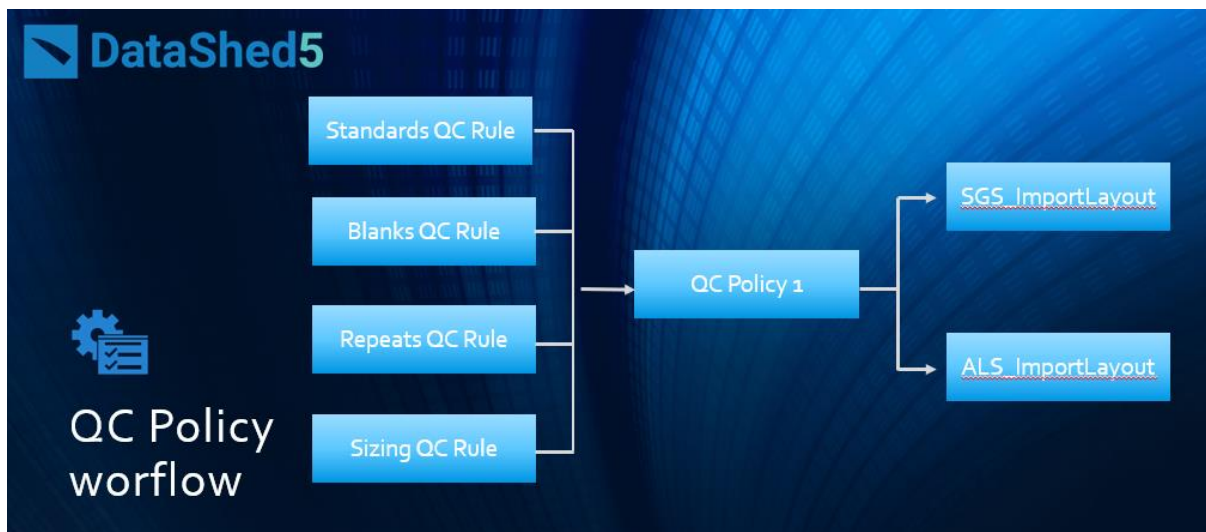


### Assay Manager - How to Guide

The DataShed5 Assay Manager provides the ability for a user to query assay batches loaded, process, analyse, approve and report on assay batches by applying QC rules to assay batches that are loaded into the database.

The workflow for set up and use of Assay Manager is as follows

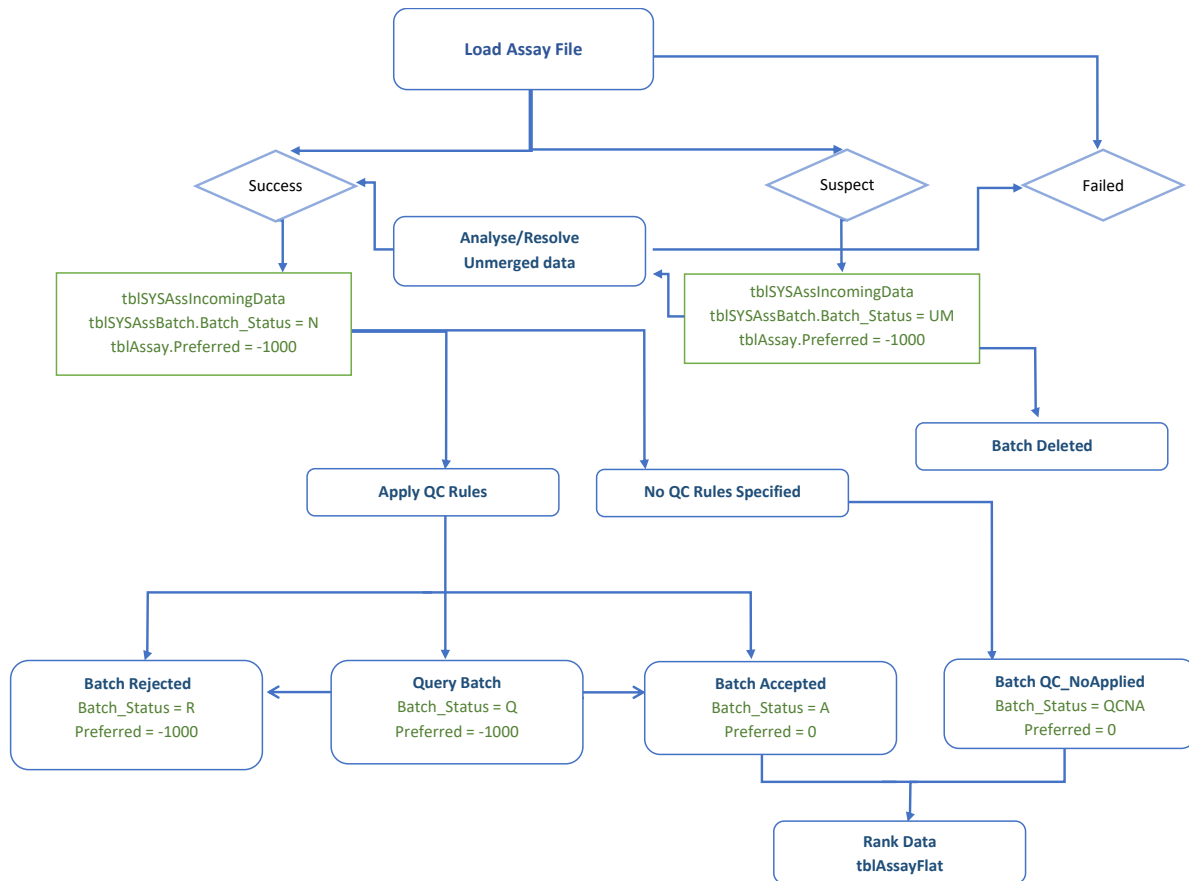
1. Create the QC rules:
  - Standards - will check standard sample results are within 2 standard deviations of an expected Value.
  - Blanks - will check blank sample results are within the Expected Min and Expected Max values.
  - Repeats - will check repeat results are less than 10% difference from the original value
  - Screen test - will check if the p75um result is greater than 80%
2. Create QC policy and assign QC rules to it
3. Assign QC policy to import layout



4. Load assays and DataShed5 will apply QC rules
5. Check QC results and approve/reject

The assay loading workflow is as follows:

Note the relevant Batch\_Status codes and Preferred values



### Security Levels for Users

- SysAdmin – maintain assay library data, configure QC policy, Configure assay administration and delete batches
- UserPlus - can edit batch data, process and approve batches
- Users – can view and filter Assay Manager, analyse assay data using QAQC dashboard & assay batch status report

The Assay Manager screen has the following expandable components:

The **Filters** at the top allow the user to display just the required batches by defining dates, labs etc

Assay  01-Jan-2016  \*All Batch Status\*  \*All Labs\*

Once the filter is applied the **Batch List** shows the batch detail such as assigned Layout and Active QC Policy

Batch No	Lab Code	Batch Status	Sample Count	Samples Merged	Results Count	Results Merged	Active QC Policy	Import Layout	Loaded By	Load Date	Validated By	Comments	
<input type="checkbox"/> <input type="checkbox"/>	MAX021619	SGS	Accepted	89	89	620	620	QCPolicy1	SGS_CSV	MAXGEO\jepson	16-Feb-2020 08:00:00 AM	sdexter	Passed SDexter 1/12/20...
<input type="checkbox"/> <input type="checkbox"/>	MAX021652	SGS	Accepted	147	147	954	954	QCPolicy1	SGS_CSV	MAXGEO\jepson	16-Feb-2020 08:00:00 AM	sdexter	Passed
<input type="checkbox"/> <input type="checkbox"/>	MAX021666	ALS_KAL	Rejected	162	162	1054	1054	QCPolicy1	SGS_CSV	MAXGEO\jepson	16-Feb-2020 08:00:00 AM		
<input type="checkbox"/> <input type="checkbox"/>	MAX021667	SGS	Accepted	147	147	953	953	QCPolicy1	SGS_CSV	MAXGEO\jepson	20-Sep-2017 16:47:48 PM		
<input type="checkbox"/> <input type="checkbox"/>	MAX021719	SGS	QC Not Applied	73	73	710	710	QCPolicy1	SGS_CSV	MAXGEO\jepson	20-Sep-2017 16:47:48 PM		

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The process batch action ( ) is only available to SysAdmin and allows the user to reprocess the batch (eg for unmerged results or QC policy no assigned to import layout) which will retry merge, run the QC checker and rank the data if accepted.

The delete option ( ) is only available to the SysAdmin and allows the user to delete a batch

The Batch Status values are:

- Accepted (A) – all QC rules passed
- Queries (Q) – one or more QC rule/s failed
- Unmerged (U) – QC policy has not been applied due to eg missing sample numbers
- Rejected (R) – all QC rules failed
- QC Not Applied (QC\_NA) – QC no rules applied to batch (note: all historic batches prior to upgrade to MDS 4.6.5 will have QC Not Applied batch status)

Entries in red are batches that have not been validated.

The **Unmerged Assay Results** screen shows details of any batches that have not been merged

Unmerged Assay Results

Batch No	Lab Code	Exception Type	Comments	Post Processing Scheme	Source Row Number	Orig Method	Lab Element	Element	Repeat	Sample ID	Assay Result
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

No data

The **Assay Batch Header** screen show the details of the assay batch including dates, sample counts and validation status

Assay Batch Header

Batch No	Lab Code	Dispatch No	Dispatched Date	Lab Received Date	Lab Prelim Date	Lab Job Date	Lab Final Date	Lab Job Notes	Lab Sample Prep	Validated	Validated By	Date Validated	Comments
<input type="checkbox"/> <input type="checkbox"/>	MAX021619	SGS	123335	03-Feb-2020	04-Feb-2020		11-Feb-2020	11-Feb-2020		<input checked="" type="checkbox"/>	sdexter	01-Dec-2020	Passed SDexter 1/12/2020
<input type="checkbox"/> <input type="checkbox"/>	MAX021652	SGS	123337	03-Feb-2020	05-Feb-2020		11-Feb-2020	11-Feb-2020		<input checked="" type="checkbox"/>	sdexter	24-Dec-2020	Passed
<input type="checkbox"/> <input type="checkbox"/>	MAX021666	ALS_KAL	123338	04-Feb-2020	05-Feb-2020		11-Feb-2020	11-Feb-2020					
<input type="checkbox"/> <input type="checkbox"/>	MAX021667	SGS	123339	04-Feb-2013	05-Feb-2013		11-Feb-2013	11-Feb-2013					
<input type="checkbox"/> <input type="checkbox"/>	MAX021719	SGS	123340	06-Feb-2013	07-Feb-2013		13-Feb-2013	13-Feb-2013					

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The **Assay Batch Details** screen shows the details of the assays completed such as assay method, element and limits

Assay Batch Detail

Batch No	Lab Code	Orig Method	Lab Element	Element	Repeat	Limit Lower	Limit Upper	Unit Code	Generic Method	Preparation	Acid Strength	Leach Time	Tolerance	Temperature
MAX021666	ALS_KAL	AAS12S	Ag	Ag	0	0.5	100	PPM	AR_AAS					
MAX021666	ALS_KAL	AAS12S	Ag(R)	Ag	R1	0.5	100	PPM	AR_AAS					
MAX021666	ALS_KAL	AAS12S	Cu	Cu	0	2	10000	PPM	AR_AAS					
MAX021666	ALS_KAL	AAS12S	Cu(R)	Cu	R1	2	10000	PPM	AR_AAS					
MAX021666	ALS_KAL	FAA303	Au	Au	0	0.01	1000	PPM	FA30_AAS					

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The **QC Results** screen shows the results of the QC rules applied. Each rule can be expanded to display the individual assay results

QC Results

Batch No	Lab Code	QC Type	QC Description	QC Rule codes	Element	Results Pass %	QC Rule Pass %	QC Status			
MAX021666	ALS_KAL	STD	STD_Rule_2STD_AU: Standards within 2STD of expected value	*ALL STANDARDS*	Au	40	>75	Fail			
Dataset	SampleID	Standard Type	StandardID	Element	System Unit	Generic Method	sysResult	Expected Value	Lower Limit St...	Upper Limit St...	QC Status
QCEXP	D163720	NR	G910-10	Au	ppm	FA30_AAS	0.47	0.97	0.89	1.05	Fail
QCEXP	D163840	NR	G910-10	Au	ppm	FA30_AAS	2.3	0.97	0.89	1.05	Fail
QCEXP	D163840	NR	G910-10	Au	ppm	FA30_AAS	2.37	0.97	0.89	1.05	Fail
QCEXP	D163780	NR	G912-3	Au	ppm	FA30_AAS	1.32	0.01	-1.99	2.01	Pass
QCEXP	D163780	NR	G912-3	Au	ppm	FA30_AAS	1.31	0.01	-1.99	2.01	Pass
MAX021619	SGS	STD	STD_Rule_2STD_AU: Standards within 2STD of expected value	*ALL STANDARDS*	Au	0	>75	Fail			
MAX021619	SGS	Repeats	RPT_Rule_LABCHECK_AU: Lab Check repeats within 10% difference of original value	Lab Pulp Checks	Au	100	>75	Pass			
MAX021666	ALS_KAL	Repeats	RPT_Rule_LABCHECK_AU: Lab Check repeats within 10% difference of original value	Lab Pulp Checks	Au	0	>75	Fail			
MAX021619	SGS	Repeats	RPT_Rule_LABREPEAT1_AU: Lab Repeat 1 within 10% difference of original value	Lab Repeat 1	Au	100	>75	Pass			

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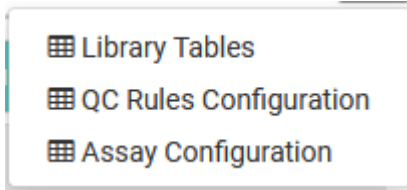
The **Batch Approval** screen allows the user to approve/reject a batch. Once a batch is approved it is automatically ranked. If the batch is loaded by AAL and is Accepted (eg passes all QC rules) accepted it is automatically validated.

Batch Approval

Batch No	Lab Code	Batch Status	Validated	Validated By	Date Validated	Comments	Email List
MAX021619	SGS	Accepted	<input checked="" type="checkbox"/>	sdexter	01-Dec-2020	Passed SDexter 1/12/2020	lbom@maxgeo.com,mfiggins@maxgeo.co...
MAX021652	SGS	Accepted	<input checked="" type="checkbox"/>	sdexter	24-Dec-2020	Passed	lbom@maxgeo.com,mfiggins@maxgeo.co...
MAX021666	ALS_KAL	Rejected	<input type="checkbox"/>				lbom@maxgeo.com,mfiggins@maxgeo.co...
MAX021667	SGS	Accepted	<input type="checkbox"/>				lbom@maxgeo.com,mfiggins@maxgeo.co...
MAX021719	SGS	QC Not Applied	<input type="checkbox"/>				lbom@maxgeo.com,mfiggins@maxgeo.co...

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The configuration menu button (  ) displays the following options:















**Library Tables** allows the user to manage the library tables associated with the assay process including labs, elements, lab methods and the QC reference tables



**Assay Configuration** allows the user to manage the attributes that add columns to tblAssayFlat though RHNorm > details of AM\_RH\_Assay

RH Norm

	Name	Assay Table	Assay Flat Table
 	AM_RH_Assay	tblAssay	tblAssayFlat
 	AM_RH_AssayWater	tblAssayWater	tblAssayWaterFlat
 	AM_RH_AssayXRF	tblXRFResults	tblVWXRFResults

Attributes for tblAssay:







	Element	Attribute Name	Mode	Field Name	Field Type
 	Q	Q	Q (All)	Q	Q
 	'Ag'	Ag_4AC_ICPMS_ppm	Static	sysResult	Single
 	'Ag'	Ag_ppm	Preferred Value Calculation	sysResult	Single
 	'Al'	AL_4AC_ICPMS_pct	Static	sysResult	Single
 	'Al'	AL_pct	Preferred Value Calculation	sysResult	Single
 	'Al'	AL_ppm	Preferred Value Calculation	sysResult	Single

	Definition Type	Field	Value
 	Conversion	10000	

**QC Rules Configuration** allows the user to define the QC rules to be used. DataShed5 comes with standard QC rules for gold (Au) installed which can be used as templates for use with other elements.

The **QC Rules Standards** will check standard sample results are within 2 standard deviations of an expected Value.

QC Rules Configuration

	Code	Description	QC Type	Standard Types	Element	Pass%	Exclude BDL	Exclude OR	Reference Values	Std Deviation	Is Active
 	Q	Q	Q (All)	Q (All)	Q (All)	75	<input type="checkbox"/>	<input type="checkbox"/>	UseExpectedValue	1	<input checked="" type="checkbox"/>
 	STD_Rule_1STD_AU	Standards within 1...	STD	*ALL STANDARDS*	Au	75	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	UseExpectedValue	2	<input checked="" type="checkbox"/>
 	STD_Rule_3STD_AU	Standards within 3...	STD	*ALL STANDARDS*	Au	75	<input type="checkbox"/>	<input type="checkbox"/>	UseExpectedValue	3	<input checked="" type="checkbox"/>

The Standards rule setup screen has the following components:

Code – the QC rule name

Description – description of QC rule

QC type – type of QC rule

Standard Types – drop down allowing choice of standards available eg ALL, LAB, CLIENT

Element – element to be assayed

Pass% - percentage to pass rule for rule to be successful

Exclude BDL/OR – exclude Below Detection Limit/OverRange values

Reference Values – Standard Expected or Standard High Low value

Standard Deviation – 1,2 or 3 STD

Is Active – rule is active or not

Create New QC Rule Standards (Copied) ✕

Code: *	<input type="text" value="STD_Rule_1STD_AU"/>	Description: *	<input type="text" value="Standards within 1STD of expected value"/>
QC Type: *	<input type="text" value="STD"/>	Standard Types: *	<input type="text" value="*ALL STANDARDS*"/>
Element: *	<input type="text" value="Au"/>	Pass%: *	<input type="text" value="75"/>
Exclude BDL:	<input type="checkbox"/>	Exclude OR:	<input type="checkbox"/>
Reference Values: *	<input type="text" value="UseExpectedValue"/>	Std Deviation:	<input type="text" value="1"/>
Is Active:	<input checked="" type="checkbox"/>		

The Blanks rule setup screen has the following components:

Code – the QC rule name

Description – description of QC rule

QC type – type of QC rule

Standard Types – drop down allowing choice of blanks available eg ALL, LAB, CLIENT

Element – element to be assayed

Pass% - percentage to pass rule for rule to be successful

Exclude BDL/OR – exclude Below Detection Limit/OverRange values

Reference Values – Blank Expected or Blank High Low value

Standard Deviation – 1,2 or 3 STD

Is Active – rule is active or not

The screenshot shows a form titled "Create New QC Rule Blanks (Copied)" with a close button (X) in the top right corner. The form is organized into two columns of fields:

- Code:** \* BLANK\_Rule\_Au
- Description:** \* Blanks within the expected min and max
- QC Type:** \* BLANK
- Standard Types:** \* \*ALL BLANKS\*
- Element:** \* Au
- Pass%:** \* 75
- Exclude BDL:**
- Exclude OR:**
- Reference Values:** \* UseHighLow
- Std Deviation:** Select...
- Is Active:**

At the bottom right of the form, there are two buttons: "Save" and "Cancel".

The Repeat rule setup screen has the following components:

Code – the QC rule name

Description – description of QC rule

QC type – type of QC rule

Repeat Types – drop down allowing choice of repeats available eg Duplicate, Pulp, Repeat, Field, Lab

Element – element to be assayed

Pass% - percentage to pass rule for rule to be successful

% Difference from Original Reference Value – value 0-100

Value \* Detection Limit (lower limit) – is a percentage that will determine if the repeat result fails or passes.

Active – rule is active or not

Create New QC Rule Repeat (Copied) ✕

Code: *	<input type="text" value="RPT_Rule_LABCHECK_AU"/>	Description: *	<input type="text" value="Lab Check repeats within 10% differe"/>
QC Type: *	<input type="text" value="Repeats"/> <span>✕</span> <span>▼</span>	Repeat Type: *	<input type="text" value="Lab Pulp Checks"/> <span>✕</span> <span>▼</span>
Element: *	<input type="text" value="Au"/> <span>✕</span> <span>▼</span>	Pass%: *	<input type="text" value="75"/>
% Difference From Original Value: *	<input type="text" value="10"/>	Value * Detection Limit (lower limit): *	<input type="text" value="10"/>
Active:	<input checked="" type="checkbox"/>		



The Screen Test rule setup screen has the following components:

Code – the QC rule name

Description – description of QC rule

QC type – type of QC rule

Element – element to be assayed

Lower Limit – lower size value

Upper Limit – upper size value

Pass% - percentage to pass rule for rule to be successful

Active – rule is active or not

Create New QC Rule Screen Test (Copied) ✕

Code: *	<input type="text" value="SCREEN_Rule_p75um"/>	Description: *	<input type="text" value="Screen Test check for p75um"/>
QC Type: *	<input type="text" value="Screen"/> <span>✕</span> <span>▾</span>	Element: *	<input type="text" value="p75um"/> <span>✕</span> <span>▾</span>
Lower Limit Value: *	<input type="text" value="0"/>	Upper Limit Value: *	<input type="text" value="80"/>
Pass%: *	<input type="text" value="75"/>	Active:	<input checked="" type="checkbox"/>

The **QC Policy** screen allows the user to create a QC Policy and name it

QC Policy

+		Description
		Q
✎ 🗑		QC Policy 1

The **QC Policy Rule** screen allows the user to add QC Rules to a QC Policy

QC Policy Rule

+		QC Policy	QC Rule
		Q (All) ✕	Q (All)
🗑	QCPolicy1		RPT_Rule_LABCHECK_AU
🗑	QCPolicy1		RPT_Rule_LABREPEAT1_AU
🗑	QCPolicy1		SCREEN_Rule_p75um
🗑	QCPolicy1		STD_Rule_2STD_AU

The **QC Policy Layout** screen allows the user to apply a QC Policy to an import layout. Each import layout can only have one QC Policy applied but one QC Policy can be applied to many different import layouts

QC Policy Layout

+		QC Policy	Layout	Is Active
		Q (All) ✕	Q (All) ✕	Q (All) ✕
✎ 🗑		QCPolicy1	SGS_CSV	✓

The **QC Emails** screen allows email recipients to be added to receive the Batch Approval Notifications

QC Emails

+		Notification Type	Email
		Q (All) ✕	Q
🗑	BatchApprovalNotifications		lbom@maxgeo.com
🗑	BatchApprovalNotifications		mfiggins@maxgeo.com

If you have any questions on how to use Assay Manager, please contact us [servicedesk@maxgeo.com](mailto:servicedesk@maxgeo.com).