# **User Manual**

# Integration of LEAP Shell DART Control and MSRedux-XI in the Analyst Context

Version 1.0



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# Quick Start Guide for Using Automated, Real-time MSRedux-XI in the LEAP Shell Context

#### Install MSRedux-XI

Follow the *Quick Start Guide for MSRedux-XI* for downloading, installing, licensing and running MSRedux-XI.

## Setting the Default MSRedux-XI Parameters for the Automated Mode of MSRedux-XI

Be sure to manually set in "MSRedux-XI Parameters" the settings that you wish to execute in the automation/non-interactive mode of MSRedux-XI.

🛛 MSRedux-XI Paramete	ITS	? 🗙
Analyte of Interest		
Mass of Analyte of Interest	-1	Da
Mass uncertainty: +/-	0.4	Da
Printing		
🗌 Auto print		
PDF reDirect v2	Select Another	Printer
Report file format		
• PDF		
O PNG		
	ОК	ancel

Exit the MSRedux-XI user interface by selecting: File->Exit



When you see the screen shown above upon exiting MSRedux-XI, the MSRedux-XI Parameters set manually will be saved as the defaults for the automation/non-interactive mode of MSRedux-XI. Click "Yes" to exit.

#### Install LEAP Shell for AutoDART

Follow the *LEAP Shell 3 for AutoDART Manual* for downloading, installing and licensing instructions and for general LEAP Shell settings.

**Note:** A PDF copy of the *LEAP Shell 3 for AutoDART Manual* can also be found in the contents of the LEAP Shell installation CD.

#### Setting LEAP Shell up for the Analyst Context

Start LEAP Shell by double clicking the "LEAPShell" icon located on the Desktop.



Once LEAP Shell opens, choose under "Profile" the "PAL and Analyst" profile.



#### Connecting to the PAL

In the header next to "LEAP Shell" it should now read "PAL and Analyst" for the "PAL and Analyst" profile that was just selected.

Now connect to the **PAL** by left clicking on the **PAL** icon in the "**Instruments**" bar and then clicking on "**Connect**". Within a few seconds the word "**Ready**" in green text should appear.

User	Shell Methods:	Save	Save As	Test	
Lab Manager Views	IonSense Sampling Sampling No Pause Single tip	Shell Meth	iod: IonSense S	ampling	
Samples	Sampling Pause single tip Sampling Pause Pickup Tip Eject Tip IonSense Sampling App 25	Method de	escription		
الالالار م	IonSense Sampling App 26	Application	n		
Queue	IonSense Sampling App 26 API Instrum	IonSense	Sampling Analy	vst 2.4	-
65	IonSense Sampling App 27 NEG	Pause			
Methods	IonSense Sampling App 28 IonSense Sampling App 28 NEG	SPAL: Auto	osampler		
Instruments		Instrument s	election		
<b>%</b>	Connect	PAL		-	
PAL PAL	Status	InjectMethod	d: Inject method (F	lun Time: '''' s)	
Offline	Methods	IS no pause	e sampling Rev 2-4	I.LPM	
Analyst	Configure	Analyst: Da	ata acquisition		
Umine		Instrument s	election		
		Analyst		-	
		DataAcq: Ac	quisition method (	Acquisition Time: L	Inable to retrieve
		NEG Q1 Sc	an m_z 100 - 500	l.dam	

**Troubleshooting:** If you are having difficulties connecting to the PAL, first make sure that the PAL power supply has been switched on and that the PAL serial cable is connected to the PC that will be controlling the PAL. If you still cannot connect to the PAL restart the LEAP Shell software and then try again to connect to the PAL.

#### Connecting to Analyst through LEAP Shell

Connect to Analyst by left clicking on the "Analyst" icon found under "Instruments" in LEAP Shell and then click on "Connect". In a few seconds the Analyst status will change from "Offline" to "Standby".



PAL in "Ready" state and Analyst in "Standby".



#### Configuring to an Analyst Project through LEAP Shell

		1	1	1	
User Lab Manager	Shell Methods:	Save	Save As	Test	
Views	IonSense Sampling Sampling No Pause Single tip	Shell Meth	od: IonSense S	ampling	
Samples	Sampling Pause single tip Sampling Pause Pickup Tip Eject Tip	Method de	scription		
لەلەر-ر	TonSense Sampling App 25 TonSense Sampling App 26 TonSense Sampling App 26 API Instrum	Application	n		
Queue	IonSense Sampling App 20 AIT Instant IonSense Sampling App 27 IonSense Sampling App 27 NEG	lonSense Pause	Sampling Analy	yst 2. <b>4</b>	*
Methods	IonSense Sampling App 28 IonSense Sampling App 28 NEG	SPAL: Auto	osampler		
Instruments		Instrument s	election		
T DAI		PAL		<u> </u>	
Q FAL		InjectMethod	d: Inject method (F	lun Time: "" s)	
Heady		IS no pause	sampling Rev 2-4	1.LPM	
Analyst	Disconnect Status	Analyst: Da	ata acquisition		
oremony	Configure	Instrument s	election		
		Analyst		-	

Left click again on the "Analyst" icon and select "Configure".

In the "Analyst: Configuration" dialog box that appears, configure to the "Analyst **Project**" that will contain the "Analyst Acquisition Method" you wish to use to collect the data. Select the desired "Analyst Project" from the drop down menu and click "Ok" to save the changes and exit from the configuration.

Instruments PAL Ready	Instrument selection PAL InjectMethod: Inject method (Run Time: "" s) IS no pause sampling Rev 2-4.LPM
🚜 Analyst	Analyst: Data acquisition
Standby	🔚 🖬 🛋 Analyst: Configuration
	Analyst Project: MSRedux:XI 1.3.10 Testing  Met  Met  This project of API Instrument DART User 20080508 Default Example IonSense DART Sample Eval. 05202008 IonSense DART Sample Eval. 05202008
	Show/Hide columns <u>O</u> k <u>C</u> ancel

#### Creating a LEAP Shell Method to Include an Analyst Acquisition Method

For general questions about creating a Shell Method refer to the *LEAP Shell 3 for AutoDART Manual*.

The Analyst specific sections in the LEAP Shell Method are the "Analyst: Data acquisition" section and the "DART Warm-up Time (min)" that appear at the bottom of the page.

In "Analyst: Data acquisition" section the "Instrument selection" will be "Analyst" and the Analyst Acquisition Method will be chosen from the drop down box labeled "DataAcq: Acquisition method".

SPAL: Autosampler		Ø
Instrument selection		
InjectMethod: Inject method (Run Time: "" s)		1
IS no pause sampling Rev 2-4.LPM	Default	Show Params
Analyst: Data acquisition		
Instrument selection		
Analyst		
DataAcq: Acquisition method (Acquisition Time: 20.10 s)		
Sciex Test Meth.dam	Default	Show Params
NEG Q1 Scan m_z 100 · 500.dam Sciex Test Meth.dam		

The **"DART Warm-up Time (min)"** feature allows the user to set a fixed time interval for the DART to heat at the beginning of EVERY sample batch submitted to the LEAP Shell Sample Queue. The default time is set to 0 minutes.

Analyst: Data acquisition		44
Instrument selection Analyst	•	
DataAcq: Acquisition method (Acquisiti	on Time: 20.10 s)	1
Sciex Test Meth.dam		 Default Show Params
Method Parameters		
DART Warm-up Time (min)		3.00 🚖

When a "DART Warm-up Time" is set the following will take place:

- **DART Control** will automatically be turned "**ON**" by LEAP Shell at the beginning of EVERY sample batch in the LEAP Shell Queue and LEAP Shell will wait for the set warm-up time.
- The DART status automatically changes to "RUN".
- The **DART heater** is automatically turned "**ON**" and set to the "Run Time" heater temperature set through the DART Method.
- The **DART "Run Time" gas** is automatically selected.

Note: These events also occur even if no DART Warm-up Time is set, e.g. set to 0 min.

#### Setting up the LEAP Shell Sample List to Acquire Analyst Data

The user has two options to create a sample list to run in LEAP Shell:

- 1. Directly within LEAP Shell by filling in the required fields
- 2. By importing a file into LEAP Shell

#### This sample list set-up assumes 1 sample analysis (1 data acquisition) per Analyst .wiff file.

#### Creating a Sample List Directly in LEAP Shell for Analyst Data

The first option is straight forward. Shown in the image below are the generic fields the user will need to fill in when creating a sample list directly in LEAP Shell for Analyst data acquisition.

- The LEAP Shell "SampleID" will be the "Analyst Sample Name"
- The "DataFileName" will become the Analyst .wiff file name
- The "Mass\_of\_Interest" column is reported to MSRedux-XI for the data processing. The mass of the analyte in Daltons (not the m/z value) should be entered here.
  - **Note:** A value of "-1" may also be entered in this "Mass\_of\_Interest" field provided that a molecular formula for the analyte of interest is contained within the sample information. The only way that the user may create a custom column labeled "Formula" is to import a sample list into LEAP Shell. This feature is explained in greater detail in the *Importing a Sample List into LEAP Shell from a File* section of this manual.

Save	Save as	Add samples	Fill Columns	Select vial	Submit					
s	iampleID	Shell M	ethod	Pal.Tip Tray	Pal.Tip Pos	Pal. Transit speed	SampleTray	SamplePos	DataFileName	Mass_of_Interest
1 Analyst	: Sample Name	IonSense Sampl	ing App 28 💌	Tip-01 💌	1	500	Sample01 💌	1	Analyst WIFF File Name_001	500

**Note:** There is a **limit of 80 characters total** for the length of the **"DataFileName"** entered in the LEAP Shell sample list plus the name of the **Analyst Project** that LEAP Shell is configured to. If the combination of these two names exceeds 80 characters in length the quality of the MSRedux-XI printout will be reduced.

#### Importing a Sample List into LEAP Shell from a File

The sample list file to be imported into LEAP Shell may be saved in any of the following formats:

- Tab delimited (text) file
- CSV file
- Microsoft Excel file
- XML file

Pictured below is an example of a CSV file opened in OpenOffice.org's Calc program. The general components found in the LEAP Shell sample list are contained in the CSV file, with the addition of the "Formula" custom column that has been added by the user.

<b>蔺</b>	mport_Analyst Sar	nple List	for LEAP S	Shell - OpenOffice.or	g Calc			
Eile	<u>E</u> dit ⊻iew Insert F <u>o</u> r	mat <u>T</u> ools I	<u>D</u> ata <u>W</u> indow	Help				
1	• 🧭 🔳 🖾 📝 🔒	a 🔍 i 💖	🙁 🔏 🗳	🖥 • 🎯   🦘 • 🕐 •   🏯 🛔	👬 🛛 🅭 🖋	🗛 🧭 🖻	III 🔍 📿 📮	
	Arial	✓ 10 ✓	<b>B</b> <i>I</i> <u>∪</u>	E E = =   🎝 %	\$% .07 .000	🔃 👘 🗆	• 👌 • 🛕 • 🙏	
A1	🖌 f(x) Σ	: = Sample	∋ID				1.	
	A	В	С	D	E	F	G	Н
1	SampleID	Pal.Tip Pos	Pal.Tip Tray	Analyst.DataFileName	SampleTray	SamplePos	Formula	Mass_of_Interest
2	Analyst Sample Name 1	1	Tip-01	Analyst WIFF File Name_001	Sample01	1	C7H6BF3O3	206.04
3	Analyst Sample Name 2	2	Tip-01	Analyst WIFF File Name_002	Sample01	2	C7H6BF3O3	206.04
4	Analyst Sample Name 3	3	Tip-01	Analyst WIFF File Name_003	Sample01	3	C7H6BF3O3	206.04
5	Analyst Sample Name 4	4	Tip-01	Analyst WIFF File Name_004	Sample01	4	C7H6BF3O3	206.04
6	Analyst Sample Name 5	5	Tip-01	Analyst WIFF File Name_005	Sample01	5	C7H6BF3O3	206.04
7	Analyst Sample Name 6	6	Tip-01	Analyst WIFF File Name_006	Sample01	6	C7H6BF3O3	206.04
8	Analyst Sample Name 7	7	Tip-01	Analyst WIFF File Name_007	Sample01	7	C7H6BF3O3	206.04
9	Analyst Sample Name 8	8	Tip-01	Analyst WIFF File Name_008	Sample01	8	C7H6BF3O3	206.04
10	Analyst Sample Name 9	9	Tip-01	Analyst WIFF File Name_009	Sample01	9	C7H6BF3O3	206.04
11	Analyst Sample Name 10	10	Tip-01	Analyst WIFF File Name_010	Sample01	10	C7H6BF3O3	206.04
12	Analyst Sample Name 11	11	Tip-01	Analyst WIFF File Name_011	Sample01	11	C7H6BF3O3	206.04
13	Analyst Sample Name 12	12	Tip-01	Analyst WIFF File Name_012	Sample01	12	C7H6BF3O3	206.04
14	Analyst Sample Name 13	13	Tip-01	Analyst WIFF File Name_013	Sample01	13	C7H6BF3O3	206.04
15	Analyst Sample Name 14	14	Tip-01	Analyst WIFF File Name_014	Sample01	14	C7H6BF3O3	206.04

**Note:** The header for the **"Formula"** column can only contain the word formula as MSRedux-XI will only recognize entries in a column labeled with the word formula. Formula may be entered in the following formats: **"Formula"**, **"FORMULA"**, or **"formula"**. For example, if the user labels the custom column "Chemical Formula" MSRedux-XI will not process any of the formulas in that sample list.

#### The Chemical "Formula" Feature of MSRedux-XI

In order for MSRedux-XI to process a chemical formula entered into the LEAP Shell sample list, the value "-1" must be entered into the "Mass\_of\_Interest" column for the each sample that contains chemical formula information. The "-1" tells MSRedux-XI to look for a chemical formula and use it to calculate a mass.

In the case that both a chemical formula and a theoretical mass of interest are entered into the LEAP Shell sample list, MSRedux-XI will use the mass of interest to determine the presence of the analyte of interest and the chemical formula is extra information. If you select "-1" for a mass of interest, MSRedux-XI will look for a chemical formula in the wiff file and will calculate the mass of interest based on the formula. The formula should be written in with element names starting with capital letters. Two-letter elements should have lower case second letters. Number characters representing stoichiometry should follow the element. Omit all non alpha-numeric characters, viz., omit spaces, underscores, dashes, etc. Order of elements is not important. For instance, ethanol could be represented as

C2H6O

or

#### СНЗСН2ОН

Sodium must be "Na" and never "NA".

#### Steps to Importing a Sample List into LEAP Shell from a File

From the **"Samples"** Sample List view in LEAP Shell, the **"Import"** feature is found under **"File -> Import"** or can be accessed directly by hitting **"F3"** on the keyboard.

Add       Ctrl+N       e Lists:       Save       Save as       Add samples       Fill Column         Rename       Ctrl+R       Methods       Sample       SampleID       Shell Method         Delete       st 1 Sample       st Custom Column       SampleID       Shell Method       I         Save as       clopride Mapping Test App 26 20       Chrl+F3       clopride Xr/Z Mapping Test App 25 20       Clopride Xr/Z Mapping Test App 25 20       Clopride CORRECT Data File Pal       Clopride CORRECT Data File Pal       File Column       Save as       File Column         Submit       F8       feine CORRECT Data File Pal       Clopride CORRECT Data File Pal       Feine 10 Samples App 26 200811       File Column         Submit       F8       feine CORRECT Data File Pal       Feine 10 Samples App 27 2008110       File Single wiff Files_NEG Boron Samples       File Column         PAL       Single wiff Files_NEG Boron Samples App 28 20081119       Single wiff Files_NEG Boron Samples       File Column       File Column         PAL       Single wiff Files_NEG Boron Samples       MSRedux 139 with LS App 28 2008       File MSRedux 139 with LS App 28 2008       File MSRedux 139 DABT 2210 with LS       File Column	File Edit	View Pro	file Tools Log Out Help				
Rename       Ctrl+R       Methods         Delete       st 1 Sample       st 1 Sample         Save       Ctrl+S       st Custom Column         Save as       Sense Mapping Test App 26 20         Import       F3         Export       Ctrl+F3         elopride Mapping Test App 25 20         elopride Mapping Test App 25 20         elopride API Instrument Data File         Print       Ctrl+P         olopride REPEAT CORRECT Data File Pal         feine CORRECT Data File Pal         feine 10 Samples App 26 200811         Famile III Struments         Chemical Formula with Boron 10 Sat         Boron Samples App 27 20081110         NEG Boron Samples App 27 20081110         NEG Boron Samples App 28 20081112         Check App 28 20081112         Check App 28 20081112         Check App 28 20081112         MSRedux 139 with LS App 28 2006         MSRedux 139 with LS App 28 2006         MSRedux 139 with LS App 28 2006         MSRedux 139 DART 2210 with LS	Add	Ctrl+N	e Lists:	Save	Save as	Add samples	Fill Columns
Delete       st 1 Sample         Save       Ctr1+S         Save as       clopride Mapping Test         clopride Mapping Test App 26 20         Import       F3         clopride Mapping Test App 25 20         Export       Ctr1+F3         clopride API Instrument Data File         Print       Ctr1+P         clopride CORRECT Data File Pai         clopride REPEAT CORRECT Data File Pai         clopride REPEAT CORRECT Data File Pai         feine CORRECT Data File Pai         feine CORRECT Data File Pai         feine 10 Samples App 26 200811         Fall         Boron Samples App 27 20081110         NEG Boron Samples App 27 2008112         Single wiff Files_NEG Boron Sample         Boron Samples App 28 20081112         Check App 28 20081112         Check App 28 20081112         Check App 28 20081112         MSRedux 139 with LS App 28 2008         MSRedux 139 DART 2210 with LS	Rename	Ctrl+R	Methods	Sai	mpleID	Shell Method	
Save       CtrI+S       it Custom Column         Save as       Sense Mapping Test         Import       F3         Export       CtrI+F3         Print       CtrI+F3         clopride XYZ Mapping Test App 26 20         clopride XYZ Mapping Test App 25 20         clopride API Instrument Data File         Print       CtrI+F3         clopride CORRECT Data File Path         Submit       F8         feine CORRECT Data File Path         file Boron Samples App 27 20081110         NEG Boron Samples App 27 20081110         NEG Boron Samples App 27 20081112         Single wiff Files_NEG Boron Sample         Boron Samples App 28 20081112         Check App 28 20081119         MSRedux 138 with LS App 28 2006         MSRedux 139 DART 2210 with LS	Delete		st 1 Sample	1		-	1
Save as Sense Mapping Test App 26 20   Import F3   Export Ctrl+F3   Print Ctrl+P   clopide API Instrument Data File   Print Ctrl+P   clopide REPEAT CORRECT Data File Pai   clopide REPEAT CORRECT Data File Pai   feine CORRECT Data File Pai   feine 10 Samples App 26 200811   Exit   Fall   PAL   Ready   MSRedux 138 with LS App 28 2008   MSRedux 139 with LS App 28 2008   MSRedux 139 DART 2210 with LS	Save	Ctrl+S	st Custom Column		1		
Import       F3         Export       Ctrl+F3         Print       Ctrl+P         Submit       F8         Exit       File         Submit       F8         Chemical Formula with Boron 10 Sat         Feine 10 Samples App 27 2008110         PAL         Boron Samples App 27 2008110         Single wiff Files_NEG Boron Sample         Boron Samples App 28 20081112         Check App 28 20081119         Check App 28 20081119         MSRedux 139 with LS App 28 2008         MSRedux 139 DART 2210 with LS	Save as		Sense Mapping Test clopride Mapping Test App 26 20				
Export       Ctrl+F3       clopide Mapping Test App 25 24         Print       Ctrl+P       clopide API Instrument Data File         Submit       F8       clopide REPEAT CORRECT Data File Pail         Exit       floxacin CORRECT Data File Path /         feine CORRECT Data File Path /       floxacin CORRECT Data File Path /         Exit       floxacin CORRECT Data File Path /         feine 10 Samples App 26 20081'       floxacin CORRECT Data File Path /         NEG Boron Samples App 27 2008110       NEG Boron Samples App 27 2008110         NEG Boron Samples App 27 20081110       NEG Boron Samples App 28 20081112         Check App 28 20081119       Check App 28 20081119         MSRedux 138 with LS App 28 2008       MSRedux 139 with LS App 28 2008         MSRedux 139 DART 2210 with LS       MSRedux 139 DART 2210 with LS	Import	F3	clopride XYZ Mapping Test App				
Print       Ctr1+P       clopride CORRECT Data File Pal clopride REPEAT CORRECT Da feine CORRECT Data File Path,         Exit       floxacin CORRECT Data File Pa feine 10 Samples App 26 20081;         Exit       feine 10 Samples App 26 20081;         Boron Samples App 27 2008110         Boron Samples App 27 2008110         NEG Boron Samples App 27 2008110         Boron Samples App 28 20081112         Check App 28 20081112         Check App 28 20081119         MSRedux 138 with LS App 28 2008         MSRedux 139 With LS App 28 2008         MSRedux 139 DART 2210 with LS	Export	Ctrl+F3	clopride Mapping Test App 25 20				
Submit       F8       clopride REPEAT CORRECT Data         Feine CORRECT Data File Pathy       ffoxacin CORRECT Data File Pathy         Exit       ffoxacin CORRECT Data File Pathy         feine 10 Samples App 26 200811         Chemical Formula with Boron 10 Sat         Boron Samples App 27 20081110         NEG Boron Samples App 27 20081110         NEG Boron Samples App 27 20081110         Boron Samples App 28 20081112         Check App 28 20081112         Check App 28 20081119         MSRedux 138 with LS App 28 2008         MSRedux 139 With LS App 28 2008         MSRedux 139 DART 2210 with LS	Print	Ctrl+P	clopride CORRECT Data File Pal				
Exit       Ifloxacin CORRECT Data File Pa feine 10 Samples App 26 200811         Instruments       Chemical Formula with Boron 10 Sat         Instruments       Boron Samples App 27 20081110         PAL       Single wiff Files_NEG Boron Sample         Boron Samples App 28 20081112         Check App 28 20081119         Check App 28 20081119         MSRedux 139 with LS App 28 2008         MSRedux 139 DART 2210 with LS	Submit	F8	clopride REPEAT CORRECT Da feine CORRECT Data File Path /				
Instruments       Image: Chemical Formula with Boron 10 Sat         Instruments       Boron Samples App 27 20081110         PAL       Image: Single wiff Files_NEG Boron Sample         Boron Samples App 28 20081112       Boron Samples App 28 20081112         Boron Samples App 28 20081119       MSRedux 138 with LS App 28 2008         MSRedux 139 with LS App 28 2008       MSRedux 139 with LS App 28 2008         Boron Samples App 28 2008       MSRedux 139 DART 2210 with LS	Exit		rfloxacin CORRECT Data File Pa feine 10 Samples App 26 20081				
Instruments         Boron Samples App 27 20081110           PAL         Single wiff Files_NEG Boron Sample           Boron Samples App 28 20081112         Single wiff Files_NEG Boron Sample           Boron Samples App 28 20081112         MSRedux 138 with LS App 28 2008           MSRedux 139 with LS App 28 2008         MSRedux 139 DART 2210 with LS	- monous		Chemical Formula with Boron 10 Sar				
PAL         Beady         Image: Analyst Beady         Beady         Image: Analyst Beady         Beady         Image: Analyst Beady         Image: Beady	Instruments		Boron Samples App 27 20081110				
PAL       Image with Files_NEG Boron Sample         Ready       Image Boron Samples App 28 20081112         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Check App 28 20081119         Image Check App 28 20081119       Image Che	1 DAL		NEG Boron Samples App 27 20081				
Ready       Image: Distribution Samples App 28 20081112         Image: Distribution Samples App 28 20081119         Image: Distribution Samples App 28 20081119<	Y PAL		Single with Files_NEta Boron Sample Roron Samples App 29 20091112				
Analyst       MSRedux 138 with LS App 28 200E         Beady       MSRedux 139 with LS App 28 200E         Ready       MSRedux 139 DART 2210 with LS	Ready		Check App 28 20081119				
Analysis       Image: Marked State Sta	Analust		MSRedux 138 with LS App 28 2008				
Ready MSRedux 139 DART 2210 with LS	Analyst		MSRedux 139 with LS App 28 2008				
	Heady		MSRedux 139 DART 2210 with LS				

When the user engages the "Import" feature of LEAP Shell the "Import from file..." dialog box will appear on screen.

File name:	
	Browse.
Format: Text file (smart guess delimitor)	•
Mapping options:	
C Create a new map to method: IonSense Sampling	

In this dialog box, the user can immediately select the **"Browse"** button leaving the default setting for the file format as "Text file (smart guess delimitor)" and lookup the desired file. The user may want to select the desired file's format before browsing for the file to narrow down the number of possible files to choose from.

Import fror	n			
File name:				Browse.
Format:	Text file (sma	rt guess delimitor)	•	
	Text file (sma Tab-delimited	rt guess delimitor) (text)		
Mapping o	Microsoft Exc	el		
( Lreate	at AML hie			
Use a	n existing map:	C:\Documents and	Settings\DA	Browse
			Cancel	Ok

The image below shows the case where the user has left the default setting for the file format as "Text file (smart guess delimitor)" and began searching for the CSV file.

Open					? 🗙
Look in:	C Sample List	s for LEAP Shell	•	+ 🗈 💣 📰 •	
My Recent Documents Desktop	Import_An	alyst Sample List for I	LEAP Shell.cs	V	
My Documents					
My Computer					
My Network Places	File name:	Import_Analyst Sampl	e List for LEAP \$	Shell.csv 💌	Open
	Files of type:	All accepted files (*.tx	t, *.csv, *.xls, *.>	rml) 🔽	Cancel

Once the desired file has been selected through the file browser, the user must select a mapping option to link the external sample list file to the LEAP Shell sample list layout.

mport from	h
File name:	C:\Documents and Settings\DARTuser\Deskto Browse.
Format:	Text file (smart guess delimitor)
Mapping o Create	ptions: a new map to method: TonSense Sampling App 28
Mapping o Create	ptions: a new map to method: TonSense Sampling App 28 existing map: C:\Documents and Settings\DA Browse.

To begin the mapping, select the "**Create a new map to method**" option, which will create a mapping that is specific to a LEAP Shell Method for the desired import file. Select a LEAP Shell Method and click "**Next**" to continue.

If a mapping file has previously been created and saved for the type of sample list that will be imported into LEAP Shell then the "Use an existing map" mapping option may be selected. Click "Next" to continue.

An "Import Mapping" window will appear after clicking on "**Next**" in the "Import from file..." dialog box. First begin mapping the non-custom "Source Column Headers" with their LEAP Shell "Target Column Headers" counterparts.

Import Mapping		
SOURCE COLUMN HEADERS	MAPPING	Mapping method: IonSense Sampling App TARGET COLUMN HEADERS
SampleID Pal. Tip Pos Pal. Tip Tray Analyst.DataFileName SampleTray SamplePos Formula Mass_of_Interest	SampleID Pal.Tip Tray Pal.Tip Pos [ none ] SampleTray SamplePos Analyst.DataFileName Mass_of_Interest [ new ]	SampleID Pal. Tip Tray Pal. Tip Pos Pal. Transit speed SampleTray SamplePos DataFileName Mass_of_Interest
	✓ Do not copy first row	Load map Save map Cancel OK

**Note:** When creating a sample list to import into LEAP Shell the mapping process can be simplified if the user keeps the same column naming in their document as there is in the LEAP Shell sample list for the generic columns, such as "SampleID" and "Pal.Tip Tray".

By keeping this continuity you can simply double click on each of the column names under "Source Column Headers" that directly match one of the LEAP Shell "Target Column Headers" to add them into the center "Mapping" column. To map a custom column into a LEAP Shell sample list map it to the "**new**" option in the "Mapping" column. This will trigger the "Import column" dialog box to appear. The name of the custom column will appear in the text field for "Column name" as it was entered into the file that is being imported. For the column type select "string".

SOURCE COLUMN HEADERS	5 I	MAPPING	Mapping method: IonSense Sampling Ap TARGET COLUMN HEADERS
SampleID Pal.Tip Pos Pal.Tip Tray Analyst.DataFileName SampleTray SamplePos	> <	SampleID Pal.Tip Tray Pal.Tip Pos [none] SampleTray CIP	SampleID Pal.Tip Tray Pal.Tip Pos Pal.Transit speed SampleTray
Formula Mass_of_Interest	Column name:	t column	FileName s_of_Interest
	Column type: Reference :	string string integer numeric list	

For the "Reference" select "**Analyst**" from the drop down box. Click "**Ok**" to save the changes and create the "**Formula**" column header in the LEAP Shell "Target Column Headers".

SOURCE COLUMN HEADE	ERS	MAPPING	Mapping method: IonSense Sampling A TARGET COLUMN HEADERS
SampleID Pal.Tip Pos Pal.Tip Tray Analyst.DataFileName SampleTray SamplePos	×	SampleID Pal.Tip Tray Pal.Tip Pos [none] SampleTray	SampleID Pal.Tip Tray Pal.Tip Pos Pal.Transit speed SampleTray ComplePos
Formula Mass_of_Interest	Column n	ort column ame: Formula	FileName s_of_Interest
	Column ty Referenc	rpe: string e: Analyst Pal Analyst	

When all of the "Source Column Headers" have been mapped to one of the LEAP Shell "Target Column Headers" select "**Save map**" at the bottom of the window to save a copy of the map for future use. To complete the mapping without saving the map, select "Ok".

Import Mapping		
SOURCE COLUMN HEADERS	MAPPING	Mapping method: IonSense Sampling App TARGET COLUMN HEADERS
SampleID Pal.Tip Pos Pal.Tip Tray Analyst.DataFileName SampleTray SamplePos Formula Mass_of_Interest	SampleID Pal Tip Tray Pal Tip Pos [none] SampleTray SamplePos Analyst.DataFileName Mass_of_Interest Formula [new]	SampleID Pal Tip Tray Pal Tip Pos Pal Transit speed SamplePos DataFileName Mass_of_Interest Formula
	✓ Do not copy <u>first row</u>	Load map Save map Cancel OK

By selecting **"Save map"** a "Save As" window will appear where the map can be named and saved to a safe location.

After saving the mapping file or proceeding without saving the mapping file, the LEAP Shell sample list view will appear as shown below. LEAP Shell will prompt the user to name the sample list and save it under "Sample Lists" within LEAP Shell.

	Sample Lists:	Save	Save as	Add samples	Fill Colum	ns Sel	ect vial	Submit				
Manager	All Methods		5ampleID	Shell Me	thod P.	al. Tip Tray	Pal. Tip Po:	Pal. Transit speed	SampleTray SamplePo	DataFileName	Mass_of_I	Formu
	Test 1 Sample	1 Analyst :	5ample Name 1	IonSense Sa	am 🔻 Ti	p-01 💌	1	500	Sample01 🔽 1	Analyst WIFF File Name_001	206.04	C7H6BF3O3
	IonSense Mapping Test	2 Analyst :	5ample Name 2	IonSense Sa	am 💌 Ti	p-01 🔽	2	500	Sample01 🔽 2	Analyst WIFF File Name_002	206.04	C7H6BF3O3
amples	Baclopride Mapping Test App 26 20	3 Analyst :	5ample Name 3	IonSense Sa	am 💌 Ti	p-01 🔽	3	500	Sample01 🔽 3	Analyst WIFF File Name_003	3 206.04	C7H6BF3O3
	Baclopride XYZ Mapping Test App	4 Analyst :	5ample Name 4	IonSense Sa	am 🔻 Ti	p-01 🔽	4	500	Sample01 💌 4	Analyst WIFF File Name_004	206.04	C7H6BF3O3
and Pol	Raclopride API Instrument Data File	5 Analyst	5ample Name 5	IonSense Sa	am 💌 Ti	p-01 🔽	5	500	Sample01 🔽 5	Analyst WIFF File Name_005	5 206.04	C7H6BF303
Lieue	Raclopride CORRECT Data File Pal	6 Analyst :	5ample Name 6	IonSense Sa	am 💌 Ti	p-01 🔽	6	500	Sample01 🔽 6	Analyst WIFF File Name_006	5 206.04	C7H6BF3O3
, doub	Raclopride REPEAT CORRECT Da Confider CORRECT Date File Partie	7 Analyst :	5ample Name 7	IonSense Sa	am 💌 Ti	p-01 🔽	7	500	Sample01 🔽 7	Analyst WIFF File Name_007	206.04	C7H6BF3O3
	Norfloxacin CORRECT Data File Path	8 Analyst :	5ample Name 8	IonSense Sa	am 💌 Ti	p-01 🔽	8	500	Sample01 💌 8	Analyst WIFF File Name_008	3 206.04	C7H6BF3O3
ethods	Caffeine 10 Samples App 26 20081	9 Analyst	5ample Name 9	IonSense Sa	am 💌 Ti	p-01 💌	9	500	Sample01 🔽 9	Analyst WIFF File Name_009	9 206.04	C7H6BF3O3
	Chemical Formula with Boron 10 Sa	10 Analyst :	Sample Name 10	IonSense Sa	am 💌 Ti	p-01 🔽	10	500	Sample01 💌 10	Analyst WIFF File Name_010	206.04	C7H6BF3O3
ents	<ul> <li>Boron Samples App 27 20081110</li> <li>NEG Boron Samples App 27 20081</li> </ul>	11 Analyst :	Sample Name 1:	I IonSense Sa	am 💌 Ti	p-01 🔽	11	500	SampleO1 💌 11	Analyst WIFF File Name_011	206.04	C7H6BF303
AL.	Single wiff Files_NEG Boron Sample	12 Analyst	5ample Name 13	IonSense Sa	am 💌 Ti	p-01 🔽	12	500	SampleO1 🔽 12	Analyst WIFF File Name_012	206.04	C7H6BF3O3
è.	Boron Samples App 28 20081112	13 Analyst :	5ample Name 13	IonSense Sa	am 💌 Ti	p-01 🔽	13	500	SampleO1 🔽 13	Analyst WIFF File Name_013	3 206.04	C7H6BF3O3
-	Check App 28 20081119 MSBedux 138 with LS App 28 2005	14 Analyst	5ample Name 14	IonSe Sar	mnle li	ist	94. 		Sample01 🔽 14	Analyst WIFF File Name_014	206.04	C7H6BF3O3
nalyst	MSRedux 139 with LS App 28 2005	15 Analyst :	Sample Name 1	5 IonSe	inpic ii				Sample01 💌 15	Analyst WIFF File Name_015	5 206.04	C7H6BF3O3
8	MSRedux 139 DART 2210 with LS	16 Analyst	5ample Name 16	i IonSe Sav	ve as:				Sample01 💌 16	Analyst WIFF File Name_016	5 206.04	C7H6BF3O3
	MSRedux 139 DART 2212 with LS	17 Analyst :	Sample Name 13	IonSe DAI	RT Samples	IMPORT	D SAMPLE I	JST	Sample01 🔽 17	Analyst WIFF File Name_017	206.04	C7H6BF3O3
	MSRedux 1310 DART 2213 with LS	18 Analyst	5ample Name 1	B IonSe					Sample01 💌 18	Analyst WIFF File Name_018	3 206.04	C7H6BF3O3
	MSRedux 1310 DART 2214 with LS	19 Analyst :	Sample Name 19	9 IonSe			V UK	Lancel	Sample01 💌 19	Analyst WIFF File Name_019	206.04	C7H6BF303
	DART Samples 96 Well Plate	20 Analyst :	5ample Name 21	) IonSense Sa	am 🔻 Ti	p-01 🔽	20	500	Sample01 💌 20	Analyst WIFF File Name_020	206.04	C7H6BF3O3
		21 Analyst :	5ample Name 2:	I IonSense Sa	am 💌 Ti	p-01 🔽	21	500	Sample01 💌 21	Analyst WIFF File Name_021	206.04	C7H6BF3O3
		22 Analyst :	5ample Name 23	2 IonSense Sa	am 💌 Ti	p-01 🔽	22	500	Sample01 🔽 22	Analyst WIFF File Name_022	206.04	C7H6BF3O3
		23 Analyst	5ample Name 23	IonSense Sa	am 💌 Ti	p-01 🔽	23	500	Sample01 💌 23	Analyst WIFF File Name_023	3 206.04	C7H6BF3O3
		24 Analyst :	5ample Name 24	IonSense Sa	am 💌 Ti	p-01 🔽	24	500	Sample01 🔽 24	Analyst WIFF File Name_024	206.04	C7H6BF303
		25 Analyst :	5ample Name 25	5 IonSense Sa	am 💌 Ti	p-01 💌	25	500	Sample01 🔽 25	Analyst WIFF File Name_025	5 206.04	C7H6BF3O3
		26 Analyst :	5ample Name 20	ionSense Sa	am 💌 Ti	p-01 🔽	26	500	Sample01 💌 26	Analyst WIFF File Name_026	5 206.04	C7H6BF3O3
		27 Analyst :	5ample Name 23	7 IonSense Sa	am 💌 Ti	p-01 🔽	27	500	Sample01 🔽 27	Analyst WIFF File Name_027	206.04	C7H6BF3O3
		28 Analyst :	5ample Name 21	B IonSense Sa	am 🔻 Ti	p-01 🔽	28	500	Sample01 💌 28	Analyst WIFF File Name_028	3 206.04	C7H6BF3O
		29 Analyst :	5ample Name 2	IonSense Sa	am 💌 Ti	p-01 🔽	29	500	Sample01 🔽 29	Analyst WIFF File Name_029	206.04	C7H6BF303
		30 Analyst :	5ample Name 31	IonSense Sa	am 💌 Ti	p-01 🔽	30	500	Sample01 💌 30	Analyst WIFF File Name_030	206.04	C7H6BF3O3
		31 Analyst :	5ample Name 3:	I IonSense Sa	sm 💌 Ti	p-01 🔽	31	500	SampleO1 💌 31	Analyst WIFF File Name_031	206.04	C7H6BF3O3
		32 Analyst	5ample Name 33	2 IonSense Sa	am 💌 Ti	p-01 🔽	32	500	Sample01 💌 32	Analyst WIFF File Name_032	206.04	C7H6BF3O3
		33 Analyst :	Sample Name 33	B IonSense Sa	am 💌 Ti	p-01 🔽	33	500	Sample01 💌 33	Analyst WIFF File Name_033	3 206.04	C7H6BF3O3
		34 Analyst :	5ample Name 34	IonSense Sa	am 💌 Ti	p-01 🔽	34	500	SampleO1 💌 34	Analyst WIFF File Name_034	206.04	C7H6BF3O3
		35 Analyst :	5ample Name 3	5 IonSense Sa	am 💌 Ti	p-01 🔽	35	500	Sample01 💌 35	Analyst WIFF File Name_035	5 206.04	C7H6BF3O3
		36 Analyst :	5ample Name 34	ionSense Sa	am 💌 Ti	p-01 🔽	36	500	SampleO1 🔽 36	Analyst WIFF File Name_036	5 206.04	C7H6BF3O3
		37 Analyst :	5ample Name 33	IonSense Sa	am 💌 Ti	p-01 💌	37	500	Sample01 💌 37	Analyst WIFF File Name_037	206.04	C7H6BF303
		38 Analyst	5ample Name 31	IonSense Sa	am 💌 Ti	p-01 💌	38	500	Sample01 🔽 38	Analyst WIFF File Name_038	3 206.04	C7H6BF3O3
		39 Analyst :	Sample Name 3	IonSense Sa	am 💌 Ti	p-01 💌	39	500	Sample01 💌 39	Analyst WIFF File Name_039	206.04	C7H6BF303
		40 Analyst	5ample Name 40	IonSense Sa	am 💌 Ti	p-01 🔽	40	500	Sample01 💌 40	Analyst WIFF File Name_040	206.04	C7H6BF3O3
	🕂 Add 🛛 💳 Delete 🛛 👔 Rename											

#### Getting Ready to Run

To prepare to run make sure that the **DART Control software** has been **opened** and the desired **DART Method** has been **loaded**.



In LEAP Shell, check that all **"Instruments"** are in the **"Ready"** mode. When connecting to Analyst through LEAP Shell the default Analyst mode will be **"Standby"**, the user can **"Ready"** Analyst through the "Analyst: Status" window.

		1000000000	1		
Lab Manager	Shell Methods:	Save	Save As	Test	
ews	IonSense Sampling Sampling No Pause Single tip	Shell Meth	od: IonSense S	ampling	
	Sampling Pause single tip Sampling Pause	Method de	scription		
Samples	Pickup Tip Eject Tip				
1000	IonSense Sampling App 25 IonSense Sampling App 26	Application	1		
Queue	TonSense Sampling App 26 API Instrum	IonSense	Sampling Analy	st 2.4	-
-	IonSense Sampling App 27 IonSense Sampling App 27 NEG	Pause			
Methods	IonSense Sampling App 28 IonSense Sampling App 28 NEG	SPAL: Auto	ısampler		
okumonto		Instrument se	election		
struillents		PAL		+	
PAL		InjectMethod	: Inject method (R	un Time: '''' s)	
eady		IS no pause	sampling Rev 2-4	LPM	
🔓 Analyst	Disconnect	Analyst: Da	Ita acquisition		
tandby	Status	Instrument or	election		
	Configure	msuument st	SIGCTION		

In the "Analyst: Status" window click on "Ready" to put Analyst in the "Ready" mode.

nstruments	🐗 Analyst: Status	
PAL Ready	Acquiring Sample         of         Period         O         Durations         Queue Server           0%         Expected         0.00.00         Expected         Ready         Normal	
Analyst Ready	Start Time Sample ID Sample Name Vial Position Status Method Data File Comments	
	The Ready 🖂 Standby	2

#### Submit the Sample List to the LEAP Shell Queue and Run

🕼 LEAP Sh	ell -	PAL and Ana	lyst										_ 6	X
File Queue \	'iew F	Profile Tools Log	Out Help											
User Lab Manager		Run Stop	Delete batch	Move Up 🛛 🌩 Mo	ve Down									
Views	DAR	T Samples IMPORTED 9	AMPLE LIST											
		Time Stamp	Status	SampleID	Shell Method	Pal. Tip Tray	Pal.Tip Pos	Pal. Transit speed	SampleTray	SamplePos	DataFileName	Mass_of_In	Formula	^
	1	12/26/2008 10:24:07	Bunning	Analyst Sample Name 1	IonSense Samplin	Tip-01	1	500	Sample01	1	Analyst WIFF File Name_001	206.04	C7H6BF303	
Samples	2	10:23:50 AM	Waiting	Analyst Sample Name 2	IonSense Samplin	Tip-01	2	500	Sample01	2	Analyst WIFF File Name_002	206.04	C7H6BF3O3	
	3	10:23:50 AM	Waiting	Analyst Sample Name 3	IonSense Samplin	Tip-01	3	500	Sample01	3	Analyst WIFF File Name_003	206.04	C7H6BF3O3	
الالتصرير	4	10:23:50 AM	Waiting	Analyst Sample Name 4	IonSense Samplin	Tip-01	4	500	Sample01	4	Analyst WIFF File Name_004	206.04	C7H6BF3O3	
Queue	5	10:23:50 AM	Waiting	Analyst Sample Name 5	IonSense Samplin	Tip-01	5	500	Sample01	5	Analyst WIFF File Name_005	206.04	C7H6BF3O3	
	6	10:23:50 AM	Waiting	Analyst Sample Name 6	IonSense Samplin	Tip-01	6	500	Sample01	6	Analyst WIFF File Name_006	206.04	C7H6BF3O3	
<b>*</b>	7	10:23:50 AM	Waiting	Analyst Sample Name 7	IonSense Samplin	Tip-01	7	500	Sample01	7	Analyst WIFF File Name_007	206.04	C7H6BF3O3	
Methods	8	10:23:50 AM	Waiting	Analyst Sample Name 8	IonSense Samplin	Tip-01	8	500	Sample01	8	Analyst WIFF File Name_008	206.04	C7H6BF3O3	
Instrumonts	9	10:23:50 AM	Waiting	Analyst Sample Name 9	IonSense Samplin	Tip-01	9	500	Sample01	9	Analyst WIFF File Name_009	206.04	C7H6BF3O3	
instruments	10	10:23:50 AM	Waiting	Analyst Sample Name 10	IonSense Samplin	Tip-01	10	500	Sample01	10	Analyst WIFF File Name_010	206.04	C7H6BF3O3	
PAL PAL	11	10:23:50 AM	Waiting	Analyst Sample Name 11	IonSense Samplin	Tip-01	11	500	Sample01	11	Analyst WIFF File Name_011	206.04	C7H6BF3O3	
Running	12	10:23:50 AM	Waiting	Analyst Sample Name 12	IonSense Samplin	Tip-01	12	500	Sample01	12	Analyst WIFF File Name_012	206.04	C7H6BF3O3	
Analysis	13	10:23:50 AM	Waiting	Analyst Sample Name 13	IonSense Samplin	Tip-01	13	500	Sample01	13	Analyst WIFF File Name_013	206.04	C7H6BF3O3	
Analyst	14	10:23:50 AM	Waiting	Analyst Sample Name 14	IonSense Samplin	Tip-01	14	500	Sample01	14	Analyst WIFF File Name_014	206.04	C7H6BF3O3	
	15	10:23:50 AM	Waiting	Analyst Sample Name 15	IonSense Samplin	Tip-01	15	500	Sample01	15	Analyst WIFF File Name_015	206.04	C7H6BF3O3	

View of the LEAP Shell Sample Queue.

At the bottom of the LEAP Shell window the "DART Warm-up Time" set through the LEAP Shell Method will be displayed. The time posted in the message is the time that the PAL will begin running the samples in the Queue. This example shows a 5 minute "DART Warm-up Time".

[13:02:21]>> [13:02:21]>> === RUNNING SAMPLE LIST ===		
13:02:21 ]>> === RUNNING SAMPLE LIST ===	[13:02:21]>>	
	[13:02:21]>> === BUNNING SAMPLE LIST ===	
LTRUZZETNN, Waiting for LIART To Warm up a Readulat: 1:17/21 PM	[13:02:21]>> Waiting for DART To Warm up - Bead	. st. 1.07.21 PM

The status of the Analyst data acquisition can be checked through LEAP Shell by accessing the "Analyst: Status" window. Left click on the "Analyst" icon under "Instruments" and select "Status" to open the "Analyst: Status" window shown below.

.cquii	ing Sa	ample 1 of 1	Period	1 of 1	55%	Durations Expected Elapsed	0:00:20	Queue Server भिन्न भिन्न Acquiring Norn	ยี กล
	-	Start Time	Sample ID	Sample Name	Vial Position	Status	Method	Data File	Comments
	1	12/26/2008 10:24:25 A	Analyst Samp	Analyst Samp	1	Acquired	Sciex Test Meth	Analyst WIFF File Name_001	
	1	12/26/2008 10:25:25 A	Analyst Samp	Analyst Samp	2	Acquired	Sciex Test Meth	Analyst WIFF File Name_002	
	1	12/26/2008 10:26:16 4	Analyst Samp	Analyst Samp	3	Acquired	Sciex Test Meth	Analyst WIFF File Name_003	
	1	12/26/2008 10:27:07 A	Analyst Samp	Analyst Samp	4	Acquired	Sciex Test Meth	Analyst WIFF File Name_004	
	1	12/26/2008 10:28:00 4	Analyst Samp	Analyst Samp	5	Acquired	Sciex Test Meth	Analyst WIFF File Name_005	
	1	12/26/2008 10:28:52 4	Analyst Samp	Analyst Samp	6	Acquired	Sciex Test Meth	Analyst WIFF File Name_006	
	1	12/26/2008 10:29:43 A	Analyst Samp	Analyst Samp	7	Acquired	Sciex Test Meth	Analyst WIFF File Name_007	
	1	12/26/2008 10:30:34 A	Analyst Samp	Analyst Samp	8	Acquired	Sciex Test Meth	Analyst WIFF File Name_008	
	1	12/26/2008 10:31:38 4	Analyst Samp	Analyst Samp	9	Acquired	Sciex Test Meth	Analyst WIFF File Name_009	
0	*	12/26/2008 10:32:29 4	Analyst Samp	Analyst Samp	10	Acquiring	Sciex Test Meth	Analyst WIFF File Name_010	

#### DART Shutdown Feature

At the end of any submitted batch in the LEAP Shell Sample Queue DART Control is triggered by LEAP Shell to shutdown.

- **DART Control** is placed into "Standby" mode with the heater "ON".
- The **DART heater** will be turned **off in 3 minutes** after being placed in "Standby" by the DART Shutdown feature.
- **DART Control** will be completely turned "**OFF**" in a total of 5 minutes.

In the event that:

- There are multiple sample batches in the queue, the DART will not be shut down until the last sample batch submitted has finished running. Note: If a "DART Warm-up Time" has been set in the LEAP Shell Method it will be executed at the beginning of every sample batch.
  - It is suggested that for multiple sample batch submissions to not include a "DART Warm-up Time" in the LEAP Shell Method. For this case it is advised to allow the DART to fully heat in "Standby" before starting the run through LEAP Shell. LEAP Shell will automatically turn DART Control into "Run" mode.
- The user wishes to cancel the DART Shutdown at any time click the "Cancel" button in the "DART Shutdown" window.

View of the DART Shutdown window at the end of a LEAP Shell run.



#### Additional Comments

By design, many of the user configurable features in the automated version of the MSRedux-XI software can only be set by the interactive (GUI) version and are inaccessible from LEAP Shell.