MetaXpress® Software – Acquisition Journal: Pipette Wait Read_revB	
File Name(s)	Pipette Wait Read_revB.jzp
Description	This journal will pipette to wells with a defined wait time prior to imaging. RevB adds interactive set up of the SecondsToWait and SecondsPerWell parameters.
Compatibility	• IXM with Fluidics option • Only tested in MX6
Prerequisites	Fluidics option
Notes	The following setting is hard-coded in the journal. This can be modified by editing the journal, or can be moved to interactive prompt: • Plate Directory is C:\MX6\
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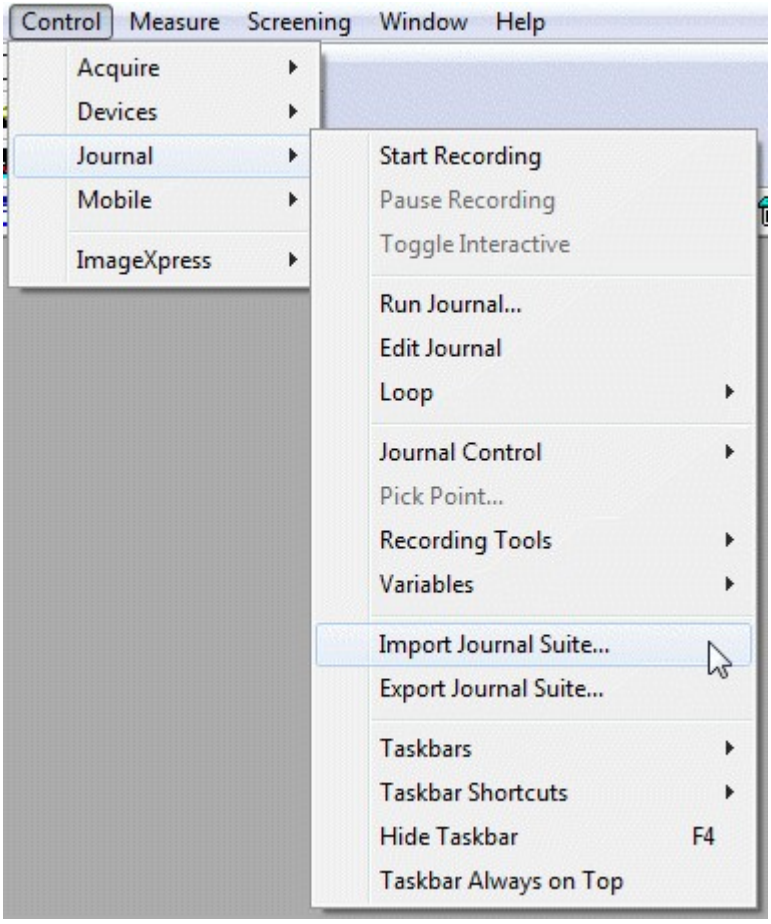
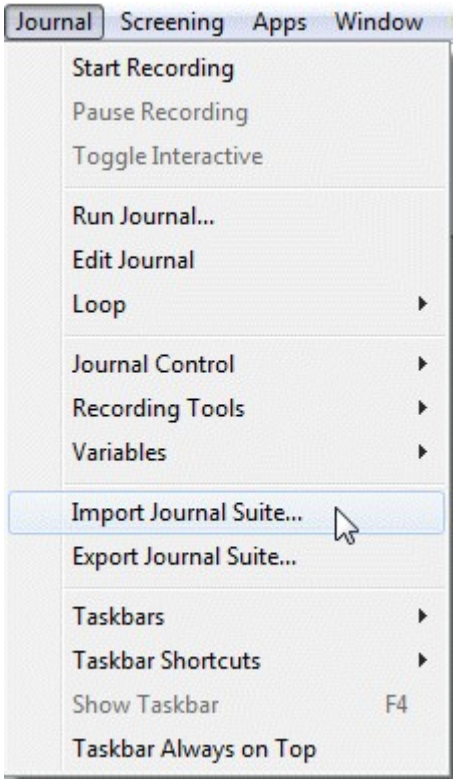
Date	June 4, 2019

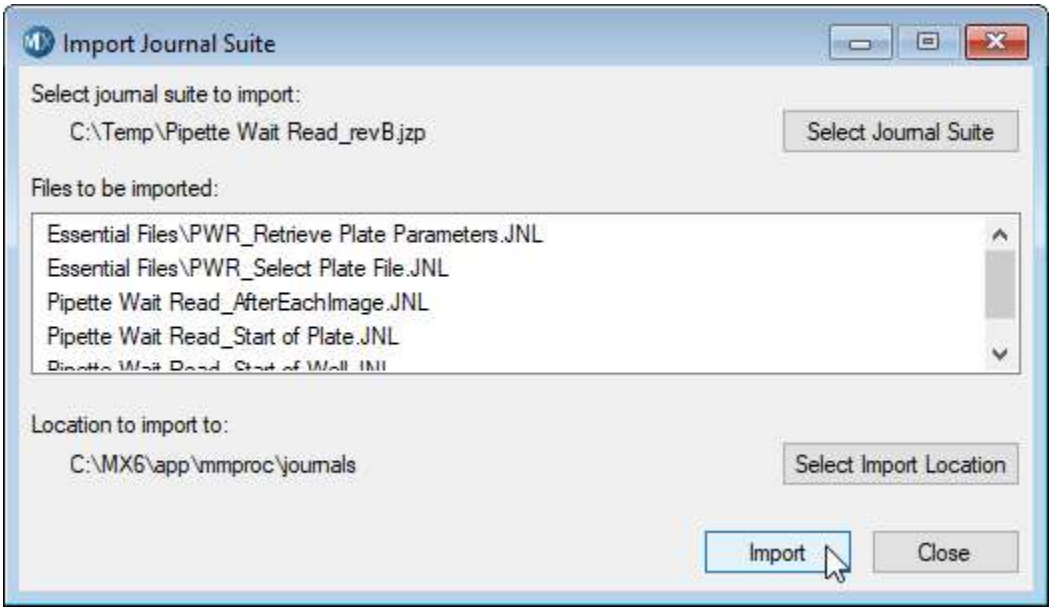
Instructions: Journal Installation

1) Save the provided .jzp file to a convenient location on the ImageXpress computer.
2) Go to **Control > Journal > Import Journal Suite** (simplified menu) or **Journal > Import Journal Suite** (standard menu).





3) Select the provided .jzp file and a convenient folder on the ImageXpress computer. Click **Import**.
   Note: No confirmation is displayed. If an older version of files already exist in the folder, they will be overwritten with the newer version.



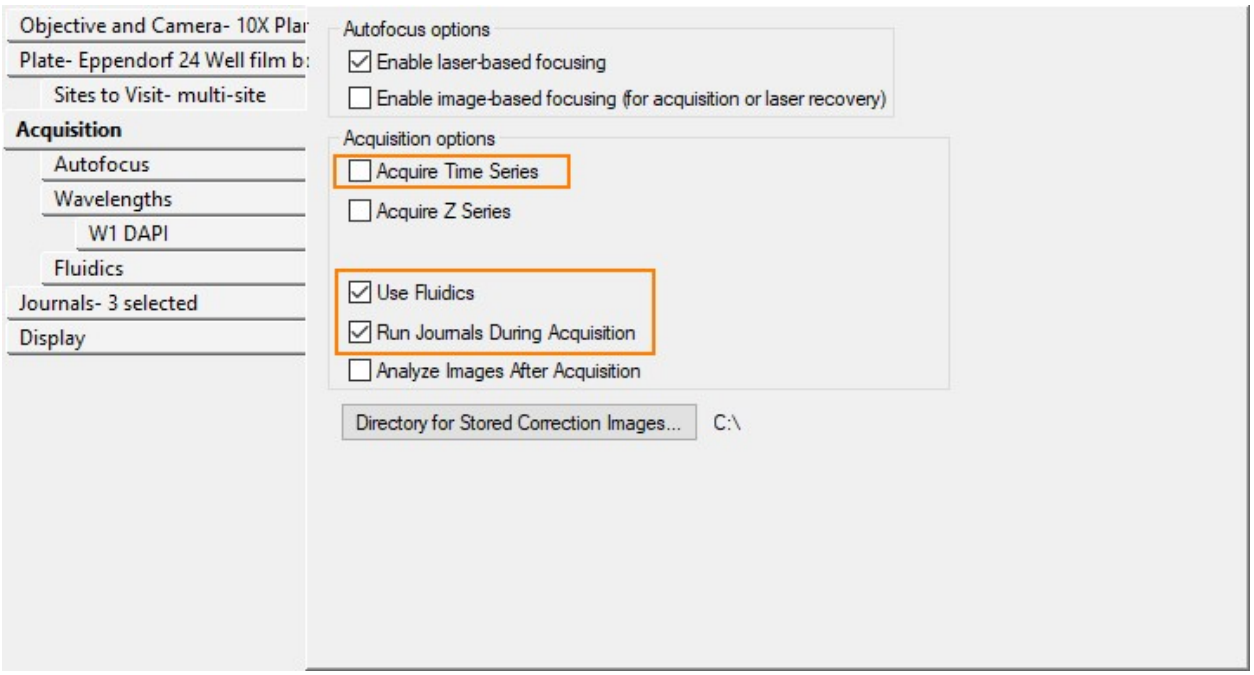
4) **Close** the Import Journal Suite window. The journal is now installed and ready to be set up in a protocol.

Instructions: Configuring a Protocol with the Journals

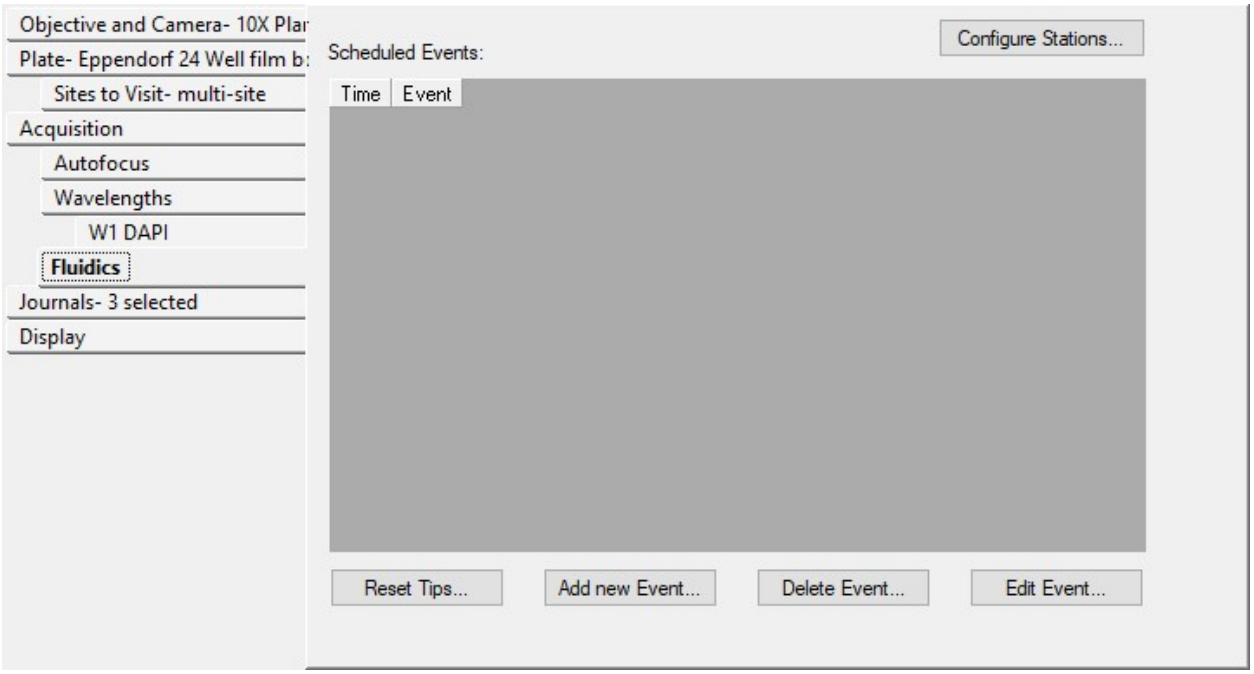
1) Go to **Screening > Plate Acquisition Setup**.

2) Load or create a suitable protocol with the plate type, magnification, and wavelengths already configured.

3) Go to the **Acquisition** tab. Make sure that “Use Fluidics” and “Run Journals during Acquisition” are enabled. It is recommended to disable the “Acquire Time Series” option.



4) Go to the **Fluidics** tab. No events should be scheduled here.

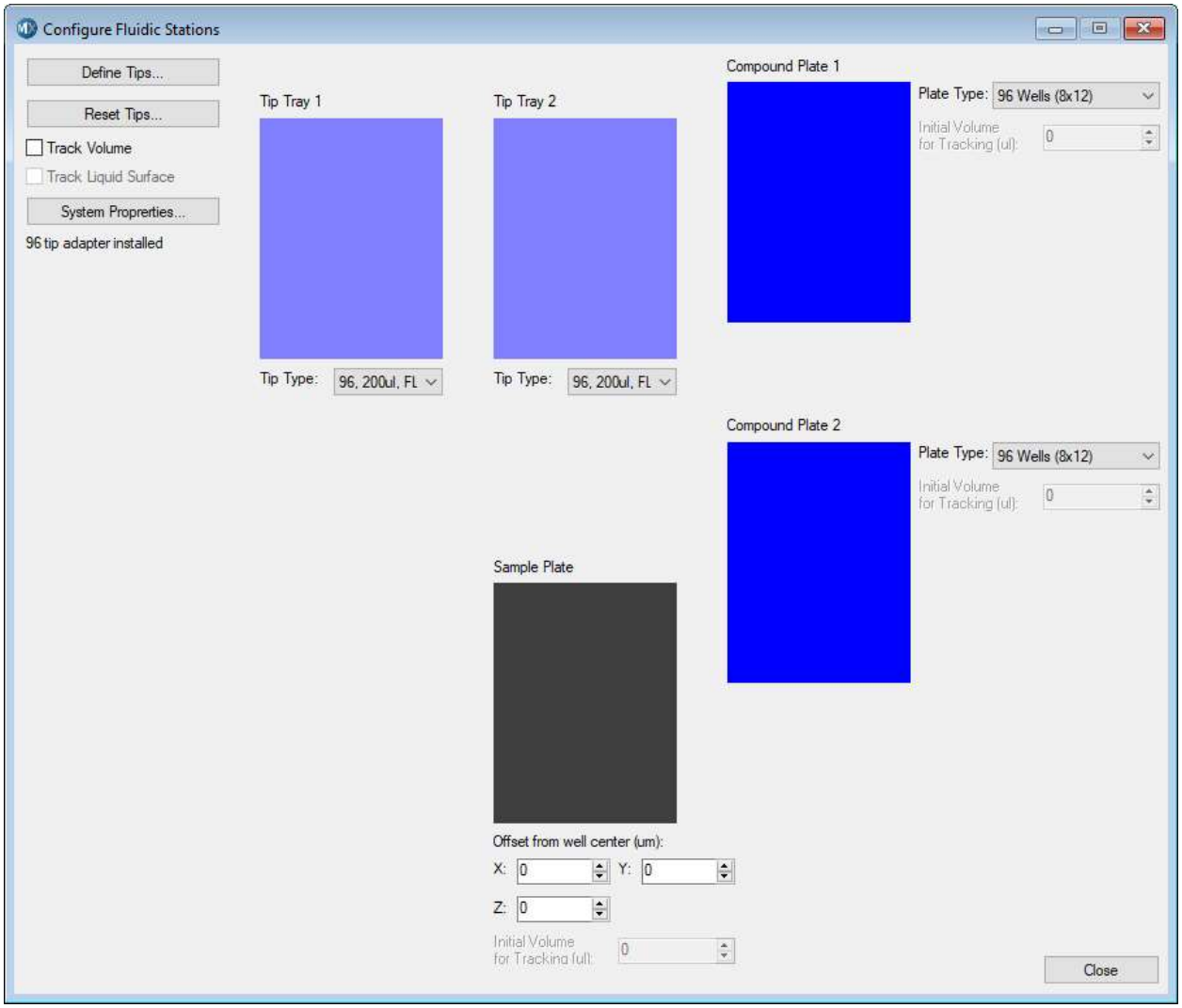


5) Click **Configure Stations** and make sure that the compound plate types, tip types, and other fluidics options are set appropriately here.

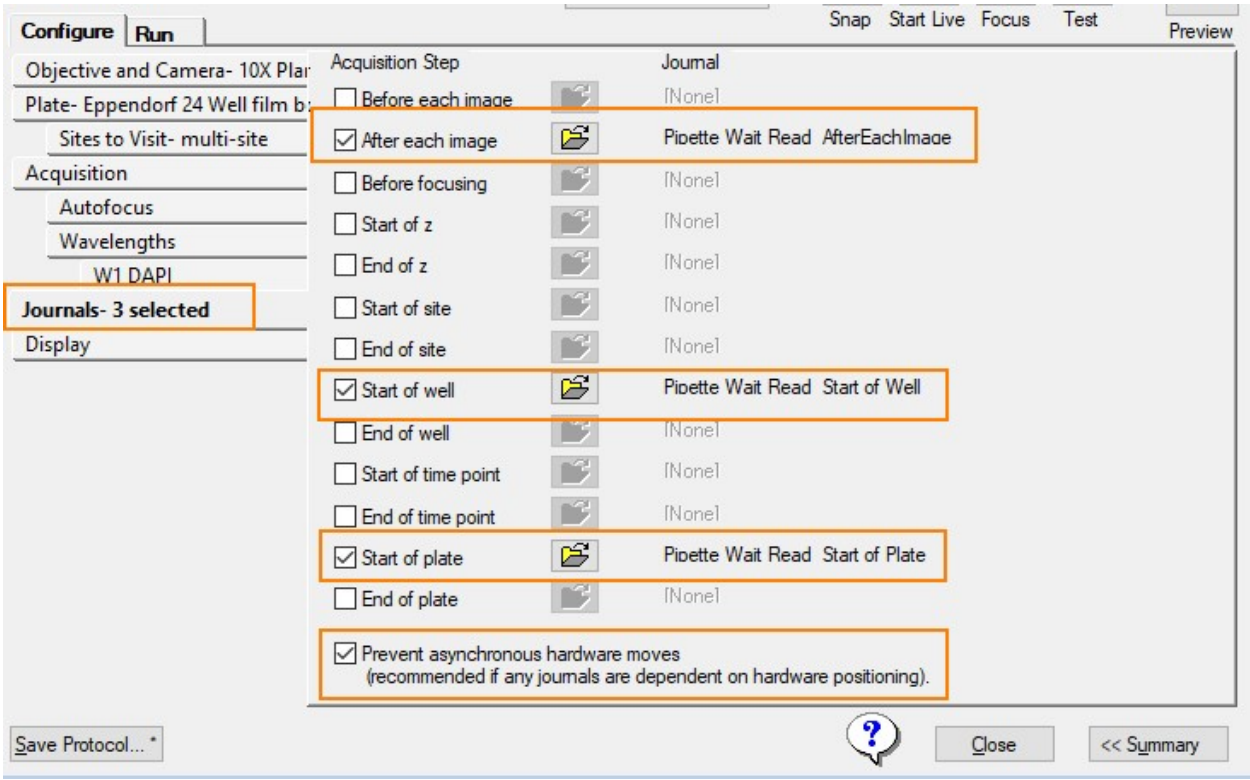
   Notes:

   - The XY offset should be set to 0 here. If you need to use an XY offset, this will be set in the journal.
   - You can specify a Z offset here as needed.
   - **Track Volume** and **Track Liquid Surface** are optional and generally recommended.
   - Click **Reset Tips** to reset Tips and Liquid Levels as appropriate.
   - Click **System Properties** to adjust other parameters such as Dispense Rate. These settings are saved with your protocol.

6) **Close** the Configure Fluidic Stations dialog.



7) Go to the **Journals** tab. Enable the following journals and select the matching journal files from the journal import. Also enable the option to “Prevent asynchronous hardware moves”.
   a) After each image
   b) Start of well
   c) Start of plate



8) **Save** the modified protocol.

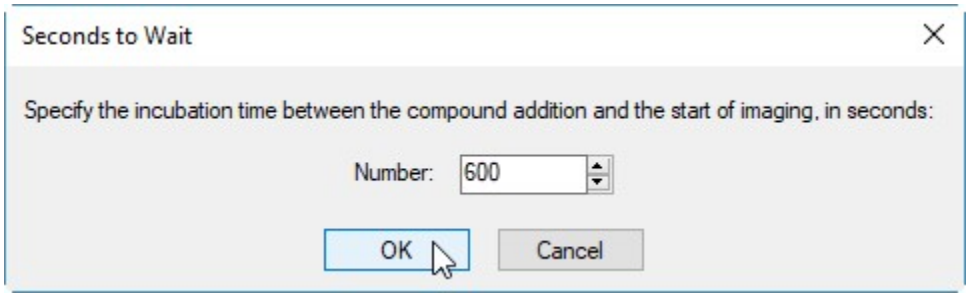
Instructions: Running the Protocol

1) Before running the acquisition, it is recommended to go to **Window > History Window** to open the history window for viewing. Position it somewhere on the screen where it will not get covered up by images or the Plate Acquisition Status dialog. If necessary, clear the old history.

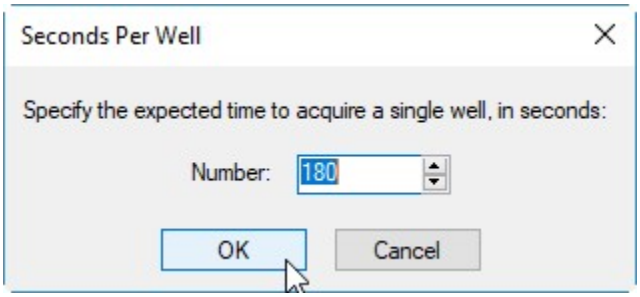
2) If necessary, go to **Plate Acquisition Setup > Fluidics > Configure Stations > Reset Tips** and reset tips and liquid levels, as appropriate.

3) Click **Acquire Plate** to run the Acquisition.

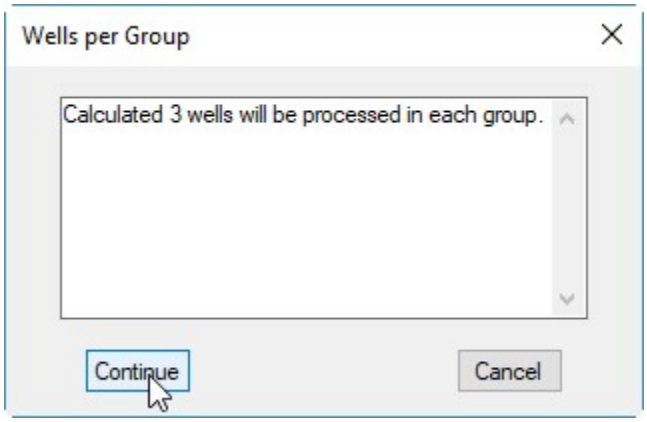
4) When prompted, enter the number of seconds to wait. This is the incubation time that you want between the start of pipetting and the start of imaging for each well. The default time is 600 seconds (10 minutes).



5) When prompted, enter the number of seconds per well. This is the expected time it takes to image each well. The default time is 180 seconds (3 minutes).

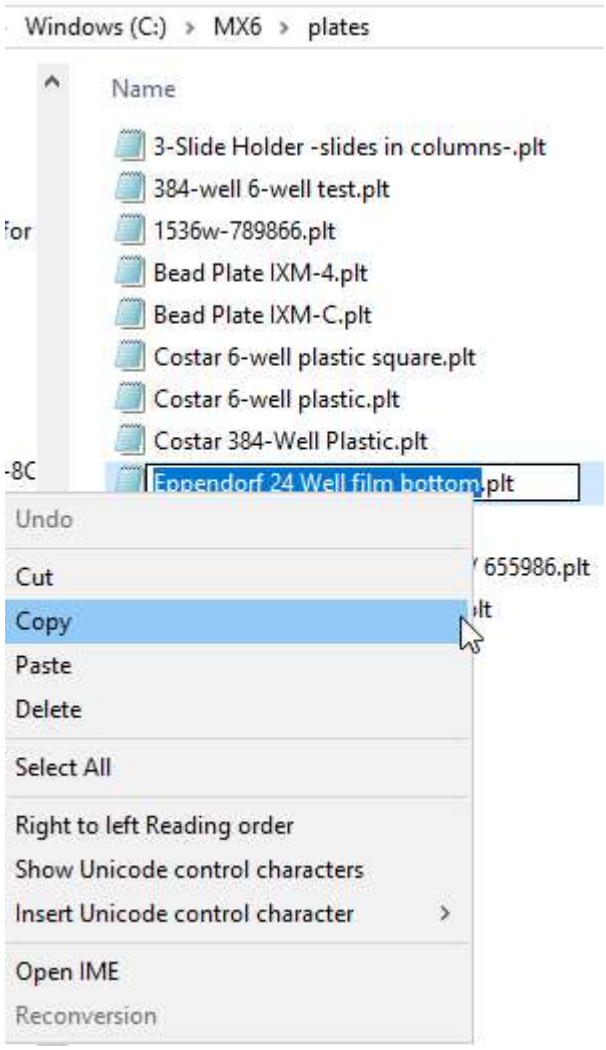


6) The journal will calculate and display the number of wells it will be able to process per group, based on the Seconds to Wait and Seconds Per Well values. If this looks reasonable, click **Continue** to proceed. Otherwise, click **Cancel** and re-evaluate the experiment setup and the times that you entered.

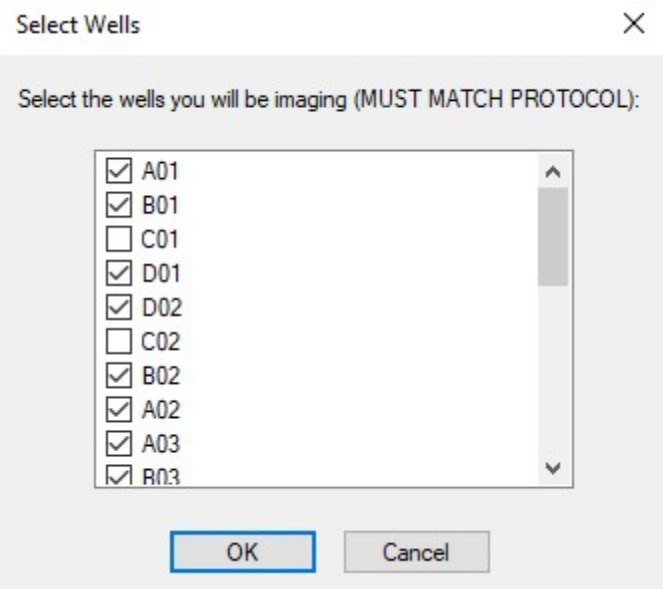


7) When prompted, enter the name of the plate. The journal will look for the plate file in the plates folder **C:\MX6\Plates**. If necessary, the default directory can be changed by editing the journals. If desired, a default plate name can be hard coded into the journal to save on entry time.

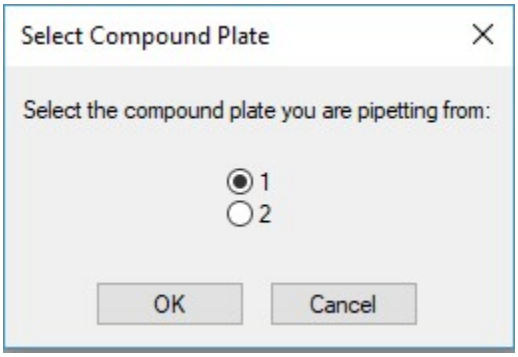
Hint: The easiest way to find the name is to copy it from the plate file:



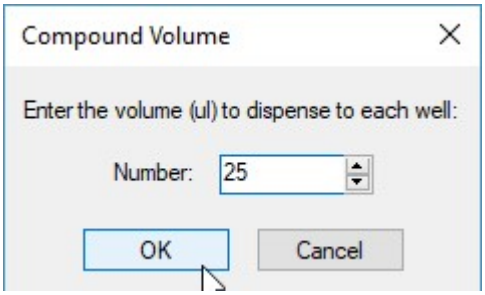
8) Next, select the wells that will be imaged during the experiment. The selection must match the wells selected for imaging in the protocol. If there is a mismatch, there may be unexpected results in the experiment workflow. Note: the wells are listed in the order that they will be acquired by the program.



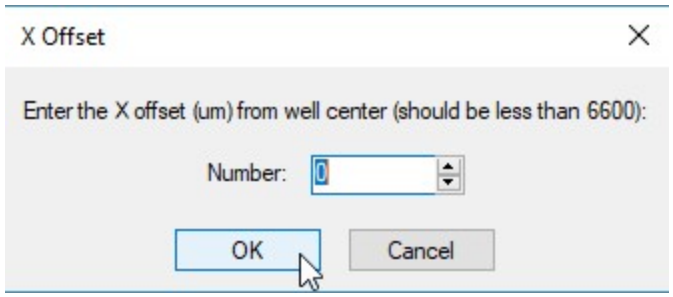
9) Select Compound Plate 1 or 2:

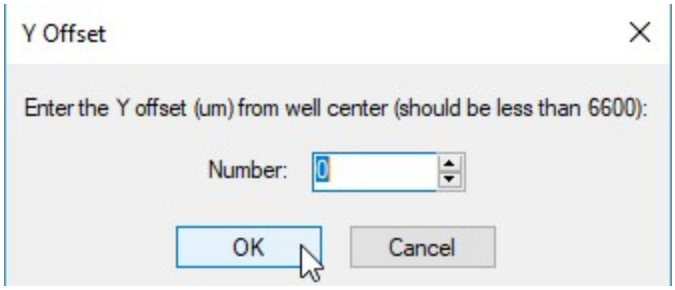


10) Enter the volume of compound to pipette to each well.

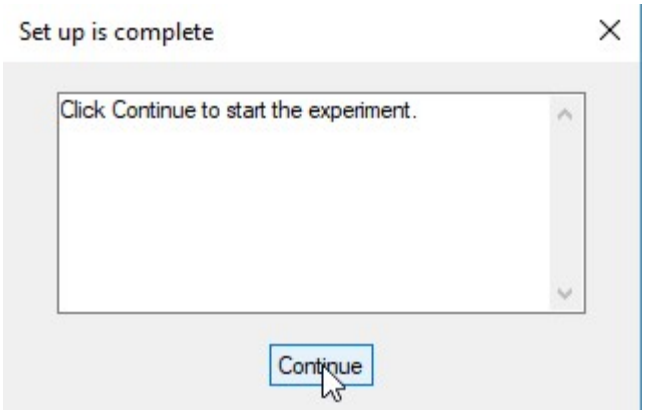


11) If desired, enter an X and Y offset for pipetting into the sample plate. Using the default values of 0 will cause it to pipette to the center of each well. Offsets can be positive or negative, but take care not to enter too large of a value, which could result in the pipette tip crashing into the sample plate.

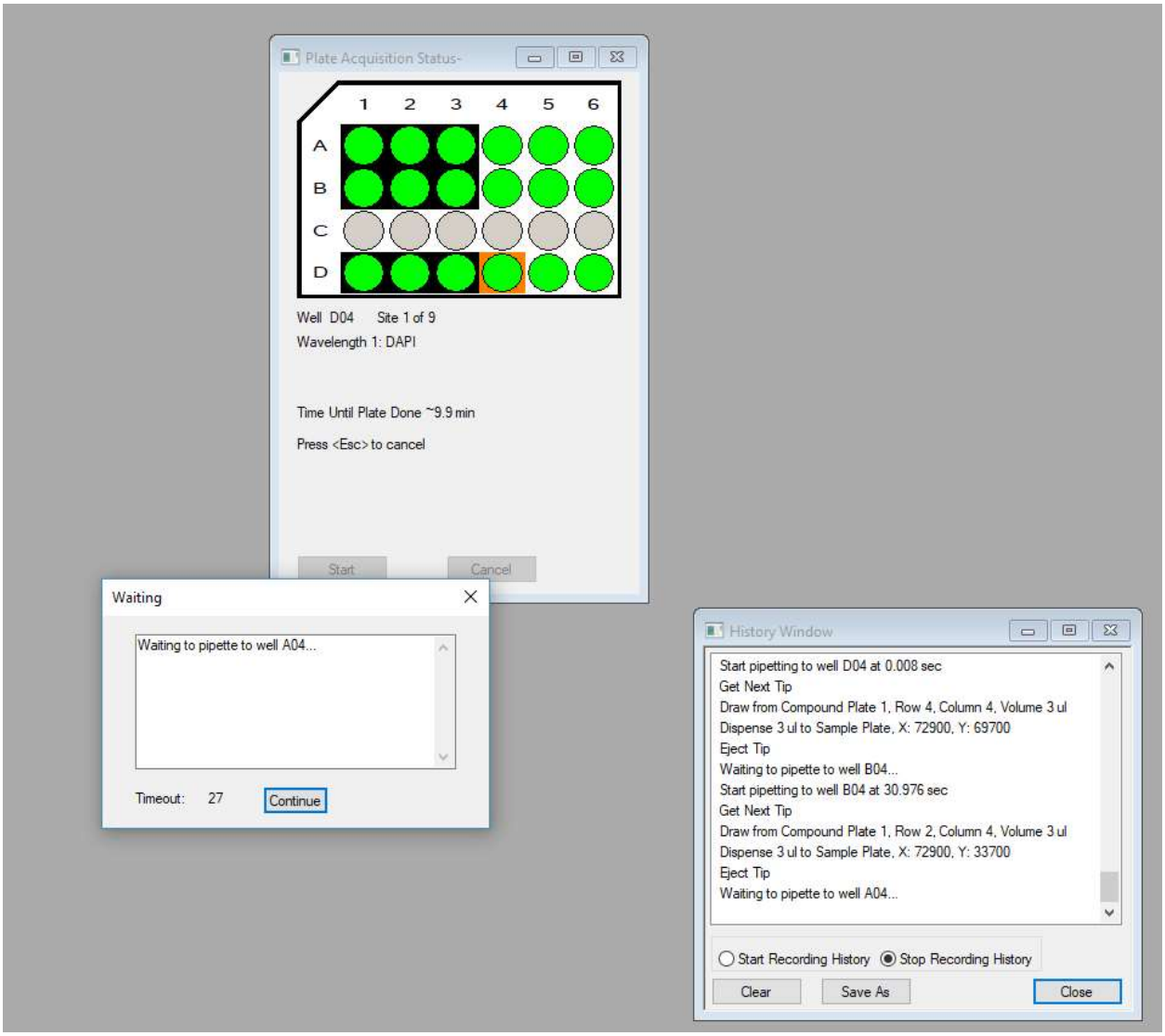




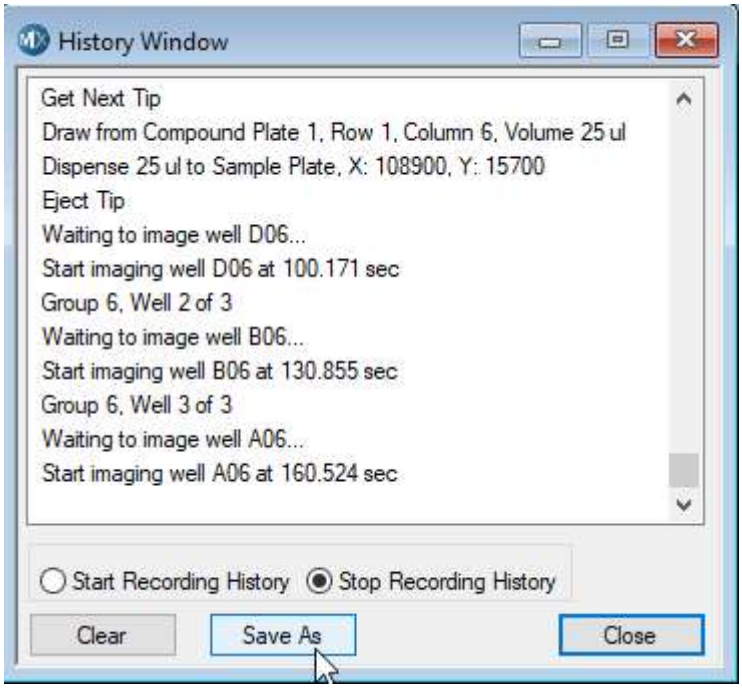
12) When ready, click Continue to begin the experiment.

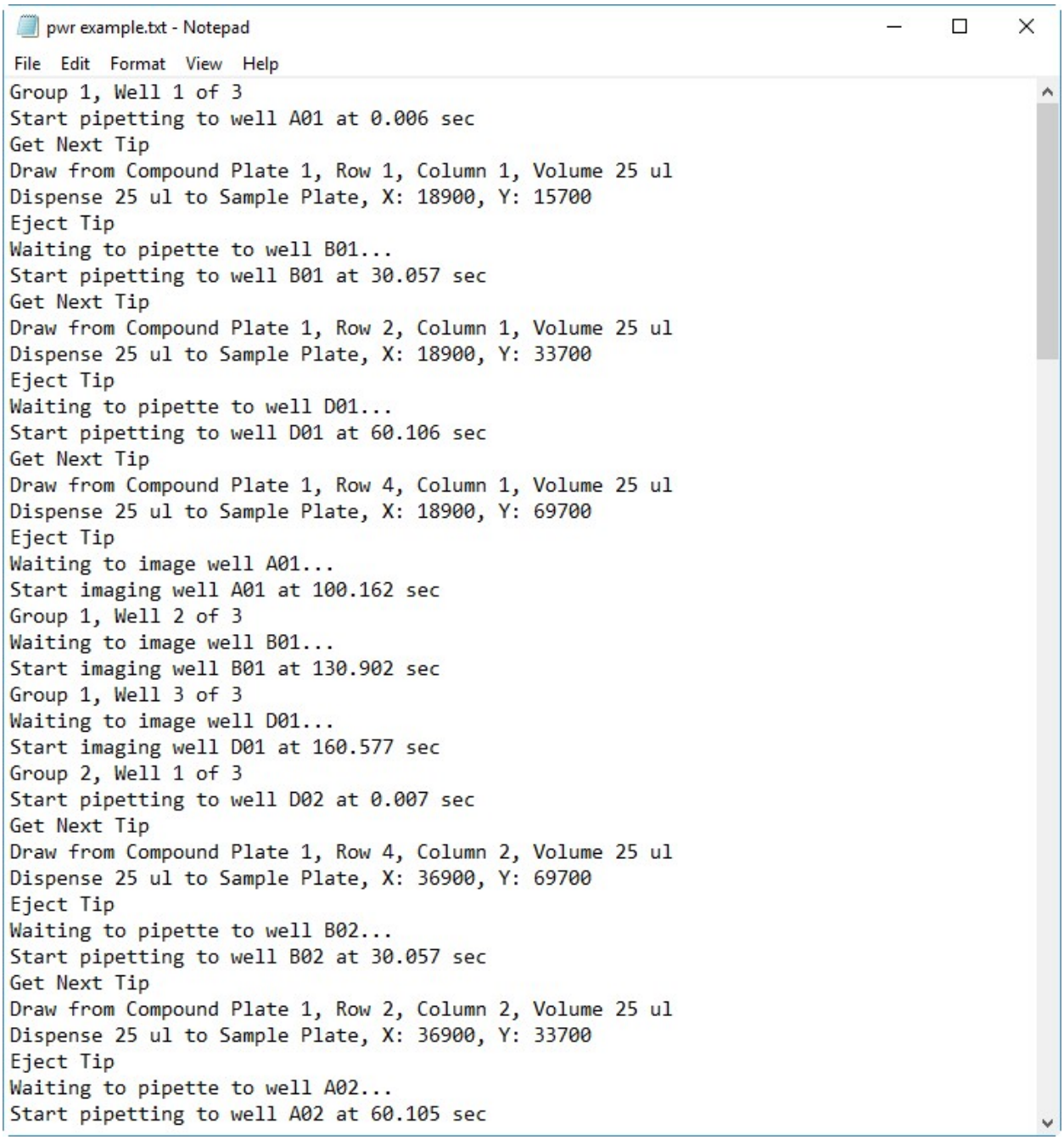


13) The progress of the experiment will be displayed in the History Window. The timings displayed are from the start of each group of wells (for example, with the default timings, 3 wells per group is calculated based on the wait time of 10 minutes and read time of 3 minutes per well). Note: the screenshots show shorter wait times which were used for testing.
14) When it is waiting to pipette or image, a “Waiting” dialog box is displayed so that the user has an idea of where it is in the wait time. If you accidentally click **Continue**, this will not upset the timing, but you will no longer see the countdown.



15) **Optional**: When the experiment is done, go to the History Window and click **Save As** to save the experiment log to a .txt file.


History Window
Get Next Tip
Draw from Compound Plate 1, Row 1, Column 6, Volume 25 ul
Dispense 25 ul to Sample Plate, X: 108900, Y: 15700
Eject Tip
Waiting to image well D06...
Start imaging well D06 at 100.171 sec
Group 6, Well 2 of 3
Waiting to image well B06...
Start imaging well B06 at 130.855 sec
Group 6, Well 3 of 3
Waiting to image well A06...
Start imaging well A06 at 160.524 sec
Start Recording History
Stop Recording History
Clear
Save As
Close


pwr example.txt - Notepad
File Edit Format View Help
Group 1, Well 1 of 3
Start pipetting to well A01 at 0.006 sec
Get Next Tip
Draw from Compound Plate 1, Row 1, Column 1, Volume 25 ul
Dispense 25 ul to Sample Plate, X: 18900, Y: 15700
Eject Tip
Waiting to pipette to well B01...
Start pipetting to well B01 at 30.057 sec
Get Next Tip
Draw from Compound Plate 1, Row 2, Column 1, Volume 25 ul
Dispense 25 ul to Sample Plate, X: 18900, Y: 33700
Eject Tip
Waiting to pipette to well D01...
Start pipetting to well D01 at 60.106 sec
Get Next Tip
Draw from Compound Plate 1, Row 4, Column 1, Volume 25 ul
Dispense 25 ul to Sample Plate, X: 18900, Y: 69700
Eject Tip
Waiting to image well A01...
Start imaging well A01 at 100.162 sec
Group 1, Well 2 of 3
Waiting to image well B01...
Start imaging well B01 at 130.902 sec
Group 1, Well 3 of 3
Waiting to image well D01...
Start imaging well D01 at 160.577 sec
Group 2, Well 1 of 3
Start pipetting to well D02 at 0.007 sec
Get Next Tip
Draw from Compound Plate 1, Row 4, Column 2, Volume 25 ul
Dispense 25 ul to Sample Plate, X: 36900, Y: 69700
Eject Tip
Waiting to pipette to well B02...
Start pipetting to well B02 at 30.057 sec
Get Next Tip
Draw from Compound Plate 1, Row 2, Column 2, Volume 25 ul
Dispense 25 ul to Sample Plate, X: 36900, Y: 33700
Eject Tip
Waiting to pipette to well A02...
Start pipetting to well A02 at 60.105 sec