2003 Pine Island Lease Area, Dixie 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. "Trimming on ends of data sets" is a record of all data points removed from either the beginning or the end of the different files in order to create a seamless monthly record (most points removed here were data not recorded in the water, but rather, were point recorded prior to deployment or following retrieval); "Removal of bad data" is a record of data deemed to be of low quality (for example, data out of range of instrument, instrument or probe failures, etc… See Word file "QAQCGuidelines.doc" for criteria used). 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, fouling, incorrect instrument calibration, etc. Included are probe readings in the standard pre- and post-deployment and excel formulae used to calculate corrected values. Inability to correct data due to lack of proper post-deployment check procedures or substandard sonde condition (eg. heavily fouled) may also be noted here.

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.

Problems and Anomalies: 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 (whether or not it is or may be faulty) 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.
NMD	=	Next month's data: trimmed data belonged to next month
PMD	=	Previous month's data: trimmed data belonged to previous month

General Notes on Reliability of Data:

1) In general, measurements of temperature and depth are very reliable unless otherwise noted in "Problems and Anomalies".

2) Salinity is typically reliable, but this data can be compromised by bad calibrations and fouling. These effects are most obvious as sudden discontinuities in the trend when sondes are changed. If the discontinuity that occurs with a sonde change is more than +/- 2 ppt in magnitude, the discontinuity is noted as a faulty trend.

3) 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 "Problems and Anomalies" before interpreting dissolved oxygen! Dissolved oxygen discontinuities of +/- 25% or more coincident with sonde changes are noted as faulty if they do not fall within the actual rate of change occurring before and after the sonde change.

4) The reliability of turbidity measurements is much like that of oxygen. Turbidity measurements are best early and worst late in the deployment period.

5) The reliability of chlorophyll measurements is unknown. We do not currently know what the measurements mean in a biological context. Confirmation studies are underway.

6) If the word "**faulty**" appears regarding a trend or data period, the data should be considered highly unreliable. Do not use this data (if it wasn't deleted altogether) for anything but a general guideline to potential conditions. This designation is only used regarding data known to be of very poor quality.

7) If the phrase "**may be faulty**" appears regarding a trend or data period, the data may not be reliable. Typically, the data appears to be of reasonably good quality and probably does reflect the real trends in environmental condition, but very strict interpretation is not recommended.

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

JANUARY--2003
Files: Pi-0301-raw, Pi-0301-QAQC, Pi-0306

Deployments: (3); 12/10-1/6, 1/6-1/22, 1/22-2/18

Condition of Sondes: 12/10-1/6 (ok), 1/6-1/22 (ok), 1/22-2/18 (No data)

Removed Data:

Parameter(s)	Problem	Data Points

Corrected Data:
>   Specific Conductivity:
>>   standard 1.413, probe 3.51
>>   Formula: =(-((3.51-1.413)/(B1739-B461))*(B461-B461))+E461
>>   Salinity =(0.7075*R461)-2.7417
>   Oxygen:
>>   pre-deployment O2: 104.5%
>>   post-deployment O2: 120%
>>   standard 100, probe 115%; O2 correction = 117.5%
>>   Formula: =(-((117.5-100)/(B1739-B461))*(B461-B461))+G461
>>   Conversion for O2 concentration: =4.53-(0.205*D461)-(0.061*S461)+(0.0874*P461)

>   Turbidity:
>>   standard 0, probe 26.8; standard 100, probe 105.9
>>   Formula: =((((((100/79.1)-1)*(K461))-(26.8))*((B461-B461)/(B1739-B461)))+K461
>>   **Turbidity correction not applied—see details below
>   Chlorophyll:
>>   standard 0.0, probe 689.9
>>   **Chlorophyll NOT CORRECTABLE

1/6-1/22
>   Specific Conductivity:
>>   standard 1.413, probe 1.703
>>   Formula:
>>   Salinity
>   Oxygen:
>>   pre-deployment O2: 104
>>   post-deployment O2: 92.6
>>   standard 100, probe 82.5
>>   Formula:
>>   Conversion for O2 concentration:
>   Turbidity:
>>   standard 0, probe –0.2; standard 100, probe 100.5
>>   Formula:
>   Chlorophyll:
>>   standard 0.0, probe 1.0
>>   Formula:

1/22-2/18
      *No Data

Problems and Anomalies:

Chlorophyll 12/10-1/6: PF. For most of month the probe read 500 and during post-deployment check it read 698.9 in a 0.0 standard. Post-deployment records also indicate the wiper was not parking correctly. Data for this entire period was **faulty** and was deleted.

Turbidity: 12/10-1/6: The turbidity correction was not applied. During the post-deployment check the turbidity probe read 26.8 in the 0.0 standard and 105.9 in the 100 standard. However, for most of the deployment period, the probe was recording a baseline turbidity of ~1.0-3.0. If the correction were applied, these baseline values would be about -25.0, obviously incorrect. This suggests the probe did not read correctly in the standard or the post-deployment check was performed incorrectly. Whatever the cause, the original data are retained and so **may be faulty** due to uncorrected drift. Interpret with caution.

Salinity 1/17 900: Discontinuity. Salinity suddenly dropped 22.6ppt to 17.8ppt on 1/17 and remained around 15ppt for remainder of deployment period. No other parameters responded coincidently. The reason for the discontinuity s not clear. However, when sonde was retrieved, the sonde had apparently come loose from the piling and was lying on the bottom. It is possible this caused the probe to malfunction. This discontinuity is likely **faulty**.

FEBRUARY--2003

Files: Pi -0302-raw, Pi -0302-QAQC, Pi -0302

Deployments: (2); 1/22-2/18, 2/18-3/18

Condition of Sondes: 1/22-2/18 (No Data), 2/18-3/18 (heavy probe fouling)

Removed Data:

Parameter(s)	Problem	Data Points

Corrected Data:

1/22-2/18
    *No Data
2/18-3/18
        Specific Conductivity:
                standard 10, probe 8.53
                Formula: =(-((8.53-10)/(B1355-B2))*(B2-B2))+D2
                Salinity =(0.6851*Q2)-1.8695
        Oxygen:
                pre-deployment O2: 101.6
                post-deployment O2: 16
                standard 100, probe 5.9
                **Not correctable. See below.
        Turbidity:
                standard 0, probe 93.7; standard 100, probe 1866
                Formula: Not correctable. See below.
        Chlorophyll:
                standard 0.0, probe 7.1
                Formula: =(-((7.1-0)/(B1355-B2))*(B2-B2))+K2

Problems and Anomalies:

Oxygen 3/6 330-3/18: Probe read 16% in 100% standard and was heavily fouled following retrieval. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining original data was retained but **may be faulty** due to fouling or drift. Interpret with caution.

Turbidity 3/16 930-3/18: Probe was heavily fouled and read 93.7NTU and 1866NTU in 0NTU and 100NTU standards, respectively, following retrieval.   The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining original data was retained but **may be faulty** due to fouling or drift.

MARCH--2003

Files: Sondes: ;
      Data: Pi -0303-raw, Pi -0303-QAQC, Pi -0303

Deployments: (3); 2/18-3/18, 3/18-3/28, 3/28-4/11

Condition of Sondes: 2/18-3/18 (heavy probe fouling), 3/18-3/28 (no data recorded), 3/28-4/11(heavy fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Oxygen	FOUL	3/6 330-3/18
Turbidity	FOUL	3/16 930-3/18
Turbidity and Chlorophyll	PF	3/3 1400-3/4 630, ¾ 1030-3/6 900

Corrected Data:

2/18-3/18

    Specific Conductivity:
        standard 10, probe 8.53
        Formula: $=(-((8.53-10)/(\$B\$1355-\$B\$2))*(B2-\$B\$2))+D2$
        Salinity $=(0.6851*Q2)-1.8695$

    Oxygen:
        pre-deployment O2: 101.6
        post-deployment O2: 16
        standard 100, probe 5.9
        **Not correctable. See below.

    Turbidity:
        standard 0, probe 93.7; standard 100, probe 1866
        Formula: Not correctable. See below.

    Chlorophyll:
        standard 0.0, probe 7.1
        Formula: $=(-((7.1-0)/(\$B\$1355-\$B\$2))*(B2-\$B\$2))+K2$

3/18-3/28

    **No Data

3/28-4/11

    Specific Conductivity:
        standard 10, probe 8.58
        Formula: $=(-((8.58-10)/(\$B\$662-\$B\$2))*(B2-\$B\$2))+D2$
        Salinity $=(0.664*Q2)-1.3$

    Oxygen:
        pre-deployment O2: na
        post-deployment O2: 75
        standard 100, probe 72.7
        **Not correctable (see below)

    Turbidity:
        standard 0, probe 13.2; standard 123, probe 105.3
        Formula: $=((((((123/92.1)-1)*(J2))-(13.2))*((B2-\$B\$2)/(\$B\$662-\$B\$2)))+J2$

Chlorophyll:
        standard 0.0, probe 2.0
        Formula: $=(-((2-0)/(\$B\$662-\$B\$2))*(B2-\$B\$2))+K2$

Problems and Anomalies:
Oxygen 3/6 330-3/18: Probe read 16% in 100% standard and was heavily fouled following retrieval. The suspected fouled portion of the record was deemed **<u>faulty</u>** and was deleted. The remaining original data was retained but **<u>may be faulty</u>** due to fouling or drift. Interpret with caution.
Turbidity 3/16 930-3/18: Probe was heavily fouled and read 93.7NTU and 1866NTU in 0NTU and 100NTU standards, respectively, following retrieval.   The suspected fouled portion of the record was deemed **<u>faulty</u>** and was deleted. The remaining original data was retained but **<u>may be faulty</u>** due to fouling or drift.
Turbidity and Chlorophyll 3/3 1400-3/4 630 and 3/4 1030-3/6 900: Turbidity probe suddenly started reading ~-10NTU and chlorophyll probe started reading ~230. This corrected itself suggesting either an animal or piece of drift algae was stuck on probes. This data was deemed **<u>faulty</u>** and was deleted.
All parameters 3/18-3/28: No data was recorded.
Oxygen 3/28-4/11: During post-deployment check, DO probe read 75% in 100% standard. This difference (25%) is greater than the correctable difference (15%). The original uncorrected data were retained but are **<u>faulty</u>** due to drift and fouling. Interpret with caution

<u>APRIL--2003</u>
<u>*Files*</u>: Pi -0304-raw, Pi -0304-QAQC, Pi -0304

<u>*Deployments*</u>: (3); 3/28-4/11, 4/11-4/23, 4/23-5/1

<u>*Condition of Sondes:*</u> 3/28-4/11 (heavy fouling), 4/11-4/23 (moderate fouling), 4/23-5/1 (no data)

<u>*Removed Data*</u>:

Parameter(s)	Problem	Data Points

<u>*Corrected Data*</u>:
3/28-4/11
     <u>Specific Conductivity</u>:
          standard 10, probe 8.58
          Formula: $=(-((8.58-10)/(\$B\$662-\$B\$2))*(B2-\$B\$2))+D2$
          Salinity $=(0.664*Q2)-1.3$
     <u>Oxygen</u>:
          pre-deployment O2: na
          post-deployment O2: 75
          standard 100, probe 72.7
          **Not correctable (see below)
     <u>Turbidity</u>:
          standard 0, probe 13.2; standard 123, probe 105.3
          Formula: $=(((((123/92.1)-1)*(J2))-(13.2))*((B2-\$B\$2)/(\$B\$662-\$B\$2)))+J2$
     <u>Chlorophyll</u>:
          standard 0.0, probe 2.0
          Formula: $=(-((2-0)/(\$B\$662-\$B\$2))*(B2-\$B\$2))+K2$
4/11-4/23
     <u>Specific Conductivity</u>:
          standard 10, probe 9.5
          Formula: $=(-((9.5-10)/(\$B\$1254-\$B\$665))*(B665-\$B\$665))+D665$
          Salinity $=(0.683*Q665)-1.85$
     <u>Oxygen</u>:
          pre-deployment O2: 102.1
          post-deployment O2:79.7
          standard 100, probe 31
          **Not correctable (see below)
     <u>Turbidity</u>:
          standard 0, probe –0.8; standard 123, probe 127.4
          Formula: $=(((((123/128.2)-1)*(J665))-(-0.8))*((B665-\$B\$665)/(\$B\$1254-\$B\$665)))+J665$
     <u>Chlorophyll</u>:
          standard 0.0, probe 2.8
          Formula: $=(-((2.8-0)/(\$B\$1254-\$B\$665))*(B665-\$B\$665))+K665$
4/23-5/1
     **No data.

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Oxygen 3/28-4/11: During post-deployment check, DO probe read 75% in 100% standard. This difference (25%) is greater than the correctable difference (15%). The original uncorrected data were retained but are **faulty** due to drift and fouling. Interpret with caution

Oxygen 4/11-4/23: During post-deployment check, DO probe read 80% in 100% standard. This difference (20%) is greater than the correctable difference (15%). The original uncorrected data were retained but are **faulty** due to drift and fouling. Interpret with caution

All parameters 4/23-5/1: No data was recorded. Apparently the batteries were not functioning properly.

MAY--2003

Files: Data: Pi -0305-raw, Pi -0305-QAQC, Pi -0305

Deployments: (5); 4/23-5/1, 5/1-5/9, 5/9-5/16, 5/16-5/28, 5/28-6/5

Condition of Sondes: 4/23-5/1 (no data), 5/1-5/9 (very heavy fouling), 5/9-5/16 (fouling unknown), 5/16-5/28 (No oxygen probe; complete fouling), 5/28-6/5 (heavy fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Oxygen	FOUL	5/7 1100-5/9
Oxygen	PF/FOUL	5/9-5/16
Turbidity	FOUL	5/22 200-5/28
Chlorophyll	FOUL	5/24 1531-5/28

Corrected Data:

4/23-5/1
>   **No data
5/1-5/9
>   Specific Conductivity:
>>   standard 10, probe 9.25
>>   Formula: $=(-((9.25-10)/(\$B\$755-\$B\$373))*(B373-\$B\$373))+D373$
>>   Salinity $=(0.653*Q373)-1.06$
>   Oxygen:
>>   pre-deployment O2: 105
>>   post-deployment O2: 21.6
>>   standard 100, probe 33
>>   **Partially corrected (see below)
>   Turbidity:
>>   standard 0, probe .9; standard 123, probe 125.6
>>   Formula: $=(((((123/124.7)-1)*(J373))-(0.9))*((B373-\$B\$373)/(\$B\$755-\$B\$373)))+J373$
>   Chlorophyll:
>>   standard 0.0, probe .8
>>   Formula: $=(-((0.8-0)/(\$B\$755-\$B\$373))*(B373-\$B\$373))+K373$
5/9-5/16
>   Specific Conductivity:
>>   standard 10, probe 9.37
>>   Formula: $=(-((9.37-10)/(\$B\$1090-\$B\$756))*(B756-\$B\$756))+D756$
>>   Salinity $=(0.658*Q756)-1.24$
>   Oxygen:
>>   pre-deployment O2: 100.7
>>   post-deployment O2: 12.8
>>   standard 100, probe 10.7
>>   **Not correctable (see below)
>   Turbidity:
>>   standard 0, probe .6; standard 123, probe 120.6
>>   Formula: $=(((((123/120)-1)*(J756))-(0.6))*((B756-\$B\$756)/(\$B\$1090-\$B\$756)))+J756$

<u>Chlorophyll</u>:
>   standard 0.0, probe .3
>   Formula: =(-((0.3-0)/(B1090-B756))*(B756-B756))+K756

5/16-5/28
>   <u>Specific Conductivity</u>:
>   standard 10, probe 7.4
>   Formula: =(-((7.4-10)/(B1662-B1091))*(B1091-B1091))+D1091
>   Salinity =(0.661*Q1091)-1.37

>   <u>Oxygen</u>:
>   **No data

>   <u>Turbidity</u>:
>   standard 0, probe –8.6; standard 123, probe -12
>   **Not correctable

>   <u>Chlorophyll</u>:
>   standard 0.0, probe 50.5
>   **Not correctable

5/28-6/5
>   <u>Specific Conductivity</u>:
>   standard 10, probe 8.28
>   Formula: =(-((8.28-10)/(B395-B2))*(B2-B2))+D2
>   Salinity =(0.69*Q2)-2.13

>   <u>Oxygen</u>:
>   pre-deployment O2: 93.6
>   post-deployment O2: 55.4
>   standard 100, probe 57
>   **Only partially corrected (see below)

>   <u>Turbidity</u>:
>   standard 0, probe 2.1; standard 123, probe 127.4
>   Formula: =(((((123/125.3)-1)*(J2))-(2.1))*((B2-B2)/(B395-B2)))+J2

>   <u>Chlorophyll</u>:
>   standard 0.0, probe 0.9
>   Formula: =(-((0.9-0)/(B395-B2))*(B2-B2))+K2

<u>Problems and Anomalies</u>:
<u>All parameters</u> 4/23-5/1: No data was recorded. Apparently the batteries were not functioning properly.
<u>Oxygen</u> 5/1-5/9: Pre-deployment probe read 105% in 100% standard; all data were corrected for this by subtracting 5%. Post-deployment probe read 21.6 in 100% standard and approximately 1/3 of the way through the deployment period the probe started to record very erratic values. Probe was very heavily fouled. This suggested fouling compromised the DO membrane. The suspected compromised portion of the data was deemed **faulty** and was deleted. The remaining portion of the data was retained but **<u>may be faulty</u>** due to drift or fouling. Interpret with caution.
<u>Oxygen</u> 5/9-5/16: Immediately following deployment of this probe DO charge was far above acceptable limit after which the values recorded by the probe were very high (often >200%) and erratic (sudden changes of near 100%), suggesting DO membrane may have been compromised. Following deployment DO probe read 12.8% in 100% standard. This entire data record was deemed **faulty** and was deleted.
<u>Oxygen</u> 5/16-5/28: No DO probe was installed during this time, so no data were recorded.
<u>Turbidity</u> 5/16-5/28: Turbidity probe read negative values in both standards, was consistently recording very high values (>1000NTU) near the end of the deployment period and the probes were completely covered in

fouling organisms. When sondes were changed on 5/28, turbidity values returned to normal. The suspected fouled portion of the data record was deemed **<u>faulty</u>** and was deleted. The remaining portion of the data record was retained but **<u>may be faulty</u>** due to drift or fouling. Interpret with caution.

Chlorophyll 5/16-5/28: Chlorophyll probe read 50.5 in the 0.0 standard, was consistently recording high values near the end of the deployment period and the probes were completely covered in fouling organisms. When sondes were changed on 5/28, chlorophyll values returned to normal. The suspected fouled portion of the data record was deemed **<u>faulty</u>** and was deleted. The remaining portion of the data record was retained but **<u>may be faulty</u>** due to drift or fouling. Interpret with caution.

<u>Oxygen</u> 5/28-6/5: Prior to deployment probe read 93.6% in 100% standard indicating a bad calibration. Following deployment probe read 55% in 100% standard indicating drift of 38.6% likely due to fouling of probe. Typical correction could not be applied because drift was greater than 15%. However, the data was corrected for the bad calibration by adding 6.4 to all values. The data were retained but are **<u>faulty</u>** due to drift/fouling. Interpret with caution.

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JUNE--2003
Files: Data: Pi -0306-raw, Pi -0306-QAQC, Pi -0306

Deployments: (5); 5/28-6/5, 6/5-6/12, 6/12-6/19, 6/19-6/30, 6/30-7/7

Condition of Sondes: 5/28-6/5 (heavy sonde fouling), 6/5-6/12 (light sonde fouling), 6/12-6/19 (moderate sonde fouling), 6/19-6/30 (moderate sonde fouling), 6/30-7/7 (light fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Oxygen	FOUL	6/17 100-6/19

Corrected Data:
5/28-6/5
    <u>Specific Conductivity</u>:
        standard 10, probe 8.28
        Formula: =(-((8.28-10)/(B395-B2))*(B2-B2))+D2
        Salinity =(0.69*Q2)-2.13
    <u>Oxygen</u>:
        pre-deployment O2: 93.6
        post-deployment O2: 55.4
        standard 100, probe 57
        **Only partially corrected (see below)
    <u>Turbidity</u>:
        standard 0, probe 2.1; standard 123, probe 127.4
        Formula: =((((((123/125.3)-1)*(J2))-(2.1))*((B2-B2)/(B395-B2)))+J2
    <u>Chlorophyll</u>:
        standard 0.0, probe 0.9
        Formula: =(-(((0.9-0)/(B395-B2))*(B2-B2))+K2
6/5-6/12
    <u>Specific Conductivity</u>:
        standard 10, probe 10
        **No correction necessary
    <u>Oxygen</u>:
        pre-deployment O2: 101.6
        post-deployment O2: 104.1
        standard 100, probe 101
        Formula: =(-((104.1-101.6)/(B728-B397))*(B397-B397))+F397 +(100-101.6)
        Conversion for O2 concentration:=4.46-(0.131*C397)-(0.0357*R397)+(0.0696*O397)
    <u>Turbidity</u>:
        standard 0, probe 1.4; standard 100, probe 127.6
        Formula: =((((((123/126.2)-1)*(J397))-(1.4))*((B397-B397)/(B728-B397)))+J397
    <u>Chlorophyll</u>:
        standard 0.0, probe 1.6
        Formula: =(-((1.6-0)/(B728-B397))*(B397-B397)+K397
6/12-6/19
    <u>Specific Conductivity</u>:
        standard 10, probe 9.85

Formula: =(-((9.85-10)/(B1064-B729))*(B734-B729))+D734
Salinity =(0.671*Q734)-1.68

Oxygen:
pre-deployment O2: na
post-deployment O2: 45.8
standard 100, probe 38.5
**Not correctable (see below)

Turbidity:
standard 0, probe 0.8; standard 100, probe 109.7
Formula: =(((((123/108.9)-1)*(J734))-(0.8))*((B734-B729)/(B1064-B729)))+J734

Chlorophyll:
standard 0.0, probe 1.5
Formula: =(-(1.5-0)/(B1064-B729))*(B734-B729)+K734

6/19-6/30
Specific Conductivity:
standard 10, probe 10.17
Formula: =(-((10.17-10)/(B1607-B1065))*(B1065-B1065))+D1065
Salinity =(0.665*Q1065)-1.46

Oxygen:
pre-deployment O2: 100.9
post-deployment O2: 58.7
standard 100, probe 61.2
**Not correctable (see below)

Turbidity:
standard 0, probe 3.2; standard 100, probe 113
Formula: =(((((123/109.8)-1)*(J1065))-(3.2))*((B1065-B1065)/(B1607-B1065)))+J1065

Chlorophyll:
standard 0.0, probe 1.6
Formula: =(-(1.6-0)/(B1607-B1065))*(B1065-B1065)+K1065

6/30-7/7
Specific Conductivity:
standard 10, probe 10.18
Formula: =(-((10.18-10)/(B334-B2))*(B2-B2))+D2
Salinity =(0.658*Q2)-1.31

Oxygen:
pre-deployment O2: 118.6
post-deployment O2: 110.3
standard 100, probe 103.4
Formula: =(-((110.3-118.6)/(B334-B2))*(B2-B2))+F2 +(100-118.6)
Conversion for O2 concentration:=4.087-(0.118*C2)-(0.0414*R2)+(0.0702*O2)

Turbidity:
standard 0, probe 6; standard 100, probe 64.7
**Not corrected (see below)

Chlorophyll:
standard 0.0, probe 7.7
Formula: =(-((7.7-0)/(B334-B2))*(B2-B2))+K2

Problems and Anomalies:

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<u>Oxygen</u> 5/28-6/5: Prior to deployment probe read 93.6% in 100% standard indicating a bad calibration. Following deployment probe read 55% in 100% standard indicating drift of 38.6% likely due to fouling of probe. Typical correction could not be applied because drift was greater than 15%. However, the data was corrected for the bad calibration by adding 6.4 to all values. The data were retained but are **<u>faulty</u>** due to drift/fouling. Interpret with caution.

<u>Oxygen</u> 6/12-6/19: The probe became fouled and upon retrieval and during post-deployment check probe read ~45.8% in 100% standard. The suspected fouled portion of the record was deemed **<u>faulty</u>** and was deleted. The remaining portion of the original, uncorrected data was retained but **<u>may be faulty</u>** due to instrument drift or fouling. Interpret with caution.

<u>Oxygen</u> 6/19-6/30: Following deployment, probe read 59% in 100% standard indicating drift of 41% likely due to fouling of probe. Typical correction could not be applied because drift was greater than 15%. The data were retained but are **<u>faulty</u>** due to drift and/or fouling. Interpret with caution.

<u>Turbidity</u> 6/30-7/7: Probe was reading negative values for most of deployment period. During post-deployment check, probe read 6NTU in 0NTU standard. If the correction was applied, the readings would become even more negative. This indicates a bad calibration and bad post-deployment check. The original uncorrected data were retained but are **<u>faulty</u>** to due to bad calibration.

JULY-2003
Files: Data: Pi -0307-raw, Pi -0307-QAQC, Pi -0307

Deployments: (4); 6/30-7/7, 7/7-7/14, 7/14-7/22, 7/22-8/4

Condition of Sondes: 6/30-7/7 (light fouling), 7/7-7/14 (moderate fouling), 7/14-7/22 (very heavy fouling), 7/22-8/4 (heavy probe fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Oxygen	FOUL	7/19 2000-7/21
Chlorophyll	FOUL	7/21 1859-7/21
Oxygen	FOUL	7/28 629-8/4
Turbidity	FOUL	7/31 2100-8/4

Corrected Data:
6/30-7/7
> Specific Conductivity:
>> standard 10, probe 10.18
>> Formula: =(-((10.18-10)/(B334-B2))*(B2-B2))+D2
>> Salinity =(0.658*Q2)-1.31
> Oxygen:
>> pre-deployment O2: 118.6
>> post-deployment O2: 110.3
>> standard 100, probe 103.4
>> Formula: =(-((110.3-118.6)/(B334-B2))*(B2-B2))+F2 +(100-118.6)
>> Conversion for O2 concentration:=4.087-(0.118*C2)-(0.0414*R2)+(0.0702*O2)
> Turbidity:
>> standard 0, probe 6; standard 100, probe 64.7
>> **Not corrected (see below)
> Chlorophyll:
>> standard 0.0, probe 7.7
>> Formula: =(-((7.7-0)/(B334-B2))*(B2-B2))+K2
7/7-7/14
> Specific Conductivity:
>> standard 12.88, probe 13.45
>> Formula: =(-((13.45-12.88)/(B661-B335))*(B335-B335))+D335
>> Salinity =(0.682*Q335)-1.99
> Oxygen:
>> pre-deployment O2: 98
>> post-deployment O2: 77.3
>> standard 100, probe 85.6
>> Formula: =(-((85.6-98)/(B661-B335))*(B335-B335))+F335 +(100-98)
>> Conversion for O2 concentration:=2.99-(0.0805*C335)-(0.0246*R335)+(0.0666*O335)
> Turbidity:
>> standard 0, probe -.3; standard 123, probe 122.6
>> Formula: =((((((122.9/123)-1)*(J335))-(-0.3))*((B335-B335)/(B661-B335)))+J335
> Chlorophyll:

standard 0.0, probe 1.1
Formula: =(-((1.1-0)/(B661-B2))*(B335-B335))+K335

7/14-7/22
Specific Conductivity:
standard 12.88, probe 12.75
Formula: =(-((12.75-12.88)/(B1047-B662))*(B662-B662))+D662
Salinity =(0.677*Q662)-1.82
Oxygen:
pre-deployment O2: 104
post-deployment O2: 21.8
standard 100, probe 30.6
**Not corrected (see below)
Turbidity:
standard 0, probe 9.7; standard 123, probe 90.5
Formula: =(((((123/80.8)-1)*(J662))-(9.7))*((B662-B662)/(B1047-B662)))+J662
Chlorophyll:
standard 0.0, probe 24.5
**Not corrected (see below)

7/22-8/4
Specific Conductivity:
standard 12.88, probe 11
Formula: =(-((11-12.88)/(B615-B2))*(B2-B2))+D2
Salinity =(0.6641*Q2)-1.4539
Oxygen:
pre-deployment O2: 98
post-deployment O2: 5.4
standard 100, probe 4.9
**Not correctable (see below)
Turbidity:
standard 0, probe 45.7; standard 100, probe 519.4
**Not correctable (see below)
Chlorophyll:
standard 0.0, probe 4.9
Formula: =(-((4.9-0)/(B615-B2))*(B2-B2))+K2

Problems and Anomalies:
Turbidity 6/30-7/7: Probe was reading negative values for most of deployment period. During post-deployment check, probe read 6NTU in 0NTU standard. If the correction was applied, the readings would become even more negative. This indicates a bad calibration and bad post-deployment check. The original uncorrected data were retained but are **faulty** to due to bad calibration.
Oxygen 7/14-7/22: The probe became heavily fouled and upon retrieval and during post-deployment check probe read ~25% in 100% standard. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.
Chlorophyll 7/14-7/22: Probe was heavily fouled and read 24.5 in 0 standard during post-deployment check. If this correction was applied, many very negative values would have resulted. The suspected fouled portion of the data record was deemed **faulty** and was deleted. The original uncorrected remaining portion of the data were retained but **may be faulty** due to drift and fouling.

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<u>Oxygen</u> 7/22-8/4: The probe became heavily fouled and upon retrieval and during post-deployment check probe read ~5% in 100% standard. The suspected fouled portion of the record was deemed **<u>faulty</u>** and was deleted. The remaining portion of the original, uncorrected data was retained but **<u>may be faulty</u>** due to instrument drift or fouling. Interpret with caution.

<u>Turbidity</u> 7/22-8/4: Turbidity wiper was not parking correctly during post-deployment check and probe read 45.7NTU in 0.0NTU standard and 519NTU in 123NTU standard. The portion of the record suspected to be affected by the problem was deemed **<u>faulty</u>** and was deleted. The remaining portion of the original data was retained but **<u>may be faulty.</u>**

AUGUST--2003

Files: Pi -0308-raw, Pi -0308-QAQC, Pi -0308

Deployments: (4); 7/22-8/4, 8/4-8/12, 8/12-8/22, 8/22-9/8

Condition of Sondes: 7/22-8/4 (complete probe fouling), 8/4-8/12 ()light probe fouling), 8/12-8/22 (no data), 8/22-9/8 (heavy probe fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Oxygen	FOUL	7/28 629-8/4
Turbidity	FOUL	7/31 2100-8/4
Turbidity	PF	8/30 1229-9/8 1200

Corrected Data:

7/22-8/4

Specific Conductivity:
standard 12.88, probe 11
Formula: $=(-((11-12.88)/(\$B\$615-\$B\$2))*(B2-\$B\$2))+D2$
Salinity $=(0.6641*Q2)-1.4539$

Oxygen:
pre-deployment O2: 98
post-deployment O2: 5.4
standard 100, probe 4.9
**Not correctable (see below)

Turbidity:
standard 0, probe 45.7; standard 100, probe 519.4
**Not correctable (see below)

Chlorophyll:
standard 0.0, probe 4.9
Formula: $=(-((4.9-0)/(\$B\$615-\$B\$2))*(B2-\$B\$2))+K2$

8/4-8/12

Specific Conductivity:
standard 12.88, probe 13
Formula: $=(-((13-12.88)/(\$B\$1005-\$B\$616))*(B616-\$B\$616))+D616$
Salinity $=(0.651*Q616)-1.11$

Oxygen:
pre-deployment O2: 99.4
post-deployment O2: 103.6
standard 100, probe 102.5
Formula: $=(-((103.6-99.4)/(\$B\$1005-\$B\$616))*(B616-\$B\$616))+F616 +(100-99.4)$
Conversion for O2 concentration:$=3.7-(0.102*C616)-(0.0375*R616)+(0.0687*O616)$

Turbidity:
standard 0, probe –1.2;   standard 100, probe 114.2
Formula: $=(((((123/115.4)-1)*(J616))-(-1.2))*((B616-\$B\$616)/(\$B\$1005-\$B\$616)))+J616$

Chlorophyll:
standard 0.0, probe 0.7
Formula: $=(-((0.7-0)/(\$B\$1005-\$B\$616))*(B616-\$B\$616))+K616$

8/12-8/22
          **No data
8/22-9/8
    <u>Specific Conductivity</u>:
        standard 12.88, probe 13.25
        Formula: $=(-((13.25-12.88)/(\$B\$820-\$B\$2))*(B2-\$B\$2))+D2$
        Salinity $=(0.683*Q2)-1.9249$
    <u>Oxygen</u>:
        pre-deployment O2: 100.1
        post-deployment O2: 87.42
        Formula: $=(-((87.42-100.1)/(\$B\$820-\$B\$2))*(B2-\$B\$2))+F2 +(100-100.1)$
        Conversion for O2 concentration:$=2.71-(0.0791*C2)-(0.0244*R2)+(0.0699*O2)$
    <u>Turbidity</u>:
        standard 0, probe 423.5; standard 123, probe 678
        **Not correctable
    <u>Chlorophyll</u>:
        standard 0.0, probe 1.4
        Formula: $=(-((1.4-0)/(\$B\$820-\$B\$2))*(B2-\$B\$2))+K2$

<u>Problems and Anomalies</u>:
<u>Oxygen</u> 7/22-8/4: The probe became heavily fouled and upon retrieval and during post-deployment check probe read ~5% in 100% standard. The suspected fouled portion of the record was deemed **<u>faulty</u>** and was deleted. The remaining portion of the original, uncorrected data was retained but **<u>may be faulty</u>** due to instrument drift or fouling. Interpret with caution.
<u>Turbidity</u> 7/22-8/4: Turbidity wiper was not parking correctly during post-deployment check and probe read 45.7NTU in 0.0NTU standard and 519NTU in 123NTU standard. The portion of the record suspected to be affected by the problem was deemed **<u>faulty</u>** and was deleted. The remaining portion of the original data was retained but **<u>may be faulty.</u>**
<u>Depth</u> 8/4-8/12: No depth probe was installed at time of deployment.
<u>All parameters</u> 8/12-8/22: No data was recorded during this deployment.
<u>Turbidity</u> 8/30 1229-9/8 1200: Turbidity wiper was not parking correctly during post-deployment check. The second half of the data record consisted of very high values that stopped when the sondes were changed. The portion of the record suspected to be affected by the problem was deemed **<u>faulty</u>** and was deleted. The remaining portion of the data was retained but **<u>may be faulty.</u>**

SEPTEMBER--2003

Files: Data: Pi -0309-raw, Pi -0309-QAQC, Pi -0309

Deployments: (4); 8/22-9/8, 9/8-9/16, 9/16-9/24, 9/24-10/4

Condition of Sondes: 8/22-9/8 (heavy probe fouling), 9/8-9/16 (ok), 9/16-9/24 (very light probe fouling, 9/24-10/4 (heavy probe fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Turbidity	PF	8/30 1229-9/8 1200

Corrected Data:
8/22-9/8

    Specific Conductivity:
        standard 12.88, probe 13.25
        Formula: $=(-((13.25-12.88)/(\$B\$820-\$B\$2))*(B2-\$B\$2))+D2$
        Salinity $=(0.683*Q2)-1.9249$

    Oxygen:
        pre-deployment O2: 100.1
        post-deployment O2: 87.42
        Formula: $=(-((87.42-100.1)/(\$B\$820-\$B\$2))*(B2-\$B\$2))+F2 +(100-100.1)$
        Conversion for O2 concentration:$=2.71-(0.0791*C2)-(0.0244*R2)+(0.0699*O2)$

    Turbidity:
        standard 0, probe 423.5; standard 123, probe 678
        **Not correctable

    Chlorophyll:
        standard 0.0, probe 1.4
        Formula: $=(-((1.4-0)/(\$B\$820-\$B\$2))*(B2-\$B\$2))+K2$

9/8-9/16

    Specific Conductivity:
        standard 12.88, probe 14.6
        Formula: $=(-((14.6-12.88)/(\$B\$1198-\$B\$821))*(B821-\$B\$821))+D821$
        Salinity $=(0.7094*Q821)-2.9132$

    Oxygen:
        pre-deployment O2: 102.98
        post-deployment O2: 108.88
        Formula: $=(-((108.88-102.98)/(\$B\$1198-\$B\$821))*(B821-\$B\$821))+F821 +(100-102.98)$
        Conversion for O2 concentration:$=4.37-(0.122*C821)-(0.0387*R821)+(0.0682*O821)$

    Turbidity:
        standard 0, probe –2.5; standard 100, probe 95.1
        Formula: $=(((((123/97.6)-1)*(J821))-(-2.5))*((B821-\$B\$821)/(\$B\$1198-\$B\$821)))+J821$

    Chlorophyll:
        standard 0.0, probe .6
        Formula: $=(-((0.6-0)/(\$B\$1198-\$B\$821))*(B821-\$B\$821))+K821$

9/16-9/24

    Specific Conductivity:
        standard 12.88, probe 12.79

Formula: =(-((12.79-12.88)/(B1592-B1199))*(B1199-B1199))+D1199
Salinity =(0.708*Q1199)-2.8504

Oxygen:

pre-deployment O2: 101.4
post-deployment O2: 104.65
Formula: =(-((104.65-101.4)/(B1592-B1199))*(B1199-B1199))+F1199 +(100-101.4)
Conversion for O2 concentration:=4.36-(0.121*C1199)-(0.0383*R1199)+(0.0679*O1199)

Turbidity:

standard 0, probe –2.4; standard 123, probe 162.5
Formula: =(((((123/169.9)-1)*(J1199))-(-2.4))*((B1199-B1199)/(B1592-B1199)))+J1199

Chlorophyll:

standard 0.0, probe .3
Formula: =(-((0.3-0)/(B1592-B1199))*(B1199-B1199))+K1199

9/24-10/4

Specific Conductivity:

standard 12.88, probe 13.13
Formula: =(-((13.13-12.88)/(B2072-B1593))*(B1593-B1593))+D1593
Salinity =(0.6998*Q1593)-2.4813

Oxygen:

pre-deployment O2: 98.63
post-deployment O2: 93.4
Formula: =(-((93.4-98.63)/(B2072-B1593))*(B1593-B1593))+F1593 +(100-98.63)
Conversion for O2 concentration:=4.25-(0.124*C1593)-(0.045*R1593)+(0.0711*O1593)

Turbidity:

standard 0, probe 22.5; standard 123, probe 242.1
Formula: =(((((123/219.6)-1)*(J1593))-(0))*((B1593-B1593)/(B2072-B1593)))+J1593-22.5

Chlorophyll:

standard 0.0, probe 1.4
Formula: =(-((1.4-0)/(B2072-B1593))*(B1593-B1593))+K1593

Problems and Anomalies:

Turbidity 8/30 1229-9/8 1200: Turbidity wiper was not parking correctly during post-deployment check. The second half of the data record consisted of very high values that stopped when the sondes were changed. The portion of the record suspected to be affected by the problem was deemed **faulty** and was deleted. The remaining portion of the data was retained but **may be faulty.**
Depth 9/8-9/16: No depth probe was on sonde during this time. No data.

OCTOBER--2003
Files: Data: Pi -0310-raw, Pi -0310-QAQC, Pi -0310

Deployments: (3); 9/24-10/4, 10/4-10/15, 10/15-11/4

Condition of Sondes: 9/24-10/4 (heavy probe fouling), 10/4-10/15 (moderate probe fouling), 10/15-11/4 (very heavy probe fouling)

Removed Data:

Parameter(s)	Problem	Data Points
Turbidity	FOUL	10/13 1600-10/15
Oxygen	FOUL	10/21 2101-11/4
Turbidity	FOUL	10/27 1101-11/4
Chlorophyll	FOUL	10/27 1101-11/4

Corrected Data:
9/24-10/4
    <u>Specific Conductivity</u>:
        standard 12.88, probe 13.13
        Formula: =(-((13.13-12.88)/(B2072-B1593))*(B1593-B1593))+D1593
        Salinity =(0.6998*Q1593)-2.4813
    <u>Oxygen</u>:
        pre-deployment O2: 98.63
        post-deployment O2: 93.4
        Formula: =(-((93.4-98.63)/(B2072-B1593))*(B1593-B1593))+F1593 +(100-98.63)
        Conversion for O2 concentration:=4.25-(0.124*C1593)-(0.045*R1593)+(0.0711*O1593)
    <u>Turbidity</u>:
        standard 0, probe 22.5; standard 123, probe 242.1
        Formula: =(((((123/219.6)-1)*(J1593))-(0))*((B1593-B1593)/(B2072-B1593)))+J1593-
        22.5
    <u>Chlorophyll</u>:
        standard 0.0, probe 1.4
        Formula: =(-((1.4-0)/(B2072-B1593))*(B1593-B1593))+K1593
10/4-10/15
    <u>Specific Conductivity</u>:
        standard 12.88, probe 12.82
        Formula =(-((12.82-12.88)/(B1006-B482))*(B482-B482))+D482
        Salinity =(0.702*Q482)-2.5648
    <u>Oxygen</u>:
        pre-deployment O2: 98.62
        post-deployment O2: 95.5
        standard 100, probe 80.1
        Formula: =(-((95.5-98.62)/(B1006-B482))*(B482-B482))+F482 +(100-98.62)
        Conversion for O2 concentration =3.63-(0.113*C482)-(0.033*R482)+(0.0717*O482)
    <u>Turbidity</u>:
        **Not corrected due to fouling
    <u>Chlorophyll</u>:
        standard 0.0, probe 2.1

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Formula =(-((2.1-0)/(B1006-B482))*(B482-B482))+K482

10/15-11/4

Specific Conductivity:
**Not corrected, too fouled.
Oxygen:
**Not corrected, too fouled.
Turbidity:
**Not corrected, too fouled.
Chlorophyll:
**Not corrected, too fouled.

Problems and Anomalies:

Turbidity 10/13 1600-10/15: The turbidity probe became fouled near the end of the deployment period although the post-deployment check did not completely indicate it. The probe read 22.2 in a 0 standard; if this were applied, many negative values would have resulted. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to incorrect calibration, instrument drift or fouling. Interpret with caution.

Oxygen 10/21 2101-11/4: The probe became heavily fouled and upon retrieval there was evidence the DO membrane was damaged (DO charge >75 and erratic measurements). The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.

Salinity 10/25 1101-11/4: Fouling was so severe on the probe that a post-deployment check was not possible. Looking back at the data record, salinity started decreasing about the time evidence of fouling showed up in the oxygen, turbidity and chlorophyll data. The decrease in salinity during this time is likely due to fouling interfering with proper probe function. This portion of the record **may be faulty** and should be interpreted with caution.

Turbidity 10/27 1001-11/4: The turbidity probe became heavily fouled near the middle of the deployment period. The probe read 830 in a 0 standard and 1762.4 in a 123 standard; if the correction based on these values were applied, many negative values would have resulted. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.

Chlorophyll 10/27 1001-11/4: The chlorophyll probe became heavily fouled near the middle of the deployment period. The probe read 566.2 in a 0 standard; if the correction based on these values were applied, many negative values would have resulted. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.

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<u>**NOVEMBER--2003**</u>
Files: PI-0311-raw, PI-0311-QAQC, PI-0311

Deployments: (2); 10/15-11/4, 11/4-12/3

Condition of Sondes: 10/15-11/4 (very heavy probe fouling); 11/4-12/3 (no data)

Removed Data:

Parameter(s)	Problem	Data Points
Oxygen	FOUL	10/21 2101-11/4
Turbidity	FOUL	10/27 1101-11/4
Chlorophyll	FOUL	10/27 1101-11/4

Corrected Data:
10/15-11/4
      Specific Conductivity:
           **Not corrected, too fouled.
      Oxygen:
           **Not corrected, too fouled.
      Turbidity:
           **Not corrected, too fouled.
      Chlorophyll:
           **Not corrected, too fouled.
11/4-12/3
      **NO DATA

Problems and Anomalies:
<u>Depth</u> 10/15-11/4: Sonde did not have a depth probe. No data.
<u>Oxygen</u> 10/21 2101-11/4: The probe became heavily fouled and upon retrieval there was evidence the DO membrane was damaged (DO charge >75 and erratic measurements). The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.
<u>Salinity</u> 10/25 1101-11/4: Fouling was so severe on the probe that a post-deployment check was not possible. Looking back at the data record, salinity started decreasing about the time evidence of fouling showed up in the oxygen, turbidity and chlorophyll data. The decrease in salinity during this time is likely due to fouling interfering with proper probe function. This portion of the record **may be faulty** and should be interpreted with caution.
<u>Turbidity</u> 10/27 1001-11/4: The turbidity probe became heavily fouled near the middle of the deployment period. The probe read 830 in a 0 standard and 1762.4 in a 123 standard; if the correction based on these values were applied, many negative values would have resulted. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.
<u>Chlorophyll</u> 10/27 1001-11/4: The chlorophyll probe became heavily fouled near the middle of the deployment period. The probe read566.2 in a 0 standard; if the correction based on these values were applied, many negative values would have resulted. The suspected fouled portion of the record was deemed **faulty** and was deleted. The remaining portion of the original, uncorrected data was retained but **may be faulty** due to instrument drift or fouling. Interpret with caution.
<u>All parameters</u> 11/4-12/3: When sonde was retrieved, there was no data recorded.

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DECEMBER--2003

Files: Data: Pi-0312-raw, Pi -0312-QAQC, Pi –0312

Deployments: (2); 11/4-12/3, 12/3-1/2

Condition of Sondes: 11/4-12/3 (no data), 12/3-1/2 (moderate probe fouling)

Removed Data:

Parameter(s)	Problem	Data Points

Corrected Data:
11/4-12/3
> **NO DATA
12/3-1/2
> Specific Conductivity:
>> standard 12.88, probe 11.74
>> Formula: =(-((11.74-12.88)/(B1567-B133))*(B133-B133))+D133
>> Salinity =(0.701*Q133)-2.49
> Oxygen:
>> pre-deployment O2: 99.7
>> post-deployment O2: 111.5
>> standard 100, probe 107.3
>> Formula: =(-((111.5-99.7)/(B1567-B133))*(B133-B133))+F133 +(100-99.7)
>> Conversion for O2 concentration:=4.11-(0.196*C79)-(0.0557*R133)+(0.0885*O133)
> Turbidity:
>> standard 0, probe 3.4; standard 123, probe 118
>> **Not corrected. See below.
> Chlorophyll:
>> standard 0.0, probe 2.5
>> Formula: =(-((2.5-0)/(B1567-B133))*(B133-B133))+K133

Problems and Anomalies:
All parameters 11/4-12/3: When sonde was retrieved, there was no data recorded.
Turbidity 12/3-1/2: Not corrected. If the correction factor based upon the post-dpeloyment check was applied, many negative values (~-4) resulted, suggesting the reading in the 0 NTU standard was not correct. The original data was retained but **may be faulty** due to drift or fouling.