Synoptic CB: Porewater DIC

June 2023 Samples

2025-10-22

Contents

##Setup - Change things here & write any notes

```r
#identify section
cat("Setup Information")
```

```
## Setup Information
```

```r
###### Run information - PLEASE CHANGE
  Date_Run = "MM/DD/YY"   #Date that instrument was run
  Run_by = "Stephanie J. Wilson"  #Instrument user
  Script_run_by = "Stephanie J. Wilson" #Code user
  run_notes = " The standard curve was checked manually on the instrument for this run. "   #any notes f
  samples <- c("GCW", "GWI", "MSM", "SWH") #whatever identifies your samples within the same names
  samples_pattern <- paste(samples, collapse = "|")
    #samples_pattern <- "GCW" #use this instead of the line above if you have only one site code
  chks_name = "Chk_Std_"   #what did you name your check standards?
  crm_name = "CRM|crm"     #what did you name your CRMS?

###### File Names - PLEASE CHANGE
#file path and name for raw summary data file
    raw_file_name = "Raw Data/TOCTN_COMPASS_Synoptic_DIC_202306.txt"

#file path and name for raw all peaks file
    #raw_allpeaks_name = "Raw Data/TOCTN_COMPASS_Synoptic_DIC_202305_allpeaks.txt"

#file path and name of processed data file
    processed_file_name = "Processed Data/COMPASS_SynopticCB_PW_Processed_DIC_202306.csv"


###### Log Files - PLEASE CHECK
#downloaded metadata csv - downloaded from Google drive as csv for this year
  Raw_Metadata = "Raw Data/COMPASS_SynopticCB_PW_SampleLog_2023.csv"

#qaqc log file path for this year
 # Log_path = "Raw Data/COMPASS_Synoptic_DIC_QAQClog_2023.csv"
```

##Set Up Code

##Read in metadata and create similar sample IDs for matching to samples

0.1 Import Data Functions

0.2 Import Sample Data

```
## Import Sample Data
```

```
## New names:
## * '' -> '...14'
```

```
## # A tibble: 6 x 3
##   sample_name           ic_raw run_datetime
##   <chr>                  <dbl> <chr>
```

```
## 1 GCW_202306_TR_LysA_20cm   54.8 7/26/2023 9:29:24 PM
## 2 GCW_202306_TR_LysA_45cm   13.7 7/26/2023 9:41:29 PM
## 3 GCW_202306_TR_LysB_10cm   33.4 7/26/2023 10:01:20 PM
## 4 GCW_202306_TR_LysB_20cm   42.3 7/26/2023 10:15:17 PM
## 5 GCW_202306_TR_LysB_dup    26.3 7/26/2023 10:28:21 PM
## 6 GCW_202306_TR_LysC_10cm   21.2 7/26/2023 10:47:30 PM
```
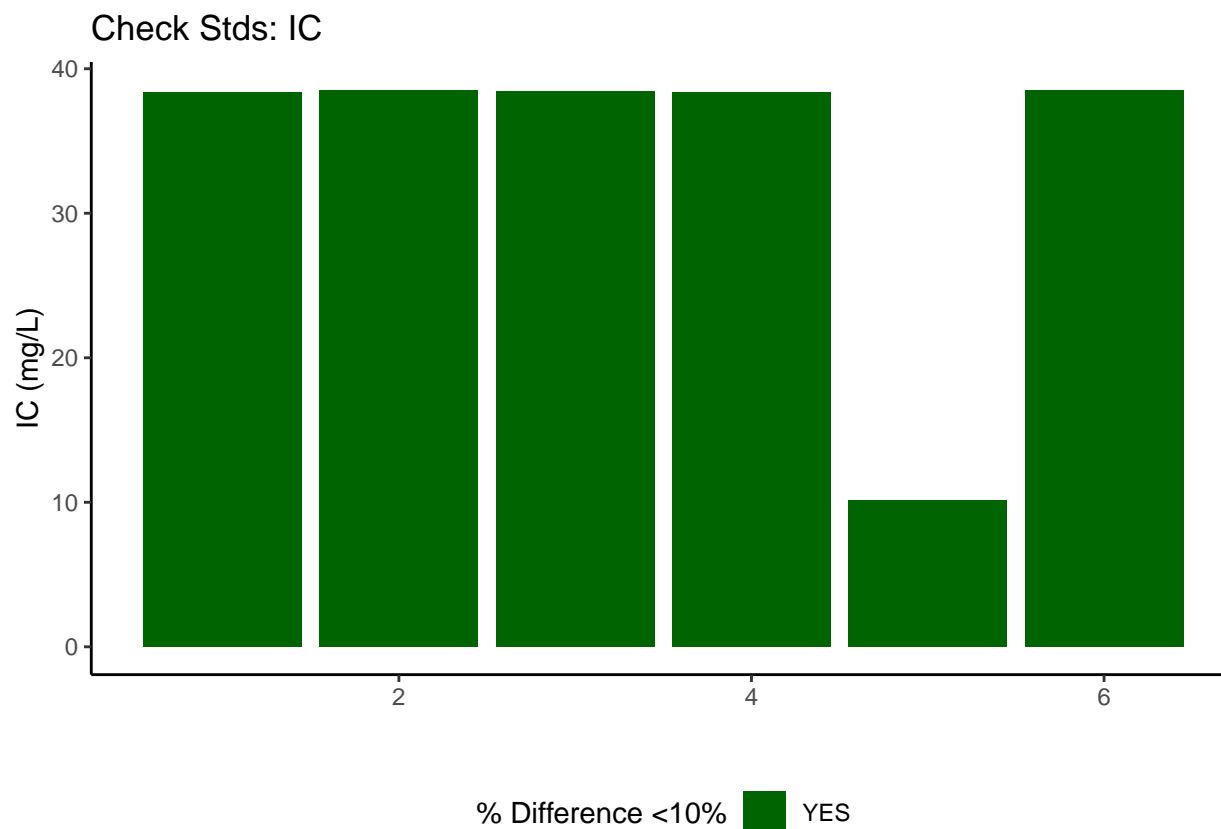
0.3 Assessing Standard Curves - assessed on the instrument manually

0.4 CRM Check - no CRMs included on this run

0.5 Assess Check Standards

```
## Assess the Check Standards
```

```
## New names:
## * '' -> '...14'
```
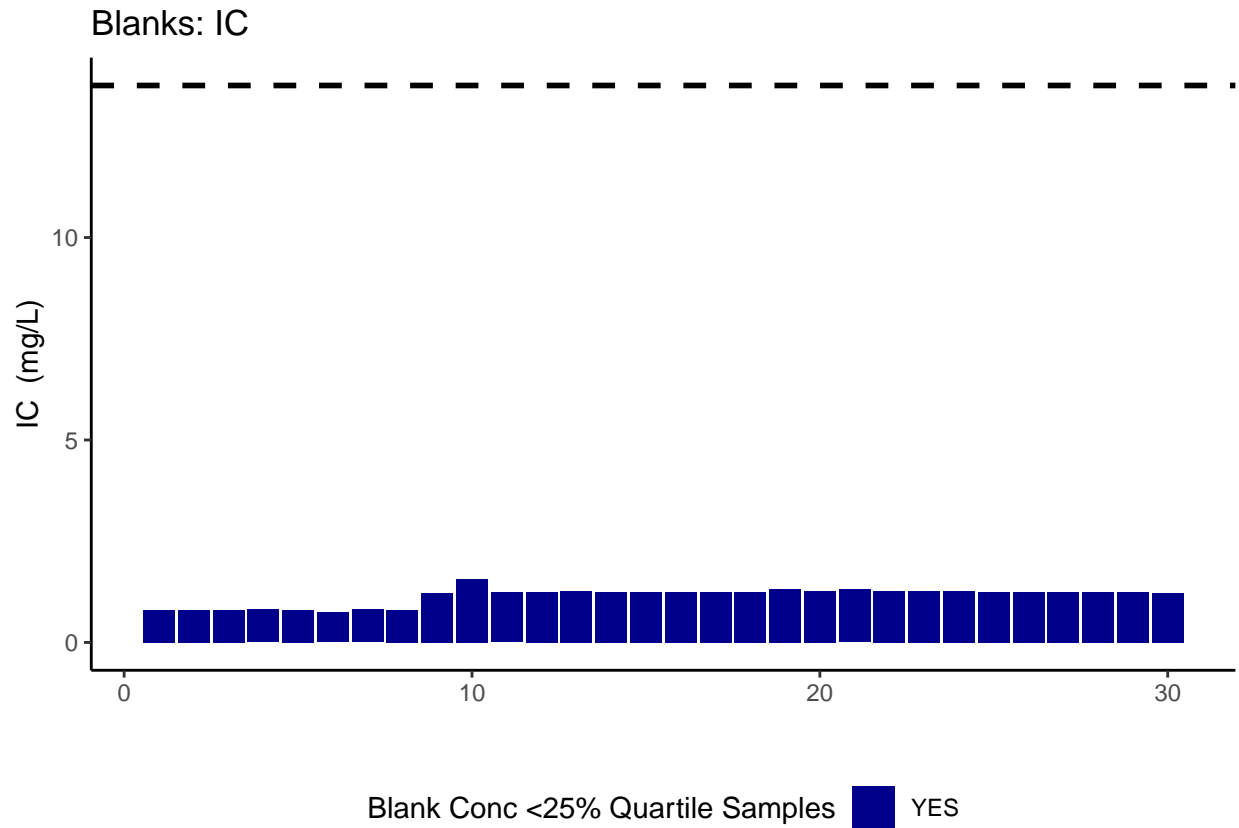


```
## [1] ">60% of IC Check Standards are within range of expected concentration"
```

0.6 Assess Blanks

```
## Assess Blanks
```

```
## New names:
## * `` -> `...14`
```

```
## [1] ">60% of Carbon Blank concentrations are lower 25% quartile of samples"
```

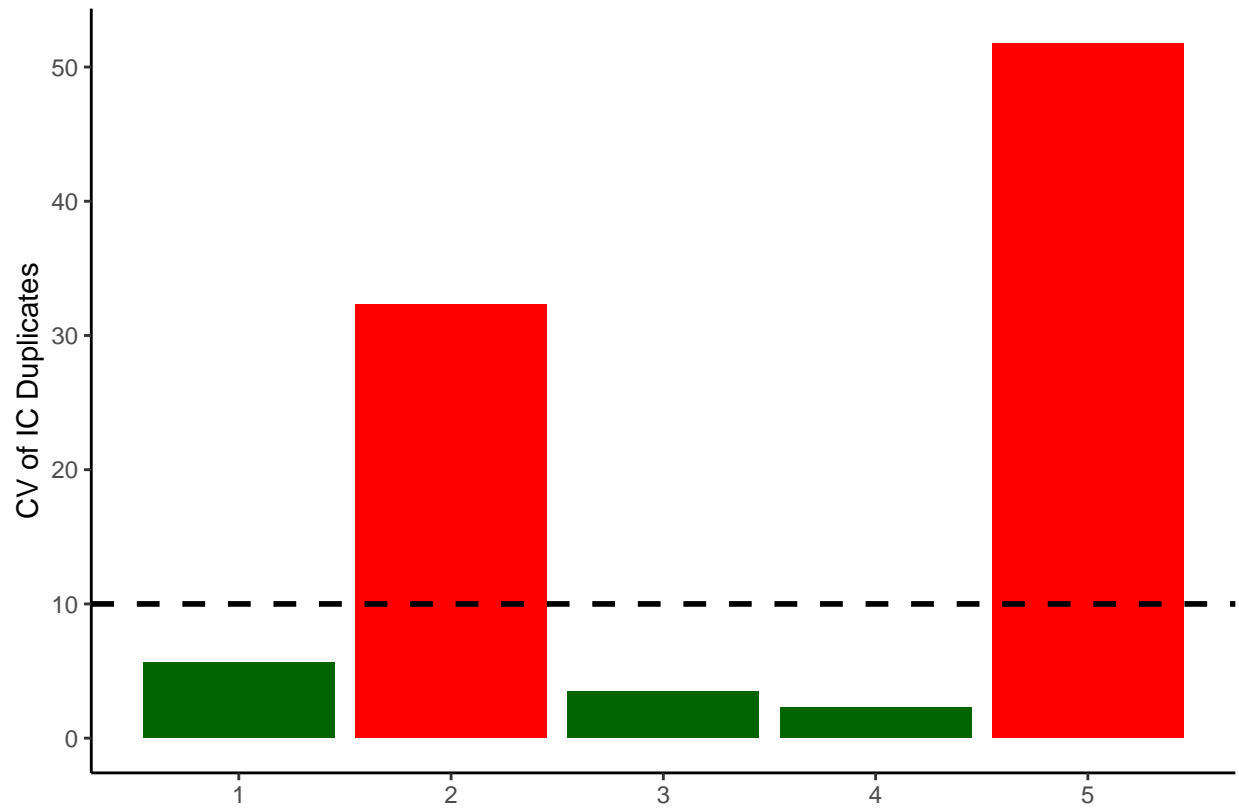## Blanks: IC

Blank Conc <25% Quartile Samples ■ YES

```
## carbon blanks:
```
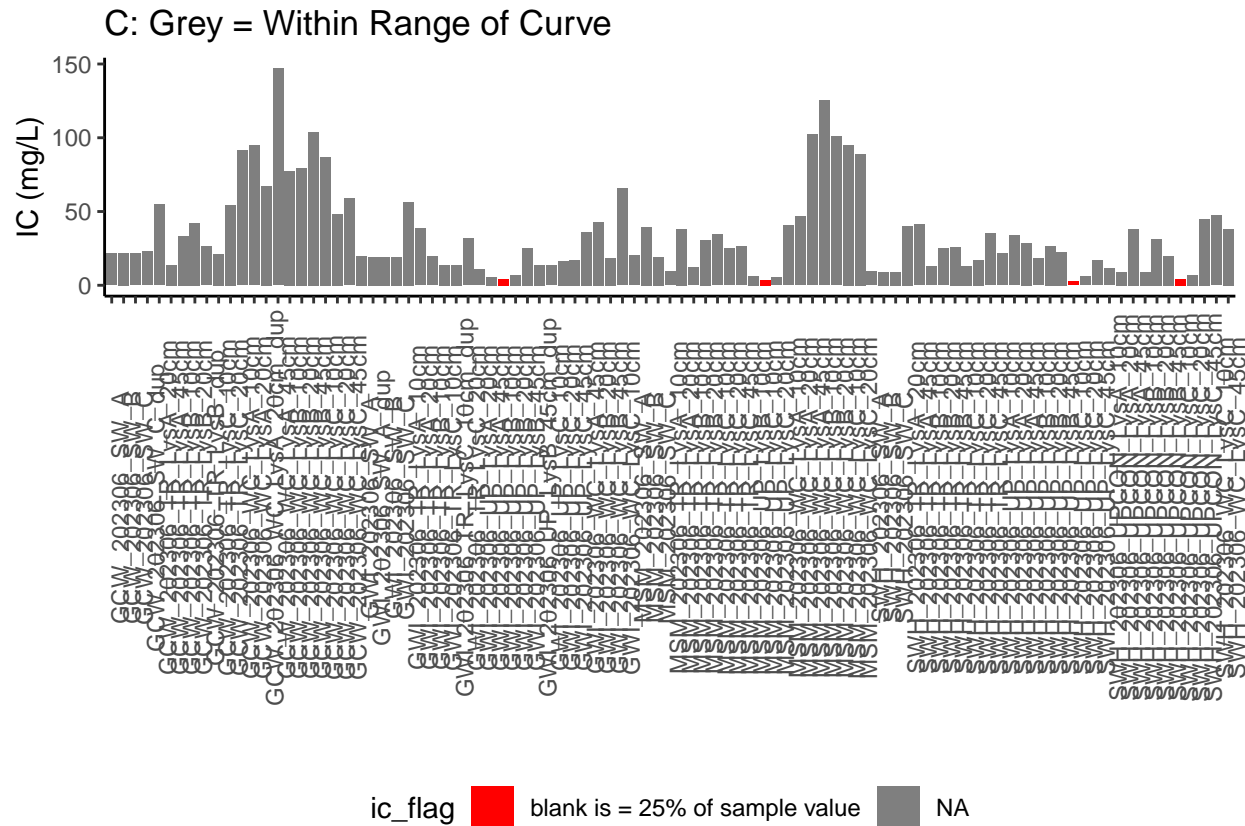
```
## [1] 1.144543
```

0.7 Assess Duplicates

```
## Assess Duplicates
```

[1] ">60% of Carbon Duplicates have a CV <10%"

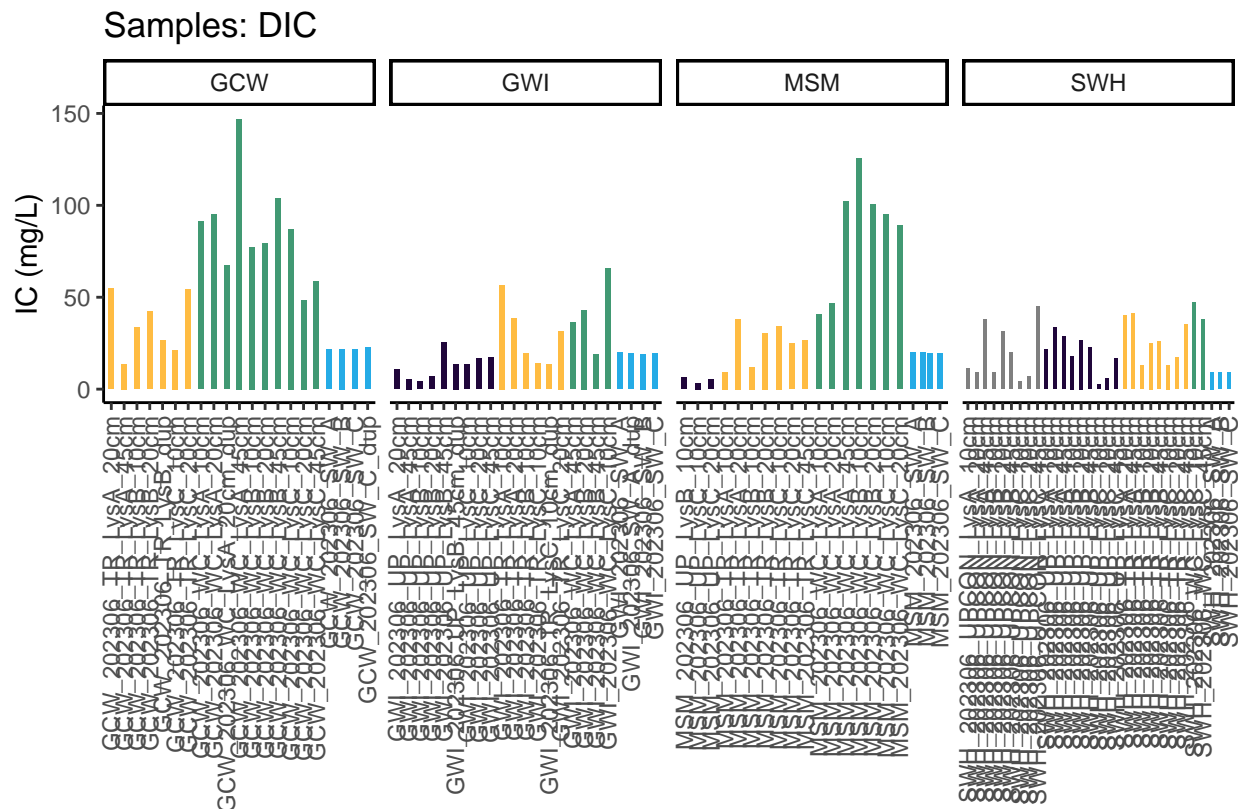## 0.8 Sample Flagging - Are samples Within the range of the curve?

Sample Flagging

C: Grey = Within Range of Curve

ic_flag [red box] blank is = 25% of sample value [grey box] NA

0.9 Visualize Data by Plot

```
## Visualize Data
```

```
## Warning in rbind(c("GCW", "202306", "TR", "LysA", "20cm"), c("GCW", "202306", :
## number of columns of result is not a multiple of vector length (arg 1)
```

Samples: DIC

0.10 Convert data from mg/L to uMoles/L

0.11 Check to see if samples run match metadata & merge info

```
## Check Sample IDs with Metadata

## All sample IDs are present in metadata.
```

0.12 Export Processed Data

```
## Export Processed Data

## # A tibble: 6 x 18
##   Project        Region Site  Zone  Replicate Depth_cm Sample_ID Year Month   Day
##   <chr>          <chr>  <chr> <fct> <chr>        <int> <chr>    <int> <int> <int>
## 1 COMPASS: Sy~ CB      SWH   UPCON A               10 SWH_2023~  2023     6    21
## 2 COMPASS: Sy~ CB      SWH   UPCON A               20 SWH_2023~  2023     6    21
## 3 COMPASS: Sy~ CB      SWH   UPCON A               45 SWH_2023~  2023     6    21
## 4 COMPASS: Sy~ CB      SWH   UPCON B               10 SWH_2023~  2023     6    21
## 5 COMPASS: Sy~ CB      SWH   UPCON B               20 SWH_2023~  2023     6    21
## 6 COMPASS: Sy~ CB      SWH   UPCON B               45 SWH_2023~  2023     6    21
## # i 8 more variables: Time <lgl>, Time_Zone <lgl>, ic_mgL <dbl>, ic_uM <dbl>,
## #   ic_flag <chr>, Analysis_runtime <chr>, Run_notes <chr>, Field_notes <chr>
```

#end