



Labworks, LLC
230 North 1200 E #202
Lehi, UT 84043
Phone: 844 452-2967
www.labworks.com

LABWORKS 7.1 Installation Certification Document

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LABWORKS Installation Certification Document

The LABWORKS Installation Certification Document provides a set of tests that can be executed by the customer to certify that their install or upgrade is working as expected.

This document describes the Test Configuration, Test Execution and Expected Results.

Following will be the high level workflow for the tests to be performed:

- Setting up an analysis code (one for each type- single component, multi component, container)
- Setting up a location code
- Logging a sample
- Entering results
- Importing data (using scan daemon, multi component transfer and PR6)
- Performing calculations using the built-in calculation engine and excel
- Validating results
- Generating a report
- Creating a QA/QC batch

Pre-requisites

LABWORKS configurations as defined in Installation Guide and Admin Guide.

Test Summary

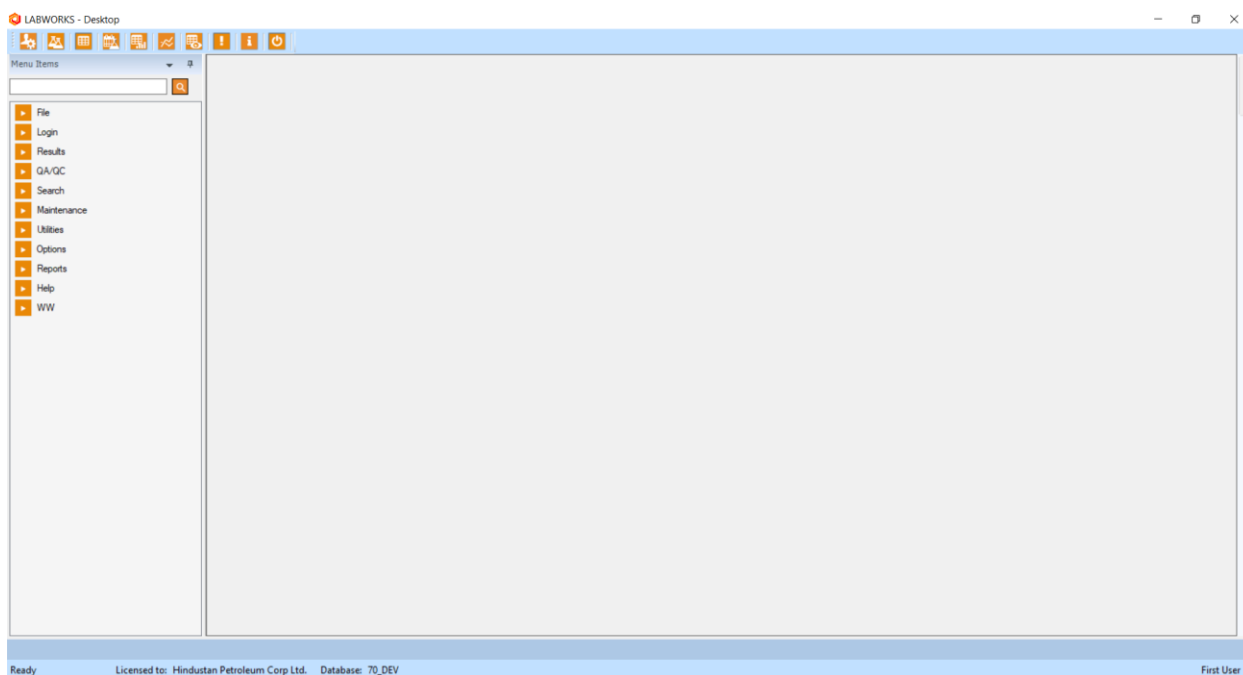
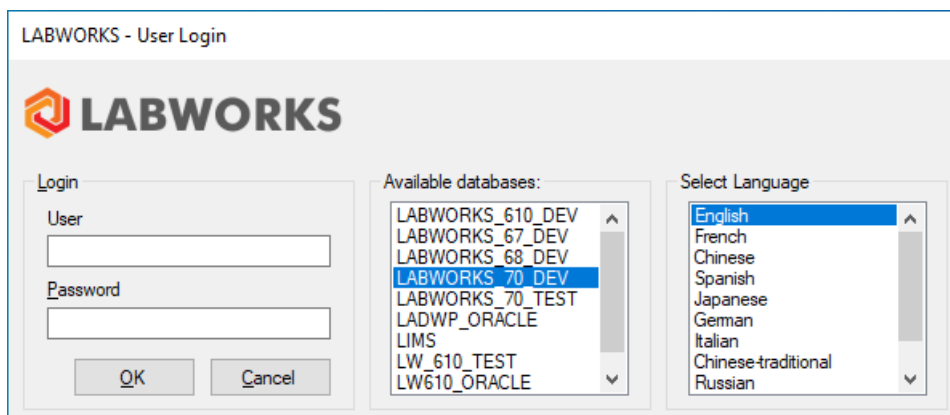
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Installation Tests

1. User Management

1.1. Create User

- 1) Launch LABWORKS Application and enter username/password credentials



- 2) Navigate to File → SYSTEM MANAGER application. Click on “Create New” button. Enter user information and click “Create” button. Configure user privileges.

LABWORKS System Management

System Control | Data Field Names | User Information | Privileges

Save and Exit

User Information

Active	Title	First	Last	Team	Site	Class
☒	Mr.	First	User		FLOATING	Full

LABWORKS System Manager

New User Information

☒ Active

Title

First name

Last name

User ID

Password

Email

Team

User Site

User Class

LDAP User ID

☒ Copy all privileges and ownership settings

☒ Copy Desktop setup

Create Cancel

☒ Active

Title

First Name

Name

User ID

Email

Team

User Site

Class

User ID

Reset Password

Create New

Clone User

Remove User

Activate WinGo to Settings

LABWORKS System Management

System Control | Data Field Names | User Information | Privileges | Ownership

Save and Exit

User Information

Active	Title	First	Last	Team	Site	Class
☐	A	A	A	A	FLOATING	Read Only
☐	Mr	B	B		FLOATING	Read Only
☒	MR.	Create	User		Site1	Full
☒		Dhawal	Mokashi		FLOATING	Full
☐		FOURTH	USER		Site1	Read Only
☒	Mr.	Kiran	Desai	BAT	FLOATING	Full
☒	Mr	LAB	Test		FLOATING	Read Only
☒			LABWORKSTest		FLOATING	Full
☒		Mayur	Kendre		FLOATING	Full
☒		Meeta	Padhye		FLOATING	Full
☐		New	User		FLOATING	Full
☒		Onkar	Narkhede		FLOATING	Full
☐		OWNERSHIP	CHECK		FLOATING	Full
☒		Sahil	A. Deshpande		FLOATING	Full
☐	Ms	SQL	db	bluebird	FLOATING	Full
☒	Mr	Second	User		FLOATING	Full
☒	Mr.	Test_	User		FLOATING	Full
☒	Mr.	TEST12	TEST12		FLOATING	Full
☒	Mr.	T10	T10	BAT	FLOATING	Full
☒	Mr.	Test2	Test2		FLOATING	Full
☒	Mr	T3	T3		FLOATING	Full
☒	Mr	T4	T4		FLOATING	Full
☒	Mr	T5	T5		FLOATING	Full
☒	Mr	T6	T6		FLOATING	Full
☒	Mr	T	t		FLOATING	Full
☒		Third	User		FLOATING	Full
☒	Mr	First	Last		Site1	Full
☒	Analyst	First	User		Site1	Full
☒		Second	Last		Site1	Login
☒		Fourth	Last		Site1	Full
☒		Fifth	Last		Site1	Full

☒ Active

Title

First Name

Last Name

User ID

Email

Team

User Site

User Class

LDAP User ID

Reset Password

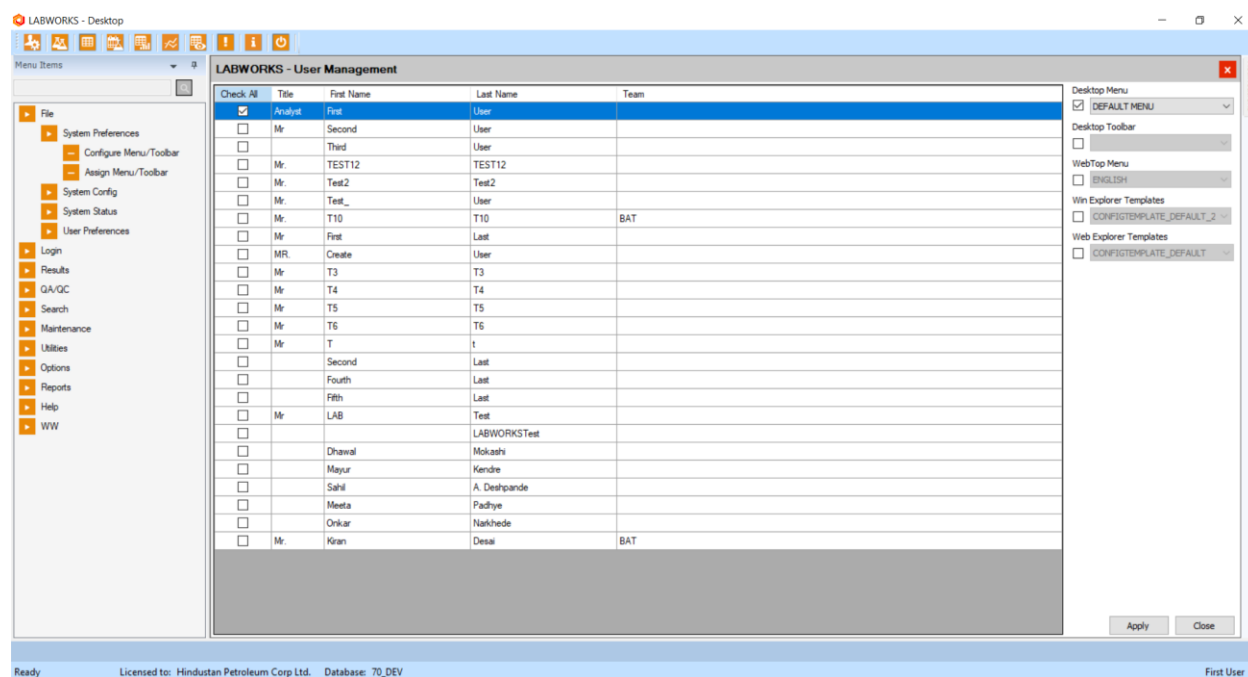
Create New

Clone User

Remove User

1.2. Assign Menu

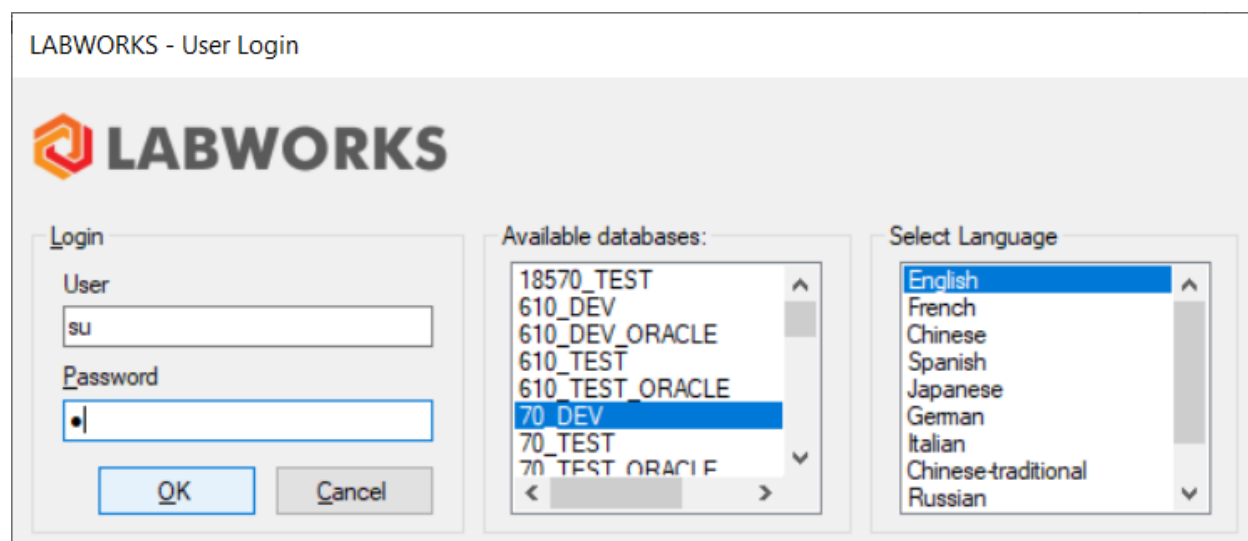
- 1) Assign default menu to the newly created user.

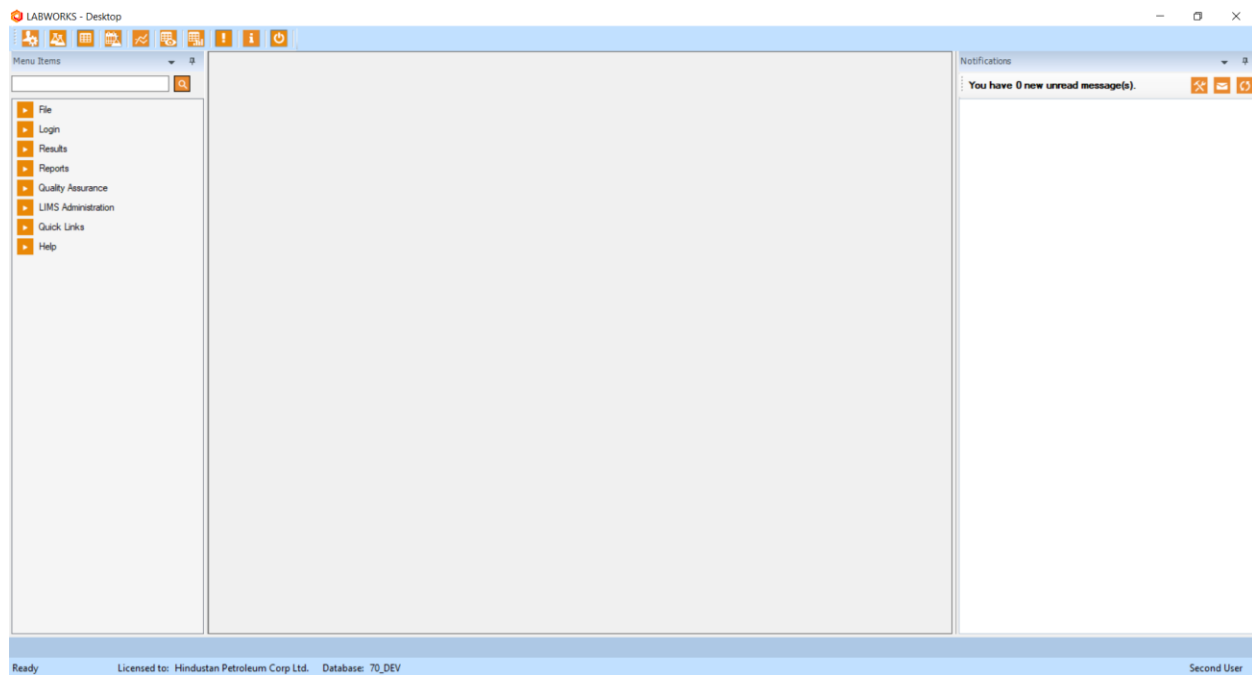


2. Location List Maintenance

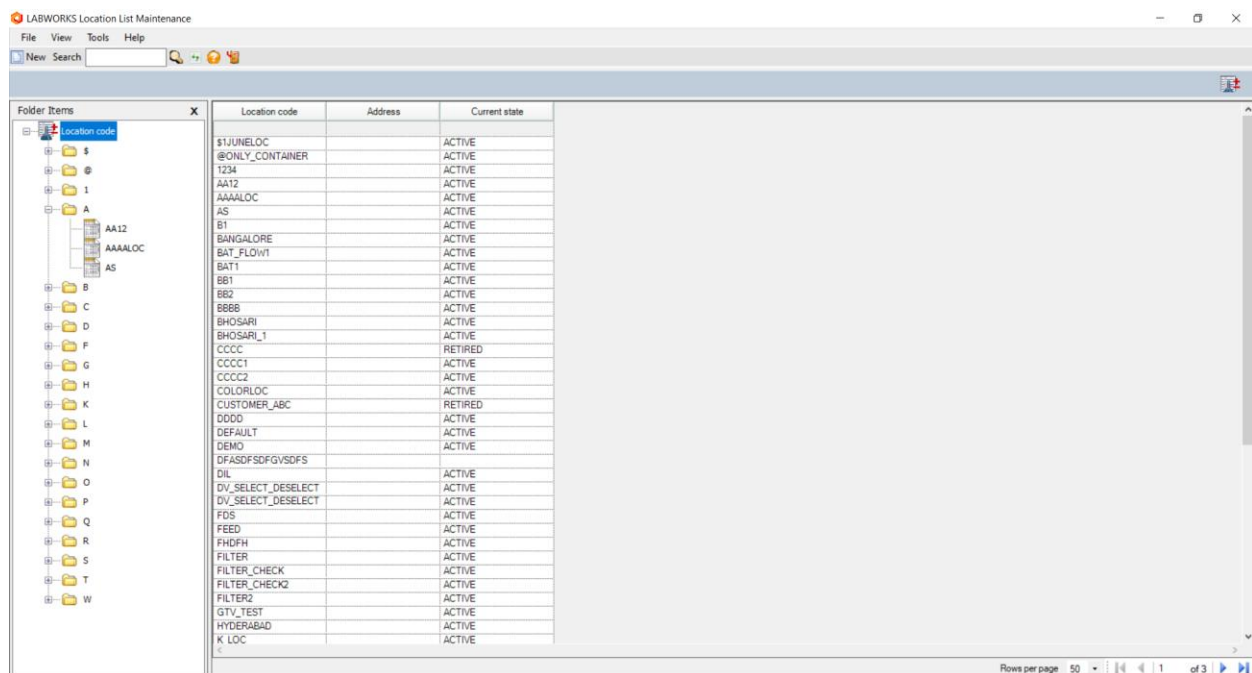
2.1. Create Location Code

- 1) Launch LABWORKS Application and login using newly created user.





2) Click on Location List option

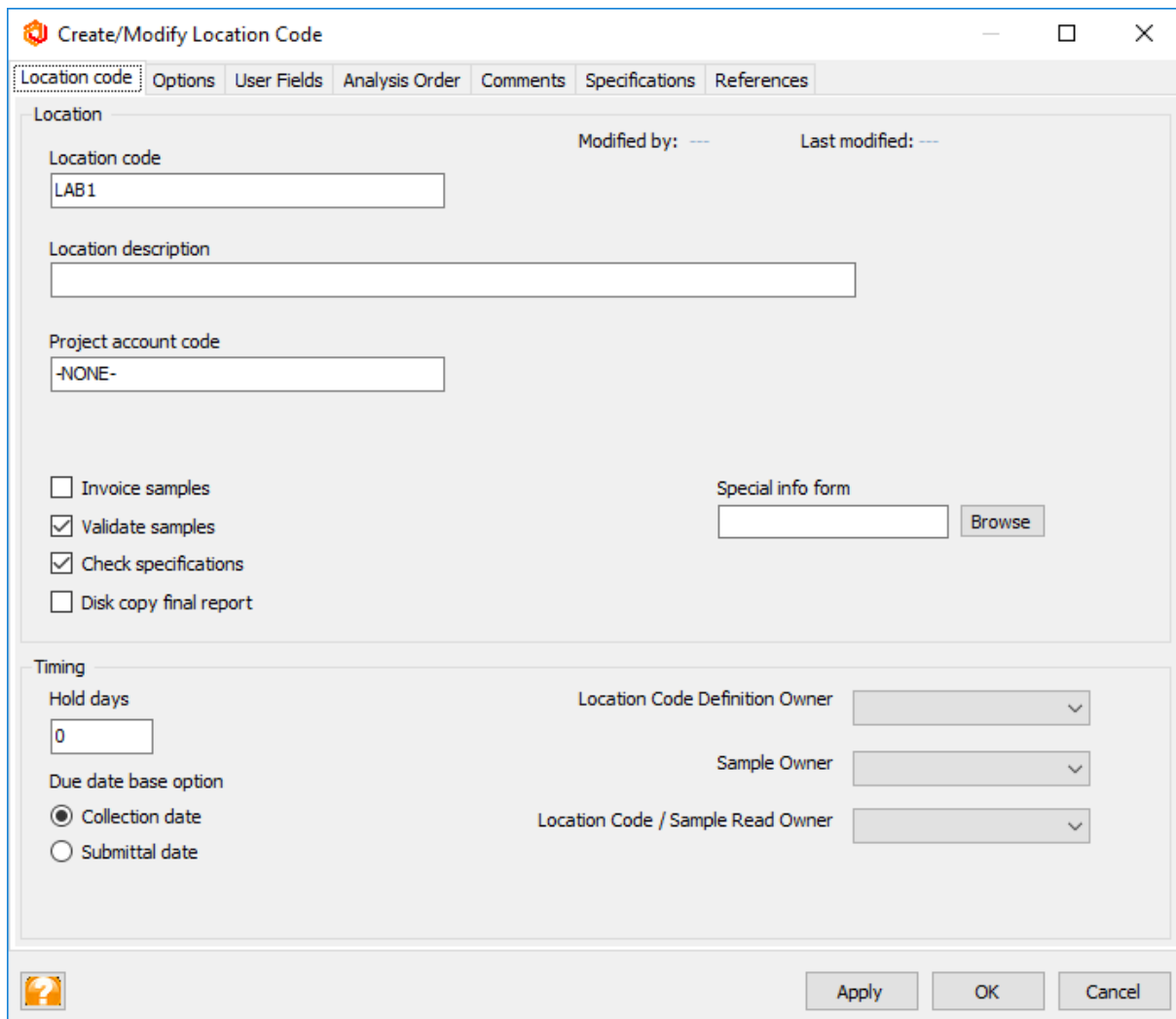


3) Click on 'New' Button

4) Enter following information

1. Location code
2. Location Description
3. Hold Days

4. Select Due date base option
5. Select Invoice Samples check box
6. Select Validate Sample Check box
7. Select Check Specification Check box
8. Disk Copy Final Report Check box
- 5) Click on Apply
- 6) Click on OK



Create/Modify Location Code

Location code Options User Fields Analysis Order Comments Specifications References

Location

Location code: LAB1 Modified by: --- Last modified: ---

Location description:

Project account code: -NONE-

☐ Invoice samples ☒ Validate samples ☒ Check specifications ☐ Disk copy final report

Special info form: Browse

Timing

Hold days: 0

Due date base option: ☒ Collection date ☐ Submittal date

Location Code Definition Owner:
Sample Owner:
Location Code / Sample Read Owner:

Apply OK Cancel

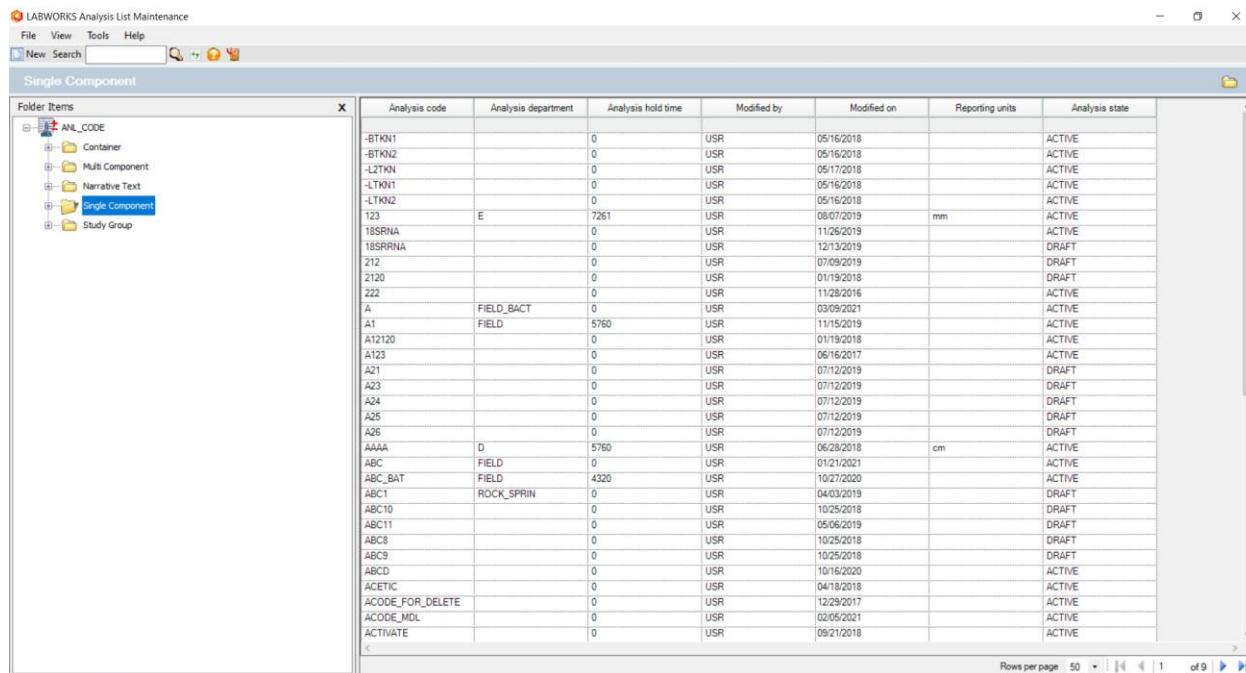
- 7) Location code should be added in Location Code list. (e.g. LAB1)

3. Analysis Maintenance Application

3.1. Create Analysis Code

1) Launch Analysis Maintenance.

Click on Analysis List maintenance application. Click on New button on 'LABWORKS Analysis List Maintenance' window.



Analysis code	Analysis department	Analysis hold time	Modified by	Modified on	Reporting units	Analysis state
-BTKN1		0	USR	05/16/2018		ACTIVE
-BTKN2		0	USR	05/16/2018		ACTIVE
-L2TKN		0	USR	05/17/2018		ACTIVE
-LTKN1		0	USR	05/16/2018		ACTIVE
-LTKN2		0	USR	05/16/2018		ACTIVE
123	E	7261	USR	08/07/2019	mm	ACTIVE
18SRNA		0	USR	11/26/2019		ACTIVE
18SRRNA		0	USR	12/13/2019		DRAFT
212		0	USR	07/09/2019		DRAFT
2120		0	USR	01/19/2018		DRAFT
222		0	USR	11/28/2016		ACTIVE
A	FIELD_BACT	0	USR	03/09/2021		ACTIVE
A1	FIELD	5760	USR	11/15/2019		ACTIVE
A12120		0	USR	01/19/2018		ACTIVE
A123		0	USR	06/16/2017		ACTIVE
A21		0	USR	07/12/2019		DRAFT
A23		0	USR	07/12/2019		DRAFT
A24		0	USR	07/12/2019		DRAFT
A25		0	USR	07/12/2019		DRAFT
A26		0	USR	07/12/2019		DRAFT
AAAA	D	5760	USR	06/28/2018	cm	ACTIVE
ABC	FIELD	0	USR	01/21/2021		ACTIVE
ABC_BAT	FIELD	4320	USR	10/27/2020		ACTIVE
ABC1	ROCK_SPRIN	0	USR	04/03/2019		DRAFT
ABC10		0	USR	10/25/2018		DRAFT
ABC11		0	USR	05/06/2019		DRAFT
ABC8		0	USR	10/25/2018		DRAFT
ABC9		0	USR	10/25/2018		DRAFT
ABCD		0	USR	10/16/2020		ACTIVE
ACETIC		0	USR	04/18/2018		ACTIVE
ACODE_FOR_DELETE		0	USR	12/29/2017		ACTIVE
ACODE_MDL		0	USR	02/05/2021		ACTIVE
ACTIVATE		0	USR	09/21/2018		ACTIVE

2) 'Add/Edit Analysis' window should open.

- Single Component Analysis:** Click New. Enter Analysis code and Analysis name. Click Apply. Click OK. Select the newly created Analysis code and right click. Select ANALYSIS_ACTIVATE option.

Add/Edit Analysis

Analysis | ASpecifications | Calculation | Special Info | Result Source | Audit Info

Analysis

Analysis code :

Analysis name :

Method reference :

CAS number :

Price :

Work units : Special info form:

Routing details :

Department :

☒ Reportable

☒ Invoiceable

Replicate Settings

Of Replicates

Processing

Set Analysis To

Select Replicate From

Hold times

Days Hours : Mins :

Regulation hold time

Days Hours : Mins :

Quantitation details

Reporting units : Default MDL : PQL :

Default Qualifier

Default Qualifier:

Round off for calculations

☒ Significant figures places

☐ Use MDL places

☐ Use Ranges

Ownership

Analysis Definition Owner

Sample Analysis Owner

Analysis Reader

 TEST

LABWORKS Analysis List Maintenance

File View Tools Help

New Search test

Single Component

Folder Items

- ANL_CODE
 - Container
 - Multi Component
 - Narrative Text
 - Single Component
 - BTXN1
 - BTXN2
 - L2TXN
 - LTXN1
 - LTXN2
 - 123
 - 18SRNA
 - 18SRRNA
 - 212
 - 2120
 - 222
 - A
 - A1
 - A12120
 - A123
 - A21
 - A23
 - A24
 - A25
 - A26
 - AAAA
 - ABC
 - ABC_BAT

Analysis code	Analysis department	Analysis hold time	Modified by	Modified on	Reporting units	Analysis state
-BTXN1		0	USR	05/16/2018		ACTIVE
-BTXN2		0	USR	05/16/2018		ACTIVE
-L2TXN		0	USR	05/17/2018		ACTIVE
-LTXN1		0	USR	05/16/2018		ACTIVE
-LTXN2		0	USR	05/16/2018		ACTIVE
123	E	7261	USR	08/07/2019	mm	ACTIVE
18SRNA		0	USR	11/26/2019		ACTIVE
18SRRNA		0	USR	12/13/2019		DRAFT
212		0	USR	07/09/2019		DRAFT
2120		0	USR	01/19/2018		DRAFT
222		0	USR	11/28/2016		ACTIVE
A	FIELD_BACT	0	USR	03/09/2021		ACTIVE
A1	FIELD	5760	USR	11/15/2019		ACTIVE
A12120		0	USR	01/19/2018		ACTIVE
A123		0	USR	06/16/2017		ACTIVE
A21		0	USR	07/12/2019		DRAFT
A23		0	USR	07/12/2019		DRAFT
A24		0	USR	07/12/2019		DRAFT
A25		0	USR	07/12/2019		DRAFT
A26		0	USR	07/12/2019		DRAFT
AAAA	D	0	USR	06/28/2018	cm	ACTIVE
ABC	FIELD	0	USR	01/21/2021		ACTIVE
ABC_BAT	FIELD	0	USR	10/27/2020		ACTIVE
ABC1	ROCK_SPH	0	USR	04/03/2019		DRAFT
ABC10		0	USR	10/25/2018		DRAFT
ABC11		0	USR	05/06/2019		DRAFT
ABC8		0	USR	10/25/2018		DRAFT
ABC9		0	USR	10/25/2018		DRAFT
ABCD		0	USR	10/16/2020		ACTIVE
ACETIC		0	USR	04/18/2018		ACTIVE
ACODE_FOR_DELETE		0	USR	12/29/2017		ACTIVE

Rows per page 50 1 of 9

2. **Multi-Component Analysis:** Click New. Enter Analysis code starting with \$ and enter Analysis Name=. Click Apply. Click OK.

Add/Edit Analysis

Analysis Components ASpecifications Calculation Special Info Result Source Audit Info

Analysis

Analysis code : \$2163_WT% Analysis name : \$2163_WT% Analysis

Method reference :

Price : 0 Work units : 0 Special info form:

Routing details :

Department :

☒ Reportable
☒ Invoiceable

Replicate Settings

Of Replicates 0

Processing

Set Analysis To N/A
Select Replicate From N/A

Hold times

Days 0 Hours : 0 Mins : 0

Regulation hold time

Days 0 Hours : 0 Mins : 0

Multicomponent details

Component list file :

☒ Report all specified components
☒ Add unspecified components

Quantitation details

Reporting units : Default MDL :

Default Qualifier

Default Qualifier:

Round off for calculations

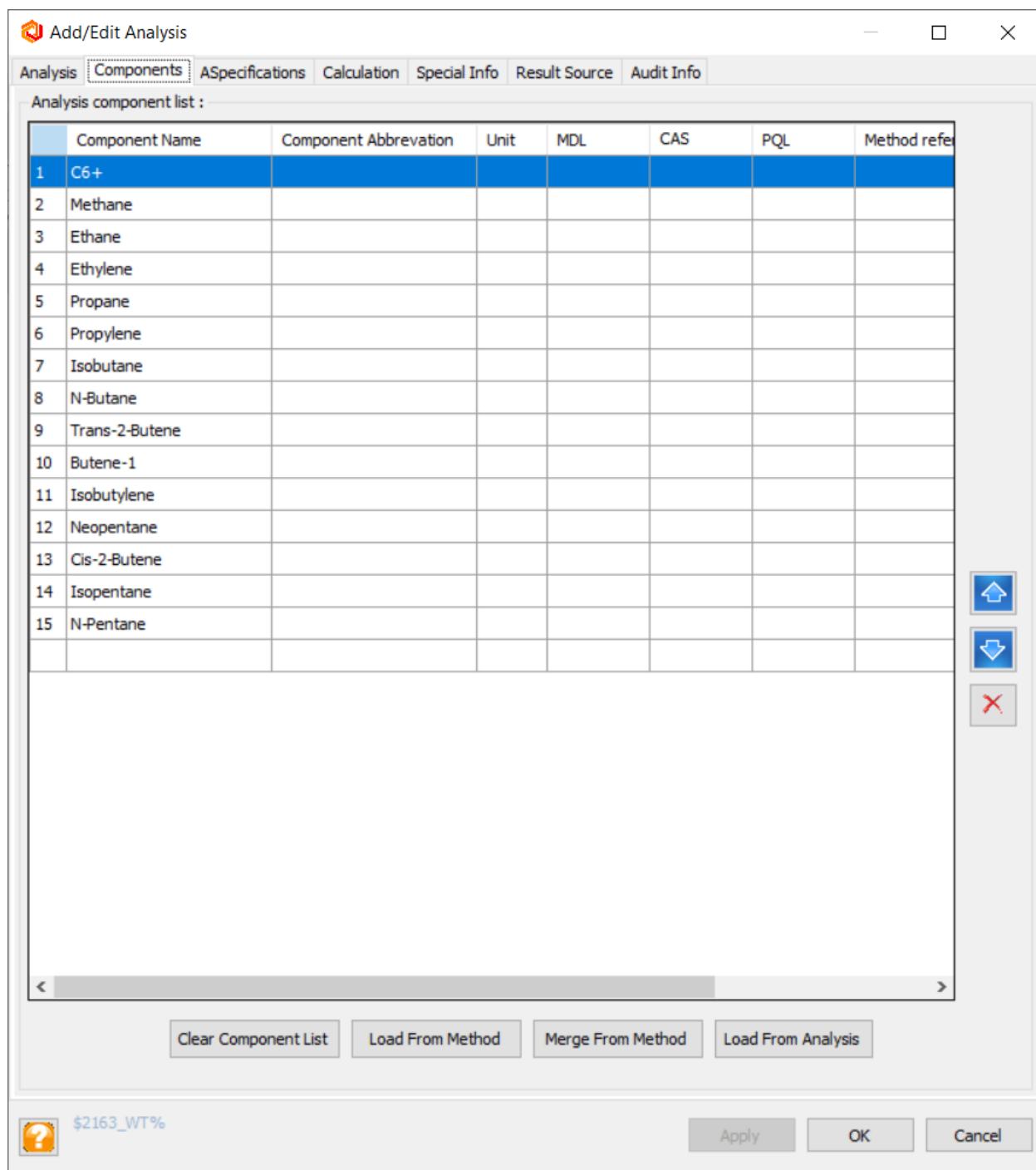
☒ Significant figures 6 places
☐ Use MDL places

Ownership

Analysis Definition Owner
Sample Analysis Owner
Analysis Reader

 \$2163_WT%

Go to Components tab and add Analytes. Click Apply. Click OK.



Add/Edit Analysis

Analysis Components ASpecifications Calculation Special Info Result Source Audit Info

Analysis component list :

	Component Name	Component Abbreviation	Unit	MDL	CAS	PQL	Method refer
1	C6+						
2	Methane						
3	Ethane						
4	Ethylene						
5	Propane						
6	Propylene						
7	Isobutane						
8	N-Butane						
9	Trans-2-Butene						
10	Butene-1						
11	Isobutylene						
12	Neopentane						
13	Cis-2-Butene						
14	Isopentane						
15	N-Pentane						

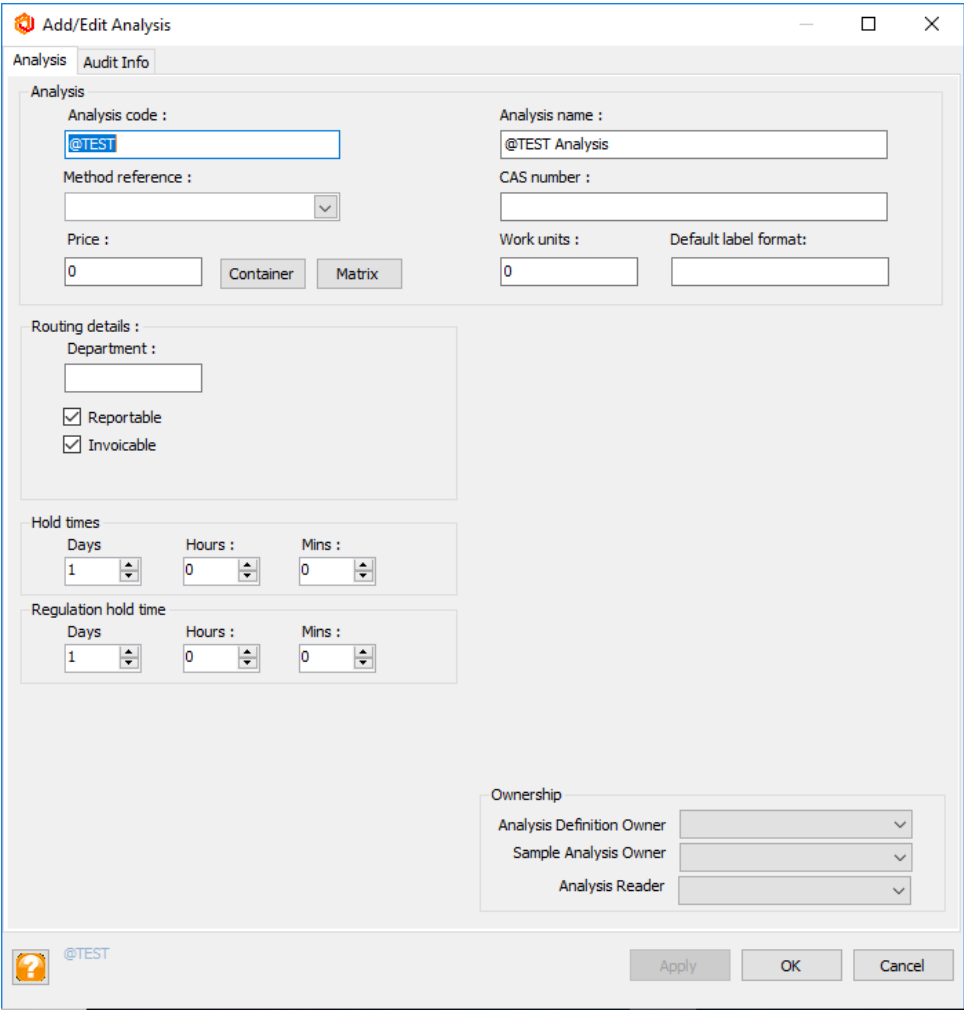
Clear Component List Load From Method Merge From Method Load From Analysis

Apply OK Cancel

\$2163_WT%

Select the Analysis code and right click. Select ANALYSIS_ACTIVATE option.

- 3. Container Analysis:** Click New. Enter Analysis code starting with @. Click Apply. Click OK. Select the Analysis code and right click. Select ANALYSIS_ACTIVATE option.



Add/Edit Analysis

Analysis Audit Info

Analysis

Analysis code : @TEST

Analysis name : @TEST Analysis

Method reference :

CAS number :

Price : 0 Container Matrix

Work units : 0 Default label format:

Routing details :

Department :

☒ Reportable

☒ Invoicable

Hold times

Days : 1 Hours : 0 Mins : 0

Regulation hold time

Days : 1 Hours : 0 Mins : 0

Ownership

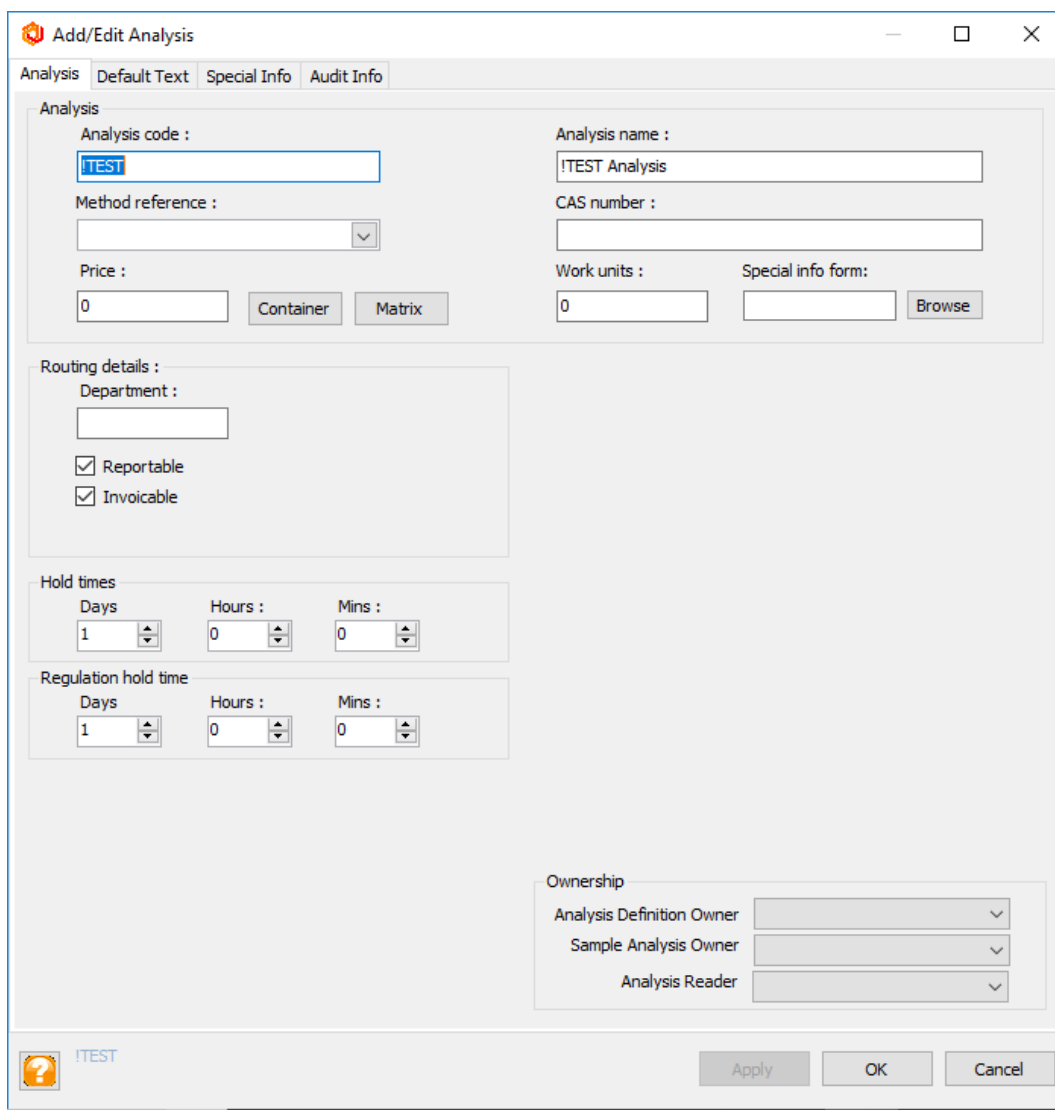
Analysis Definition Owner

Sample Analysis Owner

Analysis Reader

? @TEST Apply OK Cancel

4. **Narrative Analysis:** Click New. Enter Analysis code starting with ! Click Apply. Click OK. Select the Analysis code and right click. Select ANALYSIS_ACTIVATE option.



Add/Edit Analysis

Analysis | Default Text | Special Info | Audit Info

Analysis

Analysis code :

Analysis name :

Method reference :

CAS number :

Price :

Work units : Special info form:

Routing details :

Department :

☒ Reportable

☒ Invoicable

Hold times

Days: Hours : Mins :

Regulation hold time

Days: Hours : Mins :

Ownership

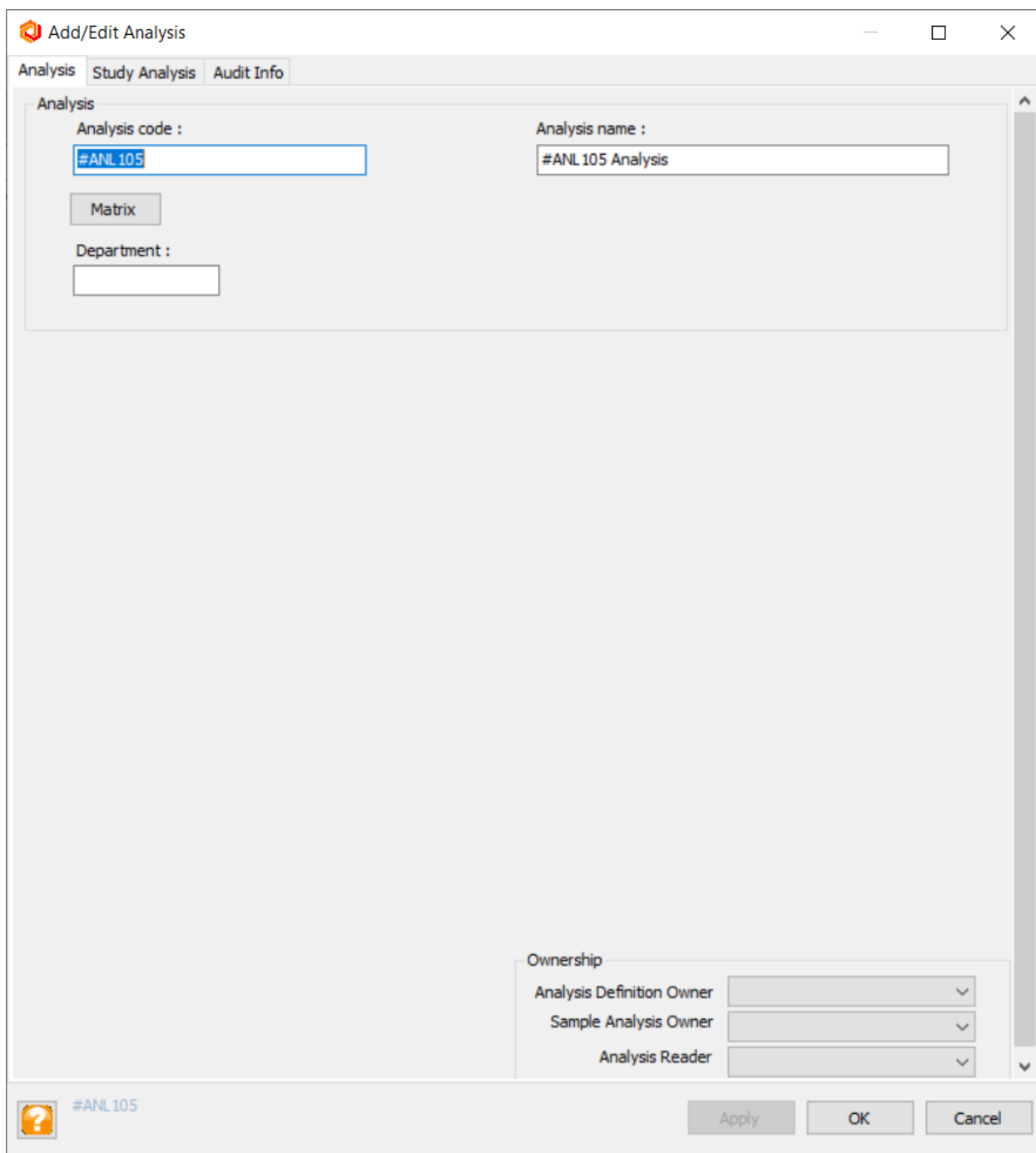
Analysis Definition Owner:

Sample Analysis Owner:

Analysis Reader:

? !TEST

5. Study Group Analysis: Click New. Enter Analysis code starting with #. Click Apply.



Add/Edit Analysis

Analysis Study Analysis Audit Info

Analysis

Analysis code : #ANL105

Analysis name : #ANL105 Analysis

Matrix

Department :

Ownership

Analysis Definition Owner

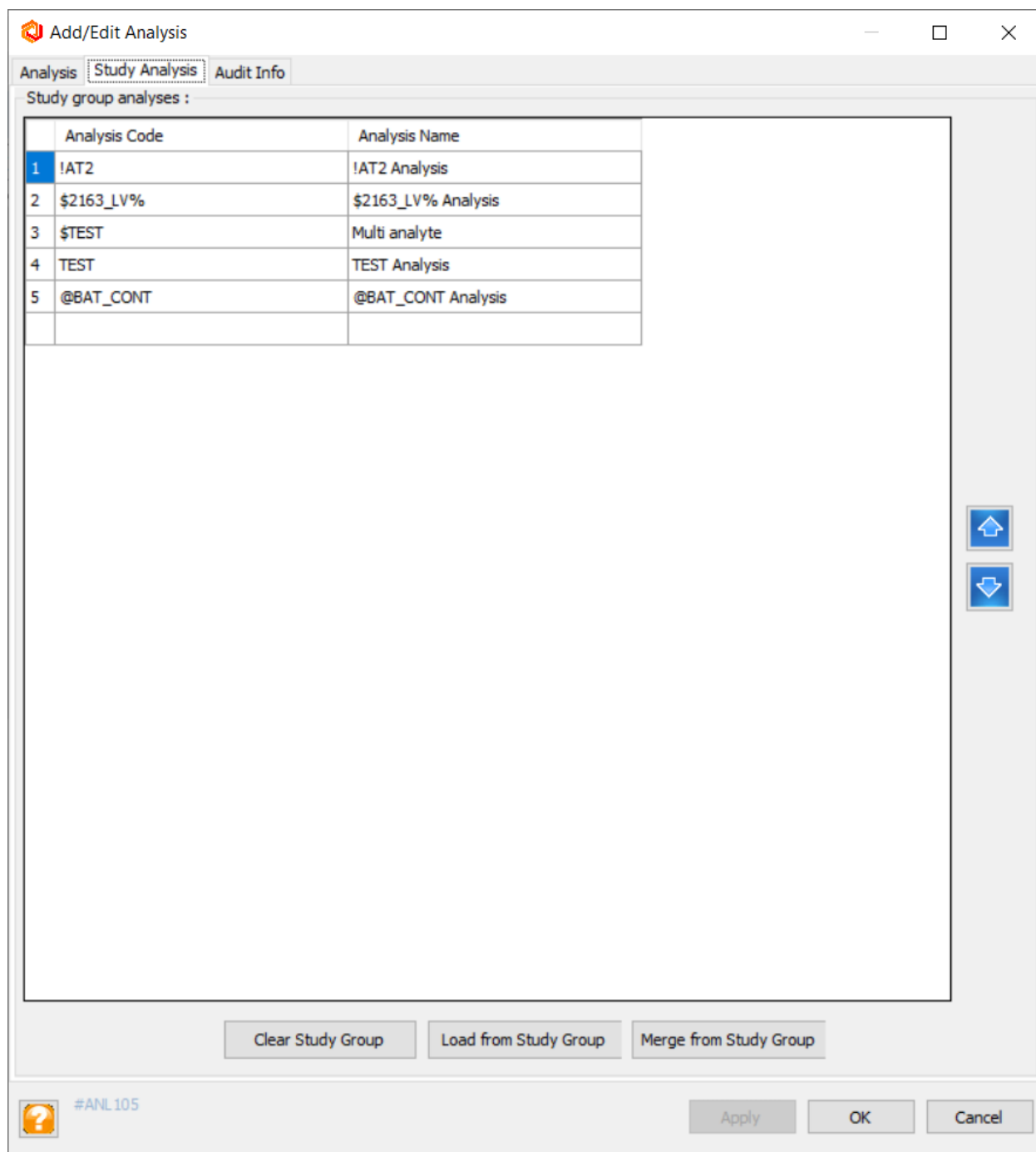
Sample Analysis Owner

Analysis Reader

? #ANL105

Apply OK Cancel

Go to second tab and add analyses. Click Apply. Click OK.



The dialog box titled "Add/Edit Analysis" has three tabs: "Analysis", "Study Analysis", and "Audit Info". The "Study Analysis" tab is active, showing a section labeled "Study group analyses :". Below this is a table with two columns: "Analysis Code" and "Analysis Name". The table contains five rows of data. To the right of the table are two blue arrow buttons, one pointing up and one pointing down. At the bottom of the dialog are three buttons: "Clear Study Group", "Load from Study Group", and "Merge from Study Group". The status bar at the bottom left shows a question mark icon and the text "#ANL105". At the bottom right are three buttons: "Apply", "OK", and "Cancel".

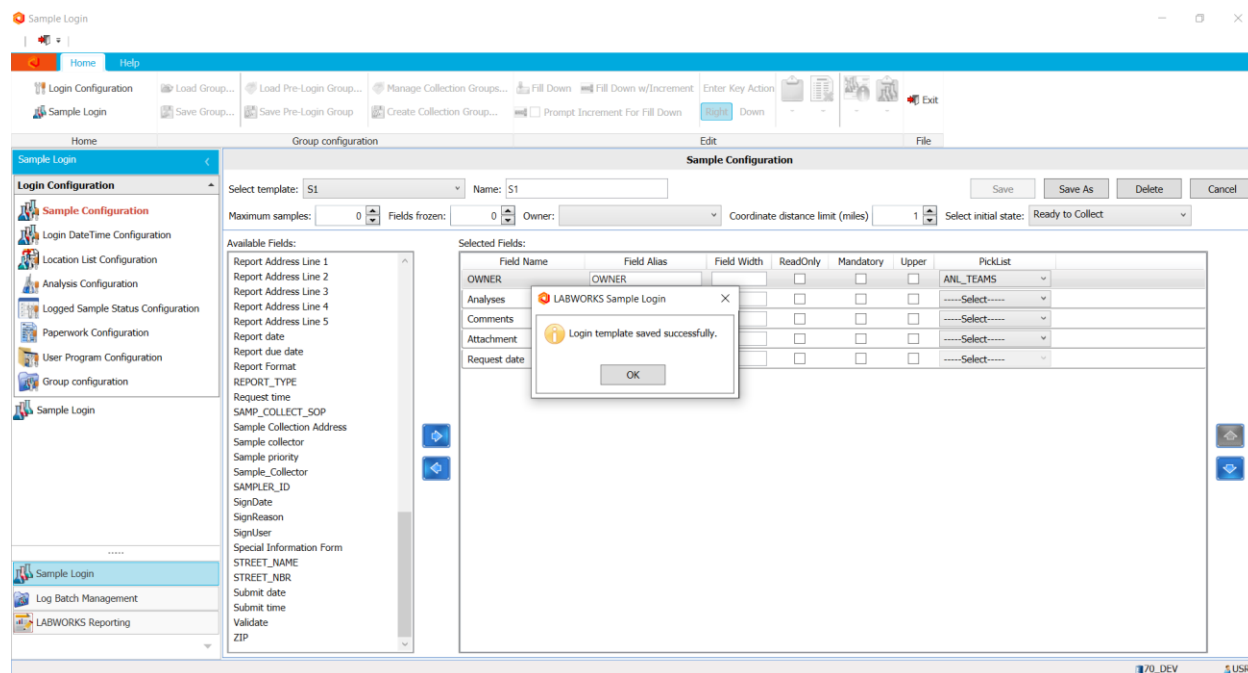
	Analysis Code	Analysis Name
1	!AT2	!AT2 Analysis
2	\$2163_LV%	\$2163_LV% Analysis
3	\$TEST	Multi analyte
4	TEST	TEST Analysis
5	@BAT_CONT	@BAT_CONT Analysis

4. Sample Login

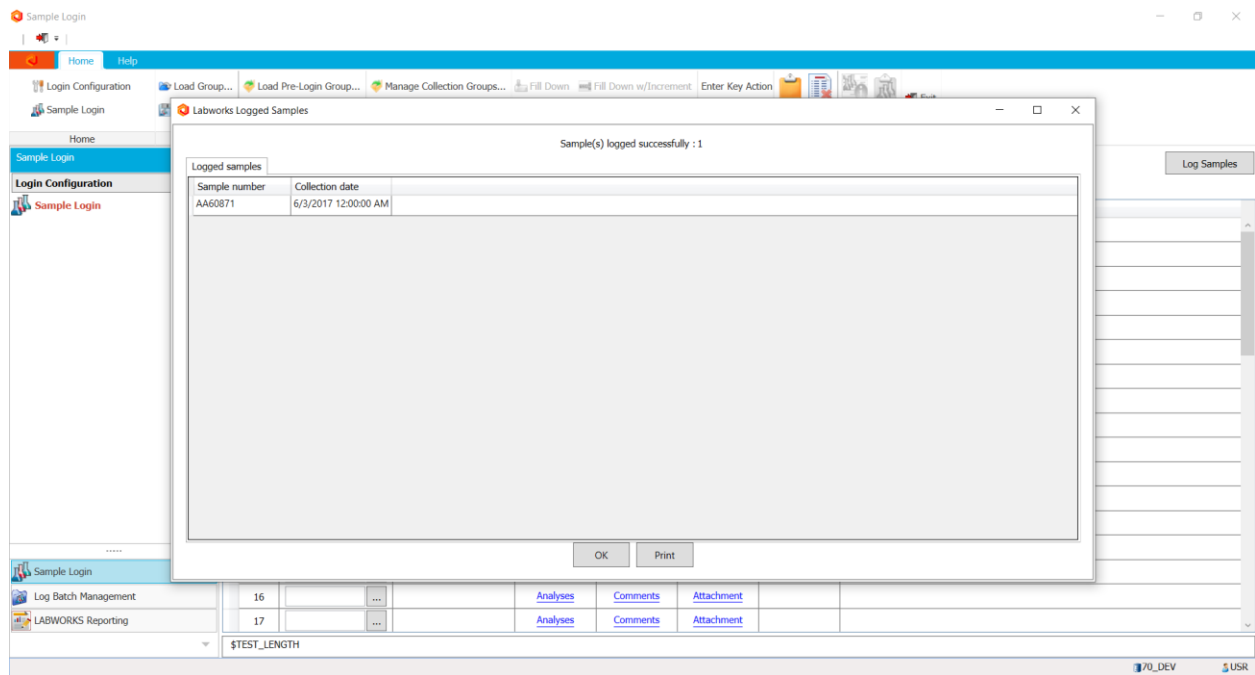
4.1. Login a sample

- 1) Click on 'LWSampleLogin.exe' application. Select database, enter username, password and click on 'Ok' button. Click on 'Login Configuration' menu from toolbar. Click on 'Select Template' dropdown.

- 2) Enter name of the new template to be added in 'Name' textbox. Select any one field from 'Available Fields' list and click on forward arrow. Verify selected field name after adding it to 'Selected Fields'. Click on 'Save' button.
- 3) 'Login template saved successfully' message should be displayed.



- 4) From 'Sample Login' window, select template name created in the previous step. Click on ellipsis button for the location code from the grid. Select one or more location code and click on close button.
- 5) Change the Replicate Settings from Analysis Details pop-up message. Enter number of Replicates, Set analysis To, Select Replicate From fields.
- 6) Click on 'Log Samples' button. Click on 'Ok' button.
- 7) Application should log new samples and display 'Labworks Logged Samples' window.



5. Result Entry

5.1. Result Entry

- 1) Click on ' ResultsEntry6.exe ' application. Click on Result Entry. Select Sample ID. Enter Sample Number. Click on View Selections. Click on Enter Selection.

LABWORKS Result Entry

File Help

Available templates: 2016_TEMPLATE

Sample IDs

Search for samples by:

- Sample IDs
- Location Code
- Mysampno
- Labworks Log Batch No.
- Report Number
- Last selected samples
- Cross Reference Search
- External Files
- Pasted list of samples
- Stepped Query
- QAQC Batches
- Analyses Awaiting Results
- Analyses Awaiting Validation

Selection Criteria

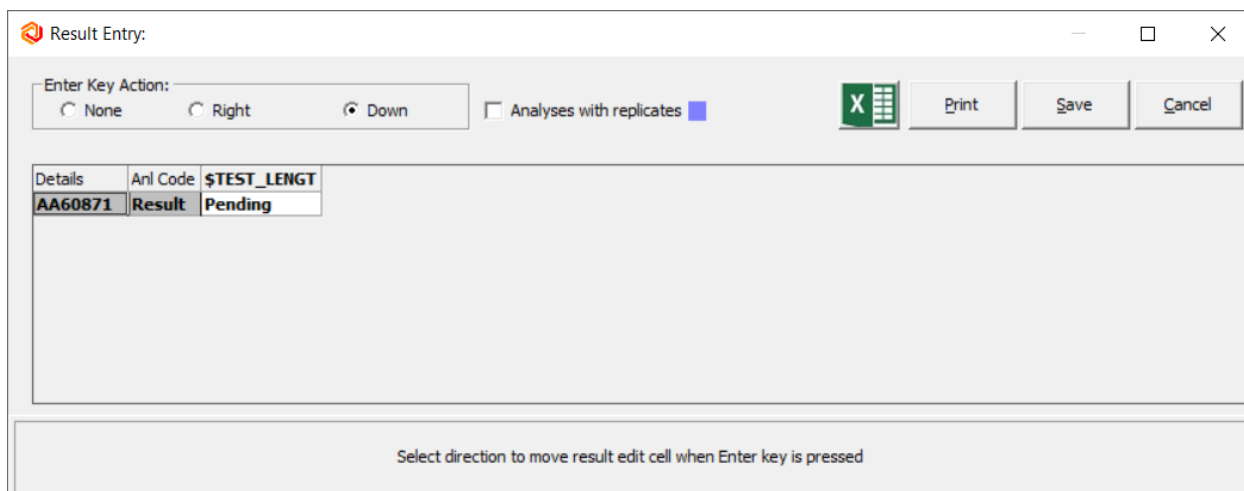
Enter or scan Sample ID: ☐ Speed View

Sample ID is AA60871

Uncheck All	Sample ID	Location code	Sample status	Collection date
☒	AA60871	BANGALORE	Ready to Collect	03/06/2017 00:00

Number of samples found: 1

- 2) In Result Entry window, enter results for all analysis.



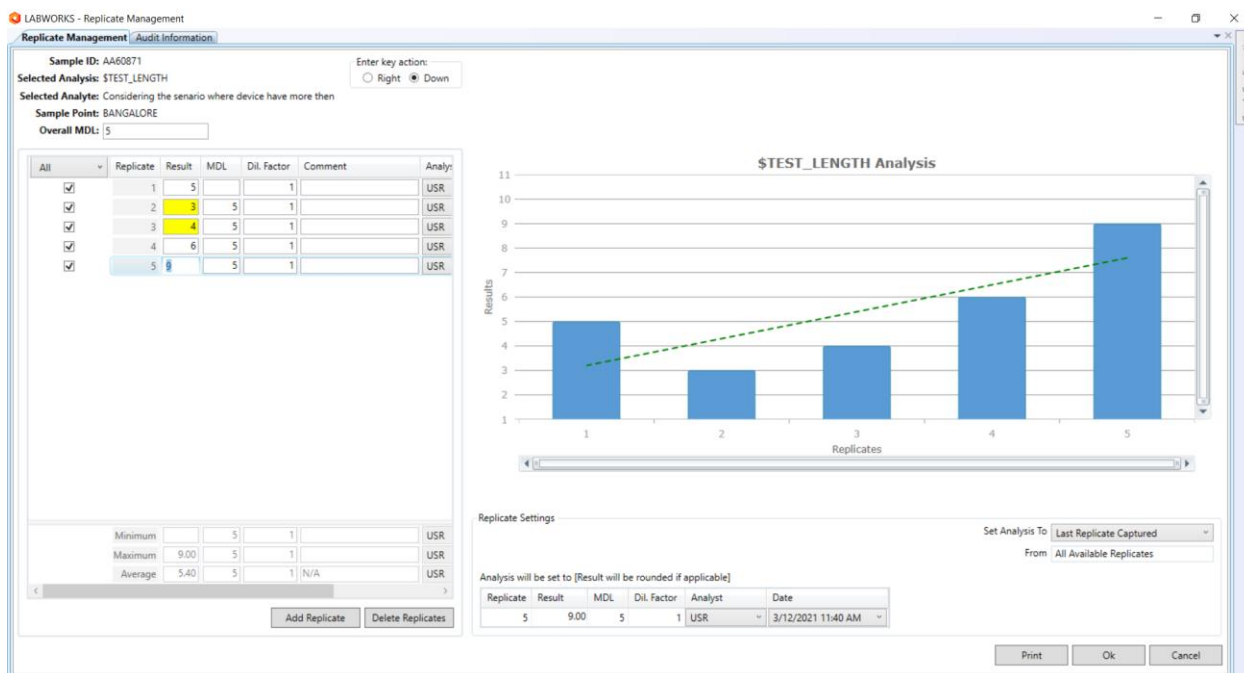
Result Entry:

Enter Key Action: ☐ None ☐ Right ☒ Down ☐ Analyses with replicates 

Details	Anl Code	\$TEST_LENGTH
AA60871	Result	Pending

Select direction to move result edit cell when Enter key is pressed

- 3) User should be able to view already added replicate information for single and multi-component analysis samples.
- 4) If logged-in user has “Add/Delete replicates” rights then replicates should be added or deleted and result value should be changed accordingly.



- 5) Click on “Store Results” button for Multi-Component Analysis.

Component Result Entry for Sample

Sample ID: AA60871
 Analysis: STEST_LENGTH
 Location code: BANGALORE
 Result file: manual entry

Validated: No
 Units: MYSAMPNO:

Container ID: N/A

Start date: 3/12/2021 Start time: 11:38 Dilution factor: 1
 End date: 3/12/2021 End time: 11:38 Analyst: USR

Preparation date: Preparation time:

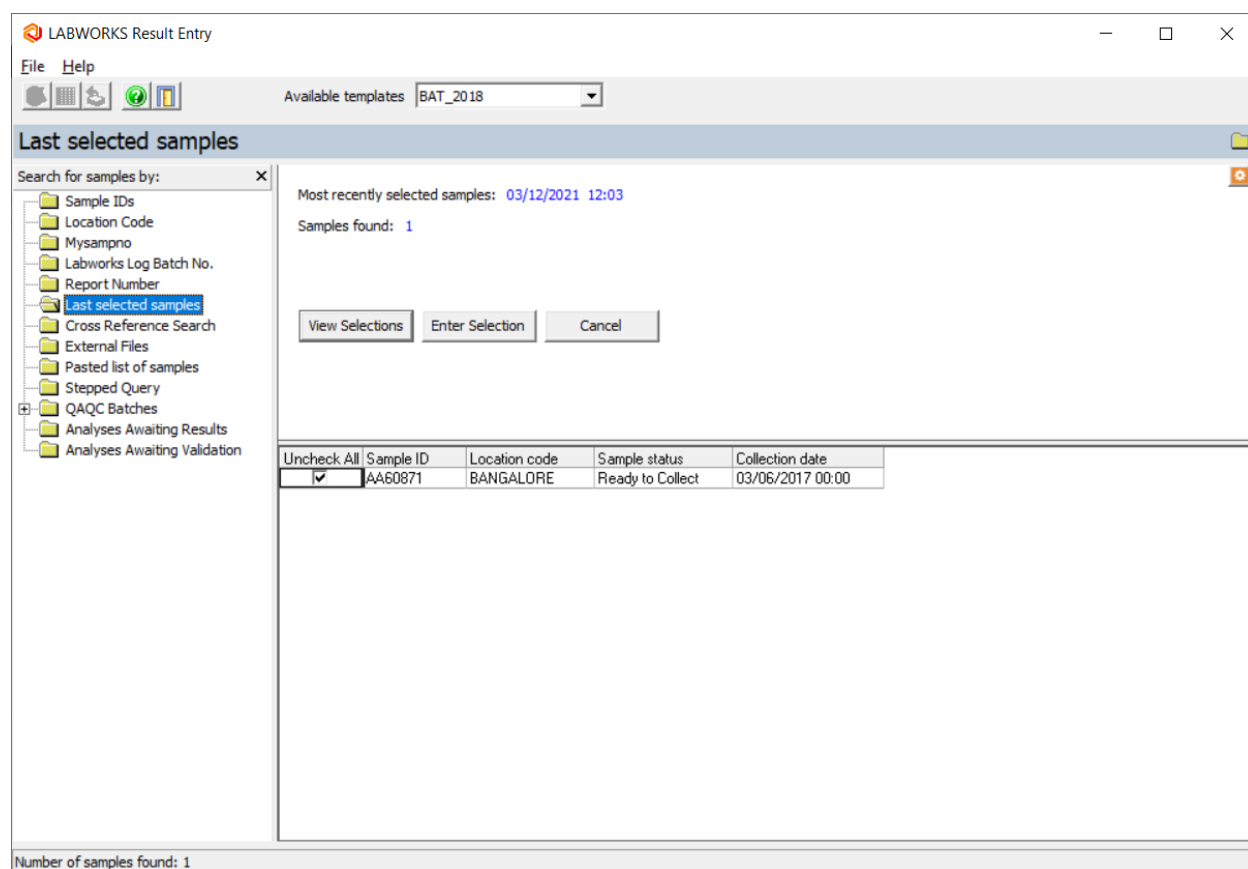
Analyses waiting for replicates input

Component Name	Vol	Result	Units	MDL	PQL	Sec Result	qualifier	Raw Result	Result Method	Oil Factor	Analyst	Start Date	Time	End Date	Time	Manager
1 Considering the scenario where d		5.40		5				5.00		1	USR	03/12/2021	11:38	03/12/2021	11:38	Manager
2 ABC		6		5						1	USR	03/12/2021	11:38	03/12/2021	11:38	Manager
3 H2O		7		5						1	USR	03/12/2021	11:38	03/12/2021	11:38	Manager
4 Silicon		5		5						1	USR	03/12/2021	11:38	03/12/2021	11:38	Manager
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Buttons on the right:

- Load Results
- Clear Results
- Display SOP
- Sample Comments
- Analysis Comment
- Print Spec Info
- Sample Spec Info
- Validate
- QA/QC Batch Inventory
- Print
- Store and Move Next
- Store Changes
- Cancel Changes

- 6) Click on "Save" button for analysis other than Multi-Component.
- 7) Select Last Selected Samples. Click on 'View Selection'. User should view previously stored results.



6. Importing Results

6.1. Result Entry

6.1.1. PR6 File Format – Single Component

- 1) Pre-requisite -
 1. Create Analysis SC1, SC2.
 2. Create new Sample with analysis SC1 and SC2.
 3. Create PR6 input file for the newly created samples.
- 2) Launch ResultsEntry6.exe. Go to Import instrument Results. Select Labworks PR6 file format. Select PR6 input file. Click ok.
- 3) Click "Save" on Result Entry Screen.

6.1.2. PR6 File Format – Multi-Component:

- 1) Pre-requisite -
 1. Create Analysis \$TestMCT with components A and B.
 2. Create new Sample with analysis \$TestMCT.
 3. Create PR6 input file for the newly created samples.
- 2) Launch ResultsEntry6.exe. Select sample created in step 1. Go to Modify Results for \$TestMCT Multicomponent Analysis. Click on Load Result. Select Labworks PR6 file format. Select PR6 input file.

- 3) Click on Store Result. Click on Save Results.

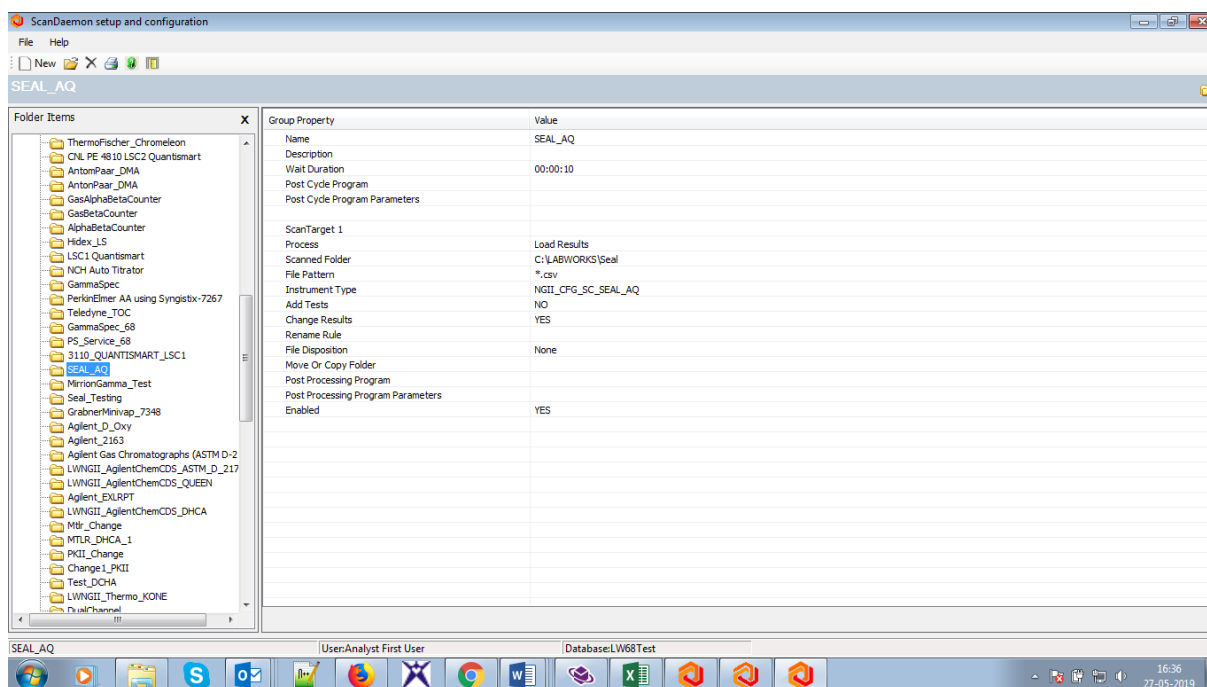
6.2. Multi-Component Transfer

6.2.1. PR6 File Format

- 1) Pre-requisite
 1. Create Analysis \$TestMCT with components A and B.
 2. Create new Sample with analyiss \$TestMCT.
 3. Create PR6 input file for the newly created samples.
- 2) Launch LW Multicomponent Transfer application (LWMultiComponentTransfer.exe). Login with valid credentials.
- 3) Select result file mode. Click Add file to List. Select Labworks PR6 file format. Select updated PR6 file. Click Find Samples. Click Review. Close Result Review sample window. Click Save Results. Launch Results Entry. Open the sample details for which results is posted.

6.3. Scan Daemon

- 1) Go to C:\LABWORKS\LWEXE\Server path. Launch ScanDaemon Setup and Configuration application (LWScanDaemonConfiguration.exe). Create a ScanGroup by entering appropriate ScanGroup properties. Click “OK” button.



- 4) Go to C:\LABWORKS\LWEXE\Server path. Launch 'LW Service Controller' application (LWServiceControllers.exe). Click on 'ScanDaemon Service Controller' tab. Select Scan Group from 'Available Scan groups' dropdown and click on 'Start group scanning process' button. Status should be displayed as “Waiting” in Orange color.
- 5) Let the application scan the files as configured for the scan group through the service.
- 6) Launch Result Entry application. Check that all the results corresponding to the respective samples are displayed.

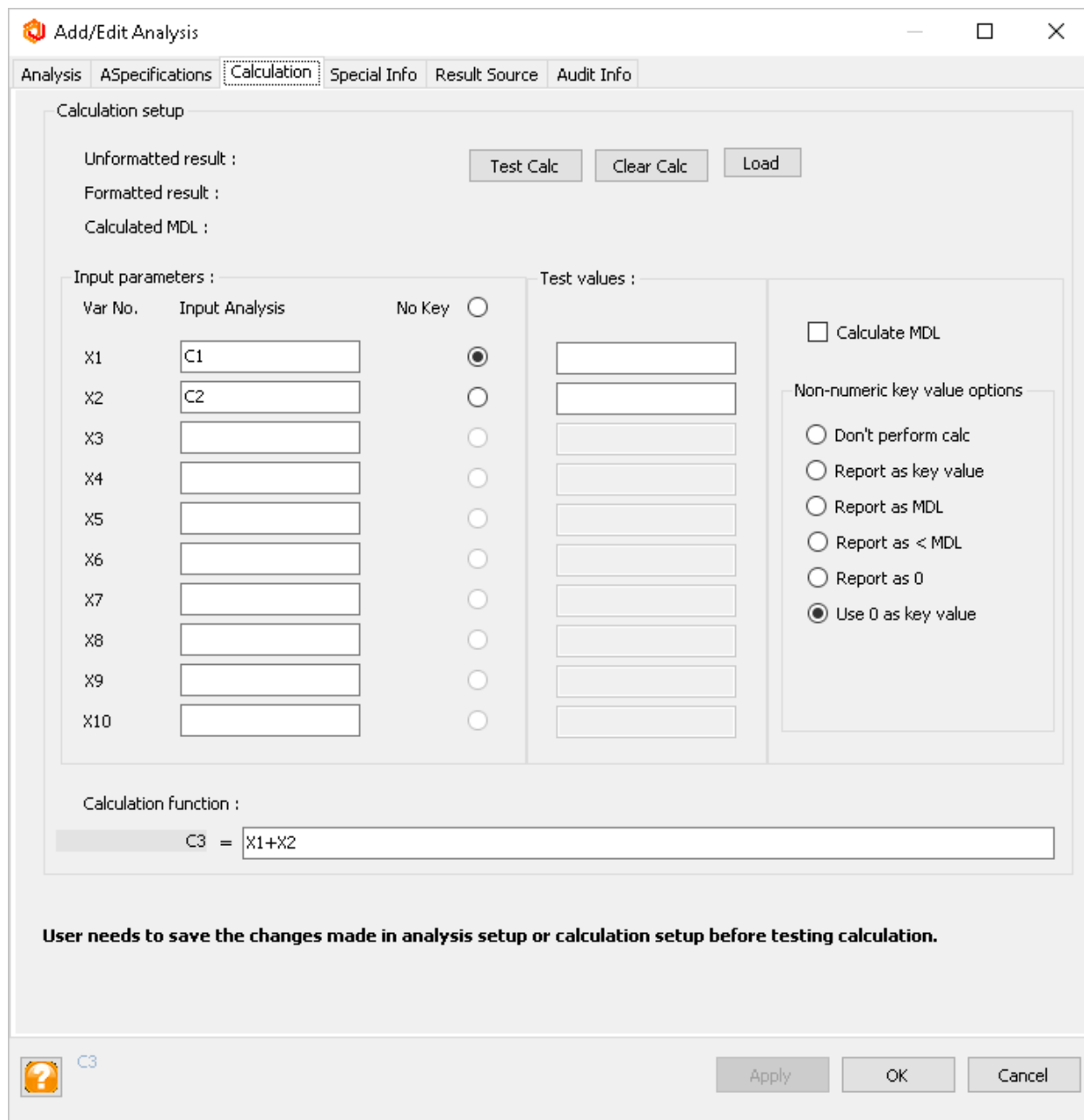
7. Performing Calculations

7.1. Built-in

1) Precondition :

Go to System Manager Application and select Use_Calculation_Engine checkbox.

2) Create ACODEs C1, C2 & C3. Define calculation for ACODE C3, Calculation tab has $X1=C1$, $X2=C2$. Calculation function= $X1+X2$. Create a sample with ACODEs: C1, C2 and C3.



Add/Edit Analysis

Analysis | ASpecifications | **Calculation** | Special Info | Result Source | Audit Info

Calculation setup

Unformatted result : Test Calc Clear Calc Load

Formatted result :

Calculated MDL :

Input parameters :

Var No.	Input Analysis	No Key
X1	C1	☒
X2	C2	☐
X3		☐
X4		☐
X5		☐
X6		☐
X7		☐
X8		☐
X9		☐
X10		☐

Test values :

☐ Calculate MDL

Non-numeric key value options

☐ Don't perform calc
☐ Report as key value
☐ Report as MDL
☐ Report as < MDL
☐ Report as 0
☒ Use 0 as key value

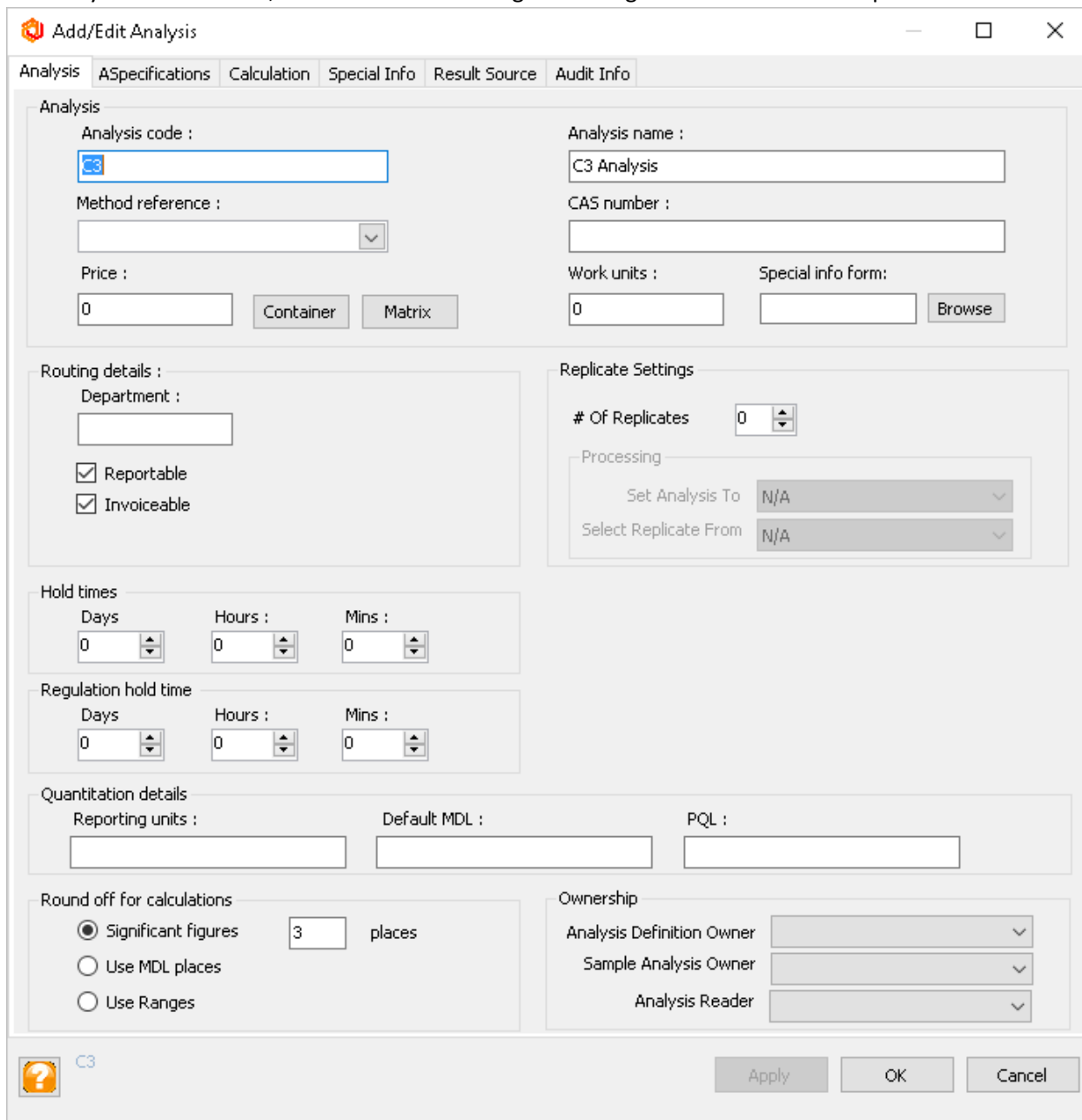
Calculation function :

C3 = X1+X2

User needs to save the changes made in analysis setup or calculation setup before testing calculation.

 C3 Apply OK Cancel

- 3) On Analysis Maintenance, select radio button “Significant Figures” and enter no. of places as 3.



Add/Edit Analysis

Analysis | ASpecifications | Calculation | Special Info | Result Source | Audit Info

Analysis

Analysis code :

Analysis name :

Method reference :

CAS number :

Price :

Work units : Special info form:

Routing details :

Department :

☒ Reportable

☒ Invoiceable

Replicate Settings

Of Replicates

Processing

Set Analysis To

Select Replicate From

Hold times

Days Hours : Mins :

Regulation hold time

Days Hours : Mins :

Quantitation details

Reporting units : Default MDL : PQL :

Round off for calculations

☒ Significant figures places

☐ Use MDL places

☐ Use Ranges

Ownership

Analysis Definition Owner

Sample Analysis Owner

Analysis Reader

 C3

-
- The screenshot displays the Labworks Reporting application interface. The main window has a menu bar with 'Home', 'Edit', and 'File'. Below the menu bar is a toolbar with various icons and buttons. The 'Home' tab is active, showing a 'Sample Login' section with a 'Login Configuration' dropdown menu. The 'Login Configuration' menu is open, showing a table with 14 rows and 2 columns. The first row is highlighted in red, and the first column header is also in red. The table contains the following data:
- | | Location code |
|----|---------------|
| 1 | PUNE |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
- A dialog box titled 'Labworks Logged Samples' is open in the foreground. It displays the message 'Sample(s) logged successfully : 1'. Below the message is a table with the following data:
- | Sample number |
|---------------|
| AA60413 |
- The dialog box has 'OK' and 'Print' buttons at the bottom. The background application window shows a 'Sample Login' section with a 'Login Configuration' dropdown menu. The 'Login Configuration' menu is open, showing a table with 14 rows and 2 columns. The first row is highlighted in red, and the first column header is also in red. The table contains the following data:
- | | Location code |
|----|---------------|
| 1 | PUNE |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |

- Page 29 of 45

Result Entry:

Enter Key Action: ☐ None ☒ Right ☐ Down ☐ Analyses with replicates



Details	Anl Code	C1	C2	C3
AA60413	Result			
CD: 03/06/2017	StartDate			
	EndDate			
	Validated By			
	DilFactor	1	1	1
	MDL			
	PQL			
	Qualify			
	Result2			

Left click result cell to enter data, headers to display user, test, or sample info Right click for context menu

- 6) Enter results for analysis C1 and C2. Result value should be automatically calculated for C3.

Result Entry:

Enter Key Action: ☐ None ☒ Right ☐ Down ☐ Analyses with replicates

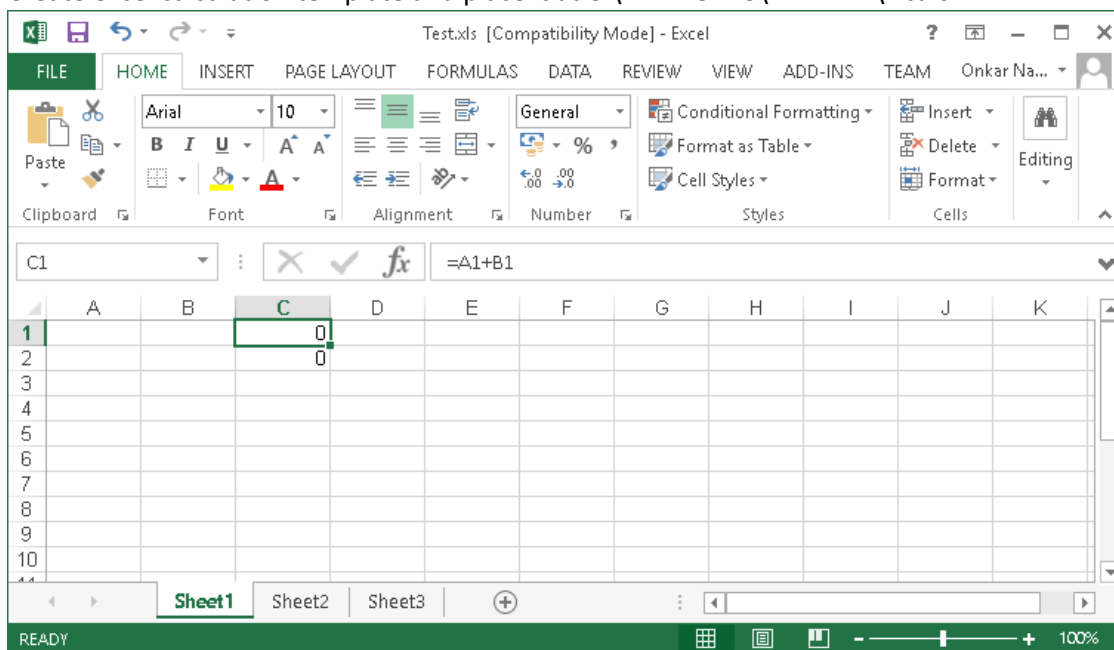


Details	Anl Code	C1	C2	C3
AA60413	Result	10	20	30.0
CD: 03/06/2017	StartDate	10/28/2021	10/28/2021	10/28/2021
	EndDate	10/28/2021	10/28/2021	10/28/2021
	Validated By			
	DilFactor	1	1	1
	MDL			
	PQL			
	Qualify			
	Result2			

Enter, load, or modify results for sample analyses

7.2. Excel

- 1) Create excel calculation template and place it at C:\LABWORKS\LWDATA\xlcalc.



- 2) Launch Excel Calculation Setup. Click Setup. Click Modify. On Calculation Header Information tab, select .XLS file having result data and calculation formula. Enter Sheet name.
- 3) On Input and Output Parameters tab, click Load from Analysis and select \$XC1, \$XC2 and \$XC3. For \$XC1 and \$XC2, select Input and enter cell address. For \$XC3, select Output and enter cell address. Click Save.

Excel Custom Calculation Creation and Modification

Loaded calculation: TESTCALC

Last modified: 10/28/2021 11:51 Modified by: USR

Calculation code: TESTCALC

Calculation description: Test Calc

Excel workbook (.XLS) file: TEST Excel worksheet name: Sheet1 Macro:

Header items to write to spreadsheet:

Sample Header Item	Cell Address
Sample ID	
Location code	
Location description	
Sample collector	
Purchase order number	
Project account code	
LABWORKS Log Batch No.	
Mysampno (User 01)	
Myuser2 (User 02)	
Dv_status (User 03)	
Permit_no (User 04)	
Discharge_no (User 05)	
Email_address (User 06)	
Report_type (User 07)	

Calculation Header Information

Input and Output Parameters

Excel Custom Calculation Creation and Modification

Loaded calculation: TESTCALC

Last modified: 10/28/2021 12:02 Modified by: USR

Clear Params Load from XL Calc Merge from XL Calc Load from Analysis Merge from Analysis

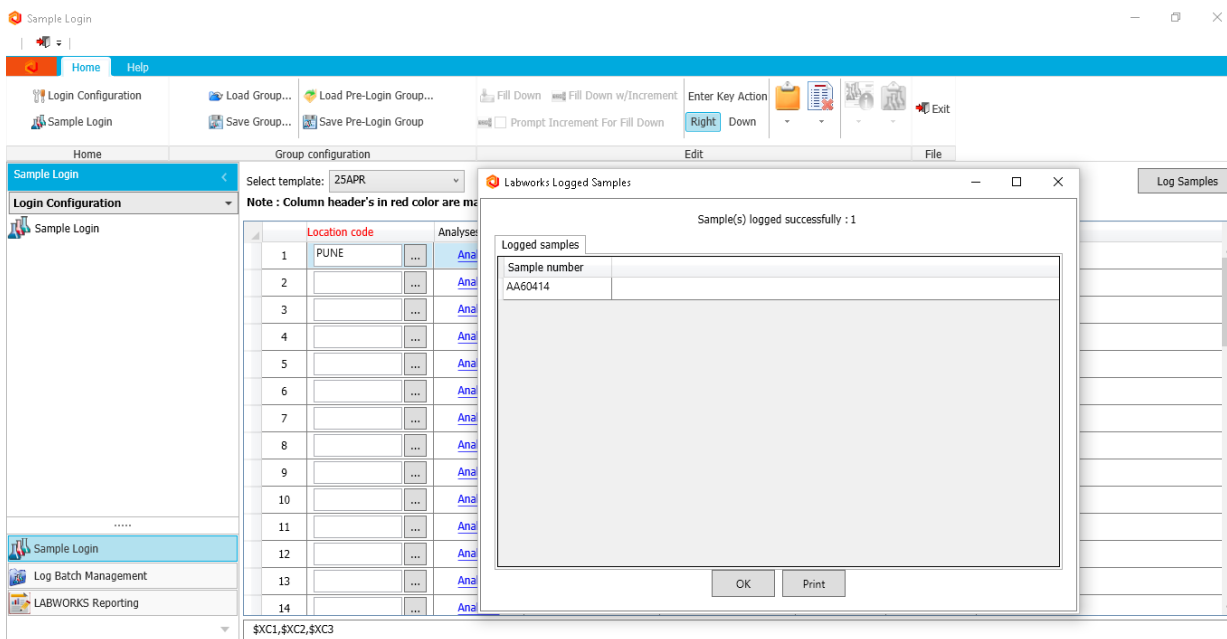
Input and output parameters for Excel custom calculation: ☐ Allow Duplicates ☐ Auto-Increment Cell

	Anl Code	Analyte Name	Result Item	Input/Output	Cell Address
1	\$XC1	a	Primary result	Input	A1
2	\$XC1	b	Primary result	Input	A2
3	\$XC2	a	Primary result	Input	B1
4	\$XC2	b	Primary result	Input	B2
5	\$XC3	a	Primary result	Output	C1
6	\$XC3	b	Primary result	Output	C2
7			Primary result	Input	
8			Primary result	Input	
9			Primary result	Input	
10			Primary result	Input	
11			Primary result	Input	
12			Primary result	Input	
13			Primary result	Input	
14			Primary result	Input	
15			Primary result	Input	

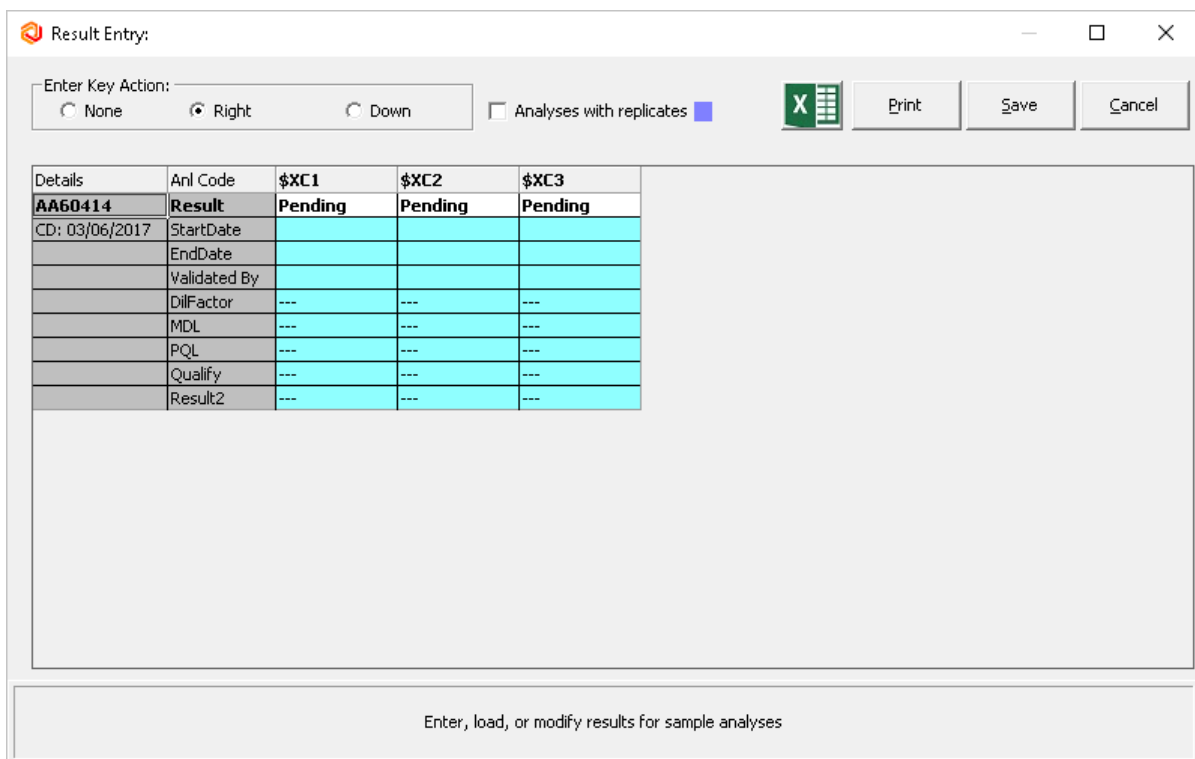
Calculation Header Information

Input and Output Parameters

4) Log-in samples for with ACodes created in above steps.



5) Launch Result Entry application. Click on Result Entry. Select Sample ID. Enter Sample Number. Click on View Selections. Click on Enter Selection.



- 6) Enter results for analysis \$XC1 and \$XC2. Result value should be automatically calculated for \$XC3.

Result Entry:

Enter Key Action: ☐ None ☒ Right ☐ Down ☐ Analyses with replicates



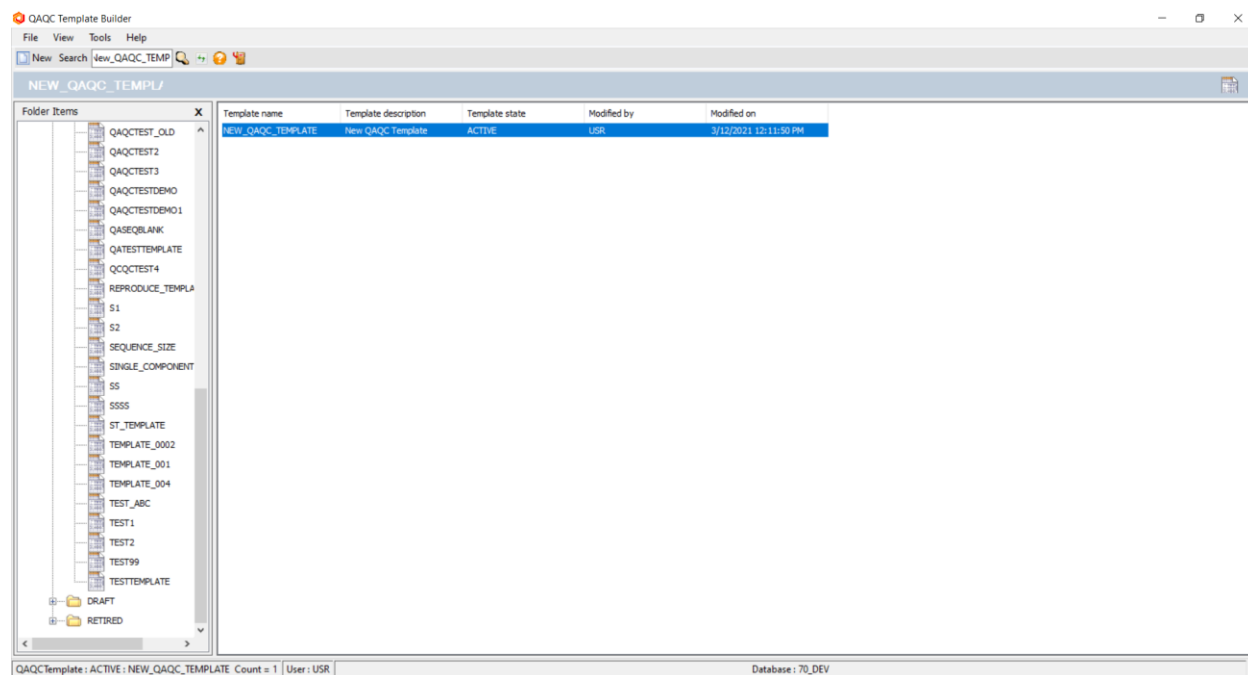
Details	Anl Code	\$XC1	\$XC2	\$XC3
AA60414	Result	Done	Done	Done
CD: 03/06/2017	StartDate	10/28/2021	10/28/2021	10/28/2021
	EndDate	10/28/2021	10/28/2021	10/28/2021
	Validated By			
	DilFactor	---	---	---
	MDL	---	---	---
	PQL	---	---	---
	Qualify	---	---	---
	Result2	---	---	---

Enter, load, or modify results for sample analyses

8. Generate QA/QC Batch

8.1. QA/QC Template Builder

- 2) Click on 'LWQAQCTemplateBuilder.exe'. Click on 'New' button. Enter the template details in Main tab. Enter the sequence details in Sequence tab. Newly created QA QC Template is displayed in the list.



QA/QC Template Builder

Main Special Info Sequence Attachments

Template Name
NEW_QAQC_TEMPLATE

Template Description
New QAQC Template

Primary Analysis
TEST

Special QA Sample Available for Batch

Special QA Sample

Default Instrument

Special Info
FIRST_SI_FORM

Results Entry Template
NEW_TEMPLATE

Report Template

Use standard item for tracking
H2O
O

eWorksheet Template

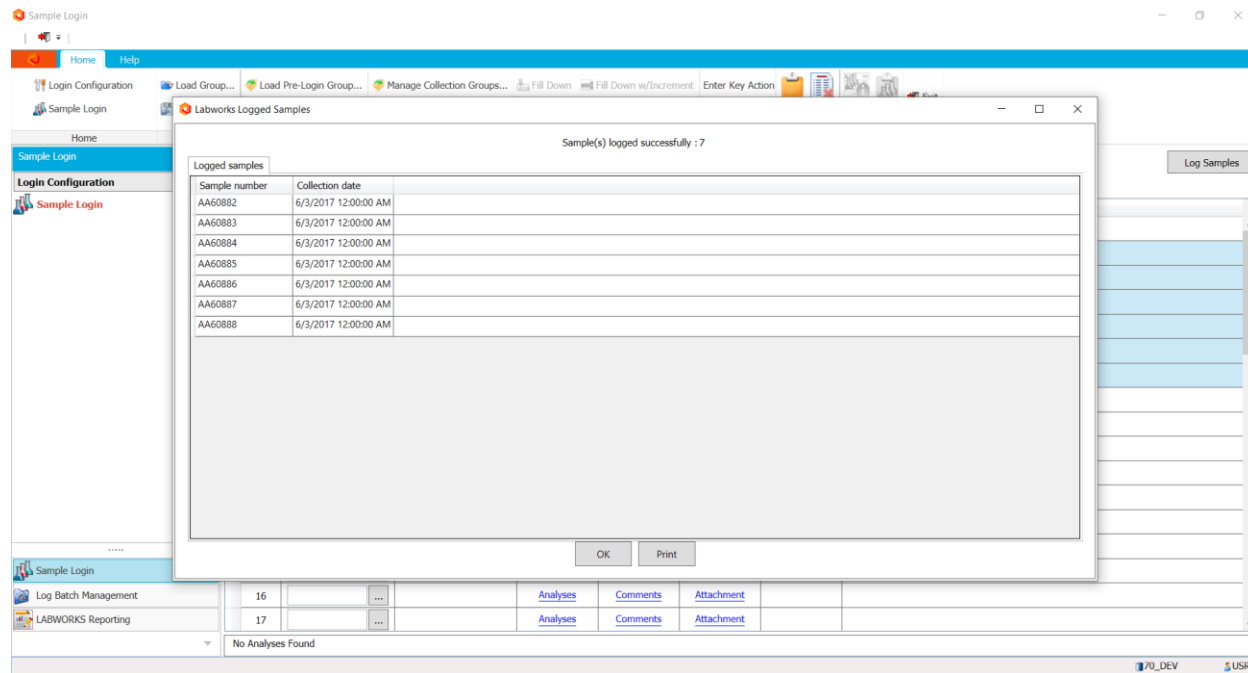
Default Analyst

Dependent Analysis

Primary analysis	Analysis code	Analysis name	Type
TEST	F_TEST	Fid Blank for Single test	

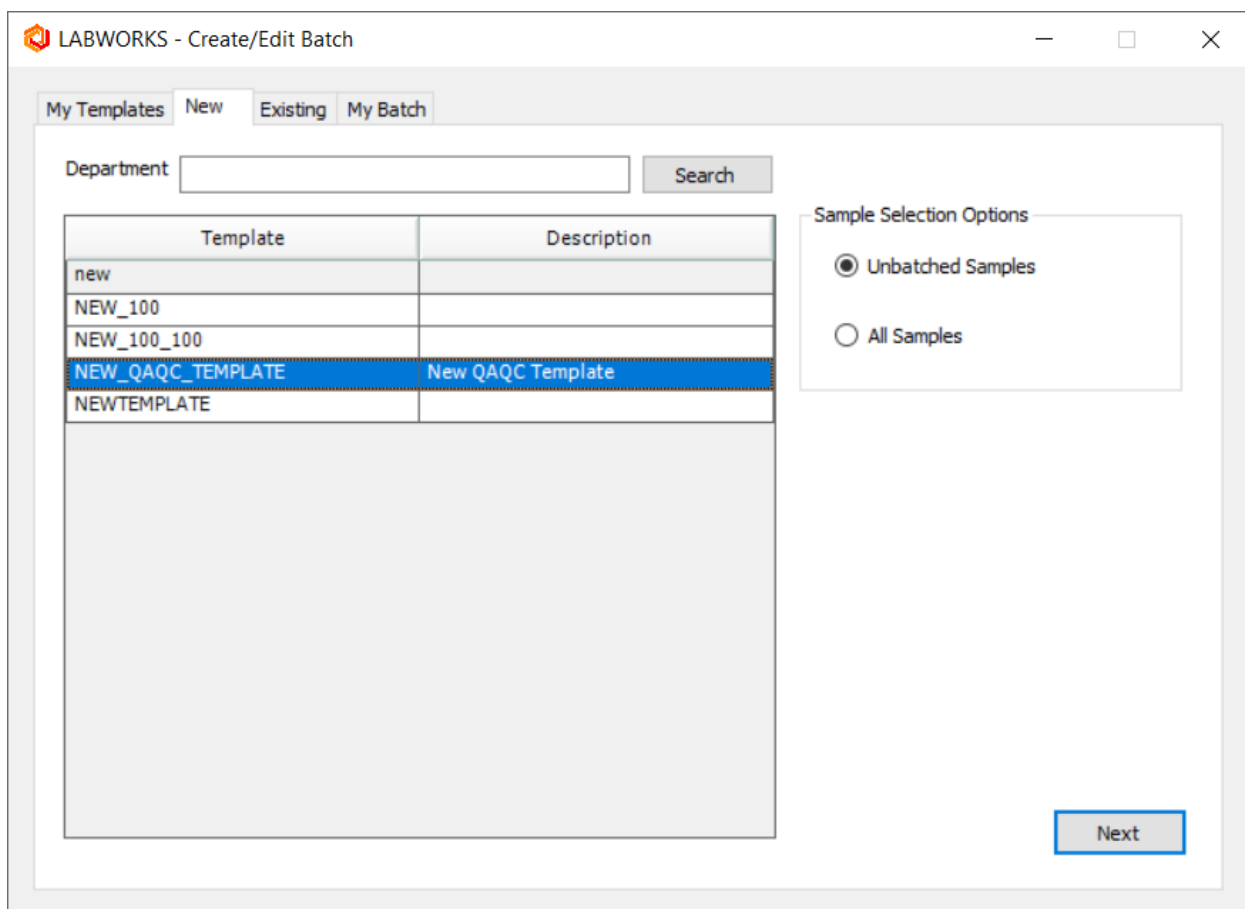
Apply OK Cancel

- 3) Launch “LWSampleLogin.exe”. Login samples to be included in the batch.



8.2. QA/QC Batch Builder

- 1) Launch “LWQAQCBatchBuilder.exe”. Select the newly created template, radio button for sample selection option as “Unbatched Samples” and click on 'Next' button.



The screenshot shows the 'LABWORKS - Create/Edit Batch' window. It has a title bar with standard window controls. Below the title bar are four tabs: 'My Templates', 'New', 'Existing', and 'My Batch'. The 'New' tab is selected. Inside the window, there is a 'Department' text box followed by a 'Search' button. Below these is a table with two columns: 'Template' and 'Description'. The table contains five rows: 'new', 'NEW_100', 'NEW_100_100', 'NEW_QAQC_TEMPLATE', and 'NEWTEMPLATE'. The 'NEW_QAQC_TEMPLATE' row is highlighted in blue. To the right of the table is a 'Sample Selection Options' section with two radio buttons: 'Unbatched Samples' (which is selected) and 'All Samples'. At the bottom right of the window is a 'Next' button.

Template	Description
new	
NEW_100	
NEW_100_100	
NEW_QAQC_TEMPLATE	New QAQC Template
NEWTEMPLATE	

- 2) Select the samples from “Available Samples” list and click “Auto-fill” button to move the samples to “Selected Sample” list.

LABWORKS - Assign Samples

File Options

Batch ID: NEW_QAQC_TEMPLATE-2366 Batch Status: Preparation Date: Preparation Time:

Create Batch Next Samples Quick Track eWorksheet Print Worksheet

Samples Inventory Special Info Attachments

Batch Description: NEW_QAQC_TEMPLATE-2366 BATCH

Assign to Analyst: Assign to Instrument:

Results Entry Instrument Software

Available Sample Sample No Add

Sample No	Analysis Code	Due Date	Billing Rate	Collection dat	Price List	REPORT	Sample Statu
AA58609	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58610	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58611	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58612	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58613	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58614	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58615	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58619	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58620	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58621	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58622	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58623	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58624	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58625	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58626	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58832	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA60886	TEST	03/06/2017	100	03/06/2017			Waiting Analy
AA60887	TEST	03/06/2017	100	03/06/2017			Waiting Analy
AA60888	TEST	03/06/2017	100	03/06/2017			Waiting Analy

Selected Sample Create Sub-Batch

Sample Type	Sample No	Analysis Code	Sub Batch	Billing Rate	Collection dat	Price List
Sample	AA60882	TEST	A	100	03/06/2017	
Sample	AA60883	TEST	A	100	03/06/2017	
Sample	AA60884	TEST	A	100	03/06/2017	
Sample	AA60885	TEST	A	100	03/06/2017	

3) Click on 'Create Batch' button. "Batch saved successfully" message should be displayed.

LABWORKS - Assign Samples

File Options

Batch ID: NEW_QAQC_TEMPLATE-2366 Batch Status: Preparation Date: Preparation Time:

Next Samples Quick Track eWorksheet Print Worksheet

Samples Inventory Special Info Attachments

Batch Description: NEW_QAQC_TEMPLATE-2366 BATCH

Assign to Analyst: Assign to Instrument:

Results Entry Instrument Software

Available Sample Sample No Add

Sample No	Analysis Code	Due Date	Billing Rate	Collection dat	Price List	REPORT	Sample Statu
AA58609	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58610	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58611	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58612	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58613	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58614	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58615	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58619	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58620	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58621	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58622	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58623	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58624	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58625	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58626	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA58832	TEST	03/06/2017	100	06/03/2017			Waiting Analy
AA60886	TEST	03/06/2017	100	03/06/2017			Waiting Analy
AA60887	TEST	03/06/2017	100	03/06/2017			Waiting Analy
AA60888	TEST	03/06/2017	100	03/06/2017			Waiting Analy

Selected Sample Create Sub-Batch

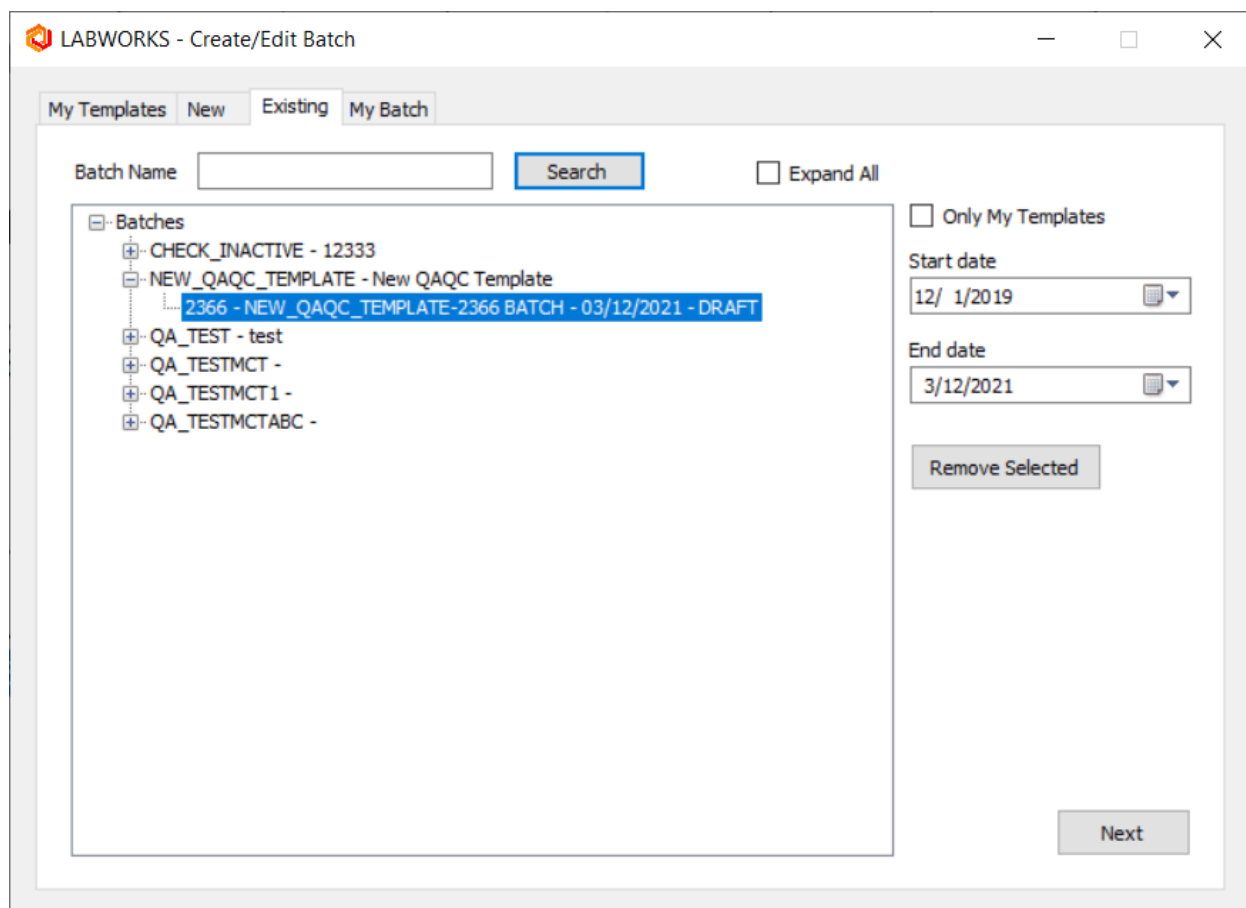
Sample Type	Sample No	Analysis Code	Sub Batch	Billing Rate	Collection dat	Price List
Sample	AA60882	TEST	A	100	03/06/2017	
Sample	AA60883	TEST	A	100	03/06/2017	
Sample	AA60884	TEST	A	100	03/06/2017	
Sample	AA60885	TEST	A	100	03/06/2017	

QAQC Batch Builder

Batch saved successfully

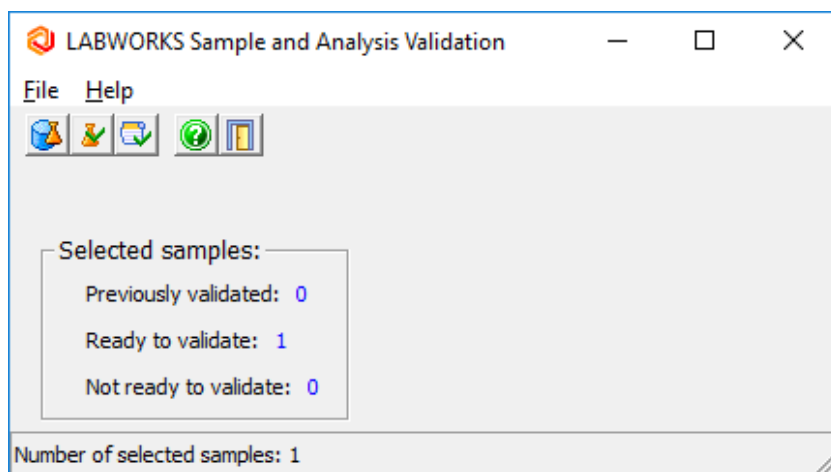
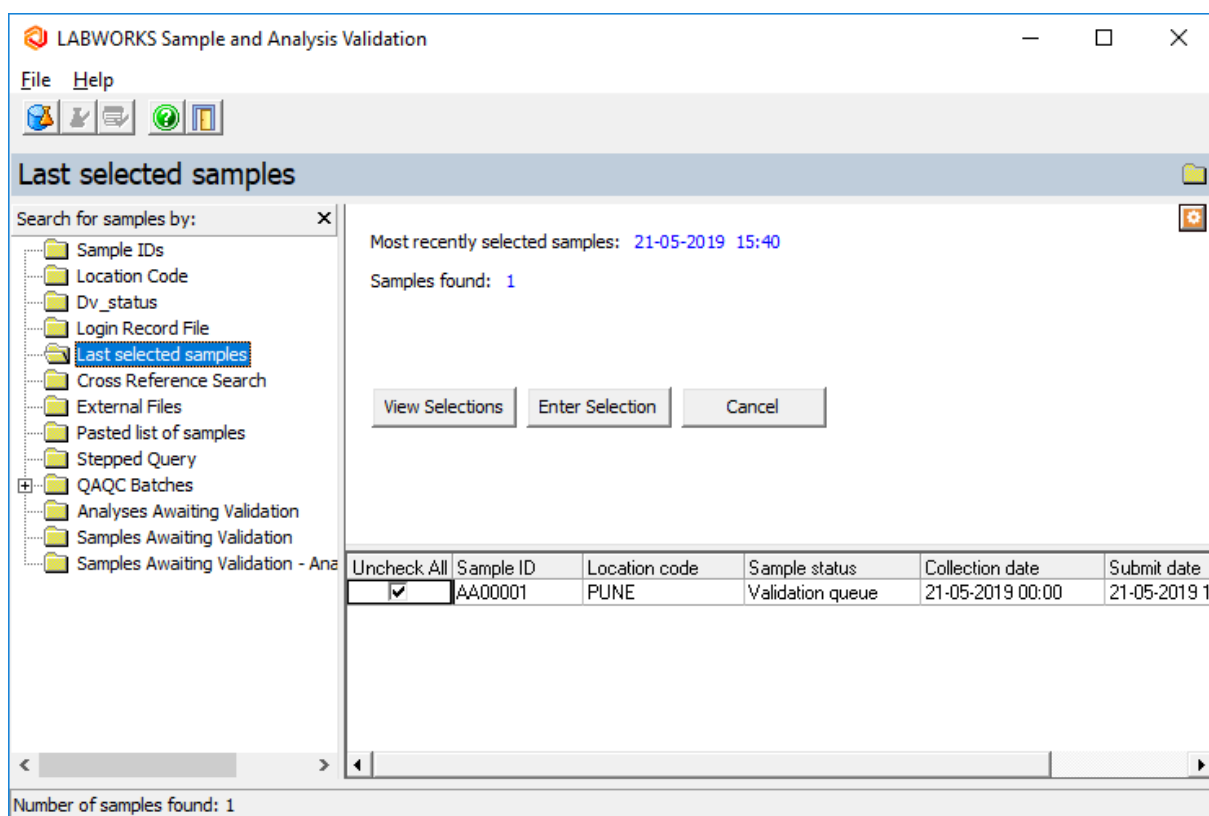
OK

- 4) Go to “Existing” tab. The newly created batch should be displayed with “DRAFT” status.



9. Validate Result

- 1) Launch Sample and Analysis validation application.
- 2) Select Sample ID option from Search for Sample By. Enter Sample Number (select sample number such that it is already having status as 'Validation queue'). Click on View Selection. Click on Enter Selection.



- Go to 'Analysis Order' Tab. Right Click on Analysis Order column. Select 'Validate all complete Analyses in sheet'.

Multi-Sample Validation - Sample Analysis Orders

Unordered analysis 10.00 Set price 10.00 Projected price

Analyses Ordered	Sample ID	AA00001
	Loc Code	PUNE
	DV_STATUS	
!TEST	Status	Not valid
!TEST Analysis	Result	Complete
---	Rlt Source	Manual
	Price	0.00
	Start Date	21-05-2019 15:41:00
	End Date	21-05-2019 15:41:00
	Analyst	USR2
TEST	Status	Not valid
TEST Analysis	Result	10
---	Rlt Source	Manual
	Price	0.00
	Start Date	21-05-2019 15:41:00
	End Date	21-05-2019 15:41:00
	Analyst	USR2
\$TEST	Status	Not valid
\$TEST Analysis	Result	Complete
---	Rlt Source	Manual

Cancel
 Validate all completed analyses for sample AA00001
 Unvalidate all analyses for sample AA00001
 Set all analysis prices for sample AA00001
 Reorder all analyses for sample AA00001

Sample header info Comments Special information **Analysis order** Setup headers

Click analysis disposition to change, result to view detail, or price to set price. Right click header for block operations.

4) Select 'Sample header info' tab. Select Validate Now check box. Click on "Save" button.

Multi-Sample Validation - Sample Header Fields

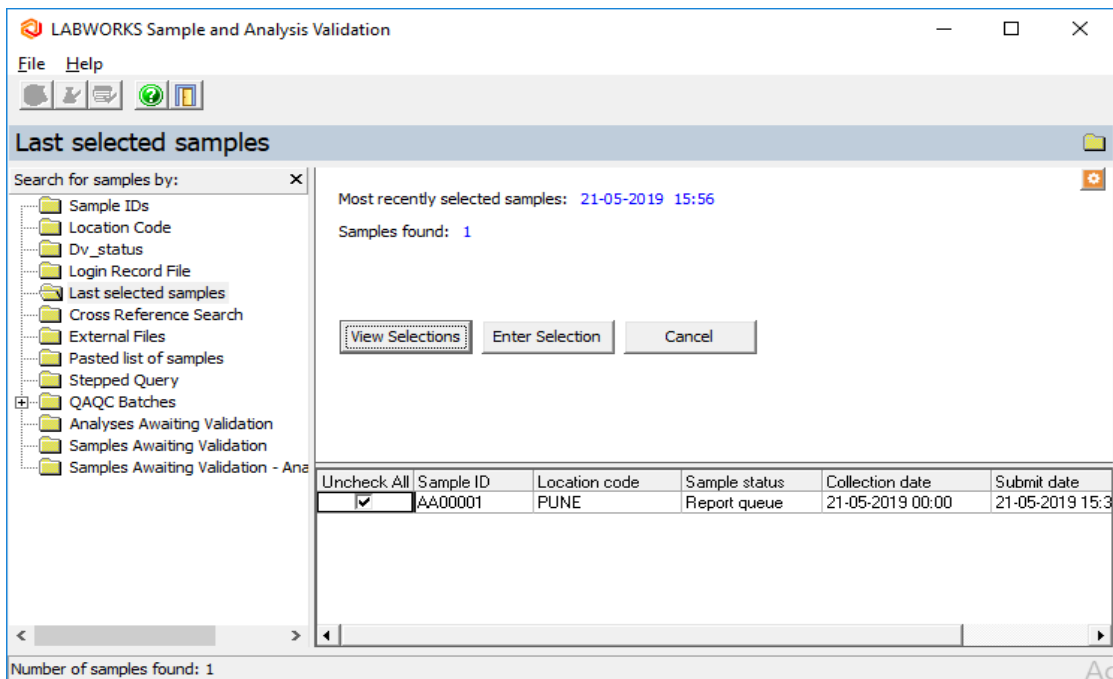
Save Cancel

Sample ID	Validate	Previously Validated	Analyses Validated	Any Viols	Audit Trail	QA/QC Data	Loc Code	Sample Colctr	Col Date	ColTime	Sub Date
AA00001	☒	No	Yes	No	Yes	No	PUNE		21-05-2019	00:00	21-05-2019

Sample header info Comments Special information Analysis order Setup headers

Click here to save sample validations, analysis dispositions, and price or comment modifications

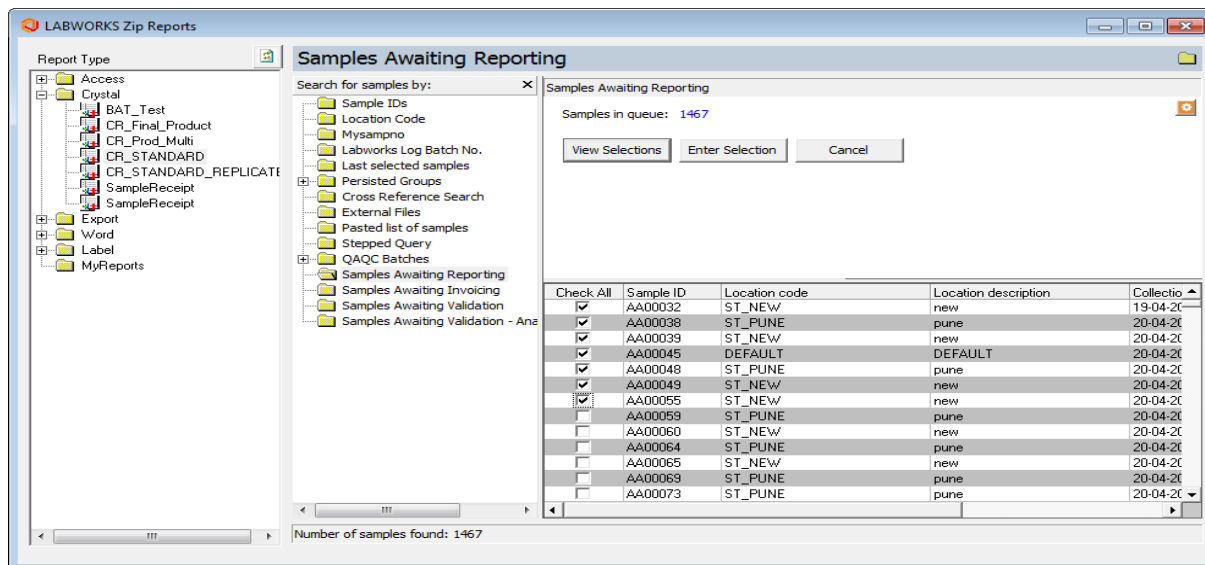
- 5) Select 'Last Selected Sample' option. Click on View Selection button.



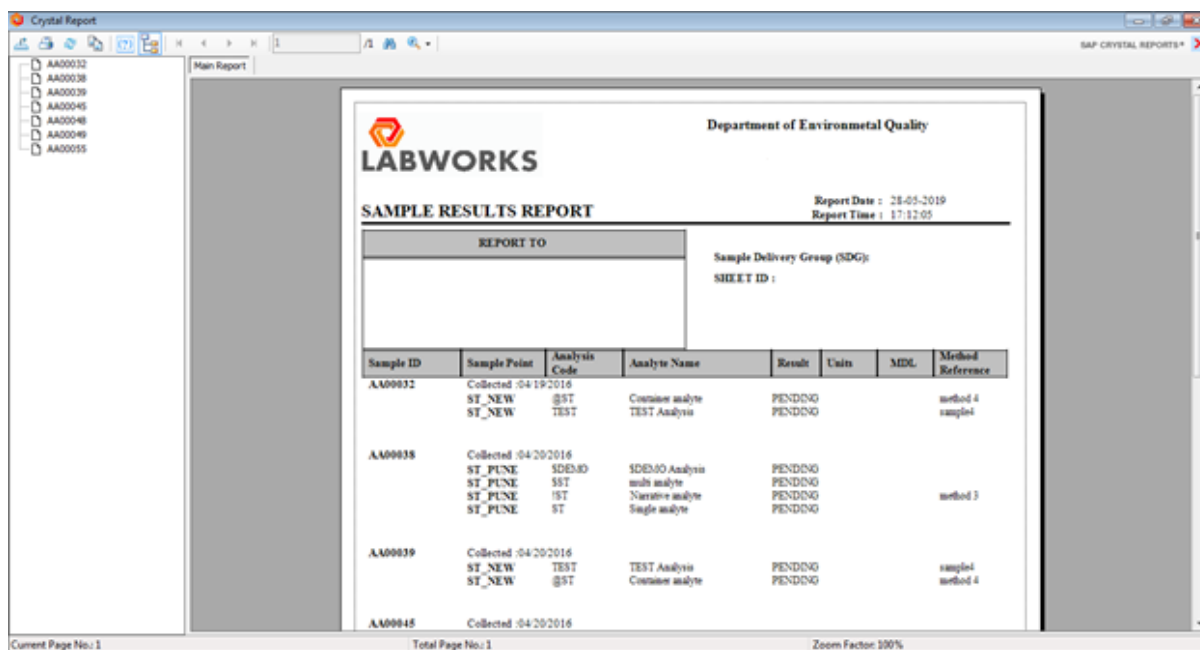
- 6) Status of the selected sample should be displayed as 'Report Queue'.

10. Generate Report

- 1) Launch Zip Report (ZipReport6.exe) application with valid LABWORKS credentials. Select "CR_STANDARD" report and select applicable samples using "Sample Search" window. Click "Enter Selection".

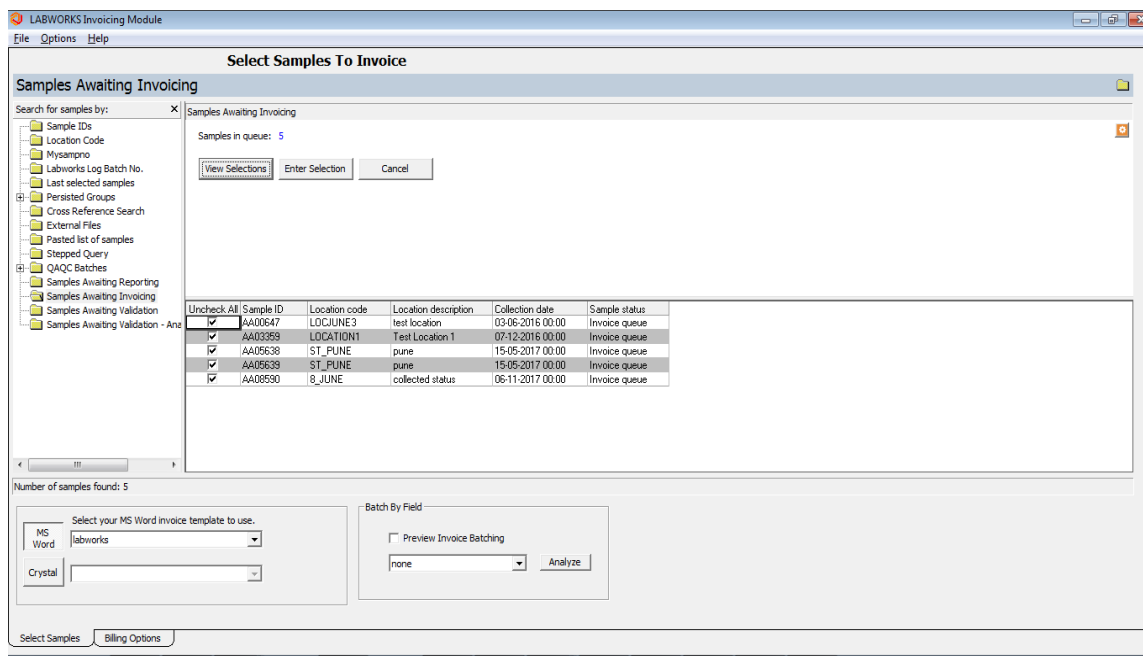


- 2) Report file is generated.



11. Generate Invoice

- 1) Launch "Sample Invoice" application (LWWinV6.exe). Select "Samples Awaiting Invoicing" option. Click "View Selection" and "Enter Selection".



- 2) Invoice should be generated as per the configured format.