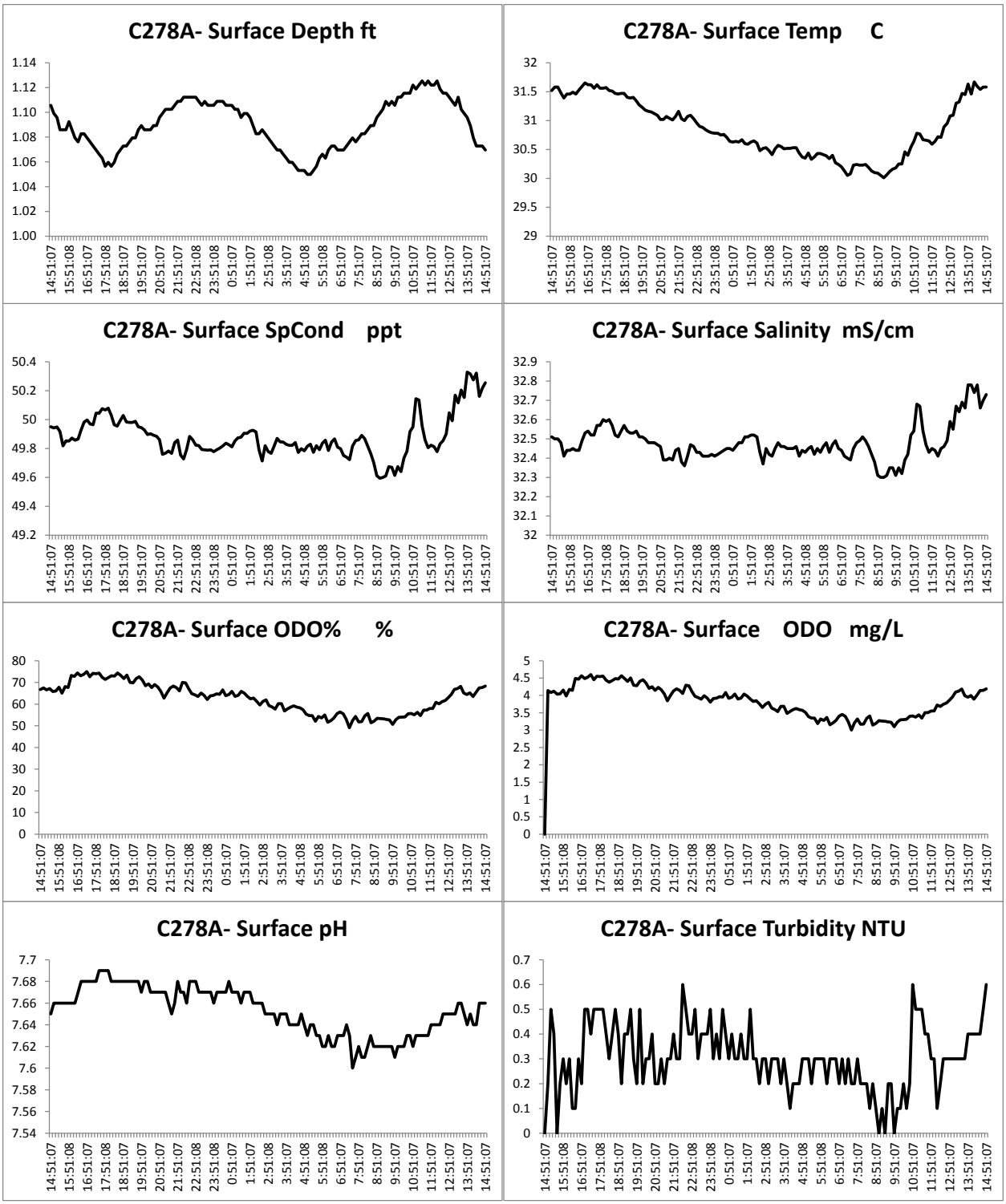

Figure 58: Time-series of physical-chemical data for surface water at site A in canal #278 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #282. Bottom

Water Depth displays a very regular tidal cycle.

Water Temperature shows a decline in the early morning then return to relatively stable values.

Specific Conductance shows a decline with the lowest values observed in the early morning.

Oxygen saturation displays a decline in the early morning. There were 36% of %DO saturation exceedances.

pH remains stable with slightly higher values in the afternoon until midnight.

Turbidity is low with a relatively higher variability along a slightly decreasing trend from the night to the early morning.

	C282A- Bottom Temp C	C282A- Bottom mS/cm	C282A- Bottom SpCond ppt	C282A- Bottom Depth meters	C282A- Bottom pH	C282A- Bottom Turbidity+ NTU	C282A- Bottom ODO% %	C282A- Bottom ODO mg/L
Average	30.26	0.00	52.27	0.80	7.49	0.93	45.48	0.00
Median	30.27	0.00	52.28	0.82	7.49	0.80	45.00	0.00
Stand. Dev	0.21	0.00	0.29	0.10	0.05	1.73	10.36	0.00
%DO Sat Exceedances	36%							

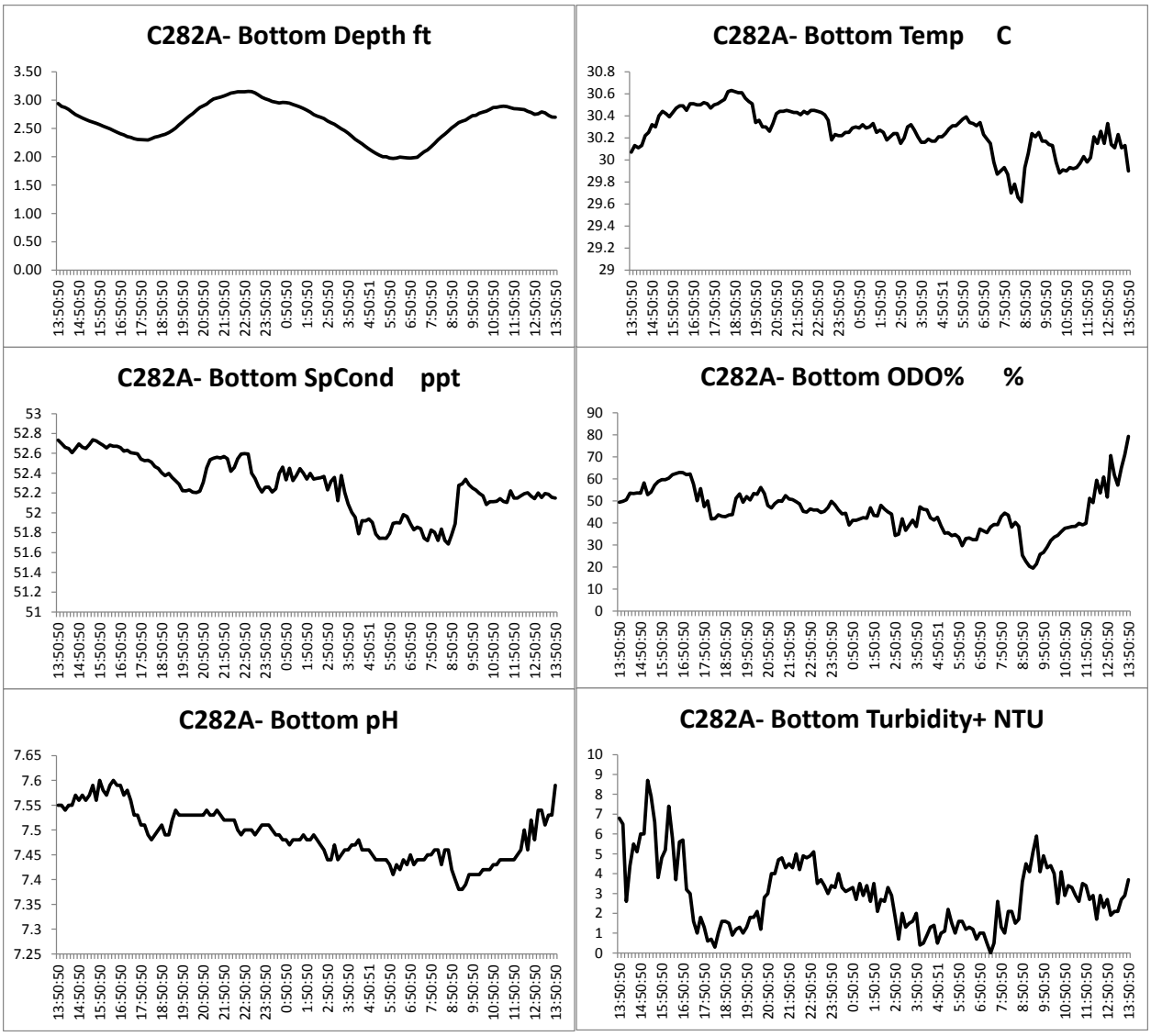

Figure 59: Time-series of physical-chemical data for bottom water at site A in canal #282 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #282. Surface

Water Depth displays what seems to be a lagged tidal cycle.

Water Temperature decreased from afternoon to very early morning hours, then increases until afternoon hours

Specific Conductance increases slightly from afternoon to midnight.

Oxygen saturation shows a slight increase in the late afternoon. %DO Sat exceedances reach 6%

pH roughly follows %DO Saturation pattern.

Turbidity shows high variability with low values.

	C282A- Surface Temp C	C282A- Surface mS/cm	C282A- Surface SpCond ppt	C282A- Surface Depth meters	C282A- Surface pH	C282A- Surface Turbidity NTU	C282A- Surface ODO% %	C282A- Surface ODO mg/L
Average	30.13	0.00	51.87	0.39	7.44	0.26	52.94	0.00
Median	30.12	0.00	51.88	0.39	7.43	0.20	51.10	0.00
Stand. Dev	0.55	0.00	0.54	0.01	0.05	0.17	8.68	0.00
%DO Sat Exceedances	6%							

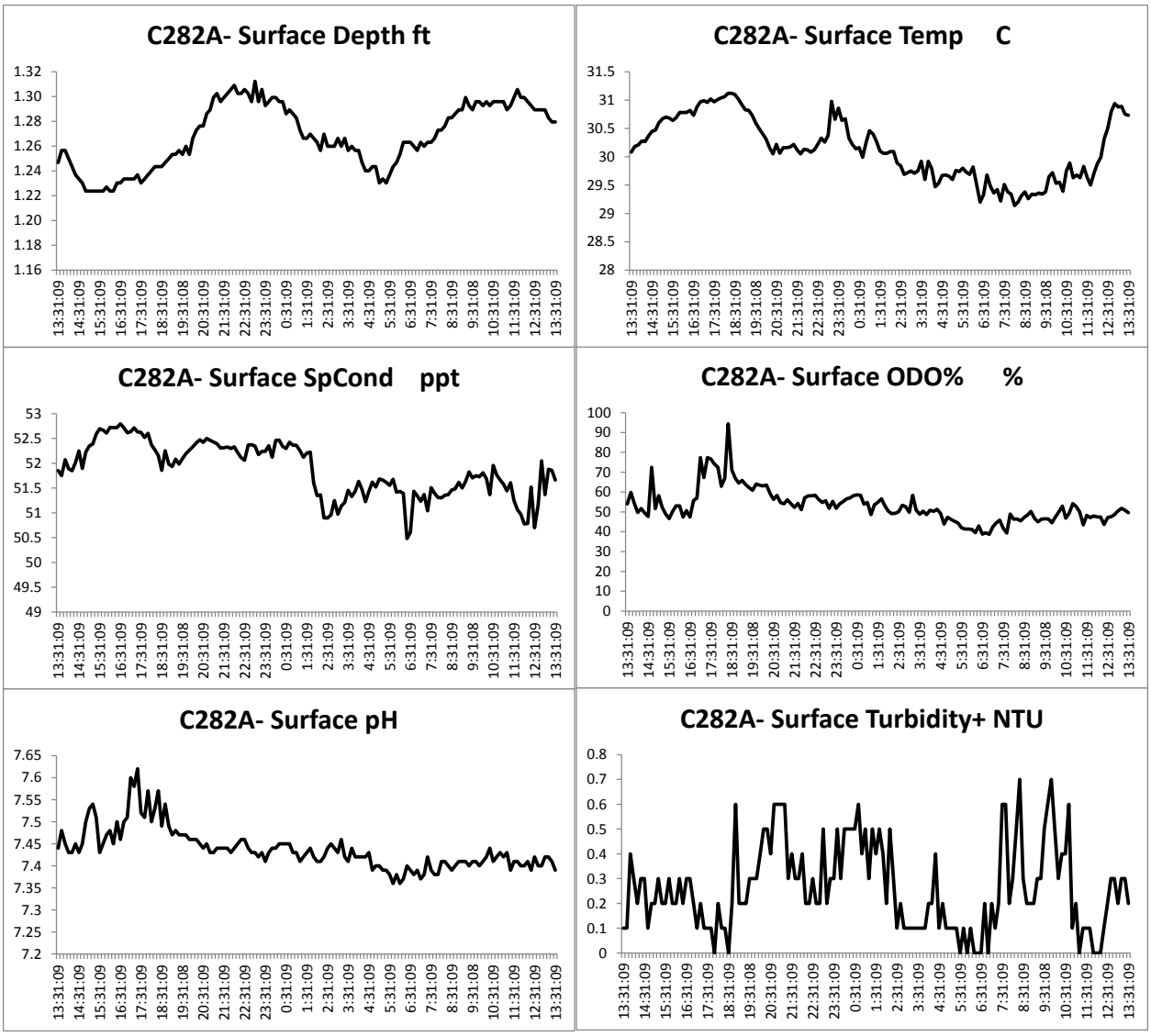

Figure 69: Time-series of physical-chemical data for surface water at site A in canal #282 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #287. Bottom

Water Depth displays almost a flat constant depth of about 7.4 ft

Water Temperature continuously increases.

Salinity and Specific Conductance are practically constant. Given the sensitivity of the sensor it is possible to around 5AM but the change is of only 0.2 PSU.

Dissolved Oxygen and Oxygen saturation show some oscillations during the day but at night drops to a constant value of 2% DO Sat. 100% of %DO saturation exceedances.

pH remains very stable around 7.3 along the diel cycle.

Turbidity drops slightly during the night and rises again at midmorning.

	C287A- Bottom Temp C	C287A- Bottom SpCond mS/cm	C287A- Bottom Sal ppt	C287A- Bottom Depth meters	C287A- Bottom pH	C287A- Bottom Turbid+ NTU	C287A- Bottom ODOsat %	C287A- Bottom ODO mg/L
Average	29.54	53.87	35.47	2.25	7.30	10.40	4.84	0.30
Median	29.57	53.88	35.48	2.25	7.29	8.10	2.00	0.13
Stand. Dev	0.14	0.09	0.06	0.12	0.03	6.93	3.99	0.25
%DO Sat Exceedances	100%							

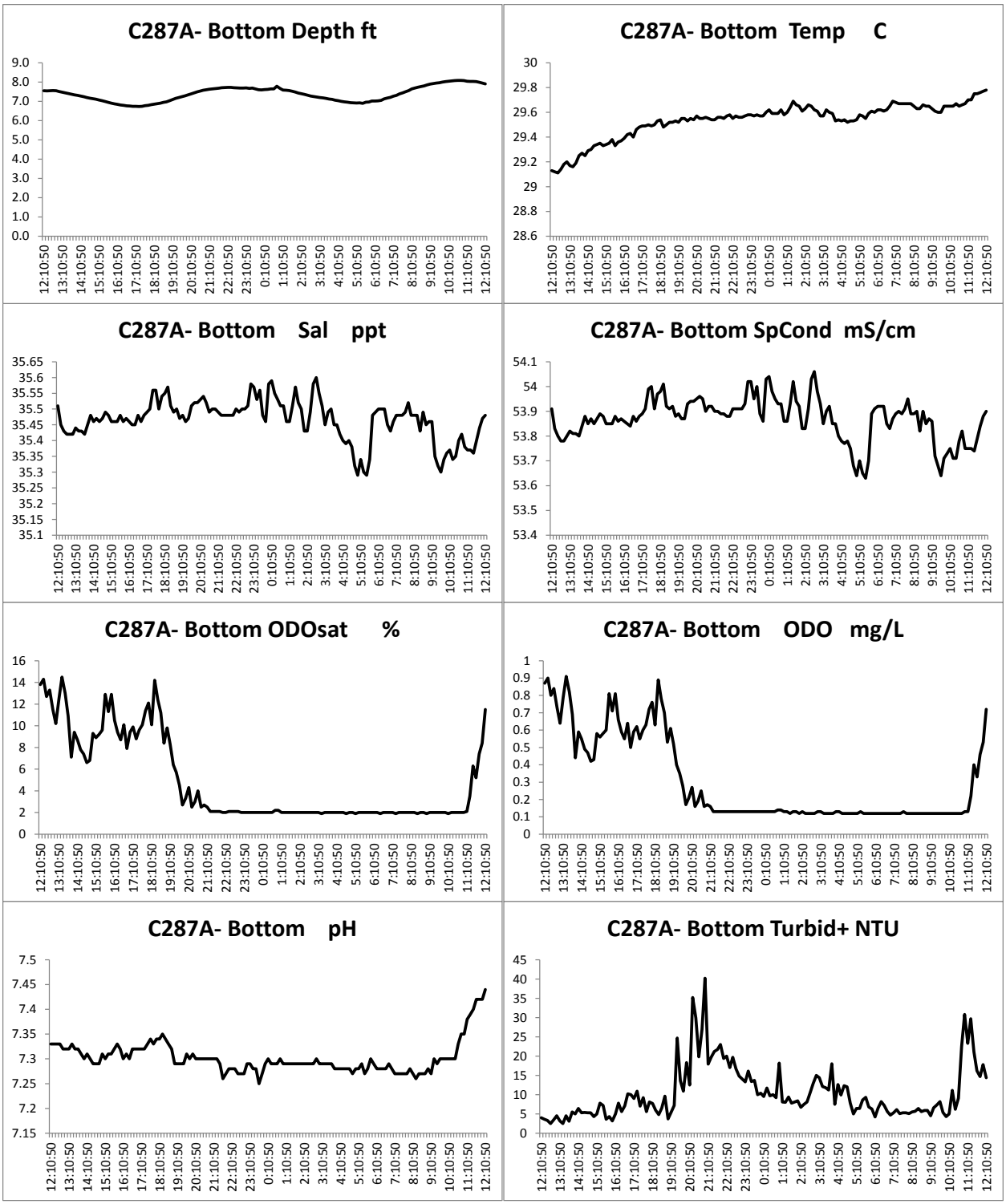

Figure 61: Time-series of physical-chemical data for bottom water at site A in canal #287 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #287. Surface

Water Depth does not display tidal cycles so variability may be due to winds.

Water Temperature remains practically constant when a sudden drop occurred around midnight but the change is 0.7 ºC.

Salinity and Specific Conductance follows closely the Temperature pattern.

Dissolved Oxygen and Oxygen saturation show some oscillations along the diel cycle with the lowest values observed at noon. 18% of %DO saturation exceedances occurred.

pH follows very closely the DO and %Do Saturation patterns.

Turbidity drops slightly from 1.2 NTU to practically zero NTU.

	C287A- Surface Temp	C287A- Surface SpCond	C287A- Surface Sal	C287A- Surface Depth	C287A- Surface pH	C287A- Surface Turbid+	C287A- Surface ODOsat	C287A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.61	53.02	34.84	0.42	7.45	0.37	48.58	3.05
Median	29.88	53.31	35.03	0.425	7.45	0.3	49.2	3.1
Stand. Dev	0.501	0.645	0.461	0.014	0.045	0.232	9.603	0.599
%DO Sat Exceedances	18%							

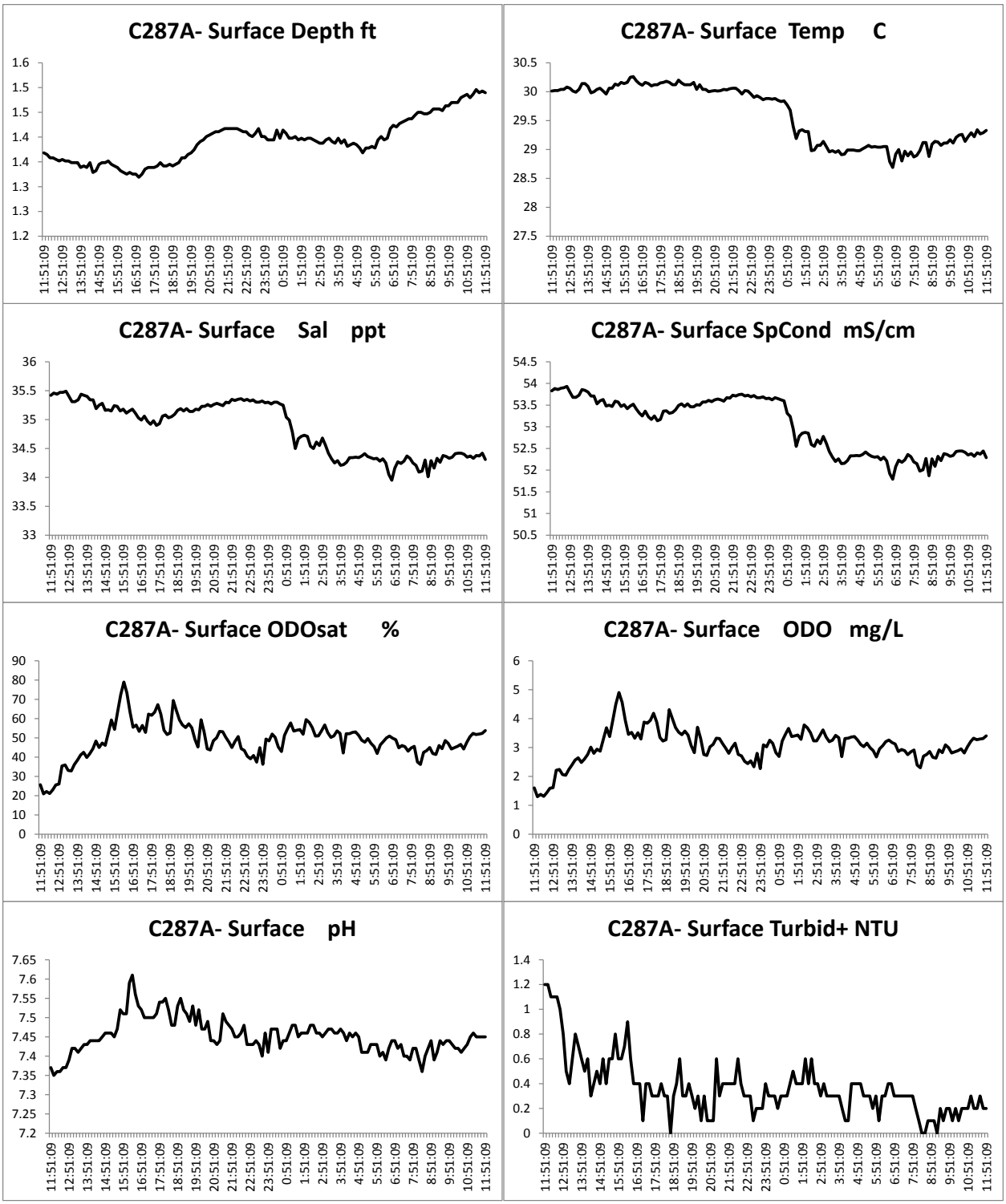

Figure 62: Time-series of physical-chemical data for surface water at site A in canal #287 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #28. Bottom

Water Depth does not display tidal cycles so variability may be due to winds.

Water Temperature remains practically constant.

Salinity and Specific Conductance remain rather constant.

Dissolved Oxygen and Oxygen saturation show a decreasing tendency along the diel cycle with low DO concentrations exceeding the regulations levels. 100% of %DO saturation exceedances occurred.

pH follows very closely the DO and %Do Saturation patterns.

Turbidity show high variability with low values.

	C28A- Bottom Temp	C28A- Bottom SpCond	C28A- Bottom Sal	C28A- Bottom Depth	C28A- Bottom pH	C28A- Bottom Turbid	C28A- Bottom ODOsat	C28A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.76	57.88	38.45	6.42	7.52	1.33	23.76	1.46
Median	29.76	57.87	38.45	6.42	7.52	1.30	23.70	1.45
Stand. Dev	0.01	0.01	0.01	0.01	0.02	0.45	4.65	0.29
%DO Sat Exceedances	100%							

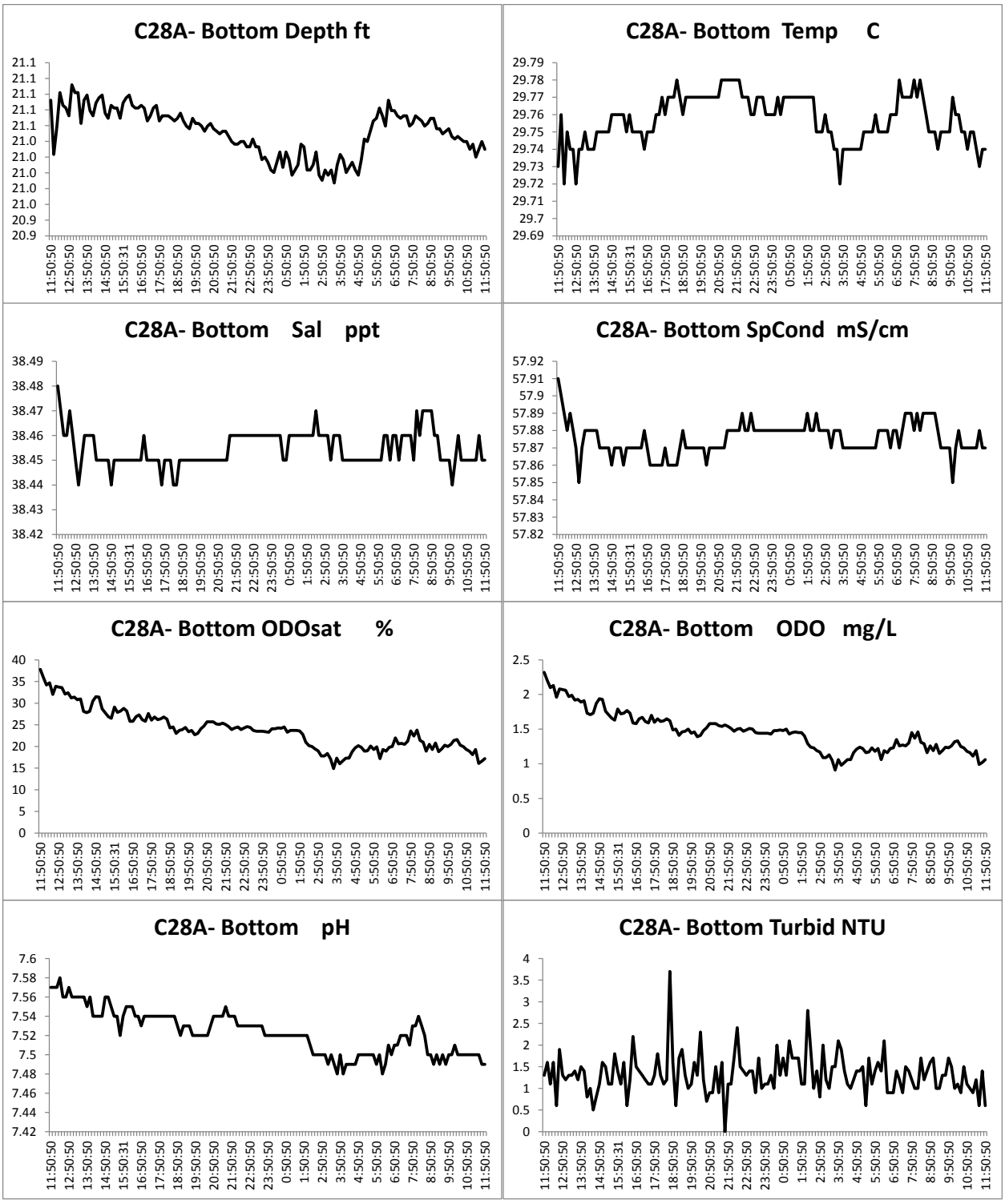

Figure 63: Time-series of physical-chemical data for bottom water at site A in canal #28 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #28. Surface

Water Depth does not display tidal cycles so variability may be due to winds.

Water Temperature begins to drop after sunset and rises again in the morning. Range of variation is about 0.6 ºC.

Salinity and Specific Conductance continuously increase.

Dissolved Oxygen and Oxygen saturation show a decrease in the midafternoon until the next morning. 39% of %DO saturation exceedances occurred.

pH follows closely the DO and %Do Saturation patterns.

Turbidity show high variability with low values very close to zero NTU.

	C28A- Surface Temp	C28A- Surface SpCond	C28A- Surface Sal	C28A- Surface Depth	C28A- Surface pH	C28A- Surface Turbid	C28A- Surface ODOsat	C28A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.05	56.73	37.59	0.56	7.42	0.36	45.85	2.82
Median	30.10	56.73	37.58	0.56	7.42	0.30	43.90	2.70
Stand. Dev	0.18	0.20	0.16	0.01	0.05	0.22	8.21	0.50
%DO Sat Exceedances	39%							

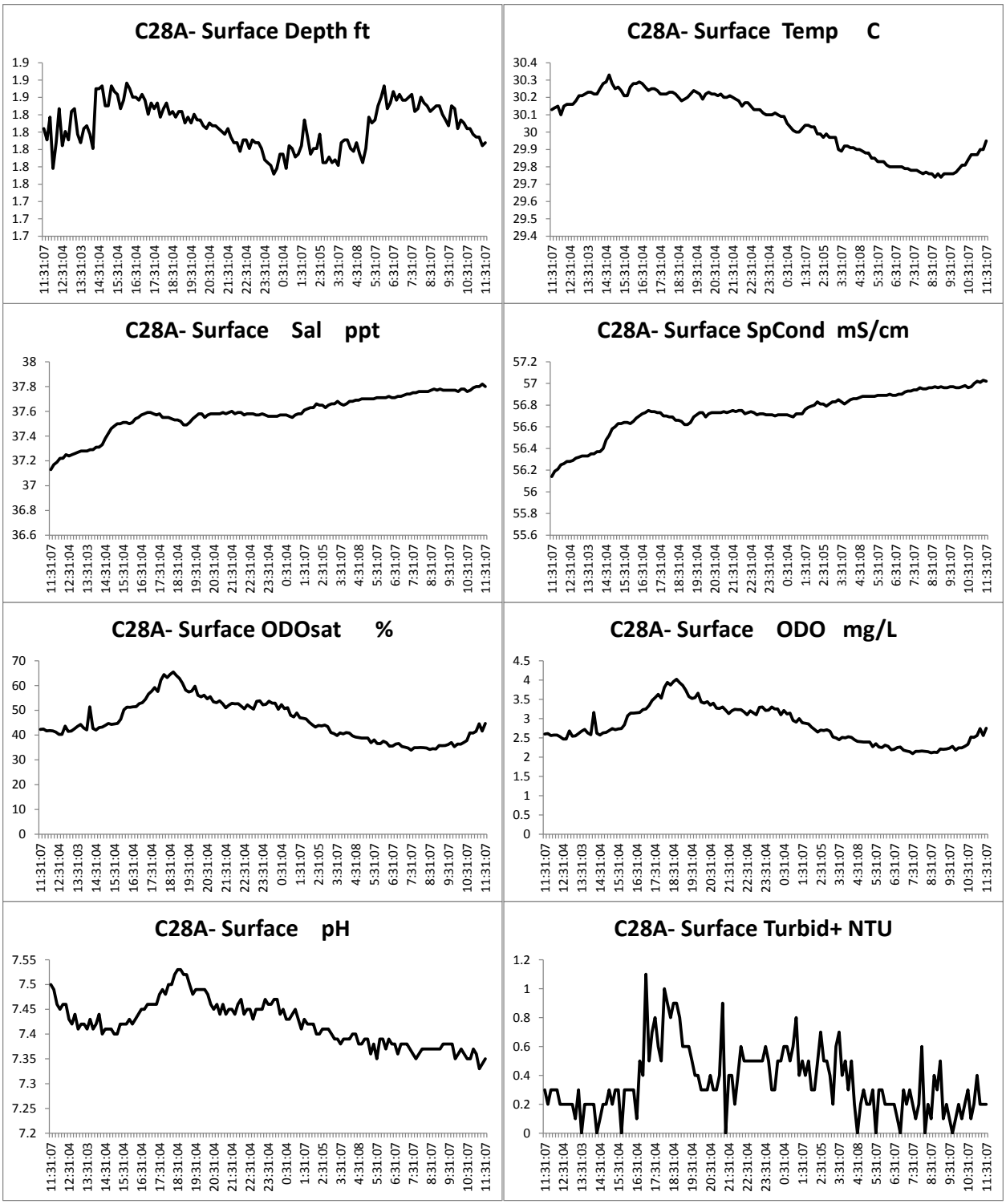

Figure 64: Time-series of physical-chemical data for surface water at site A in canal #28 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #290. Bottom

Water Depth displays a very regular tidal cycle.

Water Temperature begins to rise in the morning and drops in the afternoon. Range of variation is about 0.5 ºC.

Salinity and Specific Conductance show an increase from the late afternoon to midnight.

Dissolved Oxygen and Oxygen saturation reach highest values in the midafternoon thereafter start to drop reaching DO concentrations exceeding the regulation levels. 56% of %DO saturation exceedances occurred.

pH follows closely the DO and %Do Saturation patterns.

Turbidity is relatively high starting in the midmorning to the late afternoon.

	C290A- Bottom Temp C	C290A- Bottom SpCond mS/cm	C290A- Bottom Sal ppt	C290A- Bottom Depth meters	C290A- Bottom pH	C290A- Bottom Turbid+ NTU	C290A- Bottom ODOsat %	C290A- Bottom ODO mg/L
Average	30.33	53.77	35.37	0.93	7.44	4.34	39.52	2.44
Median	30.35	53.77	35.37	0.94	7.44	3.10	38.50	2.38
Stand. Dev	0.40	0.06	0.05	0.10	0.08	3.37	13.60	0.83
%DO Sat Exceedances	56%							

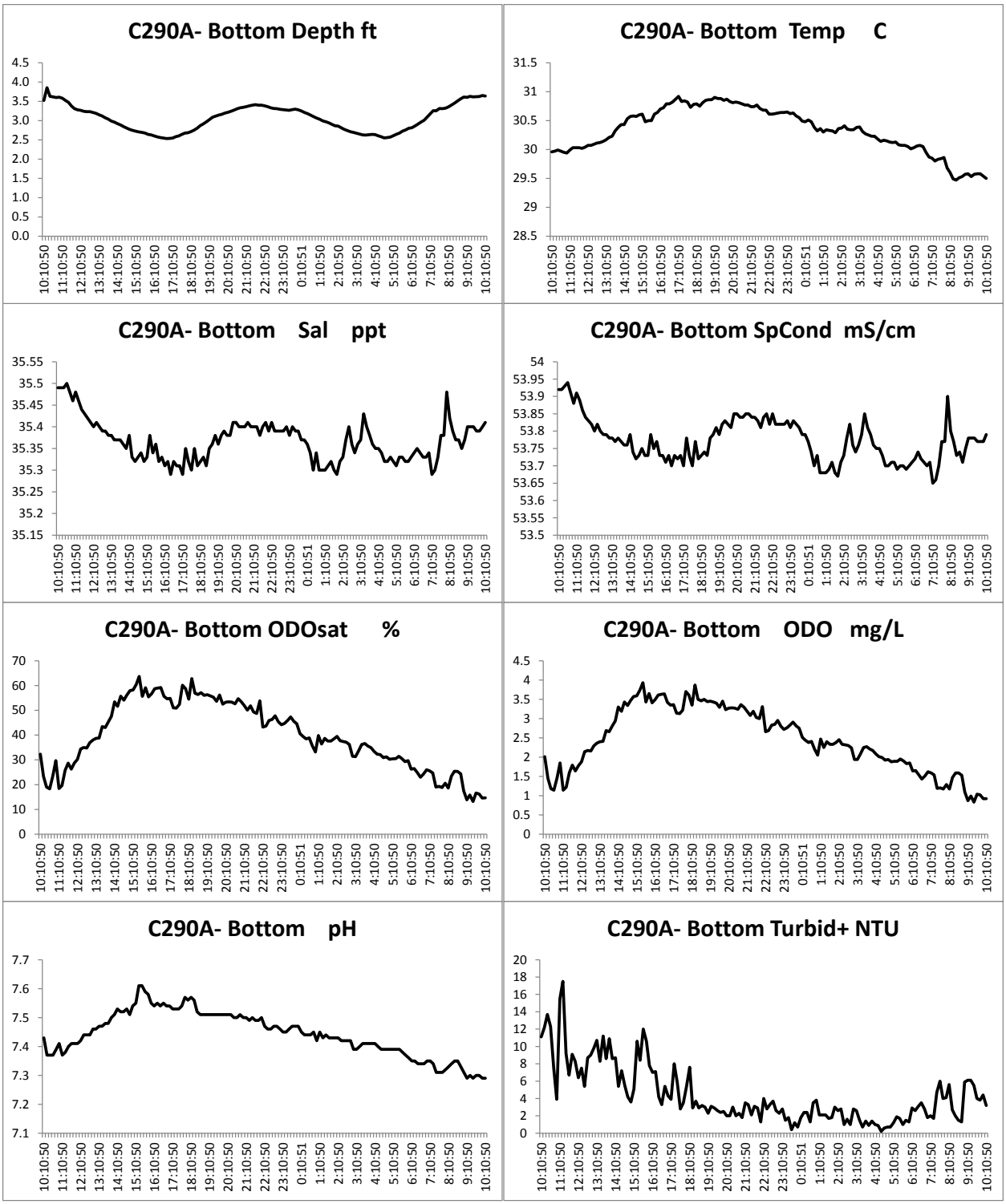

Figure 65: Time-series of physical-chemical data for bottom water at site A in canal #290 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #290. Surface

Water Depth does not display tidal cycles so variability may be due to winds.

Water Temperature begins to rise in the morning and drops in the afternoon. Range of variation is about 1.5 ºC.

Salinity and Specific Conductance show a decrease tendency but the change is only of 0.67PSU.

Dissolved Oxygen and Oxygen saturation reach highest values in the midafternoon thereafter start to drop reaching DO concentrations exceeding the regulation levels. There were 63% of %Do saturation exceedances.

pH follows closely the DO and %Do Saturation patterns.

Turbidity drops slightly from early morning to mid-afternoon, when it reaches zero NTU.

	C290A- Surface Temp C	C290A- Surface SpCond mS/cm	C290A- Surface Sal ppt	C290A- Surface Depth meters	C290A- Surface pH	C290A- Surface Turbid NTU	C290A- Surface ODOsat %	C290A- Surface ODO mg/L
Average	30.46	54.17	35.66	0.34	7.42	1.57	38.59	2.37
Median	30.38	54.10	35.61	0.35	7.43	1.20	38.50	2.38
Stand. Dev	0.47	0.20	0.14	0.01	0.07	1.43	13.80	0.83
%DO Sat Exceedances	63%							

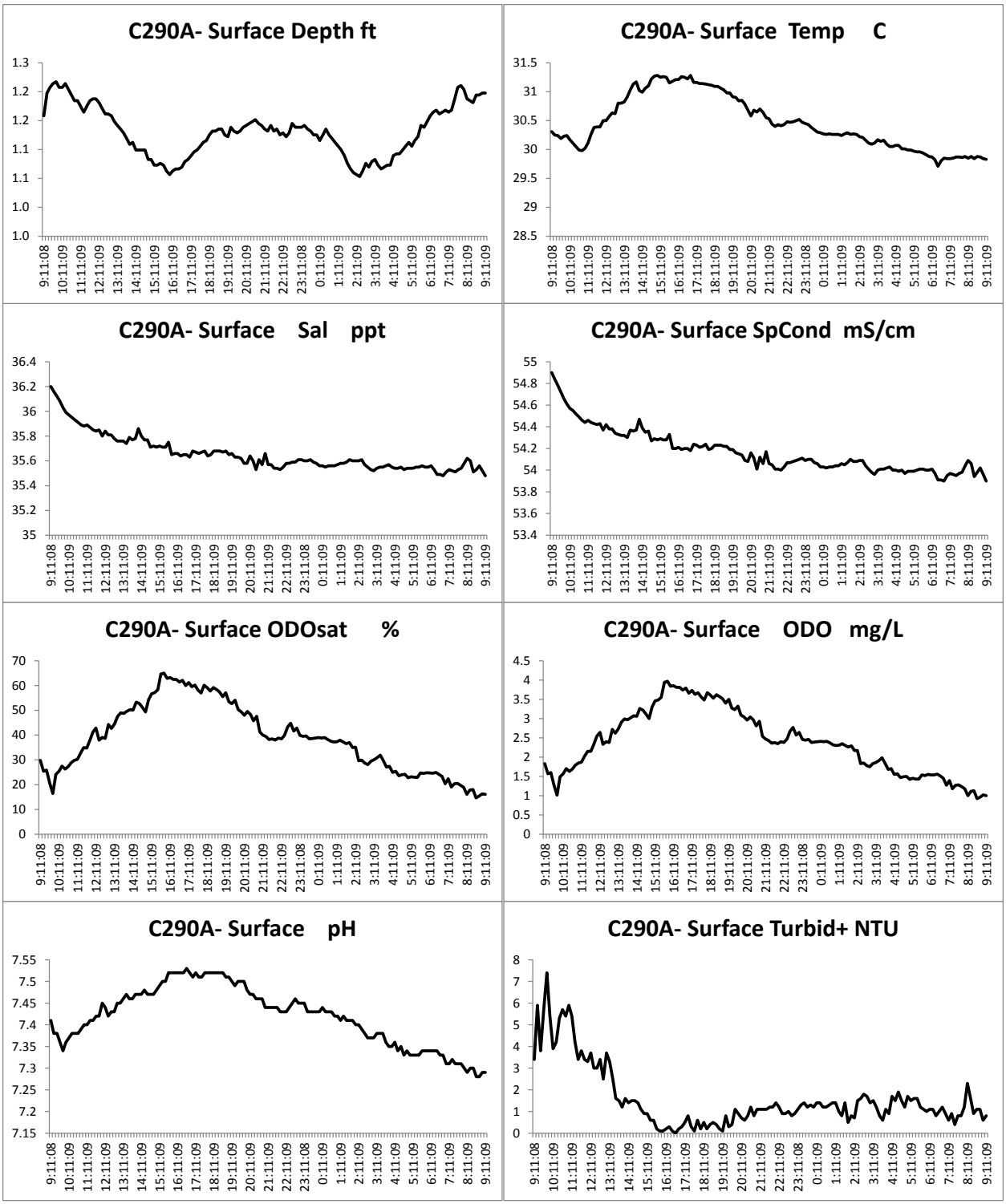

Figure 66: Time-series of physical-chemical data for surface water at site A in canal #290 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #293A. Bottom

Observation of time series suggest as follows:

Water Depth well develops tidal cycle with 1 ft of range.

Water Temperature increases rapidly in morning hours and remains constant the rest of the diel cycle at around 30.4 ^{O}C

Salinity and Specific Conductance show similar pattern as that of temperature.

Dissolved Oxygen and Oxygen saturation values are close or equal to zero with all of them exceeding the norm (100% DO saturation exceedances)

pH remains on the low-alkaline side, following closely the trend of DO. In general it displays stable values around 7.2

Turbidity is rather high (median 20.8 NTU) and increases during morning to afternoon hours and declines to midnight. From midnight to morning hours is rather stable at about 20 NTU

	C293A- Bottom Temp	C293A- Bottom SpCond	C293A- Bottom Sal	C293A- Bottom Depth	C293A- Bottom pH	C293A- Bottom Turbid	C293A- Bottom ODOsat	C293A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.36	55.46	36.62	2.37	7.21	24.97	1.06	0.07
Median	30.39	55.6	36.72	2.377	7.22	20.80	1	0.06
Stand. Dev	0.088	0.425	0.315	0.103	0.029	10.08	0.528	0.032
%DO Sat Exceedances	100%							

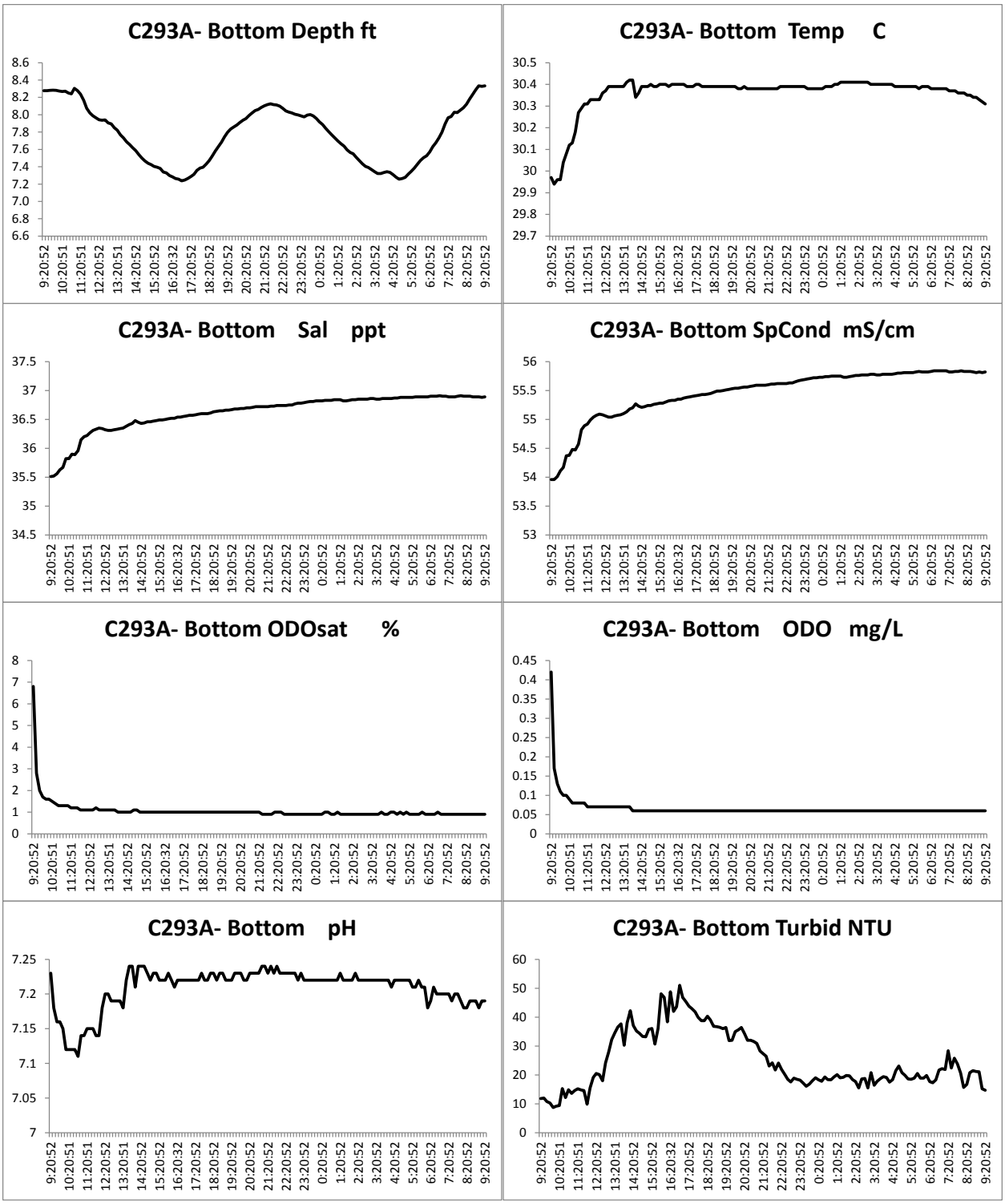

Figure 67: Time-series of physical-chemical data for bottom water at site A in canal #293 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #293A. Surface

Observation of time series suggest as follows:

Water Depth changes were not recorded because of floating YSI.

Water Temperature begins to drop mid-afternoon and rises again in the late morning. Range of variation is about 1 ^{O}C

Salinity and Specific Conductance rather constant between 35.5 and 35.7 PSU

Dissolved Oxygen and Oxygen saturation increases from late morning to late afternoon and declines constantly during night to morning hours. %DO Sat exceeds the limit the 38% of the values.

pH remains on the low-alkaline side, following closely the trend of DO. In general it displays stable values around 7.5

Turbidity is in general very low (usually below 1 NTU) and drops slightly from morning to mid-night and slightly increases to the early morning

	C293A- Surface Temp	C293A- Surface SpCond	C293A- Surface Sal	C293A- Surface Depth	C293A- Surface pH	C293A- Surface Turbidity	C293A- Surface ODOsat	C293A- Surface ODO	C293A- Surface Turbidity
	C	mS/cm	ppt	meters		NTU	%	mg/L	
Average	30.30	54.09	35.60	0.52	7.49	0.46	46.47	2.87	0.56
Median	30.23	54.08	35.6	0.528	7.49	0.4	46.5	2.87	0.50
Stand. Dev	0.300	0.086	0.066	0.034	0.054	0.338	12.346	0.754	0.338
%DO Sat Exceedances	38%								

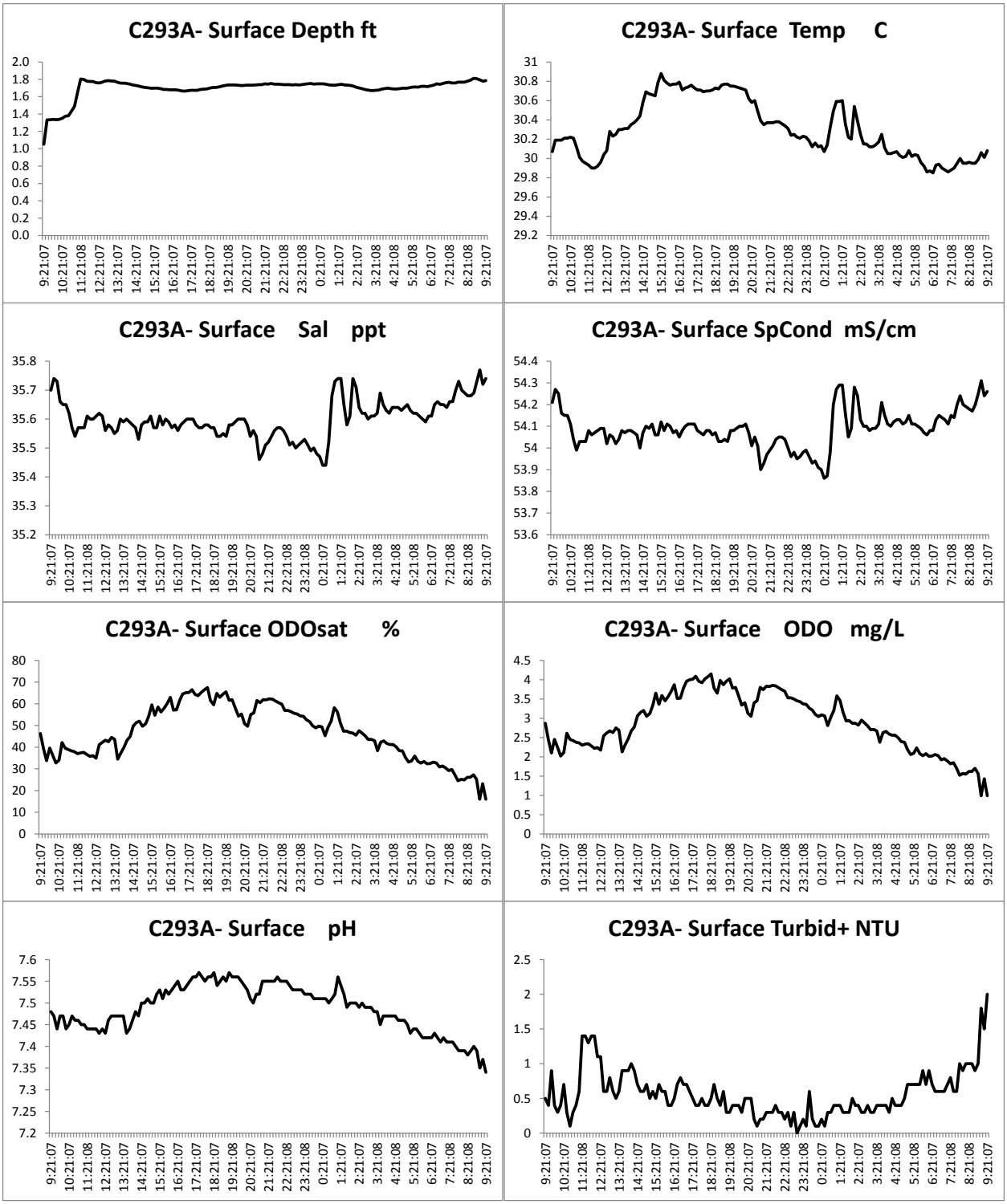

Figure 68: Time-series of physical-chemical data for surface water at site A in canal #293 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #29A. Bottom

Observation of time series suggest as follows:

Water Depth remains constant around 20 ft without tidal variability.

Water Temperature stays rather constant about 29.9 ^{O}C

Salinity and Specific Conductance display slight and constant decline from 38.6 to 38.3 PSU

Dissolved Oxygen and Oxygen saturation are very low and display a slight but continuous decline from 35% to 15% DO Saturation, and 100% exceedances

pH remains on the low-alkaline side, following closely the trend of DO. In general it displays stable values around 7.6

Turbidity is in general very low (usually below 1 NTU) and drops slightly from early afternoon to mid-night and increases sharply to a conspicuous high about 2 NTU from midnight to early morning

	C29A- Bottom Temp	C29A- Bottom SpCond	C29A- Bottom Sal	C29A- Bottom Depth	C29A- Bottom pH	C29A- Bottom Turbidity	C29A- Bottom ODOsat	C29A- Bottom ODO
	C	mS/cm	ppt	meters			%	mg/L
Average	29.92	57.86	38.44	6.07	7.60	0.87	23.88	1.46
Median	29.92	57.85	38.43	6.073	7.6	0.50	23.1	1.41
Stand. Dev	0.012	0.112	0.084	0.009	0.018	0.878	3.826	0.234
%DO Sat Exceedances	100%							

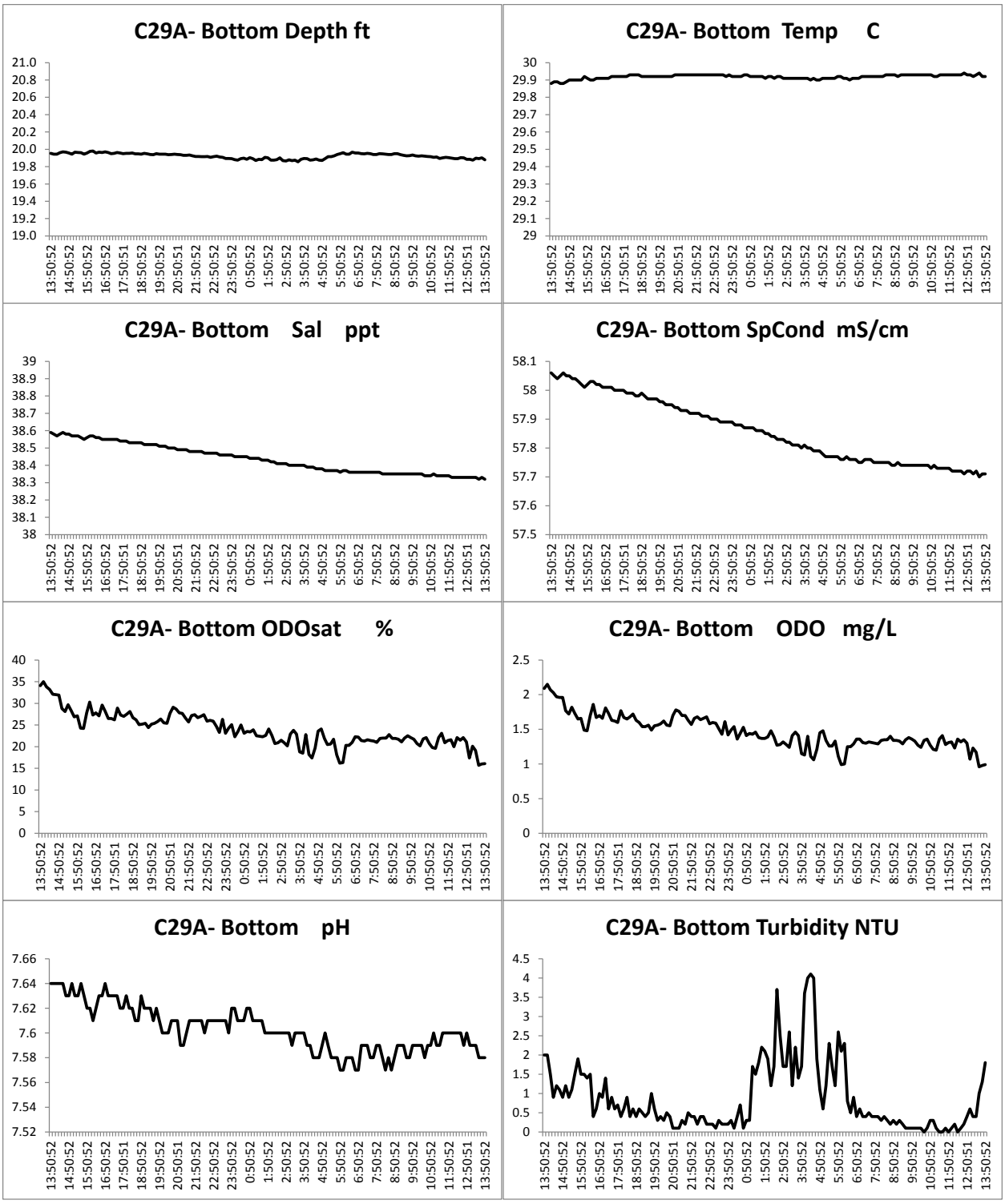

Figure 69: Time-series of physical-chemical data for bottom water at site A in canal #29 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #29A. Surface

Observation of time series suggest as follows:

Water Depth remains constant around 1.8 ft without tidal variability.

Water Temperature shows slightly higher values from morning to afternoon hours. In general values stay close to 30 ^{O}C

Salinity and Specific Conductance display slight and constant decline from 38.6 to 38.3 PSU

Dissolved Oxygen and Oxygen saturation remain with little change. %DO stays between 44% and 70% DO Saturation, with 0% exceedances

pH remains on the low-alkaline side, with slight decline from early afternoon to morning next day. In general it displays stable values around 7.6

Turbidity is in general very low (usually around 1 NTU) and without observable trend

	C29A- Surface Temp	C29A- Surface SpCond	C29A- Surface Sal	C29A- Surface Depth	C29A- Surface pH	C29A- Surface Turbid+	C29A- Surface ODOsat	C29A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.01	57.30	38.01	0.54	7.64	1.186896552	55.66	3.41
Median	30.07	57.32	38.03	0.543	7.64	1.2	56	3.43
Stand. Dev	0.229	0.084	0.067	0.009	0.025	0.396557263	5.968	0.356
%DO Sat Exceedances	0%							

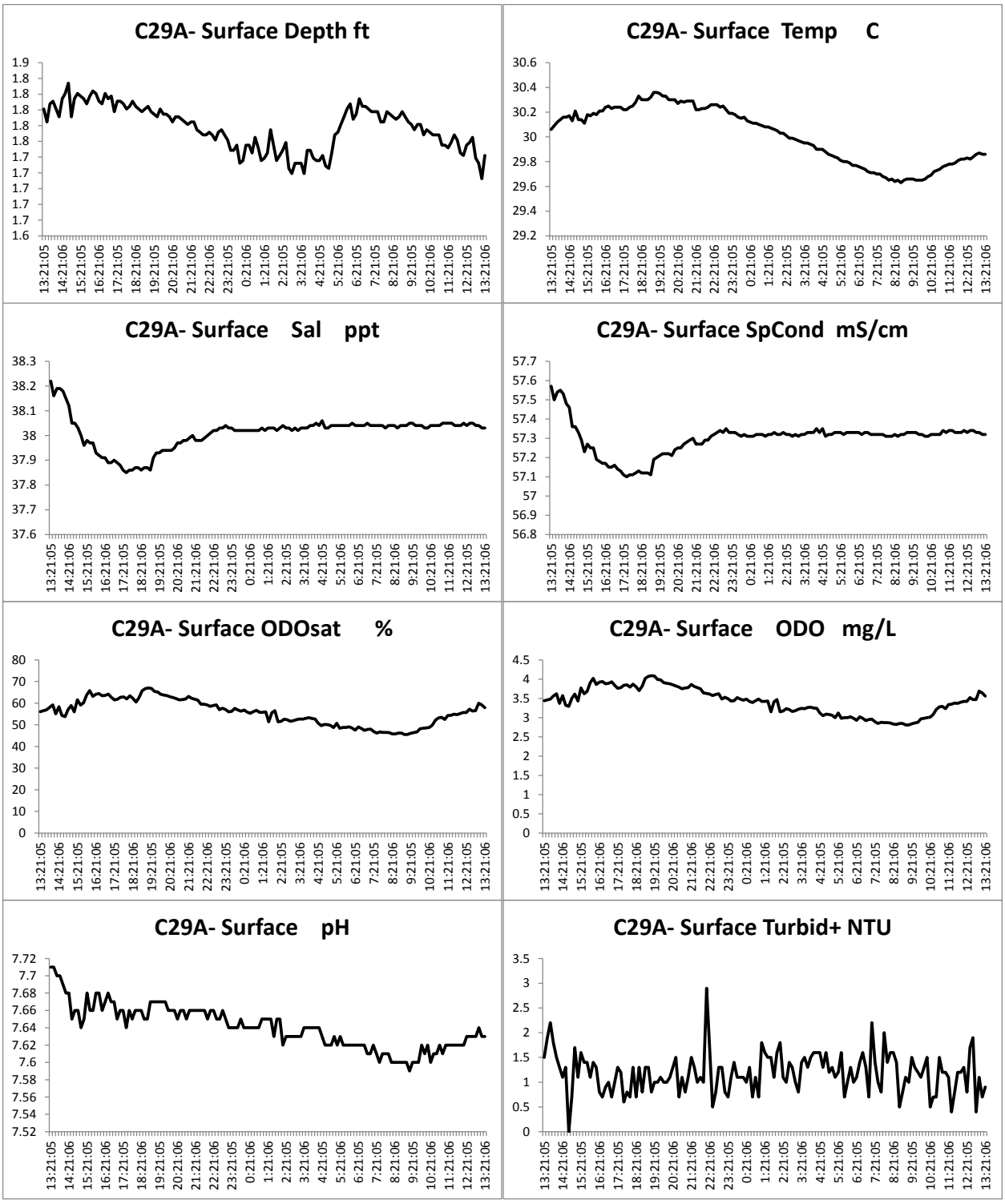

Figure 70: Time-series of physical-chemical data for surface water at site A in canal #29 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #458A. Bottom

Observation of time series suggest as follows:

Water Depth shows a well-developed tidal cycle with 1.1 ft variability.

Water Temperature remains rather constant around 30.5 ^{O}C from afternoon to early morning, when a slight drop occurs, matching a drop in salinity

Salinity and Specific Conductance are about constant from afternoon to next morning when sudden drops occurs PSU

Dissolved Oxygen and Oxygen saturation decline from afternoon to morning next day, following the same pattern as salinity and temperature. Exceedances reach 100%

pH remains on the low-alkaline side, with slight decline from afternoon to morning next day. In general it displays values around 7.6

Turbidity continuous decline from afternoon hours to next morning. Sudden increases occur of about 2 NTU each at 11 AM and 2 PM

	C458A- Bottom Temp	C458A- Bottom SpCond	C458A- Bottom Sal	C458A- Bottom Depth	C458A- Bottom pH	C458A- Bottom Turbid	C458A- Bottom ODOsat	C458A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	30.36	53.69	35.30	2.03	7.68	2.28137931	24.66	1.53
Median	30.48	53.91	35.47	2.029	7.68	2.1	23.7	1.47
Stand. Dev	0.245	0.398	0.286	0.083	0.033	1.505959744	4.664	0.283
%DO Sat Exceedances	100%							

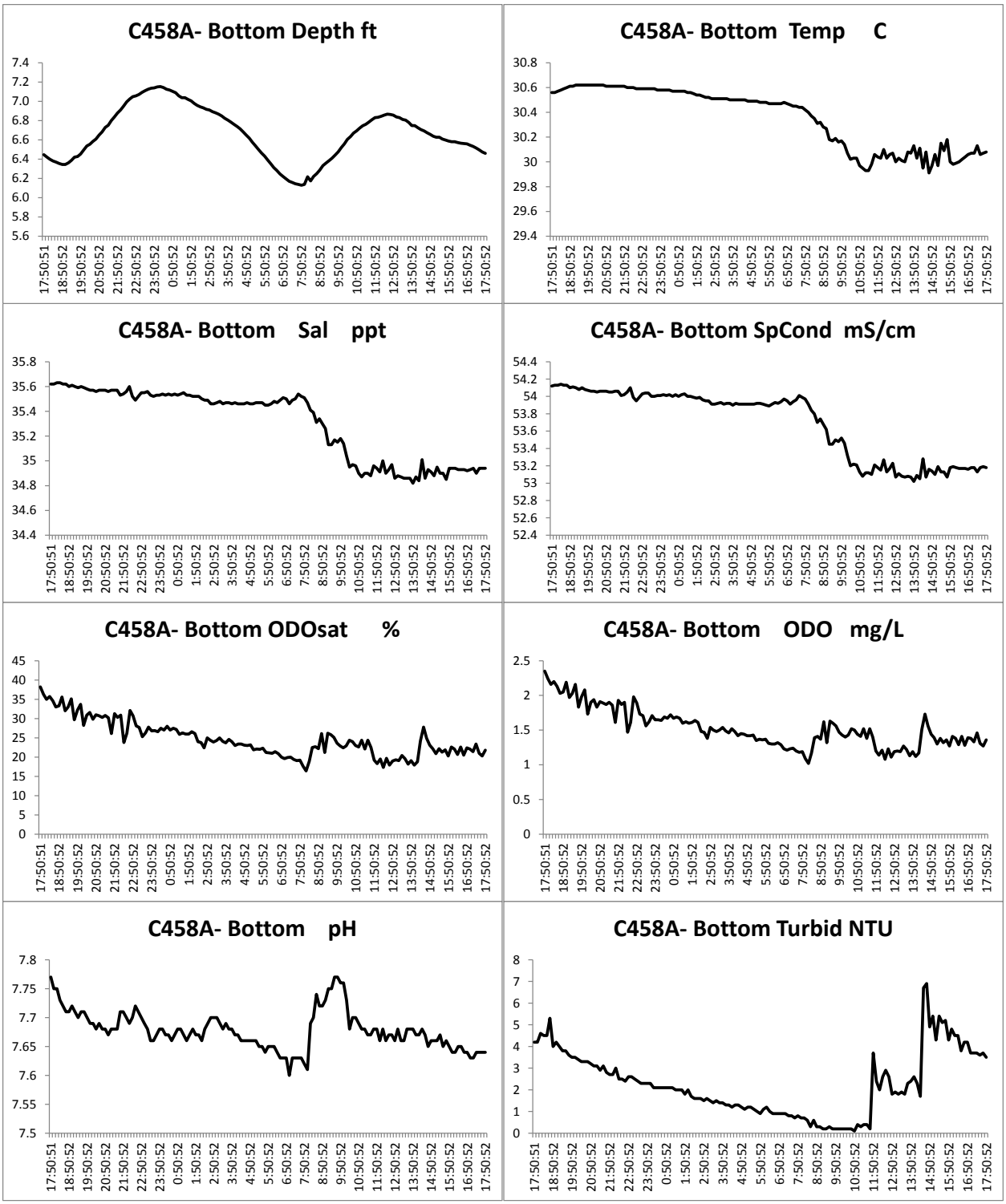

Figure 71: Time-series of physical-chemical data for surface water at site A in canal #458 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #458A. Surface

Observation of time series suggest as follows:

Water Depth shows a well-developed tidal cycle superimposed on a small but continuous increasing trend.

Water Temperature remains rather constant around 29.5 ^{O}C

Salinity and Specific Conductance slight increasing trend over diel period

Dissolved Oxygen and Oxygen saturation constant from afternoon to late night, a sharp disturbance close to midnight marks the beginning of a slight drop extending to mid-afternoon next day, when values resume back to higher levels. The pattern is similar to that of pH. Exceedances are 0%

pH displays a a pattern similar to that of DO. In general it displays values around 7.8

Turbidity is very low and the variability seems to follow that of tidal cycle.

	C4458A- Surface Temp	C4458A- Surface Salinity	C4458A- Surface SpCond	C4458A- Surface Depth	C4458A- Surface pH	C4458A- Surface Turbidity+	C4458A- Surface ODO%	C4458A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.72	33.02	50.56	0.36	7.81	0.304827586	85.08	5.19
Median	29.68	33.19	50.78	0.357	7.82	0.3	88.1	5.37737
Stand. Dev	0.361	0.465	0.624	0.012	0.045	0.194125902	16.273	0.988
%DO Sat Exceedar	0%							

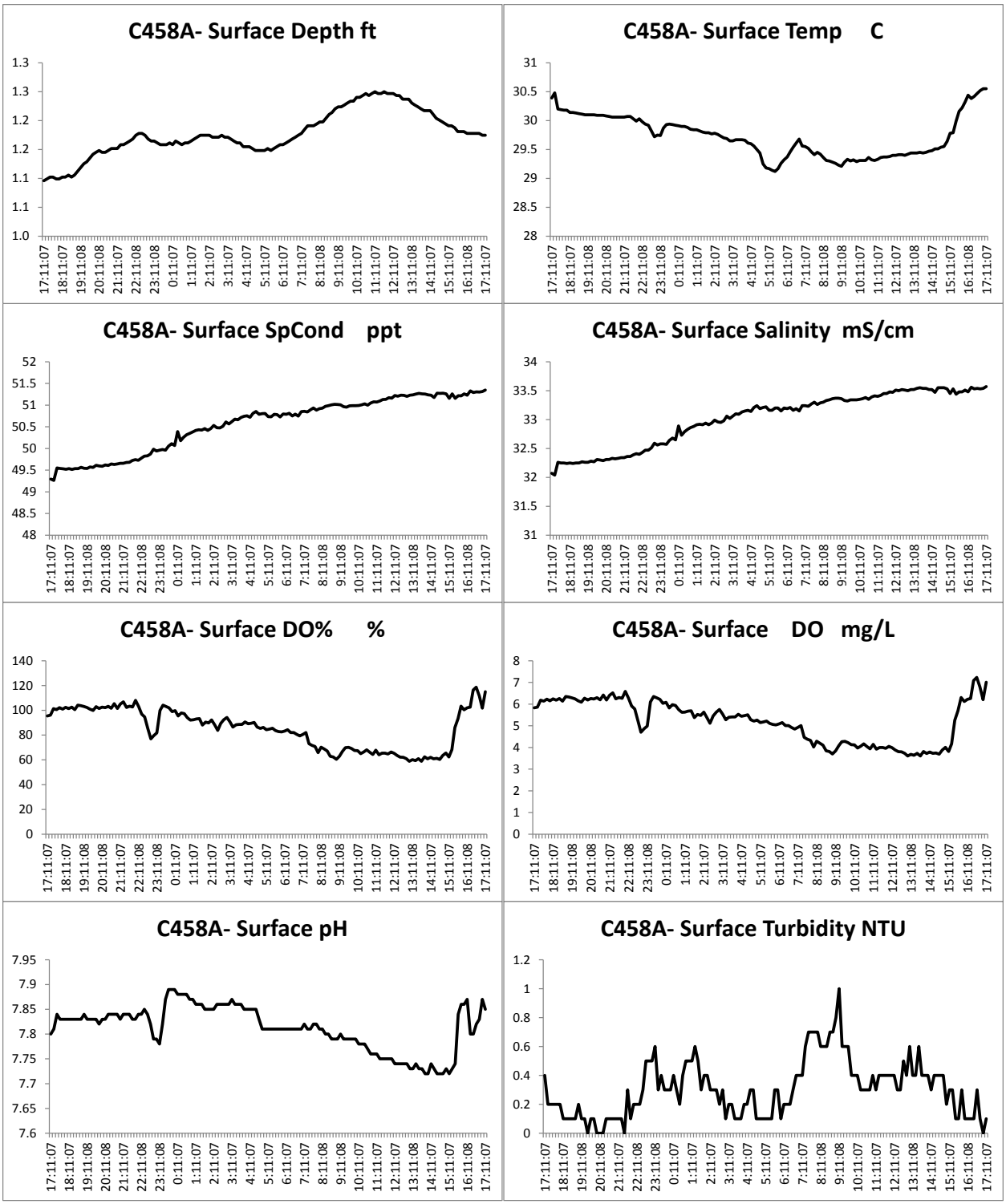

Figure 72: Time-series of physical-chemical data for surface water at site A in canal #458 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #459A. Bottom

Observation of time series suggest as follows:

Water Depth shows a well-developed tidal cycle with about 1 ft of amplitude

Water Temperature Values remain close to 29.6 ^{O}C with a minor decline in morning hours

Salinity and Specific Conductance slight increasing trend over diel period

Dissolved Oxygen and Oxygen saturation show close to zero values from evening to mid-night hours when a sudden increase to above 50% DO saturation occurred, with a second increments at mid-morning extending to late afternoon. Exceedances are 26%

pH displays a pattern similar to that of DO from very early morning (2 AM) to midafternoon next day. In general it displays values around 7.8

Turbidity is very low and without definitive pattern.

	C459A- Bottom Temp	C459A- Bottom SpCond	C459A- Bottom Sal	C459A- Bottom Depth	C459A- Bottom pH	C459A- Bottom Turbidity	C459A- Bottom DOsat	C459A- Bottom DO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.62	50.55	33.01	1.52	7.81	1.88	55.41	3.51
Median	29.75	50.55	33.03	1.521	7.81	1.7	60.4	3.87
Stand. Dev	0.375	0.289	0.212	0.084	0.074	0.96	33.605	2.121
%DO Sat Exceedar	26%							

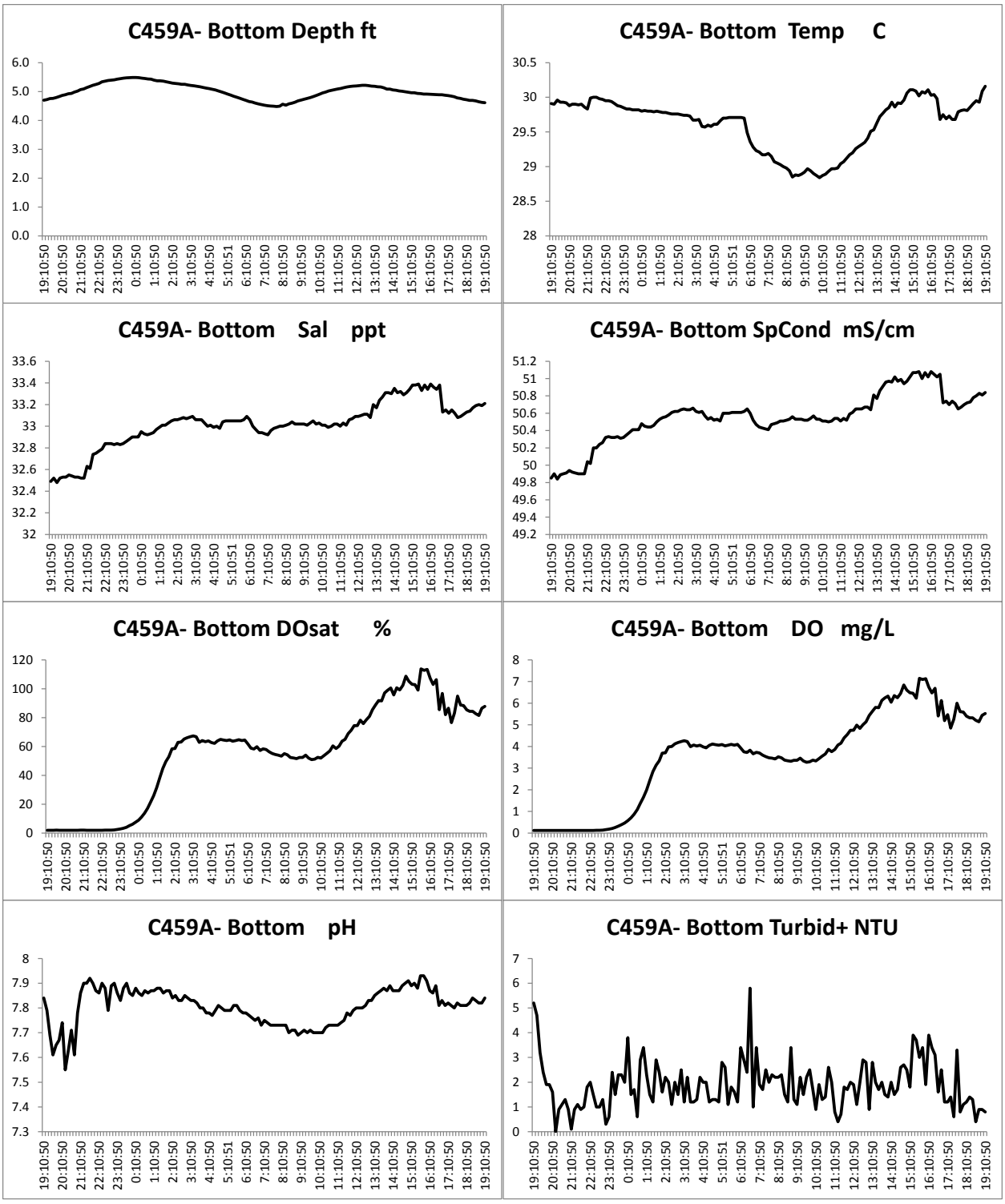

Figure 73: Time-series of physical-chemical data for bottom water at site A in canal #459 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #459A. Surface

Observation of time series suggest as follows:

Water Depth shows a constant depth due to floating YSI

Water Temperature Values decline from evening to noon hours and slight increase in the afternoon. Values vary from 29^{O}C to 31 ^{O}C.

Salinity and Specific Conductance slight increasing trend over diel period

Dissolved Oxygen and Oxygen saturation show similar pattern as that of temperature, without any %DO exceedance.

pH displays a pattern similar to that of DO and temperature declining from very early morning (2 AM) to midafternoon next day. In general it displays values around 7.8

Turbidity is low, usually below 2 NTU and without definitive pattern.

	C459A- Surface Temp	C459A- Surface SpCond	C459A- Surface Sal	C459A- Surface Depth	C459A- Surface pH	C459A- Surface Turbidity	C459A- Surface ODOsat	C459A- Surface ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.81	50.91	33.27	0.35	7.81	0.58	93.45	5.89
Median	29.71	50.96	33.32	0.347	7.81	0.50	91.5	5.79
Stand. Dev	0.478	0.285	0.211	0.007	0.070	0.44	20.547	1.256
%DO Sat Exceedar	0%							

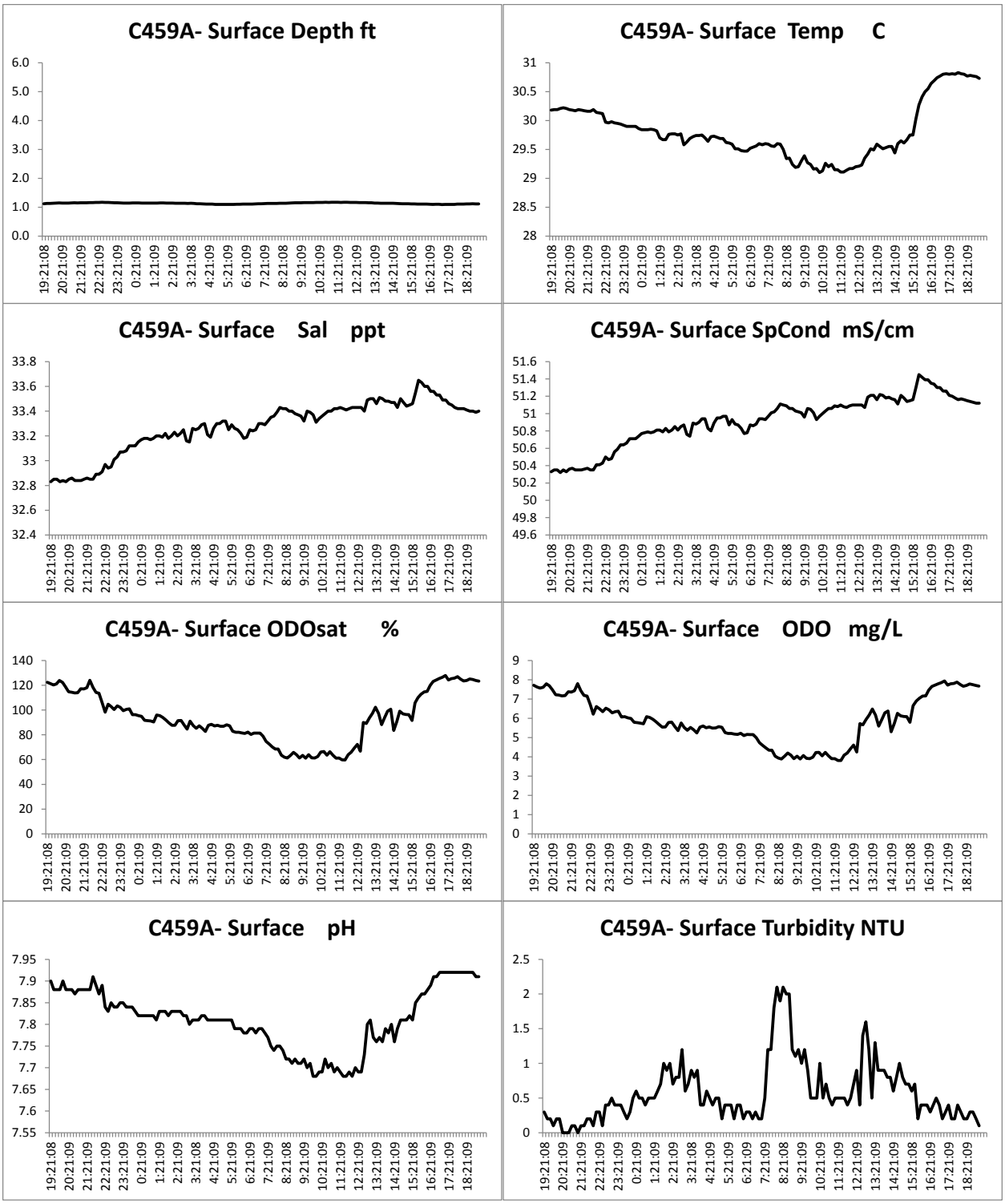

Figure 74: Time-series of physical-chemical data for surface water at site A in canal #459 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #472A. Bottom

Observation of time series suggest as follows:

Water Depth shows a well-developed tidal cycle and a range of about 2 ft

Water Temperature values remain about constant around 29^{O}C to 31 ^{O}C.

Salinity and Specific Conductance remain constant over diel period

Dissolved Oxygen and Oxygen saturation remain about constant during the diel cycle, with 100 %DO exceedances.

pH is rather constant with extremely low values around 6.6, close to the limit of 6.5 units for marine waters

Turbidity is abnormally high, around 25 NTU.

	C472A- Bottom Temp	C472A- Bottom SpCond	C472A- Bottom Sal	C472A- Bottom Depth	C472A- Bottom pH	C472A- Bottom Turbidity	C472A- Bottom ODOsat	C472A- Bottom ODO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	27.86	57.31	38.09	3.38	6.64	27.28	3.37	0.21
Median	27.86	57.29	38.08	3.397	6.64	26.40	3.4	0.21
Stand. Dev	0.033	0.077	0.058	0.166	0.016	4.93	0.116	0.008
%DO Sat Exceedances	100%							

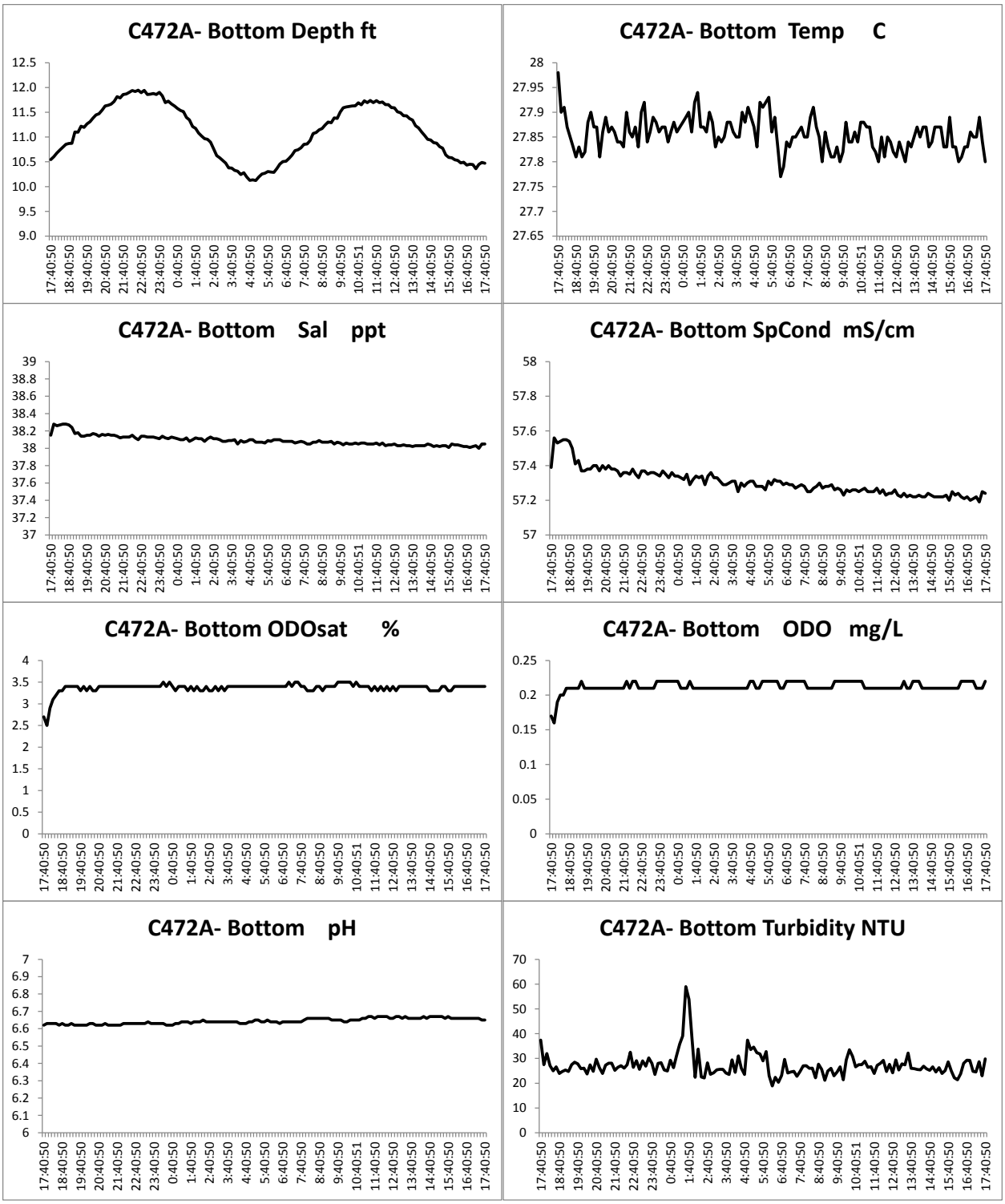

Figure 75: Time-series of physical-chemical data for bottom water at site A in canal #472 during a 24-hour cycle (Diel cycle). Survey FKC02

Canal #472A. Surface

Observation of time series suggest as follows:

Water Depth shows a constant trend due to floating YSI

Water Temperature values remain low, with decline from afternoon to morning next day and increase from mid-morning to afternoon 29^{O}C to 31 ^{O}C.

Salinity and Specific Conductance increased slightly from late night to very early morning, declining the rest of the diel cycle.

Dissolved Oxygen and Oxygen saturation show a slight increase from the morning to mid-afternoon hours, and declining the rest of the diel cycle. There are 0 %DO exceedances.

pH follows DO very closely

Turbidity is rather low with a slight increase in the early morning hours.

	C472A- Surface Temp	C472A- Surface SpCond	C472A- Surface Sal	C472A- Surface Depth	C472A- Surface pH	C472A- Surface Turbid	C472A- Surface DOsat	C472A- Surface DO
	C	mS/cm	ppt	meters		NTU	%	mg/L
Average	29.97	50.70	33.11	0.36	7.80	0.37	88.27	5.56
Median	30.02	50.64	33.07	0.355	7.79	0.40	87.5	5.53
Stand. Dev	0.286	0.255	0.194	0.008	0.045	0.23	15.100	0.935
%DO Sat Exceedar	0%							

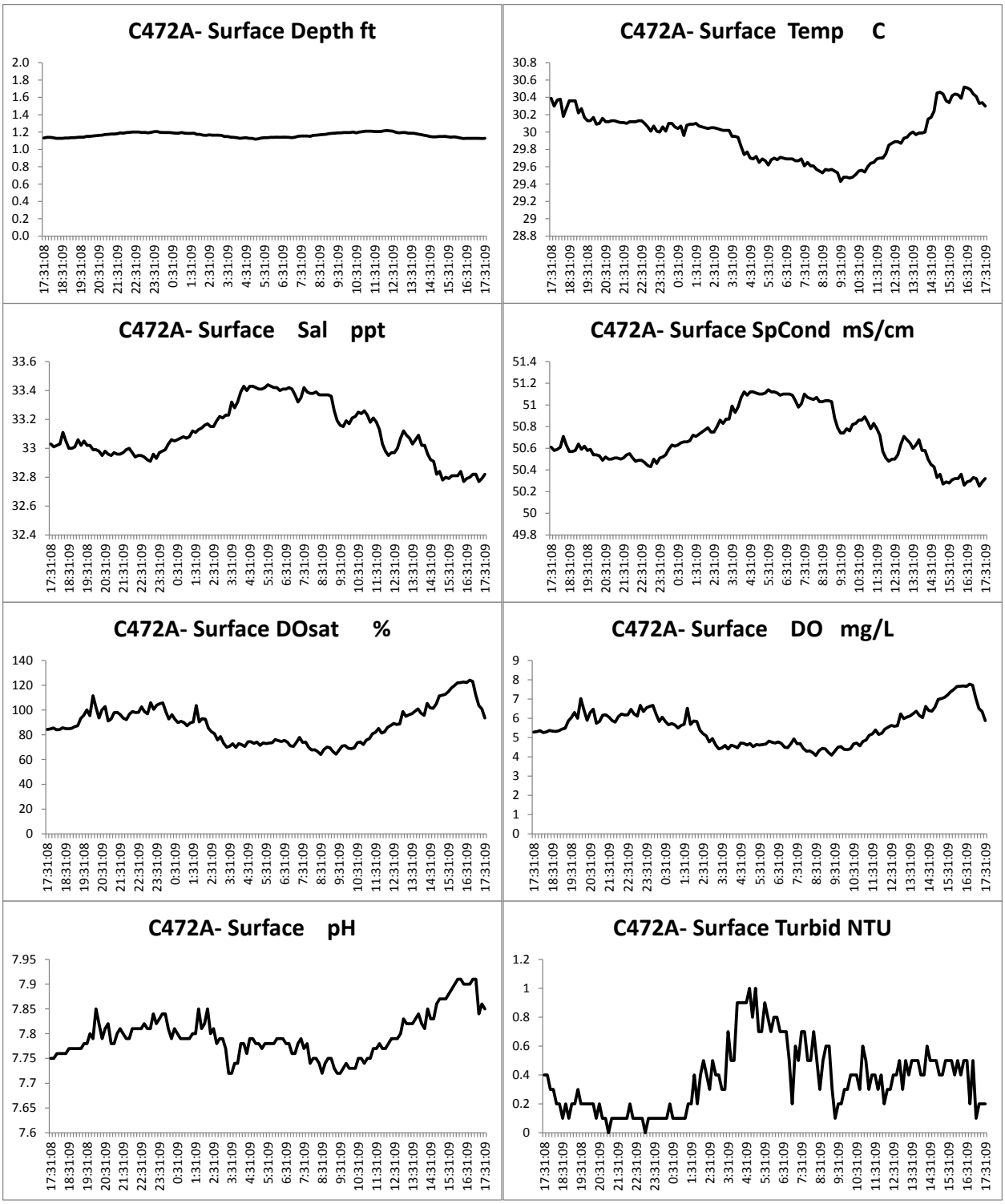

Figure 76: Time-series of physical-chemical data for surface water at site A in canal #472 during a 24-hour cycle (Diel cycle). Survey FKC02