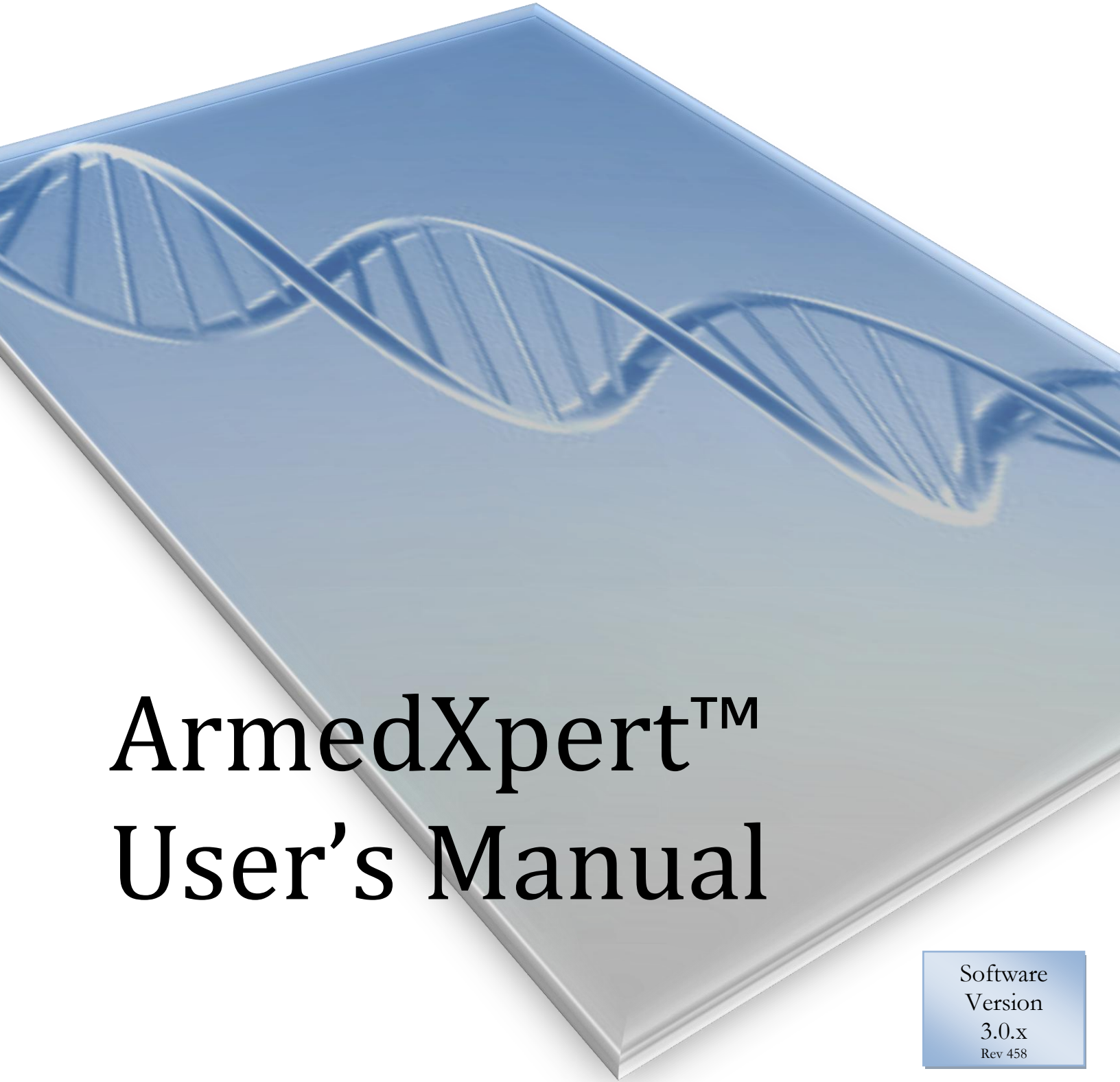
NicheVision Forensics LLC



ArmedXpert™ User's Manual

Software Version 3.0.x
Rev 458

NICHEVISION FORENSICS LLC

ArmedXpert™ User's Manual

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Chapter 1

Introduction

ArmedXpert™ – Developed by analysts for analysts.

ArmedXpert allows the user to check ladders, check controls, check for possible stutter, perform matching between evidence samples and references, check for potential contamination with staff profiles, do Mixture Interpretation with two to three biostatistical analyses for single and multiple source samples, print and save data.

ArmedXpert consists of six tabs and an ArmedXpert menu. The ArmedXpert Menu is used to set default options and perform basic functions such as importing, exporting, and printing. The tabs are used to navigate through the different functions of ArmedXpert. Chapters 2 through 8 go through each of these in detail.

FIGURE 1.1 ArmedXpert Tabs

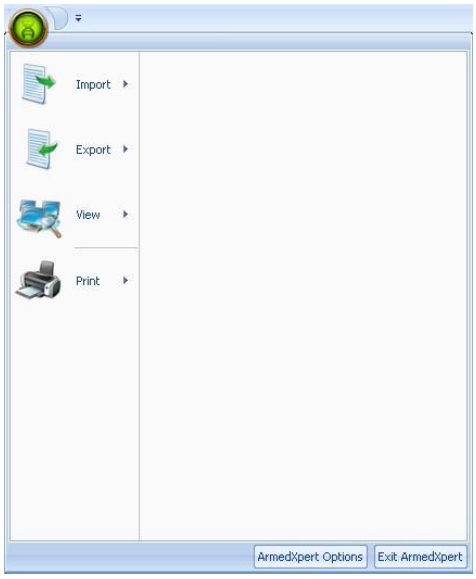


FIGURE 1.2 ArmedXpert Menu

ArmedXpert Specifications

Compatibility	
Operating Systems	Supports Windows 7, Vista, XP (32bit or 64bit)
Data Files	Imports ABI Genemapper ID or ID-X, Genemapper, or GeneScan Tables Imports OSIRIS .oer projects, Excel, CSV, or XML formats
Database	Password Protected with User roles in Microsoft SQL (32bit or 64bit). Easily manage multiple databases. Combine tables quickly with advanced sorting.
QC Checks and Matching	
Standards Checks	Control Checks, Allele Ordering, Max Stutter, Low Scale and Off Scale RFUs
CODIS QC	Allele formatting, Allele count, Check X, Off Scale Data, Peak Height Ratio
Comparisons	Find Where Reference is Included, Find Included to the Reference, Find Foreign to Reference, Find Where Reference Includes Foreign, List Foreign Alleles, Combine References and compare tables instantly
Interpretation	
Mixture Interpretation	Displays all possible combinations for 2 or 3 contributor scenarios. Flags possible stochastic effects. Allows for peak height ratio thresholds, minimum RFUs, minimum proportions, and max stutter per locus. Audit trail, real-time proportion charting and sort for possible DNA degradation
Statistics	Random Match Probability (RMP - Modified, Restricted, & Unrestricted), Likelihood Ratios (Restricted and Unrestricted), CPE/CPI (RMNE), and Single Source with relatedness. All stats can be generated automatically, saved and opened without manual typing. There is no limit on number of population frequencies that can be stored.
Reports	Automated Sample vs. Database results, Total Data, and CODIS Disposition Forms. Checks, Samples, and Statistics fit single page format.
CODIS	Export Common Message Format (CMF) v 1.0, v3.0, v3.1, and v3.2

Signing into ArmedXpert

When you start ArmedXpert the **Login** window will open. Enter your User name and password. Default user name is admin with no password. Click the "Ok" button.

Note: When you initially start ArmedXpert the first time and until you register, the Registration Dialog window will open before the Login window.

To clear your login in history, click on the "Clear login history" button.

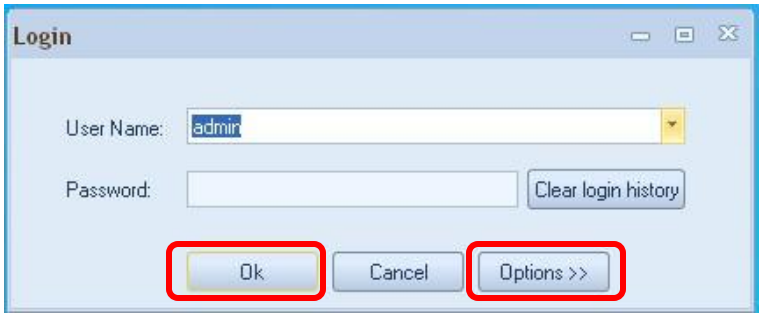


FIGURE 1.3 Login Window

To change the database that ArmedXpert is connected to, click on the "Options>>" button. The Connection Properties tab opens. Change from the available databases, by clicking on the ▼ next to Connection name box to choose between the available Connection Names.

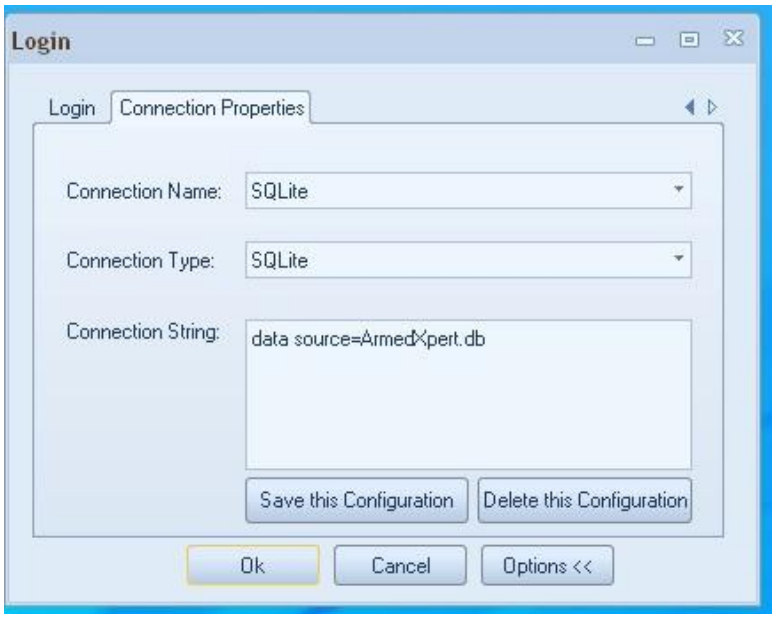


FIGURE 1.4 Connection Properties

Or add a new connection name, by clicking on the box next to the Connection Name. The box will appear in white and you can type in a new name.

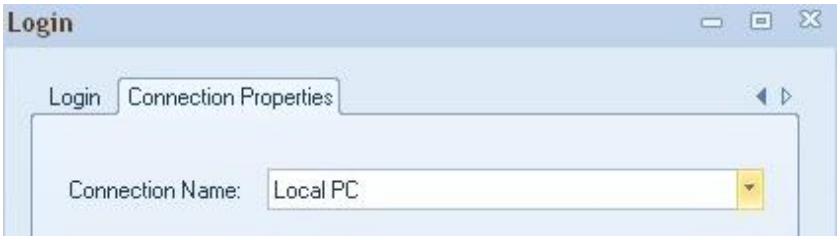


FIGURE 1.5 New Connection Name

Change the connection type by clicking on the arrow next to the Connect Type box. This will bring up a drop down list of available connection. Select the appropriate Connection type.

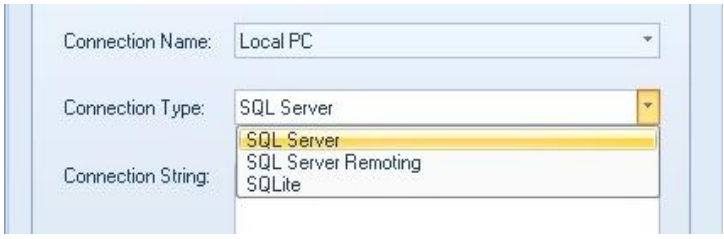


FIGURE 1.6 Changing Connection Type

Type in an appropriate Connection String. The Connection String for SQLite connection can be changed to any user-defined name. Just highlight the current name shown and enter the new name. It should read "data source=userdefinedname.db". The current name shown in the example below is ArmedXpert. The .db file is created in the same folder as the ArmedXpert application. Once finished, click on the "Save this Configuration" button. If the "Save this Configuration" button is not clicked, the connection configurations will be not used the next time you open the program.

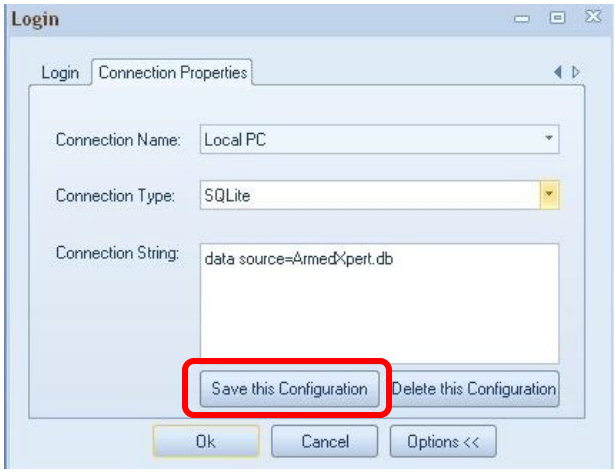


FIGURE 1.7 Connection Properties Window

Finally, click the "Ok" button to connect to the server.

Registering ArmedXpert

When you start ArmedXpert before you register, the **Registration Dialog** window shown below in Figure 1.8 will appear. Click the "Copy ID" button and then paste the ID in an email or text document and email it to support@nichevision.com. You will be sent a Serial Number by email. Copy the Serial Number, then click on the "Paste serial" button. You can also just directly enter the number into the boxes. Click "OK" button and your file is registered. If you would like to use the program before you get the Serial Number, just click the "Start Trial Version" button for full access until your registration is complete.

FIGURE 1.8 Registration Dialog window.

Chapter 2

ArmedXpert Menu

ArmedXpert has a main command menu. Click on the green icon on upper left hand corner of ArmedXpert to open the main menu. The left portion of the menu lists the following commands: **Import**, **Export**, **View**, and **Print.** On the bottom right hand corner is the "**ArmedXpert Options**" and "**Exit ArmedXpert**" buttons.

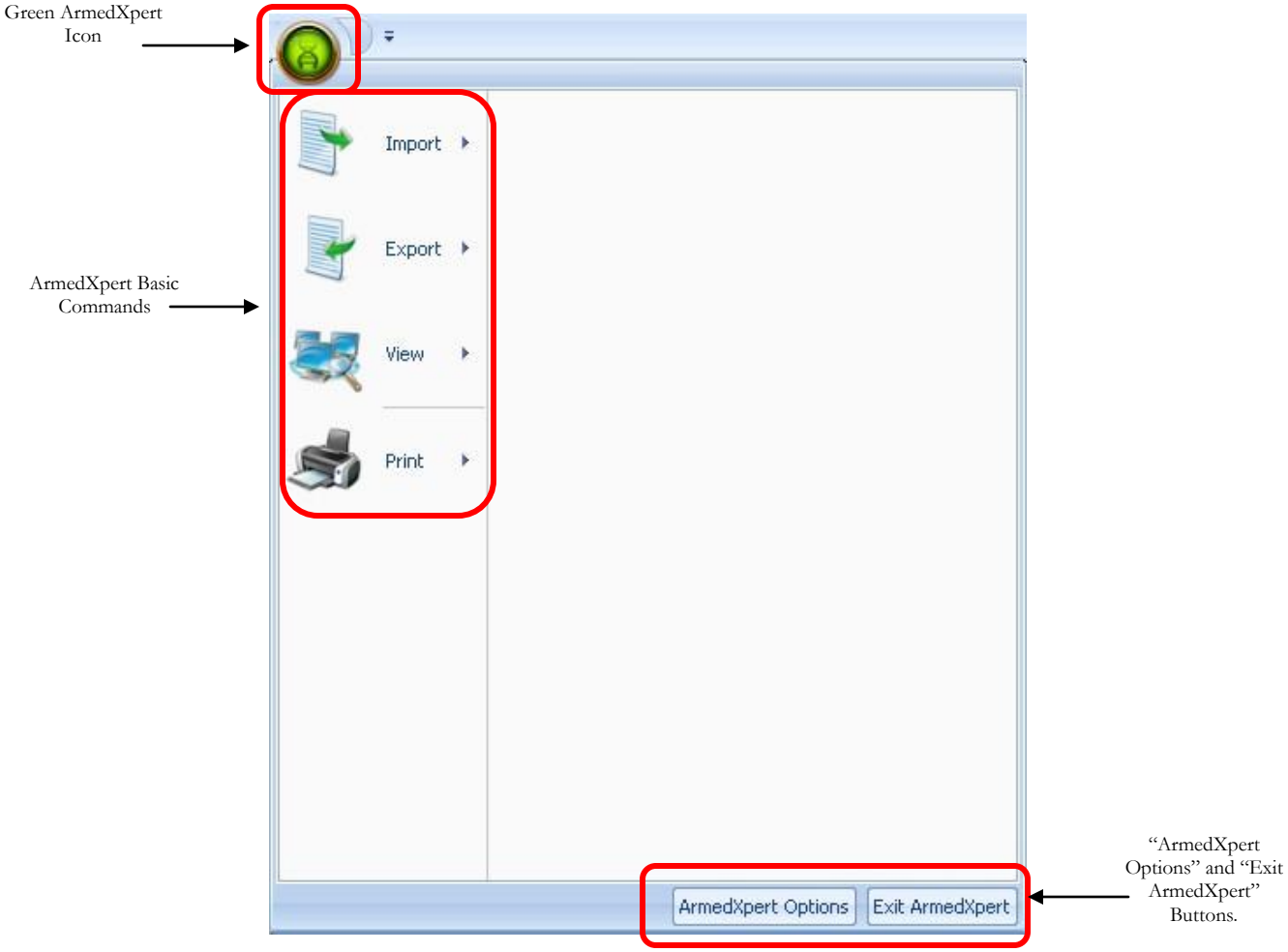


FIGURE 2.1 ArmedXpert Menu

ArmedXpert Options

Click on the "**ArmedXpert Options**" button to open the options or defaults for the program. There are six main sections: General, Data, Interpretation, Quality Control, Reporting, and Admin Console (On Administrator copies only). They are listed on the left side of the ArmedXpert Option Window. The options for each section are shown on the right hand side of the window. The section highlighted indicates which section's options are being shown. For example in Figure 2.2 below, General is highlighted on the left hand side, so the General view options are shown on the right hand side of the window.

Once the options are set, they will change for all current or subsequently opened files in ArmedXpert. You can go back into option window and the options can be changed as necessary. Click "Ok" to save the options you have selected. Click "Cancel" to close the Option window without changing the settings. To obtain the software version information, click on the "**About ArmedXpert**" button on the bottom right hand corner of the window.

The first main section, **General** provides flexibility for how you can view your data. The first option allows double homozygotes to be displayed. The second option allows ArmedXpert to remember window sizes and locations when reopening. When checked, all windows that are reopened will open in the location and size that it was when closed previously.

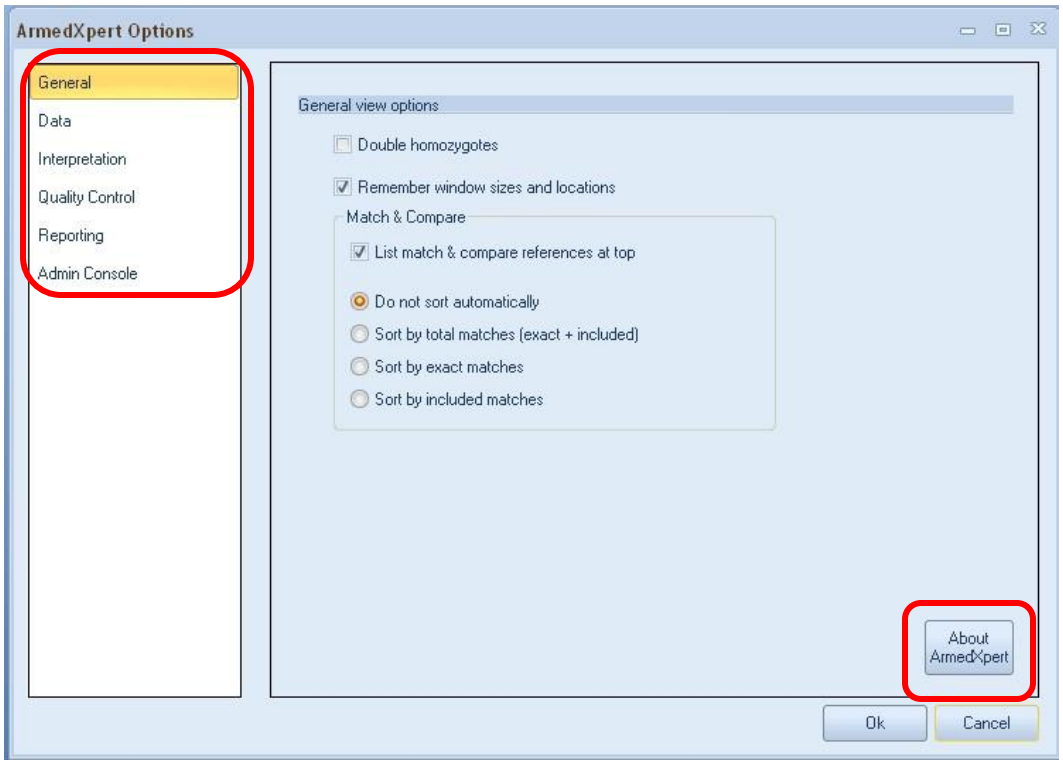


FIGURE 2.2 General view options

The third option is how the Match & Compare feature is viewed. To move the references used during the match and compare feature from the bottom of the page to the top of the page (as shown in Figures 2.4 & 2.5 below), click on the "List match & compare references at top" box. The four choice listed on the bottom of the Match & Compare section allow you to choose sorting options for your Match & Compare data. Click on the circle next to the option of your choice.

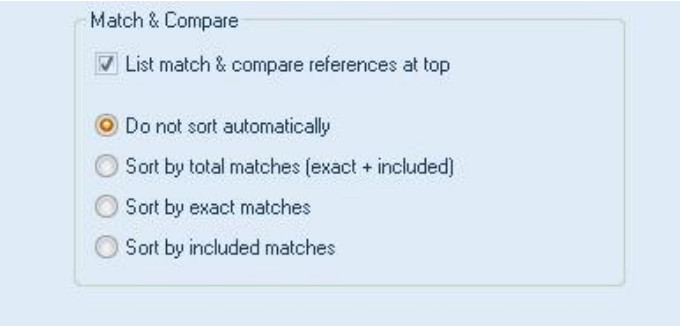


FIGURE 2.3 Match & Compare Section of the General View options.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07 [1 Reference]	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX1747 99XX5678 K10 Susp-2 Ref 06-08-21-H03	13	29, 30	10, 13	10, 11	17, 18	6, 7	11, 12	9,
XX1748 99XX5678 K11 Elim Ref 06-08-21-A04	12, 14	29, 32.2	10, 12	11	16	6, 8	11	11
XX72.1 99XX5678 Q1(2) F1 Vag Swab 06-07-14-C02	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02	9, 11, 12, 13, 14, 16	29, 30, 30.2, 32.2	8, 9, 10, 12	10, 11, 12, 13	15, 16, 17	6, 7, 8, 9, 9.3	9, 10, 11, 12	9, 11,
XX74.1 99XX5678 Q1 F1 Gen Swab 06-07-14-A03	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX74.2 99XX5678 Q1 F2 Gen Swab 06-07-14-B03	9, 11, 12, 13, 16	29, 30, 30.2	8, 9, 10	10, 11, 12	15, 16, 17	7, 9, 9.3	9, 10, 12	
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX95 99XX5678 K9 Susp-1 Ref 06-07-14-F07	11, 13	30, 30.2	9, 10	10, 12	15, 17	7, 9.3	9, 12	
Exact match								
Included								

FIGURE 2.4 Example of Reference at top option view.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16
XX1747 99XX5678 K10 Susp-2 Ref 06-08-21-H03	13	29, 30	10, 13	10, 11	17, 18	6, 7	11, 12	9,
XX1748 99XX5678 K11 Elim Ref 06-08-21-A04	12, 14	29, 32.2	10, 12	11	16	6, 8	11	11
XX72.1 99XX5678 Q1(2) F1 Vag Swab 06-07-14-C02	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02	9, 11, 12, 13, 14, 16	29, 30, 30.2, 32.2	8, 9, 10, 12	10, 11, 12, 13	15, 16, 17	6, 7, 8, 9, 9.3	9, 10, 11, 12	9, 11,
XX74.1 99XX5678 Q1 F1 Gen Swab 06-07-14-A03	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX74.2 99XX5678 Q1 F2 Gen Swab 06-07-14-B03	9, 11, 12, 13, 16	29, 30, 30.2	8, 9, 10	10, 11, 12	15, 16, 17	7, 9, 9.3	9, 10, 12	
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
XX95 99XX5678 K9 Susp-1 Ref 06-07-14-F07	11, 13	30, 30.2	9, 10	10, 12	15, 17	7, 9.3	9, 12	
XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07 [1 Reference]	9, 16	29, 30	8, 10	11, 13	15, 17	7, 9	10, 12	9,
Exact match								
Included								

FIGURE 2.5 Example of the Reference at the bottom, if option is not checked.

When a check appears next to each option, that option is active. Click on the box next to each option to remove a check that is shown or add a check to an empty box.

The second main section is **Data**. This section allows you to assign allele exclusions to what is imported into ArmedXpert from your sample data. Any artifact that is listed and has a check mark will not be imported into ArmedXpert. There are a few default items already assigned in ArmedXpert.

You can add new exclusions by clicking the "Add Exclusion" button. You can turn off an exclusion listed by clicking on the box next to each title and removing the check mark. Allele exclusions can be deleted from the list by clicking on the exclusion so it is highlighted, then clicking on the "Delete Exclusion" button.

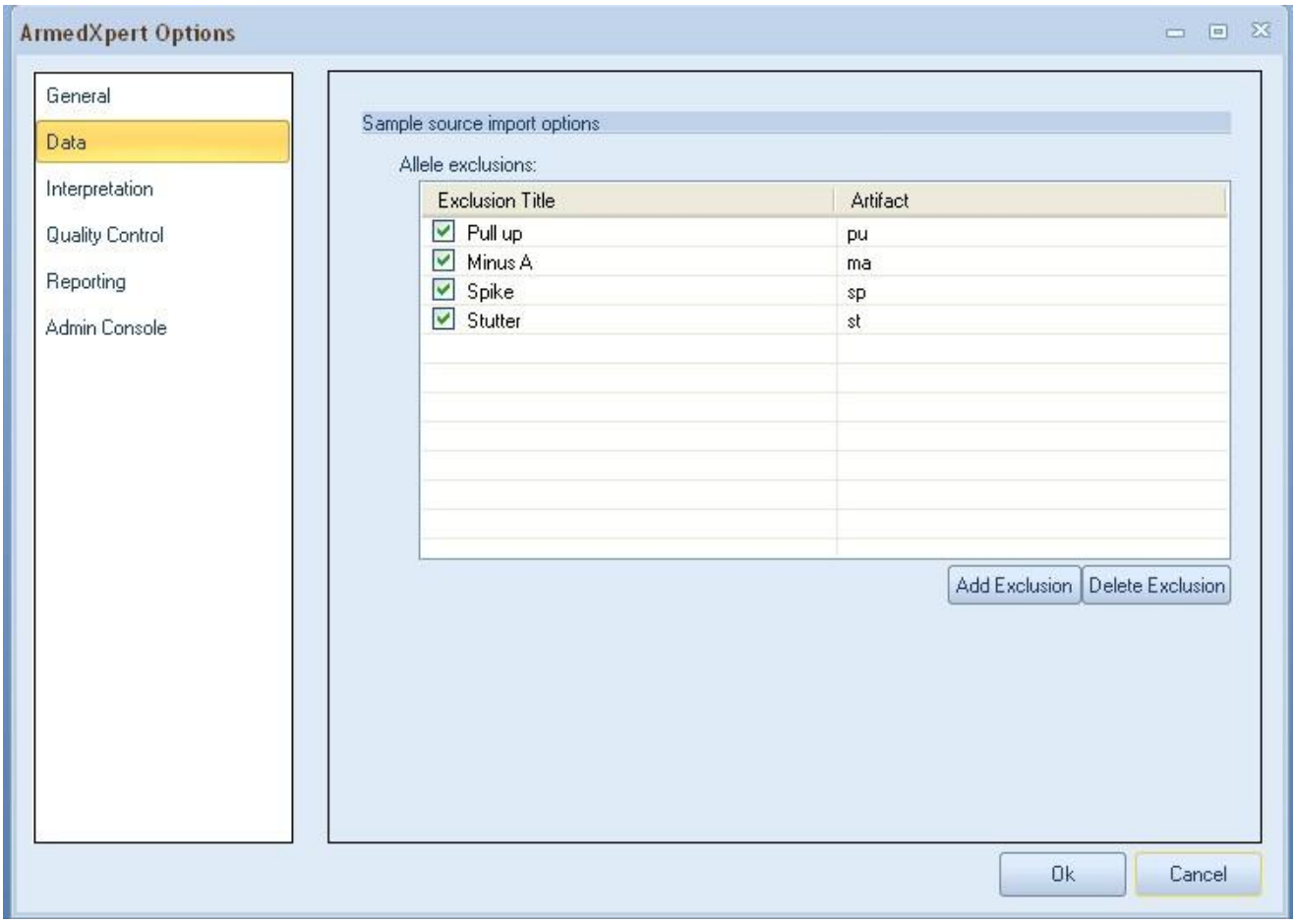


FIGURE 2.6 Data options

The third main section is **Interpretation**. This section has four subsections: Mixture Interpretation, Quality Control, Frequencies, and Frequency Options.

The first subsection, **Mixture Interpretation** is made up of two sections. The top section, Mixture interpretation settings allows you set the default mixture interpretation settings, by adding default values into the box right of each type. Once set the mixture interpretation window will only show allele possibilities equal or greater than the value set. For example, if the minimum peak height (mPH) is set at 75 as shown below, the Mixture Interpretation Window will only include allele possibilities equal to or greater than 75 mPH.

The sort loci by allele count option, displays the loci with the largest number of alleles first in the Mixture Interpretation Window. It is the same as checking "Highest to Lowest #" in the Mixture Interpretation Window. The List proportions as dilutions (1:X) option, displays the proportion as dilutions instead of percentages in the mixture interpretation window. Click on the box next to each to turn these features on or off.

Note: The mixture interpretations settings can be changed in the Mixture Interpretation Window for a specific sample. This does not change the default settings for the software. The default settings can only be set through this window.

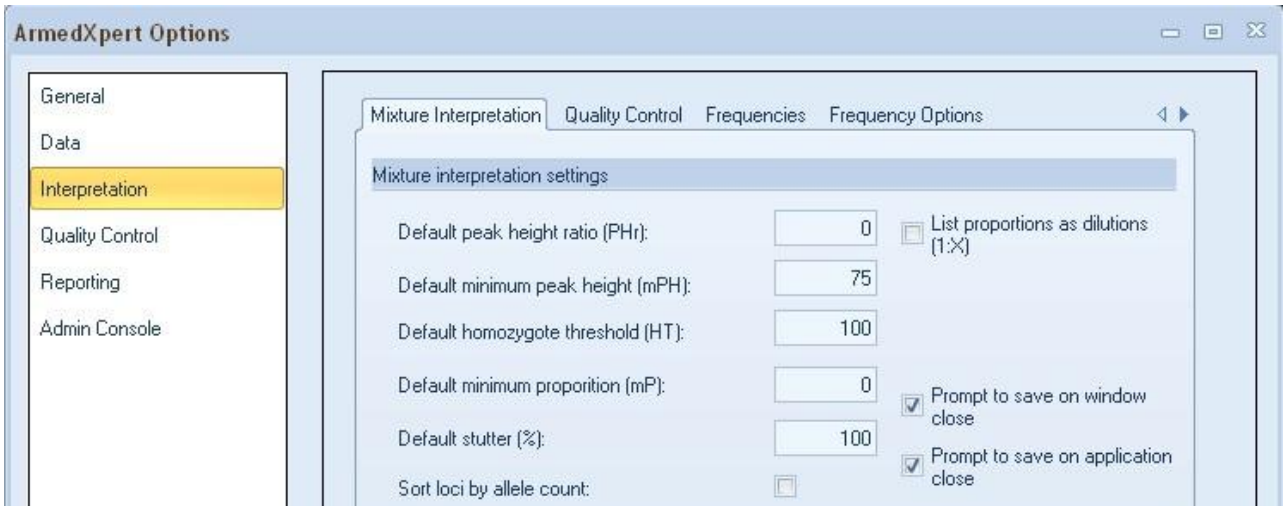


FIGURE 2.7 Mixture Interpretation settings

This section also has two save options available for the Mixture Interpretation Window. The "Prompt to save on window close" option will bring up a confirmation window asking you to save or not when you close the Mixture Interpretation Window. The "Prompt to save on application close" option will do the same thing if you close ArmedXpert and the Mixture Interpretation Window is open.

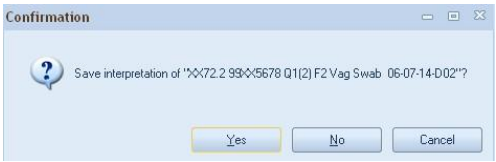


FIGURE 2.8 Confirmation Window

The bottom section is the Profile naming scheme section. It allows you to set up names for the profiles in the Mixture Interpretation Window.

The left hand side of the section is to set up default names. Add a check mark next to each item that you would like to have appear in the name. The Preview section will show you an example of what your profile name will look like. The text can be changed to any text that you wish. "Profile" is shown as an example. Auto number will add another number to last number used during the time the software is opened. So, the numbers will start at 01, and proceed up from there. The Date and Time field add the current date or time to the profile name at the time the mixture interpretation window was opened. The Sample Name will add the sample name used for the mixture interpretation to the profile name. With the Sample Name, you can customize when the sample name starts and how many characters are used in the profile name.

The right hand side is for custom naming. To enable Custom Naming, place a check mark in the box next to "Custom Naming" and turn off all check marks on the left hand side. Enter a name in each profile box. These profile names will appear each time the mixture interpretation window is opened. The "Swap 3P order", allows the third profile to swap to the second position in a three-person mixture. This enables an elimination profile to move ahead of the suspect profile when applying references (see note below).

Note: References are added in order of profiles when using the auto-call reference feature in the Mixture Interpretation Window. For example, the first reference is added to the first profile and the second reference is added to the second profile. So, make sure you keep this in mind when assigning custom naming.

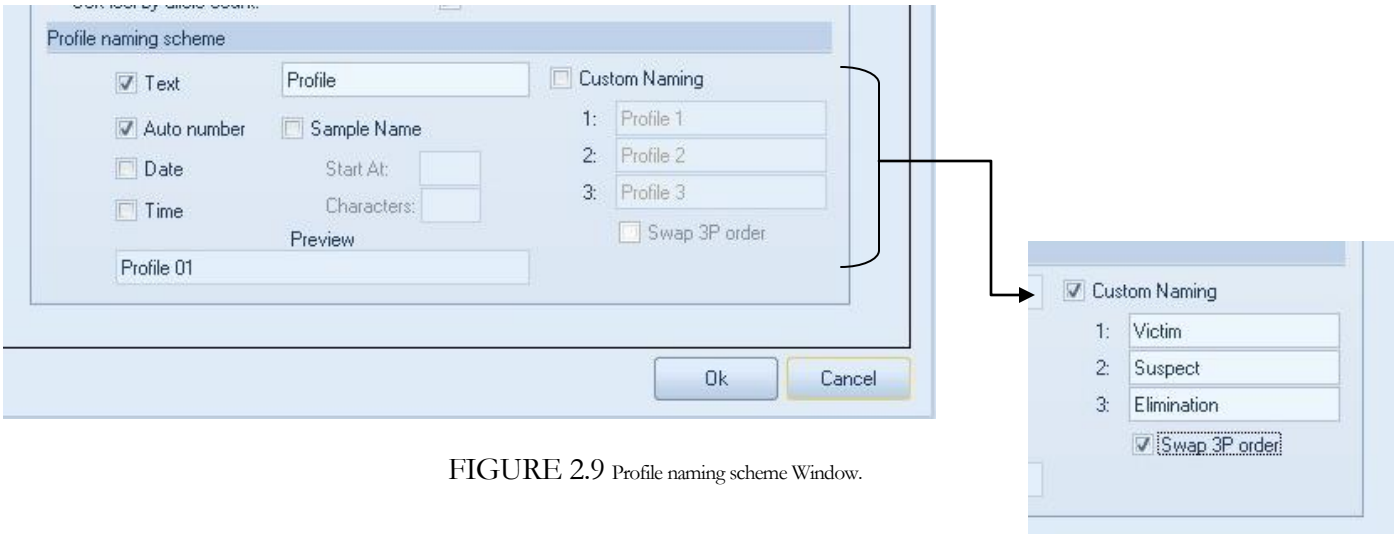


FIGURE 2.9 Profile naming scheme Window.

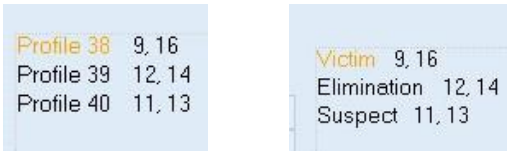
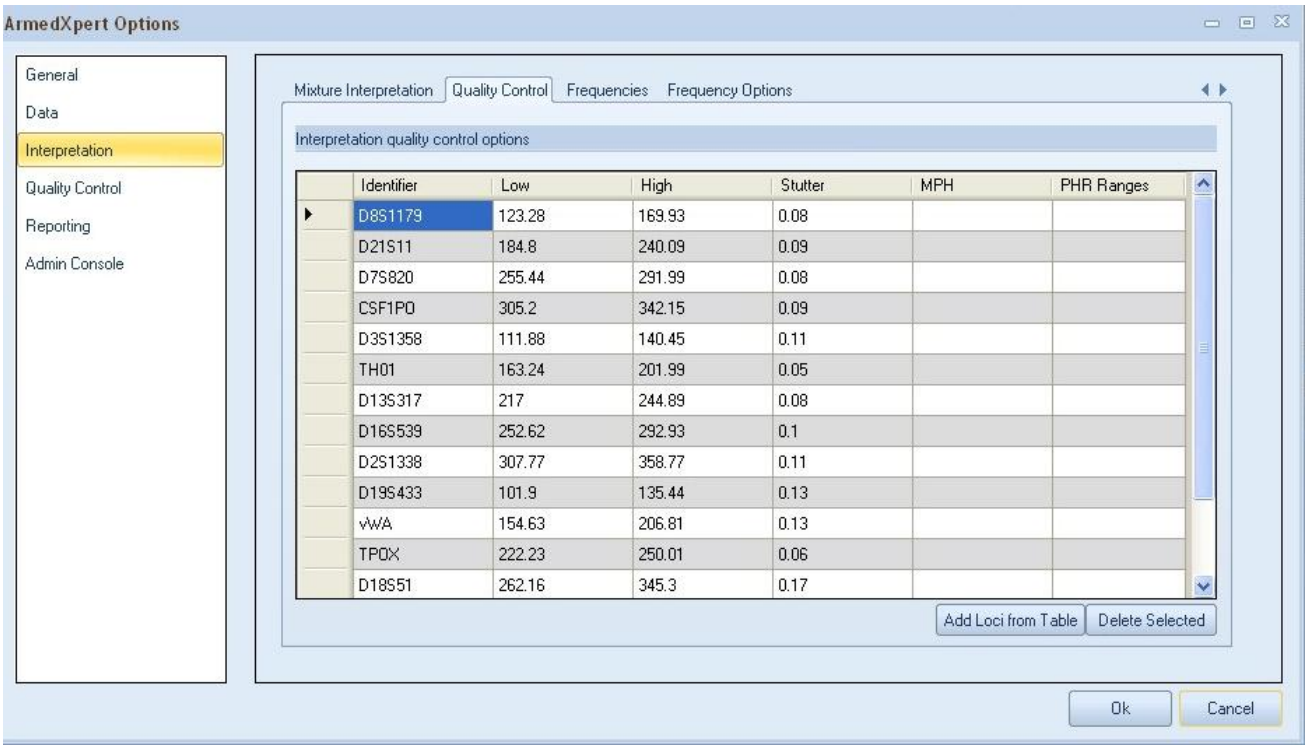


FIGURE 2.10 Examples of what the Profiles look like in the Mixture Interpretation Window.

Note: All profile names can be manually renamed in the Mixture Interpretation Window regardless of these settings.

The second subsection is the Interpretation **Quality Control** options. This section displays the thresholds used during the check controls. These can be changed by each locus. Click in the cell you would like to change and type a new amount. You can also add a MPH (minimum peak height) or PHR Range (peak height ratio) for each separate locus. This will supersede the default for each set in previous Mixture Interpretation tab. You can do that by just typing in the appropriate number for each. If no amount is filled in the MPH or PHR Ranges, the default values will be used.

You can add Loci from a sample table by clicking on the "Add Loci from Table" button. The sample table needs to be opened in ArmedXpert. The "Delete Selected" button is used to delete the item selected.



Identifier	Low	High	Stutter	MPH	PHR Ranges
D8S1179	123.28	169.93	0.08		
D21S11	184.8	240.09	0.09		
D7S820	255.44	291.99	0.08		
CSF1PO	305.2	342.15	0.09		
D3S1358	111.88	140.45	0.11		
TH01	163.24	201.99	0.05		
D13S317	217	244.89	0.08		
D16S539	252.62	292.93	0.1		
D2S1338	307.77	358.77	0.11		
D19S433	101.9	135.44	0.13		
vWA	154.63	206.81	0.13		
TPOX	222.23	250.01	0.06		
D18S51	262.16	345.3	0.17		

FIGURE 2.11 Interpretation Quality Control Options

The third subsection is **Frequencies** options. The top half of the screen, allows you to choose which frequency tables are enabled for frequency calculations. A check indicates that table is enabled for the frequency reports. Click on the box next to each option to add or remove a check in the box. The Theta amount can be changed here by clicking in cell next to each race in the Theta column and typing a new Theta value. The bottom half of the screen, allows you to choose the source of frequency ratios the system will be use.

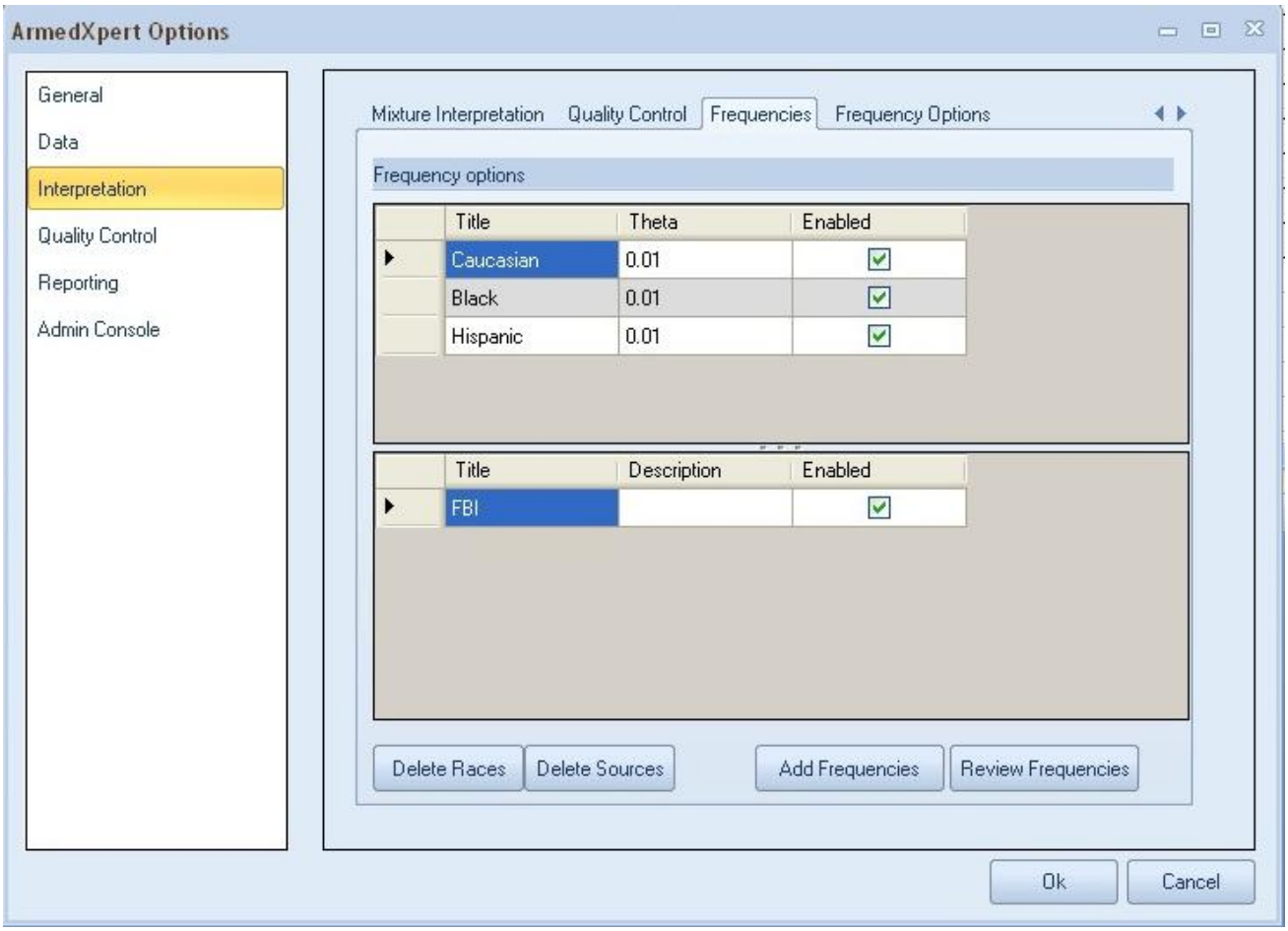


FIGURE 2.12 Frequency Options

Clicking on "Delete Races" or "Delete Sources" will permanently delete a Race or Source. Make sure you actually would like to delete them before clicking on either of these buttons.

Click on the "Add Frequencies" button, to add Frequencies. Begin by typing in the source name. Then manually enter in new frequencies, paste in frequencies, or import frequencies from a file.

To manually enter in frequencies, Start at the first box under the Race column. Enter in the correct race. Then proceed by clicking on the tab key to each next column. Type in the locus, the Allele, and the Frequency amount in the proper columns. Clicking on the tab key will take you to the next line. Continue manually filling in all the data.

Note: Make sure you enter in all the data correctly. The Race and Locus cannot be edited later. So, if either are incorrect, they cannot be changed once you commit the frequencies to ArmedXpert."'

To paste in frequencies, first open the data into excel. It should be in the same order, Race, Locus, Allele, and Frequency. Highlight all the data you want to paste into ArmedXpert. Click the Copy button in Excel. Go back to ArmedXpert and click on the Paste button. All the data will show up in the Text Import Window. Click the OK button. All the data will show up in the Add Frequency window.

To import frequencies from a file, click on the "Import from file" button. Select the appropriate .txt or .csv file from the Open window. The Text Import window will open. Click the Ok button. All the frequency data will appear in the Add Frequencies window.

Once all frequencies have been added, click on the "Commit" button.

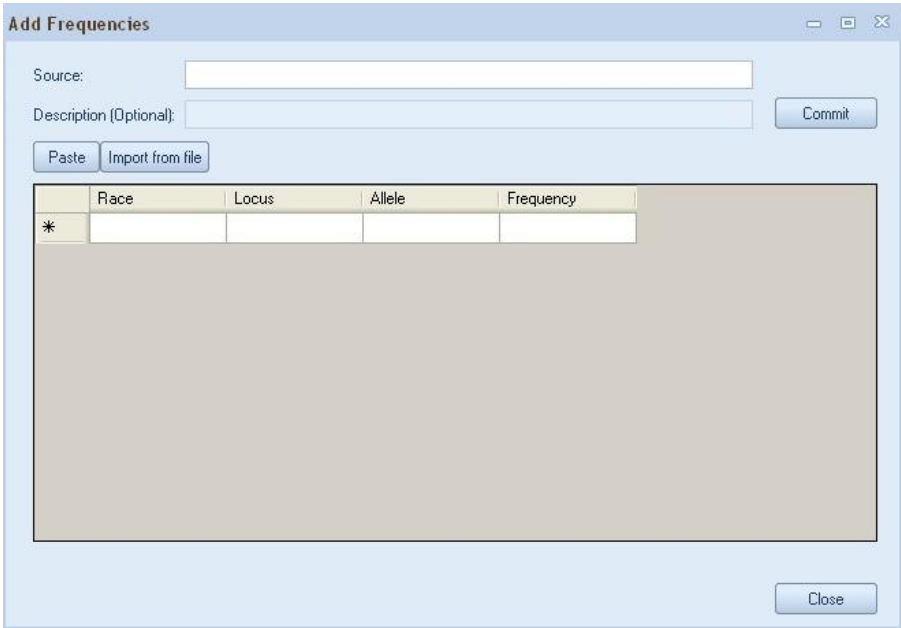


FIGURE 2.13 Add frequency window.

Click on the "Review Frequencies" button, to review Frequencies. You can also make changes to the Frequencies from the review Frequencies window. Just type in the appropriate cell the change. Once, you have made your changes, click on the "Commit" button.

The fourth subsection is additional **Frequency Options**. The top section allows you to set the single source frequency calculation database size and gives you a choice to either use Theta or not. The middle section allows you the option to use Theta or not for the mixture frequency calculation. It also gives you an option to include Locus Detail in the Mixture Frequency calculation report. The bottom section, allows you set the number of significant digits displayed in the frequency calculations.

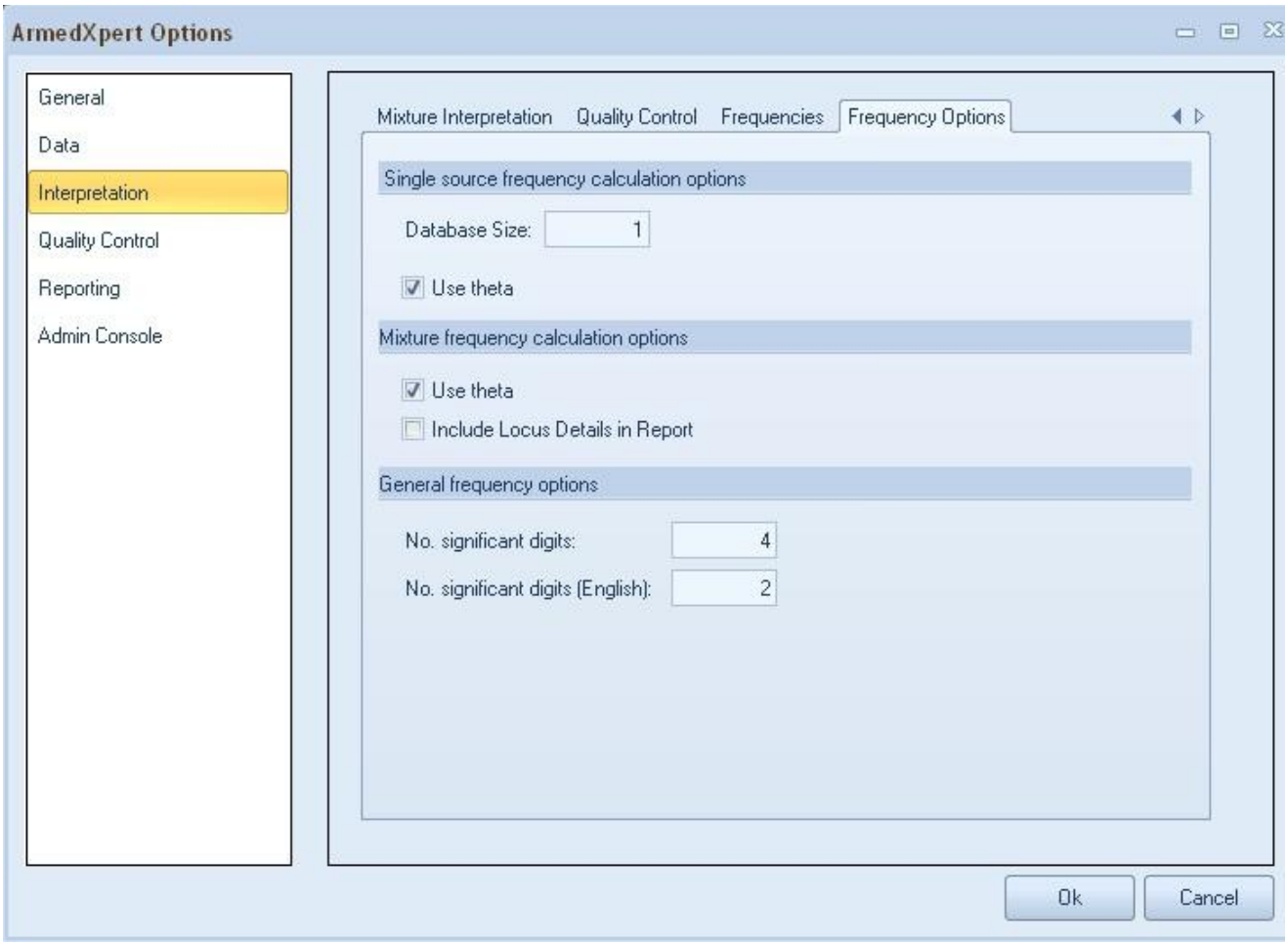


FIGURE 2.14 Frequency Options window.

The fourth main section is the **Quality Control** section. This section has two subsections: Options and Ladder and Controls. The Quality Control settings are used during the Quality Control Checks. The Quality Control Checks are discussed in Chapter 5.

The first subsection, **Options** contains the settings that are used during certain RFU and CODIS Quality Control Checks. The top section allows you to set the RFU quality control options. You can set the "Low scale data" figure and the "Off scale data" settings, by entering the required amount in each box. The bottom section allows you to set the CODIS quality control options. You can set the OSD (off scale data) and the PHR Imbalance settings, by entering the required amounts in each box.

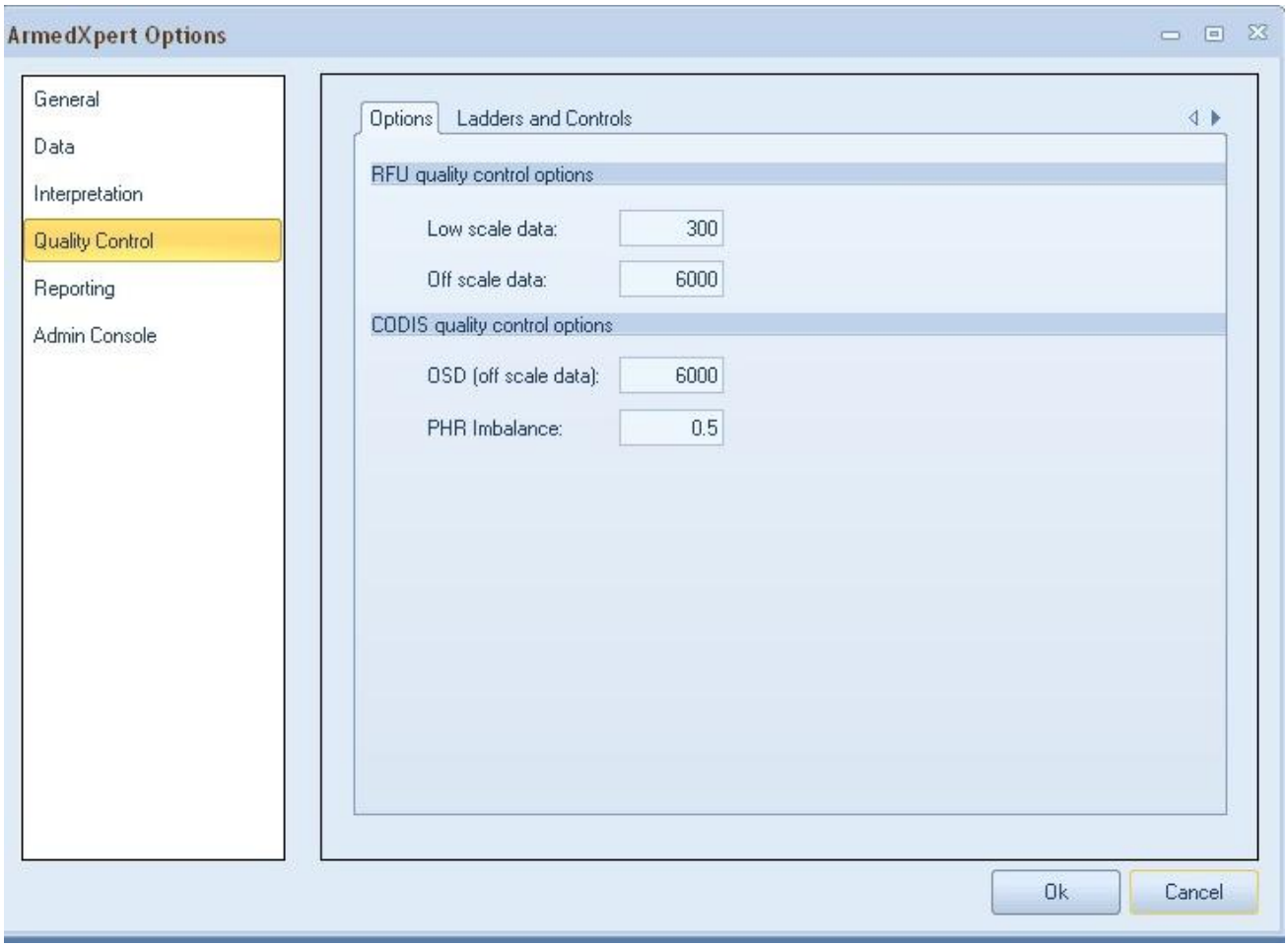


FIGURE 2.15 Quality Control Options window.

The second subsection, **Ladder and Controls** contains the settings that are used during the Check Controls Quality Control Check. The top portion has the Control qualifiers. These can be changed by clicking on the Expression column in the row that you would like to change and then change to the correct expression. The expressions are using regular expressions.

This allows for all controls to be picked up during the quality control check. For example, .“Ladder.” will pick up any control that contains the word Ladder, no matter what characters are before or after the word.

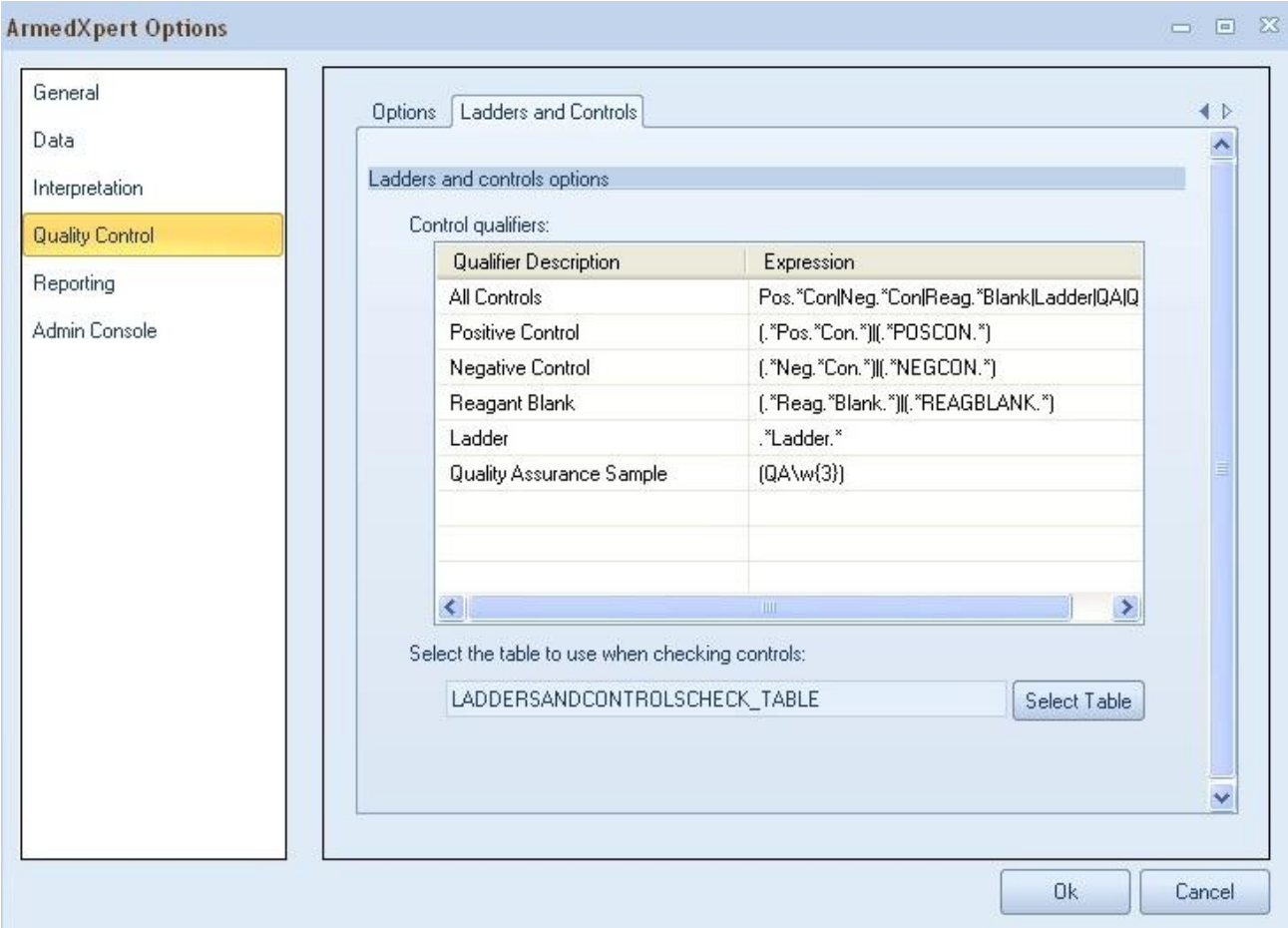


FIGURE 2.16 Ladder and Controls Subsection

On the next page is a list of regular expressions. These should only be changed if necessary. This is an advanced user form and should only be changed by those who understand regular expressions.

regularexpressions

Anchors

^	Start of line +
\A	Start of string +
$	End of line +
\Z	End of string +
\b	Word boundary +
\B	Not word boundary +
\<	Start of word
\>	End of word

Character Classes

\c	Control character
\s	White space
\S	Not white space
\d	Digit
\D	Not digit
\w	Word
\W	Not word
\xhh	Hexadecimal character hh
\Oxxx	Octal character xxx

POSIX Character Classes

[:upper:]	Upper case letters
[:lower:]	Lower case letters
[:alpha:]	All letters
[:alnum:]	Digits and letters
[:digit:]	Digits
[:xdigit:]	Hexadecimal digits
[:punct:]	Punctuation
[:blank:]	Space and tab
[:space:]	Blank characters
[:cntrl:]	Control characters
[:graph:]	Printed characters
[:print:]	Printed characters and spaces
[:word:]	Digits, letters and underscore

Assertions

?=	Lookahead assertion +
?!	Negative lookahead +
?<=	Lookbehind assertion +
?!= or ?<!	Negative lookbehind +
?>	Once-only Subexpression
?()	Condition [if then]
?()|	Condition [if then else]
?#	Comment

Note Items marked + should work in most regular expression implementations.

Sample Patterns

([A-Za-z0-9-]+)	Letters, numbers and hyphens
(\d{1,2}\/\d{1,2}\/\d{4})	Date (e.g. 21/3/2006)
([^\s]+(?=\.(jpg|gif|png))\.\2)	jpg, gif or png image
(^[1-9]{1}$\|^[1-4]{1}[0-9]{1}$|^50$)	Any number from 1 to 50 inclusive
(#?([A-Fa-f0-9]){3}(([A-Fa-f0-9]){3})?)	Valid hexadecimal colour code
((?=.*\d)(?=.*[a-z])(?=.*[A-Z]).{8,15})	8 to 15 character string with at least one upper case letter, one lower case letter, and one digit (useful for passwords).
(\w+@[a-zA-Z_]+?\.[a-zA-Z]{2,6})	Email addresses
(\<(/?[^\>]+)\>)	HTML Tags

Note *These patterns are intended for reference purposes and have not been extensively tested. Please use with caution and test thoroughly before use.*

Quantifiers

*	0 or more +
*?	0 or more, ungreedy +
+	1 or more +
+?	1 or more, ungreedy +
?	0 or 1 +
??	0 or 1, ungreedy +
{3}	Exactly 3 +
{3,}	3 or more +
{3,5}	3, 4 or 5 +
{3,5}?	3, 4 or 5, ungreedy +

Special Characters

\	Escape Character +
\n	New line +
\r	Carriage return +
\t	Tab +
\v	Vertical tab +
\f	Form feed +
\a	Alarm
[\b]	Backspace
\e	Escape
\N{name}	Named Character

String Replacement (Backreferences)

$n	nth non-passive group
$2	"xyz" in /^(abc(xyz))$/
$1	"xyz" in /^(?:abc)(xyz)$/
$`	Before matched string
$'	After matched string
$+	Last matched string
$&	Entire matched string
$_	Entire input string
$$	Literal "$"

Ranges

.	Any character except new line (\n) +
(a|b)	a or b +
(...)	Group +
(?:...)	Passive Group +
[abc]	Range (a or b or c) +
[^abc]	Not a or b or c +
[a-q]	Letter between a and q +
[A-Q]	Upper case letter + between A and Q +
[0-7]	Digit between 0 and 7 +
\n	nth group/subpattern +

Note *Ranges are inclusive.*

Pattern Modifiers

g	Global match
i	Case-insensitive
m	Multiple lines
s	Treat string as single line
x	Allow comments and white space in pattern
e	Evaluate replacement
U	Ungreedy pattern

Metacharacters (must be escaped)

^	[	.
$	{	*
(	\	+
)	|	?
<	>	

Available free from AddedBytes.com

FIGURE 2.17 List of Regular Expressions

The bottom section allows you to change the table to use when checking controls. If you would like to change the default table, click on the "Select Table button". Click on the appropriate table on the left and click on the > button. The table will move to the box on the right. Click on the "Load" button to load the table.

Note: The table has to be committed to the database to appear in this window. If you have not committed the table you would like to use, go to the instruction on page 46 of this manual for instructions on how to Commit Samples to Data Source.

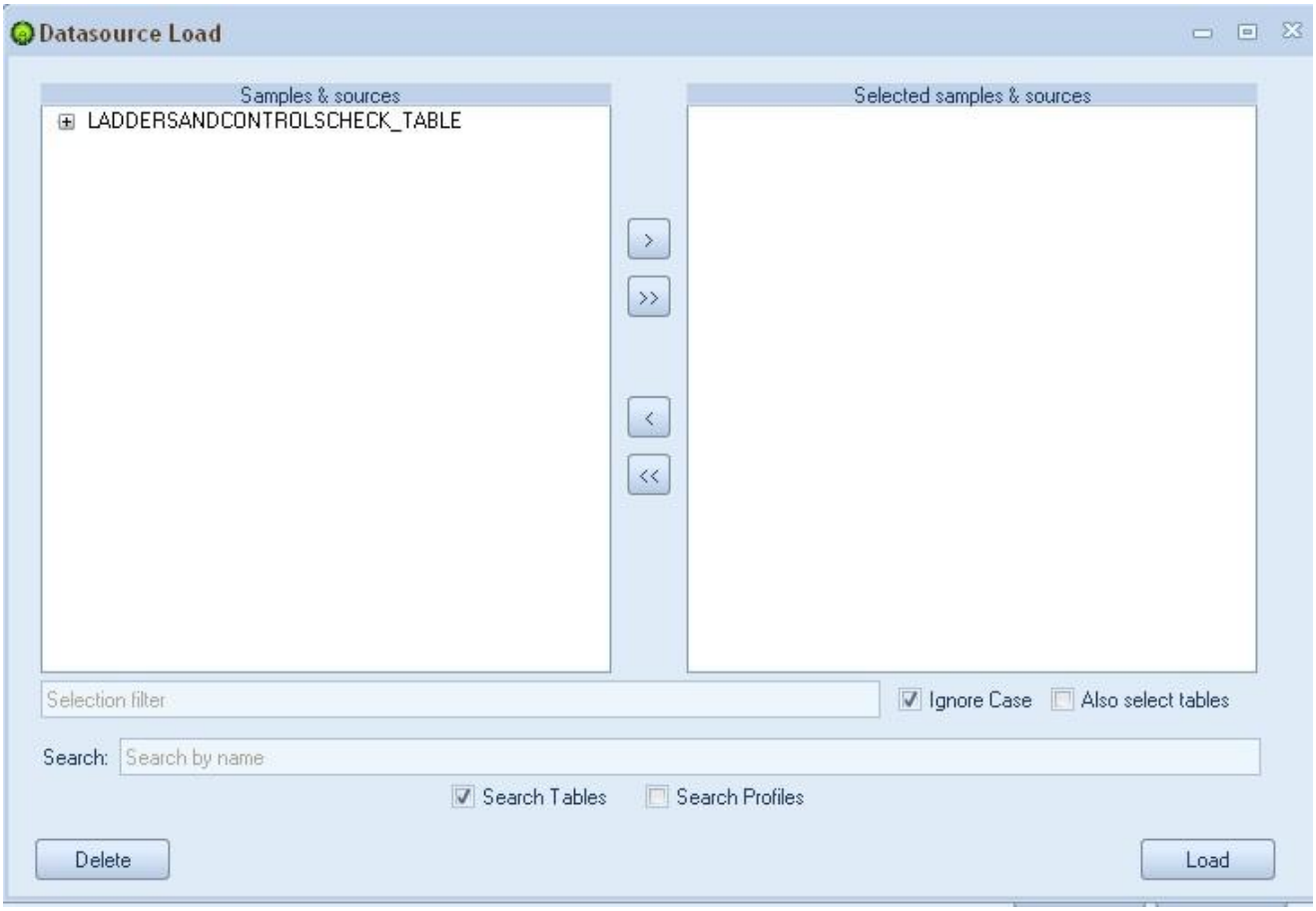


FIGURE 2.18 New Table Selection Window

The fifth section is **Reporting**. This section has two subsections: Reporting Options and Templates.

The first subsection, **Reporting Option** allows you to set ArmedXpert to automatically check all samples against the loaded selected profiles as soon as you import the table into ArmedXpert. When checked, ArmedXpert will generate a report when a table is imported into ArmedXpert. It lists all the samples included on the imported table and indicate which ones are at equal to or above the minimum number set for exact and included matches compared to the selected profile types.

To enable automatic table and staff profile comparison, check the box to the left of "Compare table to profile types selected below upon opening". Then, enter the minimum number of exact matches you would like to show on the report and the minimum number of included matches. To show all included, set the minimum number of included to -1 as shown below. In the Profile Type box, add a checkmark to all the profile types you would like the tables to be compared against. To disable this reporting option, click on the box with the check mark and it will be removed.

Note: If this option is not checked, you can manually check a staff profile against any sample table in ArmedXpert. The sample comparison reporting directions can be found in Chapter 8.

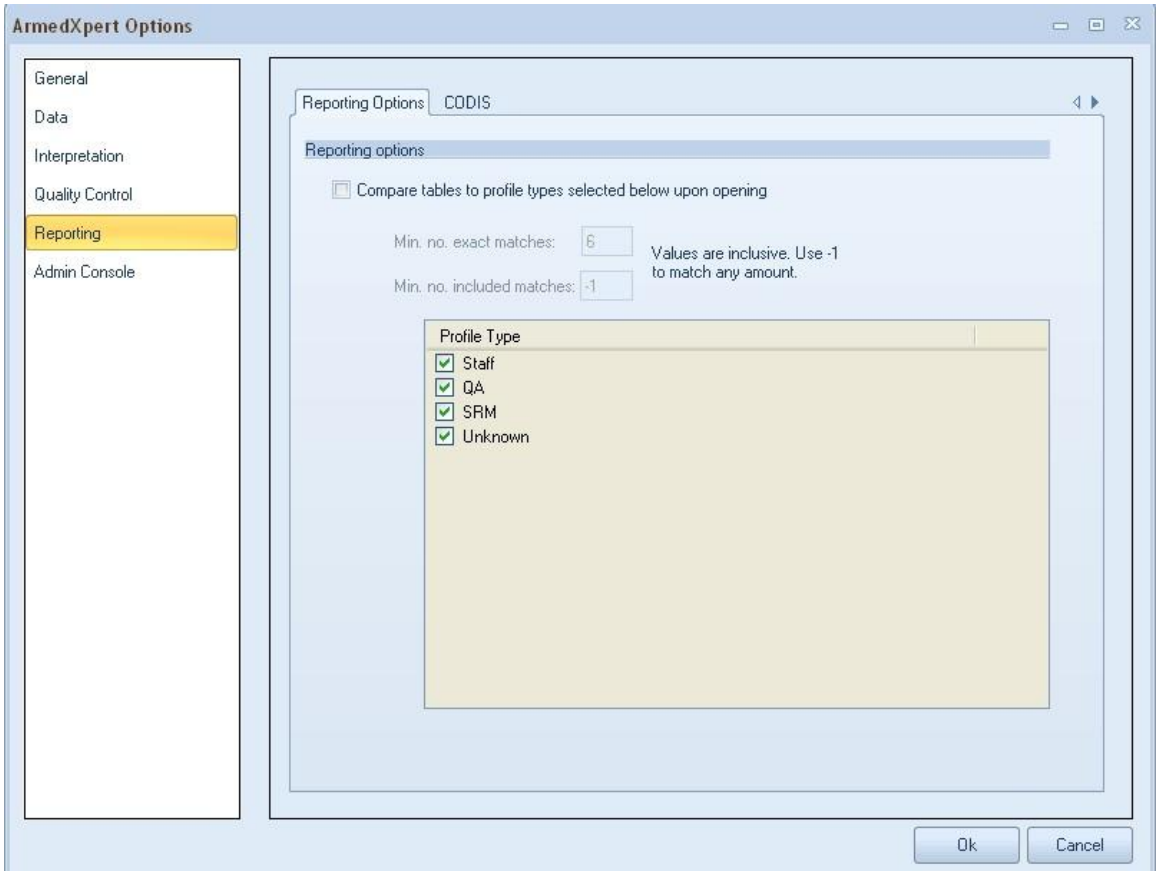


FIGURE 2.19 Reporting Options window.

The second subsection, **CODIS** allows you to add defaults to the CMF Report in ArmedXpert. All data filled in here will be displayed with you open the CMF report.

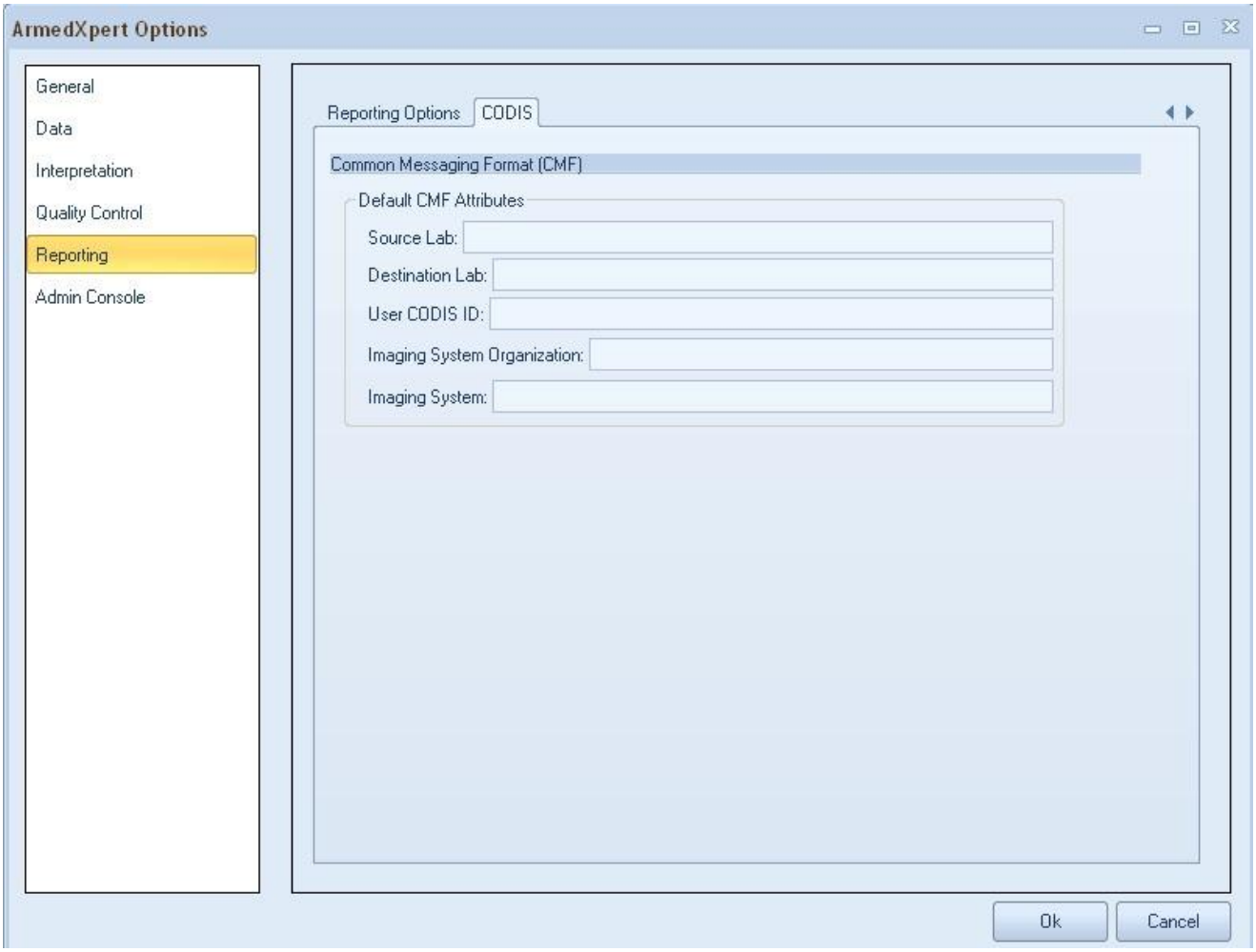


FIGURE 2.20 CODIS Option Window

The final section is **Admin Console**. This section will only be available if you have administration capabilities. It has two tabs, **Users** and **Database**.

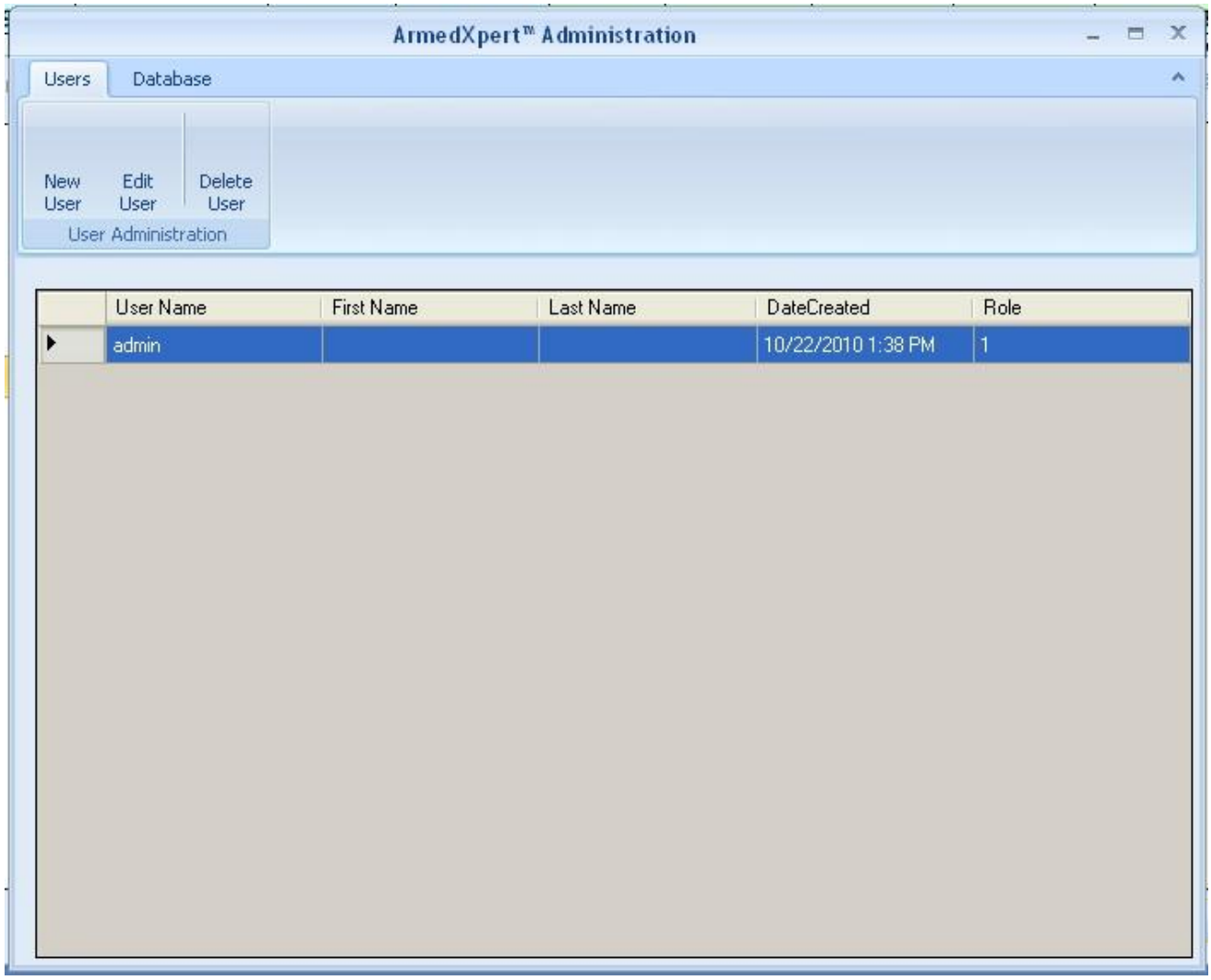


FIGURE 2.21 ArmedXpert Administration User Window

The first tab, **Users** allows you to enter a new user, edit a user, and delete a user. To Enter a New User, click on the "**New User**" command. The New User box will open. Type in the appropriate information. Only the User Name and Role are required to be filled in. There is a drop down list for the Role options. Click on the arrow and select the appropriate role. Click on "Ok" once finished.

FIGURE 2.22 New User window

To Edit a User, click on the user name you would like to edit. Then click on the "**Edit User**" command. The user information will be filled in. Change or add any information that is appropriate for that user. To change a password, enter the current login password and click on "Reset password". Type in New Password and confirm it in the next box. Click on "Ok".

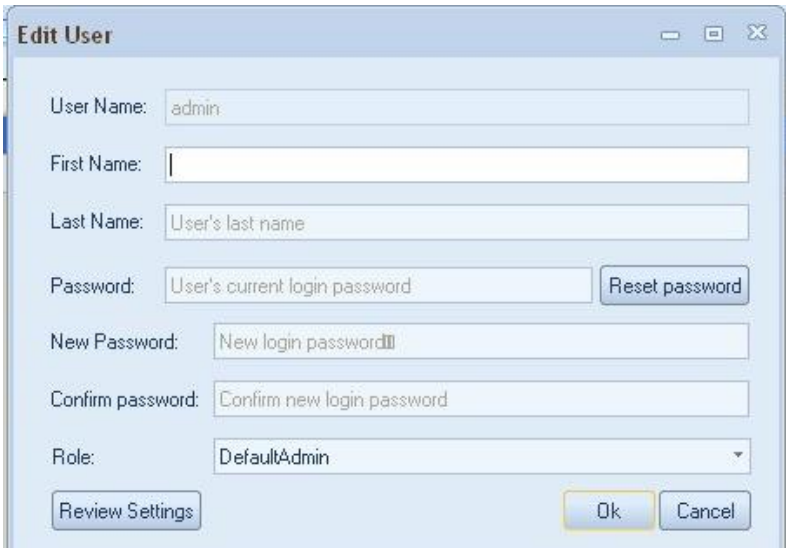


FIGURE 2.23 Edit User window

To delete a user, click on the user name you would like to delete. Then click on the "**Delete User**" command. The User name will be deleted.

The second tab is **Database**. When you upgrade ArmedXpert, it is may be necessary to run the SQL updater. This will update your SQL database to your new upgraded ArmedXpert version. Click on "**Run SQL updater**" command. This will update SQL.

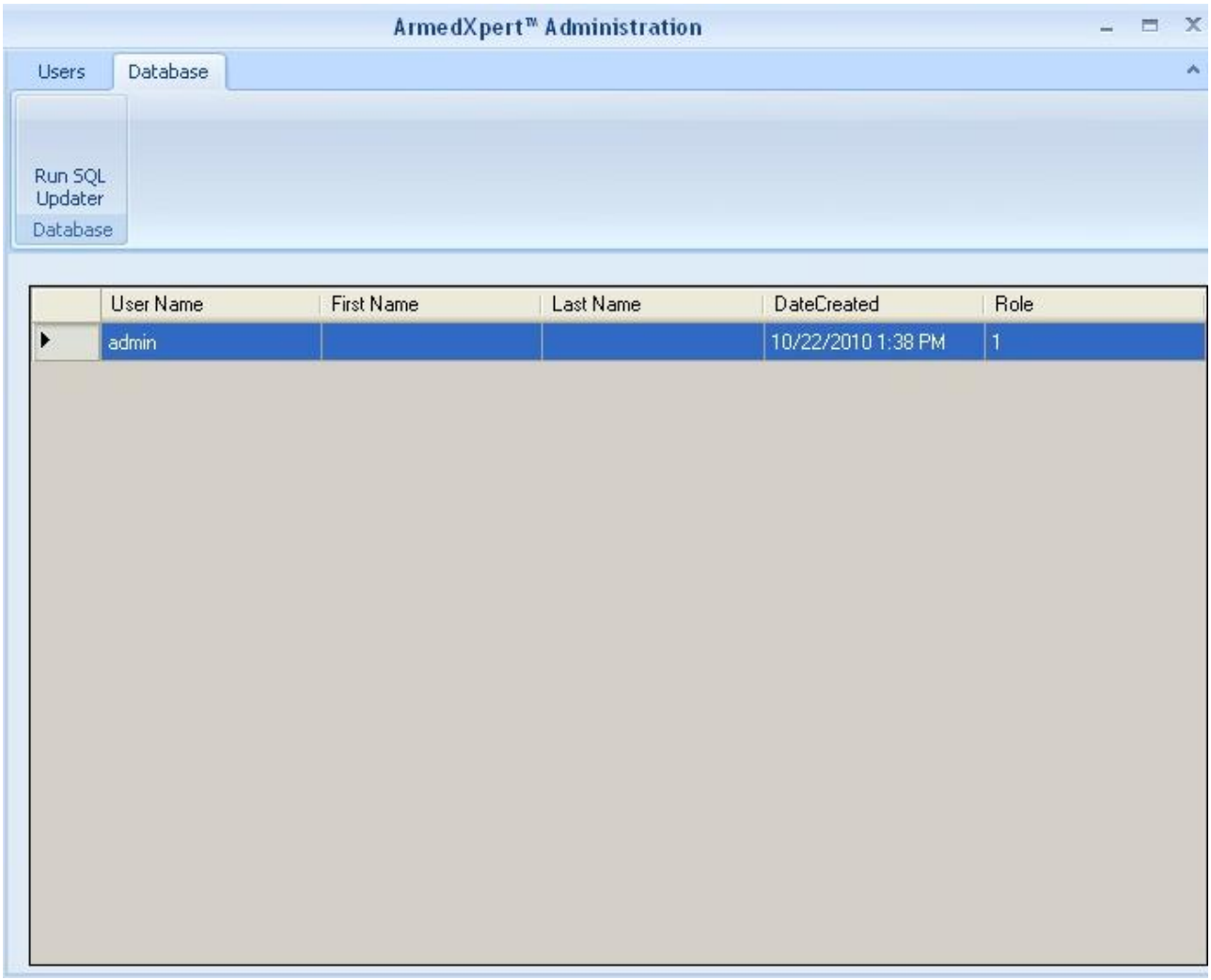


FIGURE 2.24 Database Window

Import

The **Import** command allows you to load a Tab-delimited table files such as GMIDIdntifilier, GMIDPowerplex 16, Profiler Plus, and others. It also allows you to load other table types such as previously exported page data, Osiris Analysis Report, and CODIS Index file. Finally, you can load other files such as previously exported frequency analysis calculations, previously exported mixture interpretations, and OSIRIS Plot files.

Click on "Import' and the list below will appear. Select the appropriate type of file you wish to import. Once in ArmedXpert, you can export the sample tables as Page Data. You can then import it back into ArmedXpert using the Page Data option. The method is designed to give users the ability to return to the original files or open 'working copies' stored in the "Page Data" format.

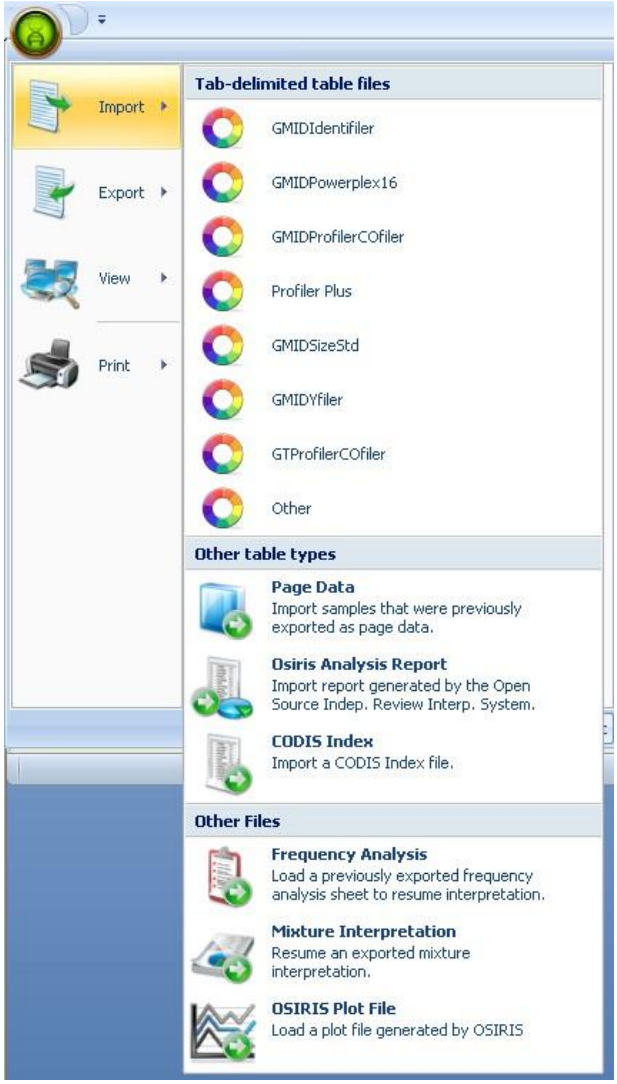


FIGURE 2.25 Import Menu

Once you select the type of data you are importing, the open window appears (shown below in Figure 2.26). Select from the list the file you wish to import. Then click the "Open" button. **Note: If the file is located in another folder, change the folder by clicking on the arrow next to the "Look in" box.** The table files will then open in ArmedXpert as shown in Figure 2.27 below. The file name will appear on the upper left hand corner of the page.

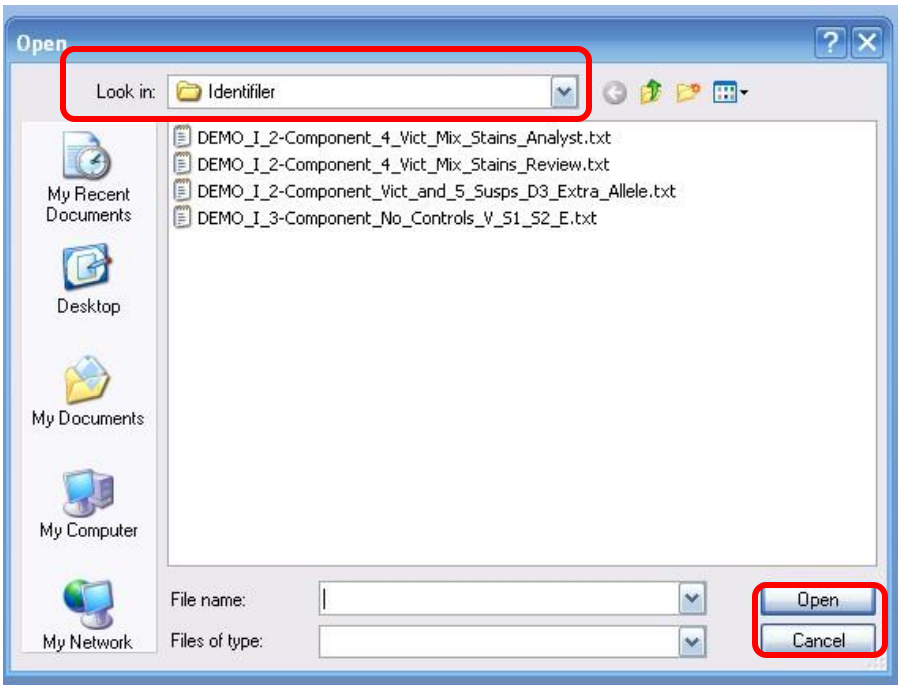
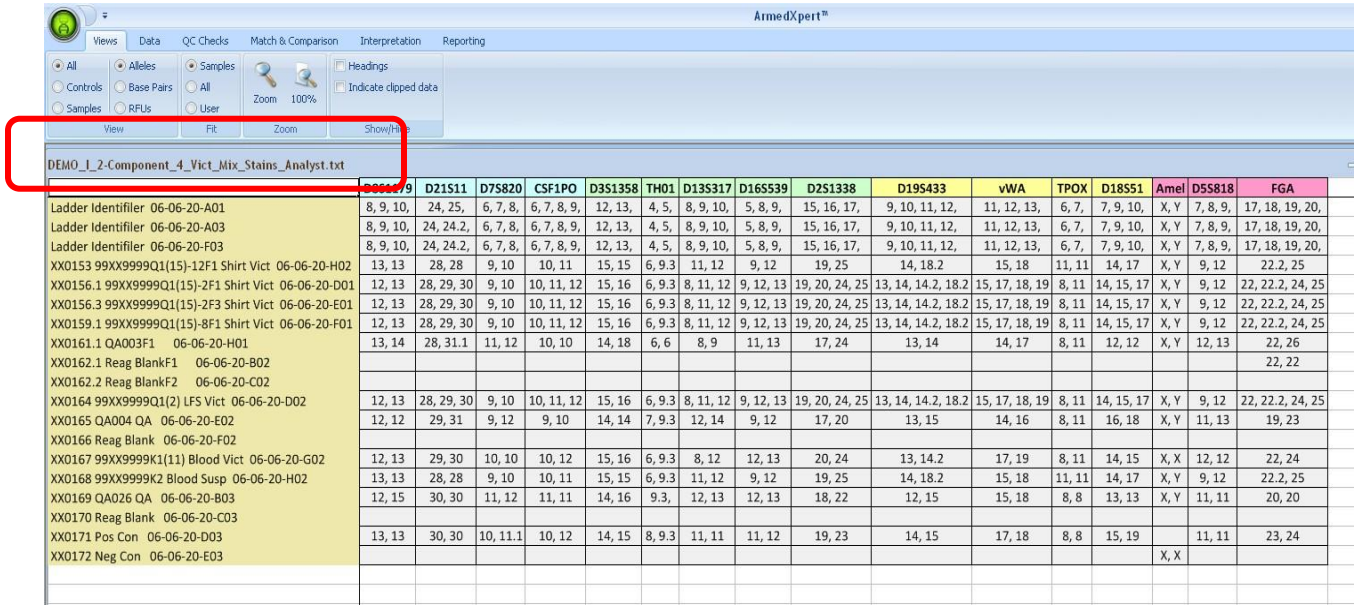


FIGURE 2.26 Open Window



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	24, 25,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10, 10	14, 18	6, 6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12, 12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22, 22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12, 12	29, 31	9, 12	9, 10	14, 14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23
XX0166 Reag Blank 06-06-20-F02																
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X, X	12, 12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 13	X, Y	11, 11	20, 20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19		11, 11	23, 24
XX0172 Neg Con 06-06-20-E03														X, X		

FIGURE 2.27 File opened in ArmedXpert

Click on Frequency analysis to import in a previously exported Frequency analysis calculation page. All exported Frequency analysis will have an .axf extension. The Frequency analysis calculation page will import in with all the information that was exported out. You can now continue using the Frequency analysis calculations.

Click on Mixture Interpretation to import in a previously exported Mixture Interpretation. All exported Mixture Interpretations will have an .axm extension. The Mixture Interpretation window will open along with a copy of the sample table which contains the sample that the mixture interpretation window was using. All calls made before the Mixture Interpretation was exported, will appear along with the settings used and references applied. You can now continue using the Mixture Interpretation tool.

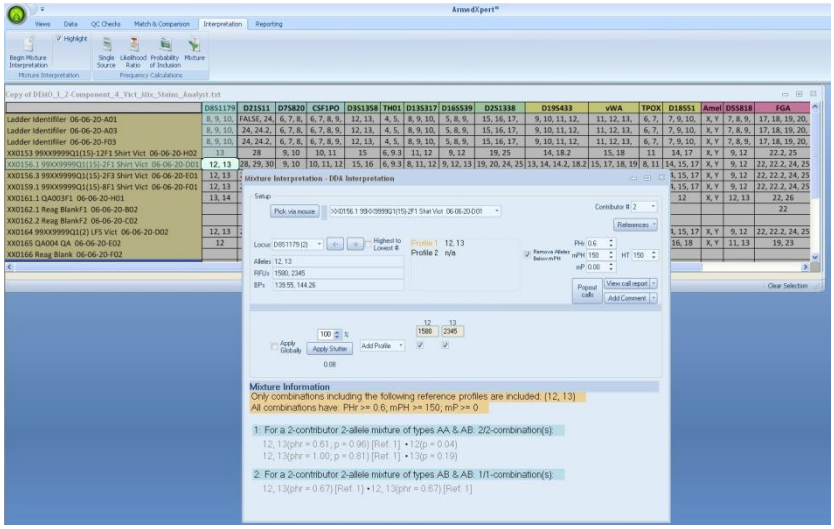


FIGURE 2.28 Mixture Interpretation Imported

Click on OSIRIS Plot file to import in an OSIRIS plot file. When you select this option, the OSIRIS Plot window will open as shown below in Figure 2.29. Click the "Add" button to add the OSIRIS .plt files. Add them in the order you want them to appear in the final report. Double click on a listed .plt file to edit the name. Click on any of the OSIRIS .plt files listed and click the "Remove" button to remove them from the list. Once finished with adding, click the "Plot" button.

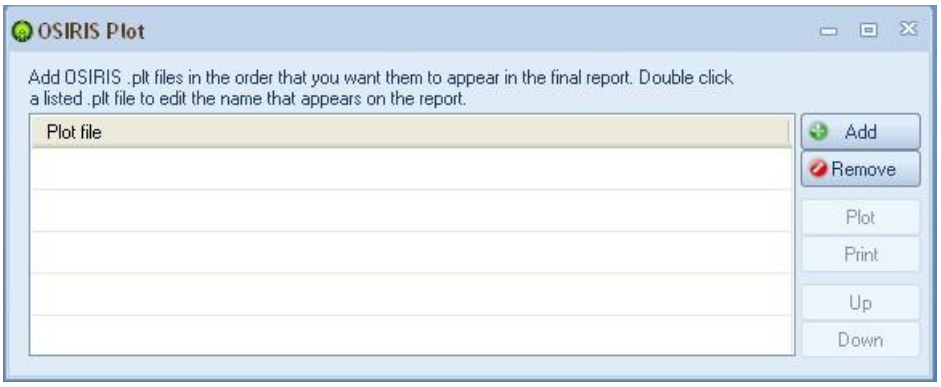


FIGURE 2.29 OSIRIS Plot Window

Export

The **Export** command allows you to export your Page Data, Frequency analysis, or Mixture interpretation if you wish to save it and resume it later. You also have an option to save any page in a workbook friendly format, so that you can open it in Excel or as an Image. When you click on "Export" the options below will appear. They will be shown in color once you have selected a table on the screen. However, if you do not they will show as gray as seen in Figure 2.30.

To save a page data, click on **Page Data**. A "Save As" Window will appear. You can name the page anything you wish. The default folder to save a page data is in the "Page Data" folder located in ArmedXpert Folder. However, you can change the folder to save it to. Once you have chosen the name and folder, click the "Save" button.

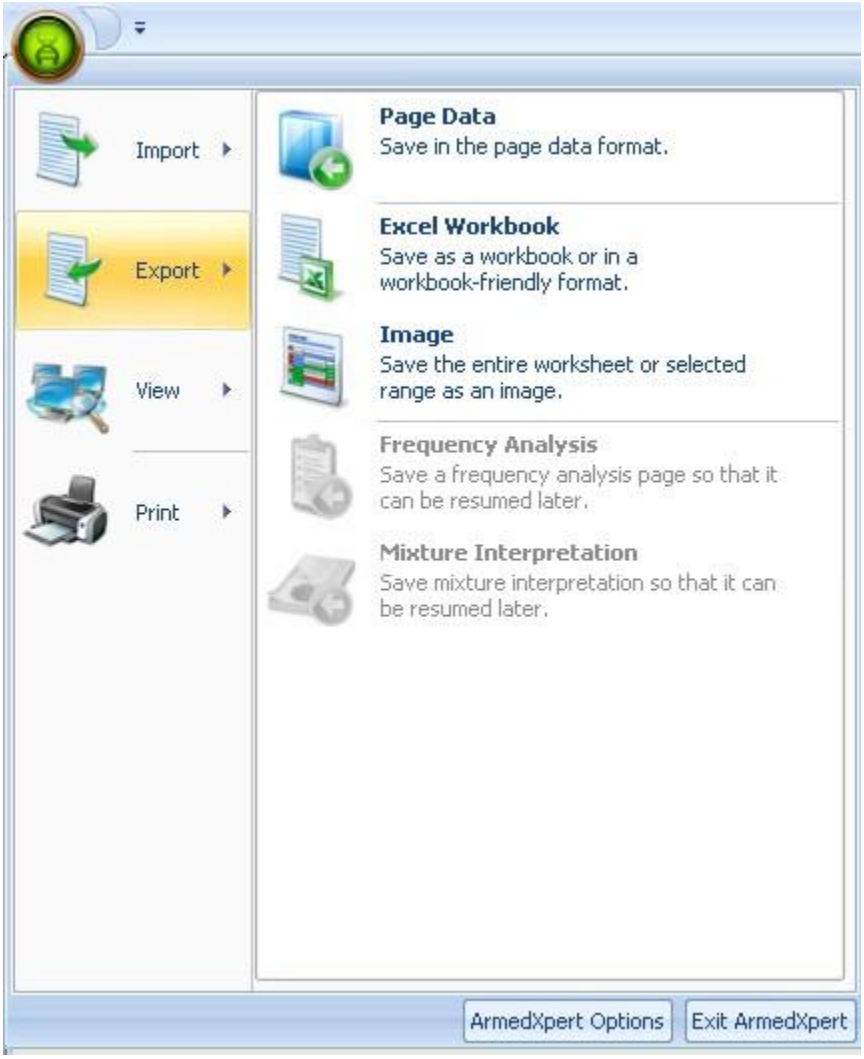


FIGURE 2.30 Export Menu

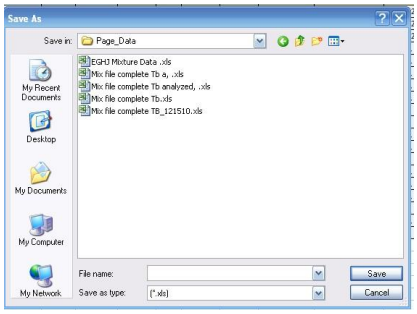


FIGURE 2.31 Save As Window

To save a Frequency Analysis, so that it can be resumed later in ArmedXpert, click on **Frequency Analysis**. The "Save As" Window will appear. You can change file name to whatever name you would like and Save it in whichever folder you would like. Click "Save" once you have the file name and folder chosen. You also have an option to save a frequency analysis as an excel workbook by clicking on Excel Workbook when you have the Frequency page open. You can then open the Frequency analysis in Excel. Finally, you can save the report as an image, by clicking on Image.

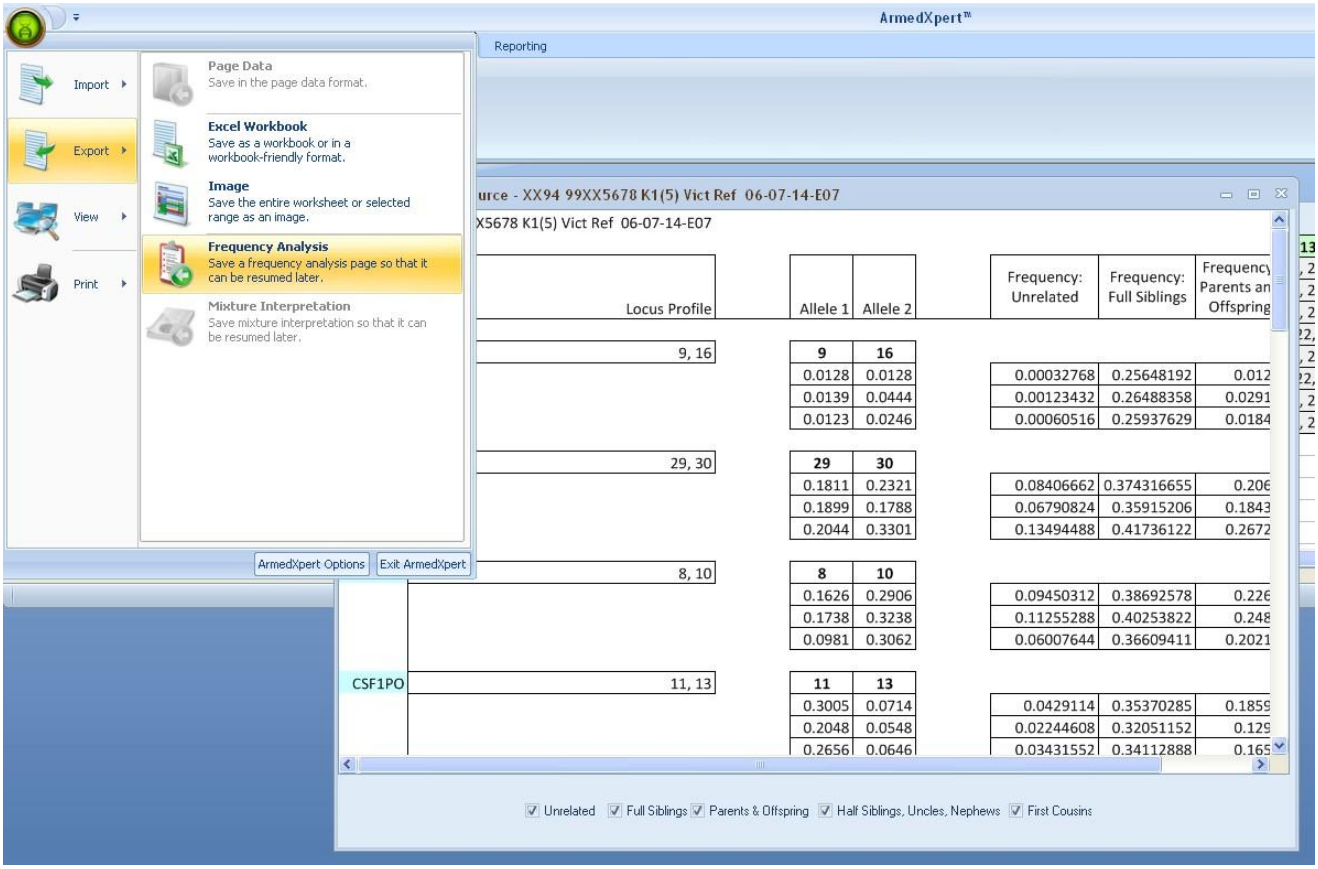


FIGURE 2.32 Frequency Analysis page, with Export Menu.

To save a Mixture Interpretation page, so that it can be resumed later in ArmedXpert, click on **Mixture Interpretation**. The "Save As" Window will appear. You can change file name to whatever name you would like and Save it in whichever folder you would like. Click "Save" once you have the file name and folder chosen

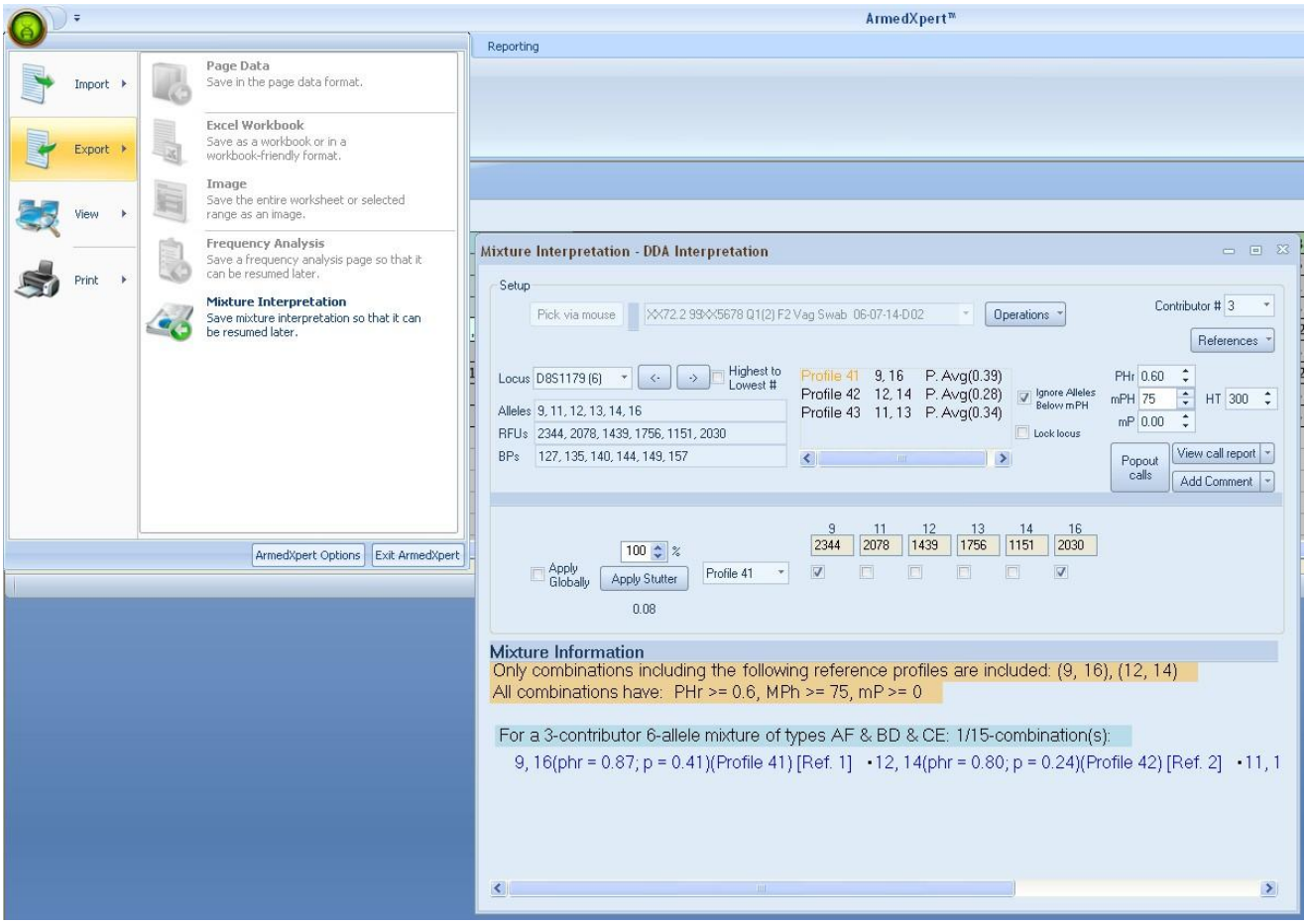


FIGURE 2.33 Mixture Interpretation page, with Export Menu.

View

Click on **View** to view your stored profiles. To initially add the profiles, see the instructions under the Data Source section in chapter 4. Click on Profiles and a Chose value window will open. Select the type of profile you would like to view. Click the "Ok" button. The profile type table will open.

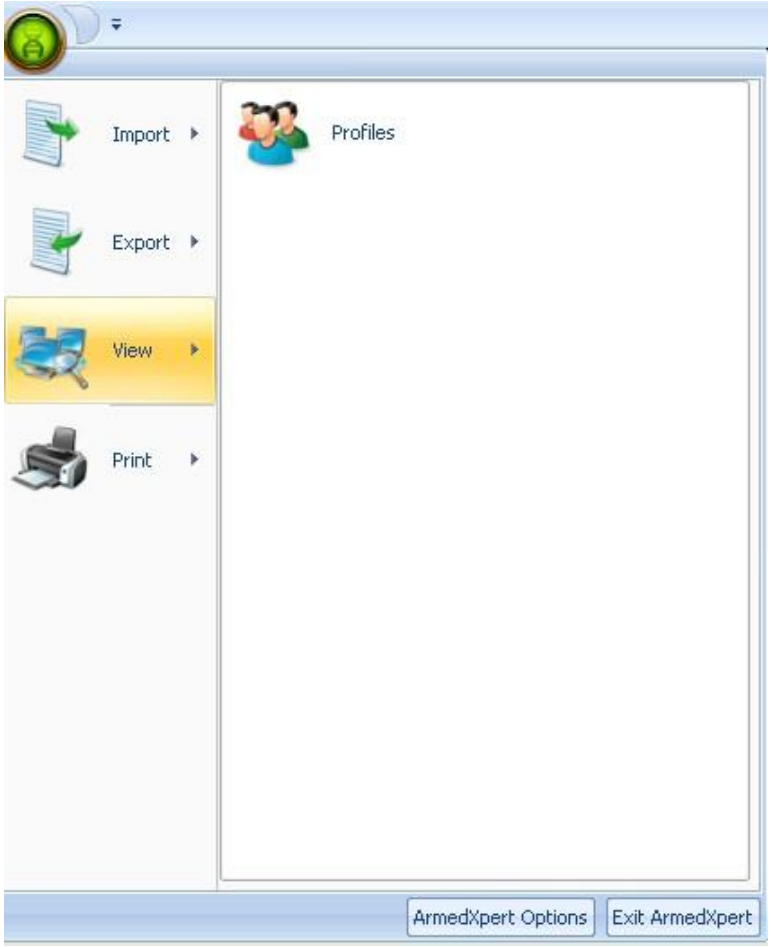


FIGURE 2.34 View Menu

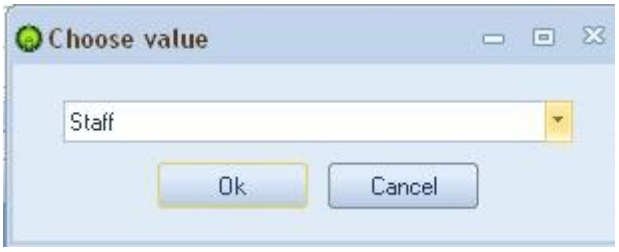


FIGURE 2.35 Chose value Window

Print

To print a page, click on the **print** option. The print window will open. In the print window, you can change between orientations, change sizes, enter headers, and print preview. The "More Option" button, will allow you to make additional changes to the way the page is printed. Once you have made any changes, click "Print". You can also set up saved page setups. Make all necessary changes to the print setup. Then click on the "Save Setup" button. A "Give the setup a name" window will open. Type in a user-defined name. Then click the "Ok" button. When you want to use a saved set up, select from the drop down list. All saved changes, will appear. Then proceed to print or preview.

If you have an OSIRIS Plot file open, the Plot tab will open instead for the Workbook tab.

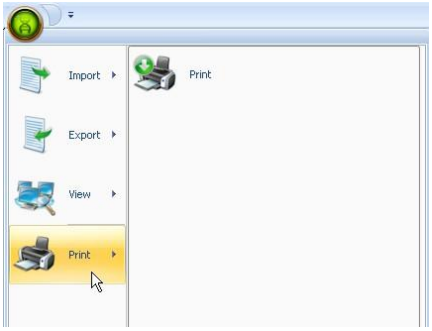


FIGURE 2.36 Print Menu

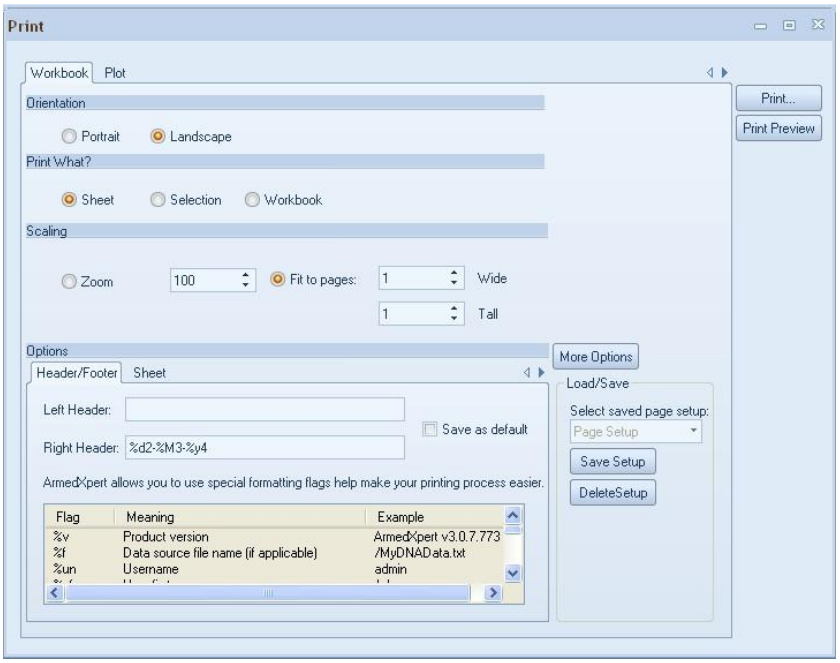


FIGURE 2.37 Print Options

Chapter 3

Tab One - Views

The first tab in ArmedXpert is Views. There are five main sections of the View tab: **View**, **Fit**, **Zoom**, **Show/Hide, and Windows**. This tab's commands allow you to choose how the data appears on your screen.

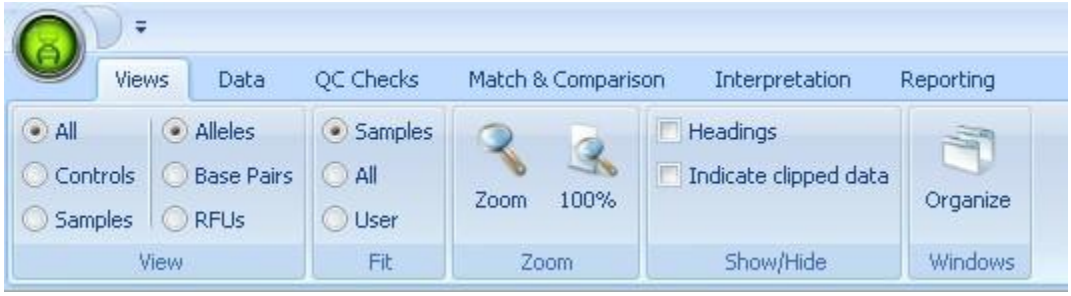


FIGURE 3.1 Views Tab

View

The **View** section gives you the option of what type of data is displayed. The left side of the view section allows you to choose between viewing Controls, Samples, or All (Controls and Samples). The right side allows you to choose whether Alleles, Base Pairs, or RFU's are shown. Click on the circle to the left of the desired choice. Examples of all different view combinations are shown below.

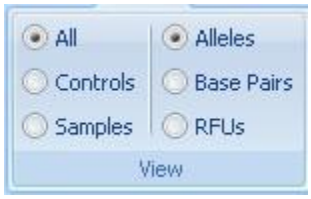
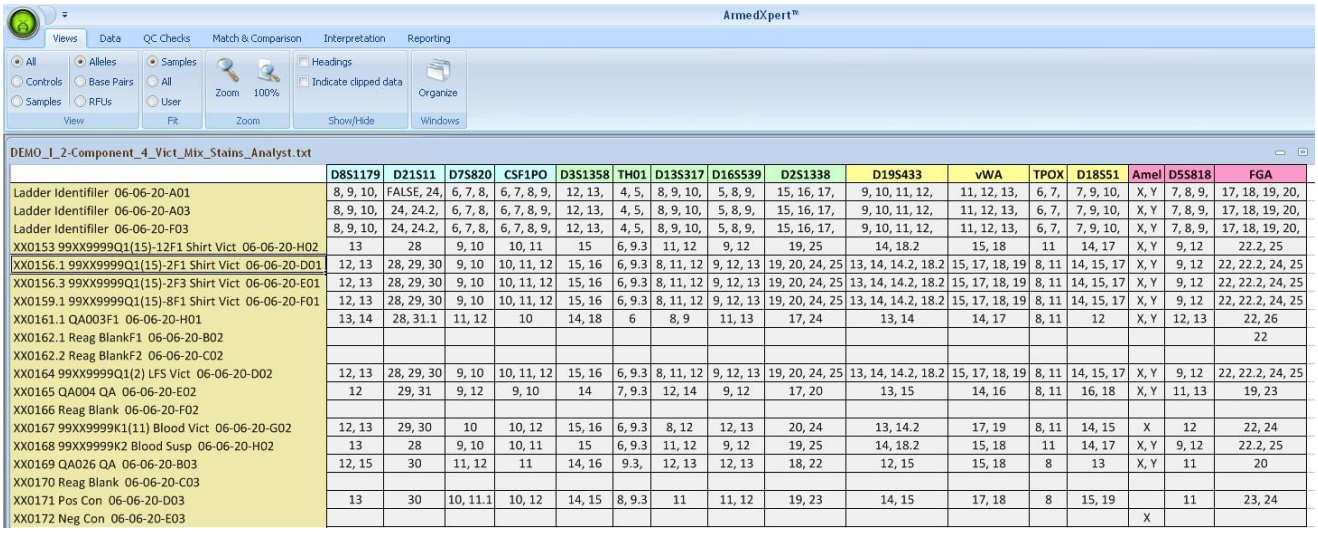


FIGURE 3.2 View Section

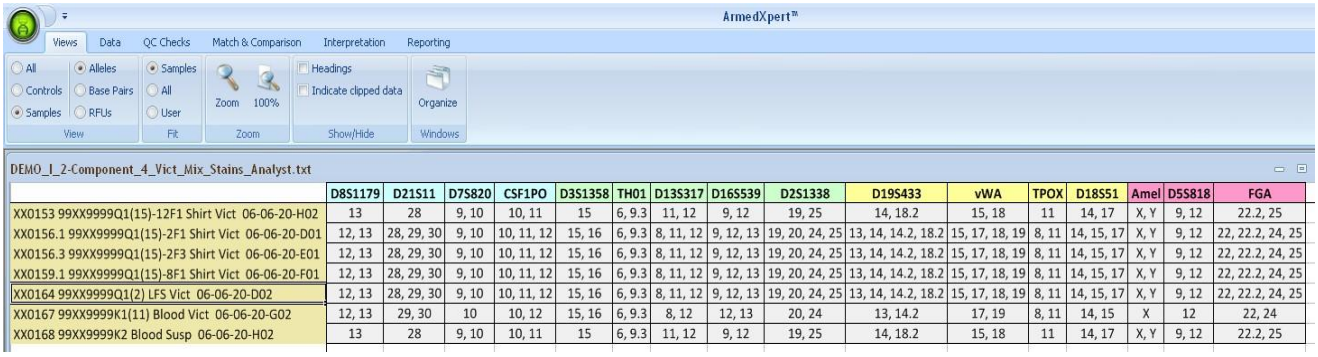


	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE, 24,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23
XX0166 Reag Blank 06-06-20-F02																
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24
XX0172 Neg Con 06-06-20-E03														X		

FIGURE 3.3 View All Samples & Controls by Allele

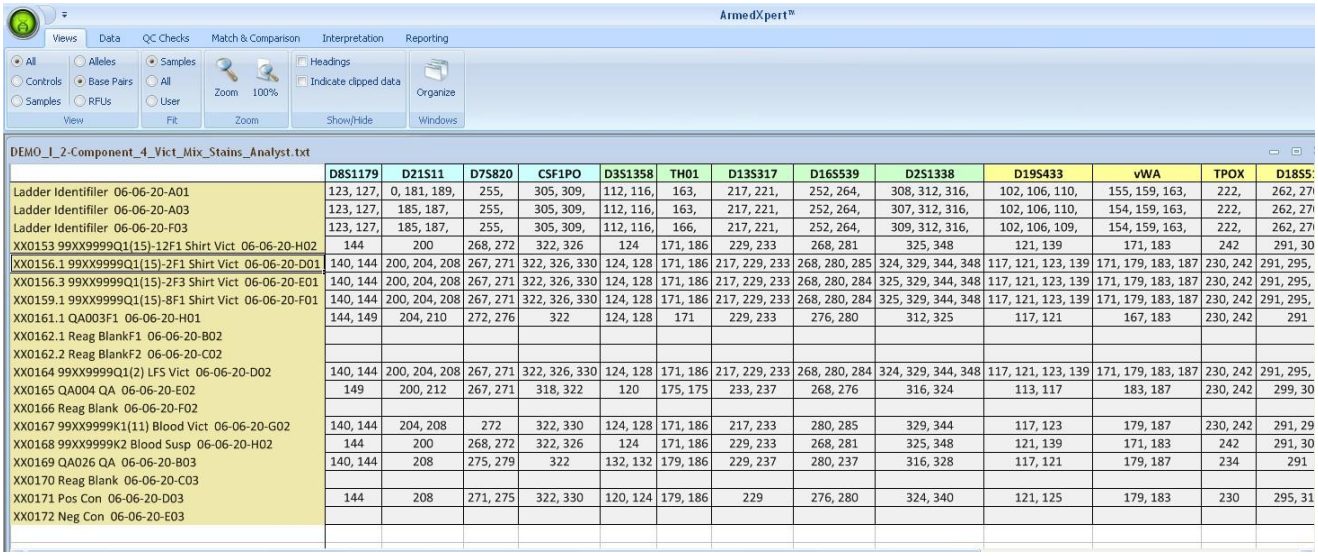
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14,	8, 11	12	X, Y	12, 13	22,
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14,	8, 11	16, 18	X, Y	11, 13	19,
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15,	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17,	8	15, 19		11	23,
XX0172 Neg Con 06-06-20-E03														X		

FIGURE 3.4 View All Controls by Allele



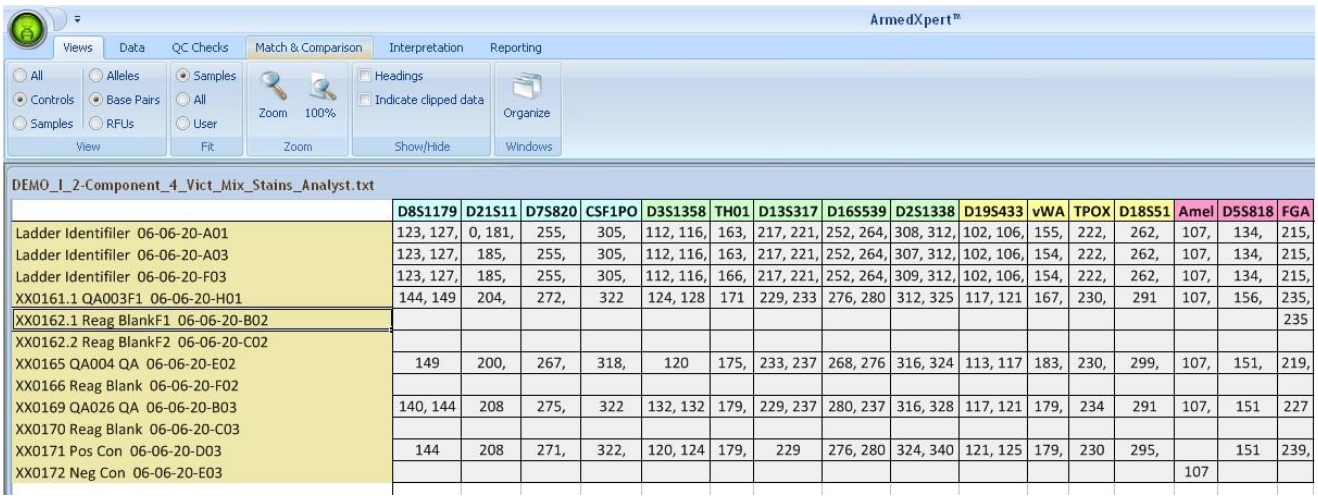
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25

FIGURE 3.5 View All Samples by Allele



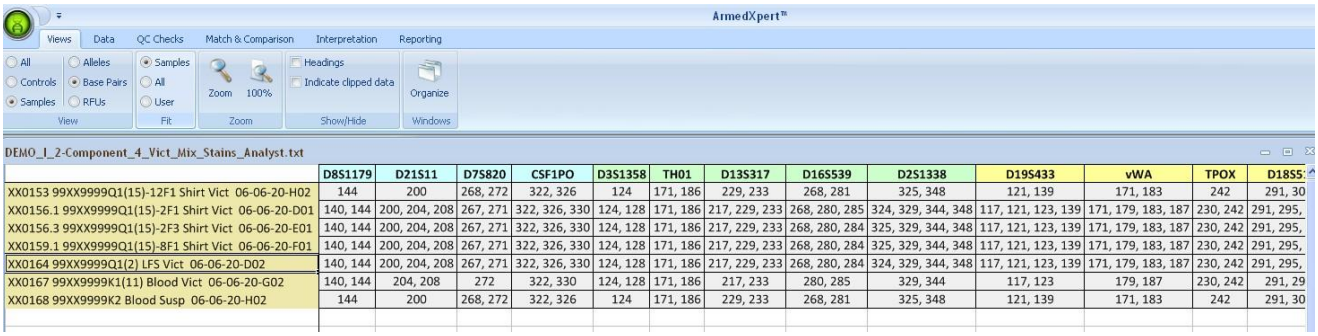
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S5
Ladder Identifiler 06-06-20-A01	123, 127,	0, 181, 189,	255,	305, 309,	112, 116,	163,	217, 221,	252, 264,	308, 312, 316,	102, 106, 110,	155, 159, 163,	222,	262, 27
Ladder Identifiler 06-06-20-A03	123, 127,	185, 187,	255,	305, 309,	112, 116,	163,	217, 221,	252, 264,	307, 312, 316,	102, 106, 110,	154, 159, 163,	222,	262, 27
Ladder Identifiler 06-06-20-F03	123, 127,	185, 187,	255,	305, 309,	112, 116,	166,	217, 221,	252, 264,	309, 312, 316,	102, 106, 109,	154, 159, 163,	222,	262, 27
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	144	200	268, 272	322, 326	124	171, 186	229, 233	268, 281	325, 348	121, 139	171, 183	242	291, 30
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 285	324, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 284	325, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 284	325, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0161.1 QA003F1 06-06-20-H01	144, 149	204, 210	272, 276	322	124, 128	171	229, 233	276, 280	312, 325	117, 121	167, 183	230, 242	291
XX0162.1 Reag BlankF1 06-06-20-B02													
XX0162.2 Reag BlankF2 06-06-20-C02													
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 284	324, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0165 QA004 QA 06-06-20-E02	149	200, 212	267, 271	318, 322	120	175, 175	233, 237	268, 276	316, 324	113, 117	183, 187	230, 242	299, 30
XX0166 Reag Blank 06-06-20-F02													
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	140, 144	204, 208	272	322, 330	124, 128	171, 186	217, 233	280, 285	329, 344	117, 123	179, 187	230, 242	291, 29
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	144	200	268, 272	322, 326	124	171, 186	229, 233	268, 281	325, 348	121, 139	171, 183	242	291, 30
XX0169 QA026 QA 06-06-20-B03	140, 144	208	275, 279	322	132, 132	179, 186	229, 237	280, 237	316, 328	117, 121	179, 187	234	291
XX0170 Reag Blank 06-06-20-C03													
XX0171 Pos Con 06-06-20-D03	144	208	271, 275	322, 330	120, 124	179, 186	229	276, 280	324, 340	121, 125	179, 183	230	295, 31
XX0172 Neg Con 06-06-20-E03													

FIGURE 3.6 View All Samples & Controls by Base Pair



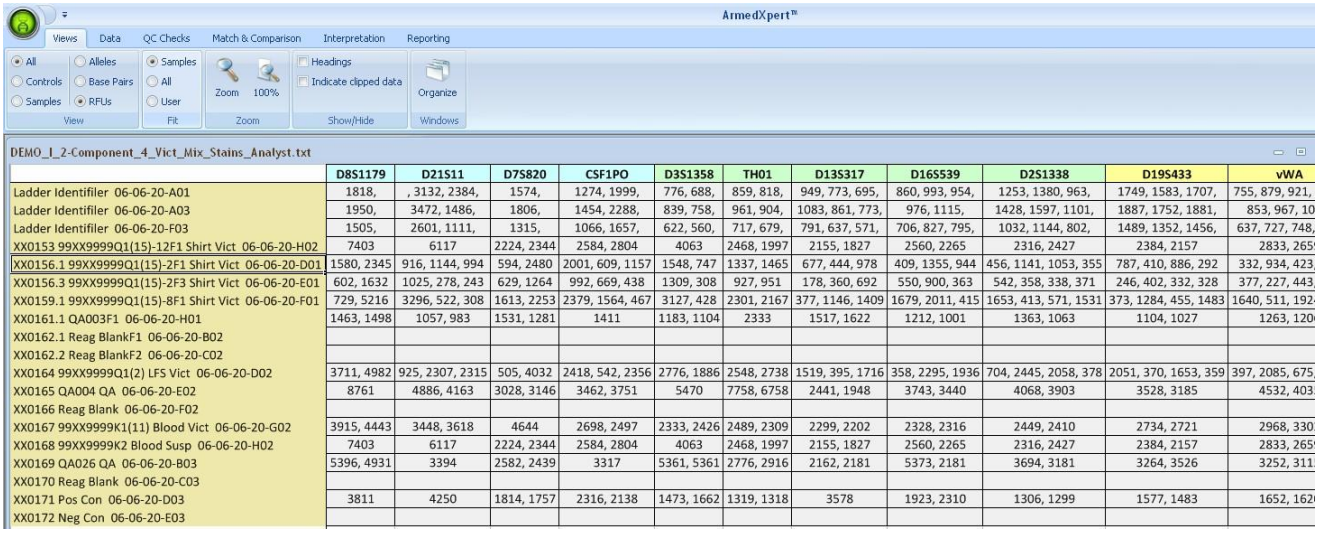
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	123, 127,	0, 181,	255,	305,	112, 116,	163,	217, 221,	252, 264,	308, 312,	102, 106,	155,	222,	262,	107,	134,	215,
Ladder Identifiler 06-06-20-A03	123, 127,	185,	255,	305,	112, 116,	163,	217, 221,	252, 264,	307, 312,	102, 106,	154,	222,	262,	107,	134,	215,
Ladder Identifiler 06-06-20-F03	123, 127,	185,	255,	305,	112, 116,	166,	217, 221,	252, 264,	309, 312,	102, 106,	154,	222,	262,	107,	134,	215,
XX0161.1 QA003F1 06-06-20-H01	144, 149	204,	272,	322	124, 128	171	229, 233	276, 280	312, 325	117, 121	167,	230,	291	107,	156,	235,
XX0162.1 Reag BlankF1 06-06-20-B02																235
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	149	200,	267,	318,	120	175,	233, 237	268, 276	316, 324	113, 117	183,	230,	299,	107,	151,	219,
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	140, 144	208	275,	322	132, 132	179,	229, 237	280, 237	316, 328	117, 121	179,	234	291	107,	151	227
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	144	208	271,	322,	120, 124	179,	229	276, 280	324, 340	121, 125	179,	230	295,		151	239,
XX0172 Neg Con 06-06-20-E03														107		

FIGURE 3.7 View All Controls by Base Pair



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S5
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	144	200	268, 272	322, 326	124	171, 186	229, 233	268, 281	325, 348	121, 139	171, 183	242	291, 30
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 285	324, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 284	325, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 284	325, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	140, 144	200, 204, 208	267, 271	322, 326, 330	124, 128	171, 186	217, 229, 233	268, 280, 284	324, 329, 344, 348	117, 121, 123, 139	171, 179, 183, 187	230, 242	291, 295,
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	140, 144	204, 208	272	322, 330	124, 128	171, 186	217, 233	280, 285	329, 344	117, 123	179, 187	230, 242	291, 29
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	144	200	268, 272	322, 326	124	171, 186	229, 233	268, 281	325, 348	121, 139	171, 183	242	291, 30

FIGURE 3.8 View All Samples by Base Pair

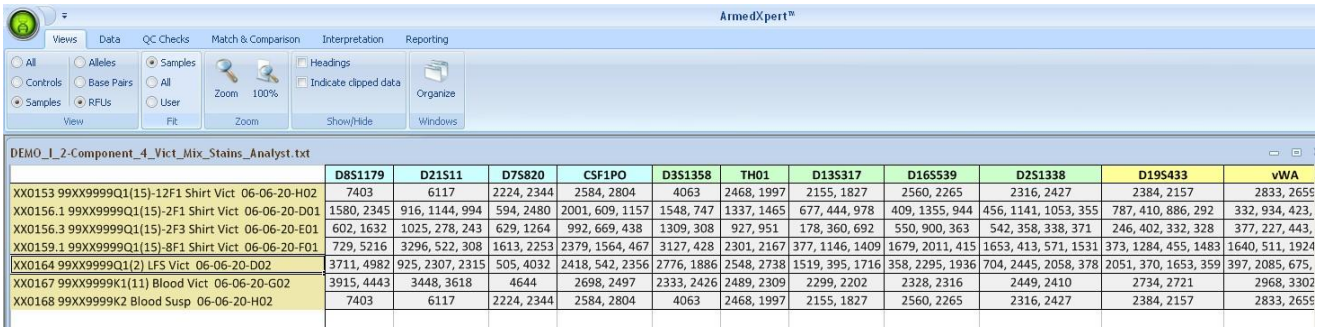


	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA
Ladder Identifiler 06-06-20-A01	1818,	, 3132, 2384,	1574,	1274, 1999,	776, 688,	859, 818,	949, 773, 695,	860, 993, 954,	1253, 1380, 963,	1749, 1583, 1707,	755, 879, 921,
Ladder Identifiler 06-06-20-A03	1950,	3472, 1486,	1806,	1454, 2288,	839, 758,	961, 904,	1083, 861, 773,	976, 1115,	1428, 1597, 1101,	1887, 1752, 1881,	853, 967, 10
Ladder Identifiler 06-06-20-F03	1505,	2601, 1111,	1315,	1066, 1657,	622, 560,	717, 679,	791, 637, 571,	706, 827, 795,	1032, 1144, 802,	1489, 1352, 1456,	637, 727, 748,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 265
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	1580, 2345	916, 1144, 994	594, 2480	2001, 609, 1157	1548, 747	1337, 1465	677, 444, 978	409, 1355, 944	456, 1141, 1053, 355	787, 410, 886, 292	332, 934, 423,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	602, 1632	1025, 278, 243	629, 1264	992, 669, 438	1309, 308	927, 951	178, 360, 692	550, 900, 363	542, 358, 338, 371	246, 402, 332, 328	377, 227, 443,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	729, 5216	3296, 522, 308	1613, 2253	2379, 1564, 467	3127, 428	2301, 2167	377, 1146, 1409	1679, 2011, 415	1653, 413, 571, 1531	373, 1284, 455, 1483	1640, 511, 192
XX0161.1 QA003F1 06-06-20-H01	1463, 1498	1057, 983	1531, 1281	1411	1183, 1104	2333	1517, 1622	1212, 1001	1363, 1063	1104, 1027	1263, 120
XX0162.1 Reag BlankF1 06-06-20-B02											
XX0162.2 Reag BlankF2 06-06-20-C02											
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	3711, 4982	925, 2307, 2315	505, 4032	2418, 542, 2356	2776, 1886	2548, 2738	1519, 395, 1716	358, 2295, 1936	704, 2445, 2058, 378	2051, 370, 1653, 359	397, 2085, 675,
XX0165 QA004 QA 06-06-20-E02	8761	4886, 4163	3028, 3146	3462, 3751	5470	7758, 6758	2441, 1948	3743, 3440	4068, 3903	3528, 3185	4532, 403
XX0166 Reag Blank 06-06-20-F02											
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	3915, 4443	3448, 3618	4644	2698, 2497	2333, 2426	2489, 2309	2299, 2202	2328, 2316	2449, 2410	2734, 2721	2968, 330
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 265
XX0169 QA026 QA 06-06-20-B03	5396, 4931	3394	2582, 2439	3317	5361, 5361	2776, 2916	2162, 2181	5373, 2181	3694, 3181	3264, 3526	3252, 311
XX0170 Reag Blank 06-06-20-C03											
XX0171 Pos Con 06-06-20-D03	3811	4250	1814, 1757	2316, 2138	1473, 1662	1319, 1318	3578	1923, 2310	1306, 1299	1577, 1483	1652, 162
XX0172 Neg Con 06-06-20-E03											

FIGURE 3.9 View All Samples & Controls by RFUs

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	1818,	, 3132,	1574,	1274,	776, 688,	859,	949, 773,	860, 993,	1253,	1749,	755,	862,	3011,	1834,	734,	546,
Ladder Identifiler 06-06-20-A03	1950,	3472,	1806,	1454,	839, 758,	961,	1083,	976,	1428,	1887,	853,	976,	3416,	1989,	811,	610,
Ladder Identifiler 06-06-20-F03	1505,	2601,	1315,	1066,	622, 560,	717,	791, 637,	706, 827,	1032,	1489,	637,	730,	2491,	1549,	608,	449,
XX0161.1 QA003F1 06-06-20-H01	1463,	1057,	1531,	1411	1183,	2333	1517,	1212,	1363,	1104,	1263	1137,	1186	1066,	1182,	816,
XX0162.1 Reag BlankF1 06-06-20-B02																152
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	8761	4886,	3028,	3462,	5470	7758,	2441,	3743,	4068,	3528,	4532	4657,	2458,	3521,	3392,	180
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	5396,	3394	2582,	3317	5361,	2776,	2162,	5373,	3694,	3264,	3252	7388	2313	5127,	3248	178
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	3811	4250	1814,	2316,	1473,	1319,	3578	1923,	1306,	1577,	1652	2685	1515,		3159	107
XX0172 Neg Con 06-06-20-E03														156		

FIGURE 3.10 View All Controls by RFUs



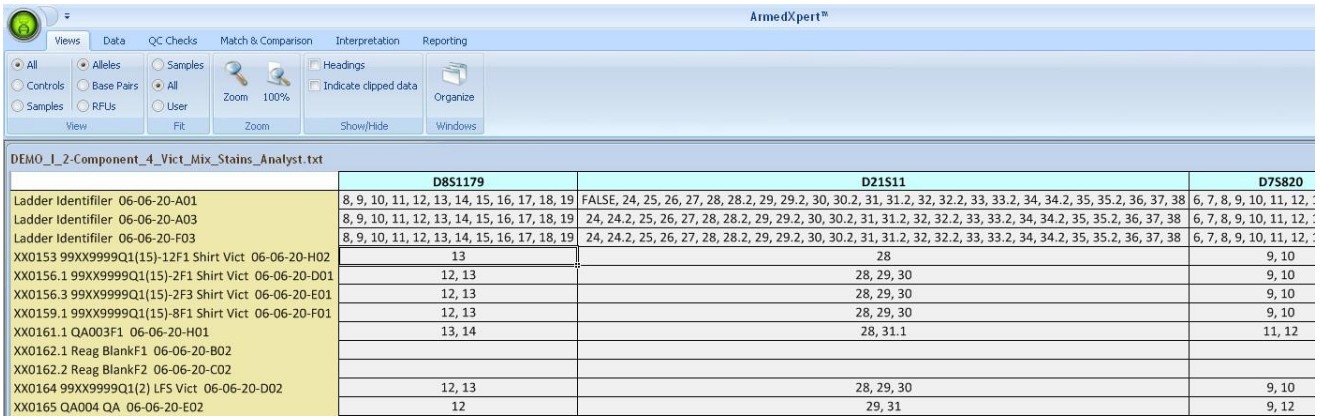
	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 2659
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	1580, 2345	916, 1144, 994	594, 2480	2001, 609, 1157	1548, 747	1337, 1465	677, 444, 978	409, 1355, 944	456, 1141, 1053, 355	787, 410, 886, 292	332, 934, 423,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	602, 1632	1025, 278, 243	629, 1264	992, 669, 438	1309, 308	927, 951	178, 360, 692	550, 900, 363	542, 358, 338, 371	246, 402, 332, 328	377, 227, 443,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	729, 5216	3296, 522, 308	1613, 2253	2379, 1564, 467	3127, 428	2301, 2167	377, 1146, 1409	1679, 2011, 415	1653, 413, 571, 1531	373, 1284, 455, 1483	1640, 511, 1924
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	3711, 4982	925, 2307, 2315	505, 4032	2418, 542, 2356	2776, 1886	2548, 2738	1519, 395, 1716	358, 2295, 1936	704, 2445, 2058, 378	2051, 370, 1653, 359	397, 2085, 675,
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	3915, 4443	3448, 3618	4644	2698, 2497	2333, 2426	2489, 2309	2299, 2202	2328, 2316	2449, 2410	2734, 2721	2968, 3302
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	7403	6117	2224, 2344	2584, 2804	4063	2468, 1997	2155, 1827	2560, 2265	2316, 2427	2384, 2157	2833, 2659

FIGURE 3.11 View All Samples by RFUs

Fit

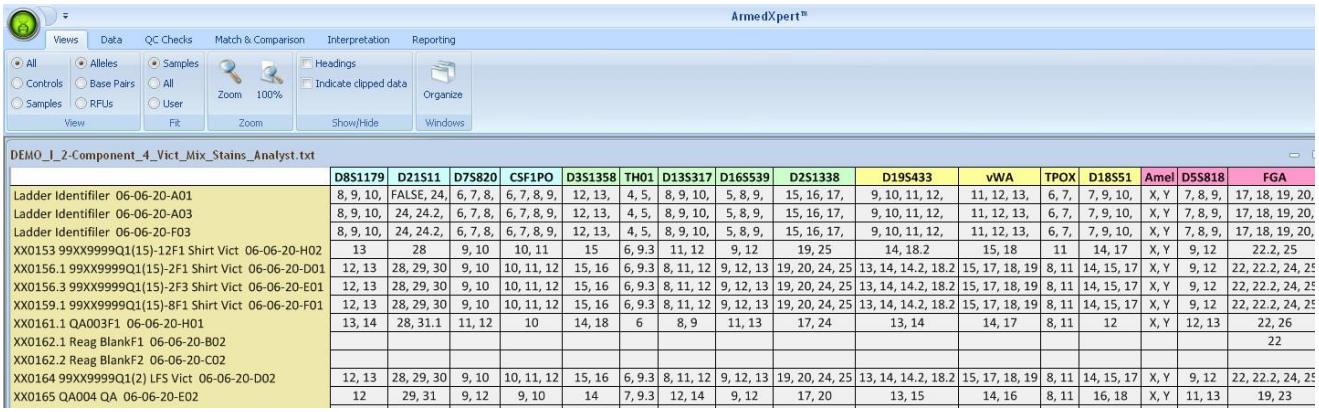
The **Fit** section allows the user to determine the width of the columns. Samples change the column width to fit all sample data only. All changes the column width to show all the data for both the samples and the controls. User will keep the columns the user defined width when changing the views. The column width remains the same no matter what is being viewed. Click on the circle to the left of the desired choice.

FIGURE 3.12 Fit Section



	D8S1179	D21S11	D7S820
Ladder Identifiler 06-06-20-A01	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	FALSE, 24, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	6, 7, 8, 9, 10, 11, 12,
Ladder Identifiler 06-06-20-A03	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	24, 24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	6, 7, 8, 9, 10, 11, 12,
Ladder Identifiler 06-06-20-F03	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	24, 24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	6, 7, 8, 9, 10, 11, 12,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12
XX0162.1 Reag BlankF1 06-06-20-B02			
XX0162.2 Reag BlankF2 06-06-20-C02			
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12

FIGURE 3.13 Column widths are widen to show All



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE, 24,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23

FIGURE 3.14 Column widths are changed to fit just the Sample amounts.

Zoom

The **Zoom** section allows you to change to size the page is displayed in. Click the Zoom button to bring up the Zoom window, which allows you to change to a specific size. Click on 100%, to change it back to original size.

FIGURE 3.15 Zoom Section

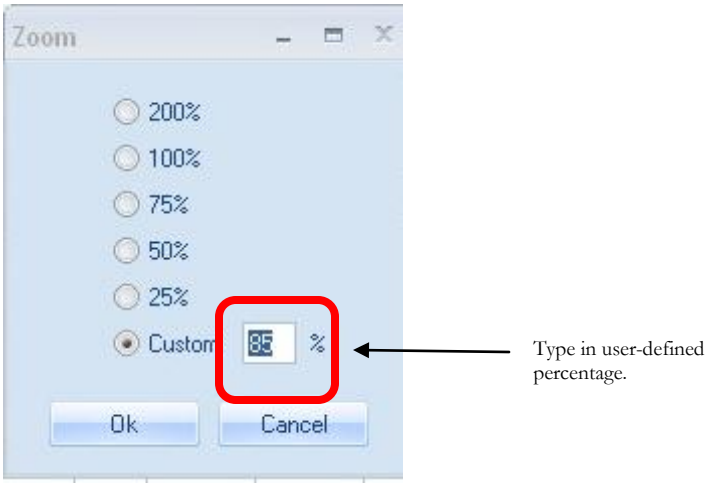


FIGURE 3.16 Zoom Window

Show/Hide

The **Show/Hide** section, allows headings and clipped data to either be shown or hidden. The Headings option is for viewing the headings for each column. You can change the size of the column to a user-defined width by displaying the headers and using your mouse to change the size of a specific column. The Indicate clipped data option outlines in red all cells that are not shown completely, so you know there is more information in that cell. If a check mark is in the box next to either option, it means headings and/or clipped data will be shown. If no check mark is shown, headings and/or clipped data will be not be shown.

FIGURE 3.17 Show/Hide Section

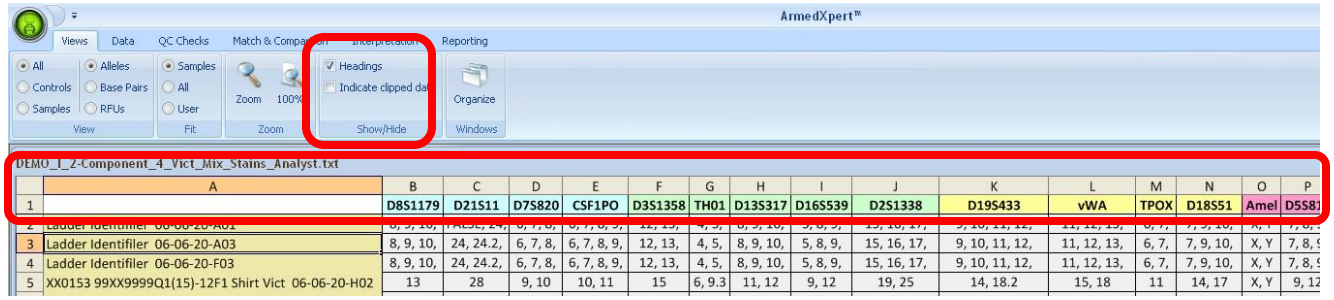


FIGURE 3.18 Headings Shown

FIGURE 3.19 Clipped Data Shown

Organize

The **Organize** section, allows you to move a window to the top of all other windows. This is a useful tool if you have several windows open at the same time. Click on the "Organize" button, and the window shown in Figure 3.21 will appear. All opened windows, including tables, mixture interpretation windows, frequency calculations, and reports will appear. Choose from the list the one you want to bring to the front and click on the "Bring to Front" button. Your selected window will now be brought to the front of all other windows. Click on the red X on the upper right hand corner of the Organize window to close it.

FIGURE 3.20 Organize Window

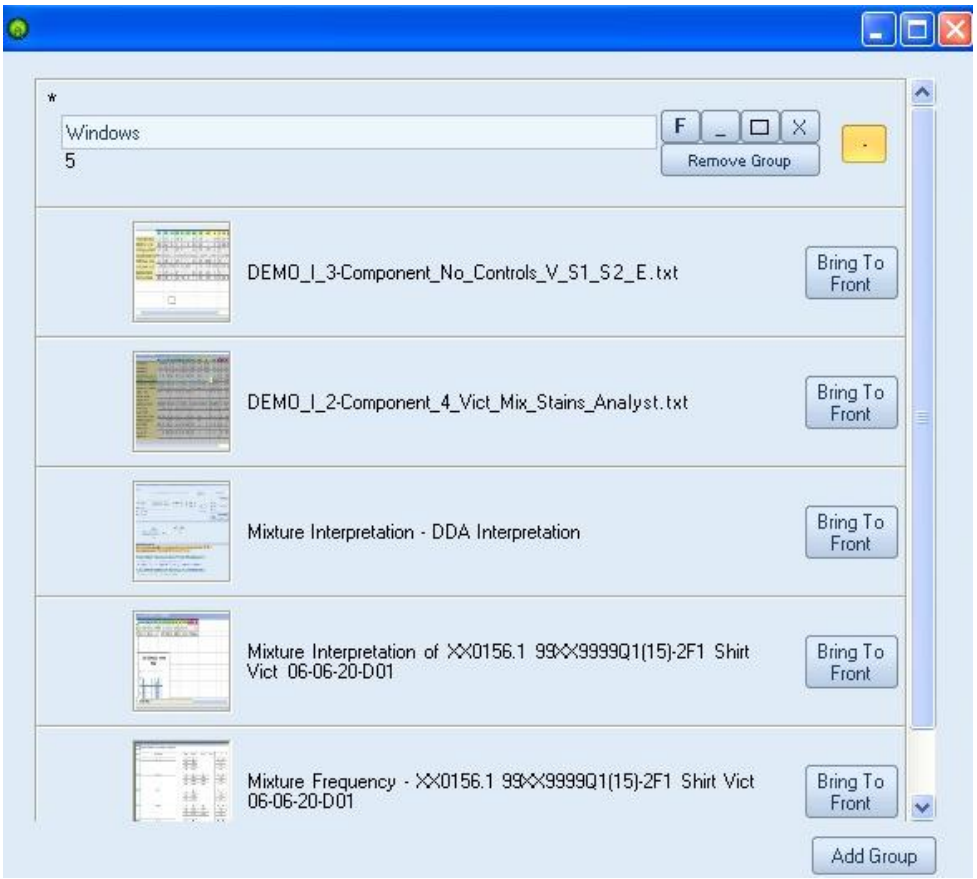


FIGURE 3.21 Organize Window

Chapter 4

Tab Two - Data

The Data tab is used to add new samples, edit samples, combine samples, commit samples, load samples, and sort samples. There are three main sections: **Samples**, **Data Source**, and **Sort**.

FIGURE 4.1 Data Tab

Samples

There are four commands in the **Samples** Section: New Sample, Edit Sample, Change Kit, and Combine Sources. The New Sample option allows you to enter manually a new sample onto your current sample table or to a new table. The Edit Sample option allows you to edit any sample on your sample table. The Change Kit option allows you to change the kit that is shown for the sample. Finally, the Combine Sources option allows you to combine specific samples or entire tables into one new sample table.

FIGURE 4.2 Sample Section

When you click on **New Sample**, the window shown in Figure 4.4 below will appear. This allows you to manually enter in a sample to your sample table or a new table. To enter in a new sample, first select source

type by clicking on ▼ arrow next to the Set Sample Source Type box then choose the correct type from the drop down list.

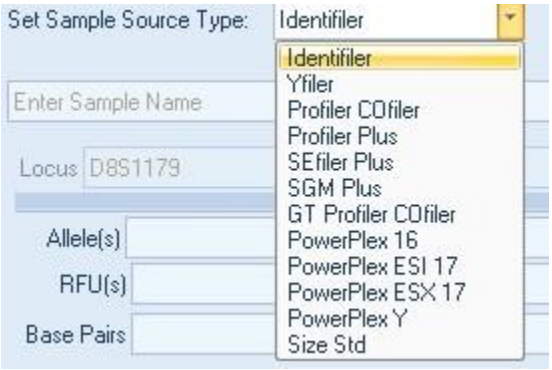


FIGURE 4.3 Set Sample Source Type drop down list.

Next choose the sample table you would like to add the sample to. Click on the ▼arrow next to the "Send to" box and choose from the available sample tables opened. You also have the option to send it to a new blank table. **Note: The sample table has to be opened to add a new sample to it.** Enter a sample name. Under each Locus, type in the allele(s), RFU(s), and Base Pairs. Use a comma to separate more than one number in each box. If you need to enter a new locus, click the "Add Locus" button. Once you are finished, click the "Ok" button in the upper right corner of the window. The button refreshes the list of destination tables.

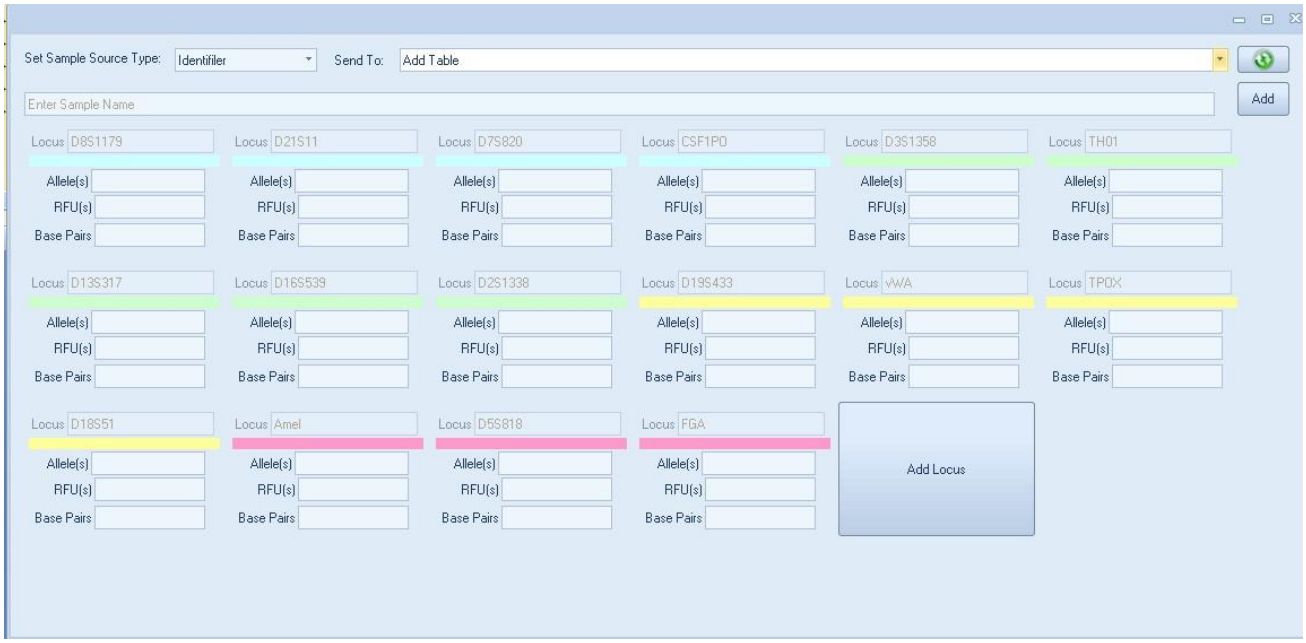


FIGURE 4.4 New Sample Window

To edit any sample on your sample table, click the **Edit Sample** button. The select/pick via mouse window will appear as seen below in figure 4.5. You can use your mouse to select the sample you wish to edit or click on the ▼arrow and select the one you would like to edit from the drop down list

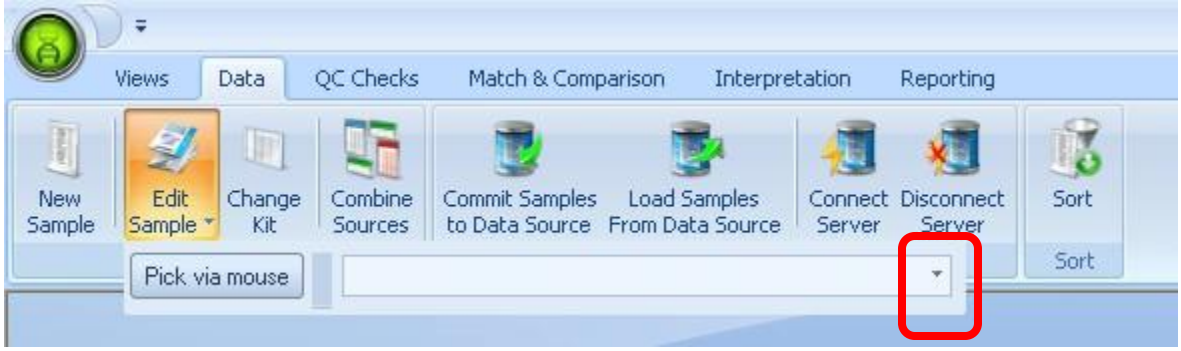


FIGURE 4.5 Select/Pick via mouse Window.

A window similar to the Enter new sample window will appear. At each locus, the allele(s), RFU(s), and Base Pairs can be added to or changed. All fields that cannot be changed are grayed out. Once you complete your edits, click on the "Edit" button.

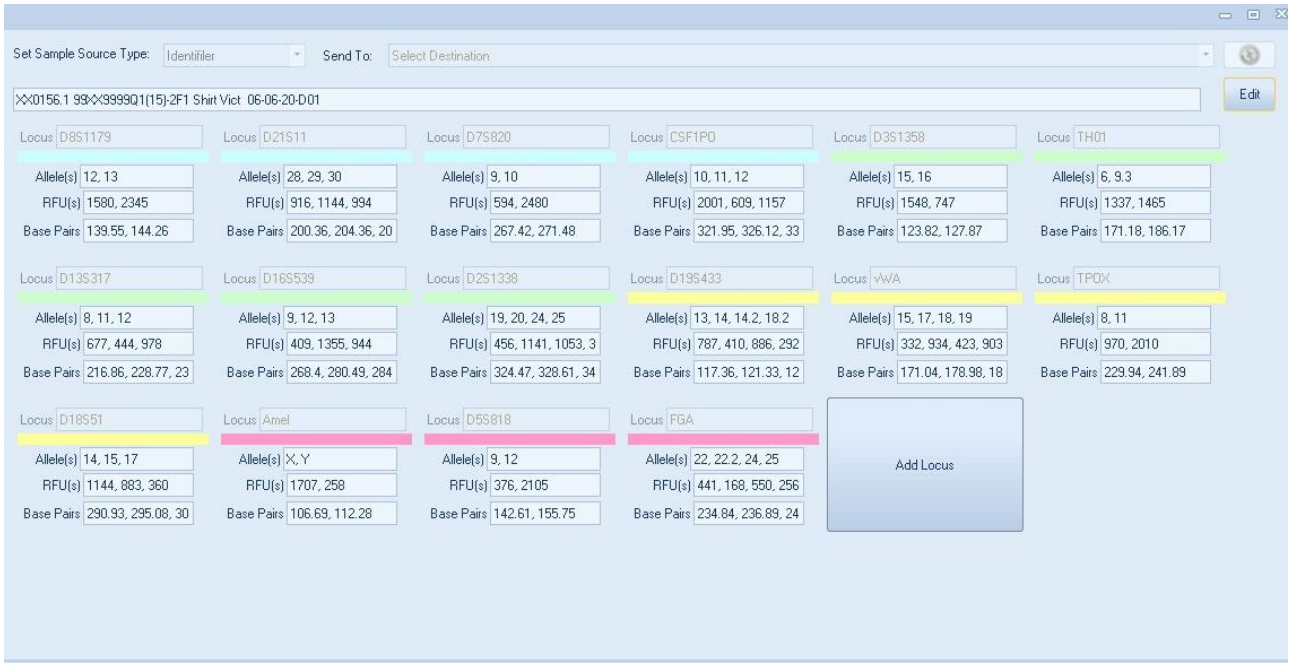


FIGURE 4.6 Edit Sample Window

To combine sample table(s) or sample(s) into one new combined sample table, click on the **Combine Source** button. This will open the Combine Sources window.

Note: Each of the sample tables must be open to use this feature.

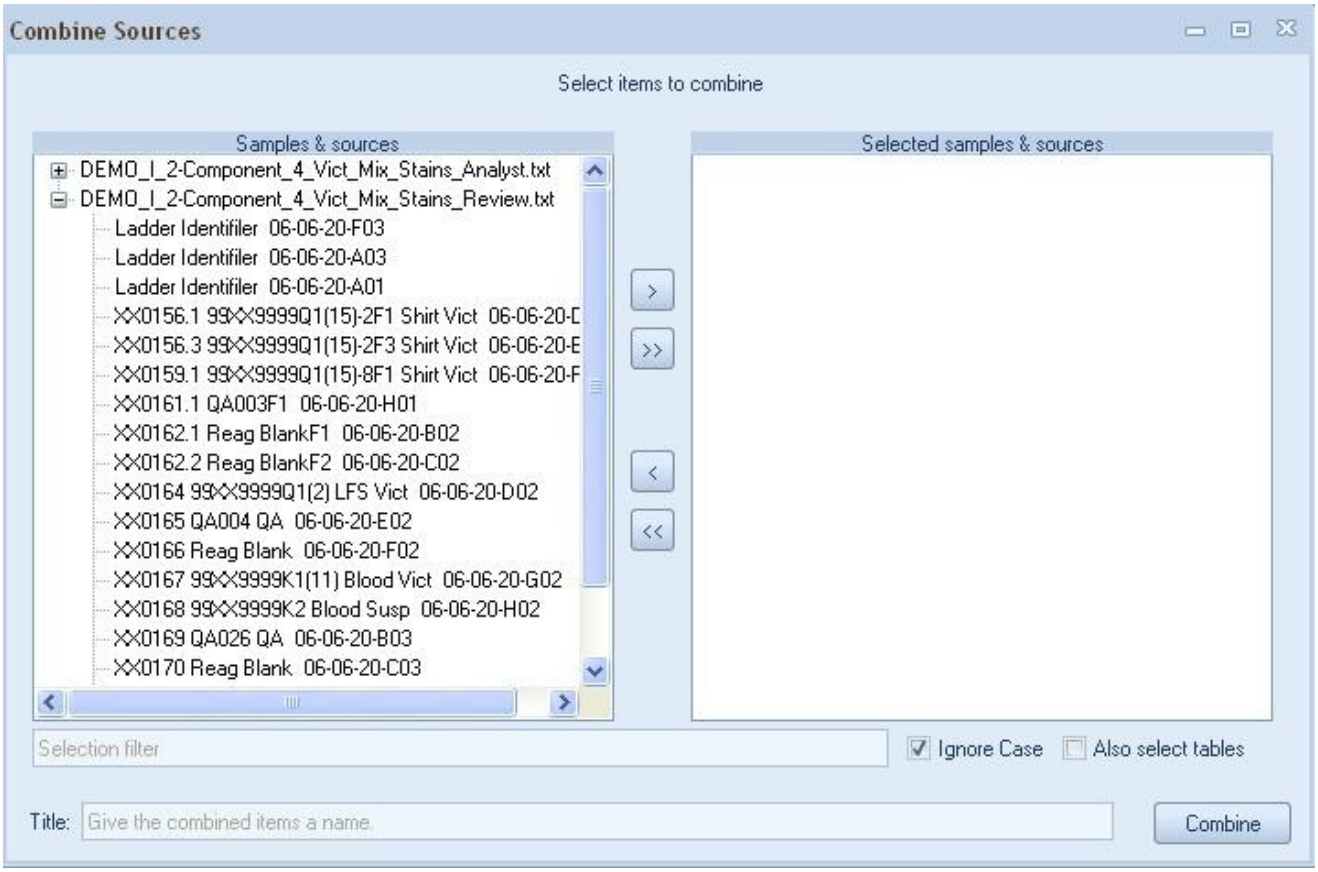


FIGURE 4.7 Combine Sources Window

The Sample & sources box displays all open sample tables. By clicking on the ⊞ next to the Sample Table name, the list will expand to show all available samples on the sample table. Click on the entire sample table or the specific sample you wish to combine and then the arrow > button. The sample table or sample then will move to the Selected samples & sources box on the right. Repeat for the next sample table or sample. The >> button will move all samples at once.

You can also use the Selection Filter box to enter in a specific name and all samples containing that name will be highlighted. This is helpful in finding certain samples in a large sample table. Click the > button and all samples highlighted will move to the Selected samples & sources box. The "Ignore Case" next to the selection filter box should be checked if you would like the selection filter choice to include all samples containing the filter regardless of upper or lower case. The "Also select tables" option should be checked if you would like the selection filter to choose tables as well as samples that contain the filter.

If you wish to remove a sample table or sample from the Selected samples & sources box, click on the sample table or sample, and then click on the < button.

By default, the names of all selected samples will automatically fill in as the title of the combined report. You can keep the default title or you can type in a new name for the combined report that is being created. Click on the "Combine" button to create the combined report.

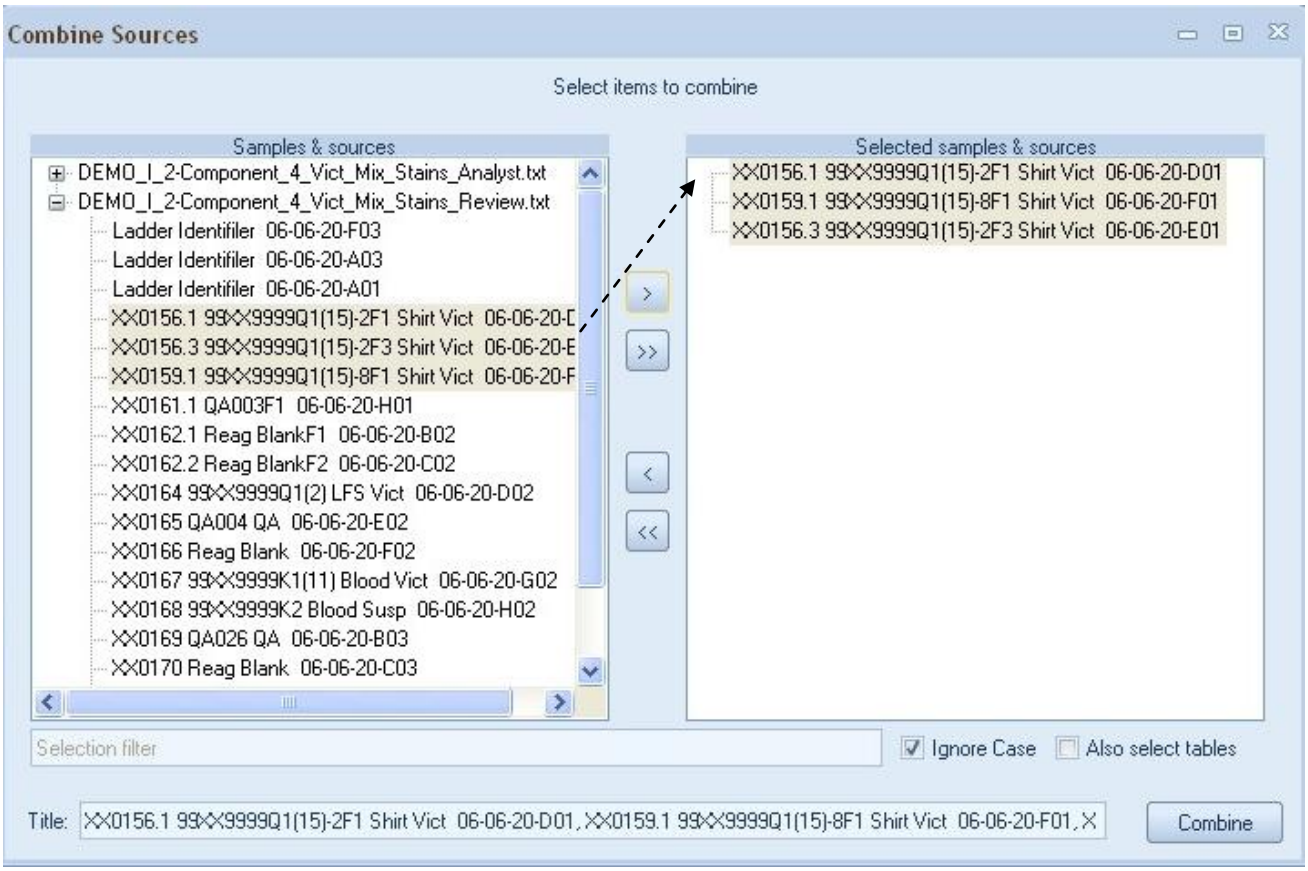
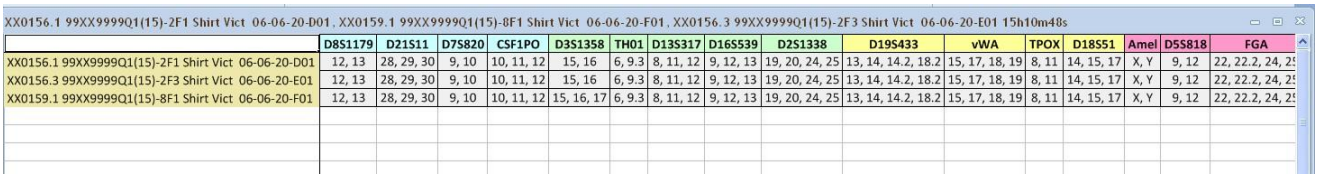


FIGURE 4.8 Combine Sources Window

A new combined sample table will appear with the default or user defined title. An example is shown in Figure 4.9 below. In this example, the three samples selected above were combined into a new sample table.



XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01, XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01, XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01 15h10m48s

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 2
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 2
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16, 17	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 2

FIGURE 4.9 Combined Sample table Example

Data Source

The four commands in the **Data Source** Section are Commit Samples to Data Source, Load Samples From Data Source, Connect Server, and Disconnect Server. The Commit Samples to Data Source allows you to save or commit a sample to your database and the Load Samples to Data Source allows you to retrieve it. Examples of uses for this are to commit your staff profiles to the Database so they can be retrieved for use later to compare against or commit a ladder and control check table to the Database. Any sample or table can be saved or committed to your database. Connect and Disconnect Server commands allow you to connect or disconnect to the server.

FIGURE 4.10 Data Source Section

To commit a sample from a sample table as a table, click on the sample table so it is open and active on the screen. Click on the **Commit Samples to Data Source** button. The Datasource Commit window will appear. Click on the + next to the Sample Table and all the samples on the sample table will appear on the left hand side of the window. Click on the sample or table you wish to commit, click the > button, and the sample or table will be move to the box on the right. Repeat this for as many samples as you wish to commit.

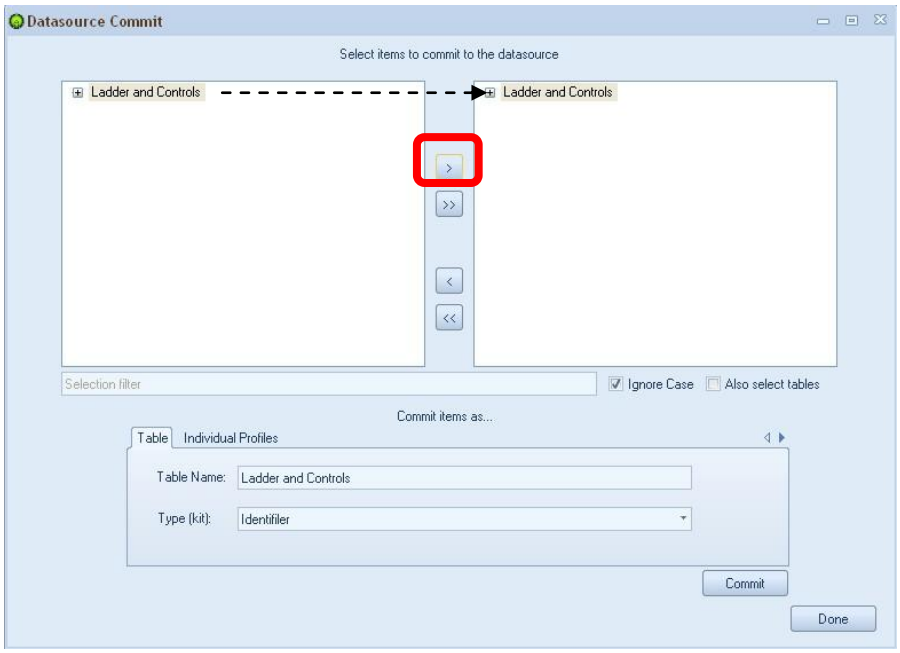


FIGURE 4.11 Datasource Commit Table Window

You can also use the Selection Filter box to enter in a specific name and all samples containing that name will be highlighted. This is helpful in finding certain samples in a large sample table. Click the > button and all samples highlighted will move to the right hand box. As shown below in Figure 4.12, the word Vict was added to the Selection Filter box and all samples that include the word Vict are highlighted. The "Ignore Case" option allows all forms of the filter to be highlighted regardless of lower or upper case. The "Also select tables" option allows for tables to also be highlighted. In the example shown below, the "Also select table" option is not checked so even though the table contains the word Vict, it is not highlighted.

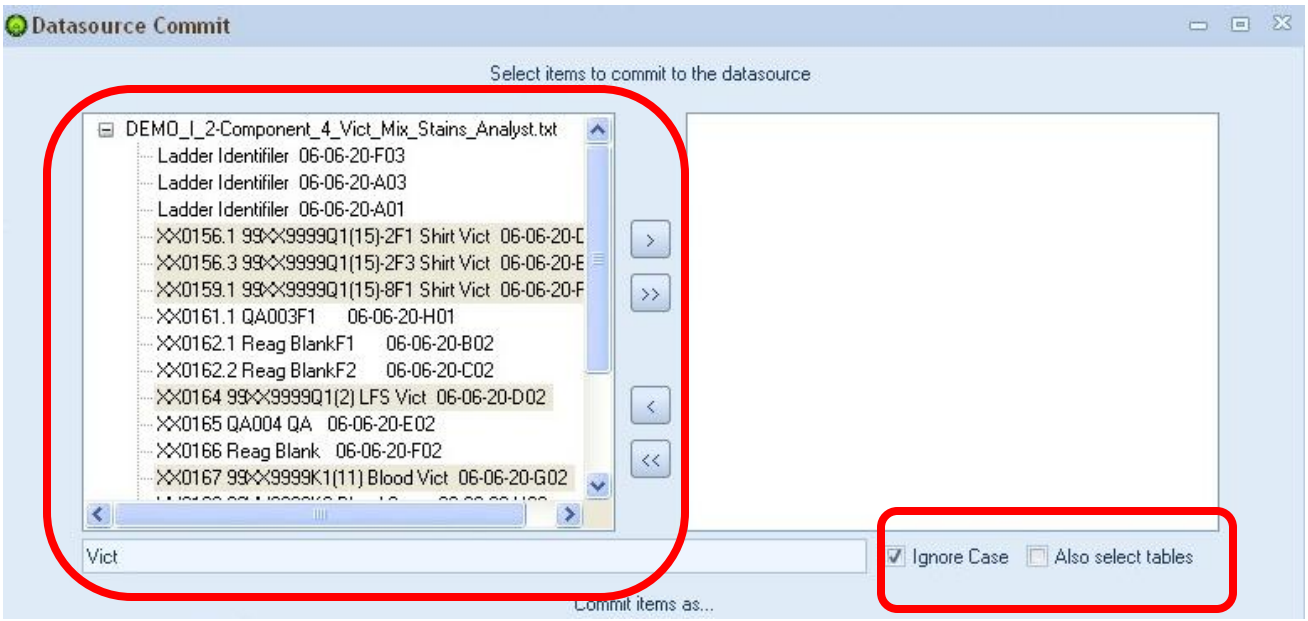


FIGURE 4.12 Datasource Commit Table window with filter being used

The table name and Type (kit) will be filled in; you can change these if wanted. Once finished choosing samples and all info is filled in correctly, click the "Commit" button. When finished with the window, click the "Done" button to close the window.

FIGURE 4.13 Datasource Commit Table bottom portion of window

You can commit individual profiles such as staff profiles as shown in Figure 4.14 below. Click on the appropriate sample table so it is open and active on the screen. Then click the Commit Sample to Data Source button. All the individual samples will show on the right side of the window (our staff profile example is shown as alphanumeric as opposed to names). Click on the sample you would like to commit and click the > button to move it to the left side of the window or click the >> button and all the samples will move to the left side of the window.

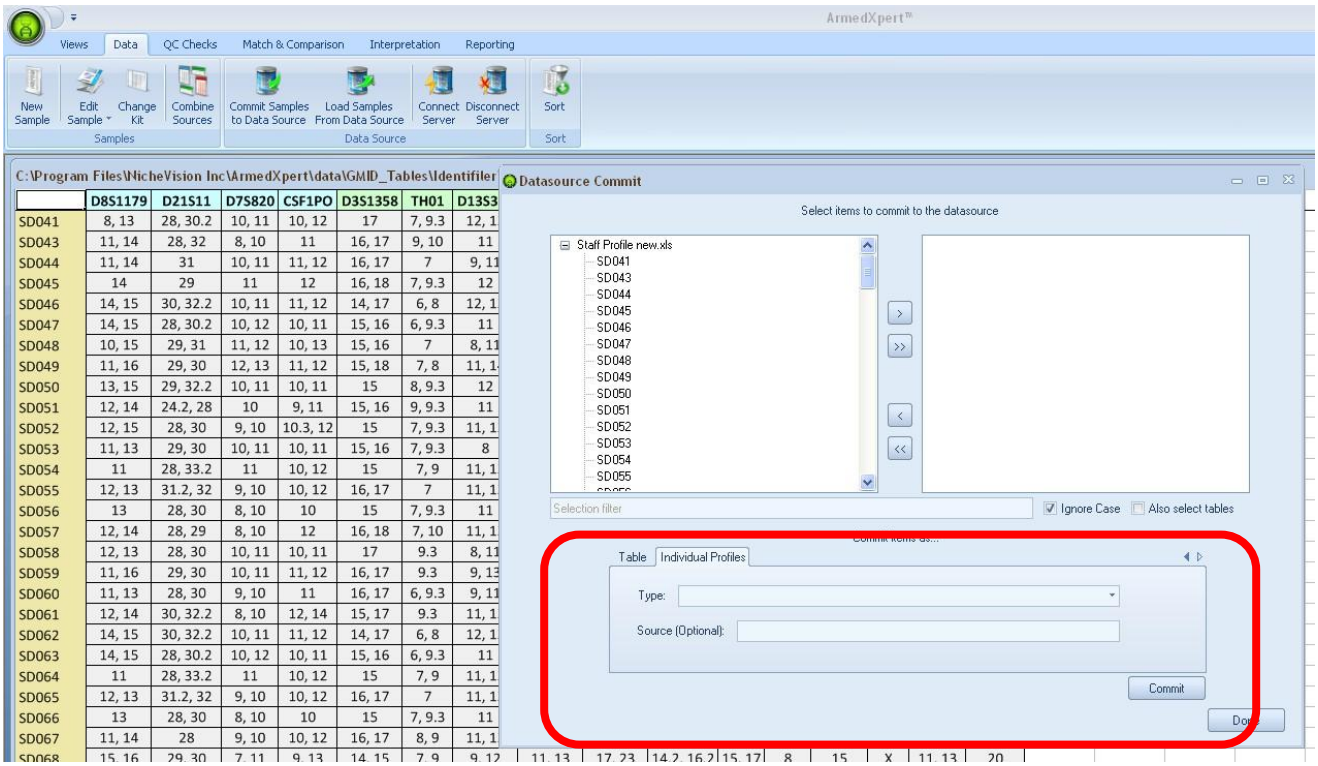


FIGURE 4.14 Datasource Commit Individual Profiles Window

Click on the Individual Profiles tab. Choose type of profile you are adding from the drop down menu next to the "Type" box. The options are shown below in Figure 4.15. Source is optional to be filled in. Click "Commit" button. When finished with the window, click the "Done" button to close the window.

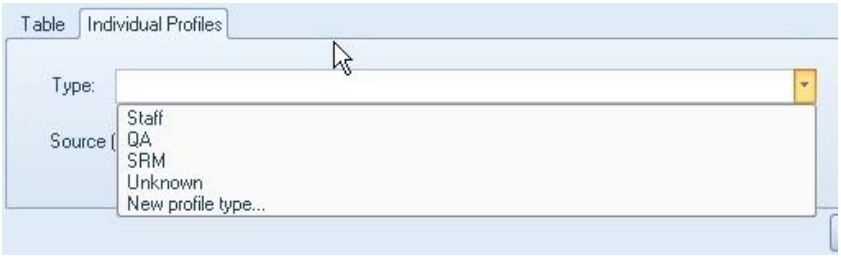


FIGURE 4.15 Drop down list

To Load a sample table or sample that you committed from your database, click on the **"Load Samples From Data Source"** button. The Datasource Load window will appear. All committed tables and individual samples will show up in the left hand side box. The individual profiles are shown highlighted green below in Figure 4.16 and the table is highlighted tan. Click on the + next to the Sample Table if you wish to select a specific sample from the sample table. Click on the sample or the whole sample table you wish to commit, click the > button, and your selection will be move to the Selected samples & sources box on the right. Once finished with your selection, click the "Load" button. The Data will load automatically on its own page.

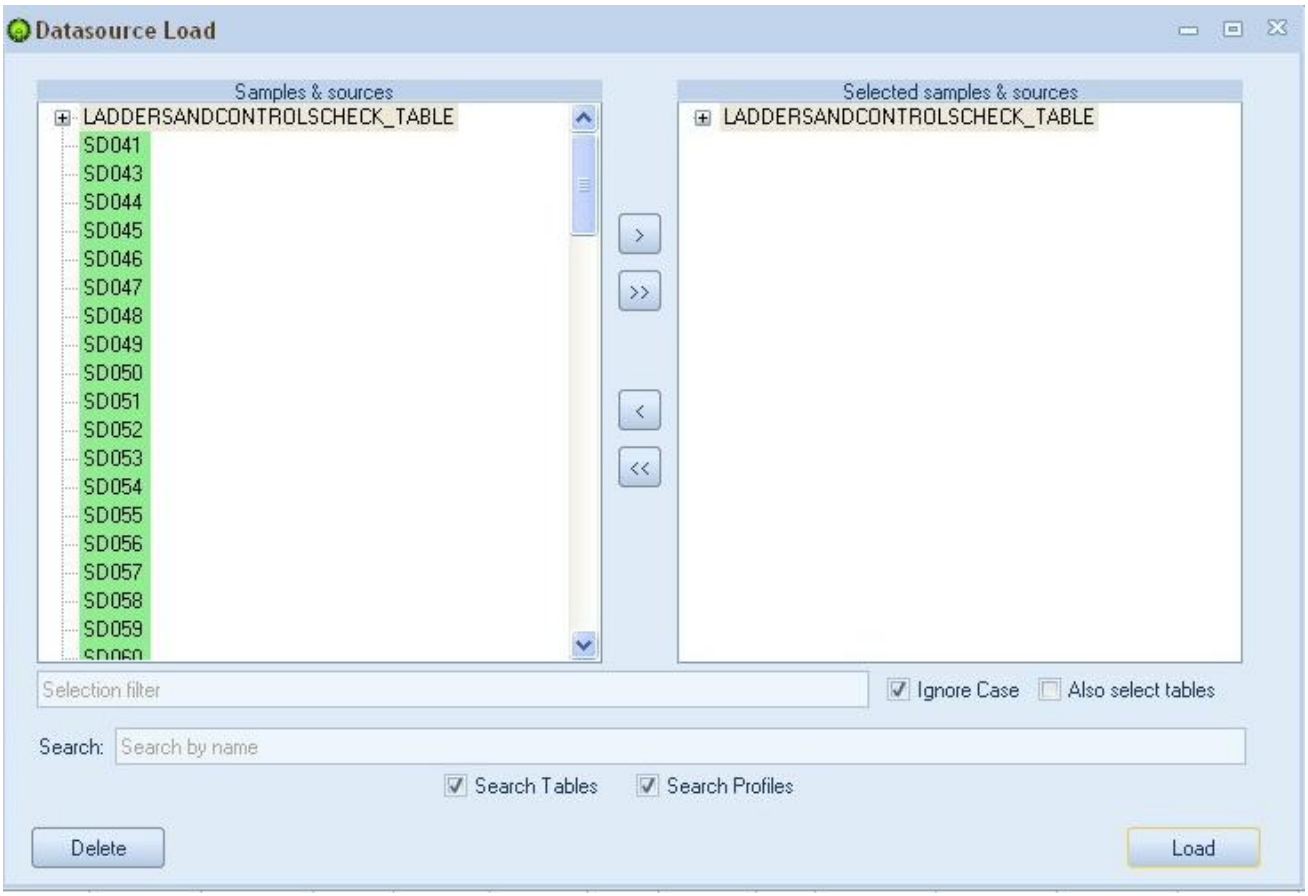


FIGURE 4.16 Datasource Load Window

If you would like to delete a sample table or a specific sample from a committed Datasource, you do it from this window. Move the table or sample you want to delete to the right side of the window as described above. To have the individual profiles to show like the Staff Profile, click on the box next to "Search Profiles." In the example shown in Figure 4.17 below, an individual staff sample was deleted from the staff profile. Once you have selected the correct sample(s) or table, click on the "Delete" button. A confirmation window will appear to confirm you want to delete. Click "Ok" to confirm the delete.

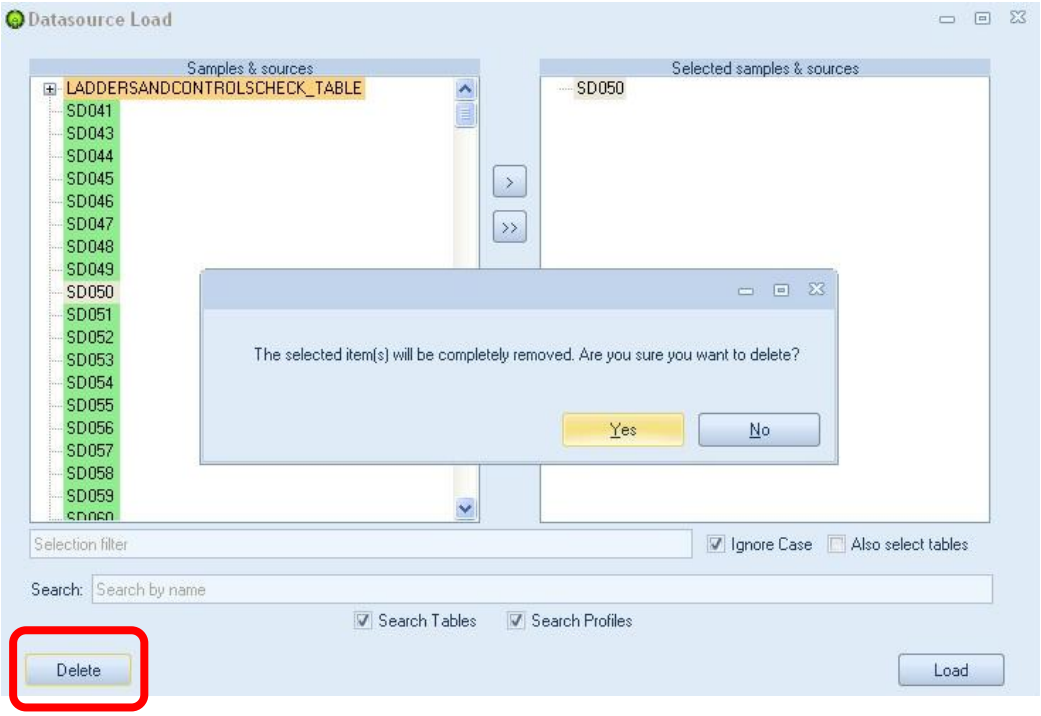


FIGURE 4.17 Deleting a Datasource sample

To connect or disconnect from the server, click on the appropriate command. When you click on the "Connect Server" button, the Login window appears. This enables you to change between databases while in ArmedXpert. The Login window instructions are on page 3.

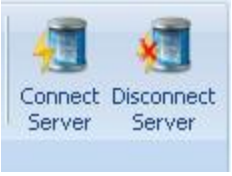


FIGURE 4.18 Connect/Disconnect Server buttons

Sort

The final section is the **Sort** section. Click on the Sort button and the Sort Window opens as shown in Figure 4.20 below. Select the key(s) to sort by. Then click on the > button to bring over one key (keys = columns on the spreadsheet). The >> button is used if selecting all the keys. The keys selected will then appear in the box to the right. You can change to Sort Order from Descending to Ascending by clicking on the Sort Order box and choosing from the drop down list, the applicable choice. You can also sort normally or text as numbers, by choosing under the drop down list in the Sort As column. Once finished, click the "Ok" button.

FIGURE 4.19 Sort Section

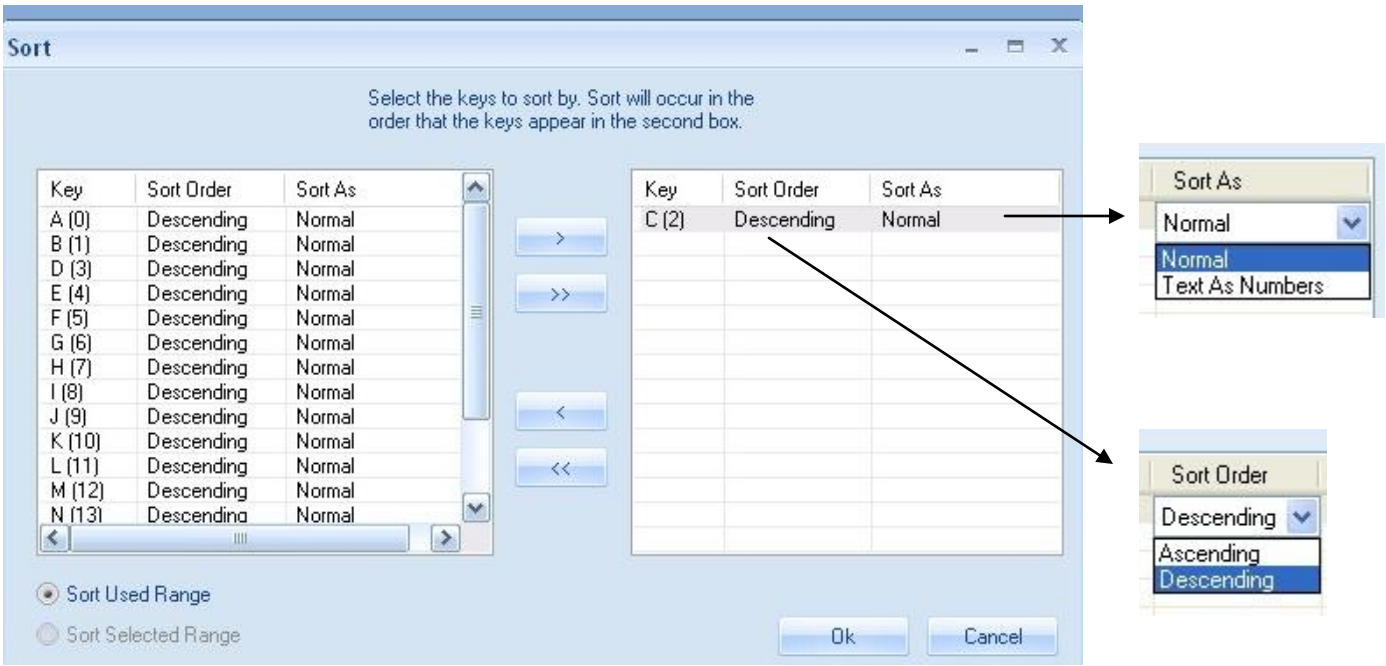


FIGURE 4.20 Sort Window

Chapter 5

Tab Three – QC Checks

The QC Checks tab is used to do quality control checks on your data. There are four sections under the QC Checks. They are **Standard Checks**, **CODIS QC**, **QC Review**, and **Clear**. The quality control settings for the checks are set up using the ArmedXpert Options Menu discussed in Chapter 2.

FIGURE 5.1 QC Checks Tab

Standard Checks

There are four types of standard quality control checks. They are Check Controls, Check Allele Ordering, Stutter, and RFUs. The standard checks will evaluate the samples on your active sample table for quality control issues.

Click on each type of standard check you wish to perform. After clicking each command, the check will be performed and your page will display the results of the check. All errors will be highlighted. A key will be displayed on the page to explain what the highlighted colors mean for the check being done. If no errors are found on the check, a message will appear at the bottom of the page that states "Check completed with no errors." as shown below in figure 5.2. Click on the **Clear Checks** button to clear the check results on the page.

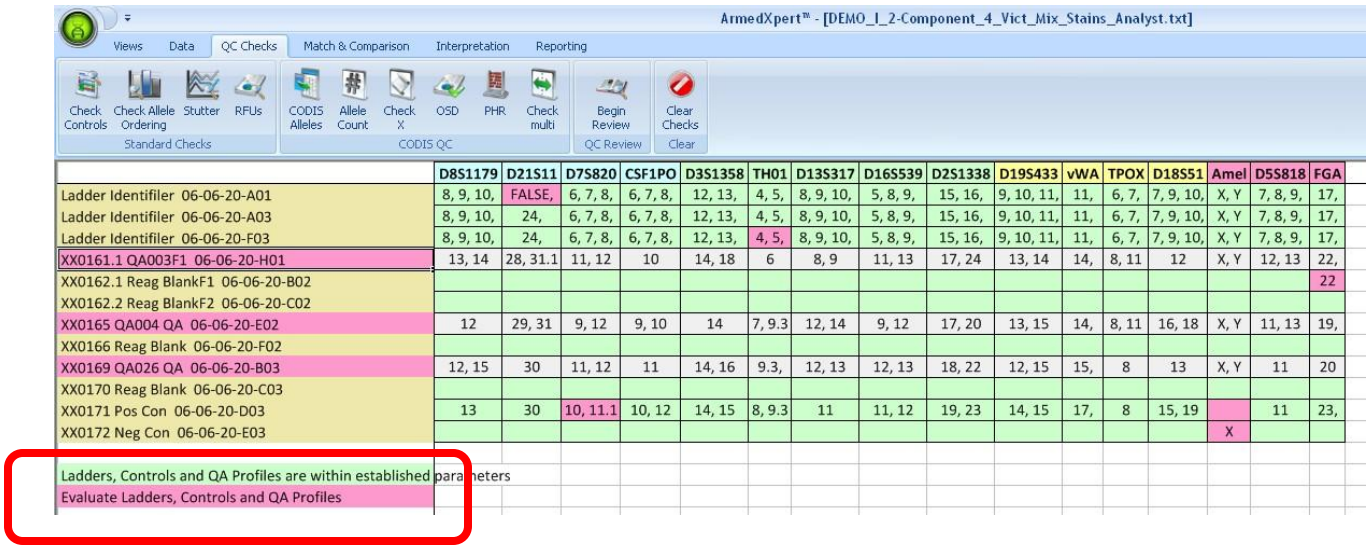
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 13	X, Y	11, 11	20, 20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19		11, 11	23, 24
XX0172 Neg Con 06-06-20-E03														X, X		

Check completed with no errors.

FIGURE 5.2 Example of a Check completed with no errors screen.

Description of each standard check and examples of each check results are shown below. The key for each check is shown circled in red in each example.

Check Controls evaluates ladders, controls, and QA profiles to determine if they are within established parameters. The ladders, controls, and QA profiles that are within established parameters are highlighted green. The ones that are not are highlighted pink. Once you click on the "Check Controls" button, only the controls will appear on the table. To bring the samples back in view, either press the F8 button (once and just the samples will be shown, twice and both samples and controls will be shown) or go back to the View tab, and click on All or Samples depending on what you want to view. The check control settings are set up under the Ladders and Controls subsection of the Quality Control section in the ArmedXpert Options Menu.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	FALSE,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24,	6, 7, 8,	6, 7, 8,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16,	9, 10, 11,	11,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17,
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14,	8, 11	12	X, Y	12, 13	22,
XX0162.1 Reag BlankF1 06-06-20-B02																22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0165 QA004 QA 06-06-20-E02	12	29, 31	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14,	8, 11	16, 18	X, Y	11, 13	19,
XX0166 Reag Blank 06-06-20-F02																
XX0169 QA026 QA 06-06-20-B03	12, 15	30	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15,	8	13	X, Y	11	20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13	30	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17,	8	15, 19		11	23,
XX0172 Neg Con 06-06-20-E03														X		

FIGURE 5.3 Example of a Check Control screen.

Check Allele Ordering confirms that the alleles are all in correct order. Any allele not in correct order will be highlighted pink.

	D8S1179	D13S317	VWA	TPOX	D18S51	D5S818	FGA	D21S11	D7S820	CSF1PO	D3S1358	TH01	D16S539
ID_2_GH_1.0ng_R1.1_V1.1_009_1	12, 14, 15	11, 12, 13	15, 16, 17	9, 11, 12	12, 13, 16	11, 12	20, 21, 26	29, 30.2, 31.2	10, 10	10, 11, 13	14, 15	9.3, 9.3	9, 12
ID_2_GH_1.0ng_R1.4_V1.1_005_1	12, 14, 15	11, 12, 13	15, 16, 17	9, 11, 12	12, 13, 16	11, 12	20, 21, 26	29, 30.2, 31.2	10, 10	10, 11, 13	14, 15	9.3, 9.3	9, 12
ID_2_GH_1.0ng_R1.9_V1.2_003_1	12, 14, 15	11, 12, 13	15, 16, 17	9, 11, 12	12, 13	11, 12	20, 21, 26	29, 31.2, 30.2	10, 10	10, 11, 13	14, 14, 15	9.3, 9.3	9, 12
ID_3_EGJ_2.0ng_R1.1.2_V1.1_006_1	12, 13, 14, 15	11, 12, 13	14, 16, 17, 18	8, 9, 10, 12	12, 14, 16, 18, 19	11, 12	20, 21, 25, 26	28, 30, 30.2, 31, 29	8, 10, 12	11, 12, 13, 10.3	14, 15, 16, 17, 18	9, 9.3	9, 10, 11, 12
ID_3_EGJ_3.0ng_R2.3.1_V1.1_010_1	12, 13, 14, 15	11, 12, 13	14, 16, 17, 18	8, 9, 10, 12	12, 14, 16, 18, 19	12, 12, 11	20, 21, 25, 26	28, 29, 30, 30.2, 31	8, 10, 12	11, 13, 12	14, 15, 16, 17, 18	9, 9.3	9, 11, 12, 10
ID_Ladder_014_1													

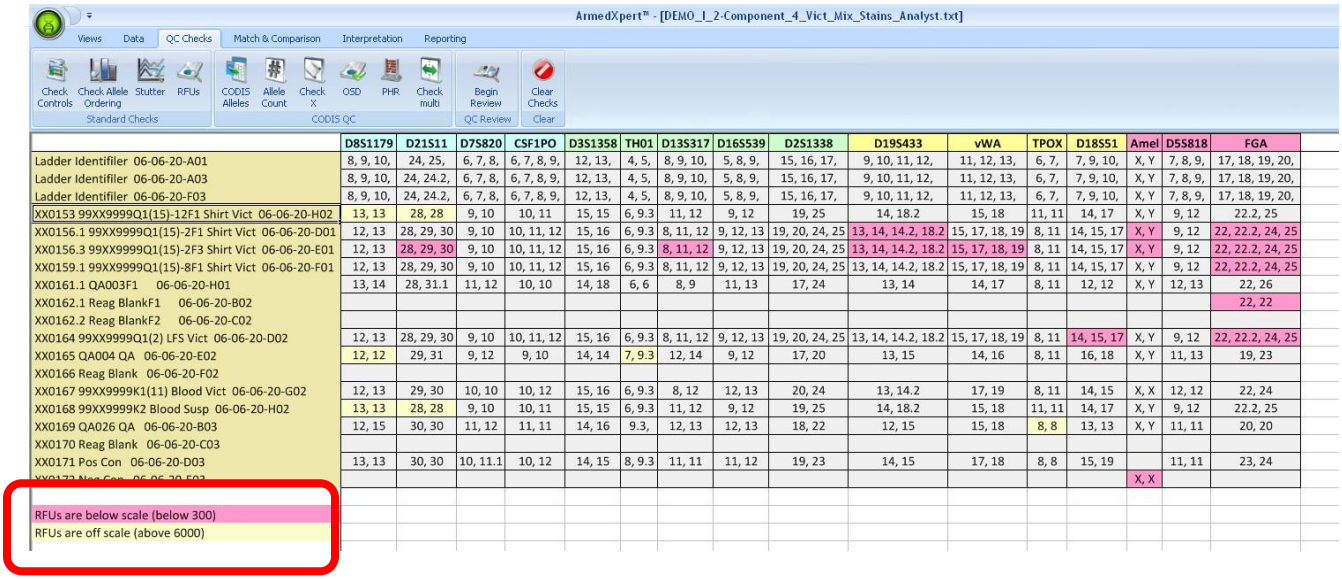
FIGURE 5.4 Example of a Check Control screen.

Stutter checks for potential stutter. It confirms that the threshold is met Locus by Locus. If the threshold is not met, it will indicate that there is potential stutter. The stutters settings are set up under the quality control subsection of the Interpretation section in the ArmedXpert Options Menu. All alleles that should be evaluated for stutter are highlighted in pink.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
IQS2904_Known standard of suspect	10, 13	30, 30	7, 12	10, 12	15, 15	9, 9.3	11, 13	9, 12	19, 19	13, 13	-A.17, 17, -A.18, 18	11, 11	14, 17	X, Y	11, 11	23, 24
IQS2904_Known standard of victim	14, 14	29, 36	9, 10	7, 7	15, 17	9, 9	12, 13	13, 13	18, 19	13, 14	15, 16	8, 11	14, 18	X, X	11, 12	22, 22
IQS2904_No stutter filter	10, 13, 14	28, 29, 30, 35, 36	7, 9, 10, 12	7, 7	14, 15, 16, 17	9, 9	11, 12, 13	12, 13	18, 19	12, 13, 14	15, 16	8, 11	14, 17, 18	X, X	11, 12	22, 23, 24
IQS2904_Stutter filter applied	10, 14	29, 30, 36	7, 9, 10, 12	7, 7	15, 17	9, 9	11, 12, 13	13, 13	18, 19	13, 14	15, 16	8, 11	14, 17, 18	X, X	11, 12	22, 23, 24
Evaluate for stutter																

FIGURE 5.5 Example of a Check Control screen.

Finally, **RFUs** indicates all RFU's that are either below scale or off scale. The RFU's settings are set up under the Quality Control Section in ArmedXpert Options Menu. The alleles with RFUs below scale are highlighted pink and all that are off scale are highlighted yellow.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
Ladder Identifiler 06-06-20-A01	8, 9, 10,	24, 25,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10, 10	14, 18	6, 6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12, 12	X, Y	12, 13	22, 26
XX0162.1 Reag BlankF1 06-06-20-B02																22, 22
XX0162.2 Reag BlankF2 06-06-20-C02																
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0165 QA004 QA 06-06-20-E02	12, 12	29, 31	9, 12	9, 10	14, 14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23
XX0166 Reag Blank 06-06-20-F02																
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X, X	12, 12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 13	X, Y	11, 11	20, 20
XX0170 Reag Blank 06-06-20-C03																
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19		11, 11	23, 24
XX0172 Neg Con 06-06-20-E03														X, X		
RFUs are below scale (below 300)																
RFUs are off scale (above 6000)																

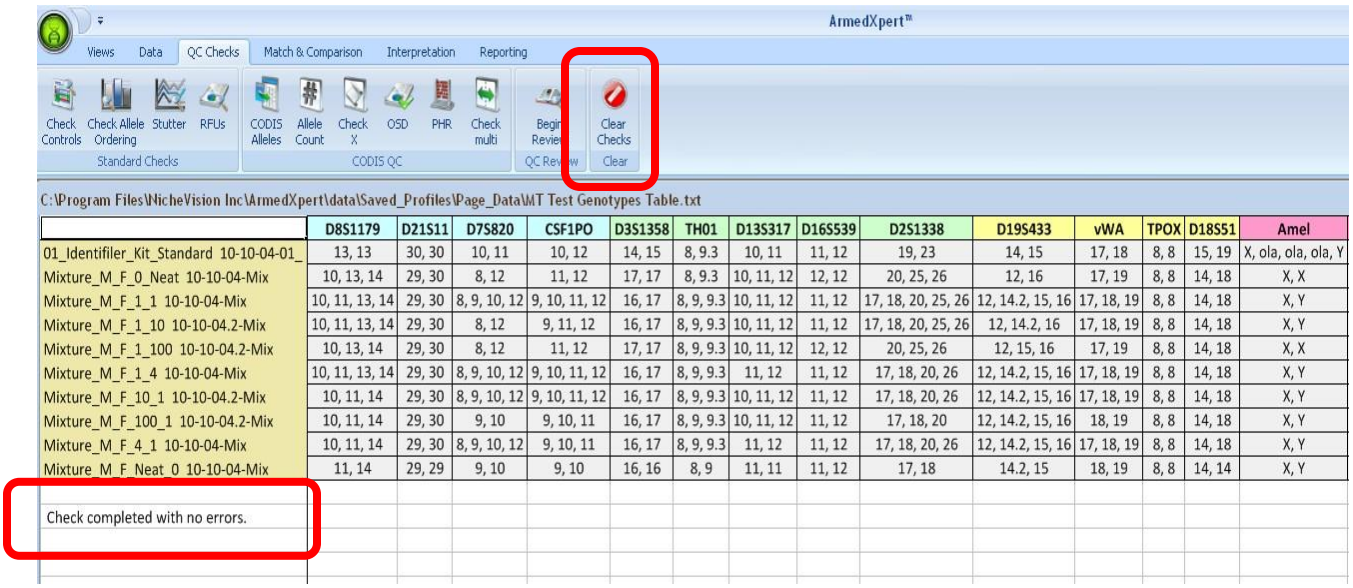
FIGURE 5.6 Example of a RFUs Check screen.

CODIS QC

There are six types of CODIS Quality Control checks. They are CODIS Alleles, Allele Count, Check X, OSD, PHR, and Check multi. These quality control checks will evaluate the samples on the active sample table to allow you to know if they are ready to be accepted by CODIS.

FIGURE 5.7 CODIS QC Commands

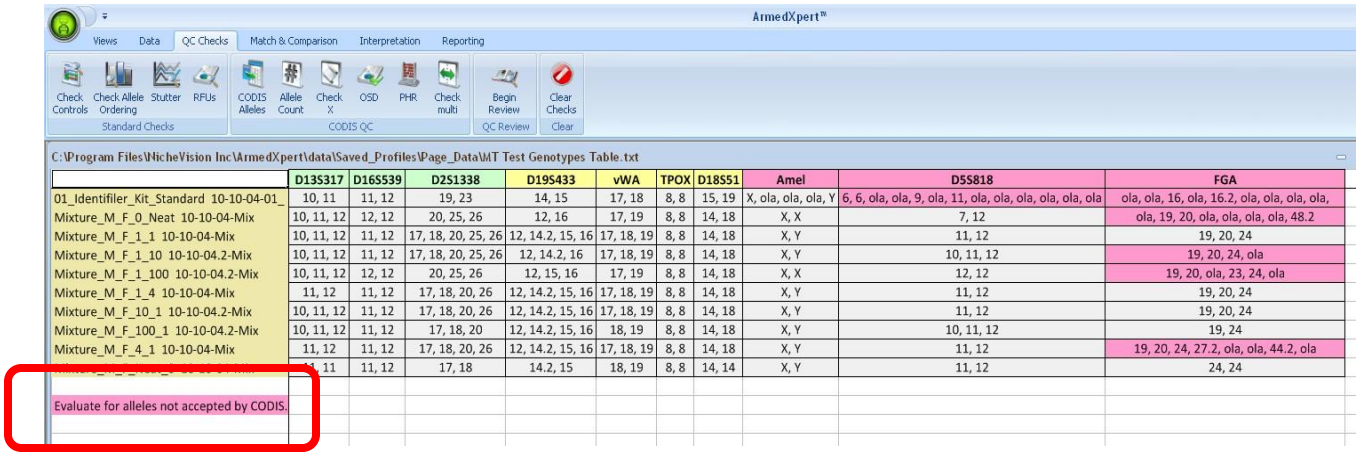
To perform the checks, click on each type of CODIS quality control check you wish to perform. After clicking each command, the check will be performed and your page will display the results of the check. All errors will be highlighted. A key will be displayed on the page to explain what the highlighted colors mean for the check being done. If no errors are found on the check, a message will appear at the bottom of the page that states, "Check completed with no errors." as shown below in example 5.8. Click on the **Clear Checks** button after each check to clear the check results on the page.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel
01_Identifiler_Kit_Standard 10-10-04-01_	13, 13	30, 30	10, 11	10, 12	14, 15	8, 9.3	10, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19	X, ola, ola, ola, Y
Mixture_M_F_0_Neat 10-10-04-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_1 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_10 10-10-04.2-Mix	10, 11, 13, 14	29, 30	8, 12	9, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_100 10-10-04.2-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 15, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_4 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_10_1 10-10-04.2-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_100_1 10-10-04.2-Mix	10, 11, 14	29, 30	9, 10	9, 10, 11	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20	12, 14.2, 15, 16	18, 19	8, 8	14, 18	X, Y
Mixture_M_F_4_1 10-10-04-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_Neat_0 10-10-04-Mix	11, 14	29, 29	9, 10	9, 10	16, 16	8, 9	11, 11	11, 12	17, 18	14.2, 15	18, 19	8, 8	14, 14	X, Y

FIGURE 5.8 Example of a Check completed with no errors screen.

The **CODIS Alleles** command checks the alleles at each locus against CODIS formatting rules. It highlights in pink any sample's locus that contains alleles not accepted by CODIS.



	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
01_Identifiler_Kit_Standard 10-10-04-01_	10, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19	X, ola, ola, ola, Y	6, 6, ola, ola, 9, ola, 11, ola, ola, ola, ola, ola, ola	ola, ola, 16, ola, 16.2, ola, ola, ola, ola,
Mixture_M_F_0_Neat 10-10-04-Mix	10, 11, 12	12, 12	20, 25, 26	12, 16	17, 19	8, 8	14, 18	X, X	7, 12	ola, 19, 20, ola, ola, ola, ola, 48.2
Mixture_M_F_1_1 10-10-04-Mix	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24
Mixture_M_F_1_10 10-10-04.2-Mix	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 16	17, 18, 19	8, 8	14, 18	X, Y	10, 11, 12	19, 20, 24, ola
Mixture_M_F_1_100 10-10-04.2-Mix	10, 11, 12	12, 12	20, 25, 26	12, 15, 16	17, 19	8, 8	14, 18	X, X	12, 12	19, 20, ola, 23, 24, ola
Mixture_M_F_1_4 10-10-04-Mix	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24
Mixture_M_F_10_1 10-10-04.2-Mix	10, 11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24
Mixture_M_F_100_1 10-10-04.2-Mix	10, 11, 12	11, 12	17, 18, 20	12, 14.2, 15, 16	18, 19	8, 8	14, 18	X, Y	10, 11, 12	19, 24
Mixture_M_F_4_1 10-10-04-Mix	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y	11, 12	19, 20, 24, 27.2, ola, ola, 44.2, ola
[illegible]	[illegible], 11	11, 12	17, 18	14.2, 15	18, 19	8, 8	14, 14	X, Y	11, 12	24, 24

FIGURE 5.9 CODIS Alleles Result Example

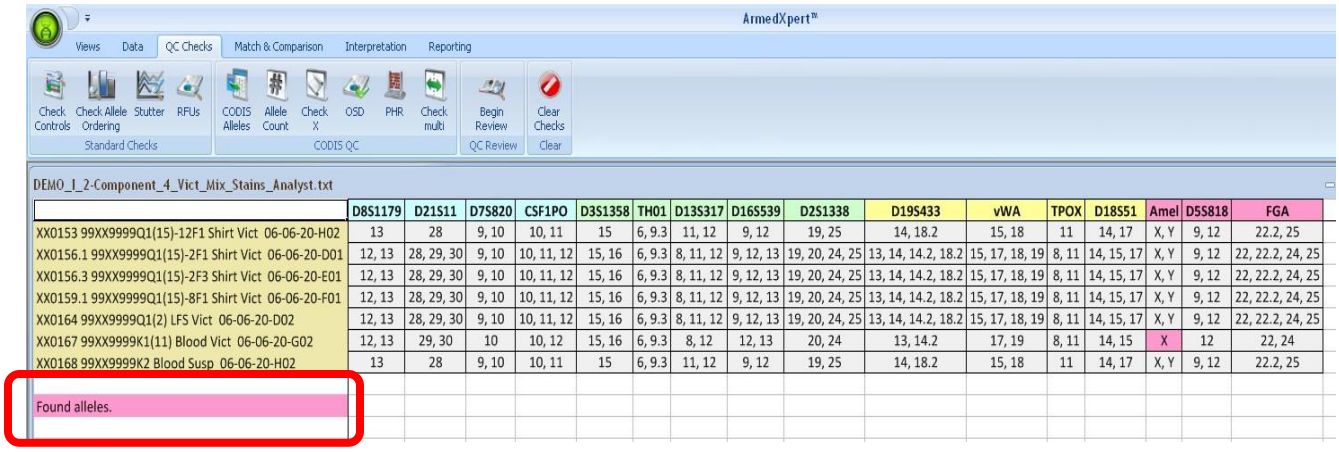
The **Allele Count** command highlights in pink any sample's locus that contains a number of alleles above the user defined amount. An Allele Count window appears after clicking on the Allele Count command. Enter the maximum number of alleles that is accepted and click "Ok".

FIGURE 5.10 Allele Count Window

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X, X	12, 12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 17	X, Y	9, 12	22.2, 25

FIGURE 5.11 Allele Count Result Example

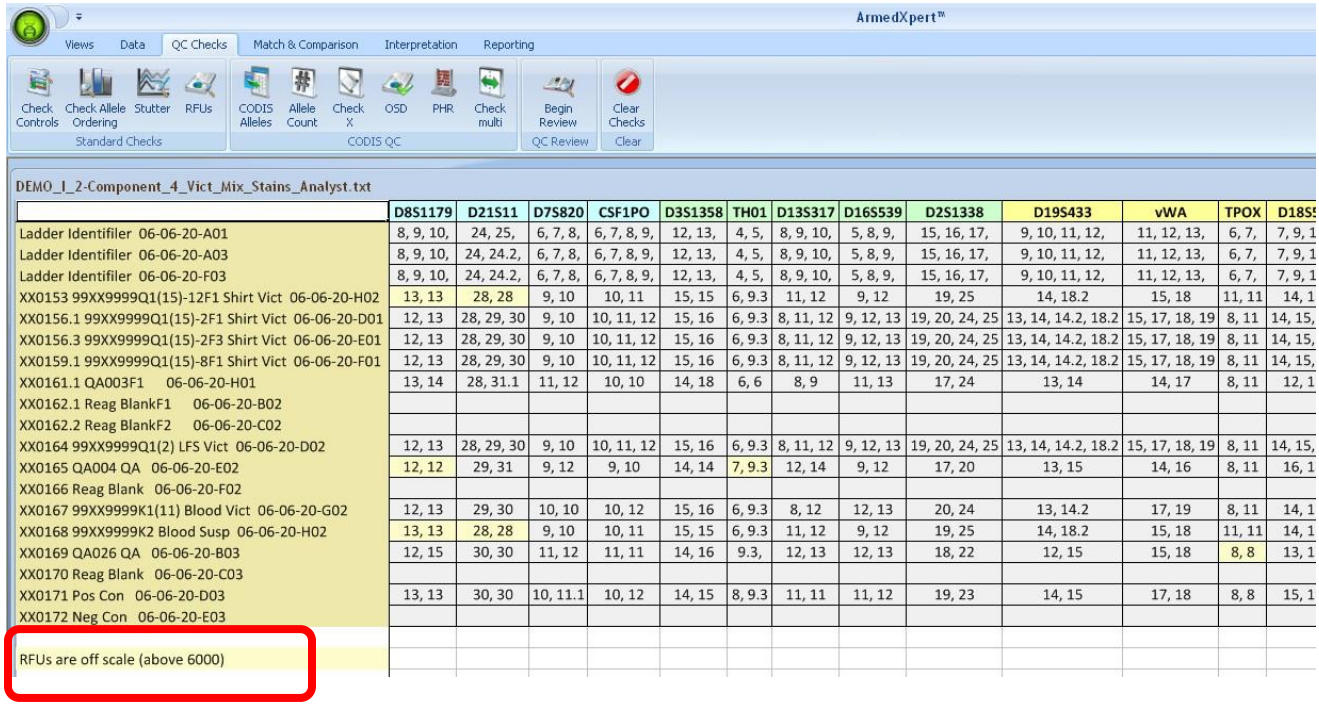
The **Check X** command checks for samples that only have a single X displayed at amelogenin. It will highlight in pink a Sample's Locus that contains a single X.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13	28	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25

FIGURE 5.12 Check X Result Example

The **OSD** (off scale data) command evaluates the RFU's for off scale values. The OSDs settings are set up under the Quality Control Section in ArmedXpert Options Menu. It highlights in yellow any sample's locus that contains RFUs that are off scale.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S
Ladder Identifiler 06-06-20-A01	8, 9, 10,	24, 25,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 1
Ladder Identifiler 06-06-20-A03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 1
Ladder Identifiler 06-06-20-F03	8, 9, 10,	24, 24.2,	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 1
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 1
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0161.1 QA003F1 06-06-20-H01	13, 14	28, 31.1	11, 12	10, 10	14, 18	6, 6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12, 1
XX0162.1 Reag BlankF1 06-06-20-B02													
XX0162.2 Reag BlankF2 06-06-20-C02													
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15,
XX0165 QA004 QA 06-06-20-E02	12, 12	29, 31	9, 12	9, 10	14, 14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 1
XX0166 Reag Blank 06-06-20-F02													
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 1
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11, 11	14, 1
XX0169 QA026 QA 06-06-20-B03	12, 15	30, 30	11, 12	11, 11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8, 8	13, 1
XX0170 Reag Blank 06-06-20-C03													
XX0171 Pos Con 06-06-20-D03	13, 13	30, 30	10, 11.1	10, 12	14, 15	8, 9.3	11, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 1
XX0172 Neg Con 06-06-20-E03													

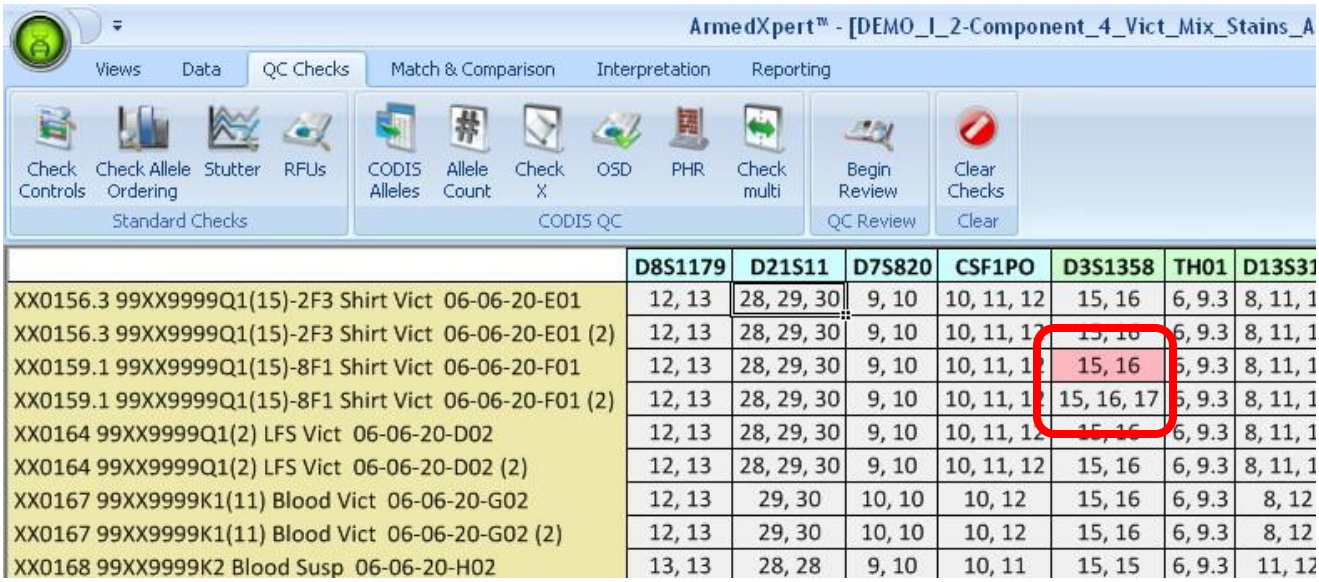
FIGURE 5.13 OSD Result Example

The **PHR** command evaluates peak height ratios to see that they meet the threshold. The PHR settings are set up under the Quality Control Section in ArmedXpert Options Menu. Any sample's locus that has a PHR imbalance is highlighted pink. Any sample's locus that is not valid for this check is highlighted dark grey.

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel
01_Identifiler_Kit_Standard 10-10-04-01_	13, 13	30, 30	10, 11	10, 12	14, 15	8, 9.3	10, 11	11, 12	19, 23	14, 15	17, 18	8, 8	15, 19	X, ola, ola, ola, Y
Mixture_M_F_0_Neat 10-10-04-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_1 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_10 10-10-04.2-Mix	10, 11, 13, 14	29, 30	8, 12	9, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 25, 26	12, 14.2, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_1_100 10-10-04.2-Mix	10, 13, 14	29, 30	8, 12	11, 12	17, 17	8, 9, 9.3	10, 11, 12	12, 12	20, 25, 26	12, 15, 16	17, 19	8, 8	14, 18	X, X
Mixture_M_F_1_4 10-10-04-Mix	10, 11, 13, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_10_1 10-10-04.2-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11, 12	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_100_1 10-10-04.2-Mix	10, 11, 14	29, 30	9, 10	9, 10, 11	16, 17	8, 9, 9.3	10, 11, 12	11, 12	17, 18, 20	12, 14.2, 15, 16	18, 19	8, 8	14, 18	X, Y
Mixture_M_F_4_1 10-10-04-Mix	10, 11, 14	29, 30	8, 9, 10, 12	9, 10, 11	16, 17	8, 9, 9.3	11, 12	11, 12	17, 18, 20, 26	12, 14.2, 15, 16	17, 18, 19	8, 8	14, 18	X, Y
Mixture_M_F_Neat_0 10-10-04-Mix	11, 14	29, 29	9, 10	9, 10	16, 16	8, 9	11, 11	11, 12	17, 18	14.2, 15	18, 19	8, 8	14, 14	X, Y

FIGURE 5.14 PHR Result Example

The **Check Multi** command checks samples with identical names and confirms that they are identical at each Locus. Any Locus that is not identical is highlighted pink. For example, in Figure 5.15 below at D3S1358, alleles 15,16 are showing for XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01 Sample, but alleles 15,16,17 are showing for the identical sample right below it.



	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S31
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01 (2)	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01 (2)	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16, 17	6, 9.3	8, 11, 1
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02 (2)	12, 13	28, 29, 30	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 1
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02 (2)	12, 13	29, 30	10, 10	10, 12	15, 16	6, 9.3	8, 12
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	13, 13	28, 28	9, 10	10, 11	15, 15	6, 9.3	11, 12

FIGURE 5.15 Check Multi Result Example

QC Review

The QC Review section only has one command. It is **Begin Review**. This command gives you detailed information of all the highlighted results shown during each of the checks. It explains why the locus was highlighted.

FIGURE 5.16 QC Review Section

After performing a check, click on the Begin Review command. This must be done before you click on the "Clear Checks" command. To move to the next or previous highlighted Sample's Locus, there are three different ways. You can click on the Prev or Next buttons, you can type a number directly in the number box to go directly to a certain number, or click the up and down arrow buttons next to the number box.

FIGURE 5.17 QC Review Moving Tools

Move to each highlighted result to obtain information about it. Each highlighted result is at a specific sample's locus, which will be outlined on the sample table when reviewing the result. Some of results have fixes that can be done, such as remove an allele during the stutter check review as shown below in Figure 5.18. Click on any fix that you would like to have done. Once you are finished with QC review window, click on the "Done" button.

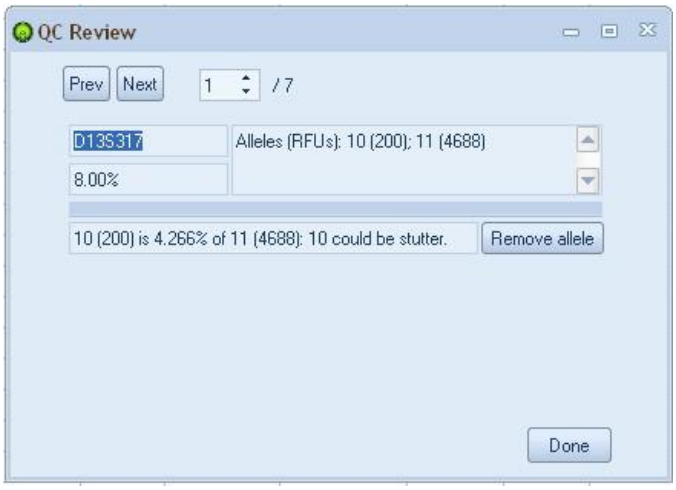


FIGURE 5.18 Example of QC Review Window for the Stutter Check

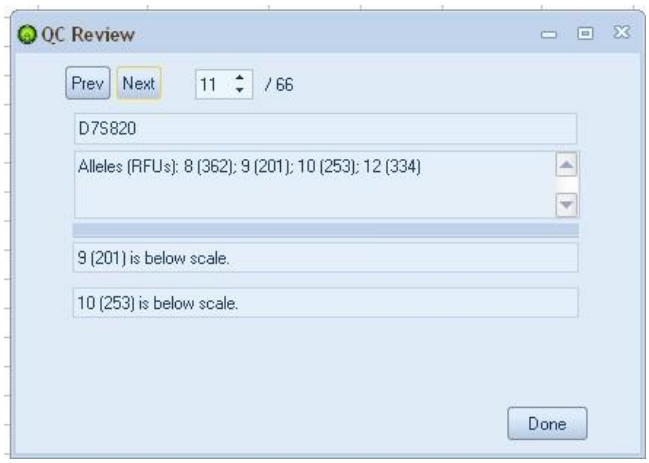


FIGURE 5.19 Example of QC Review Window for the RFU Check.

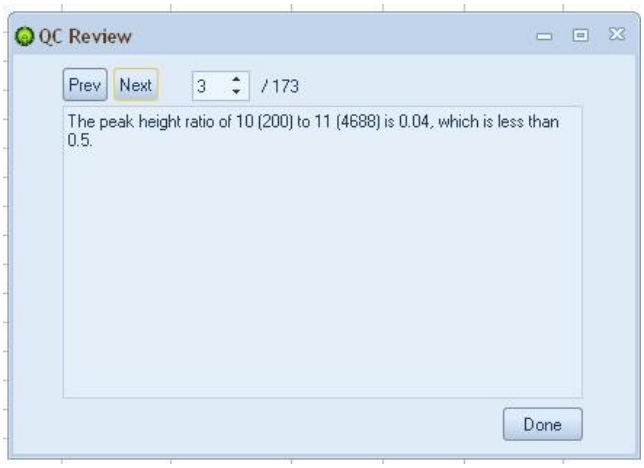


FIGURE 5.20 Example of QC Review Window for the PHR Check.

Chapter 6

Tab Four – Match & Comparison

The Match & Comparison tab is used to perform a match of a reference sample to other samples on your sample table or to compare one table to another table. There are two sections: **Samples** and **Sources**.

FIGURE 6.1 March & Comparison Tab

Samples

The **Samples** section is used to compare a reference sample to other samples on a sample table. To start matching, you must first set a reference or references. You can set any sample or samples as reference(s). Click on the Set Reference button. The select/pick via mouse window will appear as seen below in figure 6.2. The pick via mouse option will allow you to select the sample using your mouse. Clicking the ▼arrow will provide a drop down list of all available samples from which you can select the appropriate sample. To select more than one sample as references, click on the Pick via mouse button and press the Ctrl button on your keyboard. Then select samples with your mouse while keeping the Ctrl button pressed.

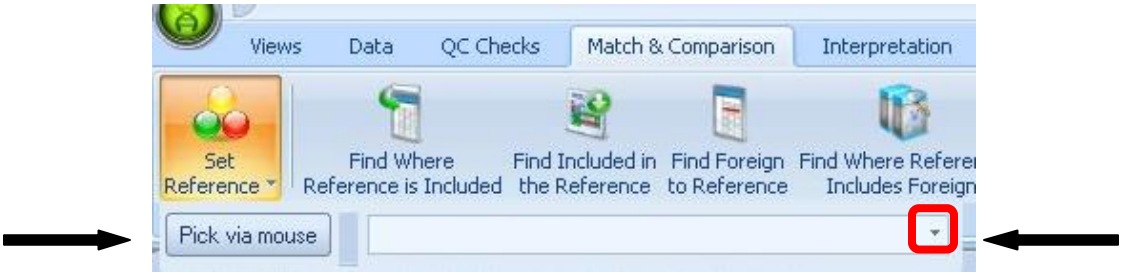


FIGURE 6.2 Set Reference Button

Once you are finished selecting your reference(s), click on the sample table that you would like to match and compare. This does not have to be the same sample table as the selected reference(s). Then, click on one the four compare buttons; **Find Where Reference is Included**, **Find Included in the Reference**, **Find Foreign to Reference**, or **Find Where References Includes Foreign**. To clear the match from the page, click Clear Match button. This also clears the reference from the page.

All matches are highlighted in a different color based on type of match. There is a key on the bottom of the page. In addition, shown highlighted in blue on the bottom of the page is the selected reference unless the "List match & compare reference at top" is selected as an option. If selected, the reference(s) is displayed at the top of the page instead of the bottom. To the right of the samples are total columns. These columns give a total number of each type of matches. You can also do automatic sorts for these columns, by enabling the correct default sort. These options are selected by going to the ArmedXpert options menu as explained in Chapter 2.

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25

FIGURE 6.3 Reference displayed at the top of the page option

Note: There are two additional quick ways to choose your reference. You can also click on the appropriate sample that you want to set as a reference and press the F1 key. This will automatically highlight the sample you are on and start the "Find Where Reference is Included" comparison. You can also just select with your mouse the sample(s) that you would like to set as the reference, then click one of the compare buttons. These two only work if the reference is on the same sample table as the one that you want to match and compare to.

Find Where Reference is Included is used to find loci that include the reference. All loci that contain an exact match to the reference are highlighted orange. All loci that contain the reference and additional allele(s) are highlighted yellow.

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	14	1	13	0
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	14	1	13	0
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	14	1	13	0
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	4	1	3	0
XX0162.1 Reag BlankF1 06-06-20-B02														22				
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	16	4	12	0
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	3	2	1	0
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	4	1	3	0
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	2	2	0	0
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	2	1	1	0
XX0172 Neg Con 06-06-20-E03												X						
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
Exact match																		
Included																		

FIGURE 6.4 Find Where Reference is Included Example

Find Included in the Reference is used to find loci that are included in the reference. All loci that contain an exact match to the reference are highlighted orange. All loci that contain the part of the reference and no other allele(s) are highlighted yellow.

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl.
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	1	1	0	0
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	1	1	0	0
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	1	1	0	0
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	3	1	2	0
XX0162.1 Reag BlankF1 06-06-20-B02														22				
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	4	4	0	0
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	2	2	0	0
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	4	1	3	0
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25	16	16	0	0
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	3	2	1	0
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	2	1	1	0
XX0172 Neg Con 06-06-20-E03												X			1	0	1	0
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				

Exact match

Included

FIGURE 6.5 Find Included in the Reference Example

Find Foreign to Reference is used to find loci that contain allele(s) that do not match the reference. All loci that contain allele(s) that do match the reference are highlighted red.

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl.
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	15
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	15
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	15
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	0	0	0	13
XX0162.1 Reag BlankF1 06-06-20-B02														22	0	0	0	1
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25	0	0	0	12
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	0	0	0	14
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	0	0	0	12
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	0	0	0	13
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.3	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	0	0	0	13
XX0172 Neg Con 06-06-20-E03												X						
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				

Not Included

FIGURE 6.6 Find Foreign to Reference Example

Find Foreign to Reference is used to find loci that do not contain the reference. All loci that do not contain the reference are highlighted red.

DEMO_1_2-Component_4_Vict_Mix_Stains_Analyst.txt

	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA	Ex.+Incl.	Ex.	Incl.	Not Incl
Ladder Identifiler 06-06-20-A01	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	2
Ladder Identifiler 06-06-20-A03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	2
Ladder Identifiler 06-06-20-F03	6, 7, 8,	6, 7, 8, 9,	12, 13,	4, 5,	8, 9, 10,	5, 8, 9,	15, 16, 17,	9, 10, 11, 12,	11, 12, 13,	6, 7,	7, 9, 10,	X, Y	7, 8, 9,	17, 18, 19, 20,	0	0	0	2
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25				
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25				
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25				
XX0161.1 QA003F1 06-06-20-H01	11, 12	10	14, 18	6	8, 9	11, 13	17, 24	13, 14	14, 17	8, 11	12	X, Y	12, 13	22, 26	0	0	0	12
XX0162.1 Reag BlankF1 06-06-20-B02														22	0	0	0	1
XX0162.2 Reag BlankF2 06-06-20-C02																		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	9, 10	10, 11, 12	15, 16	6, 9.3	8, 11, 12	9, 12, 13	19, 20, 24, 25	13, 14, 14.2, 18.2	15, 17, 18, 19	8, 11	14, 15, 17	X, Y	9, 12	22, 22.2, 24, 25				
XX0165 QA004 QA 06-06-20-E02	9, 12	9, 10	14	7, 9.3	12, 14	9, 12	17, 20	13, 15	14, 16	8, 11	16, 18	X, Y	11, 13	19, 23	0	0	0	13
XX0166 Reag Blank 06-06-20-F02																		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	10	10, 12	15, 16	6, 9.3	8, 12	12, 13	20, 24	13, 14.2	17, 19	8, 11	14, 15	X	12	22, 24	0	0	0	12
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
XX0169 QA026 QA 06-06-20-B03	11, 12	11	14, 16	9.3,	12, 13	12, 13	18, 22	12, 15	15, 18	8	13	X, Y	11	20	0	0	0	14
XX0170 Reag Blank 06-06-20-C03																		
XX0171 Pos Con 06-06-20-D03	10, 11.1	10, 12	14, 15	8, 9.1	11	11, 12	19, 23	14, 15	17, 18	8	15, 19		11	23, 24	0	0	0	13
XX0172 Neg Con 06-06-20-E03												X			0	0	0	1
XX0168 99XX9999K2 Blood Susp 06-06-20-H02 [1 Refere	9, 10	10, 11	15	6, 9.3	11, 12	9, 12	19, 25	14, 18.2	15, 18	11	14, 17	X, Y	9, 12	22.2, 25				
Not included																		

FIGURE 6.7 Find Where Reference Includes Foreign Example

Sources

The **Sources** section allows you to compare one table with another. Select the table using the ▼arrow keys next to A: box and another table using the ▼arrow keys next to the B: box. Once tables are selected, click the **Compare Tables** button. The two tables will be compared and a screen will appear as shown in Figure 6.9 below. Any differences will be highlighted red.

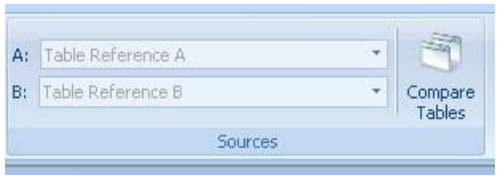


FIGURE 6.8 Sources Section

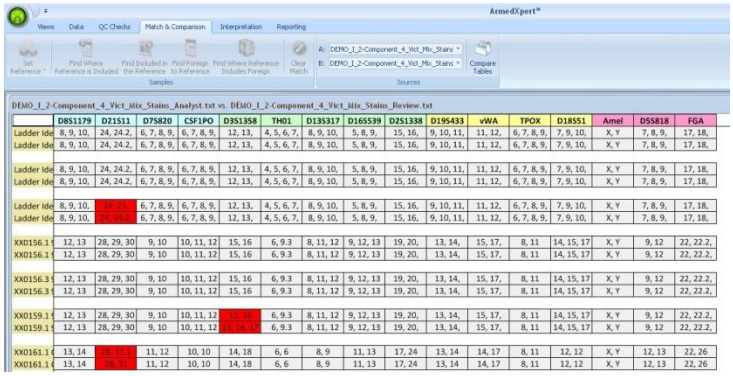


FIGURE 6.9 Example of a Compare Table Report.

Chapter 7

Tab Five – Interpretation

The Interpretation tab is used to perform interpretation of your samples. It has two main sections: **Mixture Interpretations** and **Frequency Calculations**.

FIGURE 7.1 Interpretation Tab

Mixture Interpretation

The **Mixture Interpretation** section is used to interpret mixtures for any selected sample. It gives you the information to aide you in making the appropriate calls. It lists all available combinations at each Locus based on your settings. It keeps track of the proportions for each profile, as well as gives you a graphical visualization of the proportions as you choose each combination. The Mixture Interpretation tool can be used for a 2 or 3 contributor mixture. It allows you to set references and apply stutter when appropriate.

To start using the Mixture Interpretation Tool, click on the **Begin Mixture Interpretation** command. The Mixture Interpretation Window will appear as shown in Figure 7.2 below.

Shortcut: You can also open the Mixture Interpretation window, by holding down the "alt" button and clicking on any of the Loci or the sample name for the sample you wish to interpret. The Mixture Interpretation window for that select sample at that locus will open. If you are on the sample name, the first locus is displayed. This enables you to skip the select sample step below.

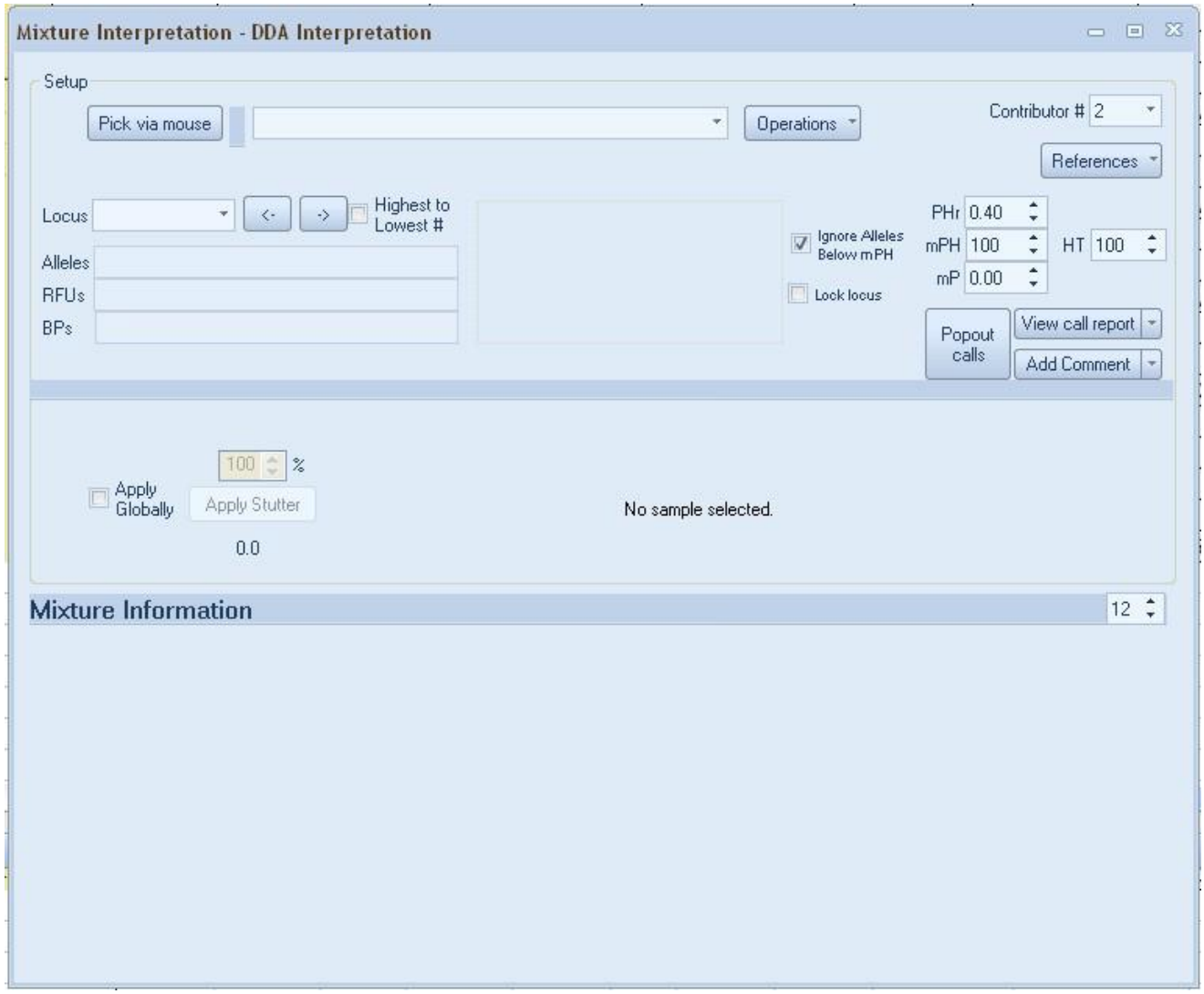


FIGURE 7.2 Mixture Interpretation Window

Select Sample: To perform mixture interpretations you must first select the sample you would like to interpret. The pick via mouse option will allow you to select the sample using your mouse. Clicking the ▼arrow will provide a drop down list of all available samples from which you can select the appropriate sample.

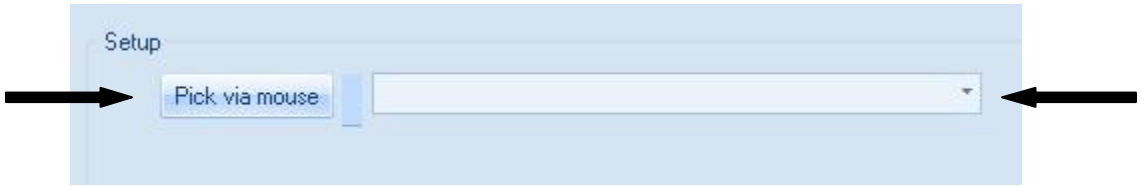


FIGURE 7.3 Select/Pick via mouse section.

Once the sample is selected, the information will fill into the Mixture Interpretation Window. The selected sample and current Locus will be highlighted on the sample table page. If you prefer for the selected sample to not be highlighted uncheck the box next to Highlight in Mixture Interpretation Section as shown below in figure 7.4.

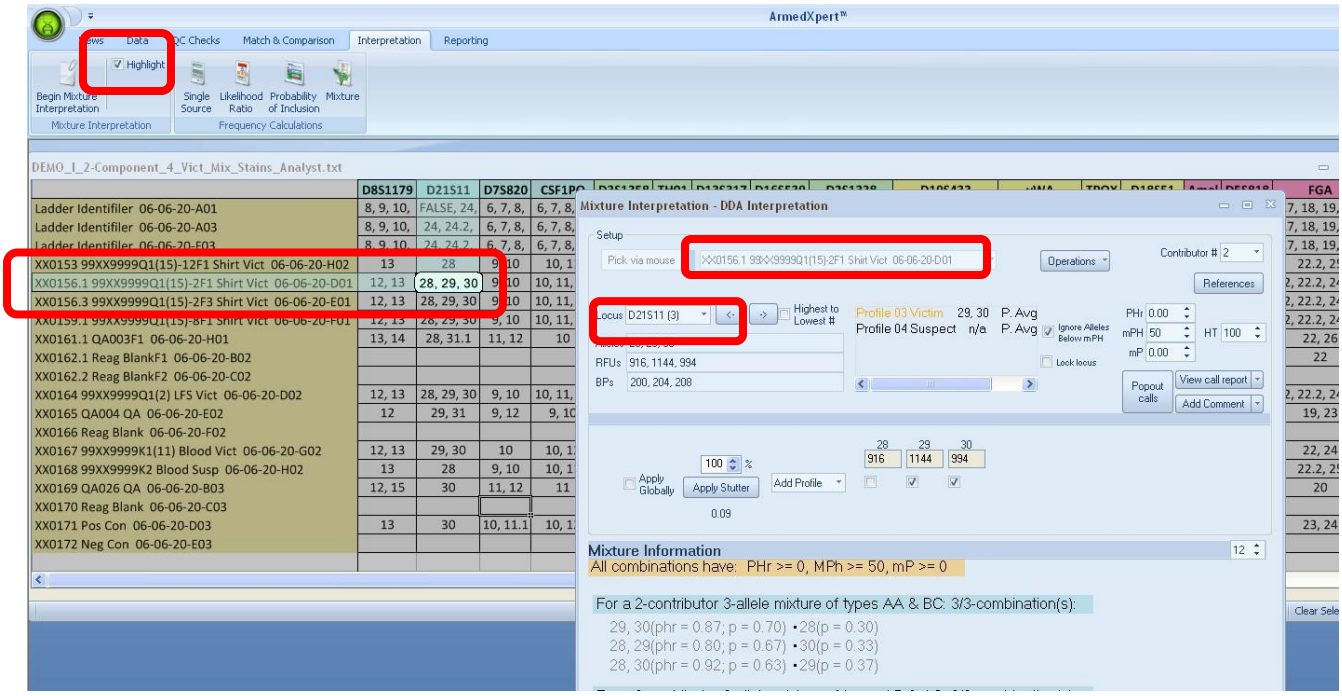


FIGURE 7.4 Example of screen once sample is selected.

Note: You can click on the highlighted cell and detailed information about that Locus displays. Click on the detailed information to make it disappear. For Example in Figure 7.4 above, D21S11 is highlighted. By clicking on the highlighted cell, the details for D21S11 for the selected sample appear as shown below in Figure 7.5.

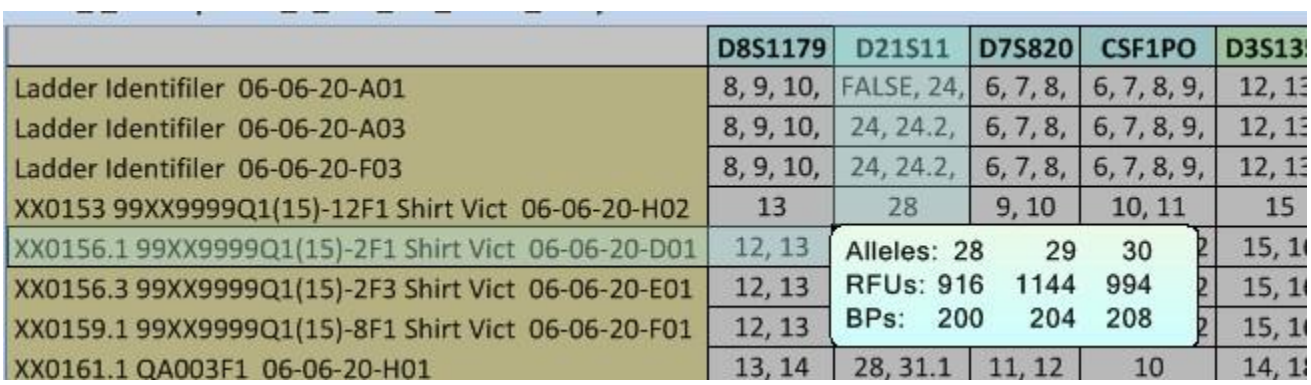


FIGURE 7.5 Detailed information displayed for highlighted Locus.

Select number of Contributors: Select the number of contributors using the Contributor selection box in the upper right corner. The default number of contributor is 2. Click on the ▼arrow to change the number.

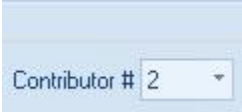


FIGURE 7.6 Number of contributors section.

Apply Reference(s) (optional): Next select any available references as permitted by your individual lab's mixture interpretation protocol. Click on the Reference button under the Contributor selection box and the References Selection box will appear. Click the ▼arrow in box 1. A drop down list of all your available samples will appear. Click the one you would like to set as Reference 1. Once you select a reference the button next to the reference will change from Apply Reference to Remove Reference. If you would like to remove a reference, click on the Remove Reference button. To set more than one reference, proceed to Box 2, etc. and repeat the steps above to apply reference.

FIGURE 7.7 Reference Selection Box.

All selected references will be highlighted blue on the sample table. The reference(s) will also be indicated as such, i.e. Ref 1, Ref 2 in the Mixture Interpretation area of the Mixture Interpretation Window. **NOTE: Only combinations including the references will be shown in the Mixture information area**.

Click on the **Auto-call references** button to automatically fill in the Reference 1 as Profile 1 and Reference 2 as Profile 2. This feature will allow you to only have to select a call for the unreferenced profile(s). **Note: The Auto-call Reference feature is only auto populating the profile with the chosen reference. It is not taking into account any calculations or making any kind of interpretation.**

The List Foreign option will list all alleles that are foreign to the reference on the View Call Report. Click on this to enable it, before you click on "Auto-call references" button.

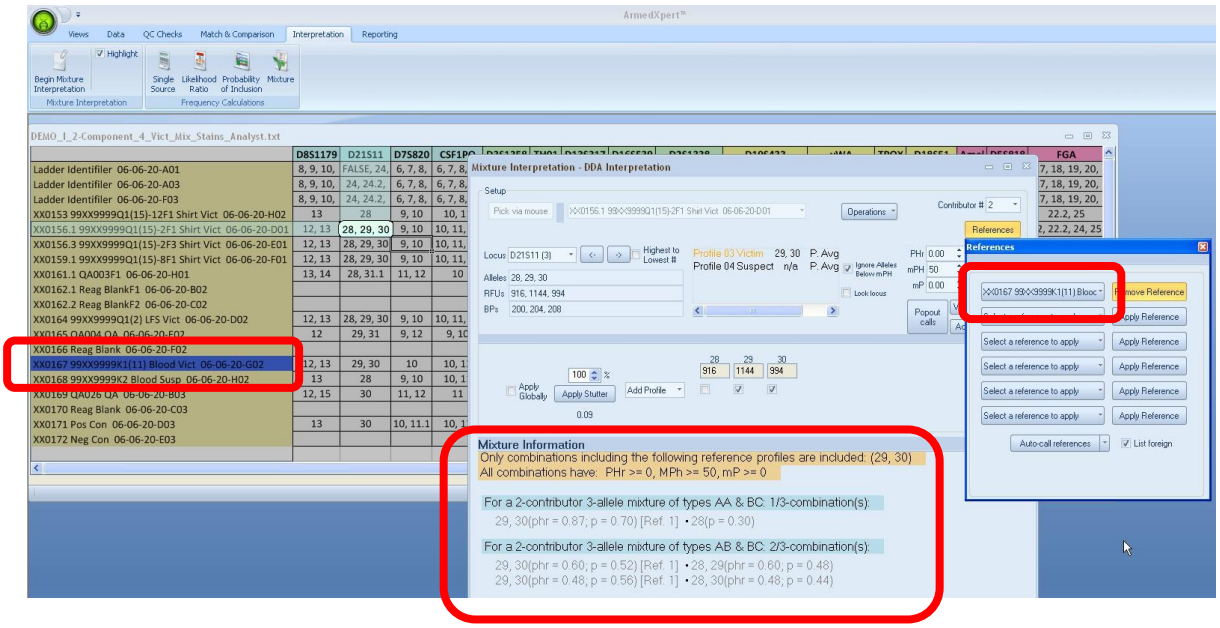


FIGURE 7.8 Reference Selection Box with Reference Selected.

Settings: The Peak Height Ratio (PHr), Minimum Peak Height (mPH), Minimum Proportion (mP), Homozygote threshold (HT), and Stutter % are defaulted from the Mixture Interpretation Settings discussed in Chapter 2. You can change these values on the arrows next to each box to appropriate value in accordance with your individual lab validated thresholds. The changed value will remain active as long as the Mixture Interpretation Window stays open or you manually change it to another value. The default values set in your Mixture Interpretation Settings will appear when a new Mixture Interpretation Window is opened. The **Lock locus option**, allows you to lock in the settings for the current locus, allowing settings to be changed without altering the final report.

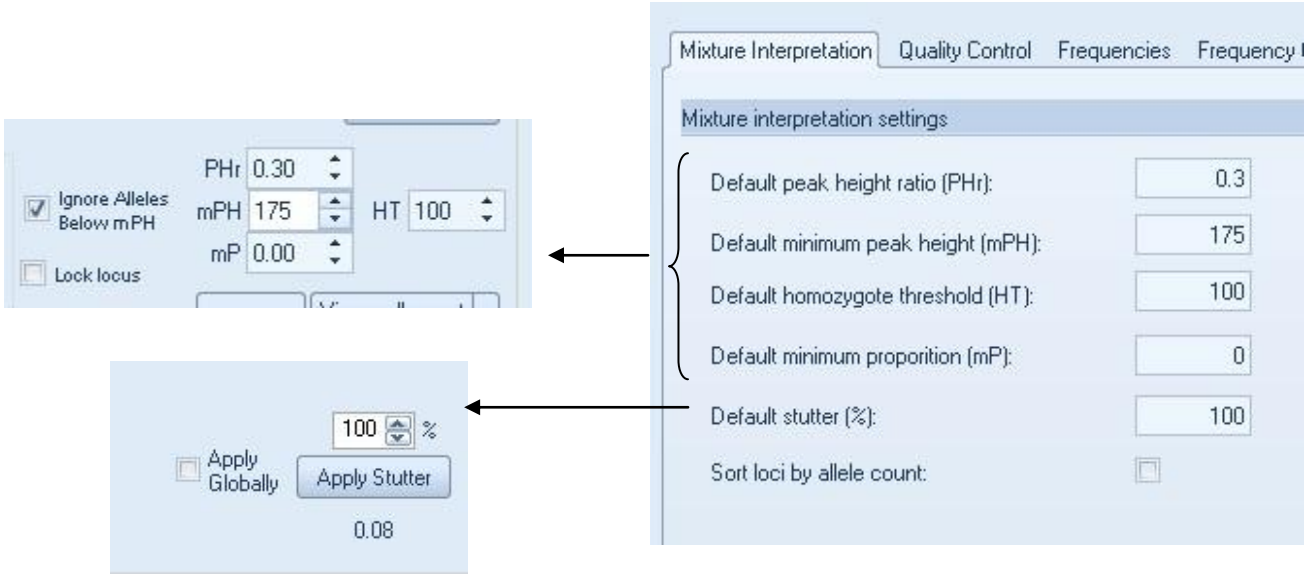


FIGURE 7.9 Mixture Interpretation Settings

The mixture information area will only show combinations that are equal to or greater than the settings and include the reference profiles if applied. The proportions (p) can be displayed as a dilution instead of a percentage. To do this, go to the Mixture Interpretation subsection under the Interpretation section in the ArmedXpert Options Window. Click on the box next to "List proportions as dilutions (1:X)". This can be turned on and off while in the Mixture Interpretation Window.

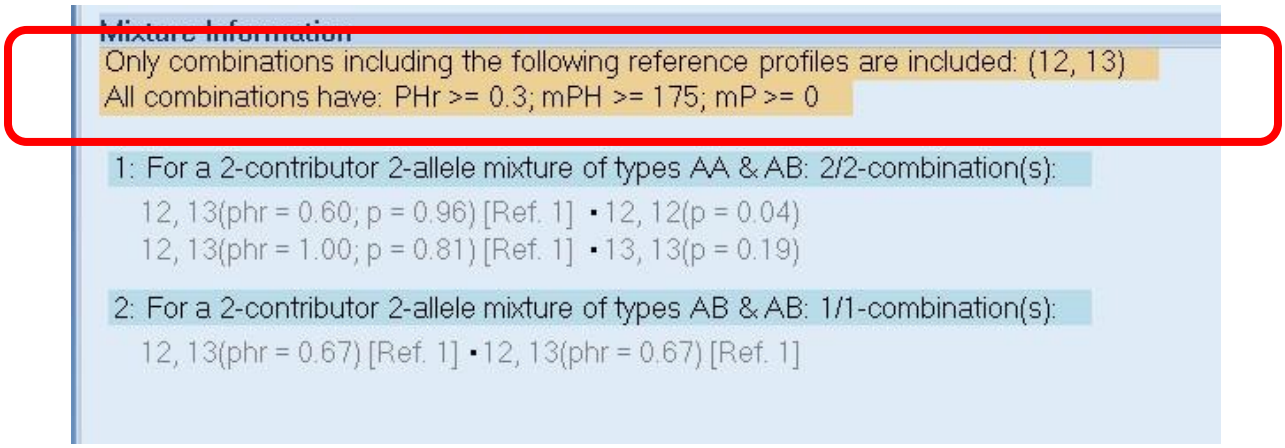


FIGURE 7.10 Mixture Information Section

The mixture interpretation tool also has a feature to removes alleles that are below the mPH setting. If you click the box next to "**Remove Alleles Below mPH**" a check mark will appear in the box. Click on it again to remove the check mark and disable the feature. Once checked, all alleles below the prescribed mPH's will not be considered in the mixture combinations and show as grayed out. As shown in the example below, Allele 16 has a value of 171 which is below the 175 setting for mPH. Allele 16 has been grayed out and all combinations including Allele 16 are excluded from the possible mathematical options shown in the mixture interpretation results.

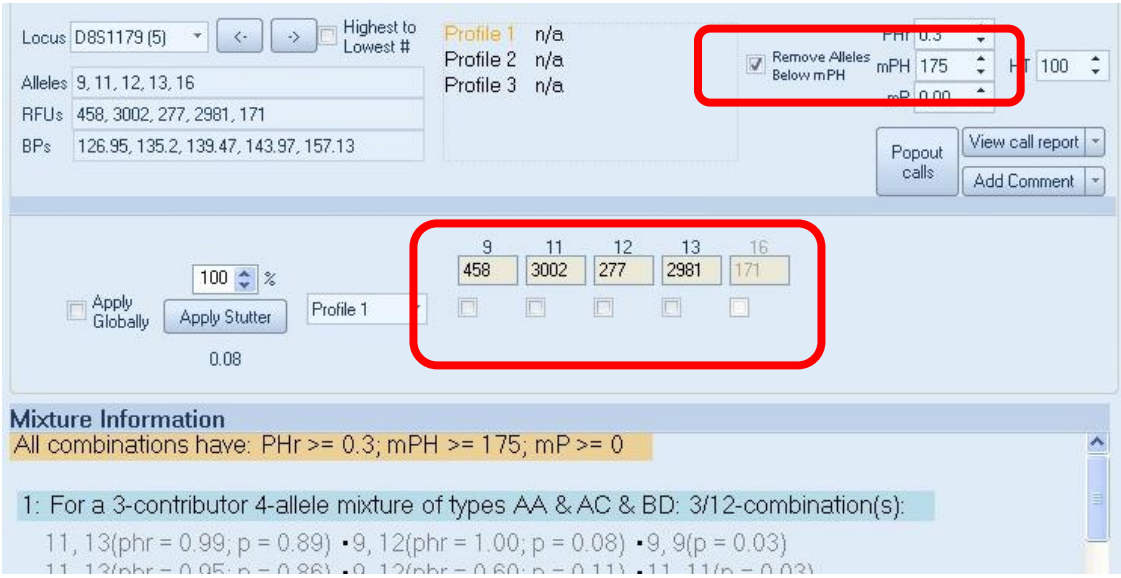


FIGURE 7.11 Remove Alleles Below mPH Feature

Apply Stutter: The Mixture Interpretation tool also includes features to apply stutter. You can either apply stutter to an individual locus or apply it globally to all loci. To apply stutter to just the individual locus, click on the "**Apply Stutter"** button. If you wish to apply stutter to all loci, click on the box next to "**Apply Globally".** As shown In Figures 7.12 and 7.13, the RFU amount under loci 12 was refigured from 1580 to 1392 once stutter was considered and the amount is now highlighted in pink to indicate stutter was applied. This also changed the calculations in the Mixture Information section. If the Apply Globally option is checked, it will apply stutter to all applicable alleles at each Locus.

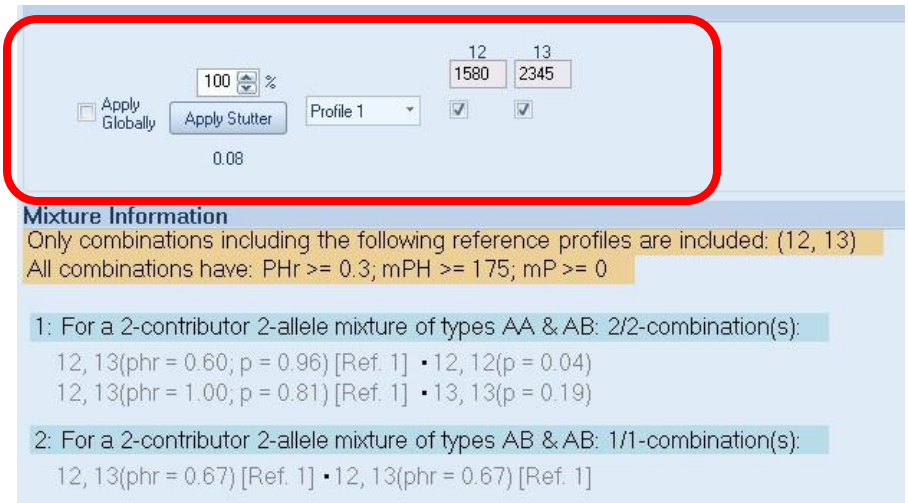


FIGURE 7.12 Mixture Information before stutter applied

As shown below in Figure 7.13, once Stutter has been applied the Apply Stutter button changes to Remove Stutter. Also, in the Mixture Information portion of the window, a note has been made to indicate that the RFU's have been recalculated for stutter. To remove Stutter to a specific locus, click the Remove Stutter button. If you want to turn the Apply Globally feature off, click the box left of it and the check mark will be removed. All Stutter applied to all loci will be removed.

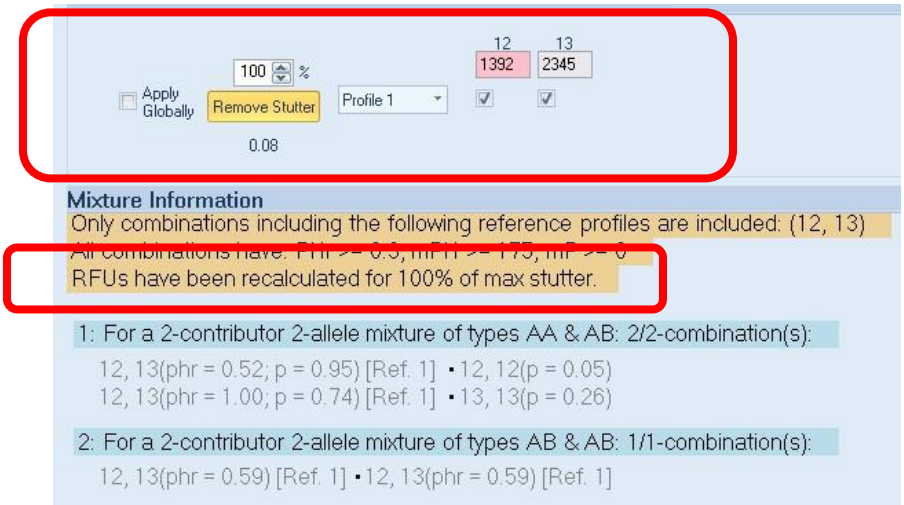


FIGURE 7.13 Mixture Information after stutter applied

Making Calls: The Mixture Interpretation Window has are three different ways to make profile calls.

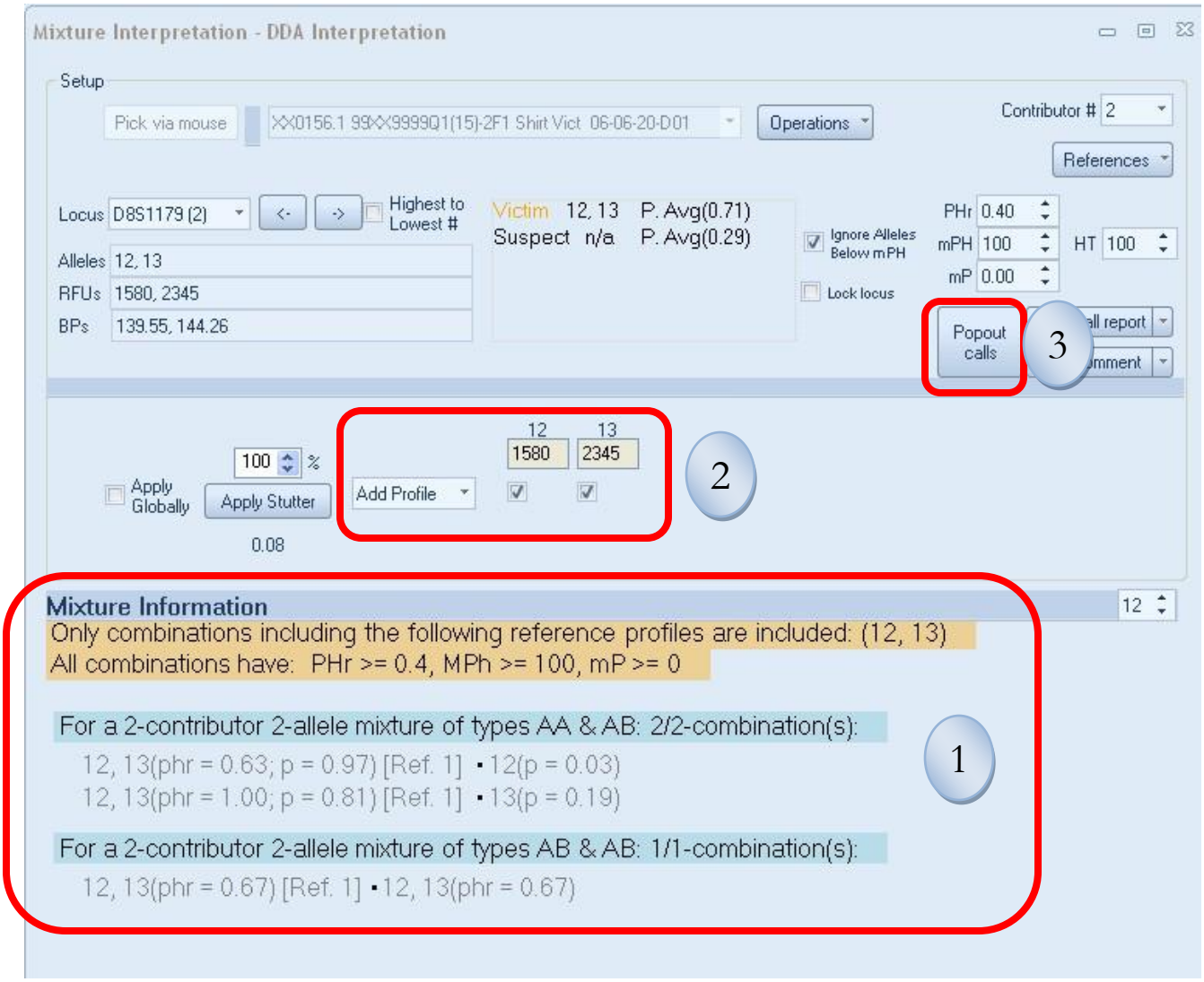


FIGURE 7.14 Three different ways to make calls.

The first way is to right click the combination you would like to call. The Send to Profile 1 and Send to Profile 2 buttons will appear. If you are doing a 3 contributor mixture interpretation, a Send to Profile 3 button will appear also. Right click on the genotype combination in the combination row you would like to call and select the particular profile by clicking the appropriate "Send to Profile 1, 2, or 3" button. Then repeat for the next profile until all profiles have been chosen. Once selected the information will be appear in blue as show in the example below in Figure 7.15, Genotype 12, 13 is applied to Profile 1 (Victim) and Genotype 13, 13 is in process of being applied to Profile 2(Suspect).

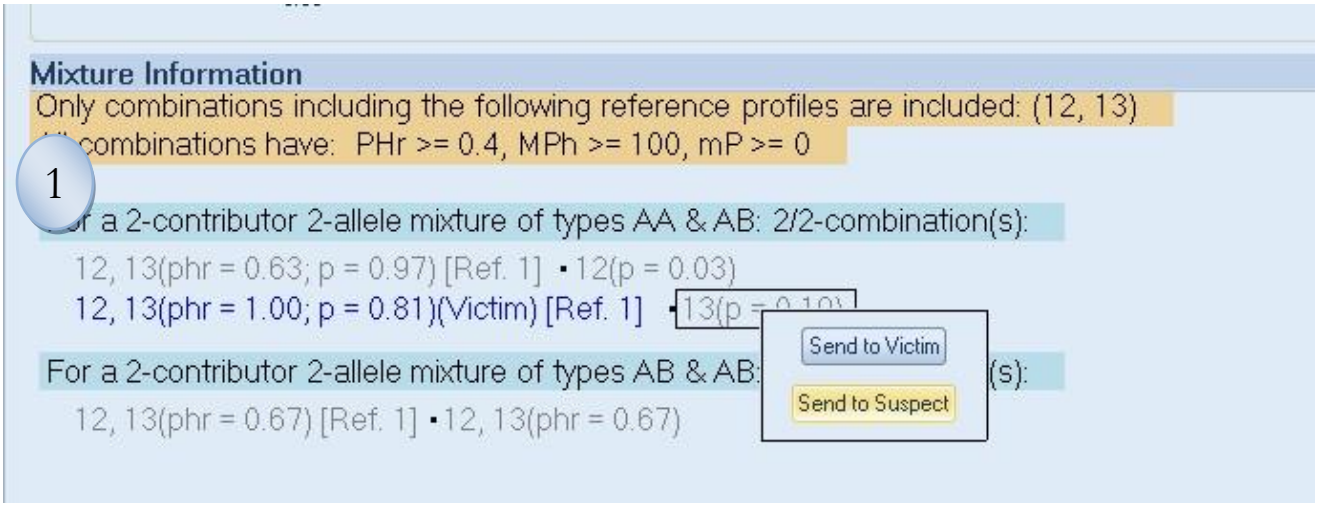


FIGURE 7.15 Calls made from Mixture Information Section.

The second way is to manually select alleles in the middle section of the Mixture Interpretation Window. Click on the Profile you would like to make a call for and then click on the boxes under the allele(s) you would like to select. A check mark will appear in the boxes selected. If you would like to make one of the alleles as an Any or an Obligate, right click on the checkmark box and a drop down list will appear. You can also use this feature to remove or ignore an allele. Select the appropriate option. As shown in Figure 7.17, the word "Any" will appear left of the chosen allele if any is selected and a "0" will appear left of the chosen allele if an obligate is selected.

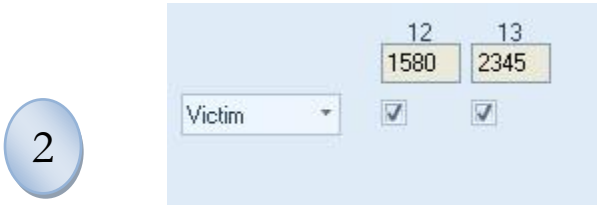


FIGURE 7.16 Calls made from Middle Section.

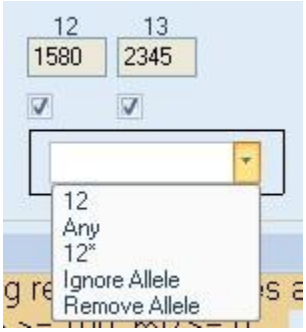


FIGURE 7.17 Calls made from Middle Section.

FIGURE 7.18 Examples of an 12 Any called and a 12 Obligate Called

The final way is to click on the Popout calls button. A window will appear as shown in Figure 7.19 below. You can click on the box under the allele you would like to select for each Profile. A check mark will show on all selected alleles. By reclicking on a box that contains a checkmark, it will be removed. If you would like to call an Any or an Obligate, right click on the box under the appropriate allele and across from the right profile, a drop down list will appear as seen in Figure 7.20 below. You can then click on the appropriate choice. You can also delete an allele using the drop down list.

Once chosen, you can move to a different Locus using the <- or -> arrows next to the Locus to move forward or backward or click on the ▼arrow on the Locus box to move to a specific locus. You can close this window by clicking on the X in the upper right hand corner.

3

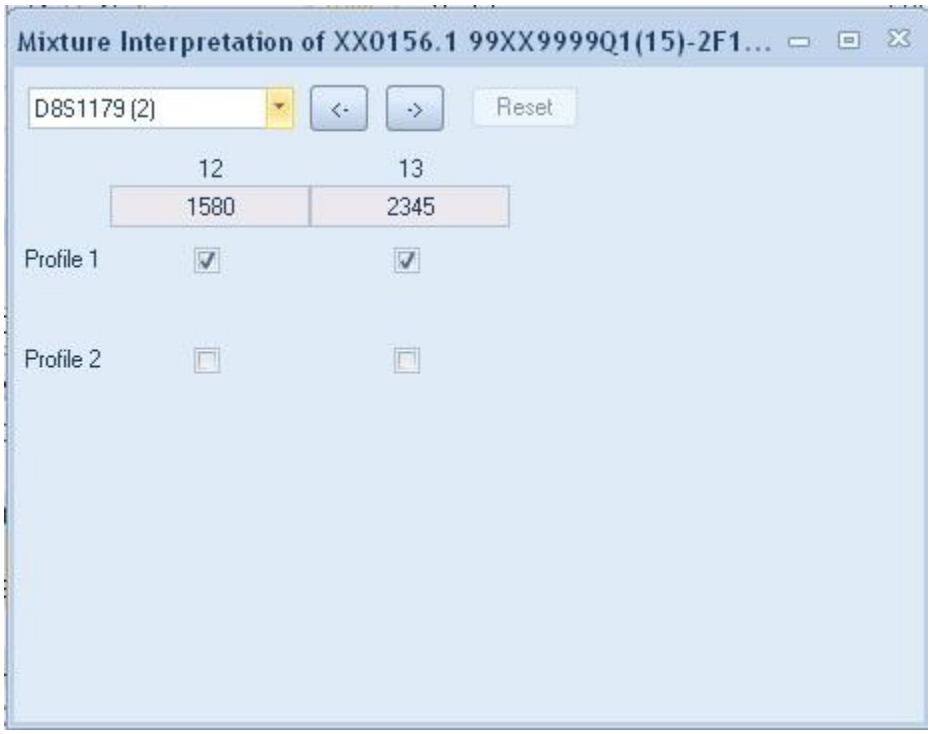


FIGURE 7.19 Calls made from Popout Calls Window.

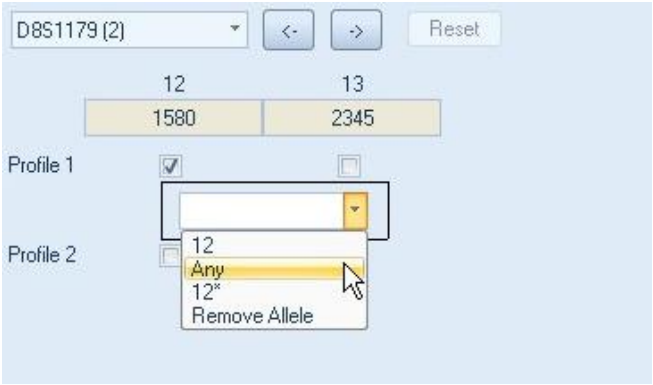


FIGURE 7.20 Choosing Any in the Popout Calls Window.

NOTE: Once you make a call with any of the methods, it will be recorded in all the methods. Therefore, you can change methods throughout the mixture interpretation, without losing any calls already made using one of the other methods For example, once 12, 13 were called for Profile 1, it was highlighted blue in Method One and check marks were recorded marking alleles 12, 13 in Methods 2 and 3.

Navigation: There are a few different ways to navigate to different Locus in the Mixture Interpretation Window. You can use the method explained above in the Popout calls Window. You can click on the ▼arrow next to "Locus Box" for a drop down list of all loci and then individually select the locus. Finally, you can click the <- or -> arrows to move either forward or backward to a different locus.

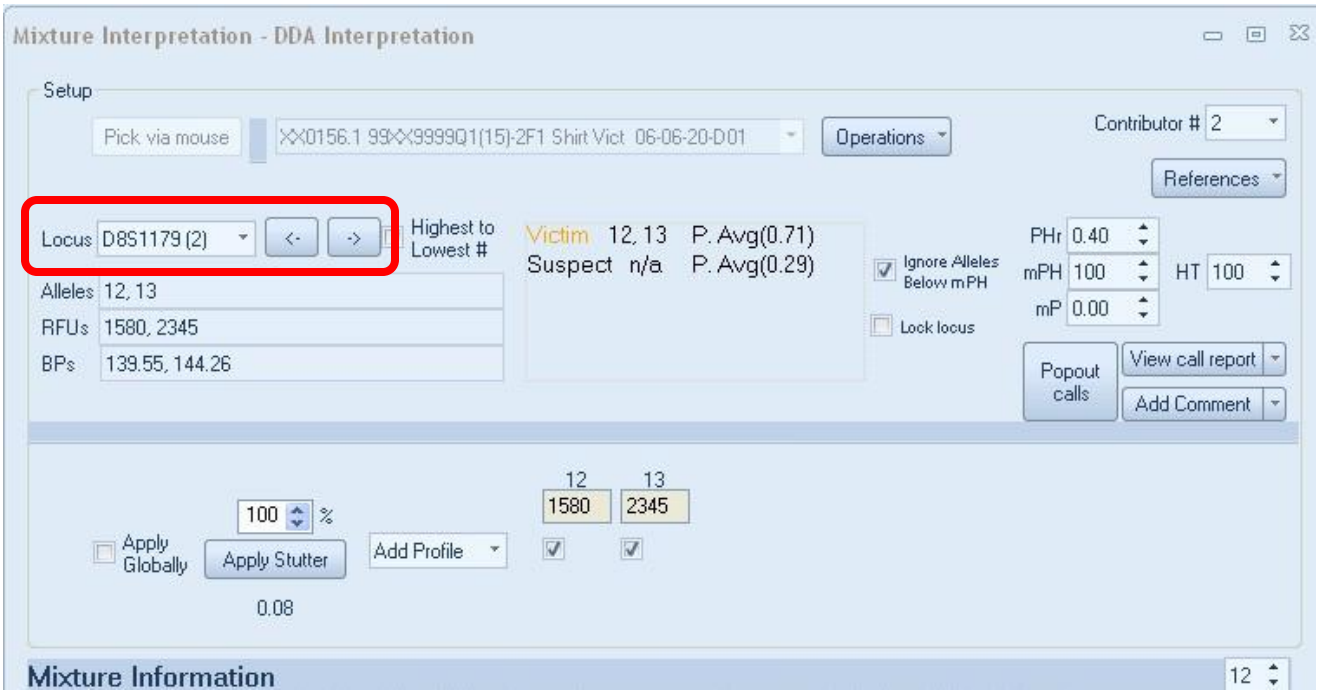


FIGURE 7.21 Moving to a different Locus.

Additional Features: There are four additional features to help you make calls with the Mixture Interpretation Window.

The first is **Highest to Lowest #** option. By clicking on the box next to Highest to Lowest #, the Loci will be arranged for selection from the locus with the most alleles to the ones with the least. **Note: Changes made to the alleles while making your interpretation, like deleting an allele or adding stutter, can change the order of the Loci when using the Highest to Lowest # option.**

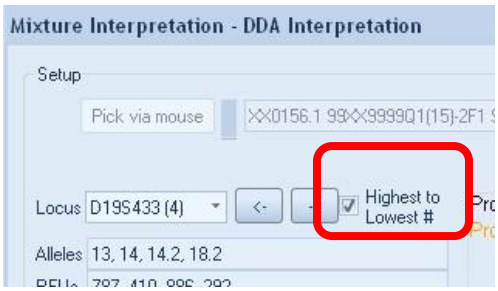


FIGURE 7.22 Highest to Lowest # Feature

To assist with your interpretation you can choose to visualize the proportions of your calls in a graphical format by clicking on the "**View call report**" button. A report will open that will show each Locus for each profile and as you make your calls, the alleles will auto populate the report. A graph showing the proportion of each profile by locus is generated as shown in Figure 7.24 shown below. You can customize how the report appears by clicking the arrow next to "View call report" button. It will bring up a drop down list as shown below in Figure 7.23. **NOTE: The report only shows the Loci that you have completed using the Mixture Interpretation Window. The graph only shows the proportions for the loci that have completed combinations called.**

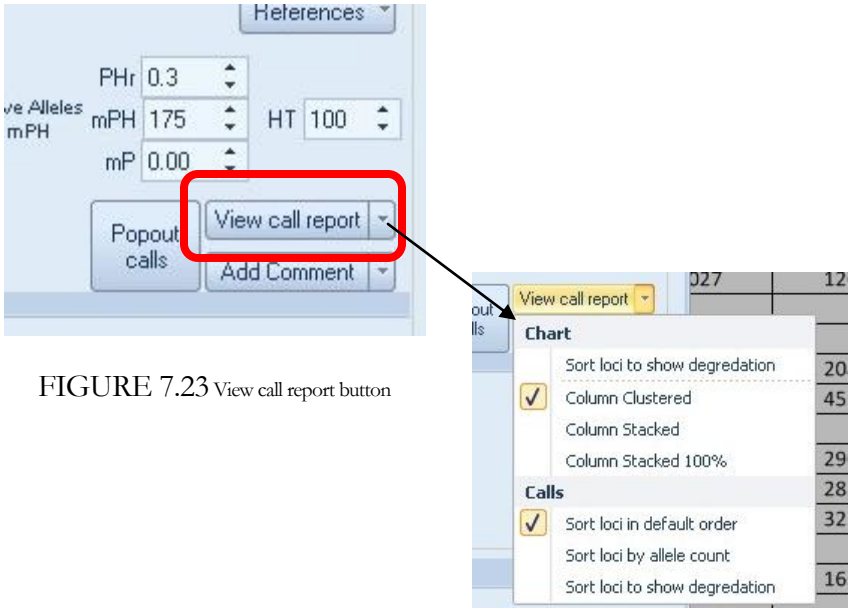


FIGURE 7.23 View call report button

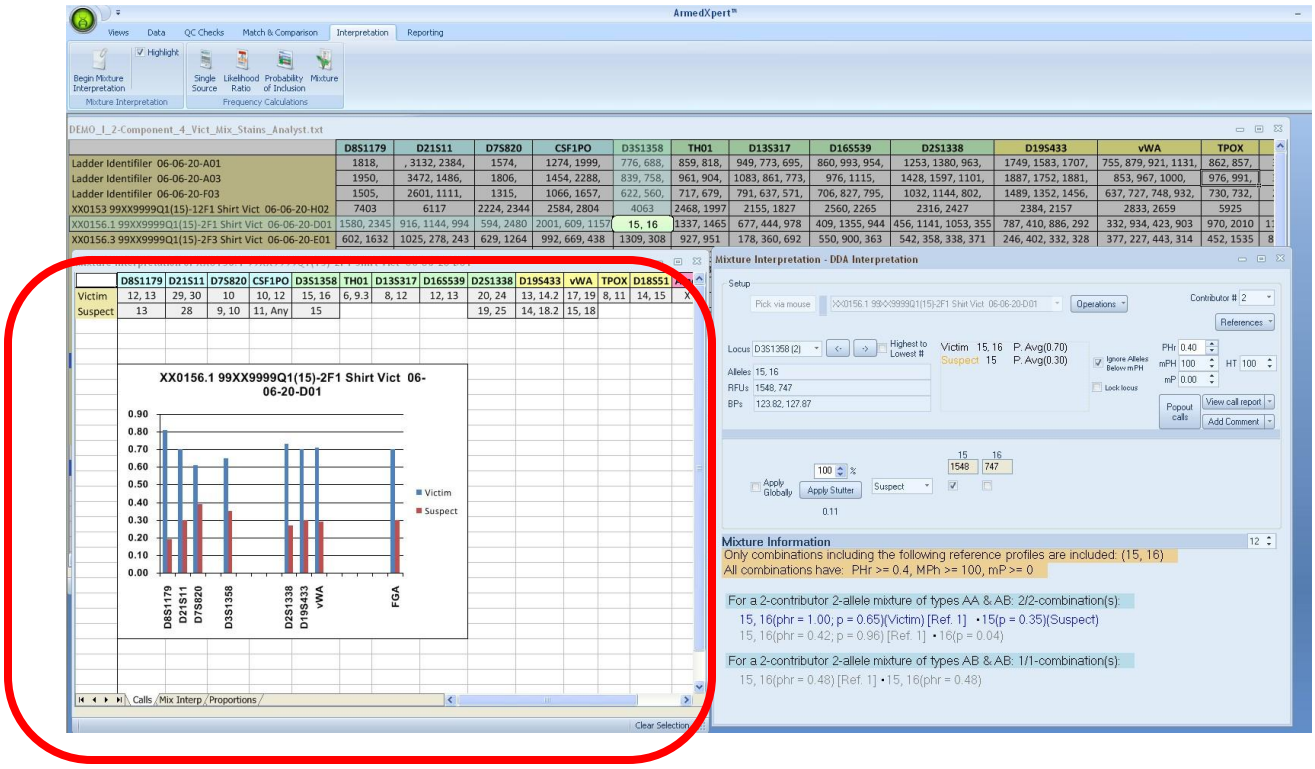


FIGURE 7.24 Call report Example

The Call Report includes additional worksheets to document each of your interpretation parameters and results locus-by-locus. If you click on the Mix_Interp Worksheet tab at the bottom of the report, you will see a Mixture Interpretation Detail Report. **NOTE: The report only shows the Loci that you have went to using the Mixture Interpretation Window.**

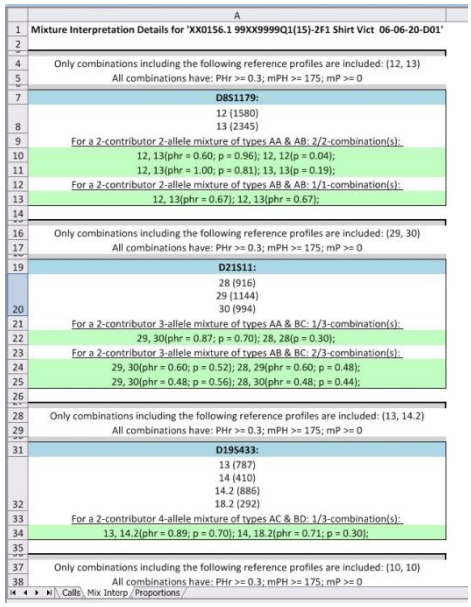
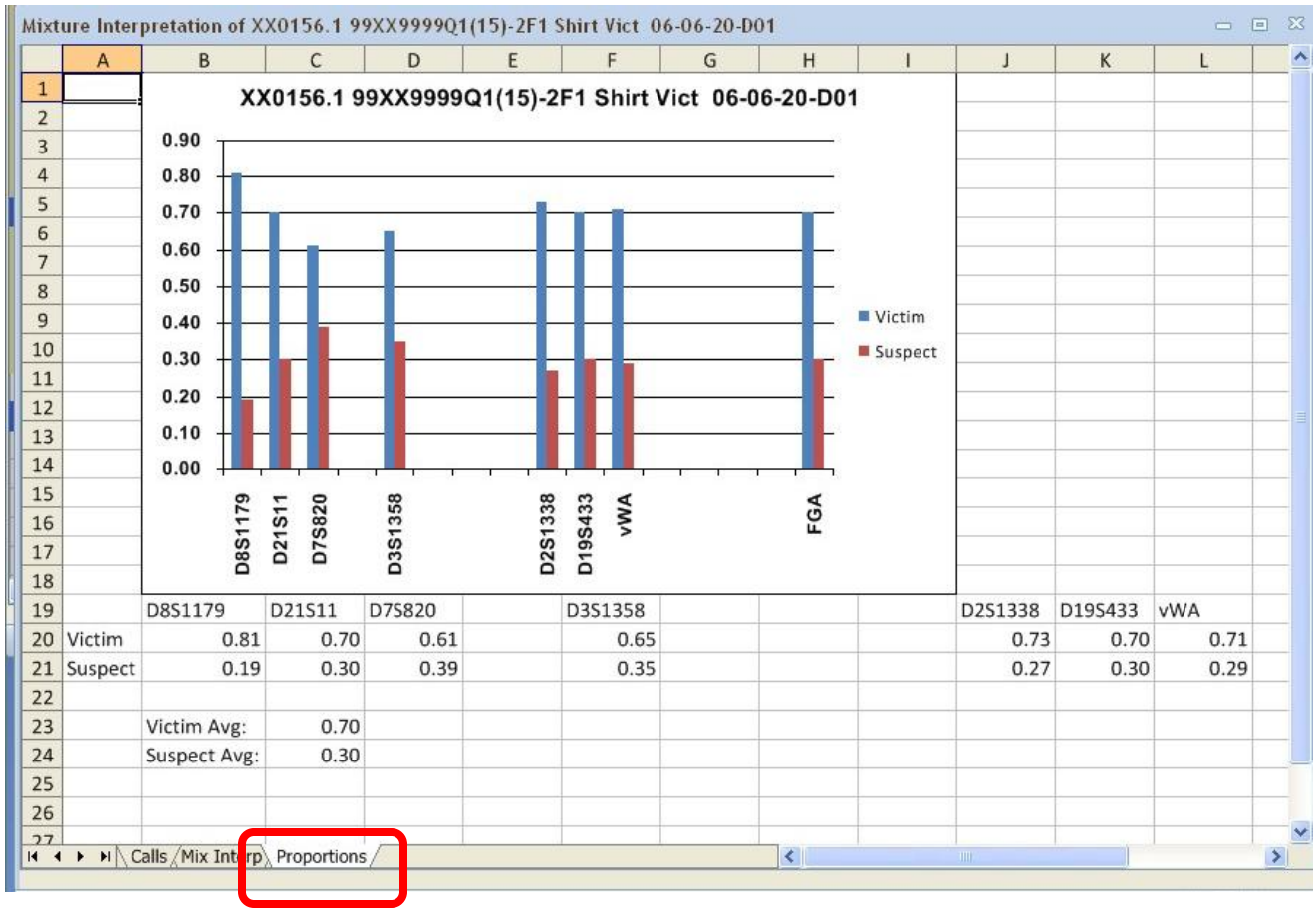


FIGURE 7.25 Mix_Interp Worksheet Tab

The Proportions worksheet tab shows the proportion percentages by Locus and the overall average for each Profile. As well, the same graph that appears on the Calls tab is shown on this tab. **NOTE: Only the Loci that has been "called" will appear in this view.**



	D8S1179	D21S11	D7S820	D3S1358	D2S1338	D19S433	vWA
Victim	0.81	0.70	0.61	0.65	0.73	0.70	0.71
Suspect	0.19	0.30	0.39	0.35	0.27	0.30	0.29

Victim Avg:	0.70
Suspect Avg:	0.30

FIGURE 7.26 Proportion Worksheet Tab

These reports can be printed and/or saved using the print and export features explained in Chapter 2.

You can add a comment(s) to the call report. Click on "Add Comment" button. "Add a comment to the interpretation report" window will open. Type the comment you would like to appear on the report. Click "Ok". This will add a comment to the Call report below the profiles. If you would like to delete the comments, click on the arrow next to Add Comment and a Remove Comment button will appear. Click on "Remove Comment" and all comments will be deleted from the report.

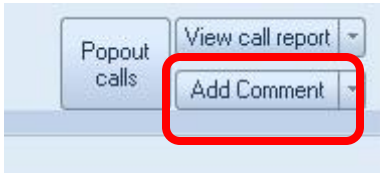


FIGURE 7.27 Add Comment button

FIGURE 7.28 Add Comment to the interpretation report window

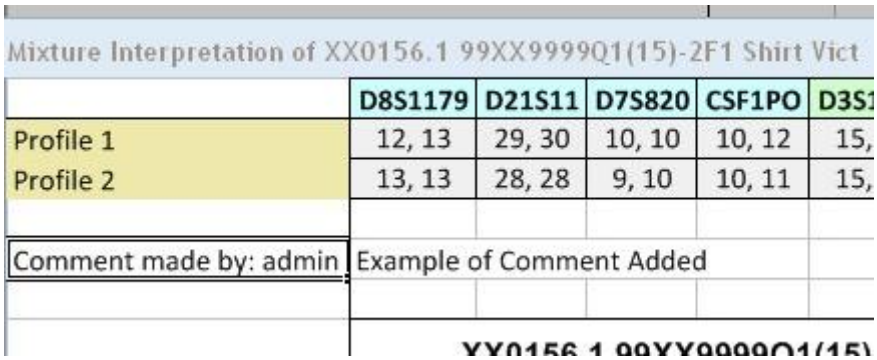


FIGURE 7.29 Added Comment Example

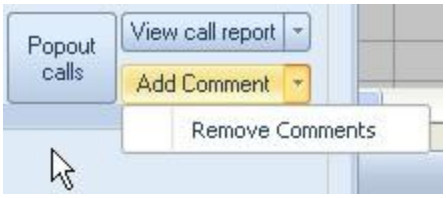


FIGURE 7.30 Remove Comments Button

As you make each call, the **proportion average** will be shown on the Mixture Interpretation Window. It is located next to the Highest to Lowest # feature.

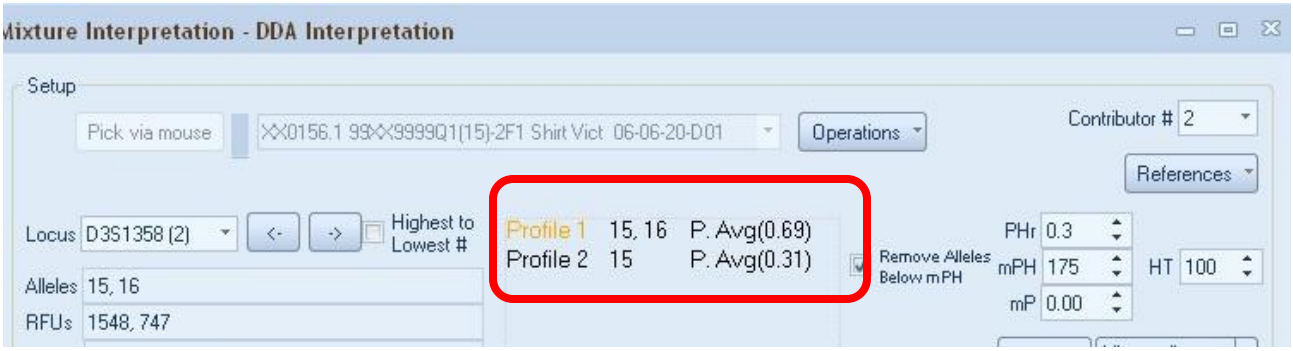


FIGURE 7.31 Proportion Average Section

There is an "**Operations"** button to the right of the selected sample. This opens a mixture frequency report for this sample or allows you to open an OSIRIS Plot File or Virtual Electropherogram. Click on the "Operations" button and a drop down list will open. To open the Mixture frequency report, click on Mixture Frequency. The Locus you currently are on will be shown. You can choose between Modified RMP and Restricted RMP. If you would like to have the report shown all Loci with Restricted RMP, click on the box next to "Apply Restricted Globally." If you do not, all Loci will have the Modified RMP applied. Make sure the Contributor number is correct. Finally, click the "Open Frequency Report" button. A mixture frequency report will then open to aide you with making your calls.

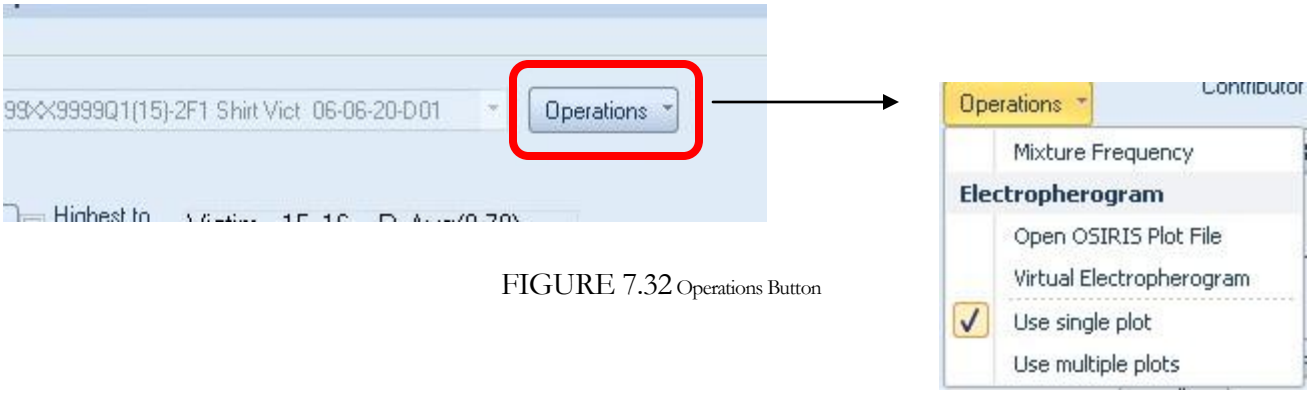


FIGURE 7.32 Operations Button

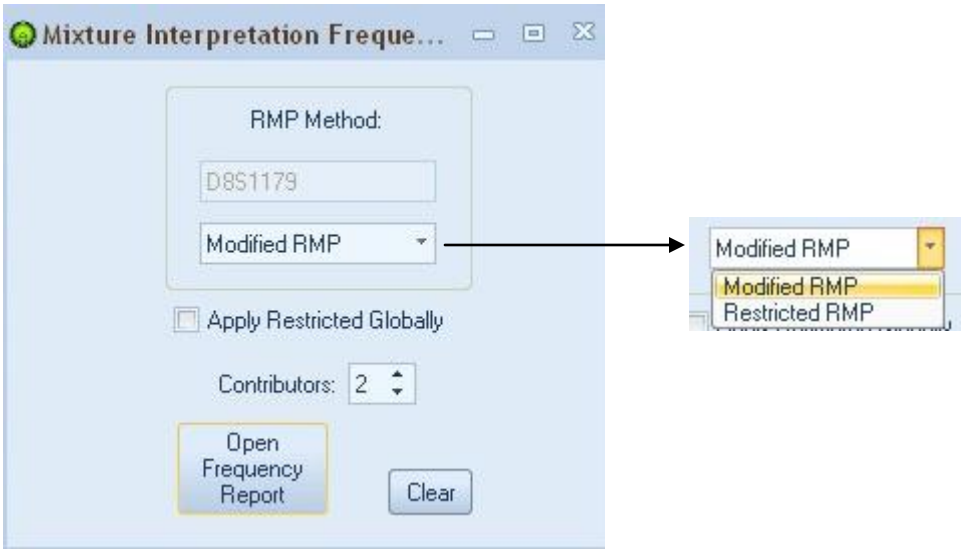


FIGURE 7.33 Mixture Interpretation Frequency Window

NOTE: Do not close out of the Mixture Interpretation unless you have exported/saved or printed the reports you require to document your interpretation. If not, once you close out of the Mixture Interpretation tool all information will be lost.

Frequency Calculations

The **Frequency Calculation** section allows you to perform different frequency calculations. ArmedXpert includes frequency calculations for **Single Source**, **Likelihood Ratio**, **Probability of Inclusion**, and **Mixture**. It can perform statistics on both single source samples and a two-person mixture. It can calculate both probability of inclusion and probability of exclusion for single source and mixture samples. As well as calculate likelihood ratios for mixture samples.

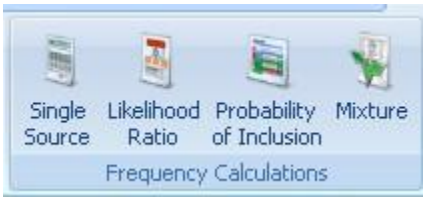


FIGURE 7.34 Frequency Calculations

The first type of frequency calculations is a **Single Source** calculation. To obtain Single Source Frequency Calculations, click on the Single Source button. The Select/Pick via mouse window will appear. Select the single source sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

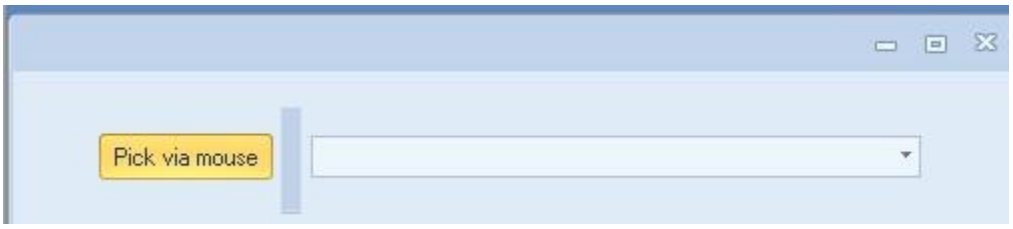


FIGURE 7.35 Select/Pick Via Mouse Window

The Frequency Single Source page will appear as in Figure 7.37 shown on the following page. All Loci and their corresponding alleles are imported into the page. On the bottom of the screen you can select the relationship types to include in your calculations including: Unrelated, Full Siblings, Parents and Offsprings, Half Sibs, Uncles, and Neph's, and First Cousins. Unrelated by default is checked. The system will automatically calculate the frequency for each Locus, and for each selected relationship type by ethnicity. At the bottom of the page are the calculations by ethnicity for the entire profile. The calculations are shown in both exponential and alphanumeric form. Examples of the Frequency Single Source Page are shown in Figures 7.37 and 7.38 on the following page.

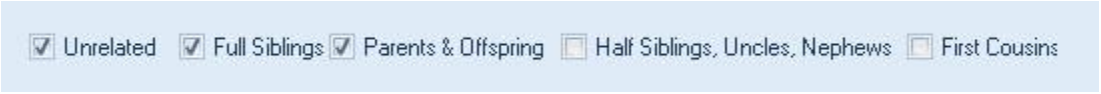


FIGURE 7.36 Relationship Type Selections

Frequency Single Source - XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02

XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02

Locus	Locus Profile	Allele 1	Allele 2	Frequency: Unrelated	Frequency: Full Siblings	Frequency: Parents and Offspring	Frequency: Half Sibs, Uncles, Neph's	Frequency: First Cousins
D8S1179	12, 13	12	13					
		0.1454	0.3393	0.09866844	0.39584211	0.24235	0.17050922	0.13458883
		0.1083	0.2222	0.04812852	0.34465713	0.16525	0.10668926	0.07740889
		0.1207	0.3251	0.07847914	0.381069785	0.2229	0.15068957	0.114584355
D21S11	29, 30	29	30					
		0.1811	0.2321	0.08406662	0.374316655	0.2066	0.14533331	0.114699965
		0.1899	0.1788	0.06790824	0.35915206	0.18435	0.12612912	0.09701868
		0.2044	0.3301	0.13494488	0.41736122	0.26725	0.20109744	0.16802116
D7S820	10	10	10					
		0.2906	0.2906	0.086509876	0.41641209	0.2906	0.18752418	0.13598627
		0.3238	0.3238	0.107035976	0.43811161	0.3238	0.21432322	0.15958483
		0.3062	0.3062	0.095882856	0.42653961	0.3062	0.19997922	0.14686883
CSF1PO	10, 12	10	12					
		0.2537	0.3251	0.16495574	0.435938935	0.2894	0.22717787	0.196066805
		0.2714	0.3	0.16284	0.43356	0.2857	0.22427	0.193555
		0.2536	0.3923	0.19897456	0.46121864	0.32295	0.26096228	0.22996842
D3S1358	15, 16	15	16					
		0.2463	0.2315	0.1140369	0.397959225	0.2389	0.17646845	0.145252675
		0.2905	0.3071	0.1784251	0.444006275	0.2988	0.23861255	0.208518825
		0.4258	0.2656	0.22618496	0.47939624	0.3457	0.28594248	0.25606372
TH01	6, 9.3	6	9.3					
		0.2266	0.3054	0.13840728	0.41760182	0.266	0.20220364	0.17030546

☑ Unrelated ☑ Full Siblings ☑ Parents & Offspring ☑ Half Siblings, Uncles, Nephews ☑ First Cousins

FIGURE 7.37 Single Source Calculation Page

		0.3539	0.3539	0.127531758	0.458261302	0.3539	0.239572605	0.182408908
		0.3556	0.3556	0.128742846	0.45941284	0.3556	0.24102568	0.18373852
		0.2906	0.2906	0.086509876	0.41641209	0.2906	0.18752418	0.13598627
FGA	22, 24	22	24					
		0.1888	0.1378	0.05203328	0.34465832	0.1633	0.10766664	0.07984996
		0.225	0.1861	0.083745	0.37371125	0.20555	0.1446475	0.11419625
		0.1773	0.1256	0.04453776	0.33685944	0.15145	0.09799388	0.07126582
	Caucasian	1 in...		6.2505E+16	1.4661E+6	5.8512E+9	1.7116E+12	1.0258E+14
	Black	1 in...		5.2802E+18	2.9528E+6	5.5722E+10	2.8928E+13	3.0922E+15
	Hispanic	1 in...		2.3643E+17	1.8021E+6	1.695E+10	5.4585E+12	3.7263E+14
	Caucasian	1 in...		62.5 Quadrillion	1.46 Million	5.85 Billion	1.71 Trillion	102 Trillion
	Black	1 in...		5.28 Quintillion	2.95 Million	55.7 Billion	28.9 Trillion	3.09 Quadrillion
	Hispanic	1 in...		236 Quadrillion	1.8 Million	16.9 Billion	5.45 Trillion	372 Trillion

Database Size = 1 ; Theta = [0.01]

Sources:
FBI

☑ Unrelated ☑ Full Siblings ☑ Parents & Offspring ☑ Half Siblings, Uncles, Nephews ☑ First Cousins

FIGURE 7.38 Bottom Portion of the Single Source Calculation Page

The second type of frequency calculations is a **Likelihood Ratio** calculation. It is used to calculate likelihood ratios for mixture samples. To obtain the Likelihood Ratio Calculations, click on the Likelihood Ratio Button. The Select/Pick via mouse window will appear. Select the sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

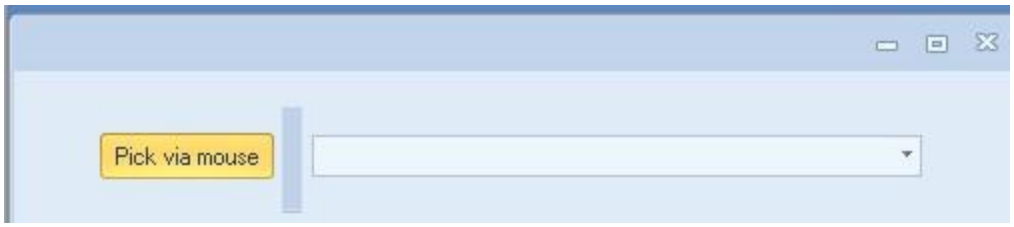
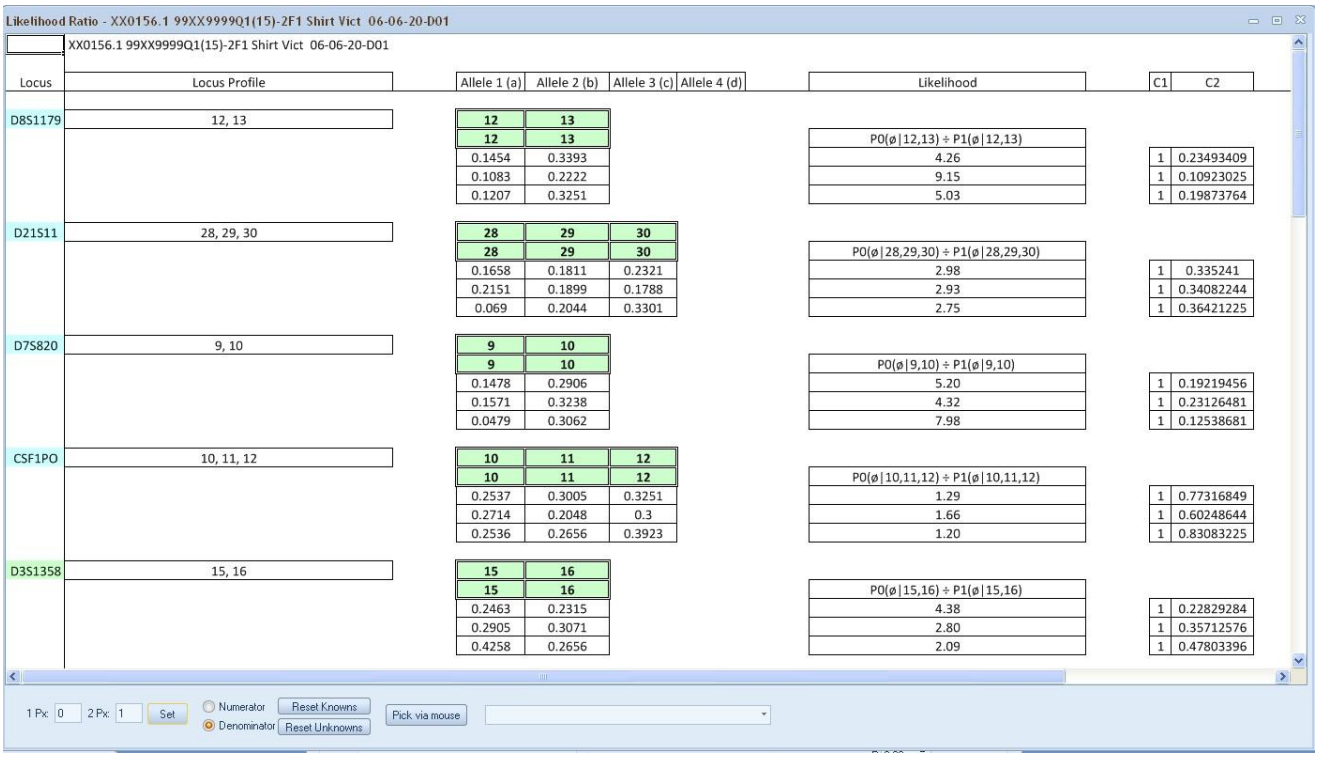


FIGURE 7.39 Select/Pick Via Mouse Window

All Loci and their corresponding alleles are imported into the page and ArmedXpert will automatically perform the calculations. The combined likelihood ratio for each ethnicity is listed under the Likelihood column. The prosecution's results are listed under the C1 column and the defense's results are listed under the C2 column.



Locus	Locus Profile	Allele 1 (a)	Allele 2 (b)	Allele 3 (c)	Allele 4 (d)	Likelihood	C1	C2
D8S1179	12, 13	12	13					
		12	13			P0(ø|12,13) ÷ P1(ø|12,13)		
		0.1454	0.3393			4.26	1	0.23493409
		0.1083	0.2222			9.15	1	0.10923025
		0.1207	0.3251			5.03	1	0.19873764
D21S11	28, 29, 30	28	29	30				
		28	29	30		P0(ø|28,29,30) ÷ P1(ø|28,29,30)		
		0.1658	0.1811	0.2321		2.98	1	0.335241
		0.2151	0.1899	0.1788		2.93	1	0.34082244
		0.069	0.2044	0.3301		2.75	1	0.36421225
D7S820	9, 10	9	10					
		9	10			P0(ø|9,10) ÷ P1(ø|9,10)		
		0.1478	0.2906			5.20	1	0.19219456
		0.1571	0.3238			4.32	1	0.23126481
		0.0479	0.3062			7.98	1	0.12538681
CSF1PO	10, 11, 12	10	11	12				
		10	11	12		P0(ø|10,11,12) ÷ P1(ø|10,11,12)		
		0.2537	0.3005	0.3251		1.29	1	0.77316849
		0.2714	0.2048	0.3		1.66	1	0.60248644
		0.2536	0.2656	0.3923		1.20	1	0.83083225
D3S1358	15, 16	15	16					
		15	16			P0(ø|15,16) ÷ P1(ø|15,16)		
		0.2463	0.2315			4.38	1	0.22829284
		0.2905	0.3071			2.80	1	0.35712576
		0.4258	0.2656			2.09	1	0.47803396

FIGURE 7.40 Likelihood Ratio Page

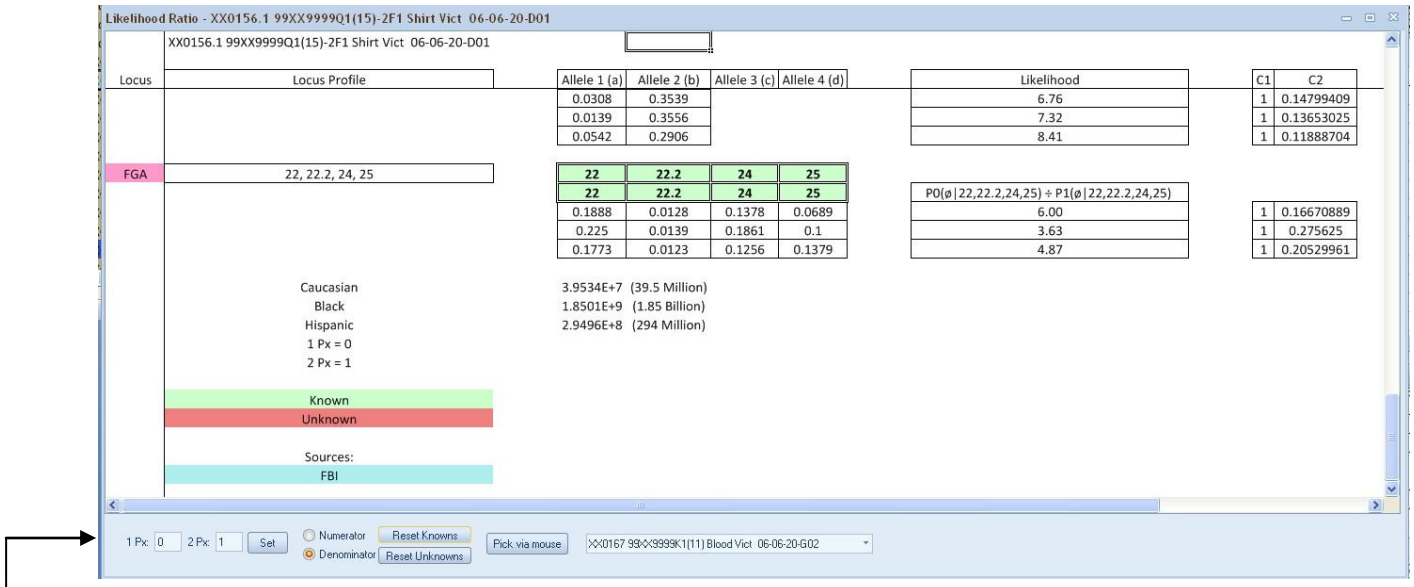


FIGURE 7.41 Bottom of Likelihood Ratio Page

To aid in the Likelihood Ratio calculations, there are options at the bottom of the screen. 1 Px is the number of unknown contributors for the prosecution, and in this example is zero. 2 Px is the number of unknown contributors for the defense, and in this example is one. Enter the correct numbers for each and click the "Set" button.

Note: The top row of alleles at each Locus is the Numerator or Prosecution and the bottom row of alleles at each Locus is the Denominator or Defense. The calculations change based on the values set.

You can add a reference (contributor) to either Numerator (prosecution) or Denominator (defense). Choose either Numerator or Denominator by clicking on the circle next to the wanted choice. The circle will be filled in as shown below to indicate the chosen one. Then, either click on the Pick via mouse button and select your reference or click on the ▼arrow and select the reference from the drop down list of samples. The reference's alleles will appear in green at each Locus, as shown in figure 7.42 on the next page.

FIGURE 7.42 Bottom of Screen of the Likelihood Ratio Page

The "Reset Knowns" button resets all unknowns (red) back to known (green) for either the Numerator or Denominator depending on which is chosen. The "Reset Unknowns" resets all knowns (green) to unknown (red) for either the Numerator or Denominator depending on which is chosen.

Double click on any allele to change from Green (Known) to Red (unknown) or vice versa. All calculations will automatically recalculate with all changes done to the page.

At the bottom of the page are the calculations by ethnicity for the entire profile. The calculations are shown in both exponential and alphanumeric form. An example of the bottom of a Likelihood report can be seen in Figure 7.41 on the previous page.

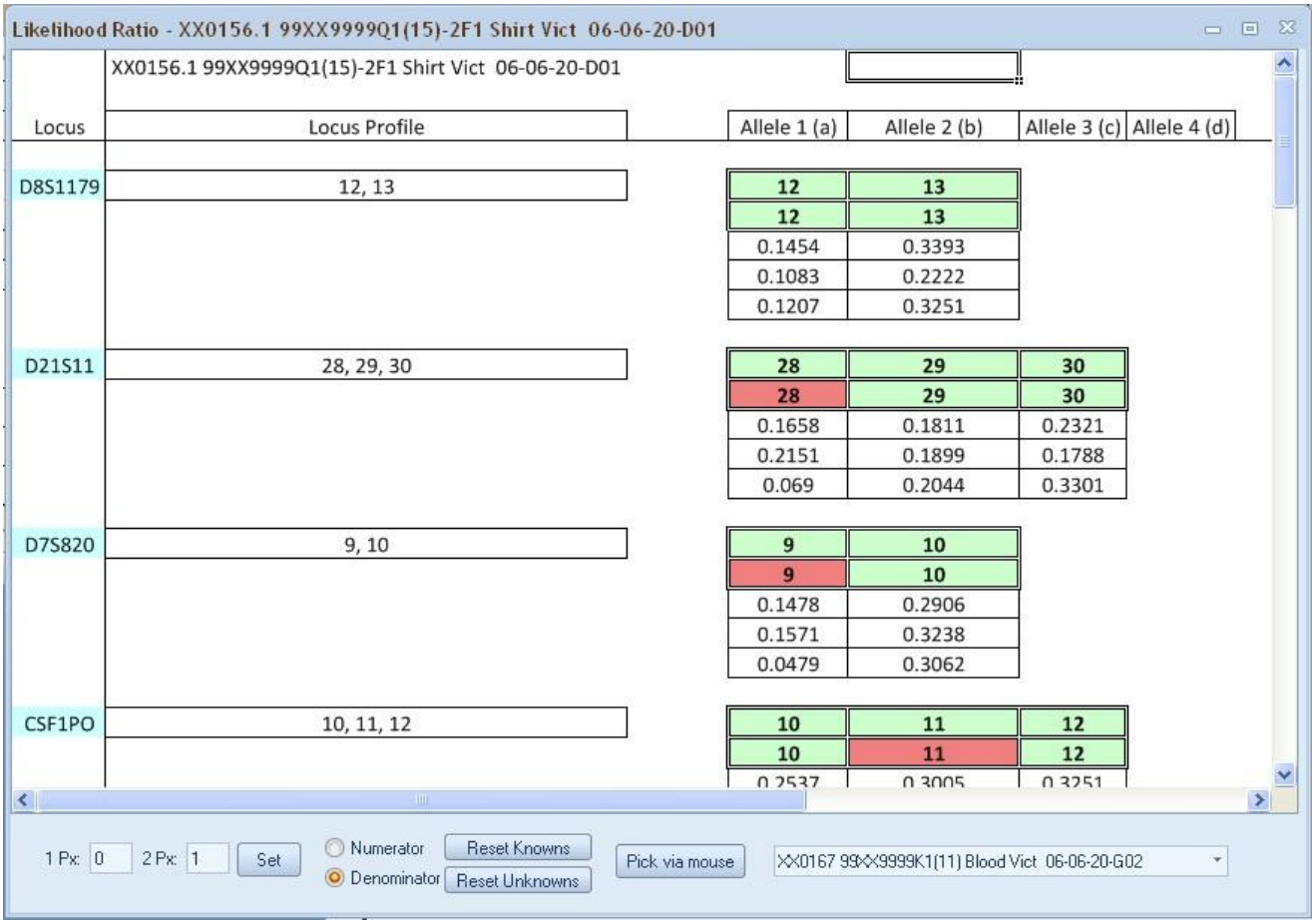


FIGURE 7.43 Likelihood Ratio Page with Reference Applied.

The third type of frequency calculations is a **Probability of Inclusion** calculation. It calculates both probability of inclusion (PI) and probability of exclusion (PE) for single source and mixture samples. To obtain the Probability of Inclusion Calculation page, click on the Probability of Inclusion button. The Select/Pick via mouse window will appear. Select the sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

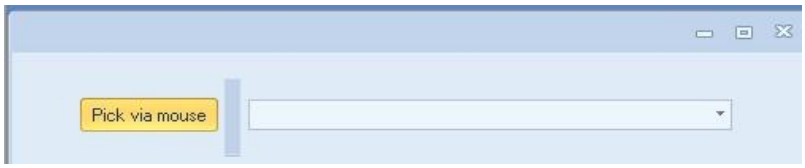


FIGURE 7.44 Select/Pick Via Mouse Window

The Probability of Inclusion Calculation page will appear. All Loci and their corresponding alleles are imported into the page and ArmedXpert will automatically perform the calculations. The frequency calculations, separated by Caucasian, African-American, and Hispanic respectively, will be listed under each allele. The probability of exclusion and probability of inclusion will be listed to the right of the screen, also separated by ethnic group.

Probability of Inclusion - XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01

XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01

Locus	Locus Profile	Allele 1	Allele 2	Allele 3	Allele 4	PE	PI
D8S1179	12, 13	**12**	**13**				
		0.1454	0.3393			0.7651	0.2349
		0.1083	0.2222			0.8908	0.1092
		0.1207	0.3251			0.8013	0.1987
D21S11	28, 29, 30	**28**	**29**	**30**			
		0.1658	0.1811	0.2321		0.6648	0.3352
		0.2151	0.1899	0.1788		0.6592	0.3408
		0.069	0.2044	0.3301		0.6358	0.3642
D7S820	9, 10	**9**	**10**				
		0.1478	0.2906			0.8078	0.1922
		0.1571	0.3238			0.7687	0.2313
		0.0479	0.3062			0.8746	0.1254
CSF1PO	10, 11, 12	**10**	**11**	**12**			
		0.2537	0.3005	0.3251		0.2268	0.7732
		0.2714	0.2048	0.3		0.3975	0.6025
		0.2536	0.2656	0.3923		0.1692	0.8308
D3S1358	15, 16	**15**	**16**				
		0.2463	0.2315			0.7717	0.2283
		0.2905	0.3071			0.6429	0.3571
		0.4258	0.2656			0.5220	0.4780
TH01	6, 9.3	**6**	**9.3**				
		0.2266	0.3054			0.7170	0.2830
		0.1095	0.1048			0.9541	0.0459

FIGURE 7.45 Probability of Inclusion Page

The calculations by ethnicity for the entire profile will appear at the bottom of the page. The calculations are shown in both exponential and alphanumeric form.

D5S818	9, 12	**9**	**12**				
		0.0308	0.3539			0.8520	0.1480
		0.0139	0.3556			0.8635	0.1365
		0.0542	0.2906			0.8811	0.1189
FGA	22, 22.2, 24, 25	**22**	**22.2**	**24**	**25**		
		0.1888	0.0128	0.1378	0.0689	0.8333	0.1667
		0.225	0.0139	0.1861	0.1	0.7244	0.2756
		0.1773	0.0123	0.1256	0.1379	0.7947	0.2053

Caucasian	1 in... 3.9534E+7	(39.5 Million)
Black	1 in... 1.8501E+9	(1.85 Billion)
Hispanic	1 in... 2.9496E+8	(294 Million)
Sources:		
FBI		

FIGURE 7.46 Bottom of the Probability of Inclusion Page

The fourth type of frequency calculations is a **Mixture** calculation. It is used to perform frequency calculations on a two or three-person mixture sample. To obtain the Mixture Calculation page, click on the Mixture button. The Select/Pick via mouse window will appear. Select the sample you wish to perform the calculations on with your mouse or click on the ▼arrow and select from the drop down list.

The Mixture Frequency page will display. All Loci and their corresponding alleles are imported into the page. On the left half of the screen is each locus with each corresponding allele(s) with the calculations for each allele by ethnicity. On the right half of the screen, you can see the calculation of any allele combination.

At the first allele, click the arrow next to "Add Combo" box to bring down the available allele combination drop down list. Select the appropriate combination and ArmedXpert will automatically fill in the calculations for that allele combination. The drop down list gives you all possible combinations as well as RMP (Random Match Probability) and '2p' options, as well as a remove locus option**. Note: If a RMP or '2p' option is chosen, no other combinations can be added for that Locus.** When completed, the "Add Combo" box will appear in the next column. Add all combinations that are necessary to perform the calculation. Continue this process for each locus listed. **Note: The "Sum of" column will change with each added combination.**

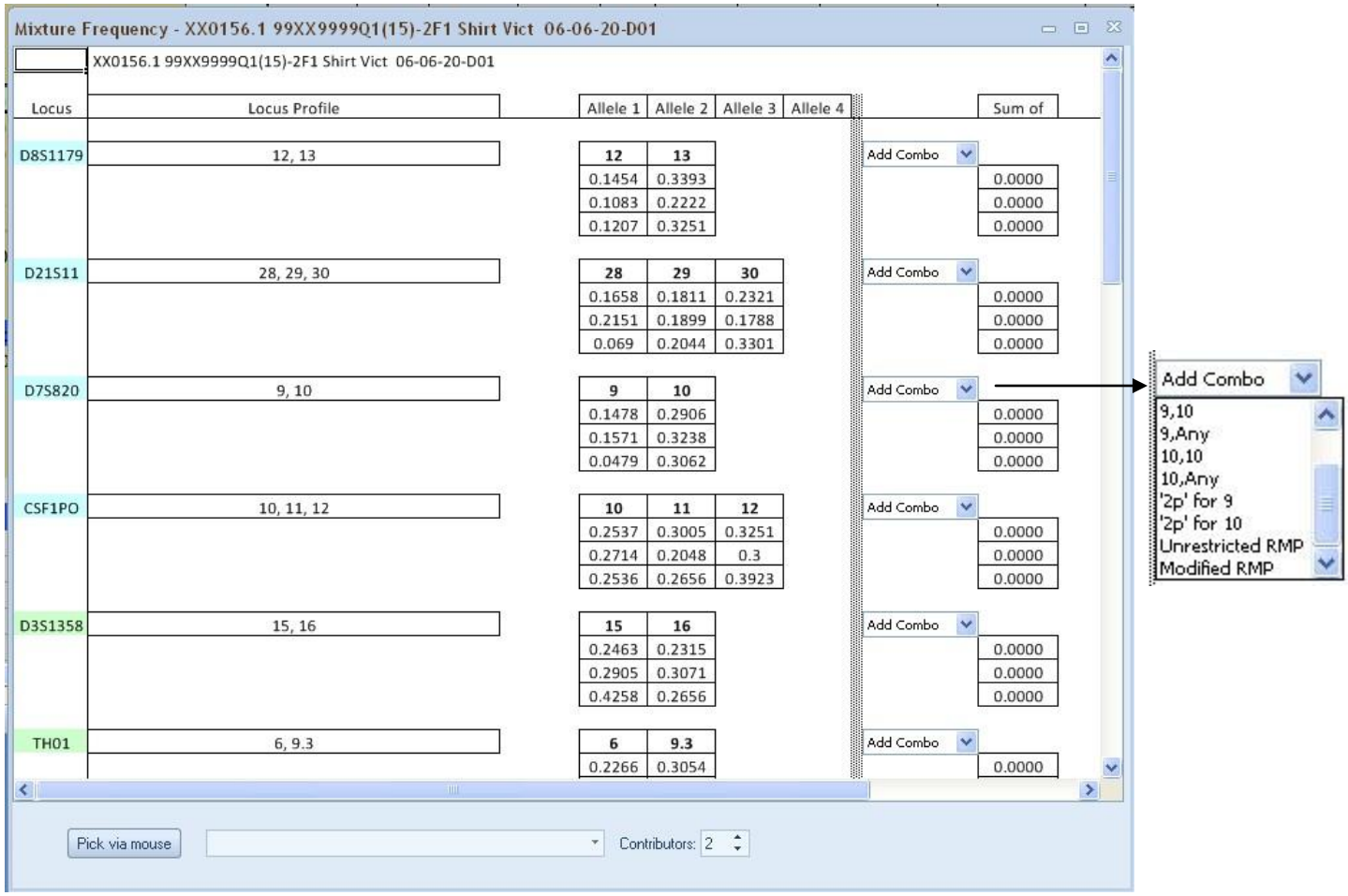


FIGURE 7.47 Adding a combination to the Mixture Frequency Page

To remove a combination, place your mouse over the combination. The combination will appear gray and will have a red line through it as shown below in Figure 7.48. Double click on the box and it will be removed. It can be added back at any time.

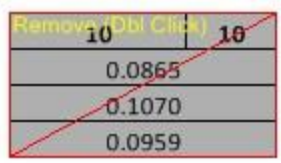


FIGURE 7.48 Removal of Combination

When either one of the RMP combos or the '2p' combos are chosen, the math used will appear in blue next to the combo when you have your mouse over the combo as shown below in Figure 7.49. Click on any of the left of the ethnicity and the math for that type will be shown.

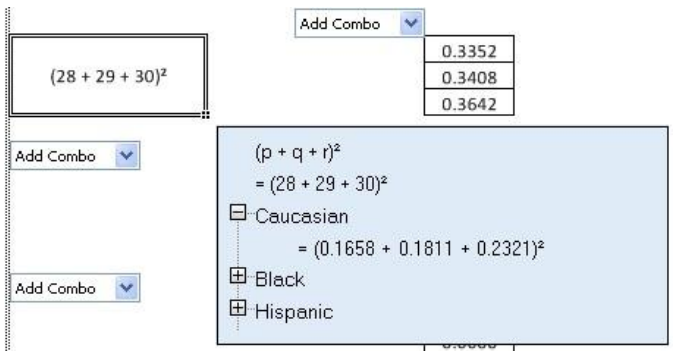


FIGURE 7.49 Math shown

You can also see the math calculations for all combinations, by clicking on the calculations tab on the bottom of the page.

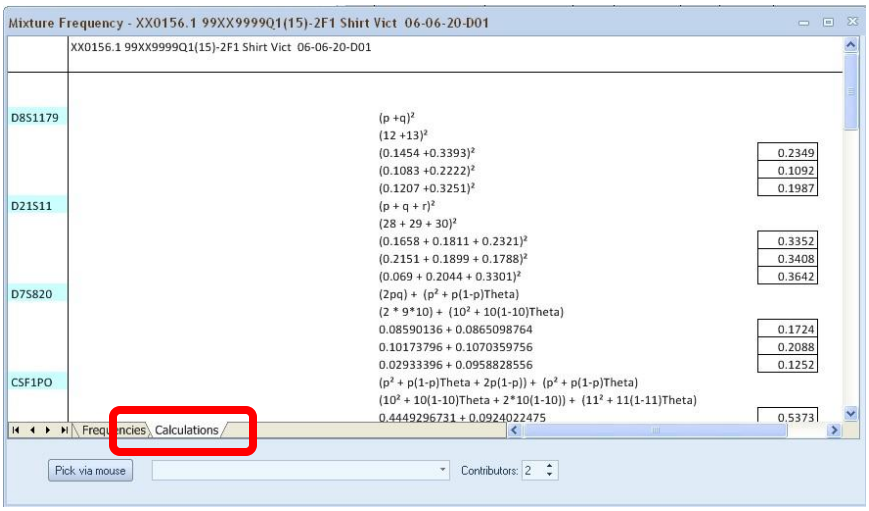


FIGURE 7.50 Calculations Page

You can automatically add a sample to the Mixture Page. Go the bottom of the window, either click on the Pick via mouse button and select your reference or click on the ▼arrow and select the sample from the drop down list of samples. This will automatically fill in the allele combinations for that sample and all calculations will be done automatically.

This section is also where you can indicate whether this is a two or three person mixture. Use the up and down arrow to alternate from 2 to 3.

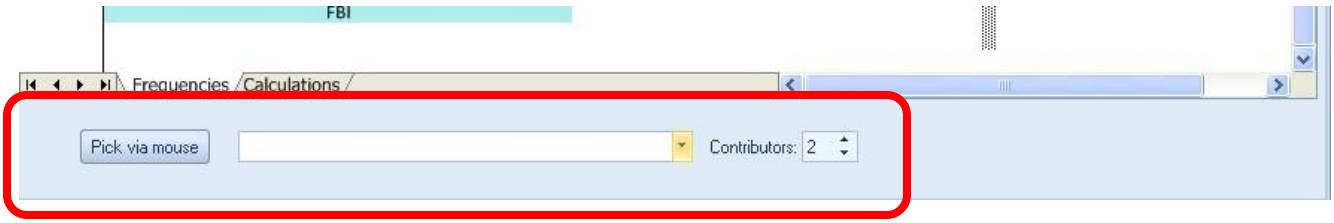


FIGURE 7.51 Bottom Portion of Mixture Window

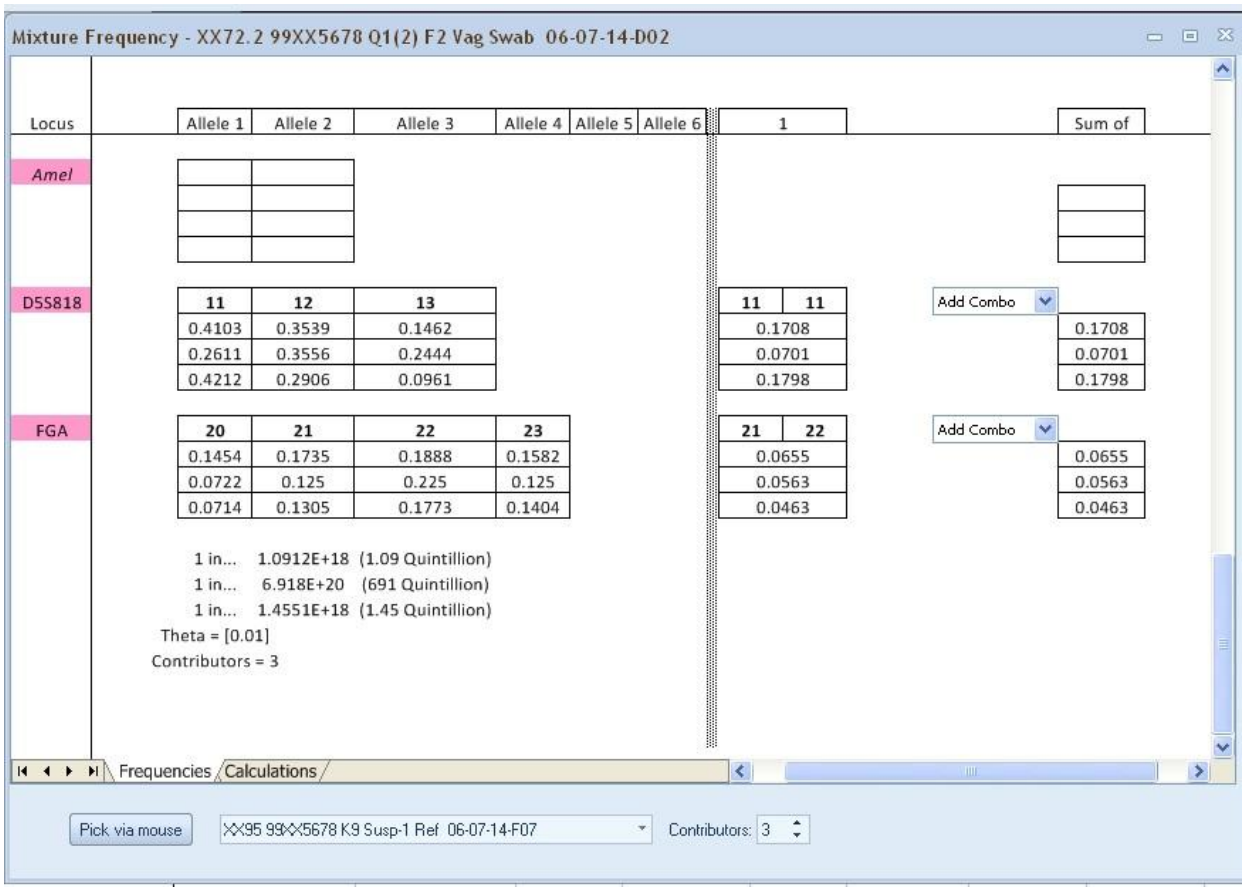


FIGURE 7.52 Example of a 3 Person Mixture with a Sample added automatically

As with all of the pages, the calculation for the each ethnicity for the entire profile is located at the bottom of the page. The calculations are shown in both exponential and alphanumeric form.

Chapter 8

Tab Six – Reporting

The Reporting tab is used to run the available reports. It has six types of reports: **C.D. Form**, **Total Data**, **Sample Comparison**, **CMF**, **PHR Report, and Template Report**. This chapter explains each report and sample views of each.

FIGURE 8.1 Reporting Tab

C.D. Form

The **C.D. Form** report is the CODIS Disposition Form for CODIS Administrator. Click on C.D. Form and the window shown in Figure 8.2 will appear.

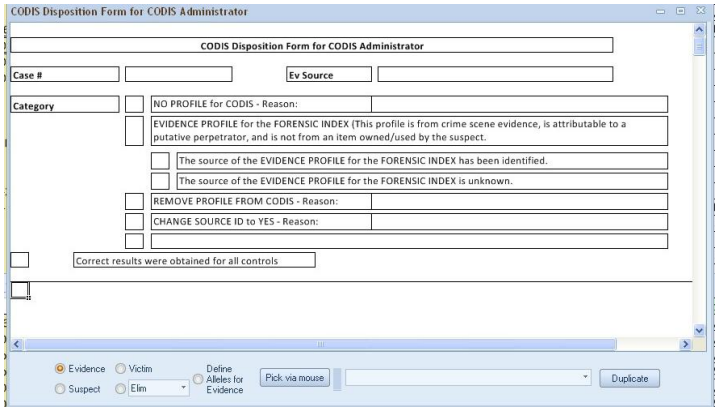


FIGURE 8.2 CODIS Disposition Form Window

Fill in the top portion of the screen, by filling in all necessary boxes. If the information filled in at the top portion of the screen will be used more than once, click on the duplicate button found at the bottom of the page. This will open up another CODIS Disposition Form Window, with the top portion of the screen fill in exactly like the original one.

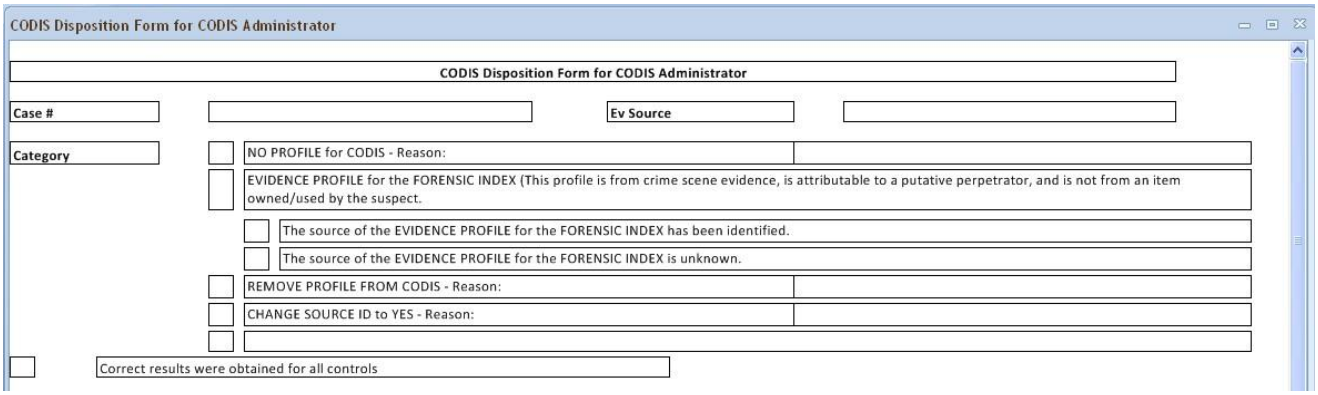


FIGURE 8.3 Top Portion of the CODIS Disposition Form Window

Four different samples can be added to the report, Evidence, Victim, Suspect, and Elim/Suspect2 (this can be changed to either type by clicking the arrow next to Elim and choosing from the drop down list). To add a type, first click on the circle next to the type you would like to add. This will fill in the circle. The select/pick via mouse window is next to the type selections. You can use your mouse to select the sample you wish to choose or click on the ▼arrow and select the one you would like to add from the drop down list. This will fill in the information from the sample table. Continue with the next type until you finished adding all the necessary types.

Note: The different types of samples fill in the report in the order you add them. So, if you want the Evidence to appear first make sure you add the evidence first to the report and so on.

FIGURE 8.4 Bottom of the CODIS Disposition Form Window

There is also a define alleles for evidence option. This adds a column of alleles next to the evidence that you want to send to codis. So, add your evidence first, and then click on the circle next to "Define Alleles for Evidence". Choose the sample you want to add from the Mixture Interpretation Call View Report, you created when using the Mixture Interpretation Window. It will be added in a column next to the evidence information as shown in Figure 8.5.

Correct results were obtained for all controls

Evidence

XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02

D8S1179	9, 11, 12, 13, 14, 16	2344, 2078, 1439, 1756, 1151, 2030	11, 13
D21S11	29, 30, 30.2, 32.2	2229, 2268, 930, 838	30, 30.2
D7S820	8, 9, 10, 12	980, 905, 2409, 569	9, 10
CSF1PO	10, 11, 12, 13	1177, 2505, 923, 1047	10, 12
D3S1358	15, 16, 17	1969, 1434, 1713	
TH01	6, 7, 8, 9, 9.3	1194, 2697, 1115, 1382, 1140	7, 9.3
D13S317	9, 10, 11, 12	632, 751, 854, 1376	9, Any
D16S539	9, 11, 12, 13	1218, 1736, 2292, 1034	12, Any
D2S1338	18, 20, 22, 23, 25	905, 776, 1456, 1004, 620	20, 25
D19S433	14, 14.2, 15, 15.2	3226, 1520, 751, 937	
vWA	14, 16, 17, 18	2365, 1805, 1211, 912	17, 18
TPOX	8, 11	2467, 4483	
D18S51	13, 16, 17, 18	524, 773, 2009, 494	16, 17
Amel	X, Y	4261, 1602	X, Y

Evidence Victim Suspect Elim Define Alleles for Evidence Pick via mouse Duplicate

FIGURE 8.5 Define Alleles for Evidence

On the bottom of the form is a place for the analyst to initial and date as well as a place for the tech reviewer to initial and date.

CODIS Disposition Form for CODIS Administrator

Case # 12-17 Ev Source

Category

- [ ] NO PROFILE for CODIS - Reason:
- [x] EVIDENCE PROFILE for the FORENSIC INDEX (This profile is from crime scene evidence, is attributable to a putative perpetrator, and is not from an item owned/used by the suspect.
  - [x] The source of the EVIDENCE PROFILE for the FORENSIC INDEX has been identified.
  - [ ] The source of the EVIDENCE PROFILE for the FORENSIC INDEX is unknown.
- [ ] REMOVE PROFILE FROM CODIS - Reason:
- [ ] CHANGE SOURCE ID to YES - Reason:
- [ ]

[x] Correct results were obtained for all controls

Evidence

XX72.2 99XX5678 Q1(2) F2 Vag Swab 06-07-14-D02

D8S1179	9, 11, 12, 13, 14,	2344, 2078, 1439, 1756, 1151, 2030
D21S11	29, 30, 30.2, 32.2	2229, 2268, 930, 838
D7S820	8, 9, 10, 12	980, 905, 2409, 569
CSF1PO	10, 11, 12, 13	1177, 2505, 923, 1047
D3S1358	15, 16, 17	1969, 1434, 1713
TH01	6, 7, 8, 9, 9.3	1194, 2697, 1115, 1382, 1140
D13S317	9, 10, 11, 12	632, 751, 854, 1376
D16S539	9, 11, 12, 13	1218, 1736, 2292, 1034
D2S1338	18, 20, 22, 23, 25	905, 776, 1456, 1004, 620
D19S433	14, 14.2, 15, 15.2	3226, 1520, 751, 937
vWA	14, 16, 17, 18	2365, 1805, 1211, 912
TPOX	8, 11	2467, 4483
D18S51	13, 16, 17, 18	524, 773, 2009, 494
Amel	X, Y	4261, 1602
D5S818	11, 12, 13	3348, 633, 1186
FGA	20, 21, 22, 23	321, 450, 1336, 513

Victim

XX94 99XX5678 K1(5) Vict Ref 06-07-14-E07

D8S1179	9, 16	6602, 5426
D21S11	29, 30	4717, 4733
D7S820	8, 10	4385, 4074
CSF1PO	11, 13	4410, 3758
D3S1358	15, 17	2971, 3207
TH01	7, 9	4087, 3361
D13S317	10, 12	4201, 3659
D16S539	9, 11	3329, 3478
D2S1338	22, 23	2935, 3127
D19S433	14, 14.2	3498, 3736
vWA	14	6654
TPOX	8, 11	3714, 3576
D18S51	17	6269
Amel	X	5183
D5S818	11, 13	4036, 3320
FGA	22, 23	2251, 2069

Suspect

XX95 99XX5678 K9 Susp-1 Ref 06-07-14-F07

D8S1179	11, 13	4847, 4746
D21S11	30, 30.2	3725, 3575
D7S820	9, 10	2943, 2891
CSF1PO	10, 12	3043, 2797
D3S1358	15, 17	3192, 3051
TH01	7, 9.3	4031, 4198
D13S317	9, 12	3213, 2604
D16S539	12	5592
D2S1338	20, 25	2889, 2772
D19S433	14, 15.2	3396, 3420
vWA	17, 18	3018, 2803
TPOX	11	6357
D18S51	16, 17	2608, 2186
Amel	X, Y	2136, 2339
D5S818	11	6377
FGA	21, 22	2003, 1744

Elim

XX1748 99XX5678 K11 Elim Ref 06-08-21-A04

D8S1179	12, 14	4189, 3689
D21S11	29, 32.2	2706, 2697
D7S820	10, 12	1971, 1683
CSF1PO	11	4440
D3S1358	16	4021
TH01	6, 8	3496, 3371
D13S317	11	3767
D16S539	11, 13	2549, 2408
D2S1338	18, 22	2678, 2504
D19S433	14, 15	3256, 2632
vWA	16	5131
TPOX	8, 11	3606, 2951
D18S51	13, 18	1761, 1372
Amel	X, Y	2336, 2043
D5S818	11, 12	2807, 2422
FGA	20, 22	1528, 1404

Analyst initials/date TR initials/date

FIGURE 8.6 CODIS Disposition Form filled out

Total Data

The **Total Data** report is a report that gives you all of the information from a sample table. It lists the alleles, RFU values, and Pair Pairs values for each sample on the sample table by Locus. To run the report, have the sample table that you want to see the total data for open and in front of all open windows, and click on the "Total Data" button.

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst.txt

DEMO_I_2-Component_4_Vict_Mix_Stains_Analyst

Ladder Identifiler 06-06-20-F03

Locus	Alleles	RFUs	Base Pairs
D8S1179	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	1505, 1372, 1682, 1830, 1043, 955, 960, 1370, 931, 887, 1043, 781	123.04, 127.11, 131.15, 135.31, 139.48, 144.13, 148.63, 153.03, 157.26, 161.48, 165.56, 169.62
D21S11	24, 24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2, 32, 32.2, 33, 33.2, 34, 34.2, 35, 35.2, 36, 37, 38	2601, 1111, 1946, 1448, 1698, 2501, 1792, 1890, 1211, 1162, 1224, 1150, 1194, 1574, 1114, 1199, 1436, 1082, 1415, 1743, 1132, 1626, 2386, 867	184.64, 186.68, 188.64, 192.56, 196.46, 200.37, 202.27, 204.24, 206.22, 208.2, 210.19, 212.18, 214.1, 216.09, 218.09, 220.09, 222.02, 224.11, 225.97, 228.06, 230, 232.02, 236, 239.91
D7S820	6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1315, 1115, 1257, 1310, 1198, 845, 1002, 1142, 1103, 1017	255.16, 259.14, 263.2, 267.2, 271.3, 275.32, 279.44, 283.49, 287.56, 291.64
CSF1PO	6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1066, 1657, 1479, 1568, 1030, 1690, 1083, 727, 1209, 1448	304.72, 309.04, 313.3, 317.6, 321.78, 325.91, 329.99, 334.04, 338.05, 341.83
D3S1358	12, 13, 14, 15, 16, 17, 18, 19	622, 560, 592, 1278, 1177, 617, 542, 490	111.61, 115.75, 119.66, 123.61, 127.75, 131.95, 136.04, 140.2
TH01	4, 5, 6, 7, 8, 9, 9.3, 10, 11, 13.3	717, 679, 816, 800, 739, 638, 508, 561, 480, 541	166.04, 167.11, 171.16, 175.2, 179.16, 183.18, 186.24, 187.11, 191.03, 201.83
D13S317	8, 9, 10, 11, 12, 13, 14, 15	791, 637, 571, 715, 564, 692, 567, 681	216.68, 220.69, 224.63, 228.73, 232.62, 236.52, 240.52, 244.52
D16S539	5, 8, 9, 10, 11, 12, 13, 14, 15	706, 827, 795, 1350, 694, 664, 573, 592, 551	252.26, 264.2, 268.28, 272.22, 276.33, 280.3, 284.35, 288.42, 292.51
D2S1338	15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28	1032, 1144, 802, 1146, 919, 987, 846, 889, 766, 696, 831, 800, 639, 634	309.26, 311.64, 315.87, 320.06, 324.29, 328.39, 332.46, 336.48, 340.49, 344.08, 347.64, 351.24, 354.92, 358.7
D19S433	9, 10, 11, 12, 12.2, 13, 13.2, 14, 14.2, 15, 15.2, 16, 16.2, 17, 17.2	1489, 1352, 1456, 1109, 1246, 1078, 1110, 929, 1081, 911, 972, 827, 856, 802, 803	101.73, 105.62, 109.49, 113.4, 115.4, 117.35, 119.38, 121.28, 123.33, 125.25, 127.32, 129.27, 131.29, 133.33, 135.38
vWA	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24	637, 727, 748, 932, 744, 1012, 1037, 868, 518, 580, 629, 918, 745, 701	154.42, 158.63, 162.74, 166.96, 170.87, 174.91, 178.94, 182.89, 186.82, 190.74, 194.66, 198.49, 202.34, 206.59
TPOX	6, 7, 8, 9, 10, 11, 12, 13	730, 732, 628, 686, 620, 638, 670, 463	222.02, 225.97, 229.93, 233.9, 237.8, 241.8, 245.73, 249.75
D18S51	7, 9, 10, 10.2, 11, 12, 13, 13.2, 14, 14.2, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27	2491, 1483, 1948, 1006, 1680, 2404, 1651, 778, 1128, 731, 902, 1039, 1051, 835, 762, 661, 774, 1011, 1038, 871, 934, 1091, 1147	261.9, 270.06, 274.16, 276.18, 278.27, 282.4, 286.47, 288.5, 290.62, 292.66, 294.79, 298.97, 303.35, 307.77, 312.22, 316.53, 320.8, 325.1, 329.19, 333.33, 337.42, 341.34, 344.99
Amel	X, Y	1549, 1249	106.57, 112.16
D5S818	7, 8, 9, 10, 11, 12, 13, 14, 15, 16	608, 658, 573, 576, 568, 488, 524, 433, 440, 467	133.99, 138.11, 142.53, 147.02, 151.4, 155.65, 159.77, 163.93, 167.92, 172.04

FIGURE 8.7 Total Data Report

Samples Comparison

The **Samples Comparison** compares one table against another. This report is useful in comparing your staff profile table to a sample table to confirm that there was no contamination. This is the same report that runs automatically if you have "Compare tables to staff profiles upon opening" checked in the Reporting section of the ArmedXpert Options menu. To run the report manually, click on the Samples Comparison command and the window seen in Figure 8.8 below will open. In the box marked reference, click on the ▼arrow and a drop down list of all your open sample tables will appear. Choose the sample table you would like to compare to. In the next box, choose the table you would like to compare against.

Enter the minimum number of exact matches you would like to show on the report and the minimum number of included matches. To show all included, set the minimum number of included to -1 as shown below. Click the Match button to run the report. A report like the one in Figure 8.8 will appear.

FIGURE 8.8 Samples Comparison command window

FIGURE 8.9 Samples Comparison command window example

The Report lists the Reference Samples in the first column. The second column list all matched comparison samples. The third column lists the number of exact matches equal to or greater than the user defined amount. The final column lists the number of included matches.

Table comparison

Reference Sample	Comparison Sample	No. Exact Matches >= 6	No. Included
Ladder Identifiler 06-06-20-F03	No matches above the specified thresholds.		
Ladder Identifiler 06-06-20-A03	No matches above the specified thresholds.		
Ladder Identifiler 06-06-20-A01	No matches above the specified thresholds.		
XX0156.1 99XX9999Q1(15)-2F1 Shirt Vict 06-06-20-D01	No matches above the specified thresholds.		
XX0156.3 99XX9999Q1(15)-2F3 Shirt Vict 06-06-20-E01	No matches above the specified thresholds.		
XX0159.1 99XX9999Q1(15)-8F1 Shirt Vict 06-06-20-F01	No matches above the specified thresholds.		
XX0161.1 QA003F1 06-06-20-H01	No matches above the specified thresholds.		
XX0162.1 Reag BlankF1 06-06-20-B02	No matches above the specified thresholds.		
XX0162.2 Reag BlankF2 06-06-20-C02	No matches above the specified thresholds.		
XX0164 99XX9999Q1(2) LFS Vict 06-06-20-D02	No matches above the specified thresholds.		
XX0165 QA004 QA 06-06-20-E02	SD077	6	0
XX0166 Reag Blank 06-06-20-F02	No matches above the specified thresholds.		
XX0167 99XX9999K1(11) Blood Vict 06-06-20-G02	SD069	6	1
XX0168 99XX9999K2 Blood Susp 06-06-20-H02	No matches above the specified thresholds.		
XX0169 QA026 QA 06-06-20-B03	No matches above the specified thresholds.		
XX0170 Reag Blank 06-06-20-C03	No matches above the specified thresholds.		
XX0171 Pos Con 06-06-20-D03	No matches above the specified thresholds.		
XX0172 Neg Con 06-06-20-E03	No matches above the specified thresholds.		
XX0153 99XX9999Q1(15)-12F1 Shirt Vict 06-06-20-H02	No matches above the specified thresholds.		

FIGURE 8.10 Samples Comparison Report example

CMF

The **CMF** form is the CODIS upload file. When you are ready to upload your data to CODIS, click on CMF and the CMF window will open as seen in Figure 8.11 below. Click the ⊞ Next to the Sample Table to expand to a detailed list of all samples. Choose the Samples you would like to upload by clicking on them and clicking the > button. The samples will move to the box on the right as seen in Figure 8.11 below. You can also use the Selection Filter box to enter in a specific name and all samples containing that name will be highlighted. This is helpful in finding certain samples in a large sample table. Click the > button and all samples highlighted will move to the right hand box.

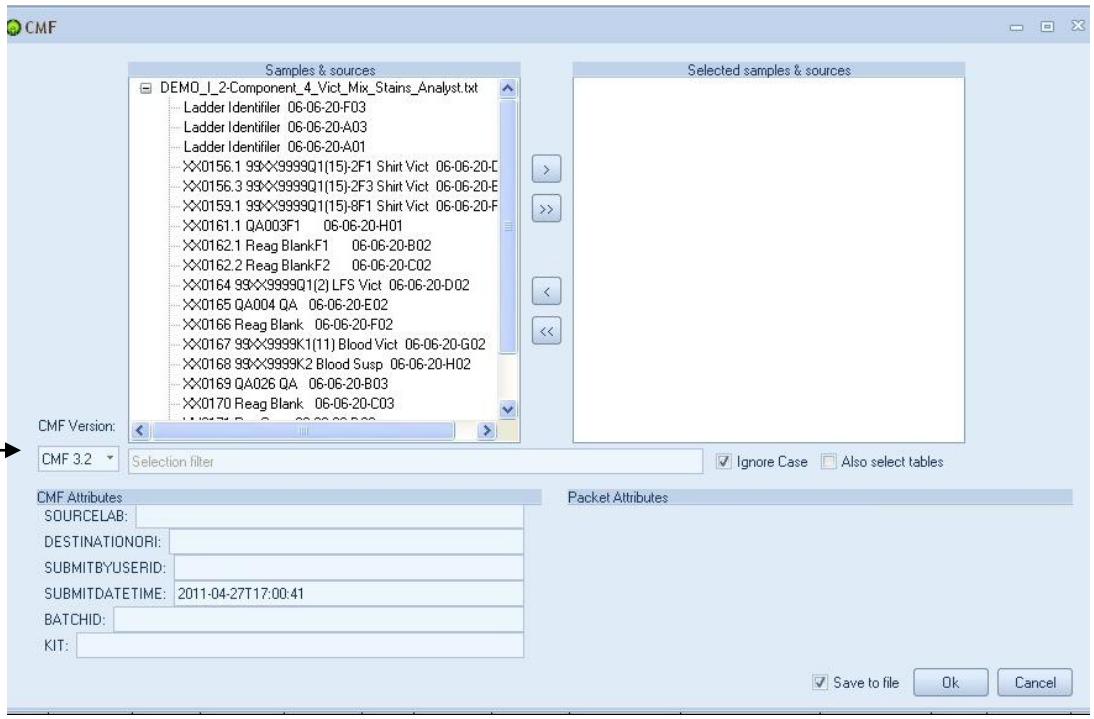


FIGURE 8.11 CMF Window

Once you finished selecting the files. Choose the CMF Version that is appropriate from the drop down list on the lower left hand side of the CMF window. There are four versions. The CMF Attributes on the left hand bottom of the window will change based on the version selected. Fill in the CMF Attributes.

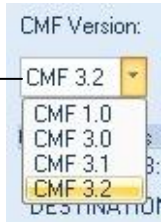


FIGURE 8.12 CMF Version Drop Down List

Click on one of your selected samples. The Packet Attributes section on the right hand bottom of the CMF window will appear. Click on the arrow next to the SPECIMENCATEGORY box to bring up a list of available categories. Select the appropriate category and fill in the rest of the appropriate information for the sample. If you scroll down through the Packet Attributes, you will see all of the Loci and the Allele(s) at each Locus. All checked Loci will be included. Proceed to the next sample until finished with all Samples.

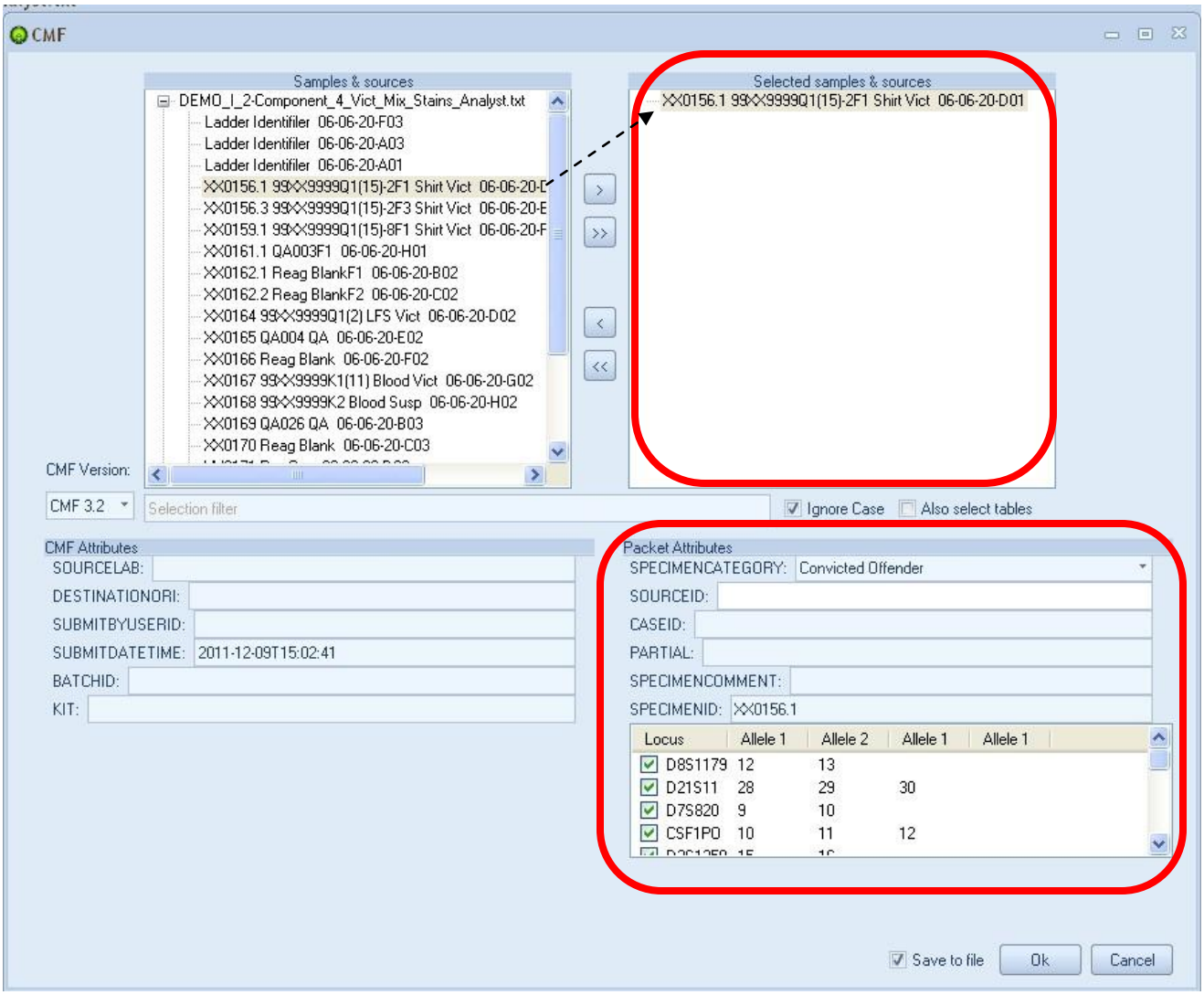


FIGURE 8.13 CMF Window Example

Click Ok when you are ready to save the file. The "Save As" Window will appear. In the File Name box, type in the appropriate file name. Then save it in the appropriate folder. Click on the "Save" button.

PHR Report

The **PHR Report** shows all the peak height ratios (PHR) as well as the average PHR for selected table(s) or sample(s). This is useful to determine thresholds. The first step in running your PHR Report is to create dilution tables for the report. Import your dilution sample table into ArmedXpert. Once your table is imported, click on Combine Sources under the Data tab. The Combine Sources window will open.

Type in the selection filter box, the dilution you would like to create a table for. Click the > button to move all highlighted samples to the right hand box. Type in the title of the table you are creating. Click on the "Combine" button. Your new combined sample table will open.

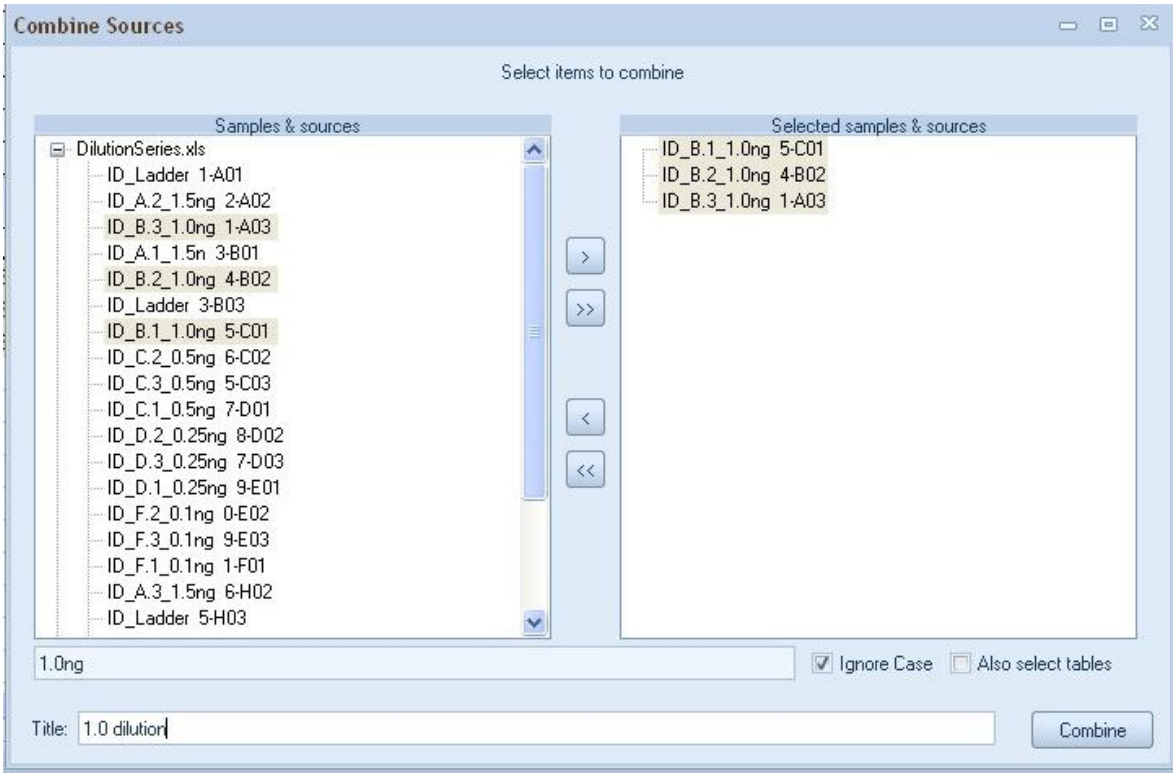


FIGURE 8.14 Combine Sources Window

In the example above, 1.0ng was entered in the selection filter box. All samples containing 1.0ng was highlighted in the box on the left hand side. They were then moved to the right hand box using the > button. 1.0 dilution was added as the Title.

Repeat the steps above to create the different dilution tables for each dilution amount you would like to see on the PHR report. Once finished, click the X on the upper right hand of the window to close the Combine Sources Window.

Note: Remove the selected samples from the right hand side using the < button before creating each new sample table.

To run the PHR Report, Click on PHR Report and the PHR Report Window will open. Click on "Add a table" button.

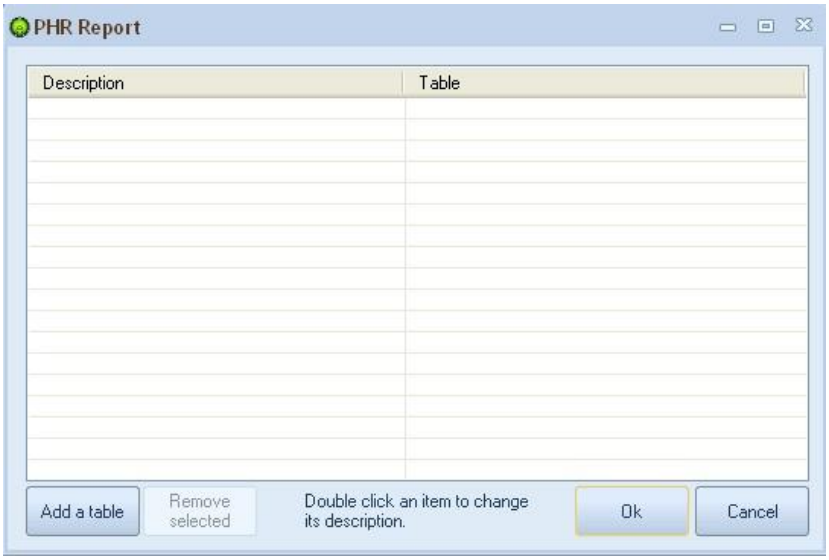


FIGURE 8.15 PHR Report Window

The Select a table Window will open. You can either select an entire table or expand the table and select individual sample(s). Click the > button to move the selected table or sample to the left right side.

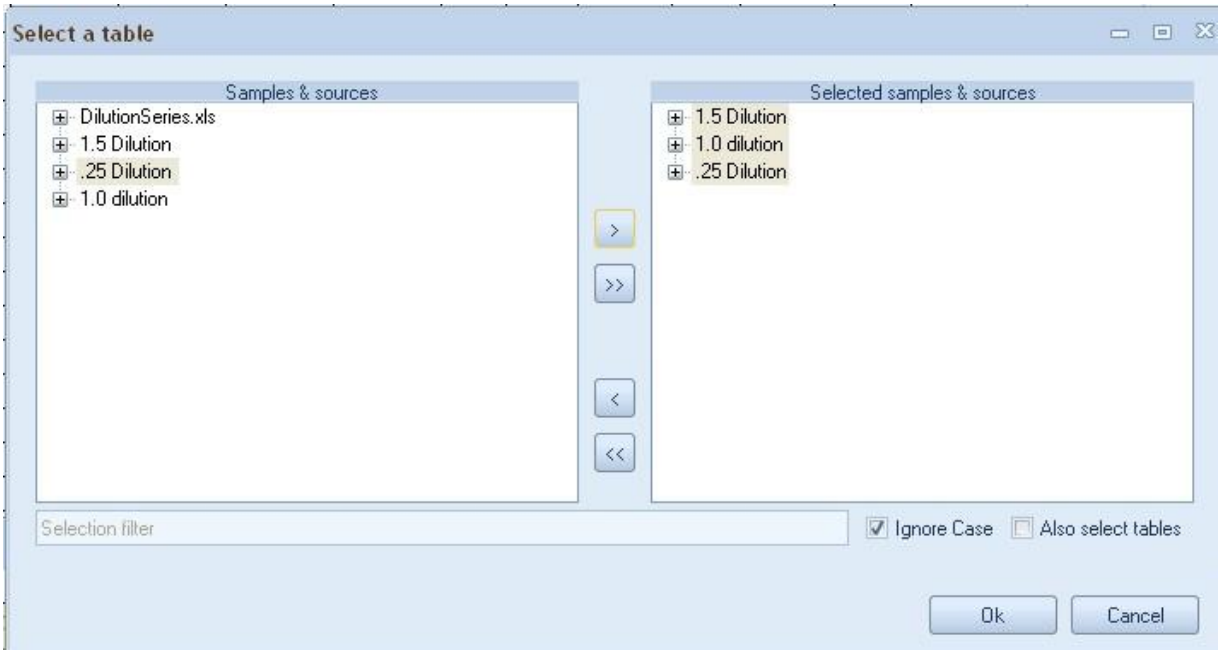


FIGURE 8.16 Select a table Window

Once all tables or samples have been selected and moved to the right side, click on the "Ok" button.

The PHR Report will open back up. Your chosen selections will appear.

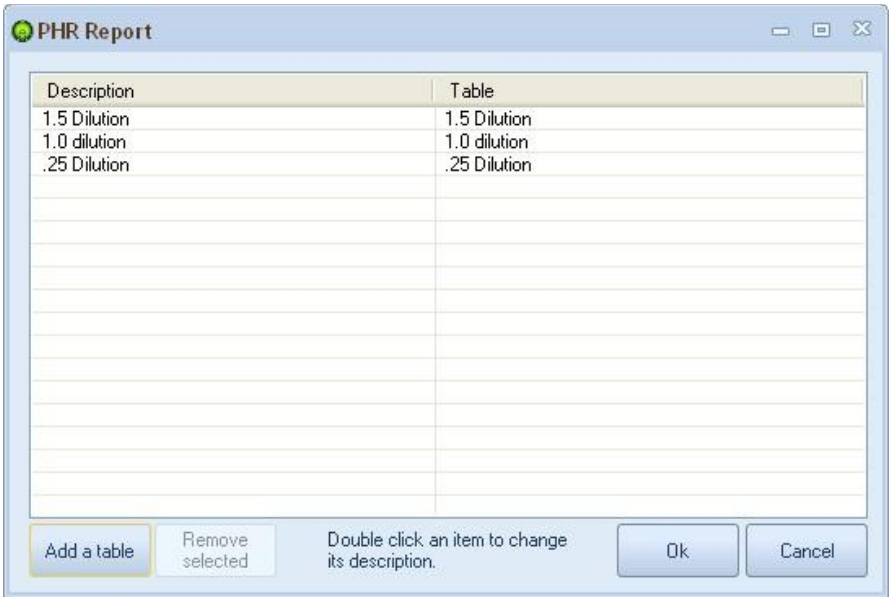


FIGURE 8.17 PHR Report Window with selections

If you would like to change any of the table's description names before you run the report, click on the table from the list shown. An Enter a description Window will open. Type in the new description and click on the "Ok" button.

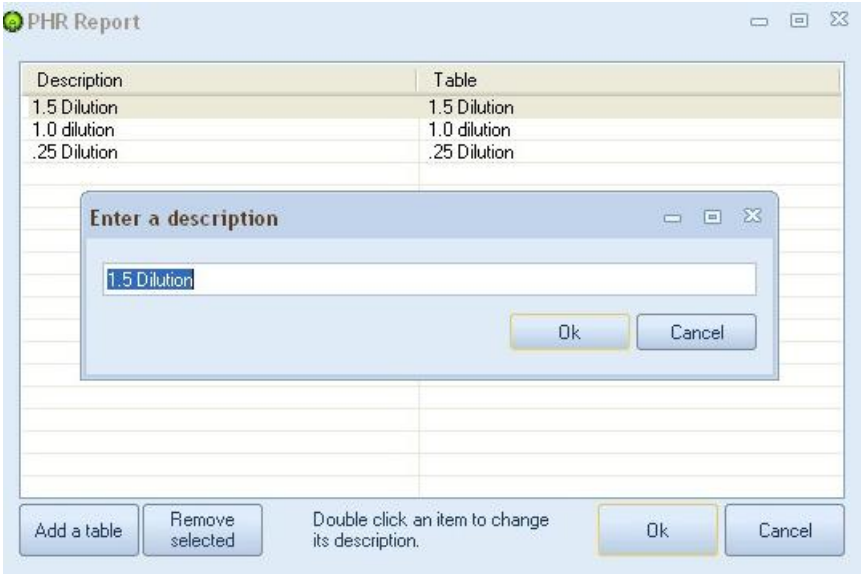


FIGURE 8.18 Enter a description Window

Once finished, click the "Ok" button to run the PHR report.

The PHR report shows the PHR at each Locus for each sample chosen.

PHR Report

	D8S1179	D21S11	D7S820	CSF1PO	D3S1358	TH01	D13S317	D16S539	D2S1338	D19S433	vWA	TPOX	D18S51	Amel	D5S818	FGA
1.5 Dilution																
ID_A.3_1.5ng 6-H02	0.8652	0.8369		0.8669	0.7897	0.7827				0.9151		0.9622	0.6037	0.9862	0.9246	0.9320
ID_A.1_1.5n 3-B01	0.9666	0.9126		0.8438	0.8638	0.9324				0.9840		0.8093	0.6637	0.7957	0.9582	0.9436
ID_A.2_1.5ng 2-A02	0.9716	0.9629		0.9861	0.9570	0.9609				0.9067		0.9429	0.8523	0.9716	0.9710	0.9232
ID_A.2_1.5n 3-B01	0.9692	0.9595		0.9817	0.9204	0.9667				0.9108		0.9452	0.8561	0.9530	0.9590	0.9353
ID_A.3_1.5ng 5-C03	0.8656	0.8422		0.8567	0.7841	0.7971				0.9067		0.9799	0.6117	0.9690	0.9333	0.9592
Average PHR:	**0.9276**	**0.9028**	**#DIV/0!**	**0.9070**	**0.8630**	**0.8880**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.9247**	**#DIV/0!**	**0.9279**	**0.7175**	**0.9351**	**0.9492**	**0.9387**
Std Deviation:	**0.0568**	**0.0611**	**#DIV/0!**	**0.0707**	**0.0770**	**0.0906**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0334**	**#DIV/0!**	**0.0679**	**0.1269**	**0.0788**	**0.0194**	**0.0136**
Min:	**0.8652**	**0.8369**	**0.0000**	**0.8438**	**0.7841**	**0.7827**	**0.0000**	**0.0000**	**0.0000**	**0.9067**	**0.0000**	**0.8093**	**0.6037**	**0.7957**	**0.9246**	**0.9232**
Max:	**0.9716**	**0.9629**	**0.0000**	**0.9861**	**0.9570**	**0.9667**	**0.0000**	**0.0000**	**0.0000**	**0.9840**	**0.0000**	**0.9799**	**0.8561**	**0.9862**	**0.9710**	**0.9592**
Std Error:	**0.0254**	**0.0273**	**#DIV/0!**	**0.0316**	**0.0344**	**0.0405**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0149**	**#DIV/0!**	**0.0304**	**0.0568**	**0.0352**	**0.0087**	**0.0061**
1.0 dilution																
ID_B.1_1.0ng 5-C01	0.9441	0.6411		0.8333	0.9191	0.9722				0.8496		0.9924	0.7603	0.7393	0.9378	0.7186
ID_B.2_1.0ng 4-B02	0.9806	0.8708		0.9858	0.9390	0.8943				0.9535		0.9350	0.8860	0.9168	0.9894	0.8335
ID_B.3_1.0ng 1-A03	0.9607	0.9160		0.8447	0.9112	0.7898				0.8045		0.9363	0.9781	0.7893	0.8511	0.7123
Average PHR:	**0.9618**	**0.8093**	**#DIV/0!**	**0.8879**	**0.9231**	**0.8855**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.8692**	**#DIV/0!**	**0.9546**	**0.8748**	**0.8151**	**0.9261**	**0.7548**
Std Deviation:	**0.0183**	**0.1474**	**#DIV/0!**	**0.0849**	**0.0143**	**0.0915**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0764**	**#DIV/0!**	**0.0328**	**0.1093**	**0.0915**	**0.0699**	**0.0682**
Min:	**0.9441**	**0.6411**	**0.0000**	**0.8333**	**0.9112**	**0.7898**	**0.0000**	**0.0000**	**0.0000**	**0.8045**	**0.0000**	**0.9350**	**0.7603**	**0.7393**	**0.8511**	**0.7123**
Max:	**0.9806**	**0.9160**	**0.0000**	**0.9858**	**0.9390**	**0.9722**	**0.0000**	**0.0000**	**0.0000**	**0.9535**	**0.0000**	**0.9924**	**0.9781**	**0.9168**	**0.9894**	**0.8335**
Std Error:	**0.0105**	**0.0851**	**#DIV/0!**	**0.0490**	**0.0083**	**0.0529**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0441**	**#DIV/0!**	**0.0189**	**0.0631**	**0.0528**	**0.0403**	**0.0394**
.25 Dilution																
ID_D.1_0.25ng 9-E01	0.9716	0.8896		0.6182	0.8634	0.9341				0.9561		0.8171	0.8348	0.8025	0.6647	0.6633
ID_D.3_0.25ng 7-D03	0.6719	0.9185		0.5904	0.9539	0.8543				0.9382		0.8536	0.5661	0.8384	0.9604	0.9639
ID_D.2_0.25ng 8-D02	0.7659	0.7668		0.9693	0.7211	1.0000				0.8519		0.6947	0.5204	0.9604	0.8107	0.7181
Average PHR:	**0.8031**	**0.8583**	**#DIV/0!**	**0.7260**	**0.8461**	**0.9295**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.9154**	**#DIV/0!**	**0.7885**	**0.6404**	**0.8671**	**0.8119**	**0.7817**
Std Deviation:	**0.1533**	**0.0805**	**#DIV/0!**	**0.2111**	**0.1174**	**0.0730**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0558**	**#DIV/0!**	**0.0832**	**0.1699**	**0.0827**	**0.1478**	**0.1601**
Min:	**0.6719**	**0.7668**	**0.0000**	**0.5904**	**0.7211**	**0.8543**	**0.0000**	**0.0000**	**0.0000**	**0.8519**	**0.0000**	**0.6947**	**0.5204**	**0.8025**	**0.6647**	**0.6633**
Max:	**0.9716**	**0.9185**	**0.0000**	**0.9693**	**0.9539**	**1.0000**	**0.0000**	**0.0000**	**0.0000**	**0.9561**	**0.0000**	**0.8536**	**0.8348**	**0.9604**	**0.9604**	**0.9639**
Std Error:	**0.0885**	**0.0465**	**#DIV/0!**	**0.1219**	**0.0678**	**0.0421**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**0.0322**	**#DIV/0!**	**0.0480**	**0.0981**	**0.0478**	**0.0854**	**0.0924**

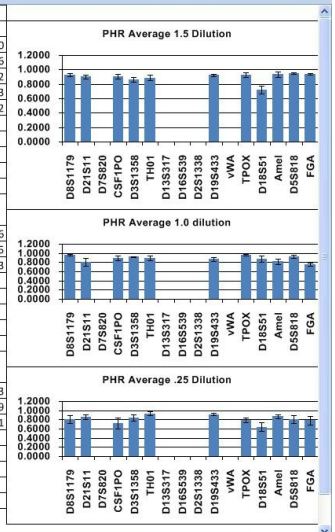


FIGURE 8.19 Example of a PHR Report

Any Locus that does not contain data because there was only one allele at that Locus can be hidden from the report to make the report easier to be read. To hide a Locus, click on the Locus title (multiple Loci can be selected by holding down the Ctrl key and clicking on each Locus). Then press the F5 button. All selected Loci will be hidden from the report. To redisplay the hidden Loci, press the F6 button.

PHR Report

	D8S1179	D21S11	CSF1PO	D3S1358	TH01	D19S433	TPOX	D18S51	Amel	D5S818	FGA
1.5 Dilution											
ID_A.3_1.5ng 6-H02	0.8652	0.8369	0.8669	0.7897	0.7827	0.9151	0.9622	0.6037	0.9862	0.9246	0.9320
ID_A.1_1.5n 3-B01	0.9666	0.9126	0.8438	0.8638	0.9324	0.9840	0.8093	0.6637	0.7957	0.9582	0.9436
ID_A.2_1.5ng 2-A02	0.9716	0.9629	0.9861	0.9570	0.9609	0.9067	0.9429	0.8523	0.9716	0.9710	0.9232
ID_A.2_1.5n 3-B01	0.9692	0.9595	0.9817	0.9204	0.9667	0.9108	0.9452	0.8561	0.9530	0.9590	0.9353
ID_A.3_1.5ng 5-C03	0.8656	0.8422	0.8567	0.7841	0.7971	0.9067	0.9799	0.6117	0.9690	0.9333	0.9592
Average PHR:	**0.9276**	**0.9028**	**0.9070**	**0.8630**	**0.8880**	**0.9247**	**0.9279**	**0.7175**	**0.9351**	**0.9492**	**0.9387**
Std Deviation:	**0.0568**	**0.0611**	**0.0707**	**0.0770**	**0.0906**	**0.0334**	**0.0679**	**0.1269**	**0.0788**	**0.0194**	**0.0136**
Min:	**0.8652**	**0.8369**	**0.8438**	**0.7841**	**0.7827**	**0.9067**	**0.8093**	**0.6037**	**0.7957**	**0.9246**	**0.9232**
Max:	**0.9716**	**0.9629**	**0.9861**	**0.9570**	**0.9667**	**0.9840**	**0.9799**	**0.8561**	**0.9862**	**0.9710**	**0.9592**
Std Error:	**0.0254**	**0.0273**	**0.0316**	**0.0344**	**0.0405**	**0.0149**	**0.0304**	**0.0568**	**0.0352**	**0.0087**	**0.0061**
1.0 dilution											
ID_B.1_1.0ng 5-C01	0.9441	0.6411	0.8333	0.9191	0.9722	0.8496	0.9924	0.7603	0.7393	0.9378	0.7186
ID_B.2_1.0ng 4-B02	0.9806	0.8708	0.9858	0.9390	0.8943	0.9535	0.9350	0.8860	0.9168	0.9894	0.8335
ID_B.3_1.0ng 1-A03	0.9607	0.9160	0.8447	0.9112	0.7898	0.8045	0.9363	0.9781	0.7893	0.8511	0.7123
Average PHR:	**0.9618**	**0.8093**	**0.8879**	**0.9231**	**0.8855**	**0.8692**	**0.9546**	**0.8748**	**0.8151**	**0.9261**	**0.7548**
Std Deviation:	**0.0183**	**0.1474**	**0.0849**	**0.0143**	**0.0915**	**0.0764**	**0.0328**	**0.1093**	**0.0915**	**0.0699**	**0.0682**
Min:	**0.9441**	**0.6411**	**0.8333**	**0.9112**	**0.7898**	**0.8045**	**0.9350**	**0.7603**	**0.7393**	**0.8511**	**0.7123**
Max:	**0.9806**	**0.9160**	**0.9858**	**0.9390**	**0.9722**	**0.9535**	**0.9924**	**0.9781**	**0.9168**	**0.9894**	**0.8335**
Std Error:	**0.0105**	**0.0851**	**0.0490**	**0.0083**	**0.0529**	**0.0441**	**0.0189**	**0.0631**	**0.0528**	**0.0403**	**0.0394**
.25 Dilution											
ID_D.1_0.25ng 9-E01	0.9716	0.8896	0.6182	0.8634	0.9341	0.9561	0.8171	0.8348	0.8025	0.6647	0.6633
ID_D.3_0.25ng 7-D03	0.6719	0.9185	0.5904	0.9539	0.8543	0.9382	0.8536	0.5661	0.8384	0.9604	0.9639
ID_D.2_0.25ng 8-D02	0.7659	0.7668	0.9693	0.7211	1.0000	0.8519	0.6947	0.5204	0.9604	0.8107	0.7181
Average PHR:	**0.8031**	**0.8583**	**0.7260**	**0.8461**	**0.9295**	**0.9154**	**0.7885**	**0.6404**	**0.8671**	**0.8119**	**0.7817**
Std Deviation:	**0.1533**	**0.0805**	**0.2111**	**0.1174**	**0.0730**	**0.0558**	**0.0832**	**0.1699**	**0.0827**	**0.1478**	**0.1601**
Min:	**0.6719**	**0.7668**	**0.5904**	**0.7211**	**0.8543**	**0.8519**	**0.6947**	**0.5204**	**0.8025**	**0.6647**	**0.6633**
Max:	**0.9716**	**0.9185**	**0.9693**	**0.9539**	**1.0000**	**0.9561**	**0.8536**	**0.8348**	**0.9604**	**0.9604**	**0.9639**
Std Error:	**0.0885**	**0.0465**	**0.1219**	**0.0678**	**0.0421**	**0.0322**	**0.0480**	**0.0981**	**0.0478**	**0.0854**	**0.0924**

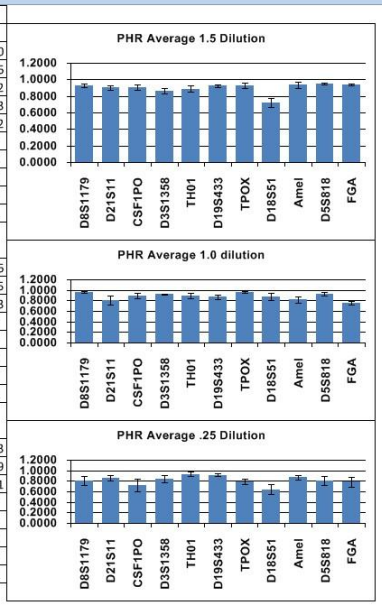


FIGURE 8.20 Example of a PHR Report with hidden Locus

On the left hand side of the report is the PHR at each Locus. The average PHR can be seen at the end of each table, as well as the standard deviation, the minimum PHR, the maximum PHR, and the standard error.

PHR Report

	D8S1179	D21S11	CSF1PO	D3S1358	TH01	D19S433	TPOX	D18S51	Amel	D5S818	FGA
1.5 Dilution											
ID_A.3_1.5ng 6-H02	0.8652	0.8369	0.8669	0.7897	0.7827	0.9151	0.9622	0.6037	0.9862	0.9246	0.9320
ID_A.1_1.5n 3-B01	0.9666	0.9126	0.8438	0.8638	0.9324	0.9840	0.8093	0.6637	0.7957	0.9582	0.9436
ID_A.2_1.5ng 2-A02	0.9716	0.9629	0.9861	0.9570	0.9609	0.9067	0.9429	0.8523	0.9716	0.9710	0.9232
ID_A.2_1.5n 3-B01	0.9692	0.9595	0.9817	0.9204	0.9667	0.9108	0.9452	0.8561	0.9530	0.9590	0.9353
ID_A.3_1.5ng 5-C03	0.8656	0.8422	0.8567	0.7841	0.7971	0.9067	0.9799	0.6117	0.9690	0.9333	0.9592
Average PHR:	**0.9276**	**0.9028**	**0.9070**	**0.8630**	**0.8880**	**0.9247**	**0.9279**	**0.7175**	**0.9351**	**0.9492**	**0.9387**
Std Deviation:	**0.0568**	**0.0611**	**0.0707**	**0.0770**	**0.0906**	**0.0334**	**0.0679**	**0.1269**	**0.0788**	**0.0194**	**0.0136**
Min:	**0.8652**	**0.8369**	**0.8438**	**0.7841**	**0.7827**	**0.9067**	**0.8093**	**0.6037**	**0.7957**	**0.9246**	**0.9232**
Max:	**0.9716**	**0.9629**	**0.9861**	**0.9570**	**0.9667**	**0.9840**	**0.9799**	**0.8561**	**0.9862**	**0.9710**	**0.9592**
Std Error:	**0.0254**	**0.0273**	**0.0316**	**0.0344**	**0.0405**	**0.0149**	**0.0304**	**0.0568**	**0.0352**	**0.0087**	**0.0061**
1.0 dilution											
ID_B.1_1.0ng 5-C01	0.9441	0.6411	0.8333	0.9191	0.9722	0.8496	0.9924	0.7603	0.7393	0.9378	0.7186
ID_B.2_1.0ng 4-B02	0.9806	0.8708	0.9858	0.9390	0.8943	0.9535	0.9350	0.8860	0.9168	0.9894	0.8335
ID_B.3_1.0ng 1-A03	0.9607	0.9160	0.8447	0.9112	0.7898	0.8045	0.9363	0.9781	0.7893	0.8511	0.7123
Average PHR:	**0.9618**	**0.8093**	**0.8879**	**0.9231**	**0.8855**	**0.8692**	**0.9546**	**0.8748**	**0.8151**	**0.9261**	**0.7548**
Std Deviation:	**0.0183**	**0.1474**	**0.0849**	**0.0143**	**0.0915**	**0.0764**	**0.0328**	**0.1093**	**0.0915**	**0.0699**	**0.0682**
Min:	**0.9441**	**0.6411**	**0.8333**	**0.9112**	**0.7898**	**0.8045**	**0.9350**	**0.7603**	**0.7393**	**0.8511**	**0.7123**
Max:	**0.9806**	**0.9160**	**0.9858**	**0.9390**	**0.9722**	**0.9535**	**0.9924**	**0.9781**	**0.9168**	**0.9894**	**0.8335**
Std Error:	**0.0105**	**0.0851**	**0.0490**	**0.0083**	**0.0529**	**0.0441**	**0.0189**	**0.0631**	**0.0528**	**0.0403**	**0.0394**
.25 Dilution											
ID_D.1_0.25ng 9-E01	0.9716	0.8896	0.6182	0.8634	0.9341	0.9561	0.8171	0.8348	0.8025	0.6647	0.6633
ID_D.3_0.25ng 7-D03	0.6719	0.9185	0.5904	0.9539	0.8543	0.9382	0.8536	0.5661	0.8384	0.9604	0.9639
ID_D.2_0.25ng 8-D02	0.7659	0.7668	0.9693	0.7211	1.0000	0.8519	0.6947	0.5204	0.9604	0.8107	0.7181
Average PHR:	**0.8031**	**0.8583**	**0.7260**	**0.8461**	**0.9295**	**0.9154**	**0.7885**	**0.6404**	**0.8671**	**0.8119**	**0.7817**
Std Deviation:	**0.1533**	**0.0805**	**0.2111**	**0.1174**	**0.0730**	**0.0558**	**0.0832**	**0.1699**	**0.0827**	**0.1478**	**0.1601**
Min:	**0.6719**	**0.7668**	**0.5904**	**0.7211**	**0.8543**	**0.8519**	**0.6947**	**0.5204**	**0.8025**	**0.6647**	**0.6633**
Max:	**0.9716**	**0.9185**	**0.9693**	**0.9539**	**1.0000**	**0.9561**	**0.8536**	**0.8348**	**0.9604**	**0.9604**	**0.9639**
Std Error:	**0.0885**	**0.0465**	**0.1219**	**0.0678**	**0.0421**	**0.0322**	**0.0480**	**0.0981**	**0.0478**	**0.0854**	**0.0924**

FIGURE 8.21 Example of the left hand side of the PHR Report

A graph appears to the right of the Loci that displays the average PHR for each Locus by Dilution table.

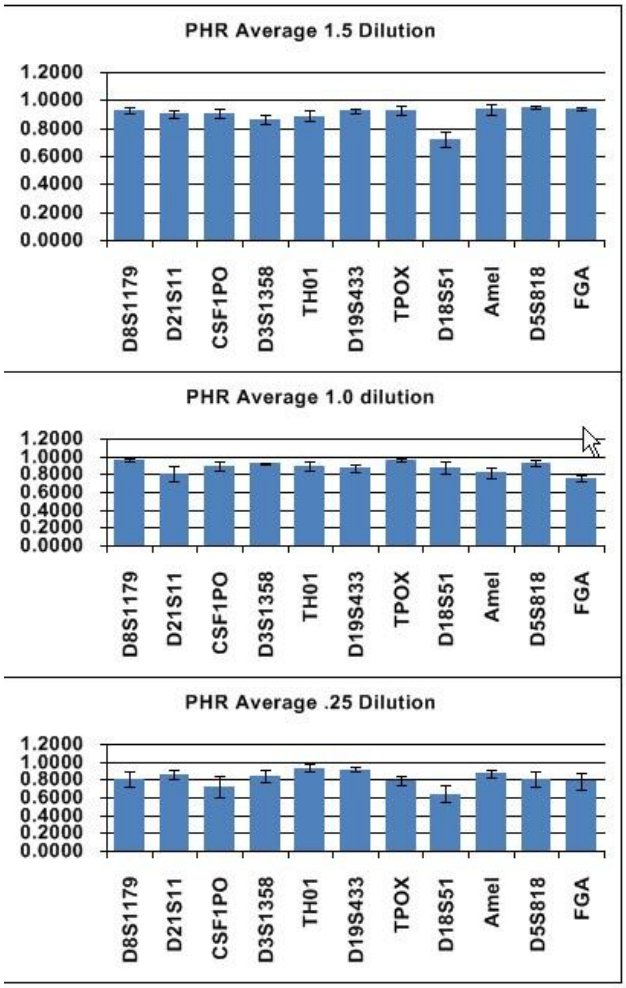


FIGURE 8.22 Example of the right hand side of the PHR Report

TemplateReport

The **Template Report** allows you to create your own customized template report. It allows you to create a template in Excel and then incorporate data from ArmedXpert into that customized template.

Appendix

Hot Keys

Function Keys:

F1	Selects Reference and Finds Where Reference is Included. (Make sure you are on the sample name that you want selected when pressing F1)
F2	Clear Match
F4	Print the selected Page
F5	Hide selected Rows or Columns
F6	Show all Rows and Columns
F7	Show Controls
F8	Show Samples
F9	Show Alleles
F10	Show RFUs
F11	Show Base Pairs

Alt Keys:

Alt, then right click mouse	Open the Mixture Interpretation window, by holding down the "alt" button and clicking on any of the Loci or the sample name for the sample you wish to interpret.
Alt →	Increase Column Width
Alt ←	Decrease Column Width
Alt ↑	Increase Row Height
Alt ↓	Decrease Row Height

Misc Keys:

Ctrl ↑	Moves to Top Row
Ctrl Home	Moves to First Row and First Locus Position
Ctrl End	Moves to Last Row and Last Locus Position
Esc	Clears pick via mouse option
Tab	Moves to Next Cell in Row
Shift Tab	Moves to Previous Cell in Row