

2003 Sandfly Key Lease Area, Charlotte County Quality Assurance/Quality Control (QA/QC) Log

Key to Log:

File Name: Name of excel files containing the data for that month. File names have two or three parts: 1) the two-letter site abbreviation (GJ, HB, BA, etc.), 2) the year and month (ie. -0201), and 3) the nature of the file (“-raw” contains the raw, unaltered data; “-QAQC” contains the quality controlled data set as well as all corrections; the file name that ends with the year and month is the quality controlled file containing only the corrected and finalized data—this is the file sent to the archive)

Deployments: Number of different sondes that recorded data during the month and the periods of dates/times of each deployment.

Condition of Sonde: The post-deployment condition of each sonde deployed during the month. This includes information on fouling, equipment failures and whether post-deployment checks were performed.

Removed Data: Tabulation of all data points removed from a given month. Table columns give the parameter values deleted, the reason for the deletion (see abbreviations) and the dates and times of points deleted.

Corrected data: This is a record of all data points that were corrected. This includes corrections due to instrument drift, incorrect instrument calibration, etc... Included are probe readings in the standard pre- and post-deployment and excel formulae used to calculate corrected values.

Missing data: This is a record of all missing data points not due to the QA/QC process (ie. not accounted for in “Removal of bad data”). A common cause for this missing data is a lag time between the retrieval of one sonde and the deployment of the second sonde or failure of the instrument to log data at a given time.

Abnormalities in Data: This is a record of troublesome trends or data points not removed from data set, but that could prove a problem in interpretation. Examples include sudden jumps in the data when sondes are changed out (reflecting drift in retrieved sonde or a lack of standardization between the two sondes). Notes regarding reliability of data may also be found here. **ALWAYS read this section before interpreting data.**

Abbreviations:

IF	=	Instrument Failure: Data logger returned values of -6999
PF	=	Probe Failure: Probe measuring individual parameter apparently malfunctioned.
ADL	=	Above Detection Limit: data logger returned a data point that is above the detection limit of the probe
BDL	=	Below Detection Limit: data logger returned a data point that is above the detection limit of the probe
SND	=	Sonde Not Deployed: evidence indicates that sonde was not in the water on-site when data was recorded
FOUL	=	Fouled: evidence indicates sonde was not functioning properly due to severe fouling
EXP	=	Exposed: Sonde was exposed to air due to low water level or some disturbance.

General Notes on Reliability of Data:

- 1) In general, measurements of salinity, temperature and depth are very reliable unless otherwise noted in “Abnormalities in Data”.
- 2) Measurements of dissolved oxygen are often not reliable. Typically, oxygen measurements taken soon after a sonde is deployed are reliable, but reliability decreases during the deployment period due to instrument drift and fouling. The most unreliable oxygen data is that collected near the time the sonde is retrieved. **ALWAYS read “Abnormalities in Data” before interpreting dissolved oxygen!**
- 3) The reliability of turbidity measurements is much like that of oxygen. Turbidity measurements are best early and worst late in the deployment period.
- 4) The reliability of chlorophyll measurements is unknown. We do not currently know what the measurements mean in a biological context. Confirmation studies are underway.

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**If a post-deployment check was not performed, reliability of all data for that deployment period must be considered suspect.

June

File Name: SF-0306-raw, SF-0306-QAQC, SF-0306

Deployments: (unknown);

Condition of Sondes: unknown

Removed Data:

Parameter(s)	Problem	Data Points
All	IF	14 points between 6/4 and 6/10, and all points after 6/10 1500

Corrected Data:

Could not correct any parameters due to lack of pre- and post-deployment calibration sheets. Interpret all remaining data with caution as they **may be faulty!

Problems and Anomalies:

Oxygen 6/1-6/10: Oxygen slowly decreased to below 20%, but salinity was simultaneously decreasing and turbidity was spiking above 1000NTU, suggesting the trend could be a result of fouling on the probes. The cause of the decreased oxygen levels cannot be confirmed at this time, but the data **may be faulty**. Interpret with caution.

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July

File Name: SF-0207-raw, SF-0207-QAQC, SF-0207

Deployments: (unknown);

Condition of Sondes: unknown

Removed Data:

Parameter(s)	Problem	Data Points
All	IF	7/1-7/7 1100, many between 7/19 300 and 7/21 700

Corrected Data:

**Could not correct any parameters due to lack of pre- and post-deployment calibration sheets.

Interpret all remaining data with caution as they **may be faulty!**

Problems and Anomalies:

Oxygen: Numerous oxygen declines associated with increases in turbidity suggesting the trend could be a result of fouling on the probes. The cause of the decreased oxygen levels cannot be confirmed at this time, but the data **may be faulty.** Interpret with caution.

Special Note:

August

File Name: SF-0208-raw, SF-0208-QAQC, SF-0208

Deployments: (unknown);

Condition of Sondes: unknown

Removed Data:

Parameter(s)	Problem	Data Points
Salinity	PF?	8/22 1930-8/28 1130
Temp, salinity, oxygen	PF?	8/28 1200-8/31 2330
Oxygen	FOUL	8/12 1600-8/28 1130
Turbidity	FOUL	8/12 1600-8/28 1130

Corrected Data:

**Could not correct any parameters due to lack of pre- and post-deployment calibration sheets.
Interpret all remaining data with caution as they **may be faulty!**

Problems and Anomalies:

Depth: Depth was not recorded during this month.

Specific Conductivity and Salinity 8/22 1930-8/28 1130: These two parameters suddenly dropped to zero. These values were **faulty** and were deleted.

Temperature, Specific Conductivity, Salinity, Oxygen 8/28 1200-8/31 2330: Temperature readings were in the 170°F range. These were **faulty**. Because temperature is used in calculating the other three parameters, these were **faulty** as well. All these parameters were deleted during this time period.

Oxygen and Turbidity 8/12 1600-8/28 1130: These records were apparently severely affected by biofouling due to a very long deployment period. It became so bad that oxygen measurements fell into the negatives, a good sign that the fouling organisms punctured the DO membrane. These data points were deemed **faulty** and were deleted.

Special Note:

Depth and Turbidity: In the datalogger, turbidity was being recorded in the depth column. As a result, the website was showing turbidity values on the depth graph, chlorophyll values on the turbidity graph and fluorescence values on the chlorophyll graph. Due to this mistake, depth was not recorded.

September

File Name: SF-0209-raw, SF-0209-QAQC, SF-0209

Deployments: (unknown);

Condition of Sondes: unknown

Removed Data:

Parameter(s)	Problem	Data Points
Temp, salinity, oxygen	PF?	9/1 000-9/12 1100
Salinity	PF?	9/12 1130-9/30 2330
Turbidity	PF or FOUL?	9/4 1600-9/12 1100; 9/16 1600-9/30 2330
Oxygen	PF	9/12 1130-9/30 2330

Corrected Data:

Could not correct any parameters due to lack of pre- and post-deployment calibration sheets. Interpret all remaining data with caution as they **may be faulty!

Problems and Anomalies:

Depth: Depth was not recorded during this month.

Temperature, Specific Conductivity, Salinity, Oxygen 9/1 000-9/12 1100: Temperature readings were in the 170°F range. These were **faulty**. Because temperature is used in calculating the other three parameters, these were **faulty** as well. All these parameters were deleted during this time period.

Turbidity 9/4 1600-9/12 1100: Turbidity values started to become very high during this period. This was likely due to biofouling. As a result, the data were deemed **faulty** and were deleted.

Specific Conductivity and Salinity 9/12 1130-9/30 2330: These two parameters suddenly dropped to zero. These values were **faulty** and were deleted.

Oxygen 9/12 1130-9/30 2330: Oxygen values were highly erratic, fluctuating between -30% and 250%. This indicates the DO membrane was broken. These data were deemed **faulty** and were deleted.

Turbidity 9/16 1600-9/30 2330: Turbidity values became very high during this period. Turbidity values were rather steady for the four days preceding this part of the record, indicating the sonde had been recently changed. Whether this increase was due to a probe failure of biofouling was not known, but the record was deemed **faulty** in any case and was deleted.

Special Note:

Depth and Turbidity: In the datalogger, turbidity was being recorded in the depth column. As a result, the website was showing turbidity values on the depth graph, chlorophyll values on the turbidity graph and fluorescence values on the chlorophyll graph. Due to this mistake, depth was not recorded.

October

File Name: SF-0210-raw, SF-0210-QAQC, SF-0210

Deployments: (unknown);

Condition of Sondes: unknown

Removed Data:

Parameter(s)	Problem	Data Points
Salinity	PF?	10/1 000-10/9 1330
Turbidity	PF or FOUL?	10/1 000-10/9 1330
Oxygen	PF	10/1 000-10/9 1330

Corrected Data:

Could not correct any parameters due to lack of pre- and post-deployment calibration sheets. Interpret all remaining data with caution as they **may be faulty!

Problems and Anomalies:

Depth: Depth was not recorded during this month.

Specific Conductivity and Salinity 10/1 000-10/9 1330: These two parameters suddenly dropped to zero. These values were **faulty** and were deleted.

Oxygen 10/1 000-10/9 1330: Oxygen values were highly erratic, fluctuating between -30% and 250%. This indicates the DO membrane was broken. These data were deemed **faulty** and were deleted.

Turbidity 10/1 000-10/9 1330: Turbidity values became very high during this period. Turbidity values were rather steady for the four days preceding this part of the record, indicating the sonde had been recently changed. Whether this increase was due to a probe failure of biofouling was not known, but the record was deemed **faulty** in any case and was deleted.

All Parameters 10/9 1400-10/31 2330: No data was recorded during this period.

Special Note:

Depth and Turbidity: In the datalogger, turbidity was being recorded in the depth column. As a result, the website was showing turbidity values on the depth graph, chlorophyll values on the turbidity graph and fluorescence values on the chlorophyll graph. Due to this mistake, depth was not recorded.

