Synoptic CB: Porewater DIC

May 2024 Samples

2025-10-21

Contents

##Setup - Change things here & write any notes

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

```
## Setup Information
```

```
###### Run information - PLEASE CHANGE
  Date_Run = "05/28/2024"  #Date that instrument was run
  Run_by = "Stephanie J. Wilson"  #Instrument user
  Script_run_by = "Stephanie J. Wilson" #Code user
  run_notes = "This month MSM UP Lysimeter A and C samples were swapped,
  this is fixed in this code. "  #any notes from the run
  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_202405.txt"

#file path and name for raw all peaks file
    raw_allpeaks_name = "Raw Data/TOCTN_COMPASS_Synoptic_DIC_202405_allpeaks.txt"

#file path and name of processed data file
    processed_file_name = "Processed Data/COMPASS_SynopticCB_PW_Processed_DIC_202405.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_2024.csv"

#qaqc log file path for this year
  Log_path = "Raw Data/COMPASS_Synoptic_DIC_QAQClog_2024.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`
```

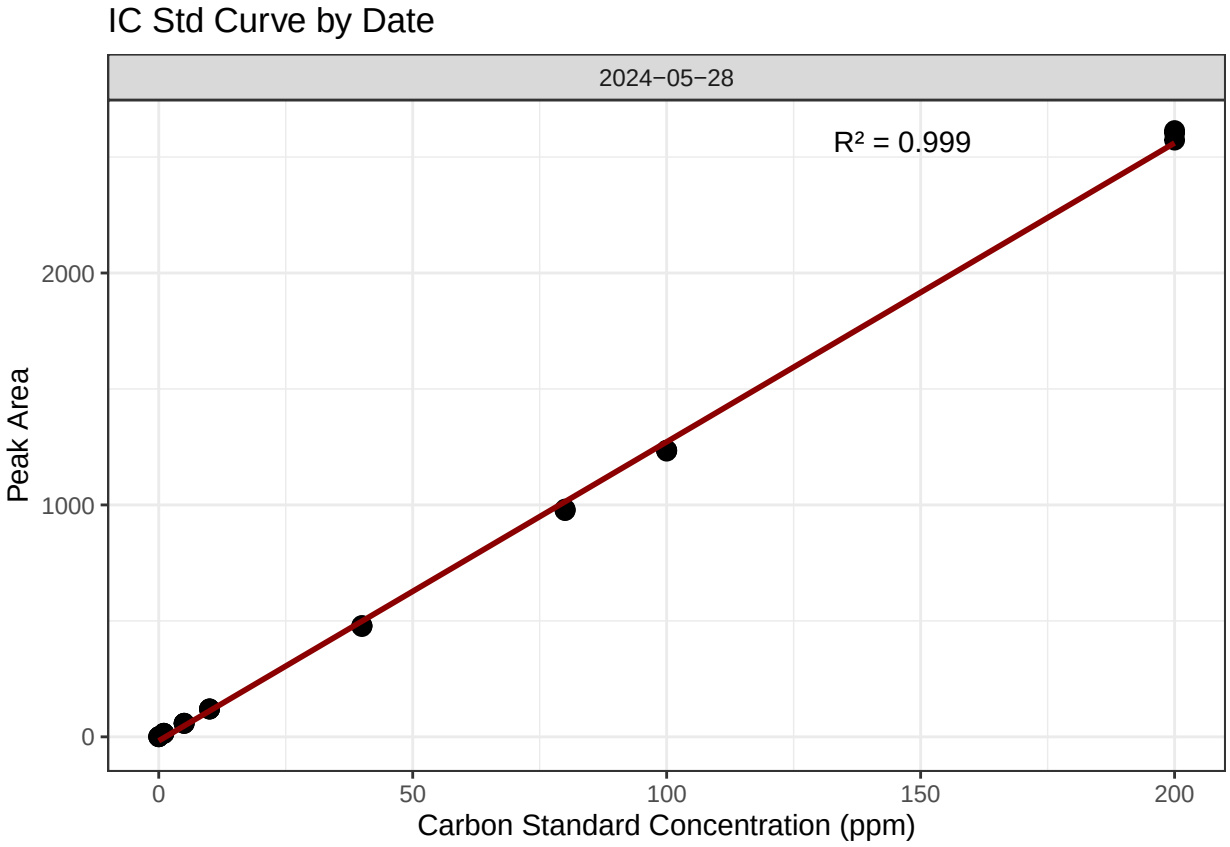
```
## # A tibble: 6 x 3
##   sample_name             ic_raw run_datetime
```

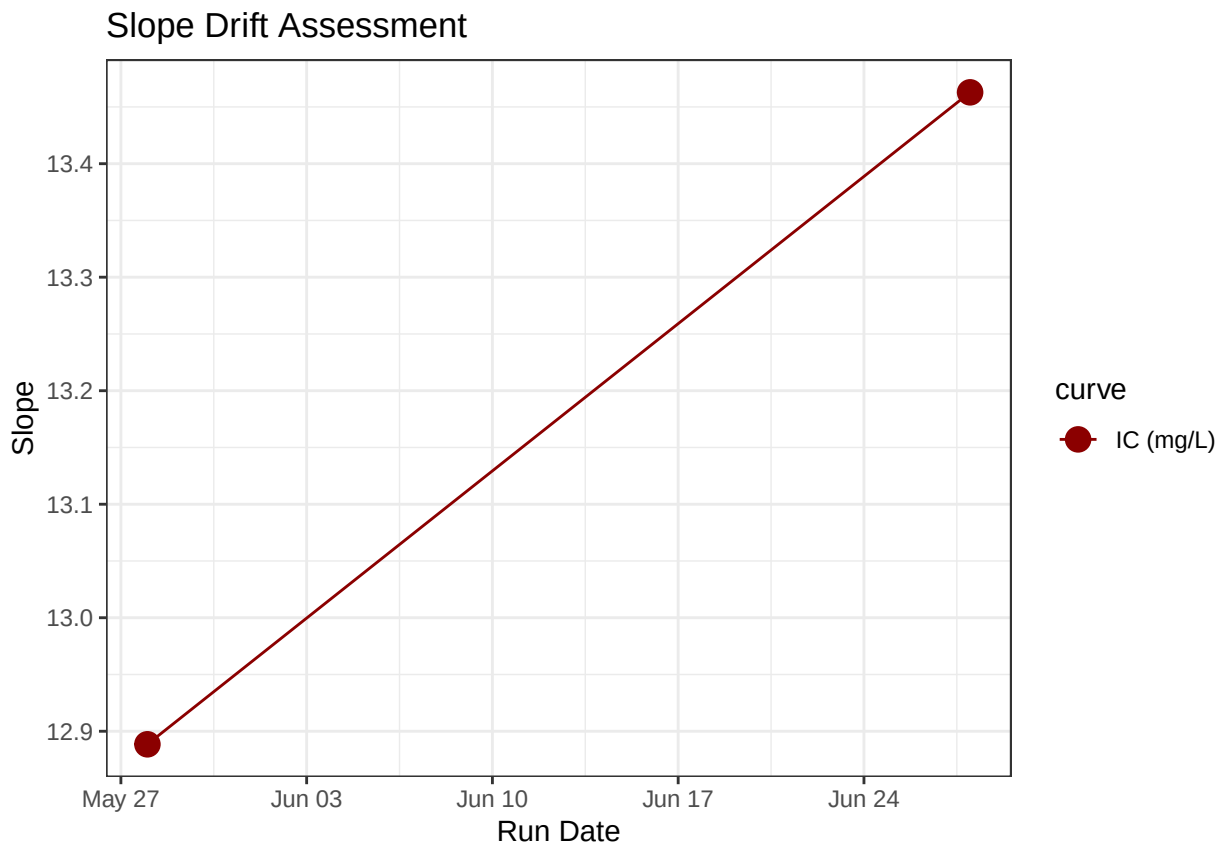
```
##   <chr>                    <dbl> <chr>
## 1 202405_SWH_UP_LysA_10cm  10.4  5/28/2024 10:04:26 PM
## 2 202405_SWH_UP_LysA_20cm   8.74 5/28/2024 10:15:28 PM
## 3 202405_SWH_UP_LysA_45cm  17.7  5/28/2024 10:27:09 PM
## 4 202405_SWH_UP_LysB_10cm  11.3  5/28/2024 10:38:17 PM
## 5 202405_SWH_UP_LysB_20cm  26.5  5/28/2024 10:53:06 PM
## 6 202405_SWH_UP_LysC_10cm   9.70 5/28/2024 11:03:56 PM
```

0.3 Assessing Standard Curves

```
## Assess the Standard Curves
```

```
## New names:
## `geom_smooth()` using formula = 'y ~ x'
## * `` -> `...18`
```





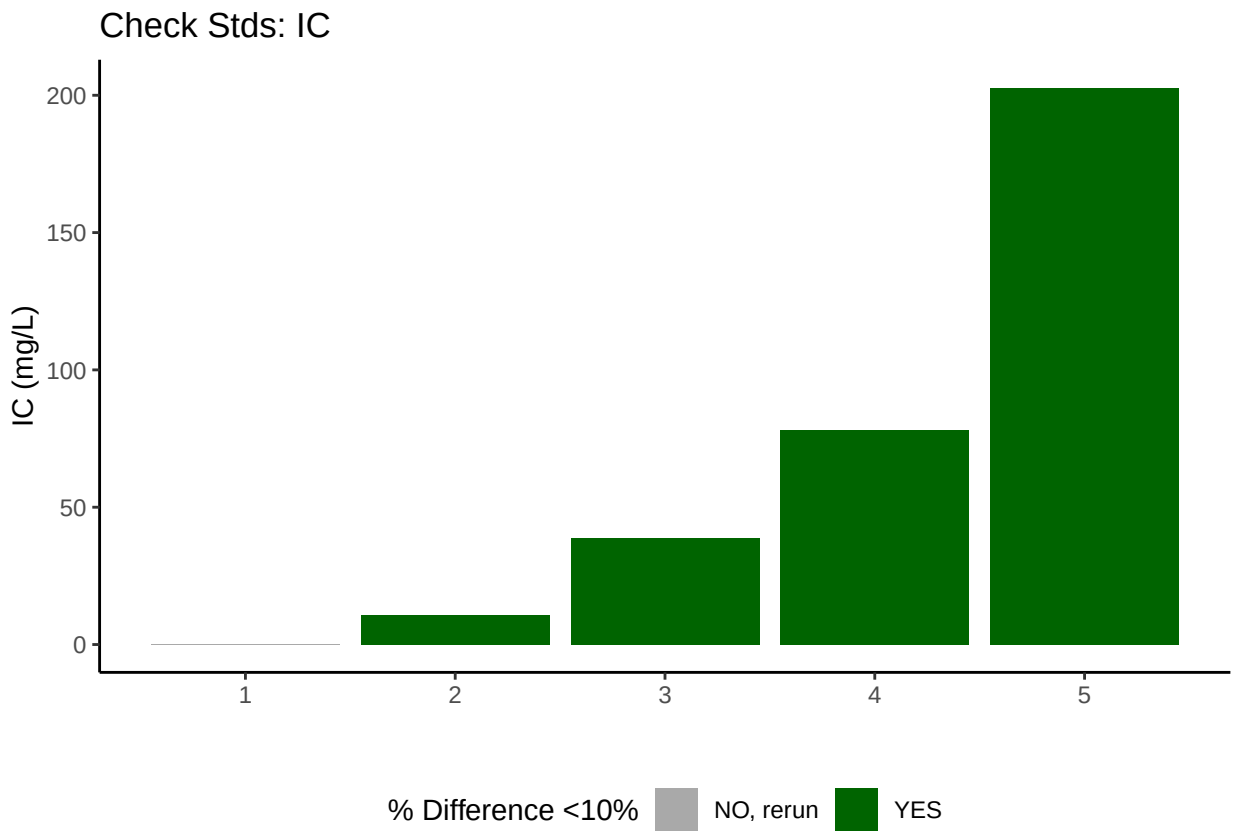

```
## [1] "IC Curve r2 GOOD"
```

0.4 CRM Check - Don't run chunk if no CRMs run

```
## Assess the CRMs

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

## [1] NA

## Run mean = NaN

## Expected  = 22.19
```

0.5 Assess Check Standards

```
## Assess the Check Standards

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



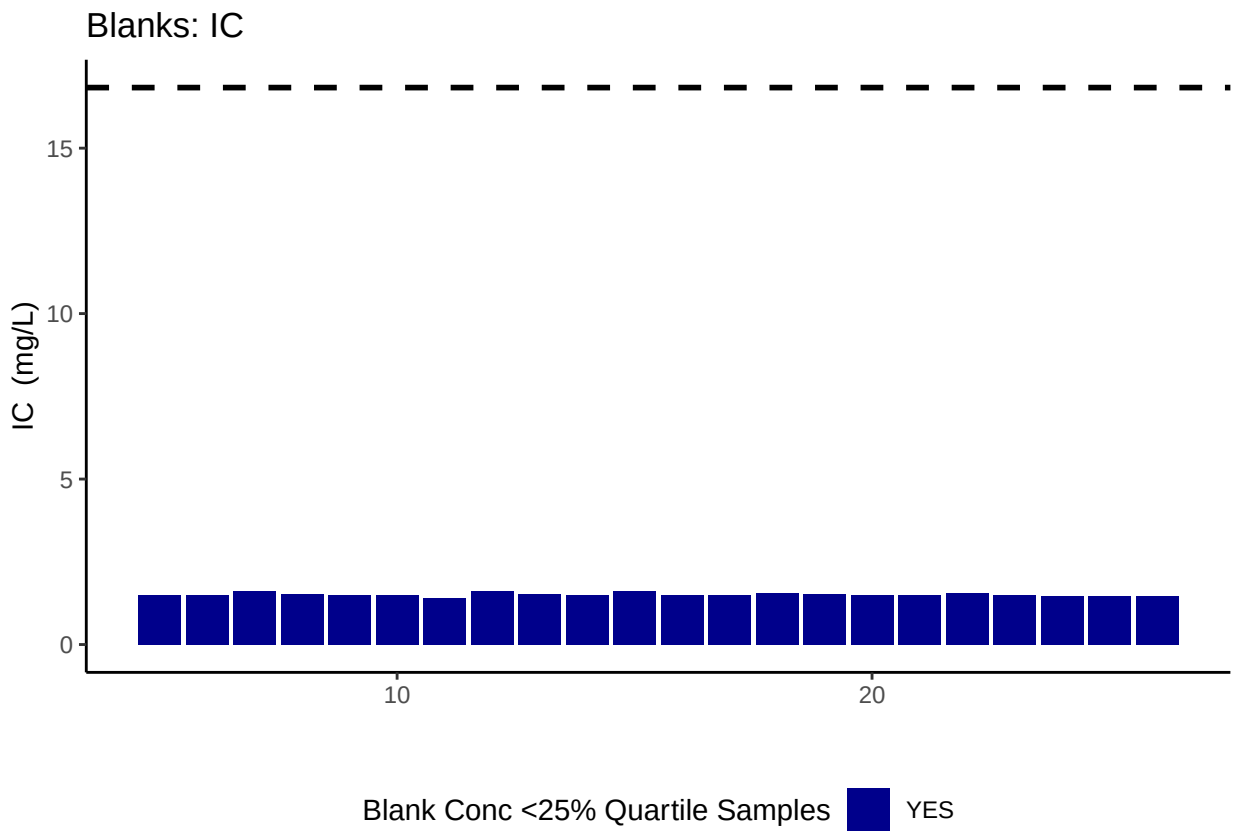

```
## [1] ">60% of IC Check Standards are within range of expected concentration"
```

0.6 Assess Blanks

```
## Assess Blanks
```

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

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

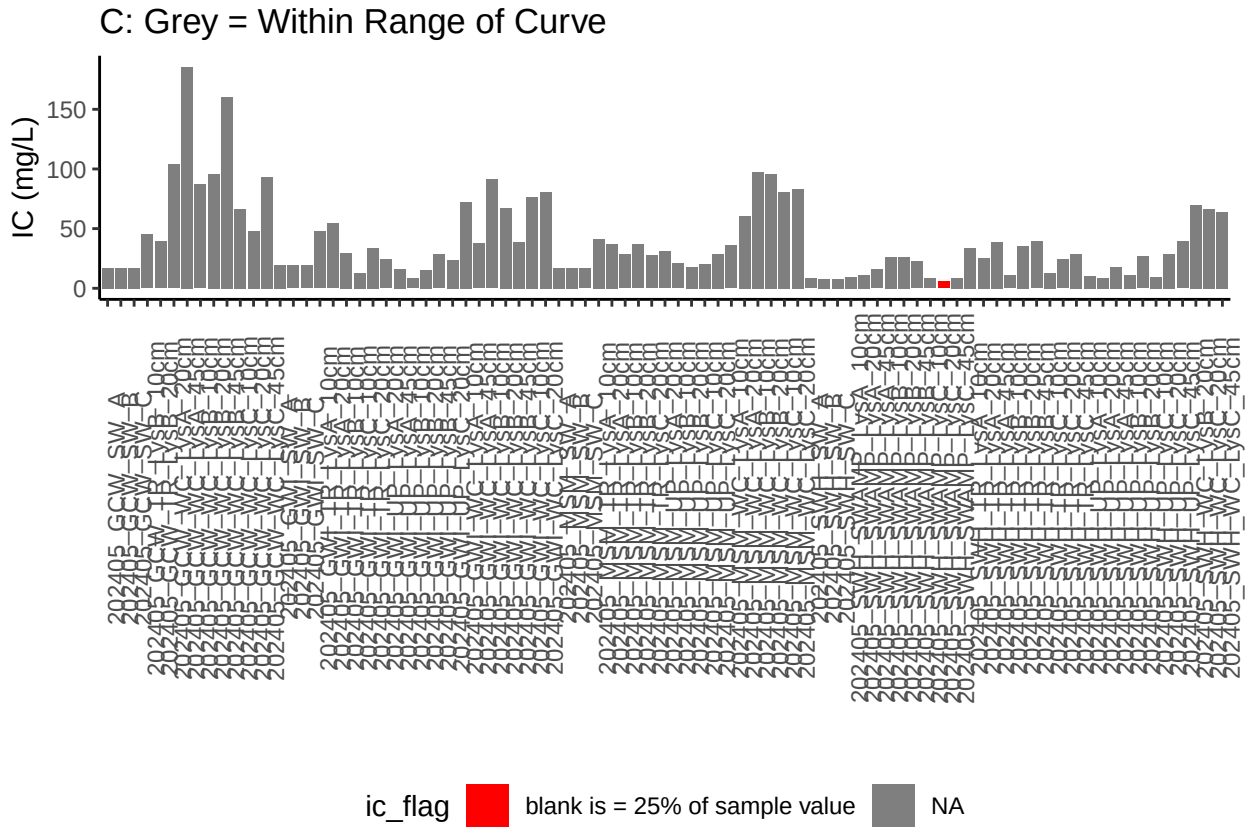



```
## carbon blanks:
```

```
## [1] 1.515455
```

0.7 Sample Flagging - Are samples Within the range of the curve?

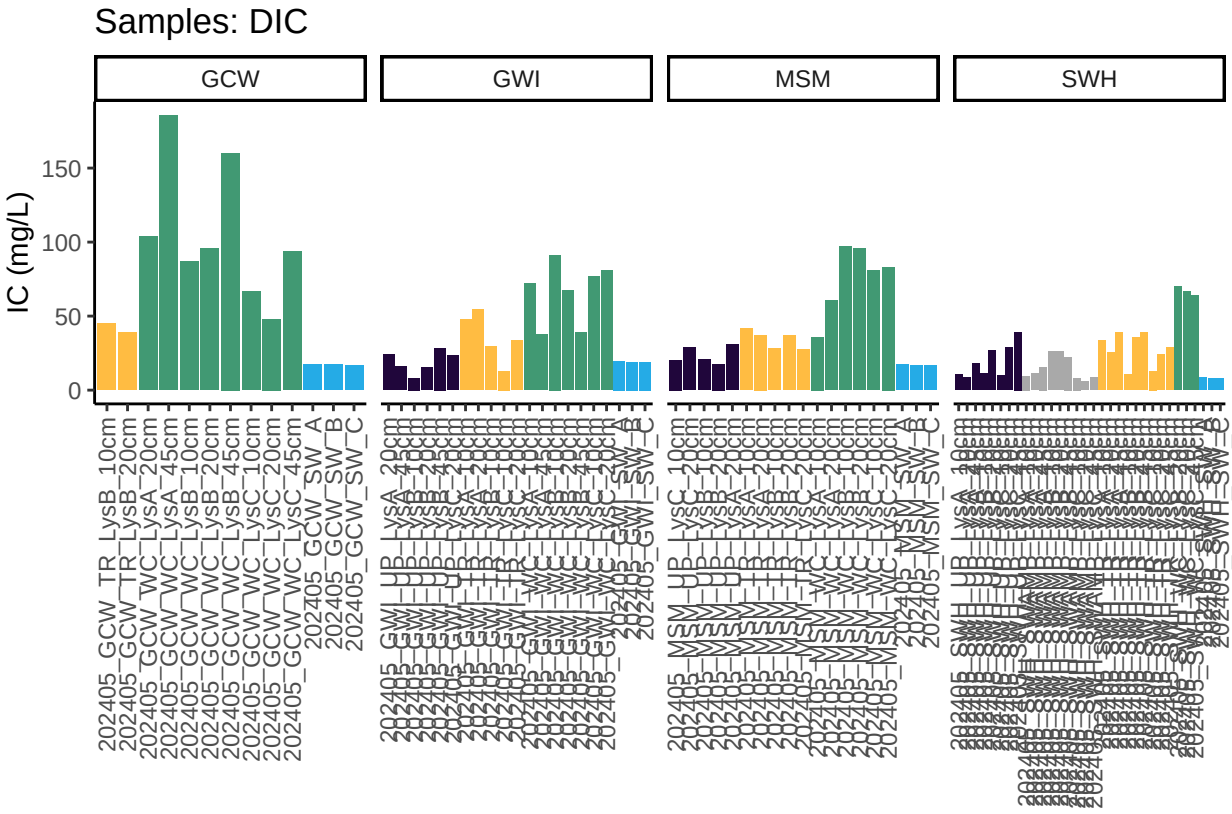
```
## Sample Flagging
```



0.8 Visualize Data by Plot

```
## Visualize Data
```

```
## Warning in rbind(c("202405", "SWH", "UP", "LysA", "10cm"), c("202405", "SWH", :
## number of columns of result is not a multiple of vector length (arg 30)
```



0.9 Convert data from mg/L to uMoles/L

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

```
## Check Sample IDs with Metadata

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

0.11 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   UP    A               10 202405_S~  2024     5    15
## 2 COMPASS: Sy~ CB     SWH   UP    A               20 202405_S~  2024     5    15
## 3 COMPASS: Sy~ CB     SWH   UP    A               45 202405_S~  2024     5    15
## 4 COMPASS: Sy~ CB     SWH   UP    B               10 202405_S~  2024     5    15
## 5 COMPASS: Sy~ CB     SWH   UP    B               20 202405_S~  2024     5    15
## 6 COMPASS: Sy~ CB     SWH   UP    C               10 202405_S~  2024     5    15
## # i 8 more variables: Time <chr>, Time_Zone <chr>, ic_mgL <dbl>, ic_uM <dbl>,
## #   ic_flag <chr>, Analysis_runtime <chr>, Run_notes <chr>, Field_notes <chr>
```

#end