



# WIMS NATIONAL USER CONFERENCE

# WHAT'S **NEW** WITH HACH WIMS

KEVIN KOSHKO | SCOTT DORNER  
AQUATIC INFORMATICS | AUGUST 2024





# TODAY'S AGENDA

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- Product Team Introductions
- WIMS Rebranding Update
- WIMS New Features
- New Feature Demos

# MEET YOUR **WIMS** PRODUCT TEAM

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**SCOTT DORNER**

Senior Product Owner, WIMS Platform  
*AQUATIC INFORMATICS*



**KEVIN KOSHKO**

Product Manager, WIMS Platform  
*AQUATIC INFORMATICS*



# PRODUCT OWNER **ROLES & RESPONSIBILITIES**



**SCOTT DORNER**

Senior Product Owner, WIMS Platform  
*AQUATIC INFORMATICS*

1. Technical Product Expert
2. Creates Requirements & Specs
3. Dev team Communication



# PRODUCT MANAGER ROLES & RESPONSIBILITIES



**KEVIN KOSHKO**

Product Manager, WIMS Platform  
*AQUATIC INFORMATICS*

1. Product Priority & Roadmap
2. Define Commercial Initiatives
3. Customer Communications





## WIMS PLATFORM

WIMS = Water Information Management System

Today's WIMS Desktop/Online\* =



WIMS Classic

Today's Rio & Mobile =



WIMS Rio

\* WIMS Online hosted by AQI = WIMS Private Cloud



# WIMS PLATFORM COMMERCIAL OFFERINGS 2024



Power Users



## WIMS Classic

- ✓ Comprehensive analytics and reporting for power users, data pros
- ✓ Highly customizable interface
- ✓ Advanced trigger reports
- ✓ Options for on-premise or WIMS Private Cloud

Included Products:



WIMS CLASSIC

Recommended



## WIMS Rio

- ✓ Essential operations and compliance tools for any organization
- ✓ Simple to use, short learning curve
- ✓ Standardized dashboards & reports
- ✓ Event and notification tracking with detailed audit trails

Included Products:



WIMS RIO

Enterprise



## WIMS Premier

- ✓ The best components of WIMS built for leading organizations
- ✓ Deploy web and mobile apps to any user
- ✓ Power users have access to deep functionality
- ✓ Options for on-premise or WIMS Private Cloud

Included Products:



WIMS RIO

+



WIMS CLASSIC





WIMS Classic

# NEW FEATURES



# WIMS Classic Versions

## 8.2.2

- Execute SQL
- Prep Batch added to LabCal

## 8.2.4

- New Ribbon Menu
- Line Graph Improvements
- Locate Saved Line and Year over Year graphs to Dashboards
- CDE Calc Var Limit Notifications
- Comp Eng Reg limit rounding

## 8.2.6

- Bar Graph
- New MDL Rule for GFIRSTZ, GLASTZ, GAVGZ, GMINZ, GMAXZ allows you to report on detected results. Consumer Confidence Report requirement
- New Spread Equation Editor.

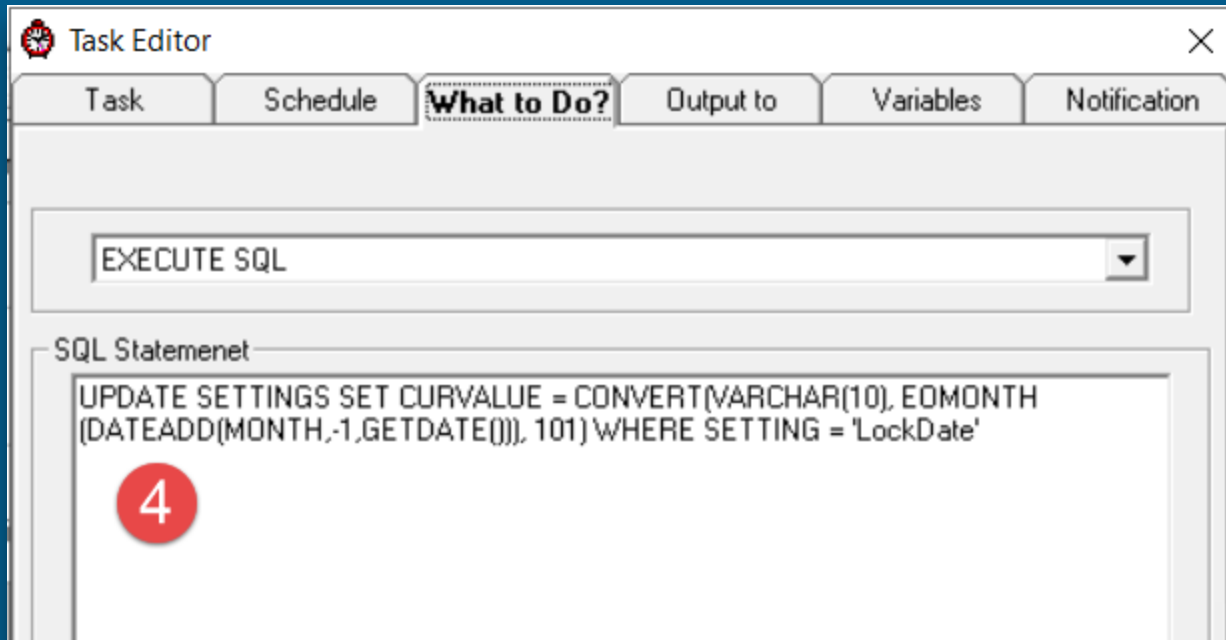
## 8.2.8

- Report Design New Ribbon Menu
- Locate Variable Info multi var/fields
- Estimated Tanks Usage Functions

## 8.2.2 Scheduled Tasks - Execute SQL



- Schedule an SQL Query to perform db maintenance  
*UPDATE SETTINGS SET CURVALUE = CONVERT(VARCHAR(10), EOMONTH(DATEADD(MONTH,-1,GETDATE()))), 101) WHERE SETTING = 'LockDate'*



## 8.2.2 Execute SQL QC Limits



- Update QC Limits - See <https://www.opssys.com/InstantKB/Article.aspx?id=14750>

Task Editor

Task Schedule **What to Do?** Output to Variables Notification

EXECUTE SQL

SQL Statement

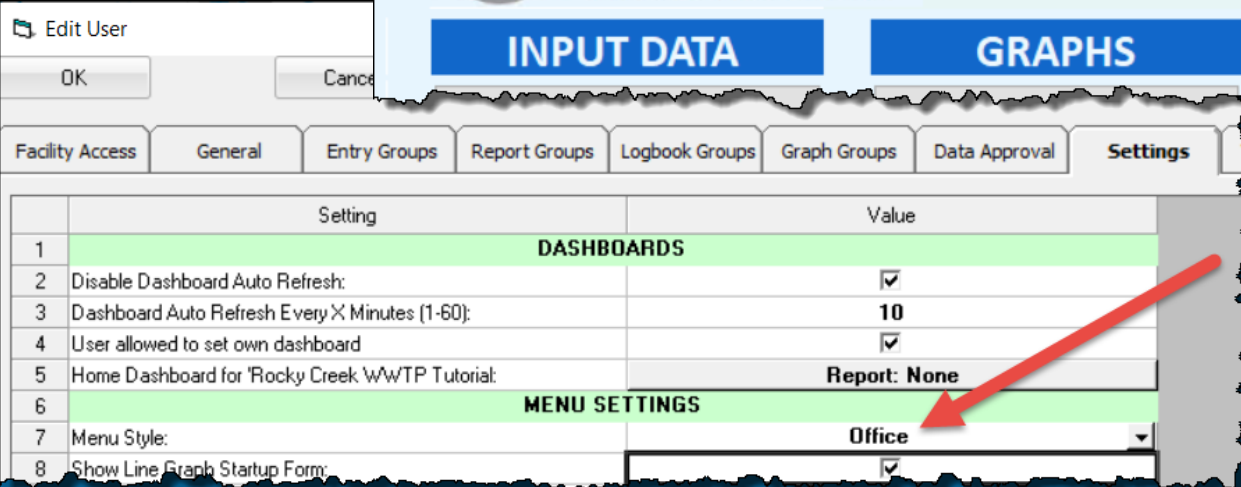
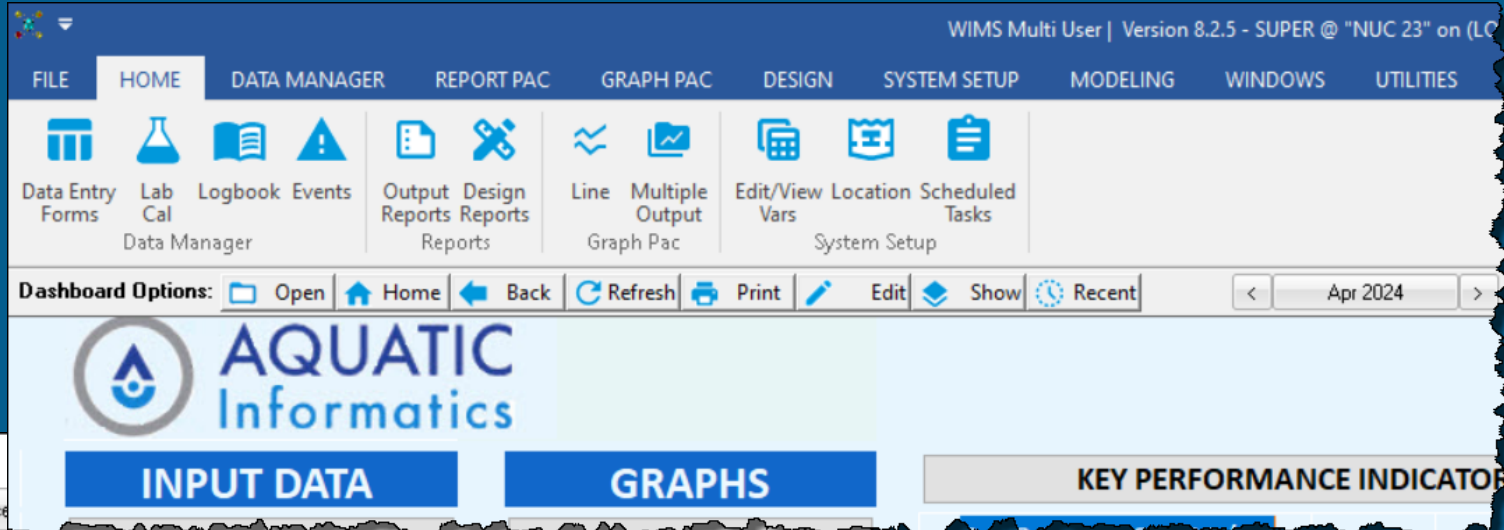
```
DELETE VARQC WHERE STARTDATE = CAST(GETDATE() AS DATE);;  
INSERT INTO VARQC  
SELECT 'SYS',GETDATE(),VARID, CAST(GETDATE() as DATE),  
ROUND(AVG(CURVALUE) + 3 * STDEV(CURVALUE),4) UCL,ROUND(AVG(CURVALUE) +  
2 * STDEV(CURVALUE),4) LWL, ROUND(AVG(CURVALUE),4) QCMEAN,ROUND(AVG  
(CURVALUE) - 2 * STDEV(CURVALUE),4) LWL, ROUND(AVG(CURVALUE) - 3 * STDEV  
(CURVALUE),4) LCL, NULL FROM (  
SELECT DATESTAMP,VARID,CURVALUE,ROW_NUMBER() OVER(PARTITION BY  
VARID ORDER BY DATESTAMP DESC) as RANK FROM [DATATBL] WHERE  
DATESTAMP < GETDATE()) AS rs  
WHERE RANK <=20 AND VARID IN (SELECT VARID FROM VARQC)  
GROUP BY VARID
```

;; Separates commands

# 8.2.4 Ribbon Office Style Menu



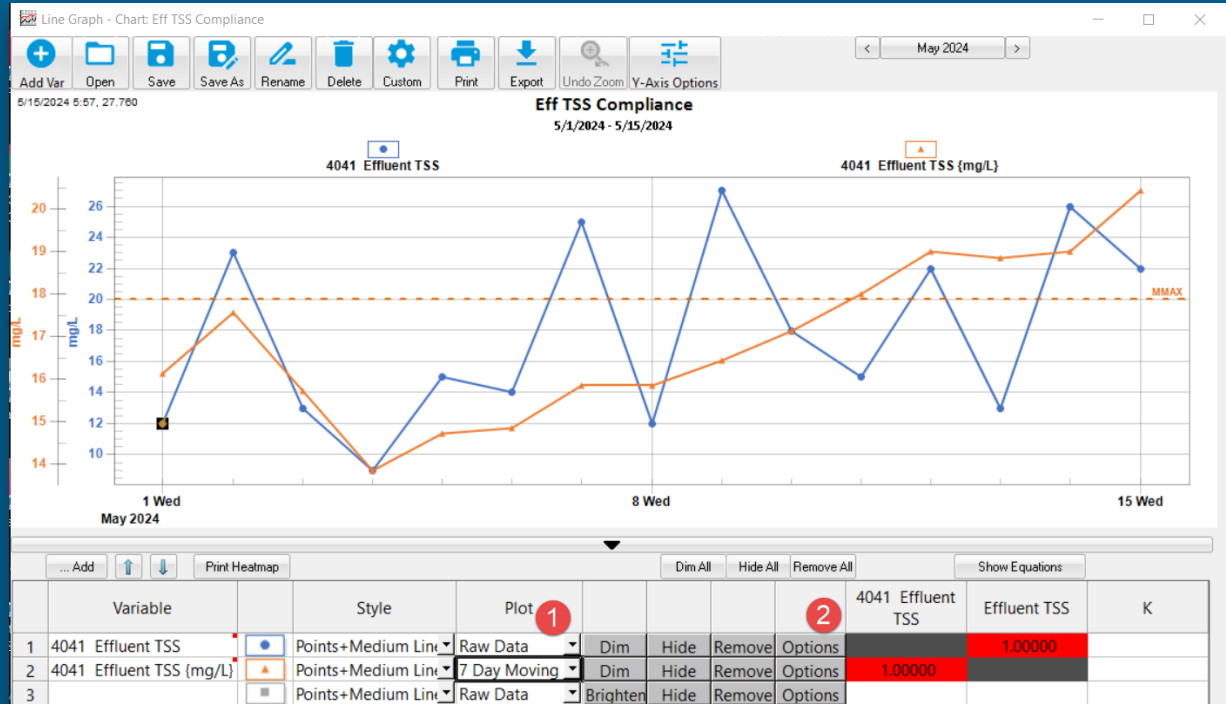
- Opt-in using User Setup



# Line (Multi variable Analysis) Graph Improvements



1. Plot moving averages, monthly...
1. Options to show limit lines



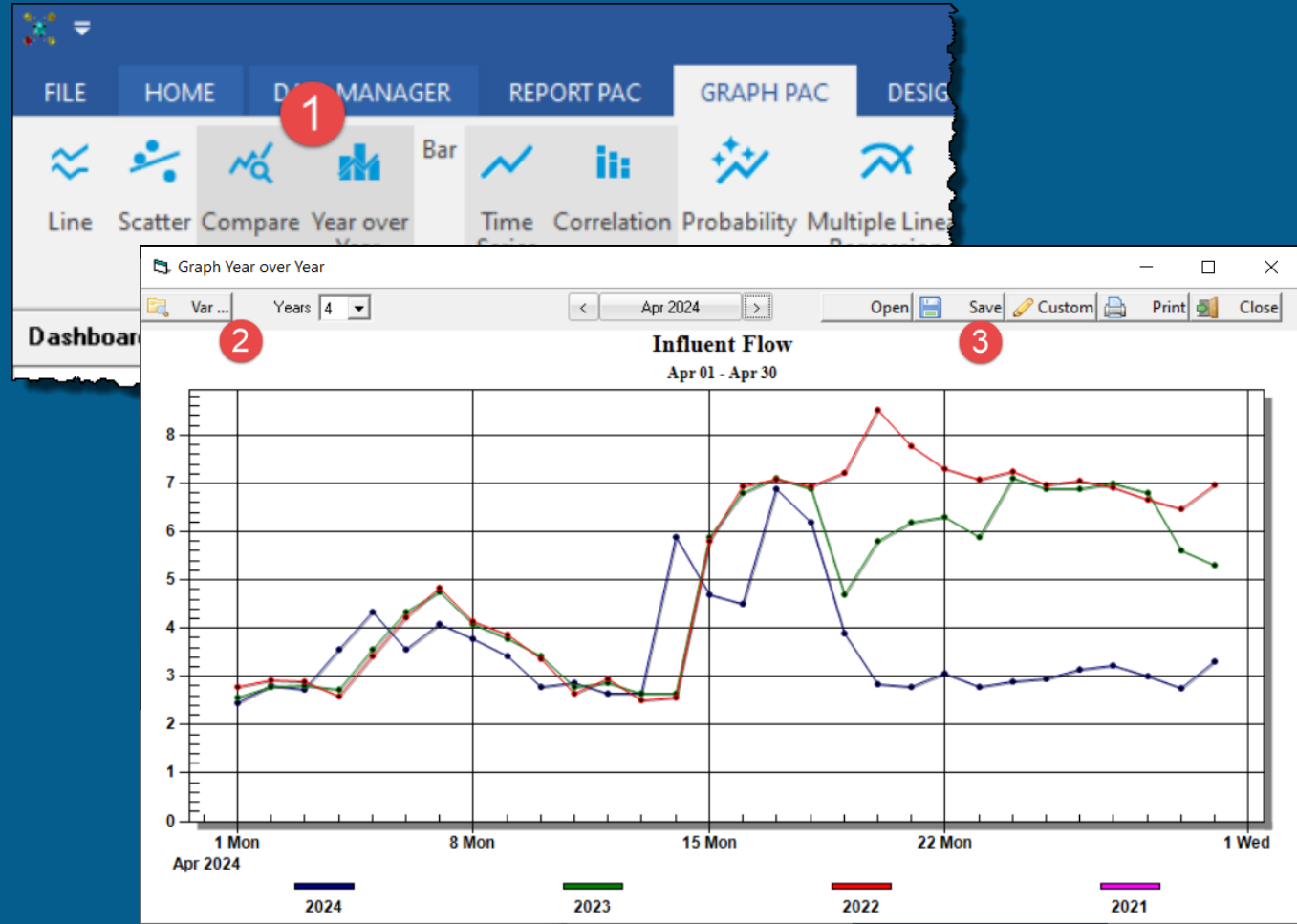
# Year over Year Graph



1. Available from menu.

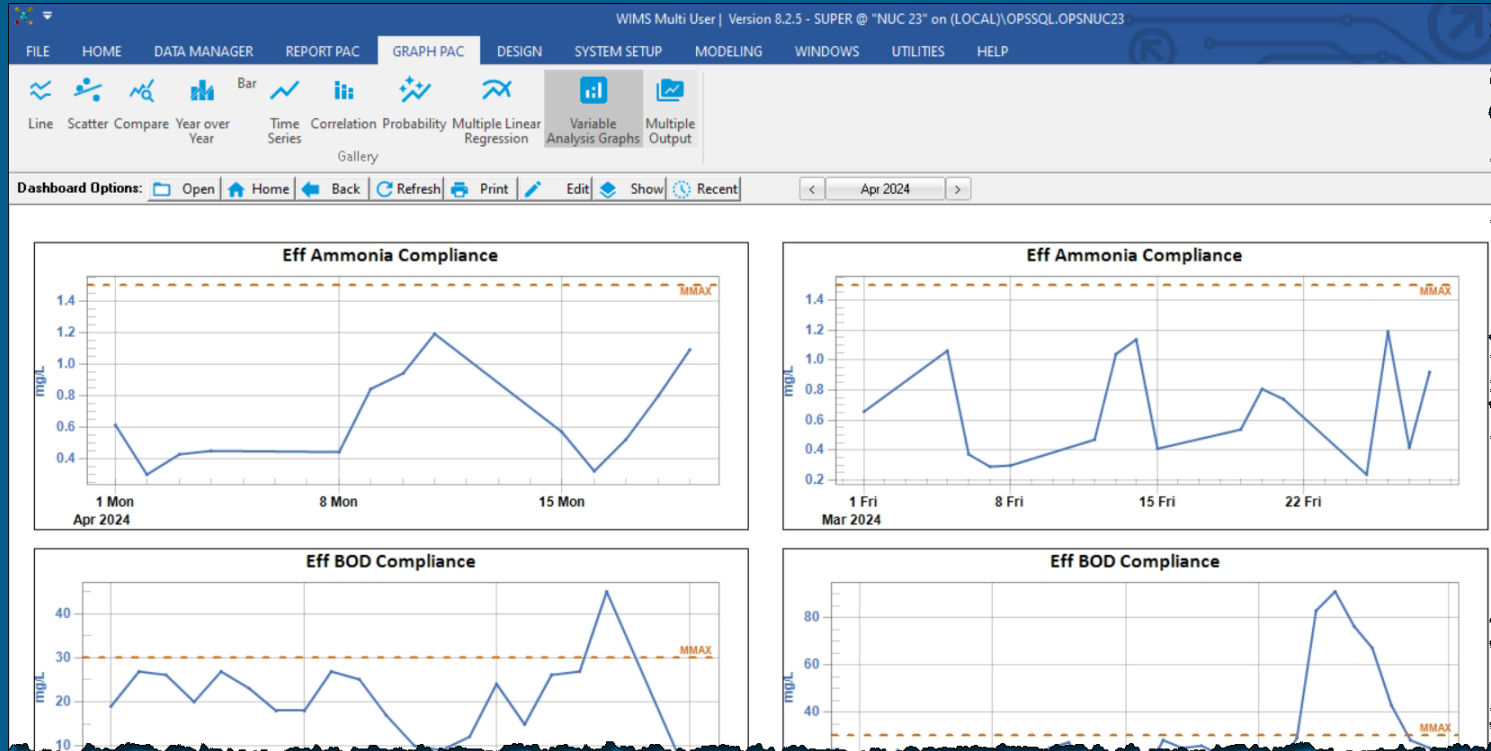
2. Change Vars

3. Save graph to place on dashboard





# Dashboard - Line and Year over Year Graphs



# CDE Calc Var Limit Notifications



- After Calc popup shows any calculated values that are outside to the reg/entry limits

Daily Data Entry (Custom Data Entry Form)

File Edit Format Help KeyPad

Start Date: 08/26/2024 12:00 AM Go Mon, August 26, 2024 Logbook

D7 59448 Save Approve to FINAL APPROVAL Calc Sh

Entry Min **None** Daily Limit Min **None** Var Info **12 Influent BOD Load {LBS/DAY}**  
Max **10000** Max **None** Equation **V1\*V11\* 8.34**

	A	B	C	D	E	F	G	H	I	J	
1											
2		<b>Daily Entries for: Monday, August 26, 2024</b>								<b>NUC 23</b>	
3		<b>INFLUENT</b>				<b>RAS/WAS</b>					
4											
5		1	Inf Flow	3.240	MGD		1001	RAS Flow	1.7500	MGD	
6		11	Inf BOD	2,200	mg/L		1006	RAS Conc	11900	mg/L	
7		12	Inf BOD Ld	59448	lbs/day		1011	WAS Flow	0.0094	MGD	
8		21	Inf UVAS	305	SAC						
9		41	Inf TSS		mg/L						
10		42	Inf TSS Ld		lbs/day						
11		81	Inf pH	7.1	SU						
12											
13		<b>PRIMARY EFFLUENT</b>				<b>EFFLUENT</b>					
14		61					4001	Ef Flow	5.949	MGD	
15		61					4011	Eff BOD	55	mg/L	
16		61					4012	Eff BOD Ld	2729	lbs/day	
17		61					4013	Eff BOD WkAvg		mg/l	
18											
19											
20		102									

Calculated Vars Limit Notifications

Cell	Date	Variable	Description
D7	8/26/2024	Influent BOD Load {LBS/DAY}	59447.52 is outside of entry range
I12	8/26/2024	Effluent BOD Load (lbs/day)	2728.8063 violated daily limit

# Compliance Engine Rounding Rule



- Set in Facility Setup, Settings Tab

No Rounding: The value is not rounded.

Variable: The value is rounded to the decimal place setting for the variable. If the variable decimal place setting for the variable is set to 'Not Fixed' no rounding will occur.

Limit: The value is rounded to the number of decimal places that the limit is entered to in [Regulatory Limits](#). Example: Limit is entered at 8.5, the value will be rounded to 1 decimal. NOTE: Zeros are used, example limit is entered as 8.0 will be rounded to 1 decimal place, entered at 8 will be rounded to zero decimal places.

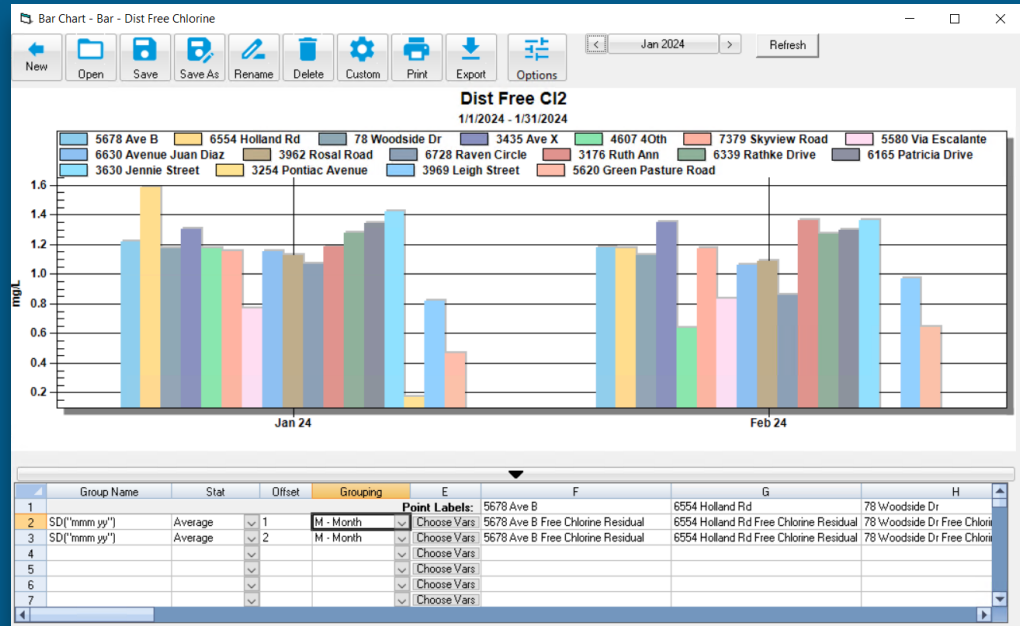
Note: Rounding is scientific.

Limit	Value	No Rounding	Variable	Limit
<85.0 Monthly Average	Comp Eng Calcs Monthly average of 84.9837	Violation (84.9837 is less than 85.0)	No Violation (85 is not less than 85.0). Var's Decimal Place = 0	No Violation (84.9837 to 1 decimal is 85.0 which is not less than 85.0)
<85.0 Monthly Average	Comp Eng Calcs Monthly average of 84.9211	Violation (84.9211 is less than 85.0)	No Violation (85 is not less than 85.0). Var's Decimal Place = 0	Violation (84.9211 to 1 decimal is 84.9 which is less than 85.0)
>8.5 Daily value	Entered value of 8.55	Violation (8.55 is greater than 8.5)	Violation (8.6 is greater than 8.5) Var's Decimal Place = 1	Violation (8.6 is greater than 8.5) Limit entered to 1 Decimal Place
>8.5 Daily value	Entered value of 8.513	Violation (8.513 is greater than 8.5)	Violation (8.51 is greater than 8.5) Var's Decimal Place = 2	No Violation (8.5 is not greater than 8.5), Limit entered to 1 decimal place.

## 8.2.6

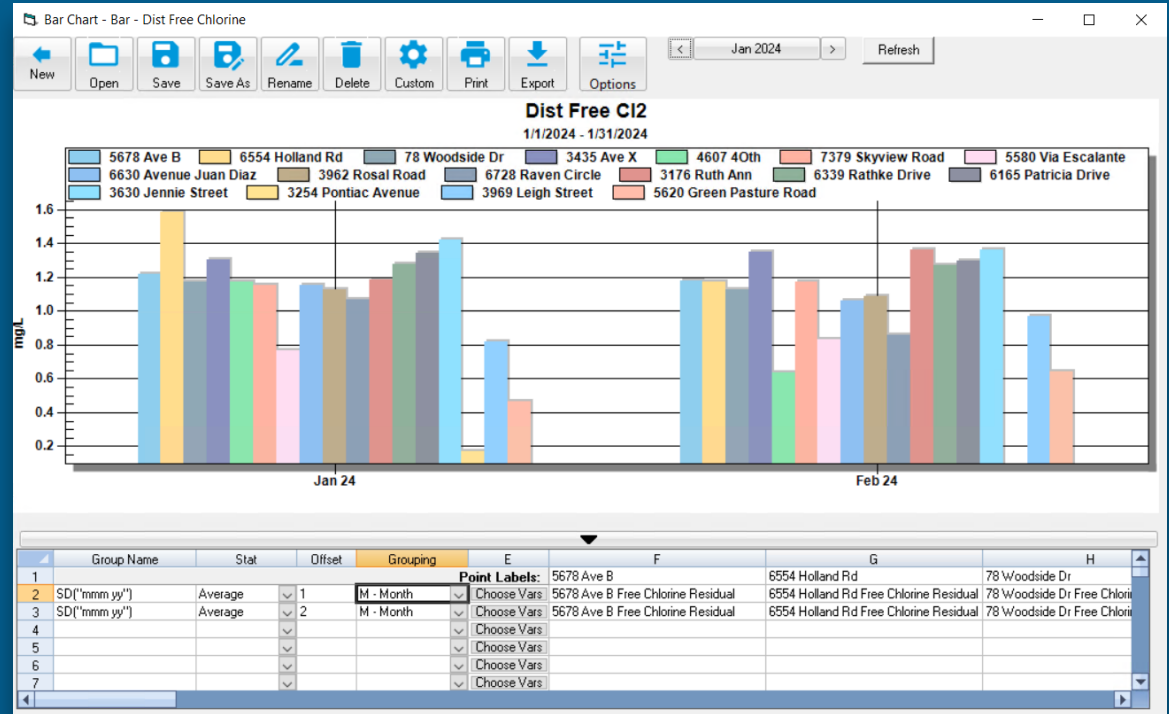


- Bar Graph
- New MDL Rule for GFIRSTZ, GLASTZ, GAVGZ, GMINZ, GMAXZ allows you to report on detected results. Consumer Confidence Report requirement
- New Spread Equation Editor.
- CDE Locate Button added



# Bar Graph

- Show 1 parameter at different locations (point labels should be locations)
- Show multiple variables at different locations for 1 point in time (point labels should be Variable Name)
- Use Stacked Bar to show parts of totals (flows/costs)



# 8.2.6 New Spread Equation Editor



Use  $\Sigma$  button to choose from available functions.  
Use ? to get help on currently highlighted function.

The screenshot shows a spreadsheet application with a formula editor and a function list. The spreadsheet has columns A-G and rows 1-18. Cell C5 contains the formula =GAVG(1,1,"M")\*(F3/F4). The formula editor shows the same formula. The function list is open, showing various functions like COUNTIF, DATE, etc. Arrows indicate the flow of information: a red arrow points from the formula bar to the formula editor; a blue arrow points from the formula editor to the function list; a red arrow points from the function list to the formula editor; a green arrow points from the function list to the formula editor; a purple arrow points from the formula editor to the formula bar.

Group	Description	Group
COUNTIF(Condition, Limit, Cell Range)	returns the count of cells that meet the condition specified	SPECIAL
CT(ActivationOf, Disinfectant, LogInactivation, Temp, pH, C2)	Returns the CT Required for Inactivation of Giardia Cys	SPECIAL
CTBYREG(Temp, pH, C2)	Returns the CT Required for Inactivation of Giardia Cys	SPECIAL
CTR3LOG(Disinfectant ID, Water Temperature, pH, C12 Resid)	returns the CT Required from the EPA 3 log inactivation	SPECIAL
CTRFLV(Disinfectant ID, Water Temperature, pH)	method for approximating the CT Tables for 4 log inact	SPECIAL
CV(VarNum, MaxDays, StartFlag, Stat_If_Tie)	returns the closest value found for a variable	VARIABLE VALU
CVT(VarNum, MaxDays, StartFlag, Stat_If_Tie, DecPlaces)	returns the closest text value (or value with symbol) fo	VARIABLE VALU
DAMIN(1)	returns the minimum data approval value of all data poi	SPECIAL
DATE(Offset, Format, Interval)	returns a date based on the start date of report and an DATE	SPECIAL
DATEADD(Interval,Number,Date,Format)	returns a Date String containing a date to which a specDATE	SPECIAL
DATEDIFF(Interval,Date1,Date2)	returns the number of time intervals between two specDATE	SPECIAL
DCV(VarNum, MaxDays, StartFlag, Stat_If_Tie, DateFormat)	returns the date of closest value found for the variable DATE	SPECIAL
DDSC(VarNum,offset, Optional Interval, Optional IntervalNum)	returns Result Comments for Daily Detail variables	VARIABLE VALU
DDSCWO(VarNum,offset, optional IncludeDate)	returns Result Comments for Daily Detail variables (i.e.	VARIABLE VALU
DDVT(VarNum,offset,date, Optional Interval)	returns values for Daily Detail variables	VARIABLE VALU
DDV(VarNum,offset,date, Decimal Places, Optional No Value)	returns values as text (values with symbols/data quali	VARIABLE VALU
DDVWO(VarNum,offset,Decimal Places, Optional No Value)	returns values for Daily Detail variables (i.e. hourly, 15	VARIABLE VALU
DESCRIBEAPPI(pivot, Optional Arg1, Optional Arg2, Optional #)	returns WMS program information (version, license...)	SPECIAL
DATE(Offset, Groupings, GroupOffset, DateFormat, SQL_C)	returns the date that meets the condition specified by DATE	SPECIAL
DFORMAT(Date,Format)	returns a formatted date	DATE
DIFF(FirstValue, LastValue, Optional rollover)	returns the difference between two values and handle	SPECIAL
DLV(VarNum, Offset, StartFlag, MaxDays, DateFormat)	returns the date/time of the Last Value found.	DATE
DPC(Value)	returns the number of decimal places for the given val.	SPECIAL

# 8.2.6 CDE supports buttons



Custom Data Entry Form Design - Lab Data

File Edit Locate Bench Sheet Format Help

MS Sans Serif 8 B I U

S10

Locate Dashboard Button

**Menu Item**  
 All  Data Entry  Report  Graph  Misc  
Interactive View Spread

**Report**  
Lab Data Report

**Caption**  
Text Preview Lab Data Report

**Dates**  
Today

**Picture**  
Set  
Clear

**Color**  
Foreground [Color Picker] Custom  
Reset

**Button Preview**  
Preview Lab Data Report

OK Cancel

Time	pH	Finishe	SU
0:00	0	9,999.0	0
1:00	0	9,999.0	0
2:00	0	9,999.0	0
3:00	0	9,999.0	0
4:00	0	9,999.0	0
5:00	0	9,999.0	0
6:00	0	9,999.0	0
7:00	0	9,999.0	0
8:00	0	9,999.0	0
9:00	0	9,999.0	0
10:00	0	9,999.0	0
11:00	9,999.00	< 9,999	9,999.00





# 8.2.8 Locate Var Info Multi Var/Fields



Spread Report Design - Untitled

FILE HOME LOCATE E-REPORT DASHBOARD SHEETS < Jul 2024 >

Daily Values Multi Daily Raw Daily Detail Group Summary Weekly Summary Group Summary + Summary Combined Group Summary SQL Sample Info Sampling Requirement Data Results Table Dates Filtered Dates Logbook Entries Events Link to Microsoft Excel Miscellaneous Graphic Prompt Variable Info

B4 ... =VINFO(5001,"Path")

	A	B	C	D	E	F
1						
2						
3						
4		PlantPoint of Entry	PlantPoint of Entry	PlantPoint of Entry	PlantPoint of Entry	PlantPoint of Entry
5		POE Total Flow	POE Fluoride	POE Turbidity	POE Temperature	POE pH
6		MGD	mg/L	NTU	Deg C	SU
7		-	0.2 - 2	<=0.3	-	7 - 9
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Locate Variable Info

... Add Remove Remove All  Place data across

Var #	Var Name	Units
5001	POE Total Flow	MGD
5021	POE Fluoride	mg/L
5031	POE Turbidity	NTU
5051	POE Temperature	Deg C
5061	POE pH	SU
5111	POE Arsenic	mg/L

Available Fields

- AllowSymbol
- AnalyteCode
- Annual Max
- Annual Min
- AREA\_LOCATION.VARNAME
- Daily Max
- Daily Min
- Entry Range
- EntryMax
- EntryMin
- Translate
- Equation
- IsCompliance
- LIMS\_LMC
- LIMS\_TEST
- Location

Fields To Locate

- Path
- Name
- Units
- Entry Range
- AnalyteCode

OK Cancel

## 8.2.8 Estimated Tank Usage Functions

$ETUN(Cx, Y)$ ,  $ETUP(Cx, Y)$

On days of tank refill  
“Estimates” the usage using the  
last Y days

$V841=ETUN(C840,7)$

	Daily Com	Plant/Chemical	
		Ferric Chloride Tank Level	Ferric Chloride Usage
		840	841
		gallons	gallons
1 Mon		951.2	77.5
2 Tue		873.7	55.5
3 Wed		818.2	74.3
4 Thu		743.9	64.7
5 Fri		679.2	81.4
6 Sat		597.8	52.0
7 Sun		545.8	92.1
8 Mon		453.7	95.0
9 Tue		358.7	51.9
10 Wed		306.8	87.6
11 Thu		219.2	75.0
12 Fri		975.0	90.8
13 Sat		884.2	92.8
14 Sun		791.4	77.0
15 Mon		714.4	65.2
16 Tue		649.2	54.8
17 Wed		594.4	67.9
18 Thu		526.5	82.8
19 Fri		443.7	70.5
20 Sat		373.2	61.5
21 Sun		311.7	59.0
22 Mon		252.7	57.4

77.5 = 951.2 - 873.7

75 is the avg of previous 7 days.

# Little things you should know about

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- New MDL Rule for GFIRSTZ, GLASTZ, GAVGZ, GMINZ, GMAXZ allows you to report on detected results. Consumer Confidence Report requirement
- New Spread Functions: RINFO, FORMULATEXT, GPROB, SDI
- New Math toolbox Functions: GetLimit, RoundUp, ETUN, ETUP
- Global Notification Lists
- Events – Set Status of multiple events (right click menu)



WIMS Rio

# NEW FEATURES



# WIMS RIO IN 2023

2023.3

- Operations View
  - Visualize locations and parameters in a hierarchy
- Get latest data without needing to find in Spreadsheet

The screenshot shows the WIMS Rio interface for Kevin Koshko at KK Rocky WWTP. The left sidebar contains a navigation menu with options: Dashboard, Spreadsheets, Reports, Graphs, Logbook, Operation (selected), Organization, Users, Import data, Sample manager, and Schedule. The main content area is titled 'Operation' and shows a search bar and a 'Filters' button. Below this, a tree view under 'Expand all' shows the hierarchy: KK Rocky WWTP > Influent > BOD (selected). Other parameters listed include BOD Load, Flow, Flow Hourly, pH, TSS, TSS Load, and UVAS. The right side of the interface shows the 'BOD' parameter details, including a map view and a data table. The data table is titled 'BOD' and shows data for the period Jul 1 - Jul 31, 2024. The table has columns for 'valueTimestamp', 'value', and 'modifiedOn'. A 'Get data' button is visible next to the table.

valueTimestamp	value	modifiedOn
Jul 1, 2024 12:00 AM	205	Aug 27, 2024 9:07 AM
Jul 2, 2024 12:00 AM	295	Aug 27, 2024 9:07 AM
Jul 3, 2024 12:00 AM	317	Aug 27, 2024 9:07 AM
Jul 4, 2024 12:00 AM	302	Aug 27, 2024 9:07 AM
Jul 5, 2024 12:00 AM	273	Aug 27, 2024 9:07 AM
Jul 6, 2024 12:00 AM	242	Aug 27, 2024 9:07 AM
Jul 7, 2024 12:00 AM	232	Aug 27, 2024 9:07 AM
Jul 8, 2024 12:00 AM	255	Aug 27, 2024 9:07 AM

# WIMS RIO IN 2023

2023.4

- Dashboards and graphs support multi-operation
- Sample Manager Released
- BOD Calcs added
- Reporting Studio - Preview/Edit Mode
- WIMS-Rio Sync (WIMS Premier)

The screenshot displays the WIMS RIO software interface. The top section shows a 'New report' preview for 'KK Rocky WWTP' with a table of variables. Below this, a sample manager calendar view is shown for the week of August 18-24, 2023. The calendar includes a search bar, a '+ New sample' button, and a grid of sample events. A detailed view of a 'Thursday samples' event is shown on the right, including test group, location, recurrence, and status information.

OperationName	Name	Variable	VariableNum	Columnid
KK Rocky WWTP	Total MLSS Mass	74	1022	109191
KK Rocky WWTP	Number of aeration b...	71	1050	109190
KK Rocky WWTP	Blanket Height	32	1051	109193
KK Rocky WWTP	ML Observation	92	1027	109192
KK Rocky WWTP	Aeration Efficiency			
KK Rocky WWTP	SRT			
KK Rocky WWTP	Specific Oxygen Uptak...			
KK Rocky WWTP	SVI			
KK Rocky WWTP	30Min Set			
KK Rocky WWTP	RAS Flow			
KK Rocky WWTP	Phosphorus			
KK Rocky WWTP	TSS			
KK Rocky WWTP	pH			

Sample Manager Calendar (Aug 18 - Aug 24):

- Monday 19: Daily WQ @ Joe's Pkwy -Airport Hangar #1
- Tuesday 20: Daily WQ @ Joe's Pkwy -Airport Hangar #1
- Wednesday 21: Daily WQ @ Joe's Pkwy -Airport Hangar #1
- Thursday 22: Daily WQ @ Joe's Pkwy -Airport Hangar #1
- Friday 23: Daily WQ @ Joe's Pkwy -Airport Hangar #1
- Saturday 24: Daily WQ @ Joe's Pkwy -Airport Hangar #1

Thursday samples -Airport Hangar #1 (Thu, Aug 22):

- Test group: CL2 & Nitrate Testing
- Location: Sample Sites /Airport Hangar #1
- Recurrence: Weekly
- Status: Late



# WIMS RIO IN 2024

## 2024.1

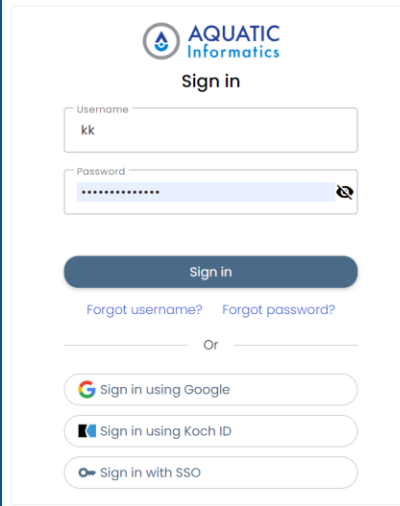
- Tank Usage Functions added (TULP, ATUFN...), ADIF, ADFN, MSD...
- User Setup in one place
- Copy Report added

## 2024.2

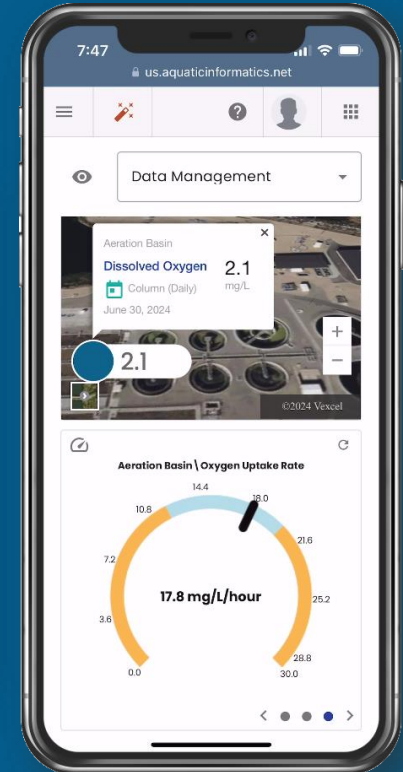
- SSO - Google

## 2024.3

- Dashboard view on phone screens
- Rio.Query
- SSO - OKTA and Koch ID

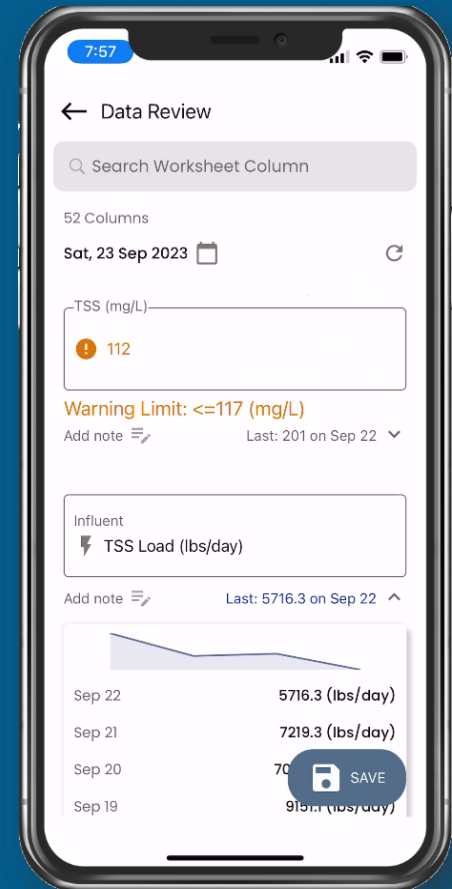


The screenshot shows the 'Sign in' page for Aquatic Informatics. At the top is the logo and the text 'Sign in'. Below this are two input fields: 'Username' with the value 'kk' and 'Password' with a masked password. A 'Sign in' button is positioned below the fields. Underneath the button are links for 'Forgot username?' and 'Forgot password?'. A horizontal line with the word 'Or' in the center separates the main sign-in section from the SSO options. There are three buttons for SSO: 'Sign in using Google', 'Sign in using Koch ID', and 'Sign in with SSO'.



# WIMS RIO MOBILE APP

1. Refresh Data
2. Last Value now shown on data entry screen
3. Check Sheet Submission
4. Logbooks
5. Auto Geo-tagging
6. Improved Keypad Input
7. Limit and warning values displayed to users



# THANKS!

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ANY QUESTIONS  
OR COMMENTS?

