

Operational guidelines

MPN Reader



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PoliControl Instrumentos de Controle Ambiental Ind. e Com. Ltda.
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Capítulo 1

1.1 Specifications

Method	ONPG/MUG
Camera	Color HD
User UV Exposure	None
Reading time	7 Seconds
Cont	Automatic with manual control
Illumination	White LED / UV 356
Power Supply	110V / 220V
Data Protection	User-defined password
Data Storage	Cloud / Local
Sample automation	QR Code
Software	Unicorp
Output	2 USB - Ethernet
Tablet/pC connection	WIFI
Data	.CSV

1.2 General



- 1 – Light protector lid.
- 2 – ABS Housing.
- 3 – Tray positioning.

1.3 Connections

Back housing holds all instrument connections

- 1 – 110 / 220 selector
- 2 – USB port
- 3 – RJ45 Ethernet

Capítulo 2 – Connection

1.1 WIFI Connection

After the unit is powered, the green led light on the front button will be turned on

On your PC or tablet, open the WIFI connection menu and select the MPN reader network, insert the Password as below:

Password: mpnreader

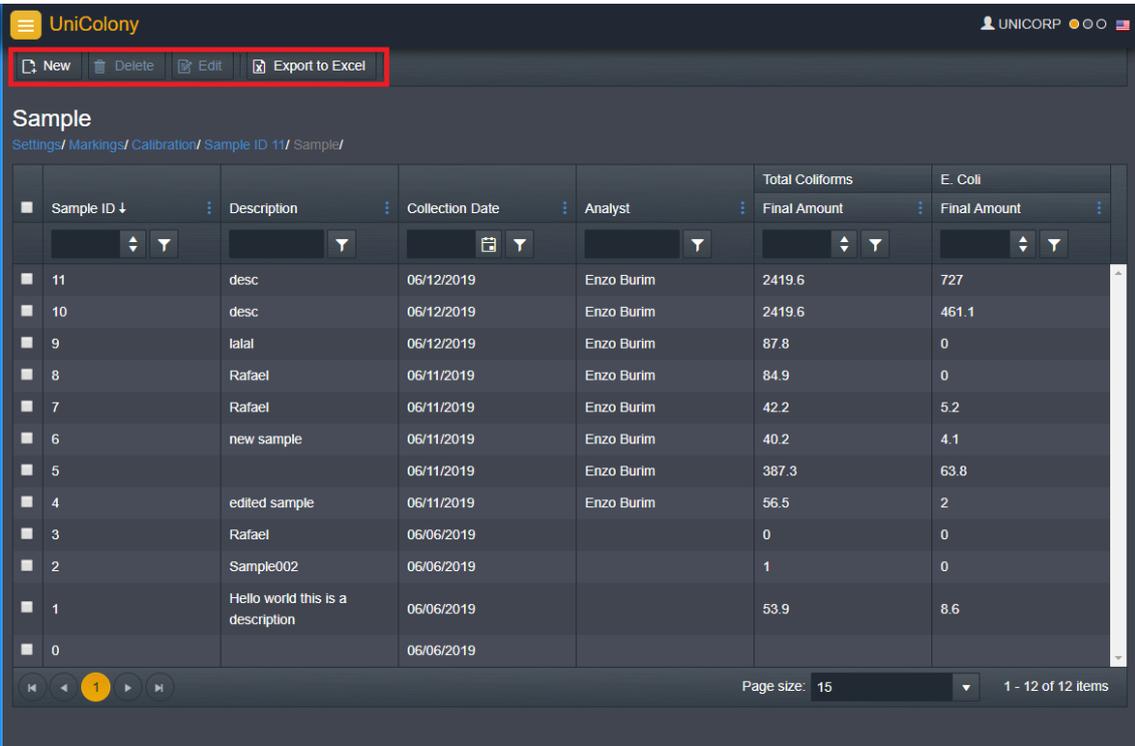
Open your internet navigation software (google chrome or Other) and enter the IP address <http://192.168.254.1>

Sample Reading screen will be displayed

Capítulo 3 – Sample Reading

3.1 Sample Screen

- **New:** Creates a new sample;
- **Delete:** Deletes the selected sample(s). Select a sample to enable this button (by pressing the check box);
- **Edit:** Edits the selected sample(s). Select a sample to enable this button (by pressing the check box);
- **Export to Excel:** Exports the information of all the samples to Excel



Sample ID ↓	Description	Collection Date	Analyst	Total Coliforms Final Amount	E. Coli Final Amount
11	desc	06/12/2019	Enzo Burim	2419.6	727
10	desc	06/12/2019	Enzo Burim	2419.6	461.1
9	lalal	06/12/2019	Enzo Burim	87.8	0
8	Rafael	06/11/2019	Enzo Burim	84.9	0
7	Rafael	06/11/2019	Enzo Burim	42.2	5.2
6	new sample	06/11/2019	Enzo Burim	40.2	4.1
5		06/11/2019	Enzo Burim	387.3	63.8
4	edited sample	06/11/2019	Enzo Burim	56.5	2
3	Rafael	06/06/2019		0	0
2	Sample002	06/06/2019		1	0
1	Hello world this is a description	06/06/2019		53.9	8.6
0		06/06/2019			

Is possible to select multiple samples by pressing the Top Check Box.

UniColony UNICORP

New Delete Edit Export to Excel

Sample

gsl/ Calibration/ Sample ID 11/ Sample ID / Sample/

Sample...	Descrip...	Collecti...	Analyst	Total Colifor...	Total Colifor...	Total Colifor...	E. Coli	Beginni...	End of t...	
Final A...	Beginni...	End of t...	Final A...	Beginni...	End of t...	Final A...	Beginni...	End of t...		
<input checked="" type="checkbox"/>	17	Brazil	06/12/2019	Enzo Burim	2500	12/06/2019 15:32	12/06/2019 15:32	547.5	12/06/2019 15:32	12/06/2019 15:32
<input checked="" type="checkbox"/>	11	desc	06/13/2019	Enzo Burim	2419.6	12/06/2019 09:13	12/06/2019 15:30	727	12/06/2019 09:13	12/06/2019 15:30
<input checked="" type="checkbox"/>	10	desc	06/12/2019	Enzo Burim	2419.6	12/06/2019 09:12	12/06/2019 09:13	461.1	12/06/2019 09:12	12/06/2019 09:13
<input checked="" type="checkbox"/>	9	lalal	06/12/2019	Enzo Burim	87.8	12/06/2019 09:10	12/06/2019 09:10	0	12/06/2019 09:10	12/06/2019 09:10
<input checked="" type="checkbox"/>	8	Rafael	06/11/2019	Enzo Burim	84.9	11/06/2019 17:06	12/06/2019 10:29	0	11/06/2019 17:06	12/06/2019 10:29

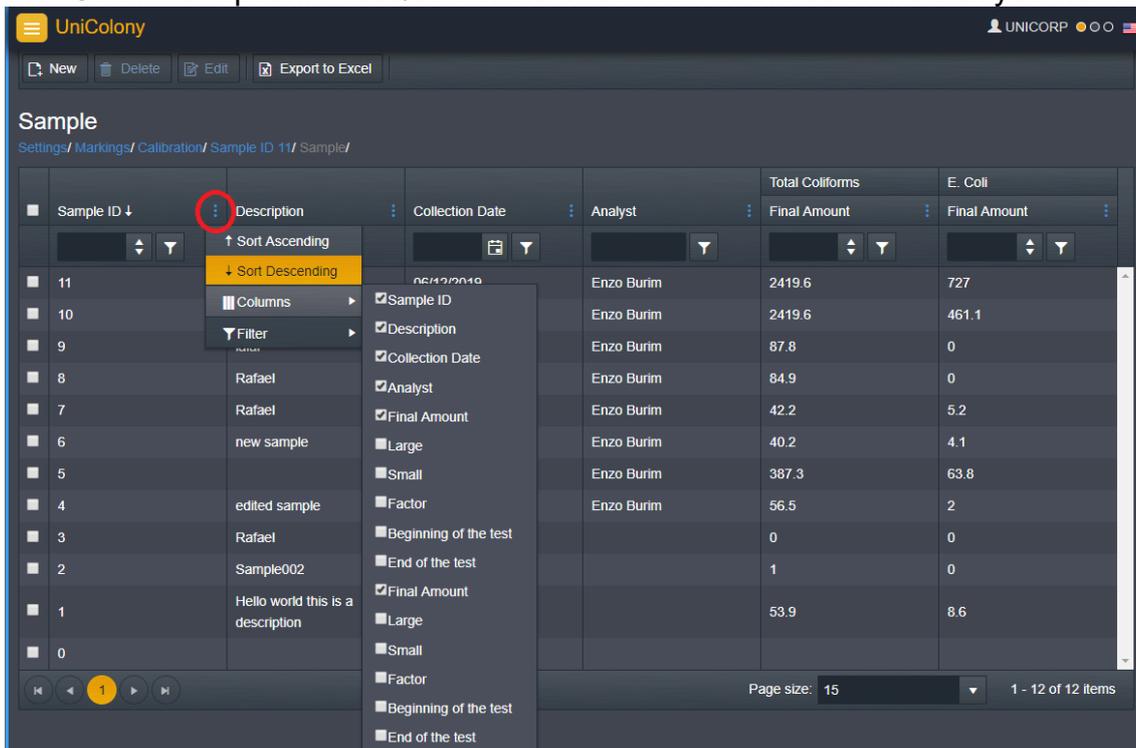
By default the Sample Screen displays the following columns:

- **Sample ID:** ID automatically generated by the system when the user creates a new sample;
- **Description:** Description typed by the user or contained in the tray's QR Code;
- **Collection Date:** Sample's collection date.
- **Analyst:** Sample's analyst name (to register an analyst access the Analyst screen)
- **Final Amount (Total Coliforms):** MPN calculation;
- **Final Amount (E. Coli):** MPN calculation.

But it is possible to display some hidden columns such as:

- **Large:** Displays the number of Large Positive Wells;
- **Small:** Displays the number of Small Positive Wells
- **Factor:** Displays the value of dilution factor;
- **Beginning of the test;** Displays the date and time of the sample's creation (this timestamp can't be edited);
- **End of the test;** Displays the date and time of the sample's editing (this timestamp can be edited).

To display these hidden columns press the "3 dots" button on the right of any column and access the "Columns" option. Press/select the check box of the columns that you want to display.



It is possible to use filters to easily search the desired sample. To apply a filter, press the “3 dots” button located on the right of the column that you want to filter, as an example we will filter by “Description”.

Select the filter option and type the “Description” of the sample that you are looking for. Notice that you can choose the type of filter, for example, filter an exact word/description. To do so, press on the “downward arrow” to open the list of options “Is equal to”, “Starts with”, “Contains”, etc.

The screenshot shows the UniColony v1.0.1-51 interface. At the top, there are navigation buttons: New, Delete, Edit, and Export to Excel. Below this is the 'Sample' section with a breadcrumb trail: Markings / Calibration / Sample ID 11 / Sample ID / Sample / . The main area contains a table with columns: Sample ID, Description, Collection Date, Analyst, Total Coliforms, and E. Coli. The 'Collection Date' column has a filter dropdown menu open, showing options: Sort Ascending, Sort Descending, Columns, Filter, and a list of filter types: Contains, Hello, And, Is equal to, Is not equal to, Starts with, Does not contain, Ends with, and Is null. The 'Is equal to' option is highlighted. A red box highlights the '3 dots' button on the 'Collection Date' column header, and another red box highlights the filter dropdown menu. A red arrow points from the 'Hello' option in the filter menu to the 'Hello' text in the 'Description' column of the first row.

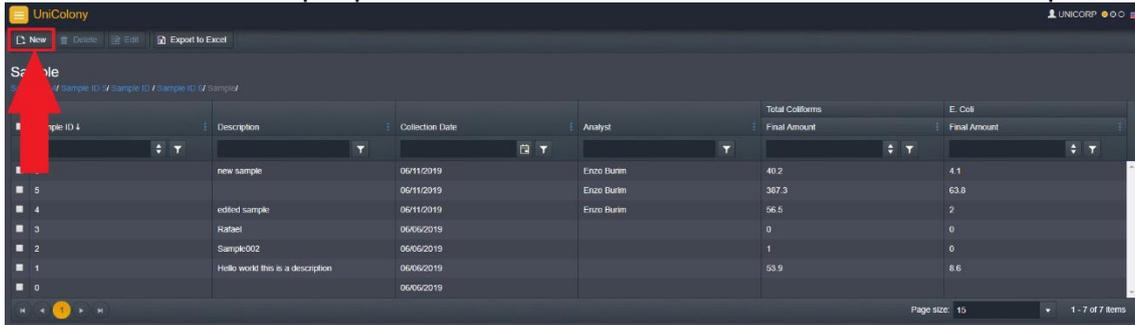
Sample ID	Description	Collection Date	Analyst	Total Coliforms	E. Coli
11	desc	06/11/2019	Enzo Burim	2419.6	727
10	desc	06/11/2019	Enzo Burim	2419.6	461.1
9	lalal	06/11/2019		87.8	0
8	Rafael	06/11/2019		84.9	0
7	Rafael	06/11/2019		42.2	5.2
6	new sample	06/11/2019		40.2	4.1
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4	edited sample	06/11/2019		56.5	2
3	Rafael	06/06/2019		0	0
2	Sample002	06/06/2019		1	0
1	Hello world this is a description	06/06/2019		53.9	8.6
0		06/06/2019			

The screenshot shows the UniColony v1.0.1-51 interface after filtering. The 'Description' column now only contains the text 'Hello'. The 'Collection Date' column is highlighted with a red box, and a red arrow points from this box to the 'Hello' text in the 'Description' column of the first row. The table now only displays one row with Sample ID 1.

Sample ID	Description	Collection Date	Analyst	Total Coliforms	E. Coli
1	Hello world this is a description	06/06/2019		53.9	8.6

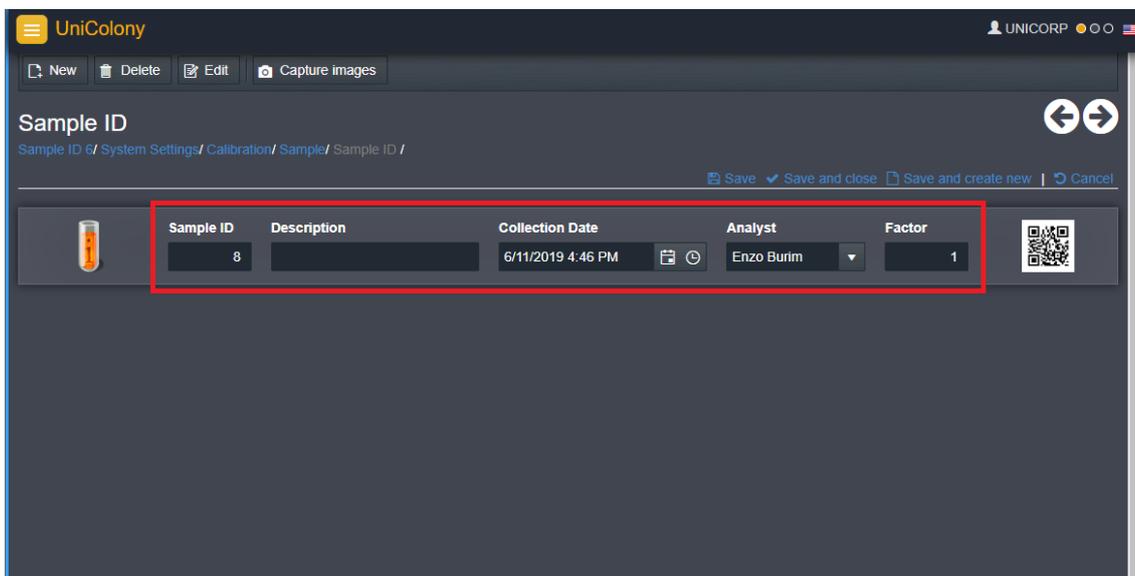
3.2 New Sample

To create a new sample press the “New” button, which is located in the top left corner.

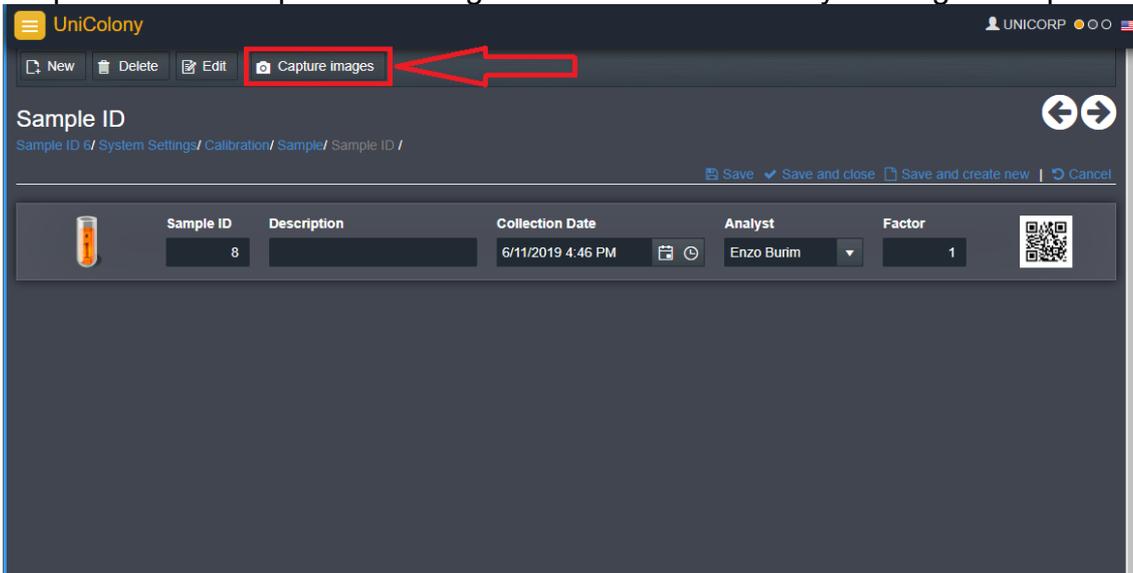


The screen will display the following fields:

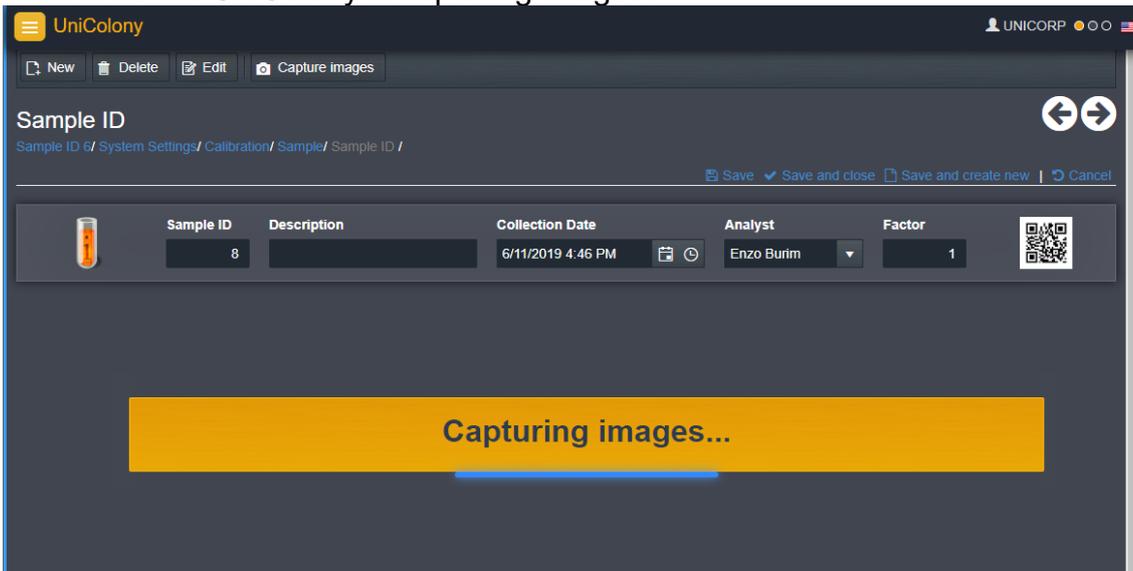
- **Sample ID:** it is a number generated automatically by the system;
- **Description:** Here the user can type in any text but keep in mind that if the tray has a QR Code that contains a description it will overwrite the description typed by the user in this field;
- **Collection Date:** The system will automatically fill it in with the current date/time but the user can change it by pressing the “Calendar” button to change the date and/or the “Clock” button to change the time;
- **Analyst:** This field shows the list of Analysts registered in the “Analyst Screen”;
- **Factor:** The system will automatically fill it in with “1” but this field can be used to compensate for the dilution of the sample, the number typed here will multiply the Most Probable Number (MPN).



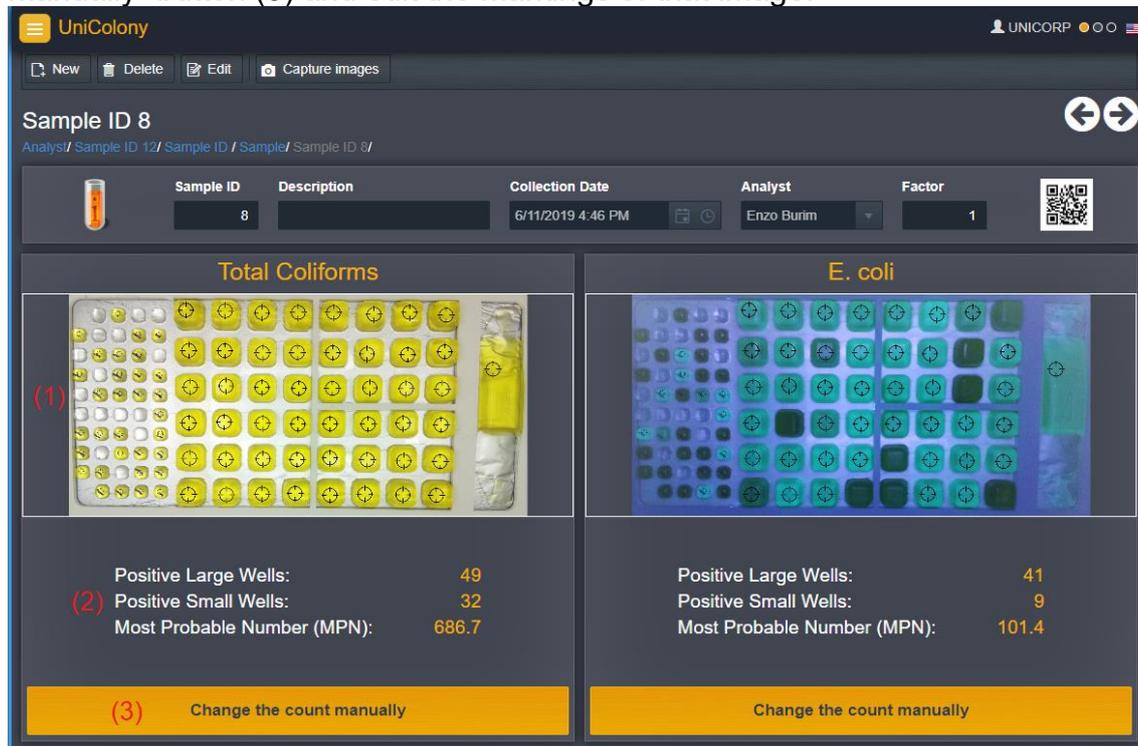
After inserting sample data press the “Capture images” button to capture the images of the tray. Once the “Capture images” button is clicked UniColony will instantly take pictures of the current tray, make sure you put the correct tray before pressing the button. It’s possible to recapture the images and/or edit the info by clicking the capture images.



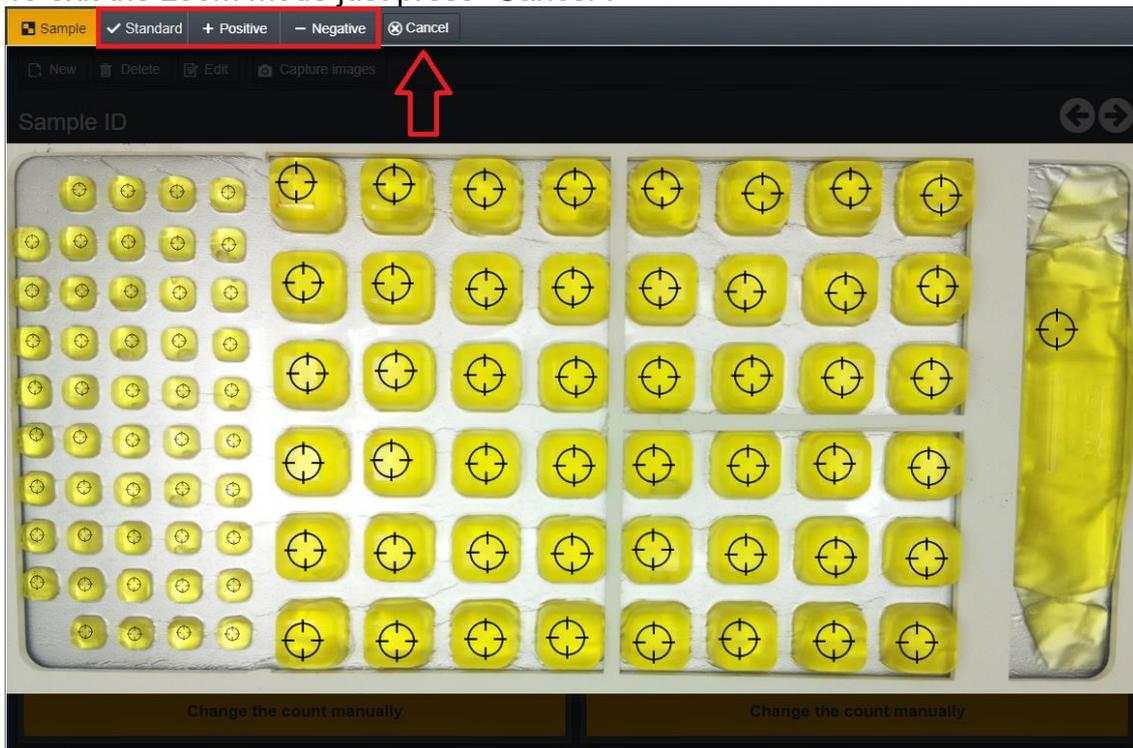
Wait while the UniColony is capturing images.



Once the process is finished the sample will be saved and the screen will display the images, both Total Coliforms, and E. Coli, (1) along with its wells count and MPN calculation (2). The sampling process is complete, now user can verify and edit the sample or create a new sample. If users decide that the readings taken by the unitary are incorrect, press the “change the count manually” button (3) and edit the markings of that image.

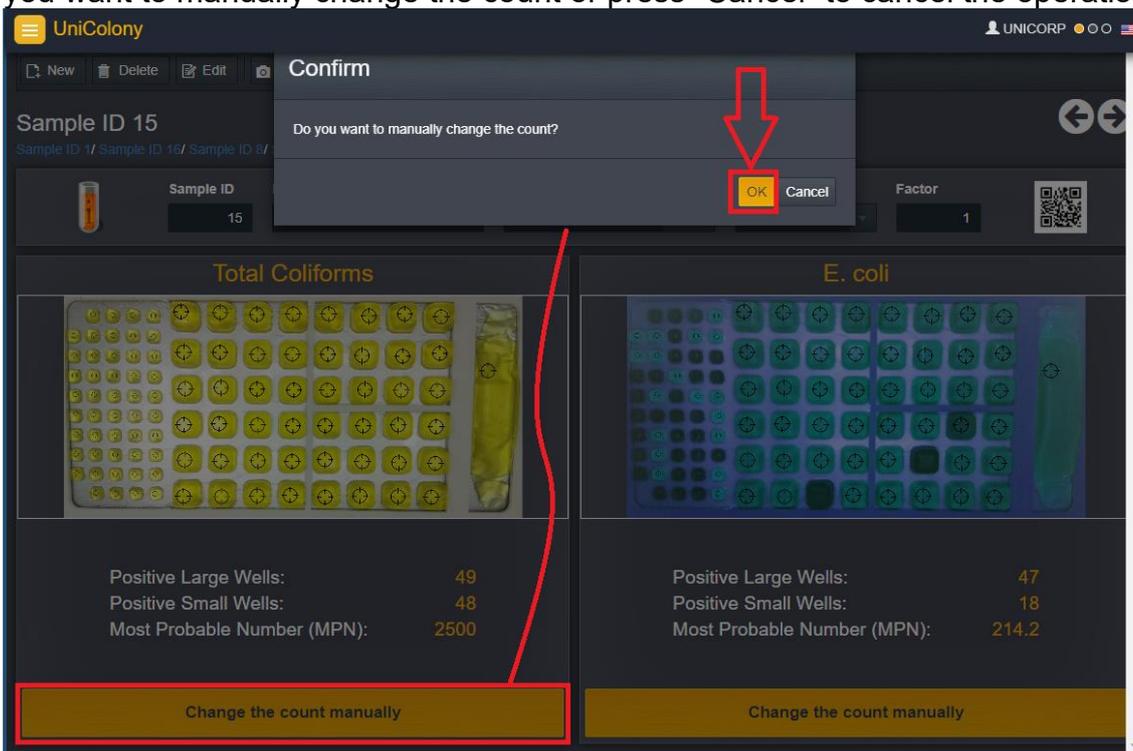


Click on the image to enlarge it. At the top of the page, you can change tabs “Standard”, “Positive” and “Negative” to compare with the images that you have registered in the “Calibration screen”. To exit the zoom mode just press “Cancel”.



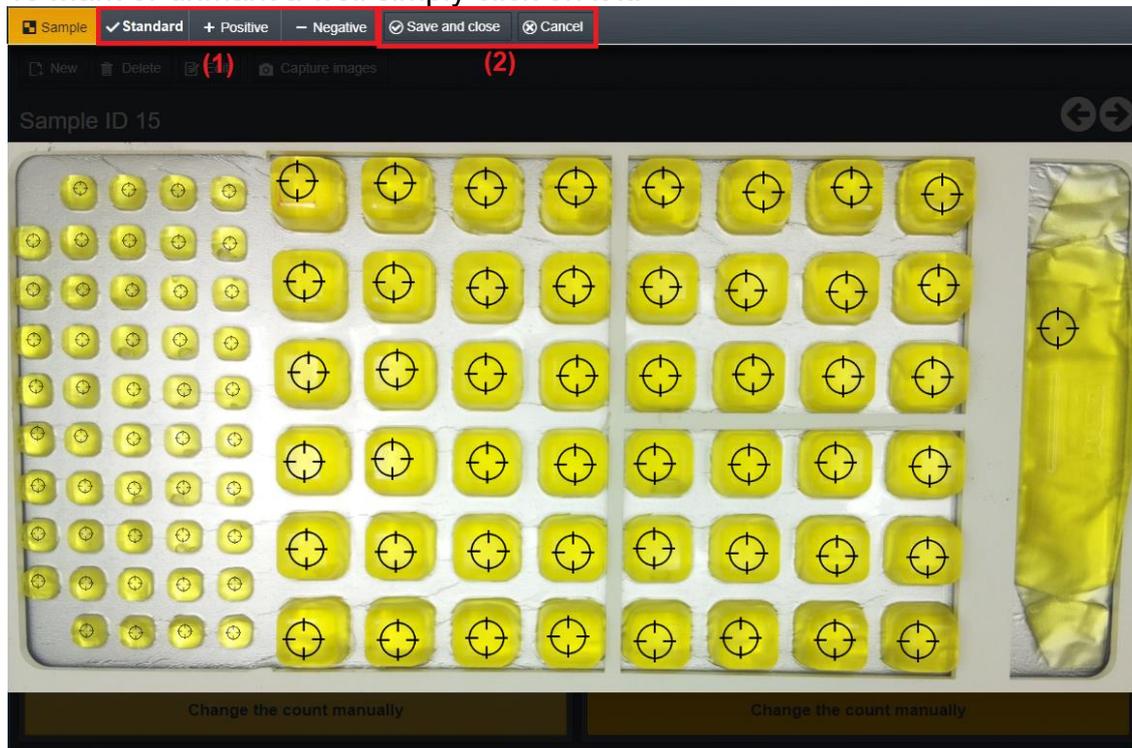
3.3 Change the count manually

When you “Change the count manually” is pressed system will display a message. Press “OK” if you want to manually change the count or press “Cancel” to cancel the operation.



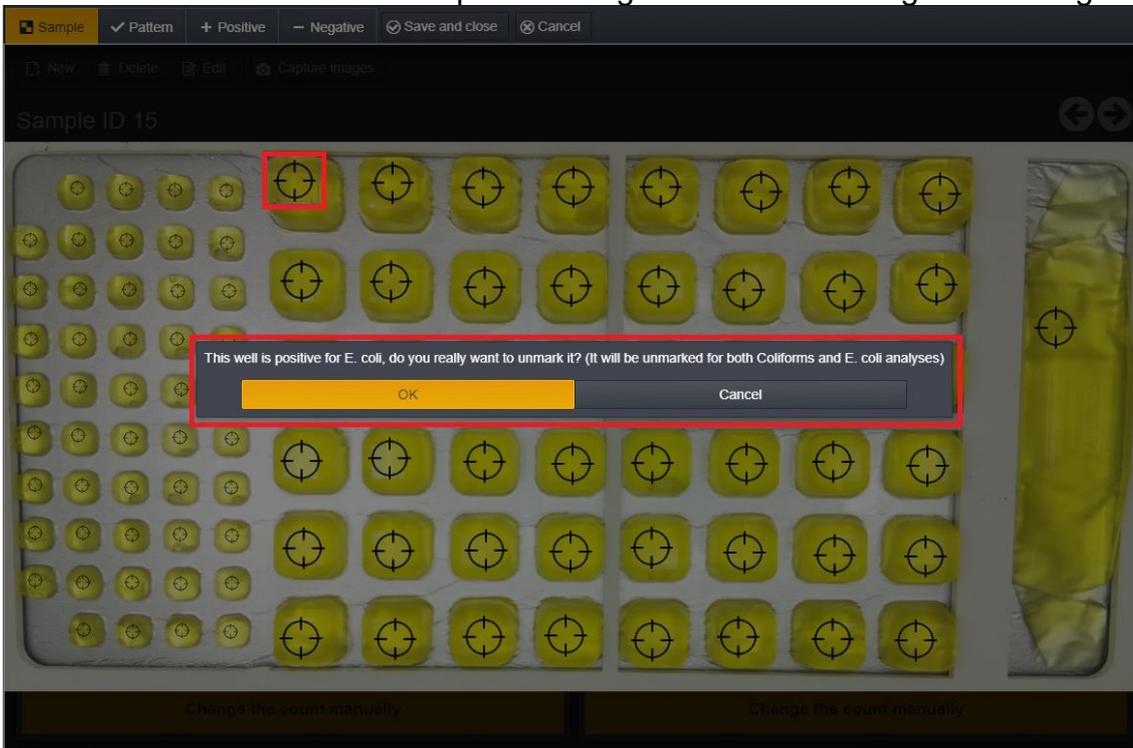
The system will display the enlarged image in edit mode, just like the zoom-in mode you can change tabs to compare with the “Standard”, “Positive”, and “Negative” images (1) that are registered in the “Calibration screen”. It is also possible to “Save and close” your corrections or “Cancel” all the changes (2).

To mark or unmark a well simply click on it it.

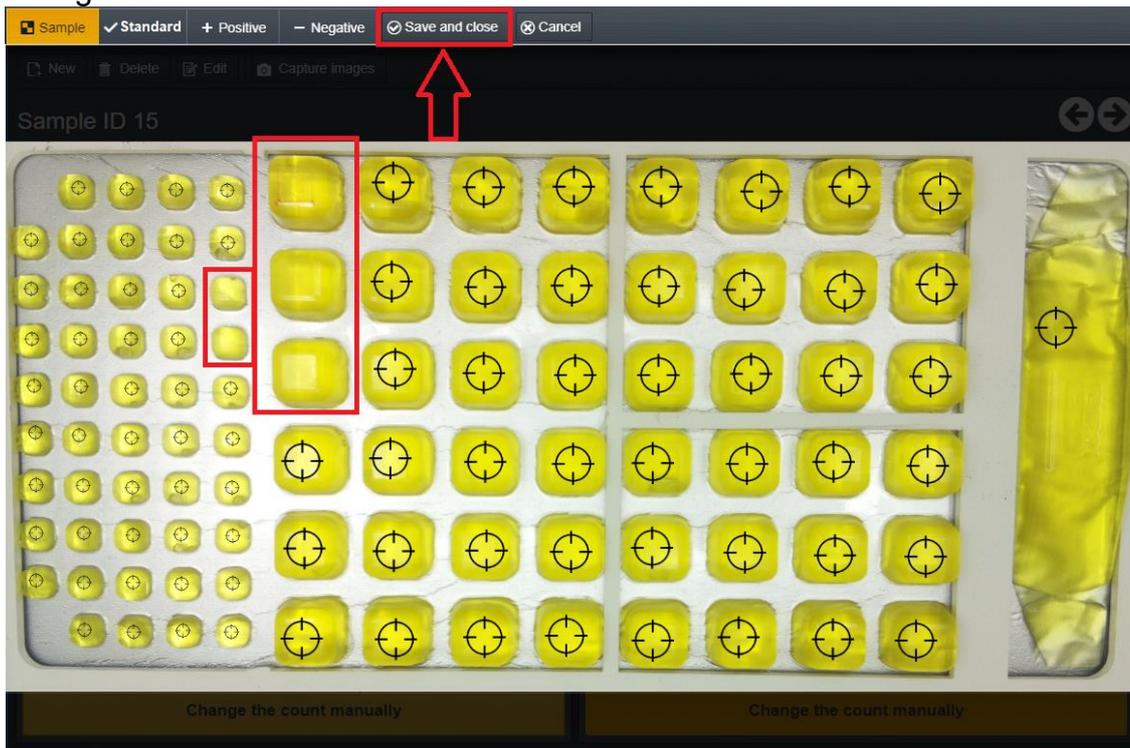


If the user unmarks a Coliforms well that is also marked for E. Coli the system will display an alert message. If you choose “OK” the system will unmark that well in both images (Coliforms and E.Coli), if you choose “Cancel” the system will cancel the operation.

If the user chooses “OK” and then changes it one more time, the system will only mark it for Coliforms (in the Coliforms image), it will not also mark again the same well for E. Coli, for that user will have to either “Cancel” the operation or go to the E. Coli image and change the count manually.



Once the user marked or unmarked all the desired wells, press “Save and close” to save all the changes.



Notice that the system updates the markings, wells count, and MPN calculation. In this example, 3 E. Coli wells were unmarked because of the Total Coliforms changes. It is not possible to only unmark a Coliforms well if it is also marked for E. Coli, the system doesn't allow it but if the user wants to only unmark an E. Coli well it does not necessarily have to unmark the coliforms well.

Sample ID 8

Analyst: Enzo Burim | Factor: 1 | Collection Date: 6/11/2019 4:46 PM

Sample ID	Description	Collection Date	Analyst	Factor
8		6/11/2019 4:46 PM	Enzo Burim	1

Total Coliforms

Positive Large Wells:	46
Positive Small Wells:	46
Most Probable Number (MPN):	499.6

Change the count manually

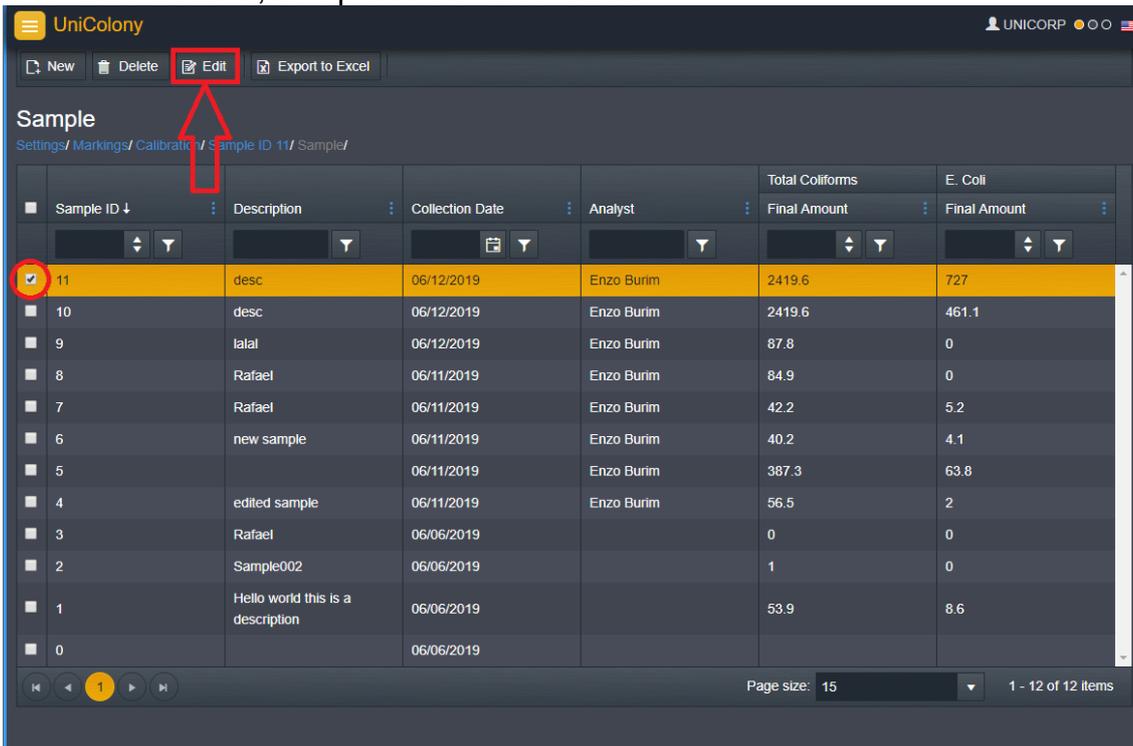
E. coli

Positive Large Wells:	44
Positive Small Wells:	18
Most Probable Number (MPN):	158.5

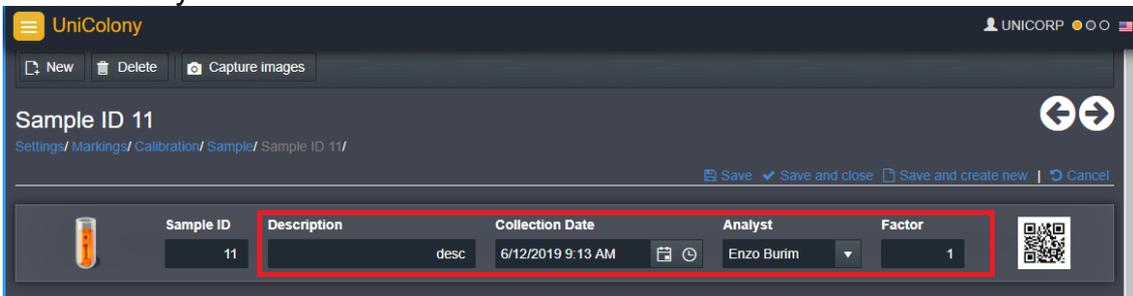
Change the count manually

3.4 Edit Sample Info

On the sample screen, select the sample by pressing the “check box”, which enables the “Delete” and “Edit” buttons, and press the “Edit” button.



On the Sample ID screen, the user can edit the following information: Description, Collection Date, Analyst, and Factor and capture new images (this will overwrite and erase the current ones automatically).



While editing you can use the following buttons:

- **Save:** pressing this button will save the changes and keep the system in edit mode;
- **Save and close:** pressing this button will save the changes and close the edit mode;
- **Save and create new:** pressing this button will save the changes and automatically create a new sample;
- **Cancel:** pressing this button will cancel all the changes that were not saved and close the edit mode.

When a user is done editing the sample, press one of the save buttons that suits you best.