

# ***MICRO ELN***

*AN INNOVATIVE DATA MANAGEMENT SYSTEM FOR AUTOMATED  
MICROBIOLOGICAL ANALYSIS OF WATER AND WASTEWATER*



***BTSOFT***

LABORATORY MANAGEMENT MADE EFFICIENT

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# Addressing the Needs of Micro Analyses

- ✓ Manual entries
- ✓ Lack of method and procedure intelligence
- ✓ Keeping up with media and incubation
- ✓ Copy and paste (human error)
- ✓ Limited visualization of hierarchical data
- ✓ Keeping up with media status
- ✓ Keeping up with scientific instrumentation



# MICRO ELN Features Overview

Overall Dashboard	Link Batch to LIMS	Result Submission to LIMS	Media Preparation	SDMS Result Entry
Backlog View	Batch Set up	Data Review Checklist	Organism Preparation	Raw Data Batch Review
Sample / Analytical Status	Analysis Readback	Result Approval	Media QC Review & Approval	Maintenance & Settings
Audit Trail	Result Review & Validation	Access to Historical Data	Media QC Tracking	Security & User Permission



# MICRO ELN – Home Control Panel

The screenshot displays the MICRO ELN Home Control Panel interface. At the top, the window title is "SDMS" and the version is "SDMS Test Version-23.04.01.2076". The user is logged in as "admin" on "07/10/2023" at "15:53:51". A "Log Off" button is visible in the top right corner.

The interface is divided into a "Navigation" sidebar on the left and a "Desktop" main area. The "Navigation" sidebar contains the following menu items:

- Dashboard
- Analysis
- Analysis Review
- Data Center
- Settings
- Reporting
- Version Management

The "Desktop" area features a grid of ten application tiles:

- Batch Setup**: Represented by an icon of a document with a plus sign and a right-pointing arrow.
- Batch Readback**: Represented by a grid icon with red and blue cells.
- Review-Micro**: Represented by a grey checkmark icon.
- Validate-Micro**: Represented by a green checkmark icon.
- Reporting**: Represented by a clipboard icon with a document.
- Completed Packages**: Represented by a document icon with a green checkmark.
- Analysis-WetChem**: Represented by a grid icon with a blue pencil.
- Review-WetChem**: Represented by a grid icon with a green checkmark.
- Media QC Check**: Represented by a flag icon with horizontal stripes of black, yellow, red, and blue.
- Utility**: Represented by a briefcase icon.



# Workflow – Select Test, LIMS Batch & Sequence

The screenshot displays the 'Analytical Batch' software interface. The main window is titled 'Collert 18 Quanti-Tay' and shows 'Sample prep details per 100mL'. The interface includes a toolbar with various icons for navigation and file management, and a menu with options like 'MTF', 'Collert', 'Review MTF', 'Validate MTF', 'Upload To LIMS', and 'Utility'. The main area is divided into two panes. The left pane, 'Analytical Batch Prep Information', contains fields for Test, Method, Setup Date/Time, Setup Analyst, Assistant, Incubator ID, Incubation Shelf, Incubator Temp °C, Water Bath ID, Water Bath Temp °C, Media ID, Quanti-Tray Lot#, Media Lot#, Sterile H2O StdsLog, and COC Upload. The right pane, 'Sample Run Sequence', shows a table of samples with columns for LIMS Batch ID, LabID, SampleID, DateCollected, HT(Hrs), Parameter, Dilution, Instrument, pH, ResCL, and SysSampleCode. A 'Sample Run Sequence' dialog box is open, showing fields for Test (Collert 18), LIMS Batch ID (16598), Created By (admin), and Instrument (AC-03, INC-09). Below these fields is a table of samples with columns for SampleType, Sort, LabID, SampleID, DilutionCount-TC/EC, DilutionCount-FC, and DateCollected. A 'Dilution' dropdown menu is open, showing options for 1, 10, 100, and 1000. The table contains three rows: a QC sample (Sort 1, LabID 610099, SampleID MB, DateCollected 07/10/2023 03:55), a SAMPLE (Sort 2, LabID 610100, SampleID Buzby Showell-DUP, DateCollected 01/13/2023 07:00), and a QC sample (Sort 3, LabID C2301130023, SampleID Buzby Showell, DateCollected 07/10/2023 03:55). The 'Dilution' dropdown is currently set to 10. The dialog box also includes a 'Reset' button and a 'Sort' button.

Mode: View Enter Test: Collert 18 LIMS Batch ID: 16598

Collert 18 Quanti-Tay

Analytical Batch Prep Information

Test: [ ]  
Method: [ ]  
Setup Date/Time: [ ]  
Setup Analyst: [ ]  
Assistant: [ ]  
Incubator ID: [ ]  
Incubation Shelf: [ ]  
Incubator Temp °C: [ ]  
Water Bath ID: [ ]  
Water Bath Temp °C: [ ]  
Media ID: [ ]  
Quanti-Tray Lot#: [ ]  
Media Lot#: [ ]  
Sterile H2O StdsLog: [ ]  
COC Upload: [ ]

Record 0 of 0

Batch Comments

Collert 18 Quanti-Tay

Sample prep details per 100mL

LIMS Batch ID	LabID	SampleID	DateCollected	HT(Hrs)	Parameter	Dilution	Instrument	pH	ResCL	SysSampleCode

Sample Run Sequence

Test: Collert 18 LIMS Batch ID: 16598  
Created By: admin Instrument: AC-03, INC-09

Add QC

Add Samples

SampleType	Sort	LabID	SampleID	DilutionCount-TC/EC	DilutionCount-FC	DateCollected
QC	1	610099	MB	1	1	07/10/2023 03:55
SAMPLE	2	610100	Buzby Showell-DUP	1, 10	1	01/13/2023 07:00
QC	3	C2301130023	Buzby Showell	1, 10	1	07/10/2023 03:55

(Select All)  
 1  
 10  
 100  
 1000

Record 3 of 3

Previous Sort



# Workflow – Save Analytical Batch & Start Setup

The screenshot displays the 'Analytical Batch' software interface. The top toolbar includes navigation (Prev, Next, Home), file operations (Refresh, Start Set-Up, Save, Delete, Retrieve, Edit, Clear, Link Unbatched Samples, Additional Document), and analysis actions (MTF, Colliert, Review MTF, Review Colliert, Validate MTF, Validate Colliert, Upload To LIMS, Utility). The main window shows 'Collert 18 Quanti-Tay' with a table of sample prep details per 100mL. A dialog box titled 'Collert 18 Coliform Sample Preparation' is open, displaying a success message: 'BT PrepBatch ID 23071001 has been saved successfully.' with an 'OK' button.

LIMSBatchID	LabID	SampleID	DateCollected	HT(Hrs)	Parameter	Dilution	Instrument	pH	ResCL	SysSampleCode
16598	610099	MB	07/10/2023 15:55		E.coli,Total Colifor...	1	INC-09			ABID-01
16598	610099	MB	07/10/2023 15:55		Fecal Coliforms	1	WB-02			ABID-01
16598	610100	Buzby Showell-DUP	01/13/2023 07:00	HTV	E.coli,Total Colifor...	1	INC-09			ABID-02
16598	610100	Buzby Showell-DUP	01/13/2023 07:00	HTV	Fecal Coliforms	1	WB-02			ABID-02
16598	610100	Buzby Showell-DUP	01/13/2023 07:00	HTV	E.coli,Total Colifor...	10	INC-09			ABID-02R1
16598	C2301130023	Buzby Showell	07/10/2023 15:55		E.coli,Total Colifor...	1	INC-09			ABID-03
16598	C2301130023	Buzby Showell	07/10/2023 15:55		Fecal Coliforms	1	WB-02			ABID-03
16598	C2301130023	Buzby S			Colifor...	10	INC-09			ABID-03R1



# Colilert-18 – Start Analysis

The screenshot displays the 'Colilert 18 - Inoculation' software interface. The top toolbar features a 'Start' button (a green play icon) which is highlighted with a yellow box. Below the toolbar, the 'Samples in Batch' section contains a table with the following data:

LabID	SampleID	Dilution	Status	Flag
610099	MB	1	Pending Start	
610100	Buzby Showell-DUP	1	Pending Start	HTV
610100	Buzby Showell-DUP	10	Pending Start	HTV
C2301130023	Buzby Showell	1	Pending Start	
C2301130023	Buzby Showell	10	Pending Start	

The interface also includes a 'Batch Info' section with various input fields for sample details, and a central area with a grid of blue wells representing the sample layout. The status of the wells is currently blank, indicating the analysis has not yet started.



# MTF – Start Analysis (15 Tube)

The screenshot displays the 'MTF ResultEntry' software interface. At the top, the title bar shows 'MTF ResultEntry' and 'SDMS Test Version : 23.04.01.2076'. The main toolbar contains various icons for navigation (Home, Next, Previous), file operations (Refresh, Submit, Save, Start), and analysis (Start Inoculation, COC Preview, Comments, Terminate Batch, Additional Document). The 'Start Inoculation' button is highlighted in yellow.

Below the toolbar, the interface is divided into several sections:

- Sample in Batch:** A table listing samples with columns for LabID, SampleID, Dilution, ReadbackStatus, and Flag. The first row is highlighted in yellow and has an orange border around the 'ReadbackStatus' column.
- Analytical Process:** A form for 'Analytical Information\_Initial' with fields for Date, Chemist, Assistant, Collection Date, Startup Date/Time, IncubatorID, Incubation Shelf, Incubator Temp °C, Dilution, Media ID, LTB 1X#, LTB 2X#, Buffer, CL2 Residual, pH, LTB, Inoculation Time, Incubation Start Time, and Hold Time(Hrs).
- Initial Setup:** A section for 'Initial Setup' featuring an LTB grid with columns 1-5 and rows -1, 0, 1. The grid contains blue circles representing data points.

At the bottom left, a status bar indicates 'Record 1 of 4'.





# MTF – Start Analysis (25 Tube)

MTF ResultEntry

Username : admin | SDMS Test Version : 23.04.01.2076

Analysis - MTF | Analysis - Analytical ...

Navigation: Analysis - Analytical Batch, Next, Home, Refresh, Submit, Save, Start, Start Inoculation, Prev, Next, Restart, Clear, Edit Readback, Retrieve, Save COP

File: COC Preview, Comments, Terminate Batch, Additional Document

Menu: Analytical Batch, Collet, Review MTF, Review Collet, Validate MTF, Validate Collet, Upload To LIMS, Utility

Mode: View, Edit, Enter | Test: MTF | LIMS Batch ID: 16286 | BT PrepBatch ID: 23071101

LabID	SampleID	Dilution	ReadbackStatus	Flag
<input checked="" type="checkbox"/>	574025	MB	1, 0, -1, -2, -3	Pending Start
<input type="checkbox"/>	574026	OUTFALL 002A-D...	1,0,-1	Pending Start
<input type="checkbox"/>	574027	POS	1,0,-1	Pending Start
<input type="checkbox"/>	574028	NEG	1,0,-1	Pending Start
<input type="checkbox"/>	C2208220039	OUTFALL 001A	1,0,-1	Pending Start
<input type="checkbox"/>	C2208220040	OUTFALL 002A	1,0,-1	Pending Start

Analytical Process | Analytical Results

Analytical Information\_Initial

Date: [ ]  
Chemist: admin  
Assistant: user1  
Collection Date: 08/22/2022 11:46  
Startup Date/Time: 07/11/2023 13:01  
IncubatorID: AC-04  
Incubation Shelf: Location2  
Incubator Temp °C: 15  
Dilution: 1,0,-1,-2,-3  
Media ID: QCM093022140925\_01  
LTB 1X#: COL0203-22  
LTB 2X#: COL0204-22  
Buffer: Buffer2  
CL2 Residual: [ ]  
pH: [ ]  
LTB: [ ]  
Inoculation Time: [ ]  
Incubation Start Time: [ ]  
Hold Time(Hrs): [ ]

Initial Setup

LTB	DF	1	2	3	4	5
-3		●	●	●	●	●
-2		●	●	●	●	●
-1		●	●	●	●	●
0		●	●	●	●	●
1		●	●	●	●	●

Record 1 of 6



# Colilert-18 – Start Inoculation

Colilert 18 - Inoculation

Username : admin | SDMS Test Version : 23.04.01.2076

Analysis - Analytical ... | Analysis - Colilert 18 | Analysis - Analytical ...

Navigation: Analysis - Analytical Batch, Next, Home, Refresh, Submit, Save, Start, Start Inoculation, Prev, Next, Restart, Clear, Edit Readback, Retrieve, COC Preview, Comment, Audit Summary, Terminate Batch, Additional Document, Analytical Batch, MTF, Review MTF, Review Colilert, Validate MTF, Validate Colilert, Upload To LIMS, Utility

Mode: View, Edit, Enter | Test: Colilert 18 | LIMS Batch ID: 16598 | BT PrepBatch ID: 23071001

LabID	SampleID	Dilution	Status	Flag
610099	MB	1	Pending Start	
610100	Buzby Showell-DUP	1	Pending Start	
610100	Buzby Showell-DUP	10	Pending Start	HTV
C2301130023	Buzby Showell	1	Pending Start	
C2301130023	Buzby Showell	10	Pending Start	

Analytical Process | MPN Table | Comparator

Batch Info

SysSampleCode: 23071001-01  
Lab ID: 610099  
Sample ID: MB  
Collection Date:   
LIMS Batch ID: 16598  
Dilution: 1  
pH:   
Residual CL:   
Startup Date/Time: 07/10/2023 15:57  
Setup Analyst: admin  
Second Analyst: user2  
Incubator ID: INC-09  
Incubation Shelf: LS  
Incubator Temp °C: 35.5  
Water Bath ID: WB-02  
Water Bath Temp °C: 44.5  
Media ID: QCM101322151005...  
Quanti-Tray Lot#: COL0219-22  
Media Lot#: COL0217-22  
Sterile H2O StdsLog: COL0212-22  
Inoculation Time: 07/10/2023 16:04  
Incubator Start Date/Time:   
Flag/Status:   
Sample Comment:

Total Coliform, E.coli

Incubator Readback

Total Coliform

Sample Volume (ml): 100  
Dilution Factor: 1  
Positive Large Wells:   
Positive Small Wells:   
Table Value:   
Final Result (MPN/100ml):   
E. Coli - Fluorescence  
Large Wells:   
Small Wells:   
Table Value:   
Final Result (MPN/100ml):   
Readback Date/Time:   
Total Incubation Hours:   
Analyst:

Fecal Coliform

Record 0 of 0



# Colilert-18 – Continue To Incubation

The screenshot displays the SDMS software interface for Colilert-18 inoculation. The interface is divided into several sections:

- Navigation Bar:** Includes buttons for Home, Next, Refresh, Submit, Save, Start, Start Inoculation, Prev, Next, Restart, Clear, Edit Readback, Retrieve, COC Preview, Comment, Audit Summary, Terminate Batch, Additional Document, Analytical Batch, MTF, Review MTF, Review Colliert, Validate MTF, Validate Colliert, Upload To LIMS, and Utility.
- Mode Bar:** Shows Mode (View, Edit, Enter), Test (Colilert 18), LIMS Batch ID (16598), and BT PrepBatch ID (23071001).
- Samples in Batch Table:**

LabID	SampleID	Dilution	Status	Flag
610099	MB	1	Pending Start	
610100	Buzby Showell-DUP	1	Pending Start	HTV
610100	Buzby Showell-DUP	10	Pending Start	HTV
C2301130023	Buzby Showell	1	Pending Start	
C2301130023	Buzby Showell	10	Pending Start	
- Analytical Process Form:** Contains fields for Batch Info (SysSampleCode: 23071001-03R1, Lab ID: C2301130023, Sample ID: Buzby Showell, Collection Date: 01/13/2023 07:00, LIMS Batch ID: 16598, Dilution: 10, pH, Residual CL, Startup Date/Time, Setup Analyst, Second Analyst, Incubator ID, Incubation Shelf, Incubator Temp °C: 35.5, Water Bath ID, Water Bath Temp °C, Media ID: QCM101322151005..., Quant-Tray Lot#: COL0219-22, Media Lot#: COL0217-22, Sterile H2O StdsLog: COL0212-22, Inoculation Time: 07/10/2023 16:04, Incubator Start Date/Time, Flag/Status, and Sample Comment).
- Incubator Readback Form:** Contains fields for Total Coliform, Sample Volume (ml): 10, Dilution Factor: 10, Positive Large Wells, Positive Small Wells, Table Value, Final Result (MPN/100ml), E. Coli - Fluorescence, Large Wells, Small Wells, Table Value, Final Result (MPN/100ml), Readback Date/Time, Total Incubation Hours, and Analyst.
- Confirmation Dialog:** A yellow dialog box titled "Colilert18 Result Entry" with an information icon and the text: "This is the last sample in this batch. Do you want to start the incubation?". It has "Yes" and "No" buttons.



# MTF – Start Incubation

The screenshot displays the MTF ResultEntry software interface. The top navigation bar includes buttons for Analysis, Next, Home, Refresh, Submit, Save, Start, Start Inoculation, Prev, Next, Restart, and Retrieve. The main window is divided into several sections:

- Sample in Batch:** A table listing samples with columns for LabID, SampleID, Dilution, ReadbackStatus, and Flag.
- Analytical Process / Analytical Results:** A form for entering analytical information, including Date, Chemist, Assistant, Collection Date, Startup Date/Time, Incubator ID, and Incubation Shelf.
- Initial Setup:** A section for setting up the incubation, including a grid for LTB (Liquor Test Batch) and various parameters like CL2 Residual, pH, LTB, Inoculation Time, Incubation Start Time, and Hold Time.

A dialog box titled "MTF Result Entry" is overlaid on the screen, displaying the message: "This is the last sample in this batch. Do you want to start the incubation?" with "Yes" and "No" buttons.

LabID	SampleID	Dilution	ReadbackStatus	Flag
574265	MB	1,0,-1	Sample inoculated	
574266	OUTFALL 002A-D...	1,0,-1	Pending Start	HTV
C2208230026	OUTFALL 001A	1,0,-1	Pending Start	HTV
C2208230027	OUTFALL 002A	1,0,-1	Pending Start	HTV

LTB	DF	1	2	3	4	5
-1		●	●	●	●	●
0		●	●	●	●	●
1		●	●	●	●	●



# Colilert-18 – Sample Readback

Colilert 18 - Readback

Username : admin SDMS Test Version : 23.04.01.2076

Analysis - Colilert 18 Analysis - Analytical ...

Navigation: Home, Next, Home

File: Refresh, Submit, Save, Start, Prev, Next, Clear, Restart, Edit Readback, Retrieve

Hours Left: Min 17:51:27, Max 21:51:27

Tools: COC Preview, Comment, Audit Summary, Terminate Batch, Additional Document, Analytical Batch, MTF, Review MTF, Review Colilert, Validate MTF, Upload To LIMS, Validate Colilert, Utility

Mode: View, Edit, Enter

Test: Colilert 18 LIMS Batch ID: 16598 BT PrepBatch ID: 23071001

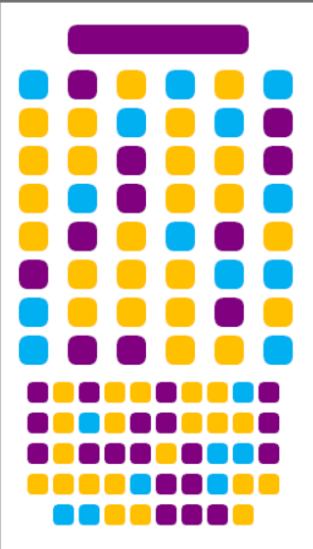
Sample List:

LabID	MPN Table	Comparator
610099		
610100		
610100		
C230113002		
C230113002		

Batch Info:

LIMS Batch ID: 16598  
Dilution: 1  
pH:   
Residual CL:   
Startup Date/Time: 07/10/2023 15:57  
Setup Analyst: admin  
Second Analyst: user2  
Incubator ID: INC-09  
Incubation Shelf: LS  
Incubator Temp °C: 35.5  
Water Bath ID: WB-02  
Water Bath Temp °C: 44.5  
Media ID: QCM101322151005...  
Quanti-Tray Lot#: COL0219-22  
Media Lot#: COL0217-22  
Sterile H2O StdLog: COL0212-22  
Inoculation Time: 07/10/2023 16:04  
Incubator Start Date/Time: 07/10/2023 16:09  
Flag/Status: HTV  
Sample Comment: System Testing.  
Audit: Sample Inoculation Time = 07/10/2023 16:04

Total Coliform, E.coli



Incubator Readback:

Total Coliform

Sample Volume (ml): 100  
Dilution Factor: 1  
Positive Large Wells: 36  
Positive Small Wells: 40  
Table Value: 157.3  
Final Result (MPN/100ml): 157.3

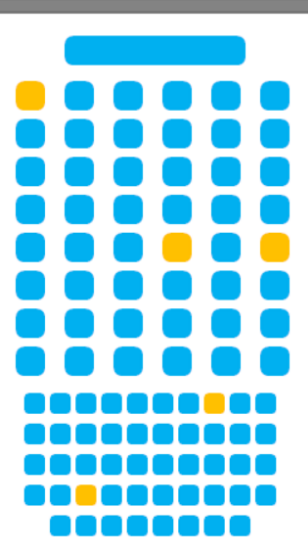
E. Coli - Fluorescence

Large Wells: 12  
Small Wells: 19  
Table Value: 35.8  
Final Result (MPN/100ml): 35.8  
Readback Date/Time: 07/11/2023 07:00  
Total Incubation Hours: 14:50  
Analyst: user2

Image:

Parameter	Image	Capture
Total Coliform	...	Preview Clear
E.Coli	...	Preview Clear

Fecal Coliform



Water Bath Readback:

Sample Volume (ml): 100  
Dilution Factor: 1  
Positive Large Wells: 3  
Positive Small Wells: 2  
Table Value: 5.1  
Final Result (MPN/100ml): 5.1  
Readback Date/Time: 07/11/2023 07:00  
Total Incubation Hours: 14:50  
Analyst: user2

Image:

Parameter	Image	Capture
Fecal Coliform	...	Preview Clear

Record 2 of 5

Record 2 of 2

Record 1 of 1



# MTF – 24 Hr. Readback

MTF ResultEntry Username : admin | SDMS Test Version : 23.04.01.2076

Analysis - MTF | Analysis - Analytical ...

Home | Next | Home | Refresh | Submit | Save | Start | Continue Incubation | Prev | Next | Clear | Edit Readback | Save COP | Min: 01:44:25 | Max: 07:44:25 | Time Left | COC Preview | Comments | Audit Summary | Terminate Batch | Additional Document | Analytical Batch | Colliert | Review MTF | Review Colliert | Validate MTF | Validate Colliert | Upload To LIMS | Utility

Mode: View | Edit | Enter | Test: MTF | LIMS Batch ID: 16290 | BT PrepBatch ID: 23071002

**Analytical Process** | Analytical Results | MPN Table

Analytical Information\_24h

Readback Date: 07/10/2023 16:47

Chemist: admin

Assistant:

Incubator ID: AC-03

Incubator Temp °C: 15

Incubation Shelf: Location1

Water Bath ID: WB-02

Water Bath Temp °C: 44.5

MediaID: QCM093022140...

BGLB: COL0207-22

EC-MUG: COL0208-22

LTB\_48: White 1

LTB\_24\_BGLB\_Transfer: Green 1

LTB\_24\_EC-MUG\_Transfer: Red 1

Incubation Start Time: 07/10/2023 16:49

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**Staged Results**

Parameter	COP	MPN/100ml
Presumptive Coliforms	1-1-1	6.1

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**Comments**

**24Hr Readback**

Presumptive

DF	1	2	3	4	5	#Pos	#Tur
-1	●	●	●	●	●	1	0
0	●	●	●	●	●	1	0
1	●	●	●	●	●	1	0
SUM : 3							

Presumptive Continued and 24hr\_transfer

DF	1	2	3	4	5
-1	●	●	●	●	●
0	●	●	●	●	●
1	●	●	●	●	●

DF	1	2	3	4	5
-1				●	
0	●				
1			●		

DF	1	2	3	4	5
-1					●
0	●				
1			●		

**Audit Trail**

- Sample Inoculation Time : 07/10/2023 16:44  
Inoculated by: admin
- Rack : 24 Hr Readback - Force Readback  
Incubation Start Time : 07/10/2023 16:44  
Estimated Readback time: 07/11/2023 14:44 - 07/11/2023 18:44  
Force readback time:07/10/2023 16:47  
Force readback by:admin  
Force readback reason: 1234156
- Incubation Hours: 0:3
- Status : Pending 48 Hr Readback  
Incubation Start Time : 07/10/2023 16:49  
Estimated Readback time:  
07/11/2023 13:49 - 07/11/2023 19:49

Initial Setup

24Hr Readback



# MTF – 48 Hr. Readback

MTF ResultEntry | Username : admin | SDMS Test Version : 23.04.01.2076

Analysis - MTF | Analysis - Analytical ...

Navigation: Home, Next, Home | File: Refresh, Submit, Save, Start, Next, Restart, Retrieve | Time Left: Min 01:42:19, Max 07:42:19 | COC Preview, Comments, Audit Summary, Terminate Batch, Additional Document, Analytical Batch, Colliert, Review MTF, Validate Colliert, Review Colliert, Upload To LIMS, Validate MTF, Utility

Mode: View, Edit, Enter | Test: MTF | LIMS Batch ID: 16290 | BT PrepBatch ID: 23071002

Sample In Batch

Analytical Process | Analytical Results | MPN Table

Analytical Information\_48H

Readback Date: 07/11/2023 1: | Chemist: admin | IncubatorID: AC-03 | Incubator Temp °C: 15 | Incubation Shelf: Location1 | Water Bath: | Water Bath Temp °C: | MediaID: QCM093022... | BGLB: COL0207-22 | EC-MUG: COL0208-22 | LTB\_24\_BGLB\_Confirmation: Green 1 | LTB\_48\_BGLB\_Transfer: | LTB\_48\_EC-MUG\_Transfer: | Incubation Start Time: ...

Staged Results

Parameter	COP	MPN/100ml
Presumptive Coliforms	0-0-0	<1.8
Total Coliforms	0-0-0	<1.8
Fecal Coliforms	0-0-0	<1.8
E.coli	0-0-0	<1.8

Comments

48Hr Readback

Confirmation and Presumptive Final

LTB_24_BGLB_24_Read							LTB_24_EC-MUG_24_End							LTB_48_Read										
DF	1	2	3	4	5	#Pos	#Neg	DF	1	2	3	4	5	#Pos	#Fluo	DF	1	2	3	4	5	#Pos	#Tur	
-1				●		0	1	-1					●		0	0	-1	●	●	●		●	0	0
0	●					0	1	0	●					0	0	0	●	●	●	●	●	0	0	
1			●			0	1	1			●			0	0	1	●	●		●	●	0	0	
SUM : 0							SUM : 0							SUM : 0										

Continous Incubation and Confirmation

LTB_24_BGLB_Conf					
DF	1	2	3	4	5
-1				●	
0	●				
1			●		

Initial Setup

24Hr Readback

48Hr Readback

Audit Trail

- Sample Inoculation Time : 07/10/2023 16:44  
Inoculated by: admin
- Rack : 24 Hr Readback - Force Readback  
Incubation Start Time : 07/10/2023 16:44  
Estimated Readback time: 07/11/2023 14:44 - 07/11/2023 18:44  
Force readback time:07/10/2023 16:47  
Force readback by:admin  
Force readback reason: 1234156
- Incubation Hours: 0:3
- Status : Pending 48 Hr Readback  
Incubation Start Time : 07/10/2023 16:49  
Estimated Readback time:  
07/11/2023 13:49 - 07/11/2023 19:49



# MTF – Final Display

MTF ResultEntry | Username : admin | SDMS Test Version : 23.04.01.2076

Analysis - MTF | Analysis - Analytical ...

Navigation: Analysis - Analytical Batch, Next, Home, Refresh, Submit, Save, Start, Start Inoculation, Prev, Next, Restart, Retrieve

File: Clear, Edit Readback, Save COP, COC Preview, Comments, Audit Summary, Terminate Batch, Additional Document

Menu: Analytical Batch, Colliert, Review MTF, Review Colliert, Validate MTF, Validate Colliert, Upload To LIMS, Utility

Mode: View | Edit | Enter | Test: MTF | LIMS Batch ID: 16799 | BT PrepBatch ID: 23052501

Sample in Batch

LabID	SampleID	Dilution
634086	MB	1,0,-1
C2305250008	OUTFALL 002A	1,0,-1
C2305250007	OUTFALL 001A	1,0,-1
634087	OUTFALL 001A-D...	1,0,-1
634088	POS	1,0,-1
634089	NEG	1,0,-1

Analytical Process | Analytical Results | MPN Table | Analyticalbatch Results | Final Display

Initial Setup

DF	1	2	3	4	5
-1	●	●	●	●	●
0	●	●	●	●	●
1	●	●	●	●	●

24 Hour Readback

DF	1	2	3	4	5	#Pos	#Tur
-1	●	●	●	●	●	0	0
0	●	●	●	●	●	0	0
1	●	●	●	●	●	0	0

SUM : 0

48 Hour Continue/Transfer

DF	1	2	3	4	5
-1	●	●	●	●	●
0	●	●	●	●	●
1	●	●	●	●	●

24 Hour Staged Results

Parameter	COP	MPN/100ml
Presumptive Coliforms	0-0-0	<1.8

48 Hour Readback

DF	1	2	3	4	5	#Pos	#Tur
-1	●	●	●	●	●	0	1
0	●	●	●	●	●	0	1
1	●	●	●	●	●	0	5

SUM : 0

72 Hour Continue/Transfer

DF	1	2	3	4	5
-1	●	●	●	●	●
0	●	●	●	●	●
1	●	●	●	●	●

48 Hour Staged Results

Parameter	COP	MPN/100ml
Presumptive Coliforms	0-0-0	<1.8
Total Coliforms	0-0-0	<1.8
Fecal Coliforms	0-0-0	<1.8
E.coli	0-0-0	<1.8

72 Hour Readback

DF	1	2	3	4	5	#Pos	#Neg
-1	●	●	●	●	●	0	1
0	●	●	●	●	●	0	1
1	●	●	●	●	●	1	4

96 Hour Transfer/Continue

DF	1	2	3	4	5	#Pos	#Fluo
-1	●	●	●	●	●	0	0
0	●	●	●	●	●	0	0
1	●	●	●	●	●	0	0

72 Hour Staged Results

Parameter	COP	MPN/100ml
Total Coliforms	1-0-0	2
Fecal Coliforms	0-0-0	<1.8
E.coli	0-0-0	<1.8

Record 4 of 6





# MTF – Analytical Results

MTF ResultEntry Username : admin | SDMS Test Version : 23.04.01.2076

Home Analysis - MTF | Analysis - Analytical ...

Navigation: Analysis - Analytical Batch, Next, Home, Refresh, Submit, Save, Start, Start Inoculation, Prev, Next, Restart, Clear, Edit Readback, Save COP, Retrieve

File: COC Preview, Comments, Audit Summary, Terminate Batch, Additional Document

Menu: Analytical Batch, Colliert, Review MTF, Review Colliert, Validate MTF, Validate Colliert, Upload To LIMS, Utility

Mode: View (selected), Edit, Enter | Test: MTF | LIMS Batch ID: 16799 | BT PrepBatch ID: 23052501

Sample in Batch

LabID	SampleID	Dilution
634086	MB	1,0,-1
C2305250008	OUTFALL 002A	1,0,-1
C2305250007	OUTFALL 001A	1,0,-1
634087	OUTFALL 001A-D...	1,0,-1
634088	POS	1,0,-1
634089	NEG	1,0,-1

Analytical Process: Analytical Results | MPN Table

Sample Information

LIMS Batch ID: 16799

Lab ID: 634087

Sample ID: OUTFALL 001A-DUP

Sample Type: DUP

Collection Date: 05/25/2023 07:47

Test: MTF

Method: SM 9221 B,E,F

Tube Setup: 15 (selected), 10

Dilution: 1, 0, -1, -2, -3, -4, -5

Sample Process

Combination of Positives (COP) and Turbid Tubes

Parameter	24-hr	48-hr	72-hr	96-hr	Total
Presumptive Coliforms	0-0-0	0-0-0	NR	NR	0-0-0
Turbid	0-0-0	5-1-1	NR	NR	5-1-1
Total Coliforms	NR	0-0-0	1-0-0	0-0-0	1-0-0
E.coli	NR	0-0-0	0-0-0	NR	0-0-0
Fecal Coliforms	NR	0-0-0	0-0-0	NR	0-0-0

Staged Results (MPN / 100 ml)

Parameter	24-hr	48-hr	72-hr	96-hr	Final Result
Presumptive Coliforms	<1.8	<1.8	x	x	<1.8
Turbid	<1.8	46.0	x	x	46.0
Total Coliforms	x	<1.8	2.0	<1.8	2.0
Fecal Coliforms	x	<1.8	<1.8	x	<1.8
E.coli	x	<1.8	<1.8	x	<1.8

Record 4 of 6



# Colilert-18 – Batch Review

Colilert 18 - Review

Username : admin SDMS Test Version : 23.04.01.2076

Micro-Review - Colle... - x Micro-Review - Colle... - x Analysis - Colilert 18 - x

Navigation: Analysis - Colilert 18, Prev, Home, Rollback, Review Checklist, Cancel, Clear

Files: Audit Summary, Comments, Batch Correction, Additional Document

Menu: Analytical Batch, MTF, Colilert, Review MTF, Validate MTF, Validate Colilert, Upload To LIMS, Utility

Mode: View Review LIMS Batch ID: 16806

LIMSBatchID	#Sample	COCPreview	BatchCreatedDate	BatchCreatedBy	NewComments	ABID	ABID_CreatedDate	ABID_CreatedBy
16806	3	...	05/29/2023 12:46	1192	...	23052902	05/29/2023 13:15	Cdancil

LabID	SampleID	Dilution	Status	Flag	Sys#
635065	MB	1	Pending Review		230
C2305290027	LAU EFF	1	Pending Review	Test C...	230
635066	LAU EFF-DUP	1	Pending Review	Test C...	230

LabID	SampleID	Dilution	Status	Flag	Sys#
635065	MB	1	Pending Review		230
C2305290027	LAU EFF	1	Pending Review	Test C...	230
635066	LAU EFF-DUP	1	Pending Review	Test C...	230

Colilert 18 - ResultEntry

Samples in Batch

Analytical Process

Batch Info

Incubator ID: INC-15

Incubation Shelf: US

Incubator Temp °C: 35.0

Water Bath ID: WB-07

Water Bath Temp °C: 44.5

Media ID: QCM041723130418...

Quanti-Tray Lot#: COL0061-23

Media Lot#: COL0063-23

Sterile H2O StdsLog: COL0051-23

Inoculation Time: 05/29/2023 13:19

Incubator Start Date/Time: 05/29/2023 13:30

Flag/Status:

Sample Comment:

- 05/29/2023 13:21 Cdancil : Sterile Water ID COL0087-23

Audit

- Sample Inoculation Time : 05/29/2023 13:19 Inoculated by: Cdancil
- Readback Incubation Start Time : 05/29/2023 13:30 Estimated Readback time: 05/30/2023 07:30 -

Total Coliform,E.coli

Record 1 of 1

Record 1 of 9



# Colilert-18 – Batch Review Checklist

Colilert 18 - Review Username : admin SDMS Test Version : 23.04.01.2076

Home Analysis - Colilert 18

Navigation: Analysis - Colilert 18, Prev, Home, Rollback

Mode: View, Review

Batch View

LIMSBatch...	#Sample	Batch
16806	3	05/29/23

Confirm Checklist

Home

Save, Complete Review, Clear, Audit Summary, Additional Document

Mode: View, Enter LIMS Batch ID: 16806

Confir Complete Review

Batch Information

Procedure: SM 9223 B Setup Chemist: Cdandl Completion Chemist: admin Incubator ID: INC-15  
 Batch ID: 16806 Setup Date: 05/29/2023 01:15 PM Completion Date: 07/10/2023 04:22 PM Water Batch ID: WB-07  
 Test Performed by: Cdandl CheckList Date: 07/10/2023 04:25 PM CheckList By: admin  
 Comment:

Confirm Checklist

Check Point	Result	Comments
<b>Method Required QC</b>		
All samples set-up within 8 hours from time of collection?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Did the media used for the analysis have a valid Media QC Check ID?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Blank analyzed with acceptable results?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Duplicate analyzed with acceptable results (50 - 150%)?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Date the last control sample was analyzed: 7/22/22	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Are control/system checks up to date?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Any deviation from the SOP?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A	
<b>Materials and Instrument Checks</b>		
The incubator (35±0.5°C) and waterbath (44.5±0.2°C) temperatures within control during use?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Samples incubated for the appropriate amount of time (18-22 hours)?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
<b>Sample Results</b>		
The comparator used to verify results with weak/reduced color intensity? Comparator Expiry Date: 3/2/23	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Any Quanti-Trays with weak/reduced color intensity allowed to incubate up to 22 hours to allow for color	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Samples setup with the appropriate dilutions to provide reasonable results?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
How was the data entered into LIMS?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
The batch report verify the benchsheet results?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Any permit limits exceeded?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	
Was an NCM generated with the data package for any non-conformance?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	
Is the data Package complete with checklist, signatures, NCMs, and supporting documents?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	

Record 1 of 1 Record 1 of 9

Analysis - Colilert 18

Validate Colilert, Upload To LIMS, Utility

SetupDate
05/29/2023 13:19
05/29/2023 13:19
05/29/2023 13:19
05/29/2023 13:21
05/29/2023 13:21
05/29/2023 13:21
05/29/2023 13:23
05/29/2023 13:23
05/29/2023 13:23



# Colilert-18 – Batch Audit Summary

Colilert 18 - Review      Username : admin      SDMS Test Version : 23.04.01.2076

Micro-Review - Colle...      Micro-Review - Colle...      Analysis - Colilert 18

Navigation: Analysis - Colilert 18, Prev, Home, Rollback, Review Checklist, Cancel, Clear, Audit Summary, Comments, Batch Correction, Additional Document

Files: Analytical Batch, MTF, Colilert, Review MTF, Validate MTF, Validate Colilert, Upload To LIMS, Utility

Mode: View      Review      LIMS Batch ID: 16806

Batch View

LIMSBatchID	#Sample	BatchCreatedDate	BatchCreatedBy
16806	3	05/29/2023 12:46	1192

Pending Review-Colilert 18

LIMSBatchID	#Sample	Comments	ABID	ABID_CreatedDate	ABID_CreatedBy
16806	3		23052902	05/29/2023 13:15	Cdancil

Audit Summary - 16806

- SampleID : MB
  - Sample Inoculation Time : 05/29/2023 13:19
  - Inoculated by: Cdancil
  - Readback
    - Incubation Start Time : 05/29/2023 13:30
    - Estimated Readback time: 05/30/2023 07:30 - 05/30/2023 11:30
    - Actual Readback time: 05/30/2023 09:46
    - Readback by: Idgorostiza
    - Incubation Hours: 20:16
- SampleID : LAU EFF
  - Sample Inoculation Time : 05/29/2023 13:21
  - Inoculated by: Cdancil
  - Readback
    - Incubation Start Time : 05/29/2023 13:30
    - Estimated Readback time: 05/30/2023 07:30 - 05/30/2023 11:30
    - Actual Readback time: 05/30/2023 09:46
    - Readback by: Idgorostiza
    - Incubation Hours: 20:16
- SampleID : LAU EFF-DUP
  - Sample Inoculation Time : 05/29/2023 13:23
  - Inoculated by: Cdancil
  - Readback

Smallwell	Result	IsReporting	DateCollected	Flag	SetupDate
0	<1.0	✓	05/29/2023 12:46	C	05/29/2023 13:19
0	<1.0	✓	05/29/2023 12:46	C	05/29/2023 13:19
0	<1.0	✓	05/29/2023 12:46	C	05/29/2023 13:19
0	<1.0	✓	05/29/2023 06:08	C	05/29/2023 13:21
0	<1.0	✓	05/29/2023 06:08	C	05/29/2023 13:21
0	5.2	✓	05/29/2023 06:08	C	05/29/2023 13:21
0	<1.0	✓	05/29/2023 06:08	C	05/29/2023 13:23
0	<1.0	✓	05/29/2023 06:08	C	05/29/2023 13:23
0	11.0	✓	05/29/2023 06:08	C	05/29/2023 13:23



# Colilert-18 – Validation

Analytical Process | MPN Table | Analytical Results | Comparator

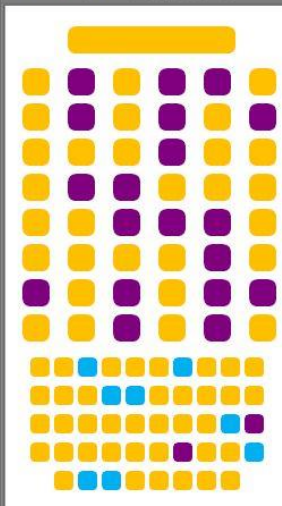
Batch Info

Second Analyst	ipatarroyo
Incubator ID	INC-15
Incubation Shelf	LS
Incubator Temp °C	35.4
Water Bath ID	WB-07
Water Bath Temp °C	44.5
Media ID	QCM041723130418...
Quanti-Tray Lot#	COL0061-23
Media Lot#	COL0063-23
Sterile H2O StdLog	COL0051-23
Inoculation Time	07/05/2023 13:52
Incubator Start Date/Time	07/05/2023 14:01
Flag/Status	Test Completed
Sample Comment	

Audit

- Sample Inoculation Time : 07/05/2023 13:52  
Inoculated by: mlofton
- Readback  
Incubation Start Time : 07/05/2023 14:01  
Estimated Readback time: 07/06/2023 08:01 - 07/06/2023 12:01  
Actual Readback time: 07/06/2023 09:18  
Incubation Hours: 19:16  
Readback by: mlofton

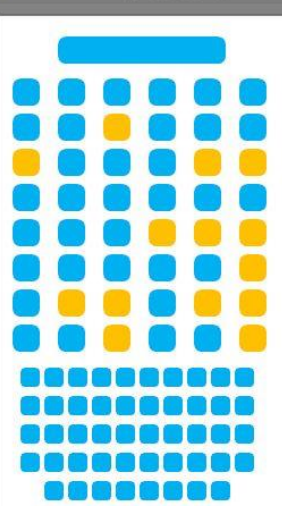
Total Coliform, E.coli



Incubator Readback

<b>Total Coliform</b>	
Sample Volume (ml)	100
Dilution Factor	1
Positive Large Wells	49
Positive Small Wells	40
Table Value	1119.9
Final Result (MPN/100ml)	1119.9
<b>E. Coli - Fluorescence</b>	
Large Wells	19
Small Wells	2
Table Value	25.9
Final Result (MPN/100ml)	25.9
Readback Date/Time	07/06/2023 09:03
Total Incubation Hours	19:1
Analyst	mlofton

Fecal Coliform



Water Bath Readback

Sample Volume (ml)	100
Dilution Factor	1
Positive Large Wells	14
Positive Small Wells	0
Table Value	16.1
Final Result (MPN/100ml)	16.1
Readback Date/Time	07/06/2023 09:03
Total Incubation Hours	19:1
Analyst	mlofton

Image

Parameter	Image	Preview	Clear	Capture
Fecal Coliform	...	Preview	Clear	Capture
Total Coliform	...	Preview	Clear	Capture
E.Coli	...	Preview	Clear	Capture



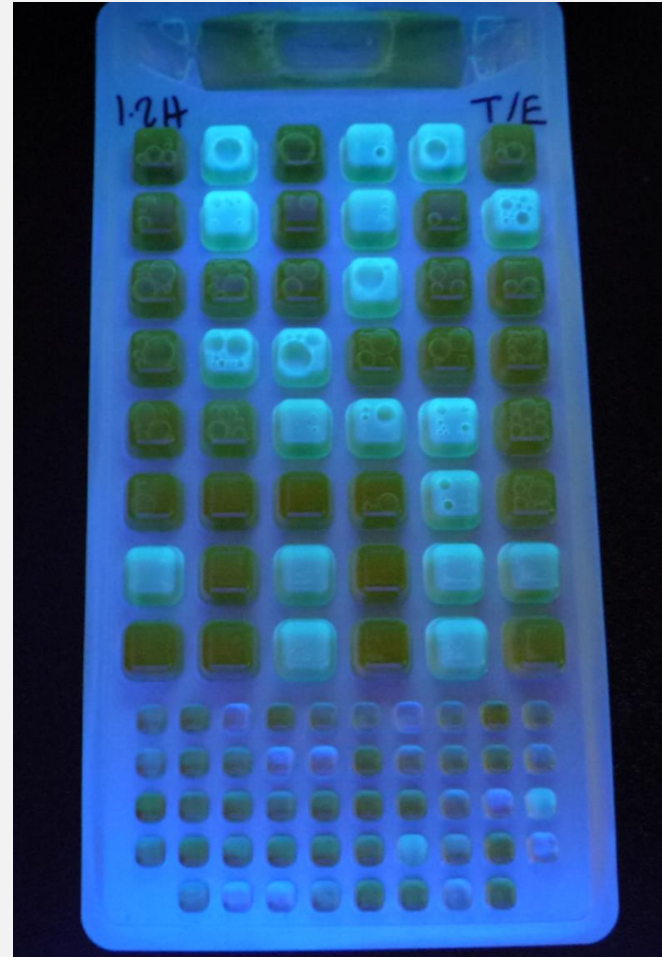


# Colilert-18 – Validation

Total Coliform



E.coli



Fecal Coliform



# Media QC Checks

- ✓ Media Information
- ✓ Organism Information
- ✓ Track entire QC process and COA
- ✓ Seamless review of historical data
- ✓ Approved media available for use
- ✓ Alert for media nearing expiration



# Media QC Checks – Media QC Start

The screenshot shows the SDMS (Sample Data Management System) interface. The main window displays a dashboard with a navigation menu on the left containing: Dashboard, Analysis, Analysis Review, Data Center, Settings, Reporting, and Version Management. The top right corner shows the user 'admin' logged in on '07/10/2023' at '12:19:56', with a 'Log Off' button. A 'Media QC Start' dialog box is open in the center, showing the following details:

- Media:** Colliert 18
- Status:** Radio buttons for 'New Media Setup' (selected), 'In Preparation (1)', 'Preparation Completed/Pending Start Incubation (1)', 'Incubating Pending Completion/Pending Submit to Review (1)', 'Pending Review (0)', and 'Pending Approval (1)'.
- Media QC Check For Colliert:**
  - Coliform media
  - 18 Gamma IRAD Colliert-18
  - Quanti-Tray 2000
  - Sterilized Water
  - Vessels W/O ST
  - STL
- Organisms:**
  - Escherichia coli
  - Klebsiella pneumoniae
  - Pseudomonas aeruginosa

At the bottom of the dialog are 'OK' and 'Cancel' buttons. The background dashboard shows a grid of tiles: 'Validate-Micro' with a green checkmark, 'Reporting' with a clipboard icon, 'Media QC Check' with a flag icon, and 'Utility' with a briefcase icon.





# Media QC Checks – Organism Information

Media QC Check

Home

Back Edit Cancel Undo Additional Document Audit Summary

Mode View Edit Enter Test Collert 18 QCMID QCM041723130418\_01

Media QC Prep Batch

QCMID Number: QCM041723130418\_01  
 Date Start: 04/17/2023 01:44 PM  
 Start Chemist: Idgorostiza  
 Assistant Chemist:  
 Date Complete: 04/18/2023 03:16 PM  
 Completed By: Idgorostiza  
 Status: Approved

Process Log

► Preparation Start DateTime : 04/18/2023 03:31 PM  
 Preparation Started By : Idgorostiza  
 Preparation Completed DateTime : 04/19/2023 10:46 AM  
 Preparation Completed By : user 1

► Inoculation Time : 04/18/2023 03:25 PM  
 Inoculated by: Idgorostiza

► Status : 24 Hr Readback Completed  
 Incubation Start Time : 04/18/2023 03:25 PM  
 Estimated Readback time:  
 04/19/2023 01:25 PM - 04/19/2023 05:25 PM  
 Readback Completed DateTime : 04/19/2023 10:42 AM  
 Readback Completed By : user 1

Organism Information

Organism	Status
Escherichia coli	Approved
Klebsiella pneumoniae	Approved
Pseudomonas aeruginosa	Approved

Collert Media Information

QC Check Process

ATCC Strain: ATCC 25922  
 StdLog ID: COL0246-22  
 Strain Expiration Date: 11/30/2023 12:00 AM  
 Pellet No.: 4 of 6  
 Pellet Aliquot ID: 22023  
 Culture Agar Type: BHI AGAR SLANT  
 Culture Agar ID: COL0045-23  
 Plate/Slant Expiration Date: 06/30/2024  
 Incubator ID: INC-08  
 Incubator Temp (°C): 35.15  
 Date of Stock Culture: 04/07/2023 02:48 PM  
 Stock Culture Expiry Date:  
 Stock:Slant Prep Date: 04/07/2023 02:48 PM  
 Stock Prep Chemist: lpatarroyo  
 Sub Culture Prep Date: 04/17/2023 03:07 PM  
 Sub Culture Expiry Date:  
 Sub Culture Sequence: 2  
 Sub Culture Chemist: Idgorostiza  
 Stock:Slant Expiry Date: 05/07/2023 12:00 AM

Worksheet Data Entry

Organism Culture

Start Date: 04/18/2023 Media: 18 Gamma IRAD Collert-18  
 Inoculation Time: 03:25 PM Incubator ID: INC-08  
 Incubation Start Time: 03:25 PM Chemist: Idgorostiza

Initial Comment

All the information were filled-up properly and saved but after pressing the "proceed" all the information were overwrite. see additional document for the screen shot.

Readback

Parameter	Result	Status	Date
E.coli	Positive	Pass	04/19/2023
Fecal Coliforms	Positive	Pass	
Total Coliforms	Positive	Pass	

Readback Comment



# Media QC Checks – Media Information

Media QC Check

Home

Back Edit Cancel Undo Additional Document Audit Summary

Mode View Edit Enter Test Collert 18 QCMID QCM041723130418\_01

Media QC Prep Batch

QCMID Number: QCM041723130418\_01  
Date Start: 04/17/2023 01:44 PM  
Start Chemist: Idgorostiza  
Assistant Chemist:   
Date Complete: 04/18/2023 03:16 PM  
Completed By: Idgorostiza  
Status: Approved

Process Log

- Preparation Start DateTime : 04/18/2023 03:31 PM  
Preparation Started By : Idgorostiza  
Preparation Completed DateTime : 04/19/2023 10:46 AM  
Preparation Completed By : user 1
- Inoculation Time : 04/18/2023 03:25 PM  
Inoculated by: Idgorostiza
- Status : 24 Hr Readback Completed  
Incubation Start Time : 04/18/2023 03:25 PM  
Estimated Readback time:  
04/19/2023 01:25 PM - 04/19/2023 05:25 PM  
Readback Completed DateTime : 04/19/2023 10:42 AM  
Readback Completed By : user1

Organism Information Collert Media Information

18 Gamma IRAD Collert-18

Lot No: KU566  
StdLog ID: COL0063-23  
Receipt Date: 04/17/2023  
Quantity: 800  
Expiry Date: 02/23/2024 12:00 AM

Vessels W/O ST

Lot No: HU014V  
StdLog ID: COL0062-23  
Receipt Date: 04/17/2023  
Quantity: 800  
Expiry Date: 07/17/2027 12:00 AM

Quanti-Tray 2000

Lot No: LU019J  
StdLog ID: COL0061-23  
Receipt Date: 04/17/2023  
Quantity: 800  
Expiry Date: 01/30/2026 12:00 AM

Sterilized Water

Lot No:   
StdLog ID: COL0051-23  
Receipt Date: 04/06/2023  
Quantity: 6400  
Expiry Date: 04/20/2023 12:00 AM



# Media QC Checks – Media QC Information

Completed QC Username : admin | SDMS Test Version : 23.04.01.2076

Home Data Center - Compl... - X

Mode  Approved  Rejected Media  QCM ID Number  Start Date  Set-up Chemist

### Media QC Check - Collert 18

Media Information						
Items	LotNo	StdLogID	ReceiptDate	Quantity	ExpiryDate	
18 Gamma IRAD Collert-18	HU142	COL0013-23	Jan 18, 2023	800	Dec 01, 2023	
Quanti-Tray 2000	COL0014-23	JU011J	Jan 18, 2023	800	Nov 28, 2025	
Sterilized Water	NA	COL0011-23	Jan 14, 2023	6500	Jan 28, 2023	
Vessels W/O ST	FU173V	COL0015-23	Jan 18, 2023	800	Jun 20, 2027	
STL						

Organism Information								
Organisms	Strain	StdLogID	ExpirationDate	Plate_SlantID	Plate_Slant_ExpiryDate	Stock_Slant_PreparedDate	Stock_Slant_ExpiryDate	
Escherichia coli	25922	COL0246-22	Nov 30, 2023	2265537	Mar 24, 2024	Jan 13, 2023	Feb 13, 2023	
Klebsiella pneumoniae	33495	COL0157-22	Apr 30, 2023	2265537	Mar 24, 2024	Jan 13, 2023	Feb 13, 2023	
Pseudomonas aeruginosa	10145	COL0120-22	Mar 31, 2023	2265537	Mar 24, 2024	Jan 13, 2023	Feb 13, 2023	

Media Outcome				
Media	Organisms	Positive	Negative	Result
18GammaIRADCollert-18	Escherichia coli	E.coli,Fecal Coliforms,Total Coliforms		Pass
18GammaIRADCollert-18	Klebsiella pneumoniae	Fecal Coliforms,Total Coliforms	E.coli	Pass
18GammaIRADCollert-18	Pseudomonas aeruginosa		E.coli,Fecal Coliforms,Total Coliforms	Pass

Comments

- ▶ Escherichia coli
  - 24 Hr Readback :WB-07, L:\Coliform\QC media checks\2023\01-Jan\collert media qc images
- ▶ Klebsiella pneumoniae
  - 24 Hr Readback :WB-07, L:\Coliform\QC media checks\2023\01-Jan\collert media qc images

For QC Use Only

Review Comments	Approval Comments

Date Completed  Date Reviewed  Date Approved  Date Media Expired

Completed By  Reviewed By  Approved By



# SDMS – Select Test & LIMS Batch ID

The screenshot displays the SDMS web application interface. At the top, the title bar shows 'SDMS' and the version 'SDMS Test Version-23.06.01.39944'. The navigation bar includes 'Home' and 'Help Viewer' buttons. The user information section shows 'Username : admin', 'Date : 07/11/2023', and 'Time : 23:20:15'. A 'Log Off' button is located in the top right corner.

The main content area is titled 'Desktop' and features a navigation sidebar on the left with the following menu items: Dashboard, Analysis, Analysis Review, Data Center, and Settings. The central workspace contains several widgets: 'Completed Packages' (with a green checkmark icon), 'Analysis-WetChem' (with a calendar icon), and a data table titled 'Validate-Micro' and 'Reporting'. The data table has the following columns: Batch Number, Status, and NoSx. The row for Batch Number 12134 is highlighted in yellow.

Batch Number	Status	NoSx
12149	Pending Readback1	11
12145	Pending Readback1	11
12141	Pending Prep Batch Completion	19
12134	Pending Prep Batch Completion	11
12128	Pending Prep Batch	22
12118	Pending Prep Batch	17



# SDMS – Create Batch Sequence (TDS)

Analytical Batch

Home

Refresh Start Set-Up Save Delete Retrieve Edit Clear Link Unbatched Samples Additional Document

File

Mode View Edit Enter Test TDS LIMS Batch ID 12204

**Total Dissolved Solids**

Analytical Batch Prep Information

Test: TDS

Method: SM 2540 C

Setup Date/Time: 07/13/2023 22:08

Setup Analyst: admin

Assistant: dmorgan,Jcentivre

Oven ID: OVN001

Oven Shelf: OS1

OvenTemp °C: 40

Balance ID: BL001

DilH2O#: Dil\_01

Oven Start Date/Time: 07/13/2023 10:00

COC Upload

Record 0 of 0

Batch Comments

**Total Dissolved Solids**

Sample Prep Details

LIMSBatchID	LabID	SampleID	DateCollected	VolTaken(ml)	Dilution	BeakerID	Oven	OvenSelf	OvenTemp	pH
12204	641259	LFB	06/27/2023 12:36	10		1	OVN001	OS1	40	
12204	641260	MB	06/27/2023 12:36	10		1	OVN001	OS1	40	
12204	641261	INF-BW-DUP	06/27/2023 07:01	10		1	OVN001	OS1	40	
12204	641262	BC1	06/27/2023 12:36	10		1	OVN001	OS1	40	
12204	641263	BC2	06/27/2023 12:36	10		1	OVN001	OS1	40	
12204	C2306270005	INF-BW	06/27/2023 07:01	10		1	OVN001	OS1	40	
12204	C2306270006	INF-A	06/27/2023 07:04	10		1	OVN001	OS1	40	
12204	C2306270007	OUTFALL 002A	06/27/2023 07:09	10		1	OVN001	OS1	40	
12204	C2306270008	OUTFALL 001A	06/27/2023 07:15	10		1	OVN001	OS1	40	
12204	C2306270029	WQS-BLANK	06/27/2023 07:55	10		1	OVN001	OS1	40	
12204	C2306270030	LWLVB 1.2E	06/27/2023 07:55	10		1	OVN001	OS1	40	
12204	C2306270031	LWLVB 1.2M	06/27/2023 07:55	10		1	OVN001	OS1	40	
12204	C2306270032	LWLVB 1.2H	06/27/2023 07:55	10		1	OVN001	OS1	40	
12204	C2306270033	LWLVB 1.85E	06/27/2023 08:30	10		1	OVN001	OS1	40	
12204	C2306270034	LWLVB 1.85M	06/27/2023 08:30	10		1	OVN001	OS1	40	
12204	C2306270035	LWLVB 1.85H	06/27/2023 08:30	10		1	OVN001	OS1	40	
12204	C2306270036	IPS3E	06/27/2023 09:10	10		1	OVN001	OS1	40	
12204	C2306270037	IPS3M	06/27/2023 09:10	10		1	OVN001	OS1	40	
12204	C2306270038	IPS3H	06/27/2023 09:10	10		1	OVN001	OS1	40	



# TDS – Start Oven Count Down

Analytical Batch

Home

Refresh Start Set-Up Save Delete Retrieve Edit Clear Link Unbatched Samples Additional Document

Time Left Min **05:09:59** Max **09:09:59**

Mode  View  Edit  Enter Test TDS LIMS Batch ID 12208

Total Dissolved Solids

Analytical Batch Prep Information

Test TDS  
Method SM 2540 C  
Setup Date/Time 07/13/2023 09:20  
Setup Analyst admin  
Assistant admin,Cdancil  
Oven ID OVN001  
Oven Shelf OS1  
OvenTemp °C 40  
Balance ID BL001  
DilH2O# Dil\_01  
Oven Start Date/Time 07/13/2023 08:00  
COC Upload

Total Dissolved Solids

Sample Prep Details

LIMSBatchID	LabID	SampleID	DateCollected	VolTaken(ml)	Dilution	BeakerID	Oven	OvenSelf	OvenTemp	pH
12208	641594	LFB	06/28/2023 12:54	10		1	OVN001	OS1	40	
12208	641595	MB	06/28/2023 12:54	10		1	OVN001	OS1	40	
12208	641596	LAU UMZ-DUP	06/28/2023 06:06	10		1	OVN001	OS1	40	
12208	641597	BC 1	06/28/2023 12:54	10		1	OVN001	OS1	40	
12208	C2306280032	LAU INF	06/28/2023 05:53	10		1	OVN001	OS1	40	
12208	C2306280034	LAU EFF	06/28/2023 05:39	10		1	OVN001	OS1	40	
12208	C2306280036	LAU UMZ	06/28/2023 06:06	10		1	OVN001	OS1	40	
12208	C2306280037	LAU DMZ	06/28/2023 05:48	10		1	OVN001	OS1	40	
12208	C2306280038	MV INF	06/28/2023 07:09	10		1	OVN001	OS1	40	
12208	C2306280040	MV EFF	06/28/2023 07:23	10		1	OVN001	OS1	40	



# SDMS – Raw Data Entry (TDS)

SDMS ResultEntry


Home File Edit Insert Page Layout Formulas

Export To Excel Exit Complete Save Roll Back Delete Clear Edit Refresh Bind Grid Retrieve Import Files ApplyFormula Generate Reports Data Exchange Reporting

Mode View Enter Test TDS Job ID 12208 Analytical Batch

Process Information SDMS Result Sheet Analytical Batch Results

C31

	A	B	C	D	E	F	G	H	I
1			<h2>Analytical BenchSheet</h2>						
19	Date/Time	BeakerID	LabID	SampleID	VOL(ml)	Tare(gm)	Weighback #1 (gm)	Weighback #2 (gm)	Weighback #3 (gm)
20	7/15/23 0:50	B057	641594	LFB	100	84.2637	84.3642	84.3643	
21	7/15/23 0:50	B007	641595	MB	100	81.6473	81.6471	81.647	
22	7/15/23 0:50	A086	641596	LAU UMZ-DUP	100	76.7911	76.8929	76.8928	
23	7/15/23 0:50	B039	641597	BC1	100	78.3223	78.4253	78.4248	
24	7/15/23 0:50	A150	C2306280032	LAU INF	50	80.1704	80.2171	80.2172	
25	7/15/23 0:50	B056	C2306280034	LAU EFF	50	86.8727	86.9899	86.9895	
26	7/15/23 0:50	A247	C2306280036	LAU UMZ	100	80.5602	80.6191	80.619	
27	7/15/23 0:50	B033	C2306280037	LAU DMZ	50	76.7504	76.8826	76.8824	
28	7/15/23 0:50	B006	C2306280038	MV INF	100	81.7194	81.7784	81.7781	
29	7/15/23 0:50	A125	C2306280040	MV EFF	25	77.5396	77.6005	77.6004	
30									
31									
32									
33									
34									



# SDMS – Result Calculation (TDS)

SDMS ResultEntry

Home File Edit Insert Page Layout Formulas

Export To Excel Exit Complete Save Roll Back Delete Clear Edit Refresh Bind Grid Retrieve Import Files ApplyFormula Generate Reports Data Exchange Reporting

Mode View Enter Test TDS Job ID 12208 Analytical Batch

Process Information SDMS Result Sheet Analytical Batch Results

C31

**Analytical BenchSheet**

	F	G	H	I	J	K	L	M	N	O	P
1	<b>Analytical BenchSheet</b>										
19	Tare(gm)	Weighback #1 (gm)	Weighback #2 (gm)	Weighback #3 (gm)	Residue Wt.(mg)	Result (mg/L)	Cond	TDS/ Cond Ratio	% Rec / % Diff	WtBack Pass Fail	
20	84.2637	84.3642	84.3643		<b>100.500</b>	1005.000	1900	0.529	<b>100.5%</b>	PASS	
21	81.6473	81.6471	81.647		<b>-0.200</b>	<b>-2.000</b>	1.40	<b>-1.429</b>		PASS	
22	76.7911	76.8929	76.8928		<b>101.800</b>	1018.000	1600	0.636	<b>200.8%</b>	PASS	
23	78.3223	78.4253	78.4248			78.425	1600	0.644		PASS	
24	80.1704	80.2171	80.2172		<b>46.700</b>	934.000	1600	0.584		PASS	
25	86.8727	86.9899	86.9895		<b>117.200</b>	2344.000	3000	0.781		PASS	
26	80.5602	80.6191	80.619		<b>58.900</b>	589.000	840	0.701		PASS	
27	76.7504	76.8826	76.8824		<b>132.200</b>	2644.000	3000	0.881		PASS	
28	81.7194	81.7784	81.7781		<b>59.000</b>	590.000	830	0.711		PASS	
29	77.5396	77.6005	77.6004		<b>60.900</b>	2436.000	3300	0.738		PASS	
30											
31											
32											
33											
34											

Sheet1





# SDMS – Processing Information (TDS)

SDMS ResultEntry

Home File Edit Insert Page Layout Formulas

Export To Excel Exit Complete Save Roll Back Delete Clear Edit Refresh Bind Grid Retrieve Import Files ApplyFormula Generate Reports

File Data Exchange Reporting

Mode View Enter Test TDS Job ID 12199 Analytical Batch

Process Information SDMS Result Sheet Analytical Batch Results

Batch Information

File: 20222  
Batch #: 12199  
Prep Date: 07/15/2023 10:37 PM  
Analysis Date: 07/15/2023 10:40 PM  
Setup Analyst: admin  
Initial Analyst: dmorgan, Jcentivre

SOP Information

Number: 20222  
Revision: 6.0  
Method: SM 2540 C

Instrument Information

Oven ID: OVN001  
Balance ID: BL001  
Balance Cal Due Date: 07/28/2023 12:00 PM  
Wt Set SN: 19963

Standard Information

LFB ID #: 1458  
LFB True Value(mg/L): 1458

Readback DateTime Information

Readback1 Date: 07/15/2023  
Readback2 Date: 07/15/2023  
Readback1 Time: 03:00 AM  
Readback2 Time: 04:00 AM

Samples and Quality Control

	1	Analyst	2	Analyst	3	Analyst
Temp in °C	25	admin	30	admin	40	admin
Date In	07/15/2023	admin	07/15/2023	admin	07/15/2023	admin
Time In	01:00 AM	admin	02:00 AM	admin	03:00 AM	admin
Date out	07/15/2023	admin	07/15/2023	admin	07/15/2023	admin
Time out	02:00 AM	admin	03:00 AM	admin	04:00 AM	admin
Total Drying Time	1:0		1:0		1:0	

Comment



# SDMS – Analytical Batch Results (TDS)

SDMS ResultEntry

Home File Edit Insert Page Layout Formulas

Export To Excel Exit Complete Save Roll Back Delete Clear Edit Refresh Bind Grid Retrieve Import Files ApplyFormula Generate Reports

File Data Exchange Reporting

Mode View Enter Test TDS Job ID 12149 Analytical Batch

Process Information SDMS Result Sheet Analytical Batch Results

	SampleType	QCType	BATCHNUMBER	JOBID	SAMPLEID	RESULT	Analyst	AnalysisDate
<input checked="" type="checkbox"/>	QC	LCS	12149	634529	LFB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	Method Blank	12149	634530	MB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	Duplicate	12149	634531	Uy Kristen-DUP			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	LCS	12149	634532	LFB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	Method Blank	12149	634533	MB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	LCS	12149	634534	LFB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	Method Blank	12149	634535	MB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	LCS	12149	634536	LFB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	Method Blank	12149	634537	MB			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	BC1	12149	634538	BC1			07/11/2023 23:16
<input checked="" type="checkbox"/>	QC	Certification Sample	12149	C2305050006	Uy Kristen			07/11/2023 23:16

Record 1 of 11



## Summary

- ✓ Seamless integration with our current LIMS
- ✓ A great achievement with automation and data quality
- ✓ Visualized process makes it obvious and easy to work
- ✓ Improved productivity and data quality
- ✓ Interface access based on user roles and permissions
- ✓ Reached the goal of paperless



# ***THANK YOU***

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***BTSOFT***

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