FUSIONX – SP4

MARCH 2023

FUSION ADMINISTRATOR

HOW-TO DOCUMENTATION

DATAMINE SOFTWARE

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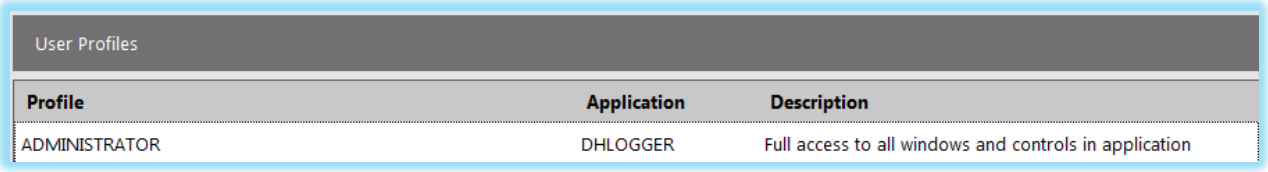
PURPOSE

The Fusion suite of applications share a set of databases (Central, Fusion Remote, Local) and it is with the Fusion Administrator application that the customization of tables, management of users and groups, and configuration of modules is completed. This administration is completed in the single Central database. DHLogger and Sample Station handle the distribution of changes, both structural and data, to the other databases.

PREREQUISITES FOR USING THE APPLICATION

USER PROFILE PERMISSION

Accessing the Fusion Administrator application should be done by users that have the Administrator User Profile. This can be assigned in the User Administration window within Fusion Administrator.

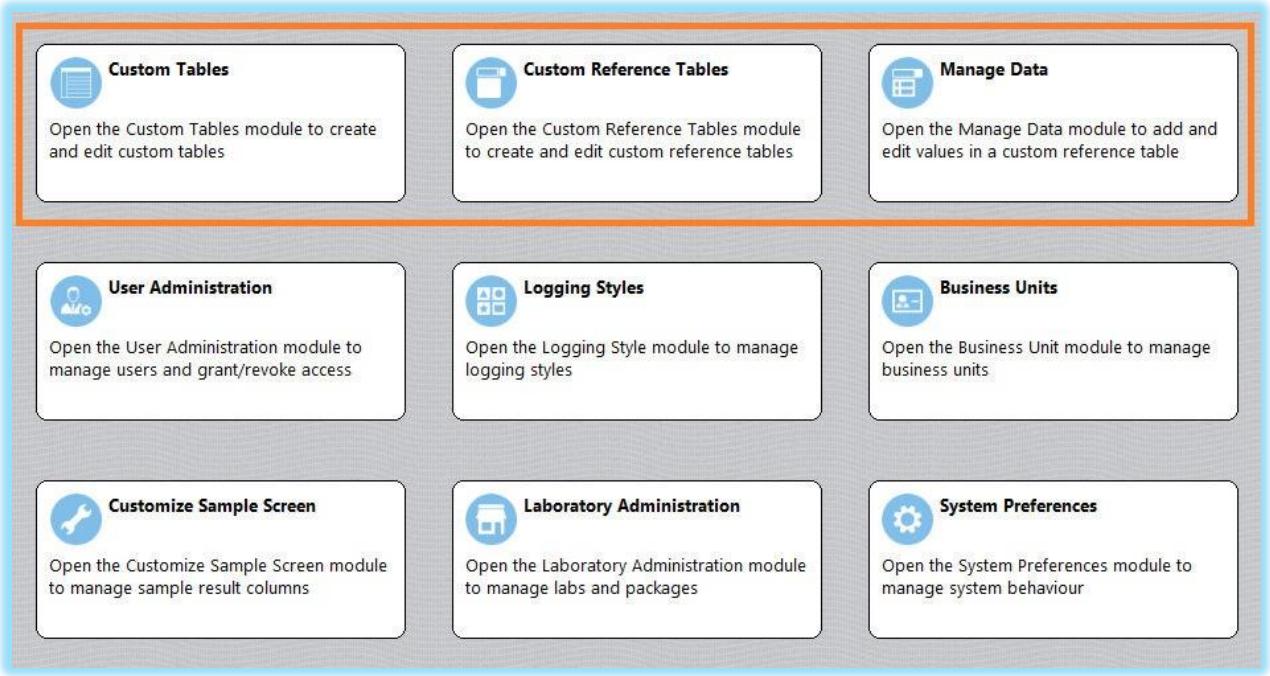


DATABASE CONNECTION

Fusion Administrator is meant to be used against the Central database, but in some organizations, it may be used while connected to a Standalone (Local) database.

CUSTOMIZATION OF TABLES

OVERVIEW



The Fusion database structure contains configurable tables that fall into one of 2 categories: Data Tables and Reference Tables.

DATA TABLES

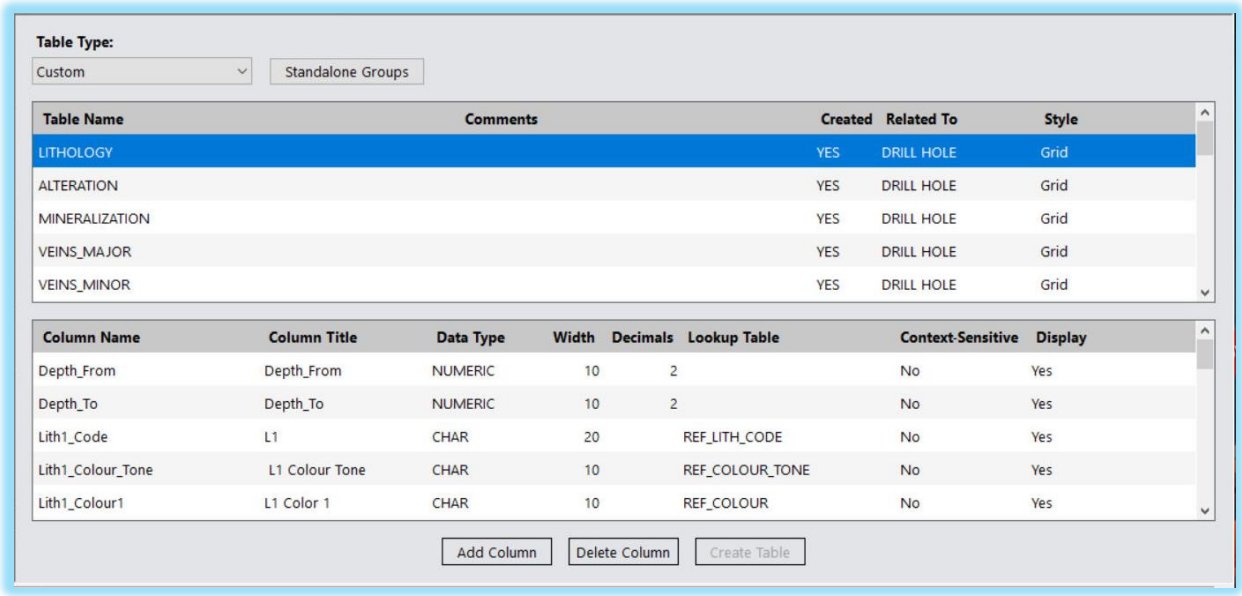
- Used to store user-entered records
- Link to reference tables to ensure Referential Integrity (RI)
- Standard (built-in) and Custom tables are available
- Standard tables can have columns added to them
- Standard tables do not have to be used
- Custom Tables are created when the standard tables are not sufficient for logging needs

REFERENCE TABLES

- Tables that store picklist items
- Used within data tables
- Standard (built-in) and Custom lists are available
- Standard picklists are used in the built-in tables and the collar screen
- Standard picklists have been made for items common to most clients
    - e.g. Rock Type, Texture Type
- Custom picklists can be created when the standard picklists are not sufficient for all data capture needs
- Custom picklists are stored as REF_TableName

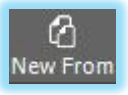
CUSTOMIZING A DATA TABLE

Customizing a standard (built-in) data table and creating a custom data table are both performed in the Custom Tables module, accessible from this tile, or [Maintain > Define Custom Table...] menu.



From this window, you can access Custom Tables, Standard Tables and LAS Tables. You can create new custom tables, or customize any table by adding new columns, editing existing columns, and deleting custom columns. As well, you can access a window to create groups out of Standalone tables.

With "Custom" selected as the Table Type, use the New button on the toolbar to create a new custom table.



With a table selected, using the New From button on the toolbar will copy an existing table's settings and column definitions. You will be required to give the table a new name (it defaults to "NEWTABLE").

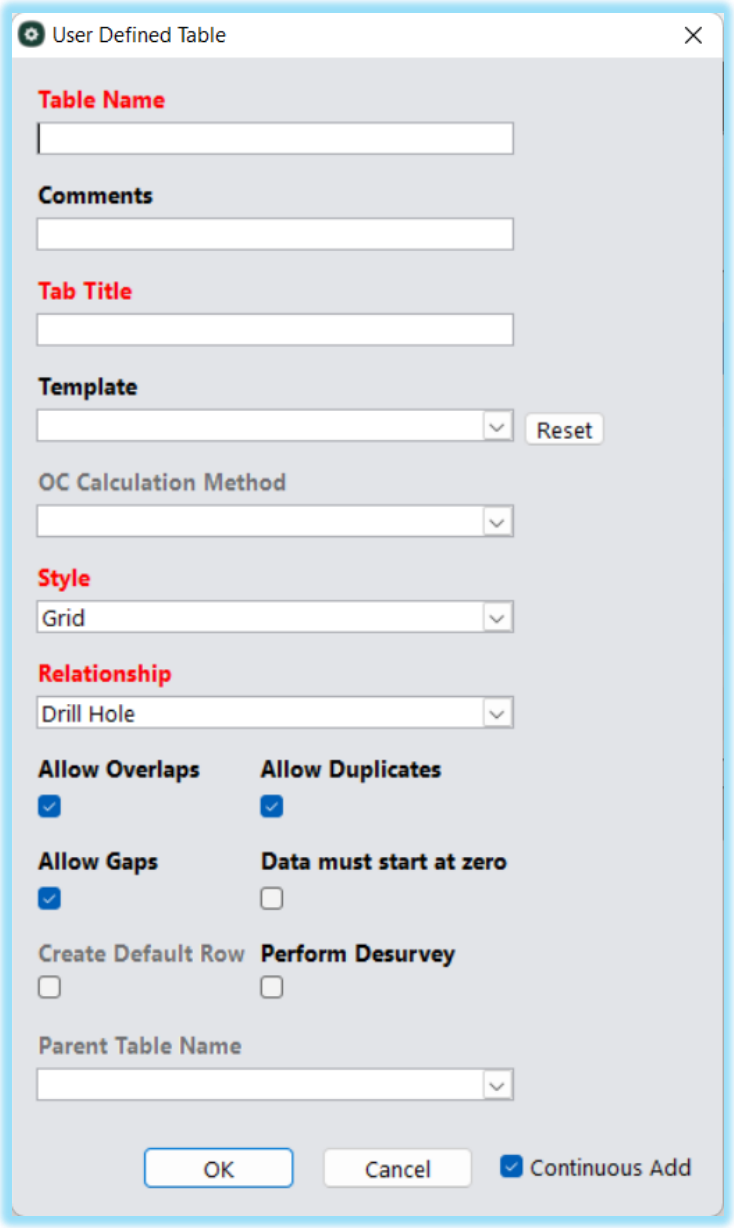

User Defined Table
Table Name
Comments
Tab Title
Template
Reset
OC Calculation Method
Style
Grid
Relationship
Drill Hole
Allow Overlaps
Allow Duplicates
Allow Gaps
Data must start at zero
Create Default Row
Perform Desurvey
Parent Table Name
OK
Cancel
Continuous Add

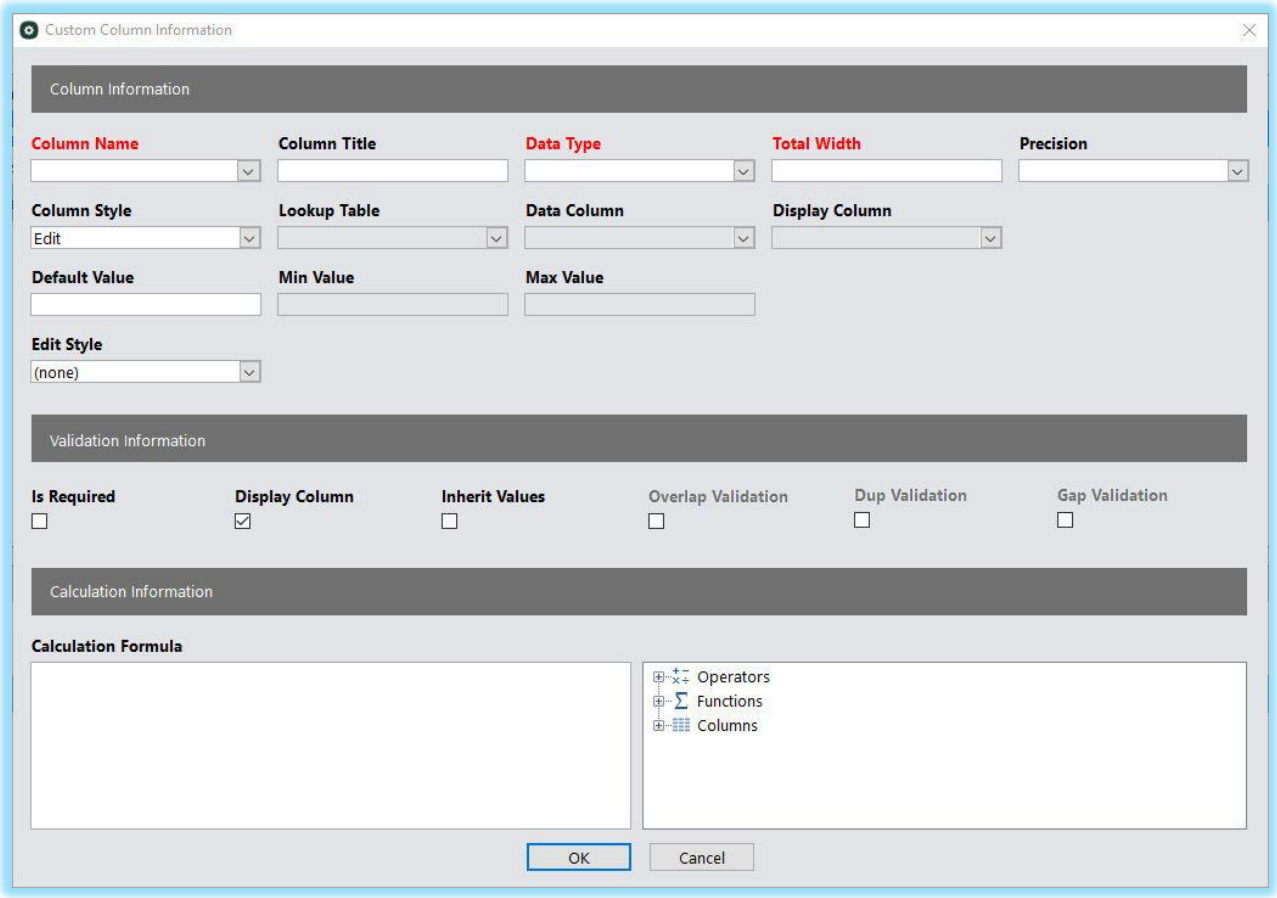
Table Details

- **Table Name:** physical name of the table (will be automatically prefixed with UDEF_)
- **Comments:** description of table
- **Tab Title:** title that will be displayed on the tab ***
- **Template:** There are 2 Oriented Core templates, each with the same columns that are automatically included, and are required for OC calculations; and 2 templates that match the table structure of tables used in Core Profiler
  - *OC - All: uses survey records of all types in the OC calculations*
  - *OC - Ranked: uses only the survey records that have the highest ranking test type*
  - *CP Core: columns match those in Core Profiler's Core Units table*
  - *CP Defects: columns match those in Core Profiler's Defects table*
- **OC Calculation Method:** There are 3 methods for performing the calculations on columns within tables created with either of the OC Templates ***
  - *Simple: calculates with OCore.dll*
  - *Simple, Line and Plane: calculates with OCore.dll, Line and Plane columns calculated*
  - *Core, Line and Plane: calculates all columns*
- **Style:** Grid / Form layout ***
- **Relationship:** whether the table is a Drill Hole table, Interval table (will link to Major / Minor intervals and have depth constraints based on their depths), Sample Station table, or Standalone Table
- **Allow Overlaps, Allow Duplicates, Allow Gaps:** validations on Depth_From, Depth_To columns ***
- **Data must start at zero:** validation (table's data must have a Depth_From = 0) ***
- **Create Deafult Row:** an interval-related table setting, when Major/Minor is added, a new row is added to this table with same depths ***
- **Perform Desurvey:** an option available to custom tables, which will add a specific set of columns during table creation, and allows for the storage of the results of a Desurvey of the Drillhole
- **Parent Table Name:** a pick list, available for Standalone Tables only, that links tables in a parent/child relationship. Only standalone tables that have a unique key defined will be available as a Parent

*** Business Unit preferences may override these settings, applicable to Sample Station UDEF tables only (as DHLogger now shows List and Form, and Standalone Tables are GRID only)*

At this point, the new table is not yet created as column definitions must be added first.

Use the Add Column button to add column definitions to a table. If the table has already been created, the column will be added to the physical table; not just to the table's definition in preparation for table creation.


Custom Column Information
Column Information
Column Name
Column Title
Data Type
Total Width
Precision
Column Style
Edit
Lookup Table
Data Column
Display Column
Default Value
Min Value
Max Value
Edit Style
(none)
Validation Information
Is Required
Display Column
Inherit Values
Overlap Validation
Dup Validation
Gap Validation
Calculation Information
Calculation Formula
Operators
Functions
Columns
OK
Cancel

Column Information

- **Column Name:** physical name of the column in the table
- **Column Title:** custom label for the column ***
- **Data Type,Total Width, Precision:** column's definition details
- **Column Style:** Edit / Dropdown with FK (picklist)
- **Lookup Table, Data Column, Display Column, Lookup Style:** picklist settings available when you have selected "Dropdown with FK" style ***
- **Decimal Places to Show:** setting to control the appearance of numeric columns in data enty windows ***
- **Default Value, Min Value, Max Value:** default value for the column, and for numeric columns, Minimum and Maximum values used in validation during data entry ***
- **Depth Increment, Value:** setting, visible only for "Depth_To" columns; allows for specification of default intervals (enable, then set the Value; eg. "5" would create 0-5 for first row, 5-10 for second row; "0" would create copy of first row's depths)
- **Context-Sensitive:** setting, available when you have selected "Dropdown with FK" style; would indicate that the values in this column's picklist are dependent on the value entered in another column that has a picklist; within the configuration, the column that provides context can vary by Business Unit
- **Edit Style:** (none) / checkbox style; DateTime / Time Only - 24 hour / Time Only - am-pm

*** *Business Unit preferences may override these settings*

Validation Information

- **Is Required:** determines if the "field" can contain NULL or not (on-screen validation only, as the column remains nullable in the database); if a column will be identified as part of a unique key (standalone tables), it must be required ***
- **Display Column:** whether or not the column is visible ***
- **Inherit Values:** when enabled, this column will contain the same value as the previously created row (does not apply to DRILL_HOLE columns) ***
- **Overlap, Dup, Gap Validation:** dependent on Table Configuration, additional columns can be included in determining whether a row is a duplicate (or gap or overlap) ***

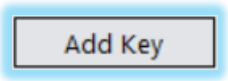
*** *Business Unit preferences may override these settings*

Calculation Information

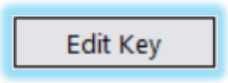
- **Calculation Formula:** if a calculated column is needed, simply type or drag/drop operatons, functions and columns into this field; validation of the formula occurs before saving, checking for correct syntax; do not use another calculated column in a formula

The Delete Column button will delete a column's definition from a not-yet-created table, or it will drop a column from the physical table when the table has already been created. There are some cases where columns are not allowed to be deleted. For example, columns that are in use by a Calculation Formula; Depth_From or Depth_To in an interval-related table; and columns that are added when the table is defined with from a Template.

Once the table definition and all the column definitions are complete, use the Create Table button to issue a command to the database to create the table. This will also add the statements to the COMMON_SQL_STATEMENTS table so that the table will be created in the Fusion Remote and/or Local when the databases are synchronized.



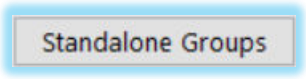
Once a Standalone table has been created, you have the option of adding a Unique Key to the table, composed of any of the required (non-null) columns that were defined.



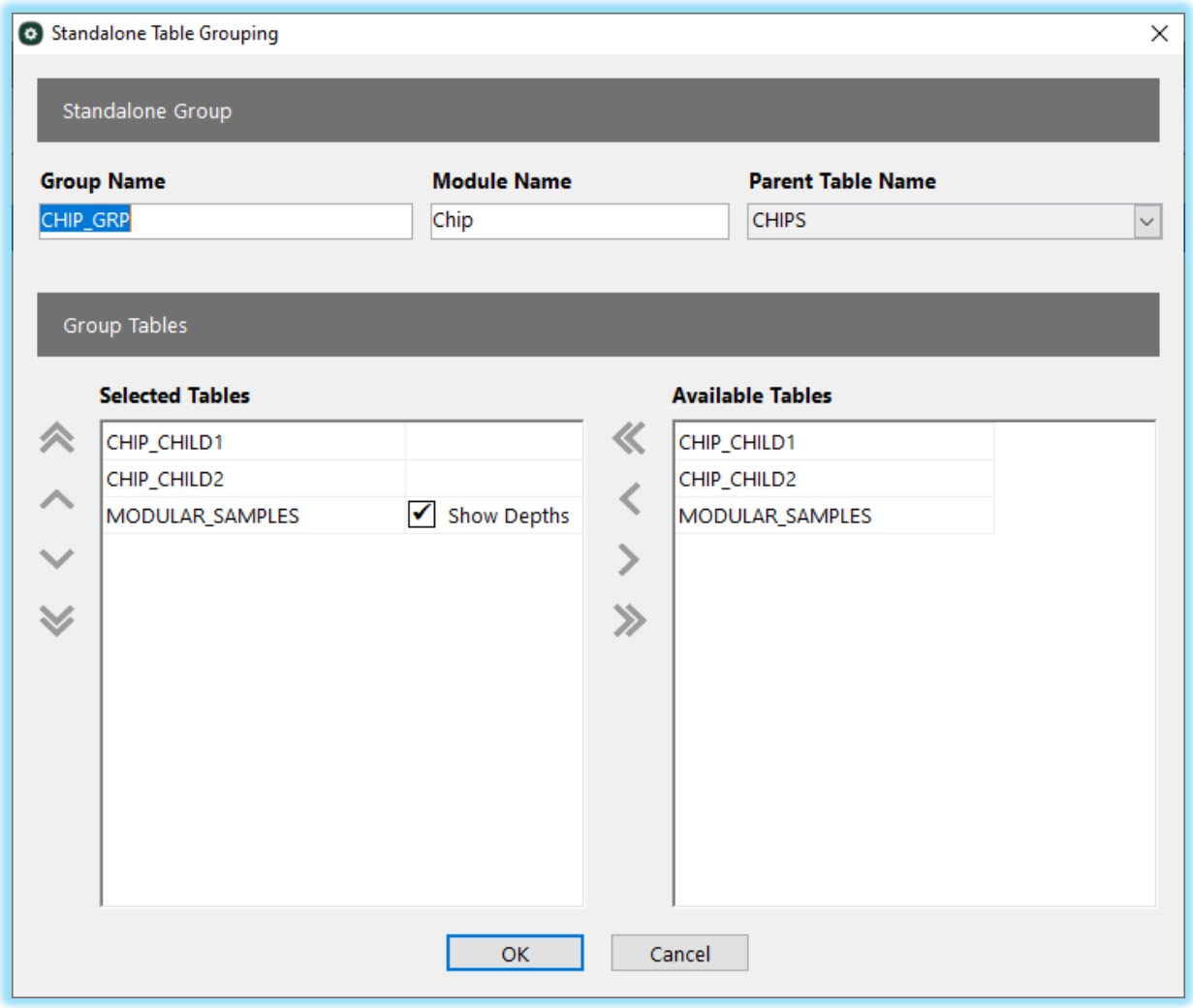
A key can also be changed or removed, using the Edit Key button (which becomes visible only when a key is created).

When a new data table is created it will need to be added to the appropriate Logging Styles if Logging Styles are used.

When new columns are added to existing tables, they may need to be associated with Logging Styles, if 'Limit Columns by Logging Styles' is enabled.



This button accesses a window that allows for the creation of Groups, to be used when logging Standalone tables that are related to one another in a Parent / Child organization.



Standalone Group

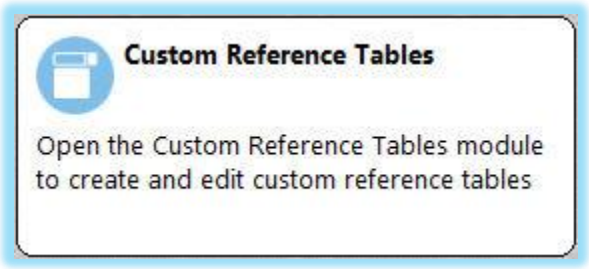
- **Group Name:** name for the group of related tables
- **Module Name:** name of the module to log samples
- **Parent Table Name:** picklist containing tables for which child tables have been defined

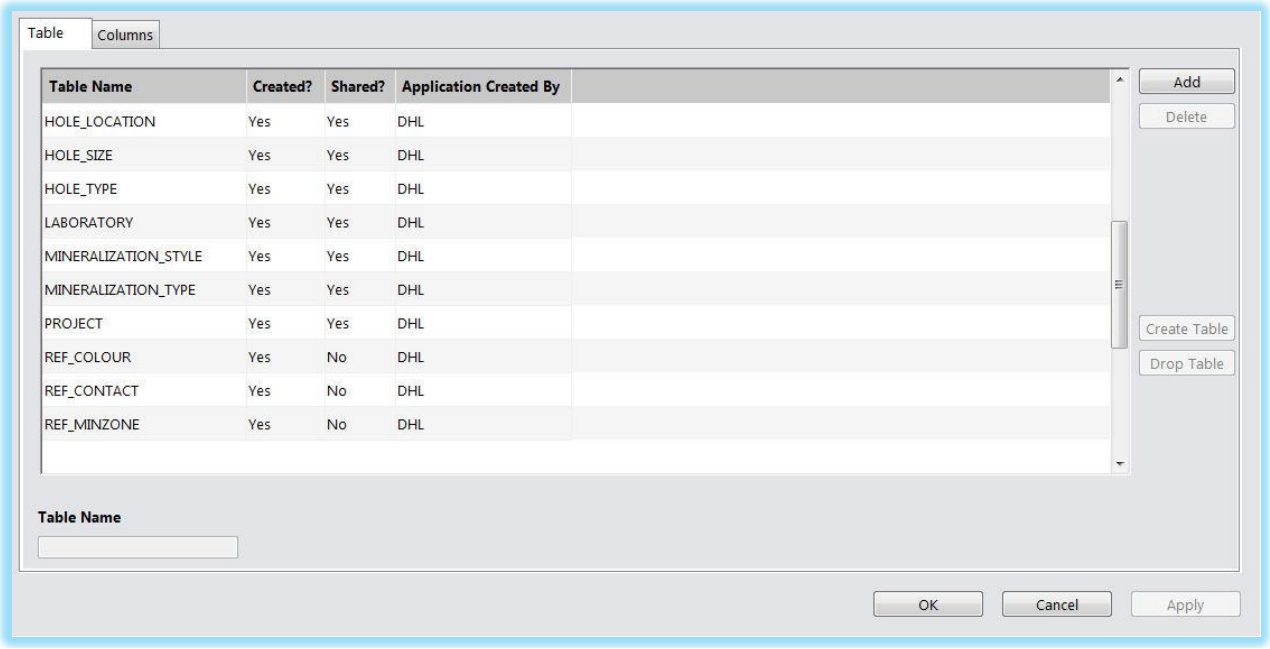
Group Tables

- **Available Tables:** once the Parent Table has been chosen for the group, the list of available tables will be filtered to display only those that are defined with the parent table. It will also show modular_samples table if module name has been entered for this group
- **Selected Tables:** the tables that will be grouped together in the Log > Standalone Tables module. If modular_samples table is selected, you can choose to either show depths for samples or hide them. They are set to visible by default.

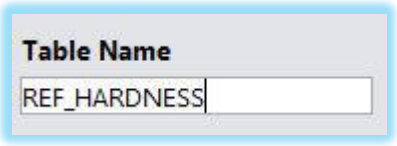
CREATING A CUSTOM REFERENCE TABLE

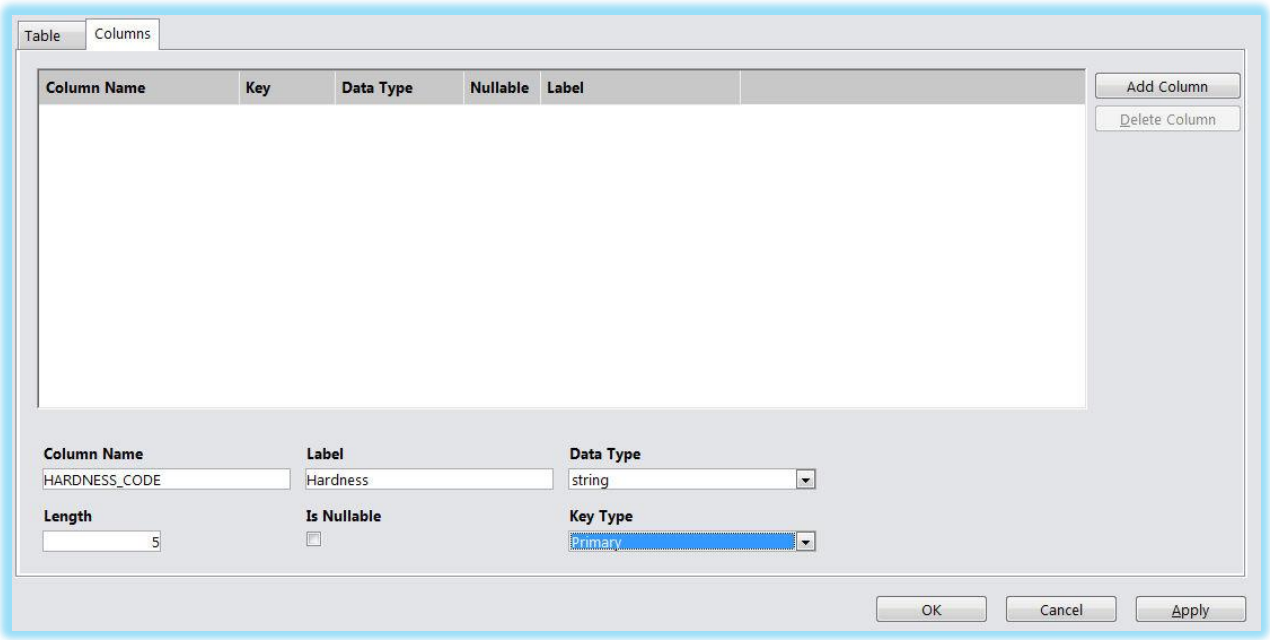
Creating a custom reference table is performed in the Custom Reference Tables module, accessible from this tile, or [Maintain > Custom Reference Tables > Define Reference Tables...] menu.



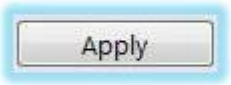


Clicking on the New toolbar item or the Add button in the window will create a new table, pre-set as REF_NEW, which can be renamed.

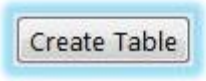




Switching to the "Columns" tab and clicking the Add Column button will allow you to customize your new reference table to suit your needs. Continue to add columns by filling out the column information and clicking the "Add Column" button.



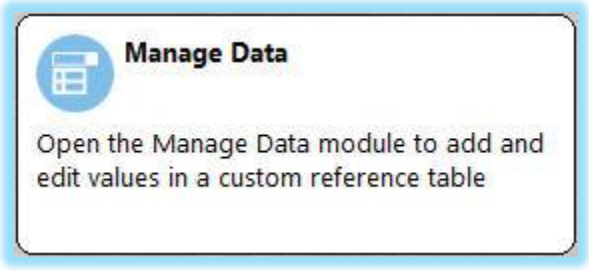
When all column definitions are finished, click the "Apply" button.

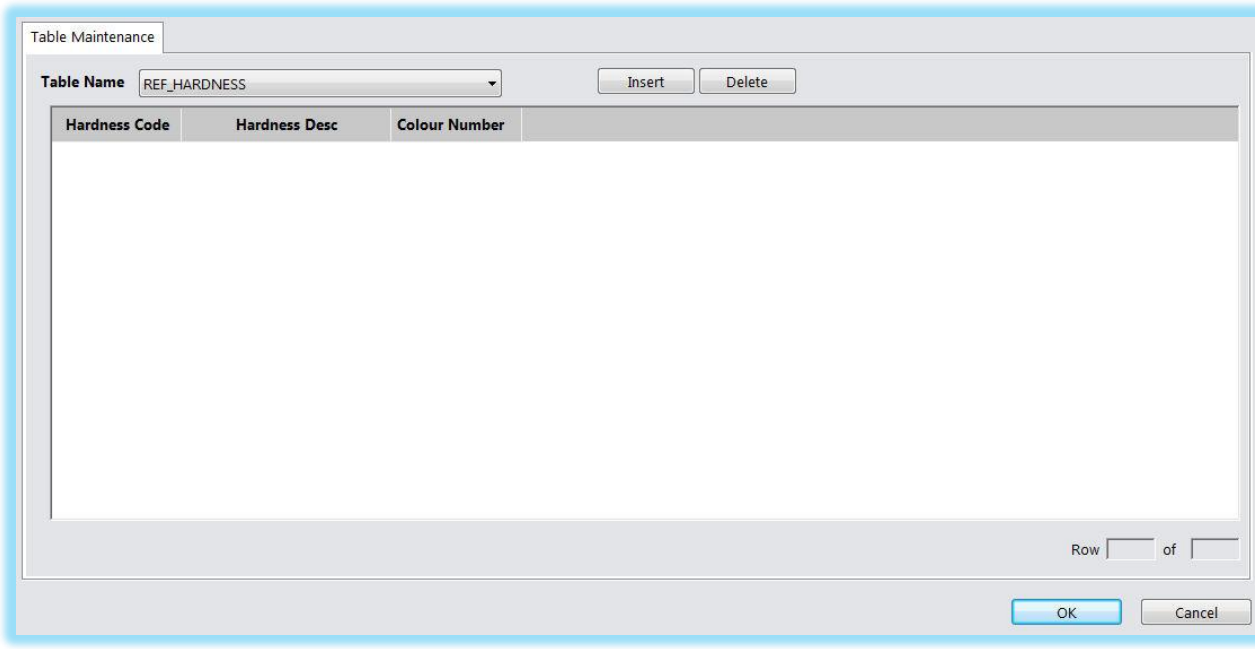


Switch back to the "Table" tab to click the "Create Table" button.

MAINTAINING DATA IN A CUSTOM REFERENCE TABLE

Maintaining the data in a custom reference table is performed in the Manage Data module, accessible from this tile, or [Maintain > Custom Reference Tables > Manage Data...] menu.



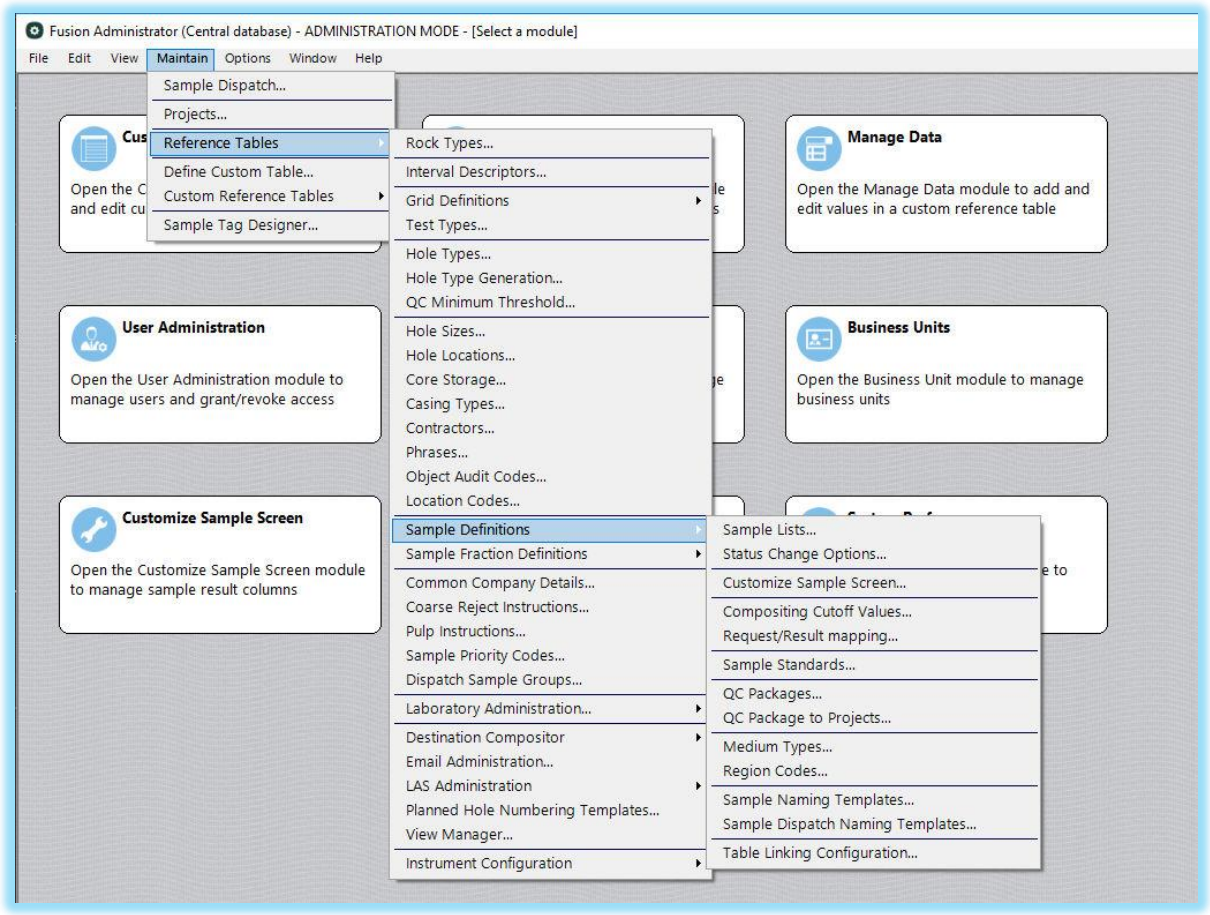


Select the custom reference table from the Table Name dropdown. The window will be drawn with the columns you defined, plus an additional "Colour Number" field. This field is used to associate a colour with the reference code, for use with the Graphic Log in DHLogger.

Use the Insert and Delete buttons to add and remove entries from the reference table.

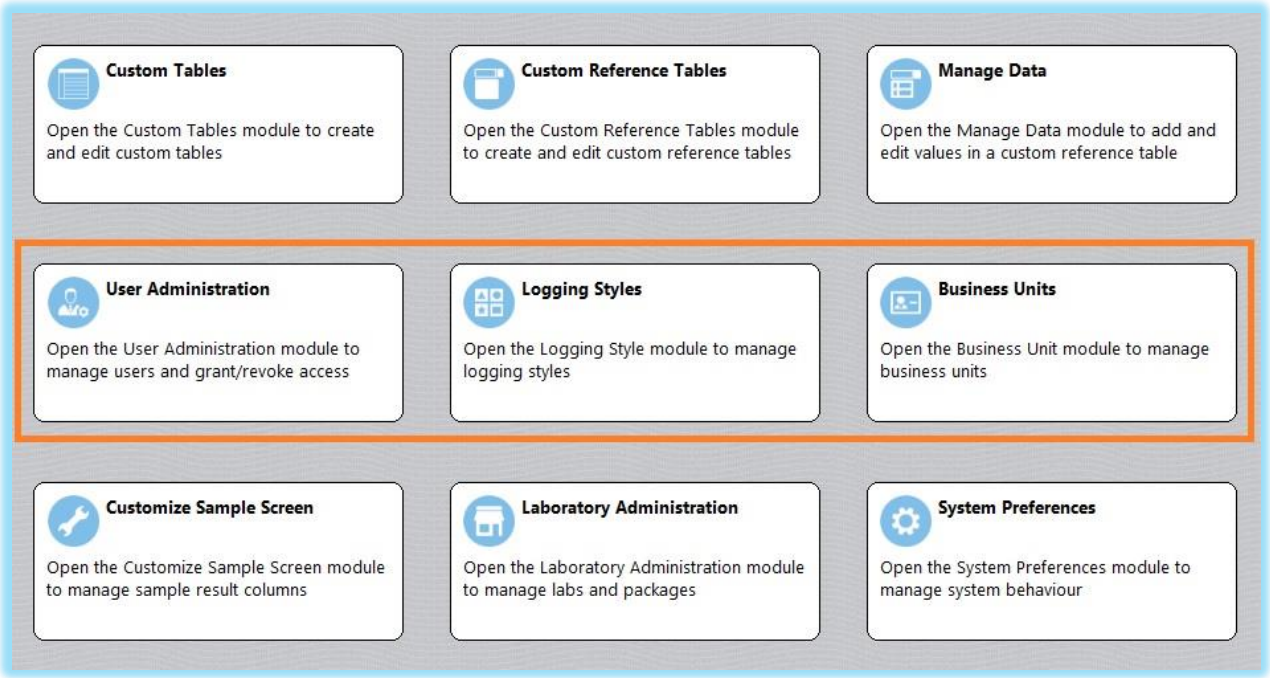
MAINTAINING DATA IN STANDARD REFERENCE TABLES

The standard (built-in) reference tables are maintained in separate windows, accessed from individual menu items. The main menu item that provides access is [Maintain > Reference Tables]



USER MANAGEMENT

OVERVIEW



USERS Each user of the applications in the Fusion suite will have their own account maintained with a User ID and Password.

BUSINESS UNITS A company that operates globally may find that users in North America log data with different reference codes, validation rules, or even language, than users in South America or Africa. To manage these differences Business Units can be created and configured, and users will be assigned to them.

Business Units can be used to:

- control Data Sharing access (checking out data)
- set up a common Upload location for data in hyperlink fields
- configure a notification or automatic transfer of 'master' data when closing DHLogger, Sample Station or MineMapper 3D
- limit access to projects and the holes/data within
- control codes in Reference Lists
- configure context-sensitive Reference Lists
- limit the visibility of columns in the Samples screen
- customize System Preferences
- customize the validation and interface of data entry forms
- configure the visible columns in custom Reference Lists

LOGGING STYLES There may be differences in the data logging of different groups of users, like an Exploration Group or a Grade Control group. The concept of a Logging Style is available to customize a user's view of certain tables (or even columns).

Logging Styles can be used to:

- control access to tabs tables, and customize visibility to the column level
- restrict sample types
- setup Process Flow authorization
- apply Sample Naming templates
- control Depth Adjustment templates

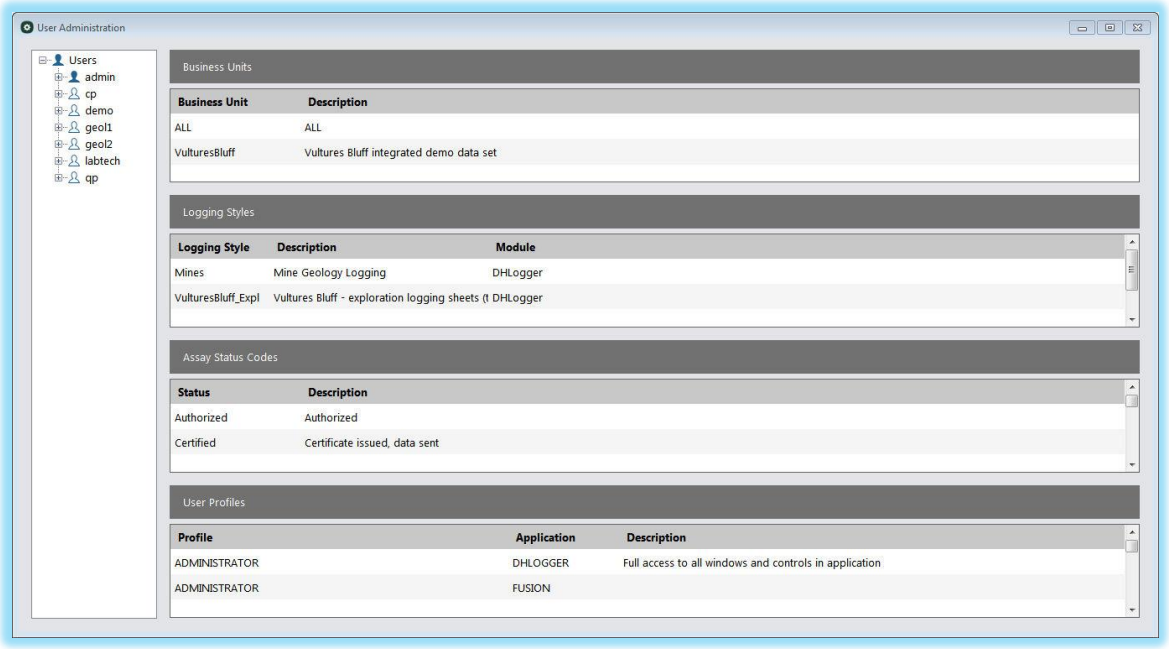
ASSAY STATUS CODES When samples are entered into the database, they are given an initial status. Administrators can identify what that status is by default per user. Most often, the initial value set for all users is 'LOGGED', and after results are returned by import, the status will be updated as appropriate (COMPLETE, PASSED, FAILED) and the value may again be updated when a person performs Batch Authorization operations (AUTHORIZED, FAILED -QP ACCEPTED).

PROFILES At a very basic level, permissions to various activities in the application are handled using profiles. To begin with, users are typically assigned either ADMINISTRATOR or FIELD GEOLOGIST profiles, which covers most of the general permissions in the application. As users need access to specific activities, additional profiles can be assigned. For example, access to the Batch Authorization functions require the QUALIFIED PERSON profile; and access to perform Authorization of Drill Holes or Surface Samples requires the CERTIFIED PERSON profile.

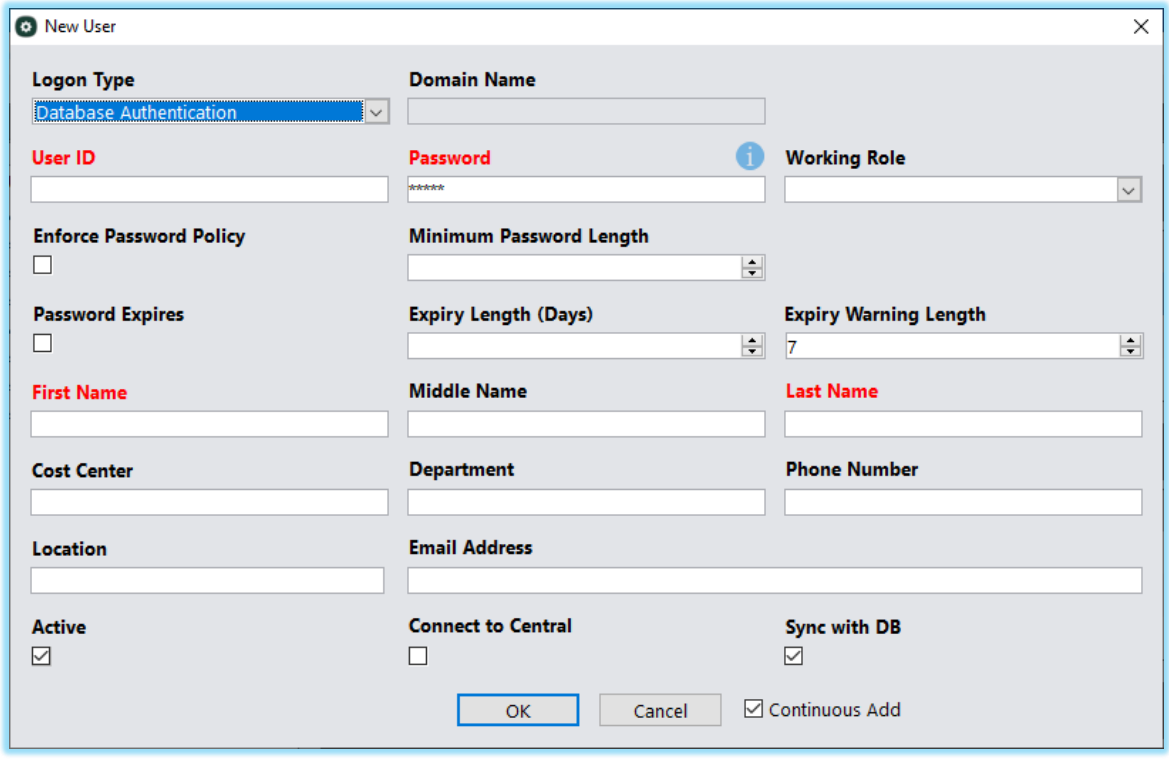
CREATING A USER

Creating users is performed in the User Administration module, accessible from this tile, or [Options > System Administration > User Administration...] menu.

To perform some actions in this window will require the SQL Server ***securityadmin*** role. If the currently logged in user does not have it, a prompt to enter the User and Password of a user who does have the role will appear.



Clicking on the New toolbar item will open up the maintenance window to create a New User.



User Details

- **Logon Type**: Database Authentication or Windows Authentication
- **Domain Name**: Only available if Windows Authentication is selected
- **User ID:** User's login name. It can contain letters, numbers, dashes, underscores, spaces, periods, #, @ and $
- **Password:** User's password
- **Working Role:** The working role handles much of the physical database permissions, like UPDATE or DELETE access on a table. This is usually Role_Century_Admin for administrators, and Role_Field_Geologist for most other users
- **Enforce Password Policy:** Enforce the rules defined for the user's password
- **Minimum Password Length:** Enforce a specific length for the user's password
- **Password Expires:** Enforce the validation of the age of the users password. This checkbox will only be used for database authenticated users or in organzations that do not have a password policy. If a password policy is defined for a windows authenticated user, it will provide the rule for the password expiry
- **Expires Length (Days):** The length of time in days before the password expires
- **Expiry Warning Length:** Control when the expiry warning will appear to users, defaulting to 7 days before expiration if it is not changed
- **First Name, Middle Name, Last Name:** User's personal information (First and Last Name are mandatory)
- **Cost Center, Department, Phone Number, Location:** Additional, optional information about the user
- **Email Address:** Email address, will be used if user is identified as an email recipient when configuring automatic email notifications
- **Active:**identifies the user's current status, disabling will prevent access into the applications
- **Connect to Central:** enables the user to connect with DHLogger or Sample Station directly against the Central database
- **Sync with DB:** automatically adds the Login to the SQL Server security, and creates the user mapping in the database to the login

If there are users that have not been synchronized with the database, they will be displayed with grey user icons in the 'user tree'. These users can become synchronized by selecting the user and using the 'Sync DB' menu option.

Notes:

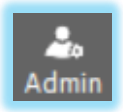
- If the login exists in SQL Server, you will be prompted to replace the user definition with the one you have just edited.
- If there is a Fusion Remote data source configured, you will be prompted to configure the user and login in that database, in that instance of SQL Server.

This module will also be the location to assign Business Units, Logging Styles, Assay Status Codes, and Profiles to the user by dragging-and-dropping from the lists on the right to the 'user tree' on the left.

When leaving this module, you will be warned if there are users that have not yet been assigned to a Business Unit or a Logging Style, and you will be given a chance to correct it if you want.

Without a Business Unit a user will not be able to use DHLogger or Sample Station. Without a DHLogger Logging Style a user will not be able to use DHLogger.

The Report toolbar item will open a Report Viewer window that allows you to select a user and view the configuration associated with that user. The report can be printed from this window also.



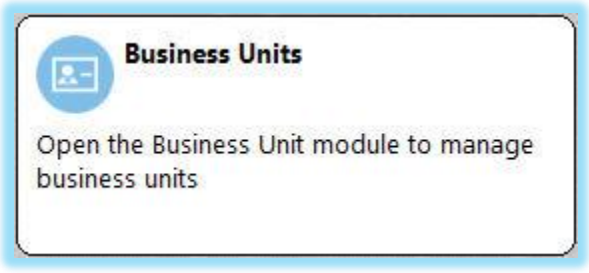
The Admin toolbar item opens a window that allows you to choose the user that will be the System Administrator user. This user must have Role_Century_Admin or Role_Full_Client_Admin, and they require externally-managed Server/Database roles of 'securityadmin' and 'db_owner'.

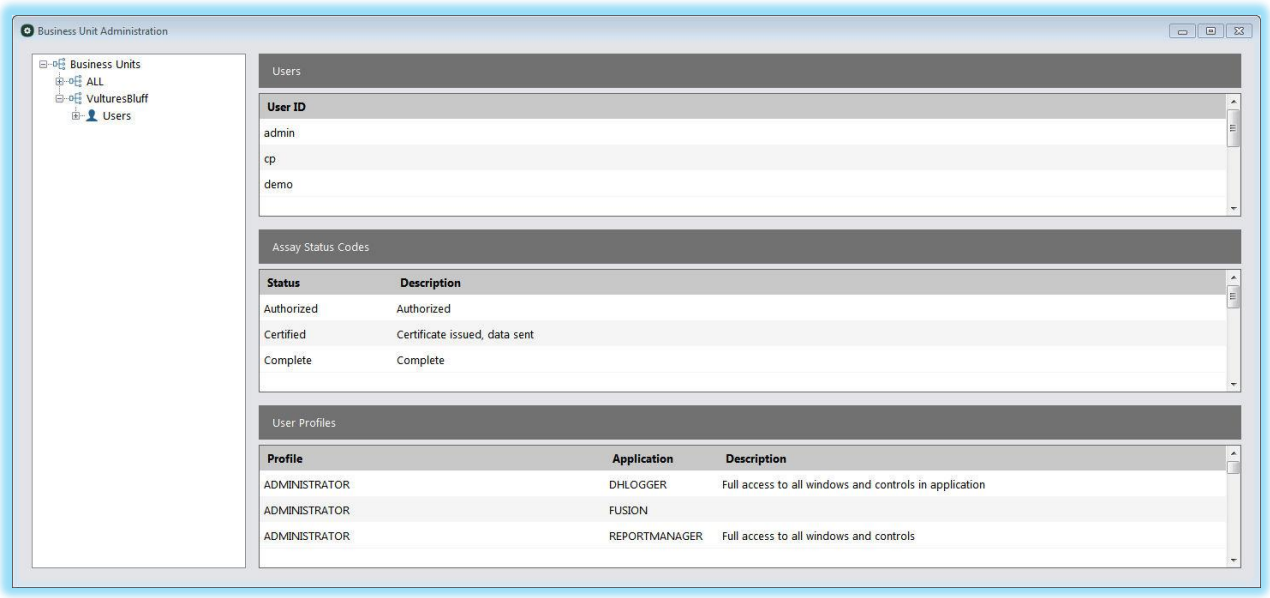
The typical creation/management of this user would be to have the Database Administrator create a SQL Server Login for this new user, granting 'securityadmin' and mapping the login to the Central database with 'public', 'db_owner' and 'Role_Read_Only' roles. Repeat this for the FusionRemote server, if applicable. Then, create the Fusion user in the User Administration window, if it is not already done.

After this process, the user can be selected as the new System Administrator user, and if desired, the user named 'admin' can be removed.

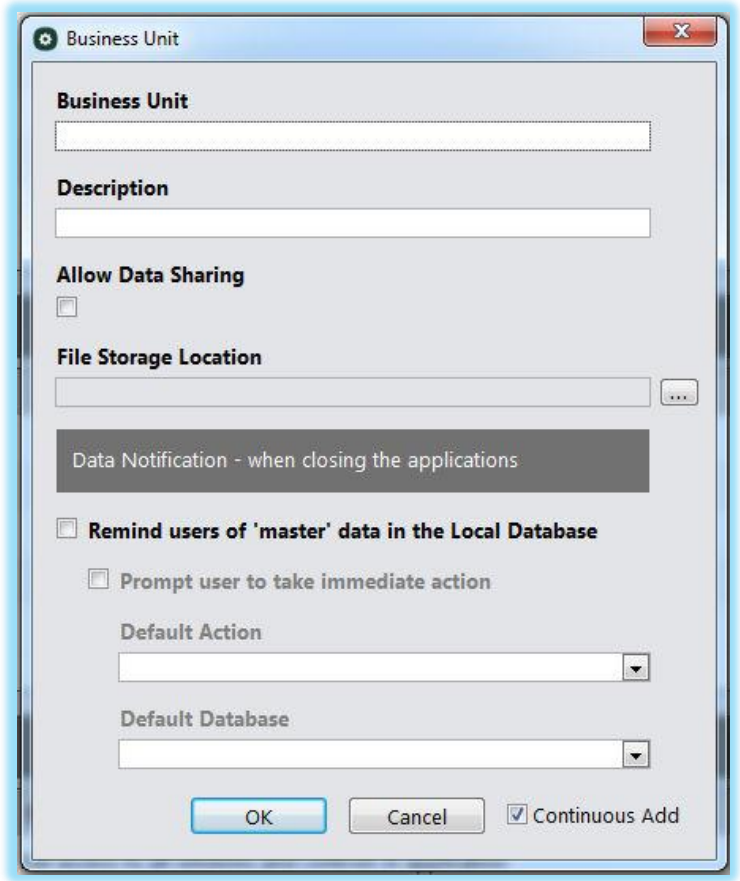
CREATING A BUSINESS UNIT

Creating business units is performed in the Business Units module, accessible from this tile, or [Options > System Administration > Business Units...] menu.





Clicking on the New toolbar item will open up the maintenance window to create a New Business Unit.



Business Unit Details

- **Business Unit, Description:** name and detail for the business unit
- **Allow Data Sharing:** identifies whether data created by users with this Business Unit is shared with users in other Business Units. (This setting is ignored unless the Fusion.INI file has been manually configured with "CheckForDataSharing=Y")
- **File Storage Location:** a folder location where files identified in custom hyperlink columns will be stored - Synchronization will re-point the hyperlinks accordingly when this location is updated

Data Notification - when closing the applications

- **Remind users of 'master' data in the Local Database:** enable to provide a message to users when closing DHLogger, Sample Station or MineMapper 3D
- **Prompt user to take immediate action:** if disabled, user only receives message about 'master' data; when enabled, user can choose an action / database to occur immediately --> The Transfer In window will be launched with the supplied database connection and the specified action
- **Default Action:** to pre-populate in the prompt - either Check In or Copy In, if left blank 'No Action' will be displayed
- **Default Database:** to pre-populate in the prompt - Fusion Remote or Central (depends on existin DSNs)

This module will also be the location to assign Users to Business Units, and Assay Status Codes, and Profiles to the user by dragging-and-dropping from the lists on the right to the 'business unit tree' on the left.

Users are required to be assigned to one Business Unit but can be assigned to more than one. Each user can access "User Preferences" to set their 'active' unit if they are assigned more than one.

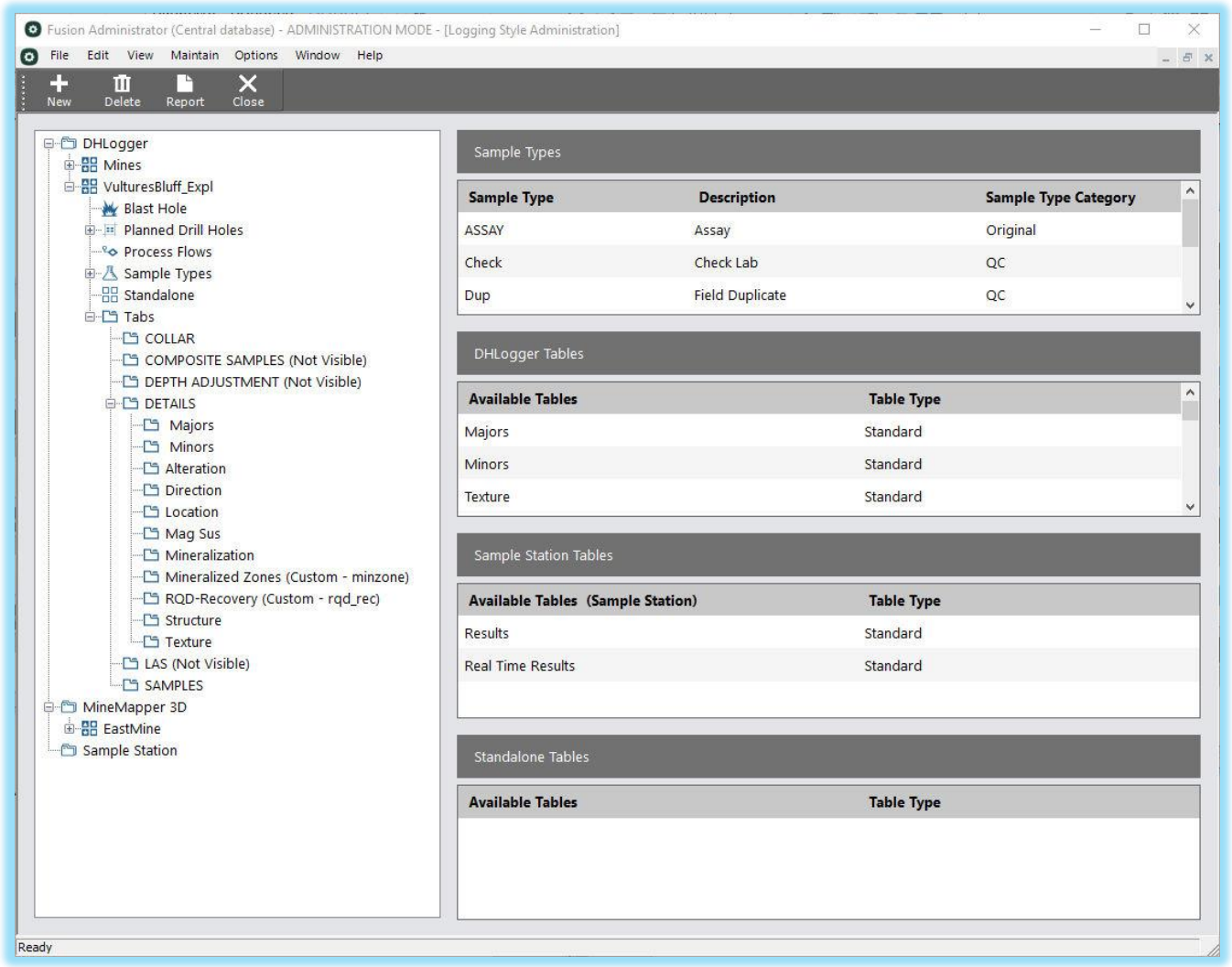
When leaving this module, you will be warned if there are users that have not yet been assigned to a Business Unit, and you will be given a chance to correct it if you want.

Without a Business Unit, a user will not be able to use DHLogger or Sample Station.

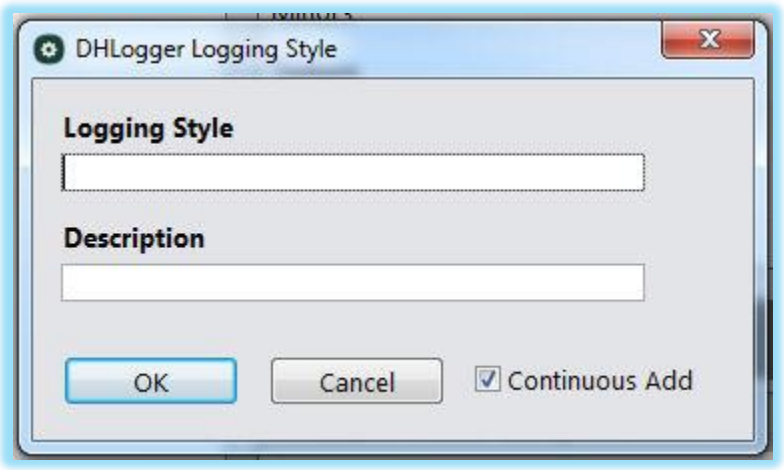
The Report toolbar item will open a Report Viewer window that allows you to select a Business Unit and view its associated configuration. The report can be printed from this window also.

CREATING A LOGGING STYLE

Creating Logging Styles is performed in the Logging Styles module, accessible from this tile, or [Options > System Administration > Logging Style...] menu.



Clicking on the New toolbar item will open up the maintenance window to create a New Logging Style.



Logging Style Details

- **Logging Style:** name of logging style
- **Description:** description / details of logging style

This module will be the location to assign Sample Types, associate Sample Naming templates, assign Tables, customize visibility of columns if 'Columns Limited by Logging Style' is enabled, show/hide Tabs (Collar, Details, Samples, LAS, Depth Adjustment), show/hide Blast Hole module, enable Planned Drillholes, and create Process Flows for partial authorization of data.

A user may be assigned multiple logging styles, depending on their needs. Before entering data, any user with multiple logging styles will be prompted to select an 'active' style. This can be changed at any time in the "User Preferences" window.

When leaving this module, you will be warned if there are users that have not yet been assigned to a Logging Style for DHLogger, and you will be given a chance to correct it if you want.

Without a Logging Style, a user will not be able to use DHLogger.

The Report toolbar item will open a Report Viewer window that allows you to select a Logging Style and view its associated configuration. The report can be printed from this window also.

DRILL HOLES

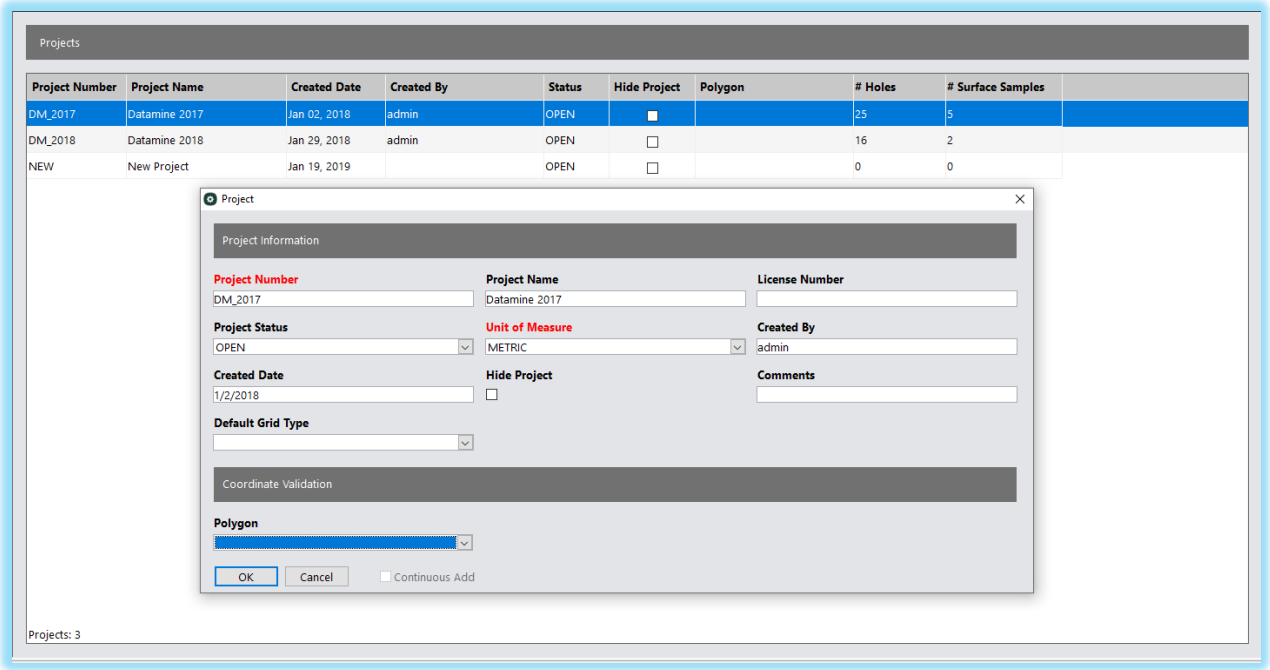
OVERVIEW

Logging drill holes with DHLogger involves some common practices: recording collar information, capturing coordinate data, measuring survey information, and taking and assaying samples. To enter the information for each of these areas, there are some default (standard) reference tables that are created and associated with standard columns in the data tables. Many of the standard columns, and most of the tables, can be configured to be hidden if they are not required. This section will describe many of the reference tables that support the recording of information in the standard tables.

COLLAR TAB

PROJECT Every drill hole must belong to a Project Number.

[Maintain > Projects…]



Project Information

- **Project Number, Project Name:** the code and description of the project.
- **License Number:** optional, can store the operating license giving permission to drill in the area covered by the project.
- **Project Status:** OPEN / CLOSED. Drill holes can not be added or transferred in to a project that is closed.
- **Unit of Measure:** METRIC / IMPERIAL. Indicates whether the hole is measuring in meters or feet.
- **Created By, Created Date:** store the origins of the project
- **Hide Project:** administrators can flag a project to no longer be visible in DHLogger's project selection dropdowns
- **Comments:** store additional information about the project
- **Default Grid Type:** pick a grid type to be used as the default in new Coordinate records for drill holes or surface samples added to the project

CUSTOM columns can be added to this table using the "Custom Table" module and choosing 'Standard', then selecting 'PROJECT' table.

Coordinate Validation

- **Polygon:** coordinates can be validated against a polygon (shape) file. These will need to be imported [File > Imort > SHP Import] prior to selection in this dropdown

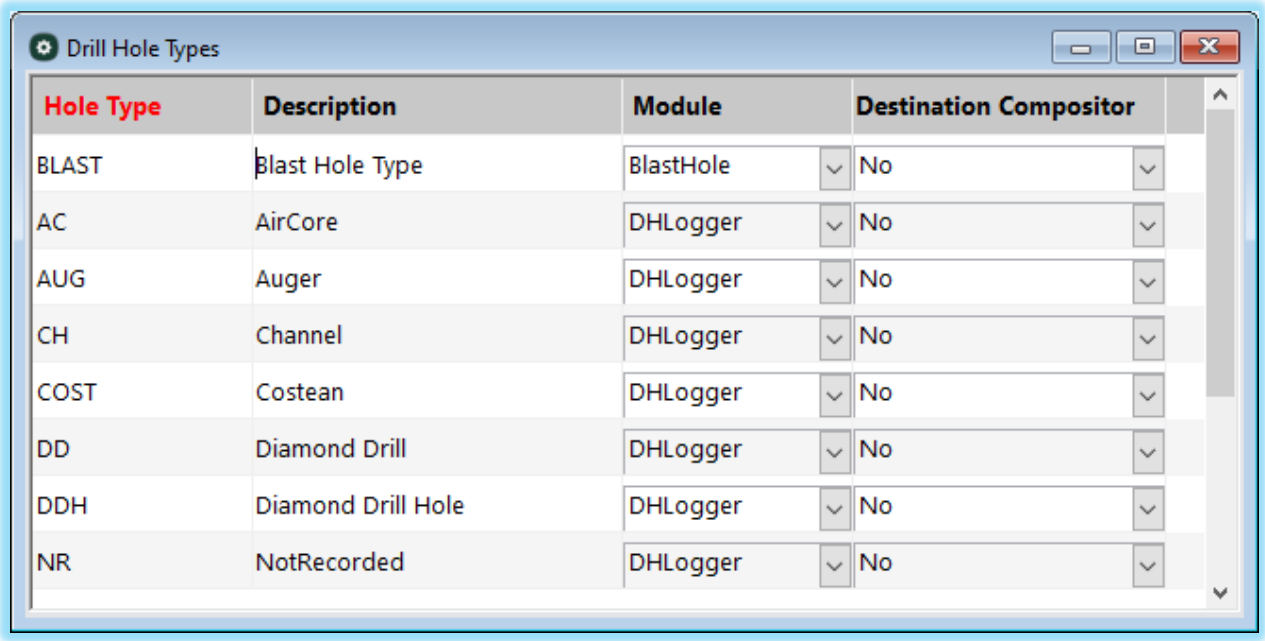
HOLE TYPE A list of codes and descriptions defining the hole type. Hole Type is used in configuration of other areas of the application (e.g. Planned Drill Holes, QC Packages). Hole Type is a required column in the collar table, and a default can be set in the System Preferences window in DHLogger in each Local database.

Along with the Hole Type and Description fields, **Module** will identify whether the type describes a drill hole, blast hole, or a channel sample which is created in MineMapper.

As well, the **Destination Compositor** field is used to filter the data in the Destination Compositor module – data will be retrieved only for holes that are of a type that allows for compositing.

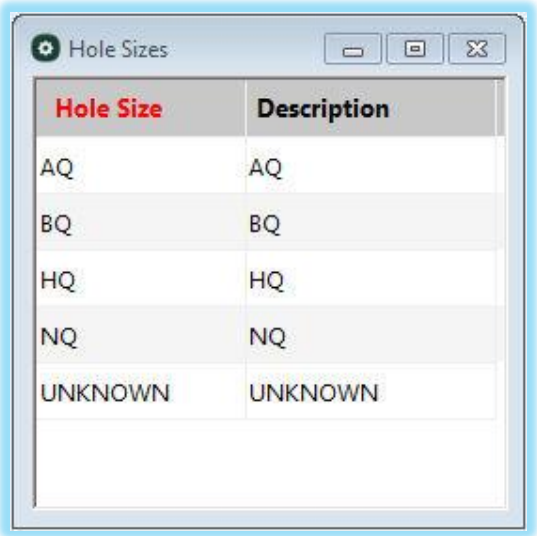
A system hole type, called ‘BLAST’, exists in this list, and cannot be modified. It is used in the Blast Hole module. No other hole types can be created for the Blast Hole module

[Maintain > Reference Tables > Hole Types…]



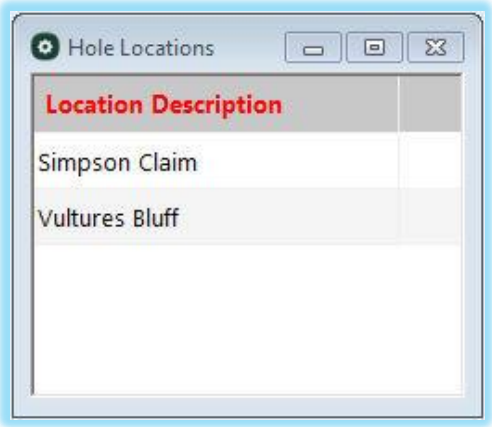
HOLE SIZE Optional, list of the codes and descriptions that may define the drill hole's diameter.

[Maintain > Reference Tables > Hole Sizes…]



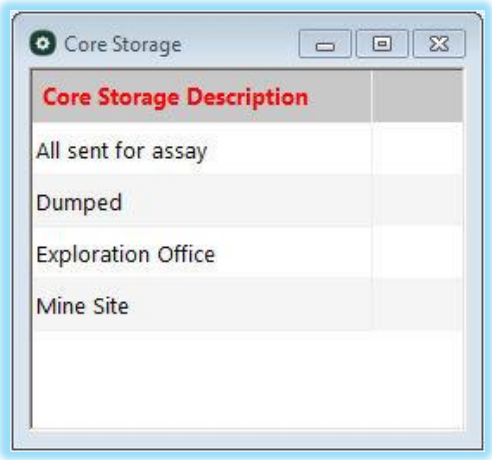
HOLE LOCATION Optional, list of location descriptions. These locations are typically the different properties belonging to the drilling project. A default can be set in the System Properties in DHLogger in the Local Database.

[Maintain > Reference Tables > Hole Locations…]



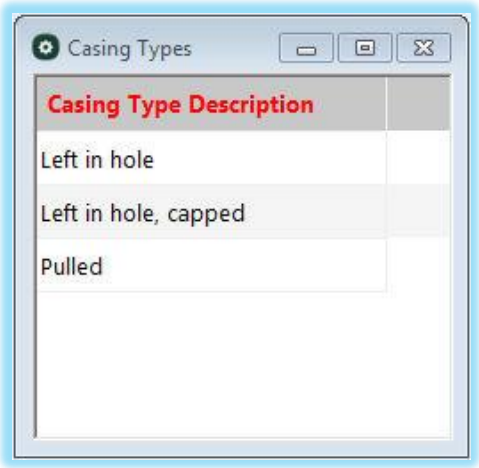
CORE STORAGE Optional, list of locations of where the drill core is stored. A default can be set in the System Properties in DHLogger in the Local Database.

[Maintain > Reference Tables > Core Storage…]



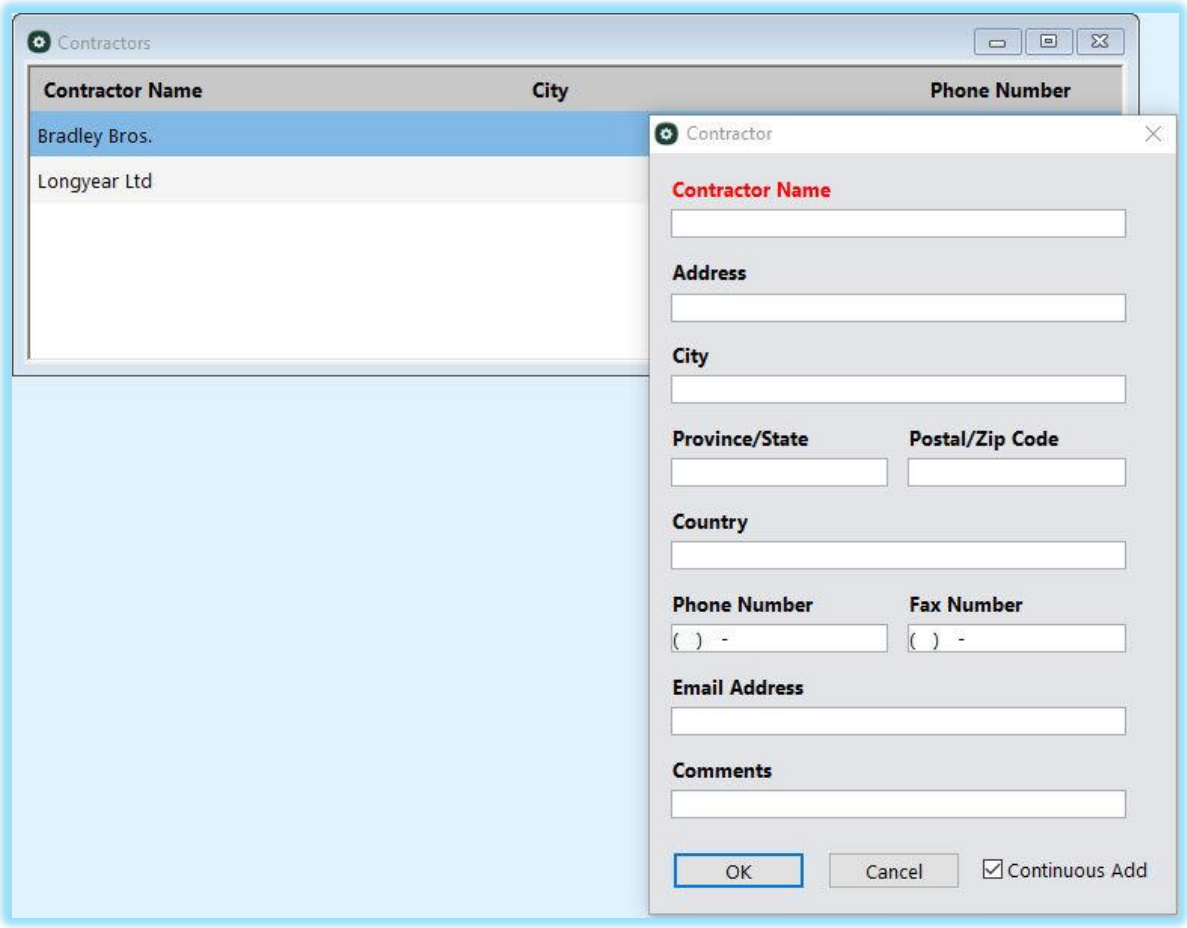
CASING TYPE Optional, list of casing types. A default can be set in the System Properties in DHLogger in the Local Database.

[Maintain > Reference Tables > Casing Types…]



CONTRACTOR Optional, list of contractors used in the drilling project.

[Maintain > Reference Tables > Contractors…]



PHRASES Optional, this maintains a list of commonly used phrases that can be dragged and dropped when entering text in the Comment Editor on the Collar window, or in the Interval window.

[Maintain > Reference Tables > Phrases…]

DETAILS TAB

The Details tab in DHLogger is comprised of the Major and Minor Lithology sticks, and several sub-tabs. By default, these tabs include four standard interval-related tables (Texture, Structure, Alteration, and Mineralization) and five standard drill hole-related tables (Location, Direction, RQD, Mag Sus, and Wedge). Any or all these tabs can be hidden, and custom tabs can be created if necessary. Custom tabs will be visible at the end of any standard tabs.

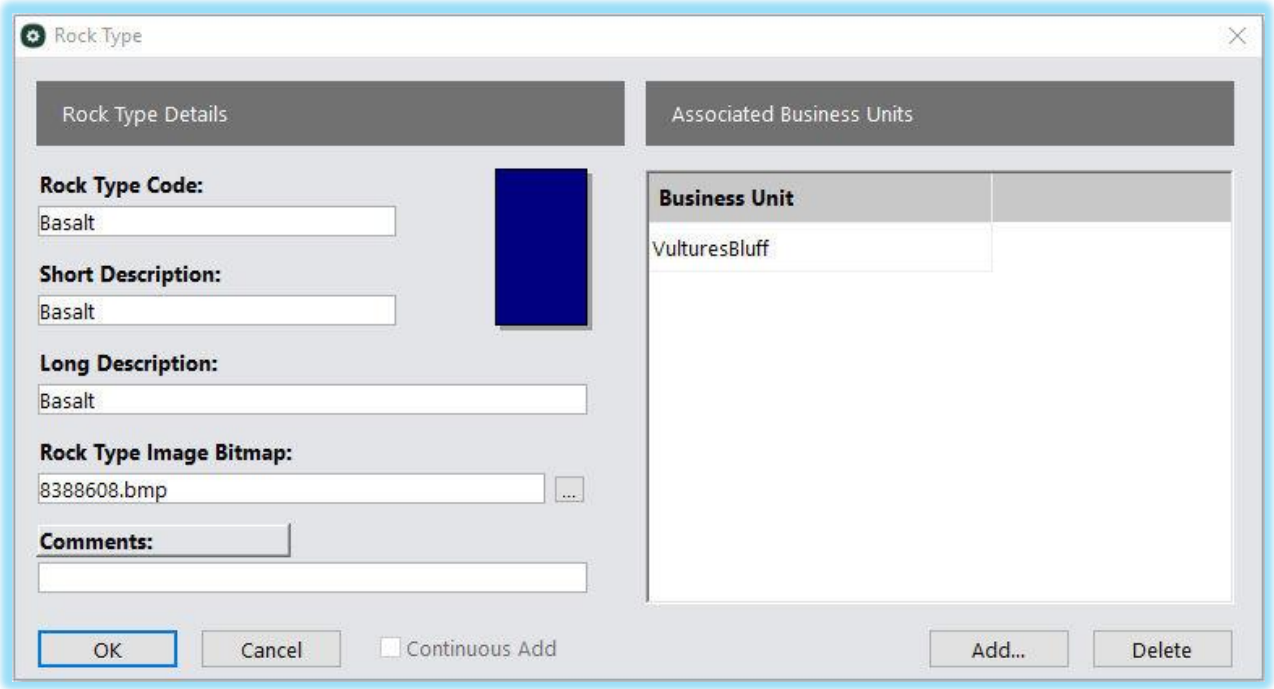
To support the standard tables, several reference tables exist, which are linked to columns within the data tables.

ROCK TYPES A list containing the codes and descriptions that define the lithology that is found in the drilling project. These codes are used when entering Major and Minor interval records.

They appear in a 'tree' format, allowing codes to be grouped or nested. All codes are created under the system code: 'ROCK TYPES'.

[Maintain > Reference Tables > Rock Types…]


Rock Types
ROCK TYPES (Rock)
Andesite (Andesite)
Aplite (Aplite)
Argillite (Argillite)
Basalt (Basalt)
Breccia (Breccia)
Calcsil bx (Calcsil bx)
Calcsilica (Calcsilica)
Chert (Chert)
Chert bx (Chert bx)
Clay (Clay)
Epidote (Epidote)
Fault zone (Fault zone)
Gossan (Gossan)
Granite (Granite)
Greywacke (Greywacke)
Hornfels (Hornfels)
Jasper (Jasper)
Qtz (Quartz Vein non mineralized)
Qtz Min (Quartz Vein Mineralized)
Quartzite (Quartzite)
Sandstone (Sandstone)
Sericite (Sericite)
Siderite (Siderite)


Rock Type
Rock Type Details
Associated Business Units
Rock Type Code:
Basalt
Short Description:
Basalt
Long Description:
Basalt
Rock Type Image Bitmap:
8388608.bmp
Comments:
Business Unit
VulturesBluff
OK
Cancel
Continuous Add
Add...
Delete

Rock Type Details

- **Rock Type Code:** the code that will be the main entry in the tree
- **Short Description:** the description that appears in parentheses in the tree
- **Long Description:** a longer description of the rock type
- **Rock Type Bitmap:** a bitmap that is associated with the code, will be displayed in the Lithology sticks, in some default reports, and in the Graphic Log
- **Comments:** additional information to be stored about the Rock Type code

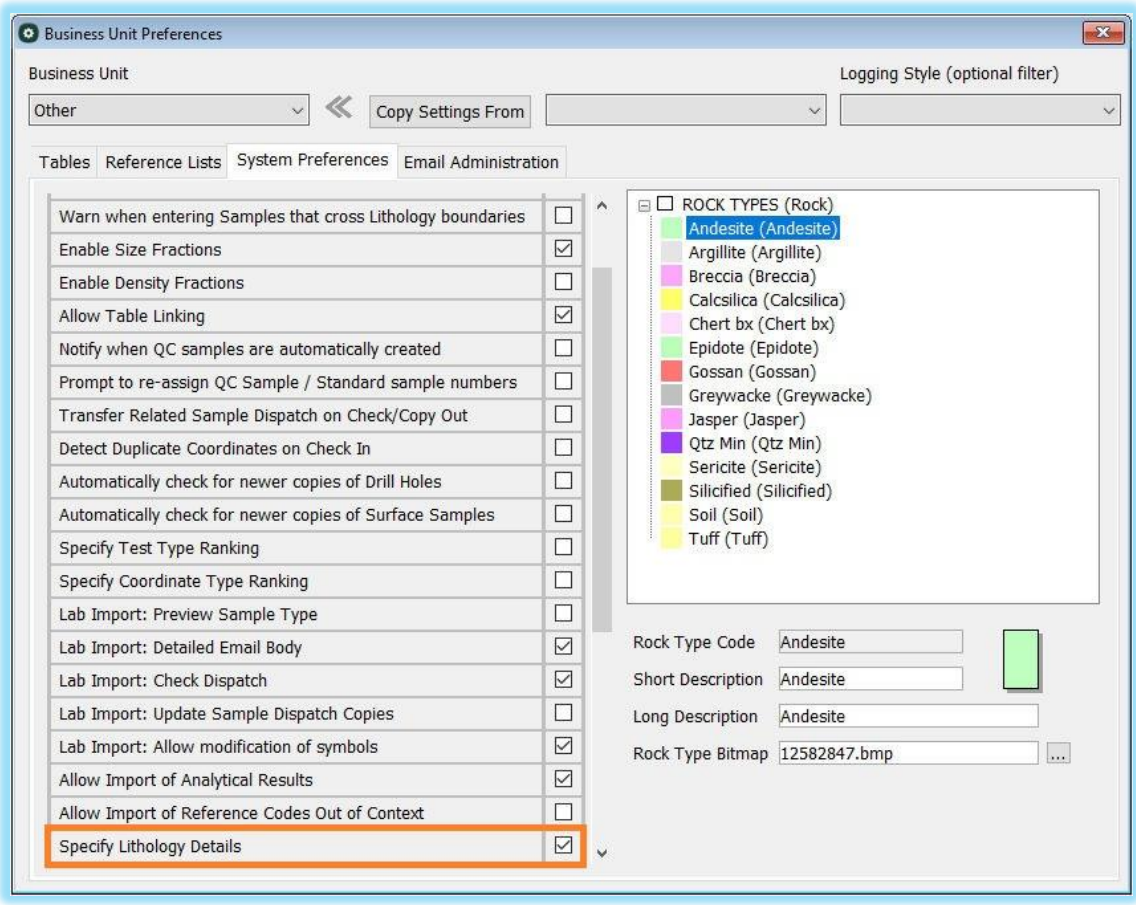
Custom columns can also be added to this reference table.

Associated Business Units

- This shows a list of the business units that can see / use this rock type code. You can add/delete business units with the buttons below the list.

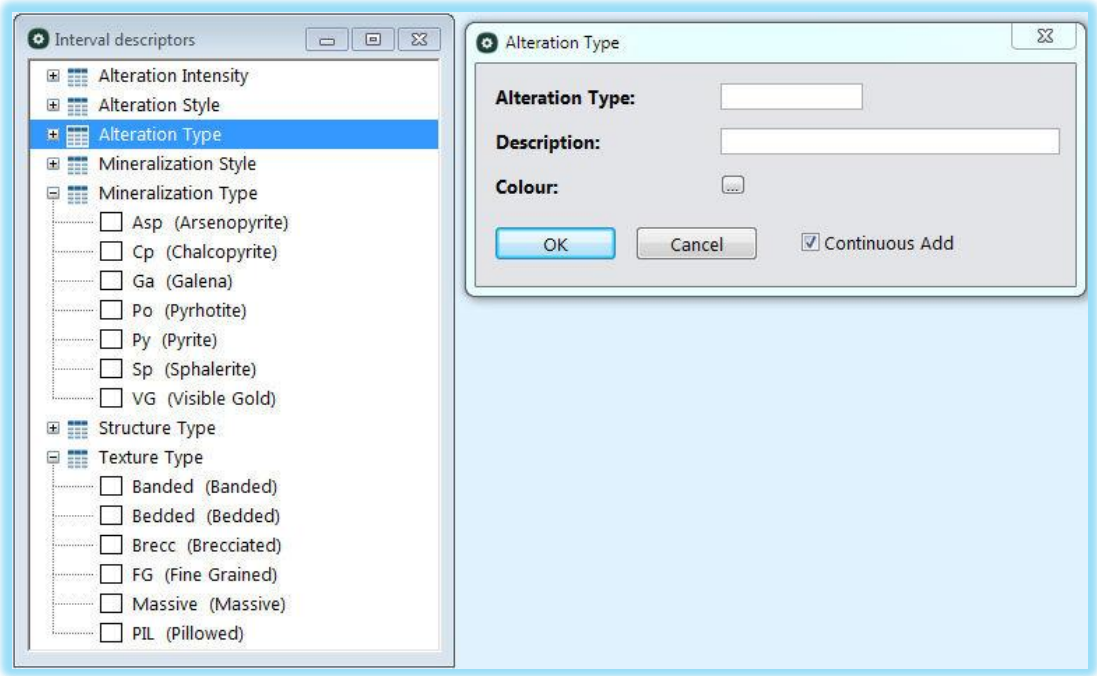
The Rock Type Details (except for the Rock Type Code) can also be customized for each business unit by configuring their assigned rock codes within the Business Unit Preferences window.

[Options > System Administration > Business Unit Preferences…]



INTERVAL DESCRIPTORS These lists are used in the standard interval-related tables (Texture, Structure, Alteration, Mineralization). For each list, a new code can be added, along with a description and bitmap image.

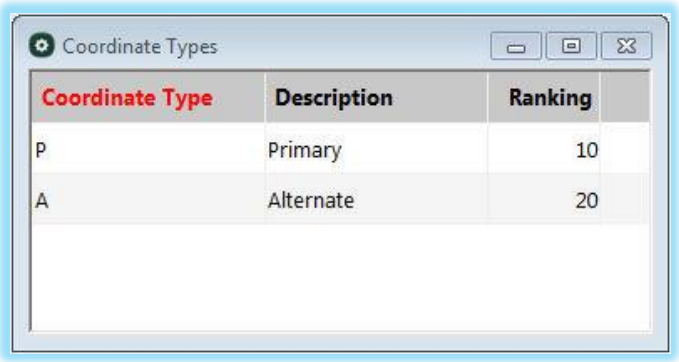
[Maintain > Reference Tables > Interval Descriptors…]



Depending on the “Grid Conversion Method” setting in the System Preferences, some of the information in the following windows may or may not apply.

COORDINATE TYPES This list defines the different types of coordinates (e.g. Primary, Alternate; Planned, Actual, Estimate) used in the drilling project. Along with the code and description, each entry will have a ranking (lowest number = highest ranked / preferred type) for the purposes of exporting and reporting. This list is required for data entry into the Location tab in DHLogger and Sample Station.

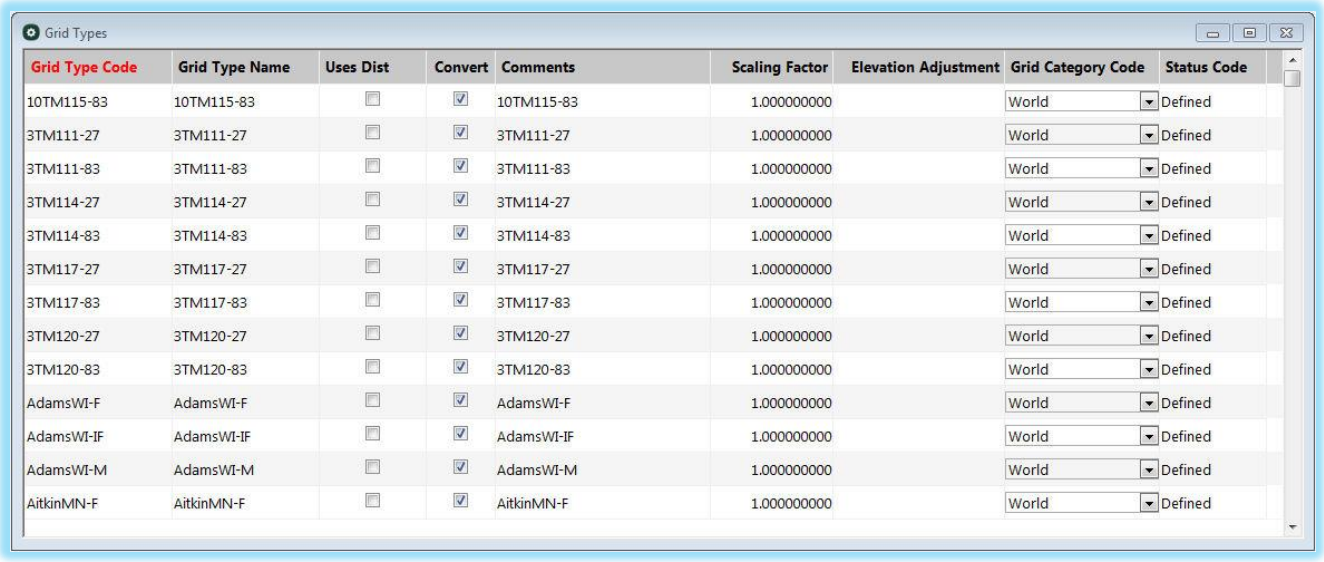
[Maintain > Reference Tables > Grid Definitions > Coordinate Types…]



Coordinate Type	Description	Ranking
P	Primary	10
A	Alternate	20

GRID TYPES This is used to describe all the coordinate systems that may be in use in a drilling project. For example, a mine grid that is oriented with the orebody might be used for planning purposes, while surface exploration data may be in the UTM system. Grid Type is a required field for data entry in the Location tab in DHLogger and Sample Station.

[Maintain > Reference Tables > Grid Definitions > Grid Types…]



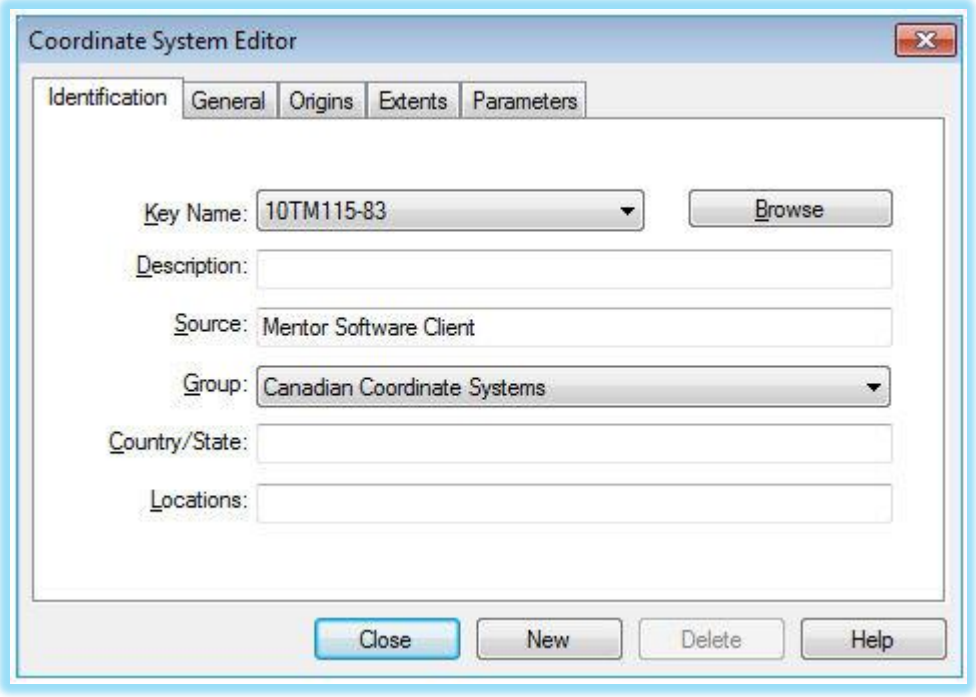
Grid Type Code	Grid Type Name	Uses Dist	Convert	Comments	Scaling Factor	Elevation Adjustment	Grid Category Code	Status Code
10TM115-83	10TM115-83	☐	☑	10TM115-83	1.000000000		World	Defined
3TM111-27	3TM111-27	☐	☑	3TM111-27	1.000000000		World	Defined
3TM111-83	3TM111-83	☐	☑	3TM111-83	1.000000000		World	Defined
3TM114-27	3TM114-27	☐	☑	3TM114-27	1.000000000		World	Defined
3TM114-83	3TM114-83	☐	☑	3TM114-83	1.000000000		World	Defined
3TM117-27	3TM117-27	☐	☑	3TM117-27	1.000000000		World	Defined
3TM117-83	3TM117-83	☐	☑	3TM117-83	1.000000000		World	Defined
3TM120-27	3TM120-27	☐	☑	3TM120-27	1.000000000		World	Defined
3TM120-83	3TM120-83	☐	☑	3TM120-83	1.000000000		World	Defined
AdamsWI-F	AdamsWI-F	☐	☑	AdamsWI-F	1.000000000		World	Defined
AdamsWI-IF	AdamsWI-IF	☐	☑	AdamsWI-IF	1.000000000		World	Defined
AdamsWI-M	AdamsWI-M	☐	☑	AdamsWI-M	1.000000000		World	Defined
AitkinMN-F	AitkinMN-F	☐	☑	AitkinMN-F	1.000000000		World	Defined

Grid Type details

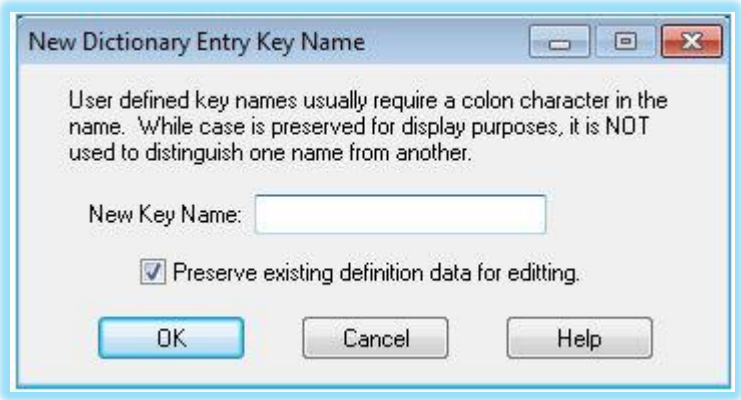
- **Grid Type Code, Name:** a unique code and long name for the grid
- **Uses Dist:** identifies whether the grid uses the Distance flag
- **Comments:** to record other details about the grid
- **Scaling Factor:** a numeric field that defines the grid's scaling
- **Grid Category Code:** chosen from a customizable picklist. Only grids that are categorized as 'In Use' will display in lists that are used to specify a Grid Type.
- **Status Code:** Defined / Undefined. A grid that is Defined can be converted to any other Defined grid system within Fusion Administrator. Undefined means that the coordinates cannot be converted since the relationship to other grids is unknown.

When the CENTURY grid conversion method is used, new grids are entered by clicking NEW, and editing directly in the above list window.

However, when CSMAP grid conversion method is used, new grids are added by clicking NEW to open the Coordinate Editor window:



And then from this window, click NEW to enter details into another window:



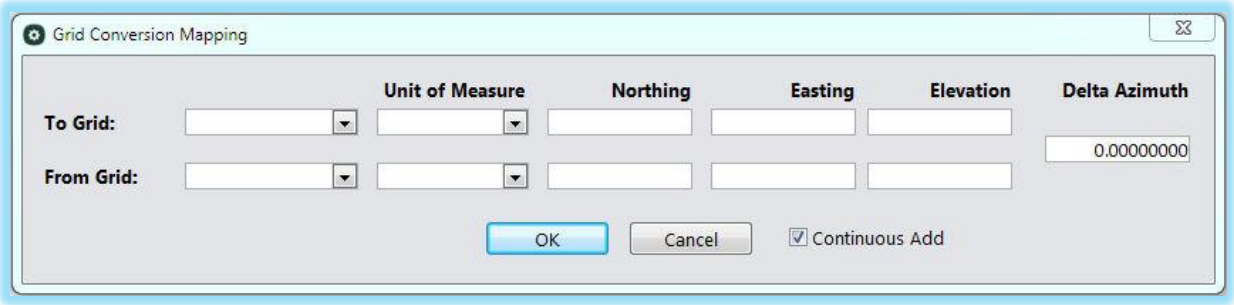
NOTE: new grids require that the Key Name ends in a colon (:)

GRID CONVERSION MAPPING As indicated above, when working with CSMAP grid conversion method the "Defined" status indicates whether grids will be able to be converted. The conversion is handled with routines found in CSMap.dll. When working with CENTURY grid conversion, conversion mappings must be configured for each grid.

[Maintain > Reference Tables > Grid Definitions > Grid Conversion Mapping…]

Grid Conversion Mapping

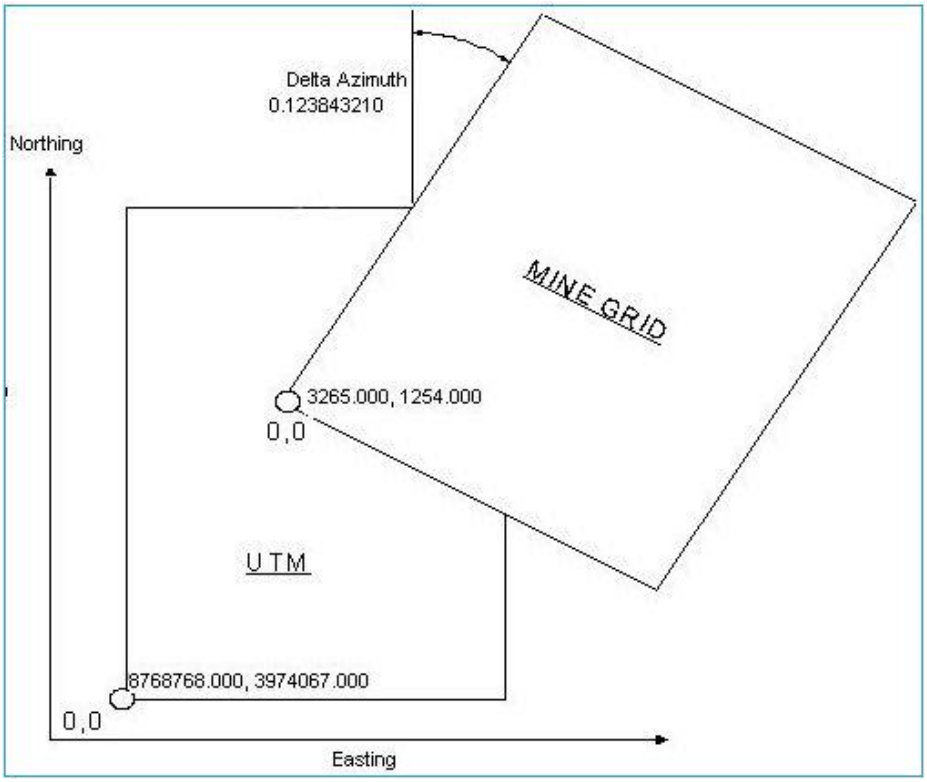
		Unit of Measure	Northing	Easting	Elevation	Delta Azimuth
From Grid:	**LOCAL:**	METRIC	1.0000	1.0000	1.0000	0.000000000
To Grid:	**LOCAL:**	METRIC	1.0000	1.0000	1.0000	
From Grid:	**LOCAL:**	METRIC	0.0000	0.0000	0.0000	0.000000000
To Grid:	**UTM:**	METRIC	500,000.0000	1,000,000.0000	0.0000	
From Grid:	**LOCAL:**	METRIC	1.0000	1.0000	1.0000	0.000000000
To Grid:	**WGS84:**	METRIC	20,000.0000	85,000.0000	1.0000	
From Grid:	**UTM:**	METRIC	1.0000	1.0000	1.0000	12.000000000
To Grid:	**LOCAL:**	METRIC	1,000.0000	2,000.0000	12.0000	
From Grid:	**UTM:**	METRIC	1.0000	1.0000	1.0000	0.000000000
To Grid:	**UTM:**	METRIC	1.0000	1.0000	1.0000	
From Grid:	**WGS84:**	METRIC	1.0000	1.0000	1.0000	0.000000000
To Grid:	**LOCAL:**	METRIC	100,000.0000	3,500.0000	1.0000	
From Grid:	**WGS84:**	METRIC	1.0000	1.0000	1.0000	0.000000000
To Grid:	**WGS84:**	METRIC	1.0000	1.0000	1.0000	



Grid Conversion Mapping Details

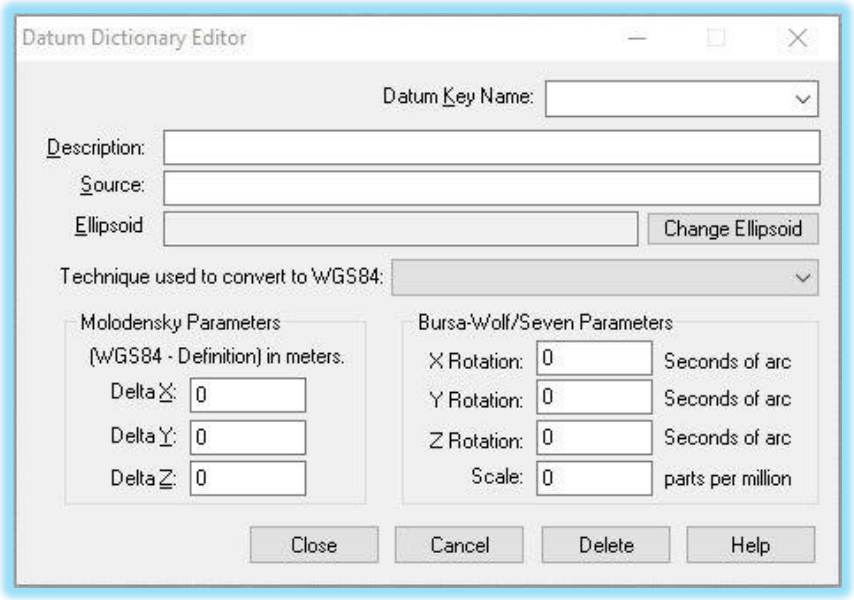
- **From Grid:** the source coordinate system
- **Unit of Measure:** the unit of measure of the source grid
- **Northing, Easting, Elevation:** the coordinates of the origin of the Source grid, in the target's coordinate system
- **To Grid:** the target coordinate system
- **Unit of Measure:** the unit of measure of the target grid
- **Northing, Easting, Elevation:** the coordinates of the origin of the Target grid, in the source's coordinate system
- **Delta Azimuth:** the rotation angle between the two grids

The following figure illustrates the association between two grids and shows the information that will be used in the conversion mapping.



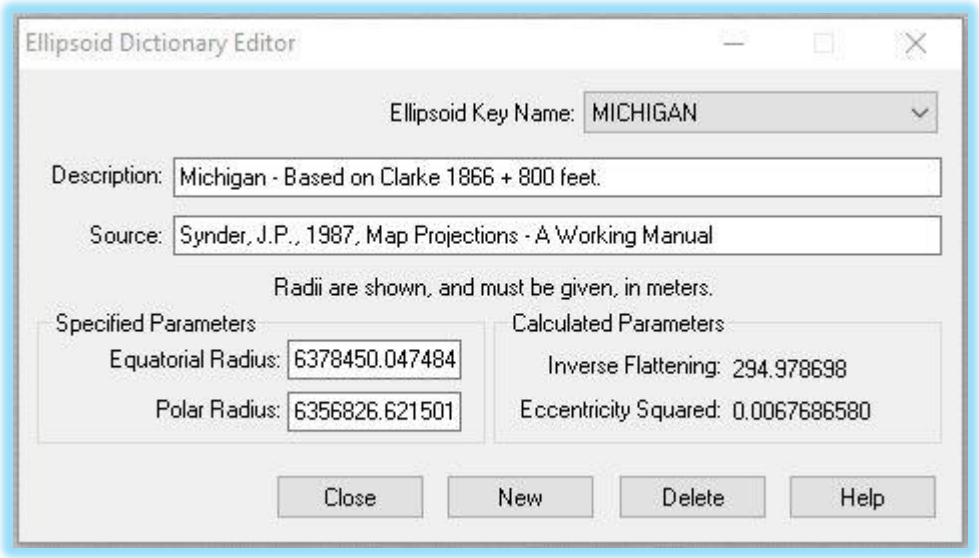
DATUMS This editor allows for the addition or deletion of full descriptions of the Grid Datums that are being used in DHLogger and Sample Station.

[Maintain > Reference Tables > Grid Definitions > Datums…]



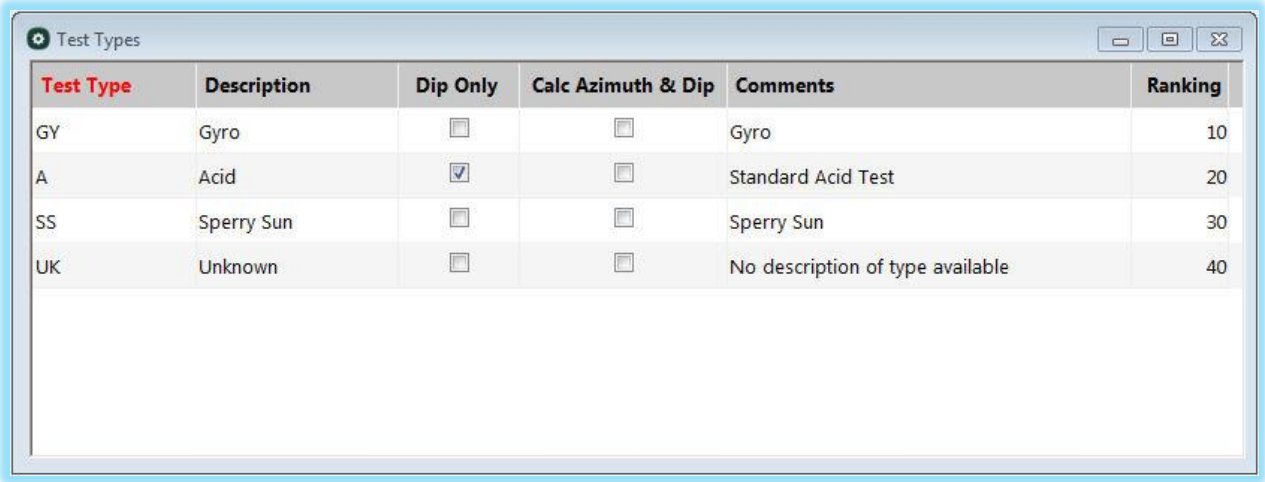
ELLIPSOIDS This editor allows for the addition and deletion of full descriptions of the Grid Ellipsoids used in DHLogger and Sample Station.

[Maintain > Reference Tables > Grid Definitions > Ellipsoids…]



TEST TYPES This list contains the various tests that may be used when drilling a hole, used to measure the azimuth and/or dip. This is required data when entering records in the Direction tab.

[Maintain > Reference Tables > Test Types…]



Test Type	Description	Dip Only	Calc Azimuth & Dip	Comments	Ranking
GY	Gyro	☐	☐	Gyro	10
A	Acid	☑	☐	Standard Acid Test	20
SS	Sperry Sun	☐	☐	Sperry Sun	30
UK	Unknown	☐	☐	No description of type available	40

Test Type Details

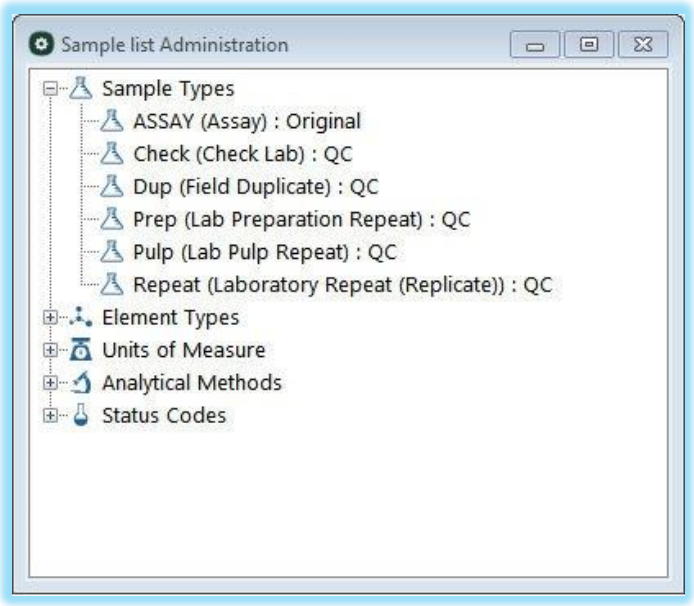
- **Test Type, Description:** a code and long description of the test
- **Dip Only:** identifies whether the test only measures a dip value (not azimuth)
- **Calc Azimuth & Dip:** indicates that the drillhole azimuth and dip are to be calculated in DHLogger from a set of known coordinates (e.g. collar and toe coordinates). Unselect it if the azimuth and dip are manually entered.
- **Comments:** additional information about the test
- **Ranking:** a ranking that is given to identify the most accurate results, used during exporting and reporting, where only the highest ranked results may be returned

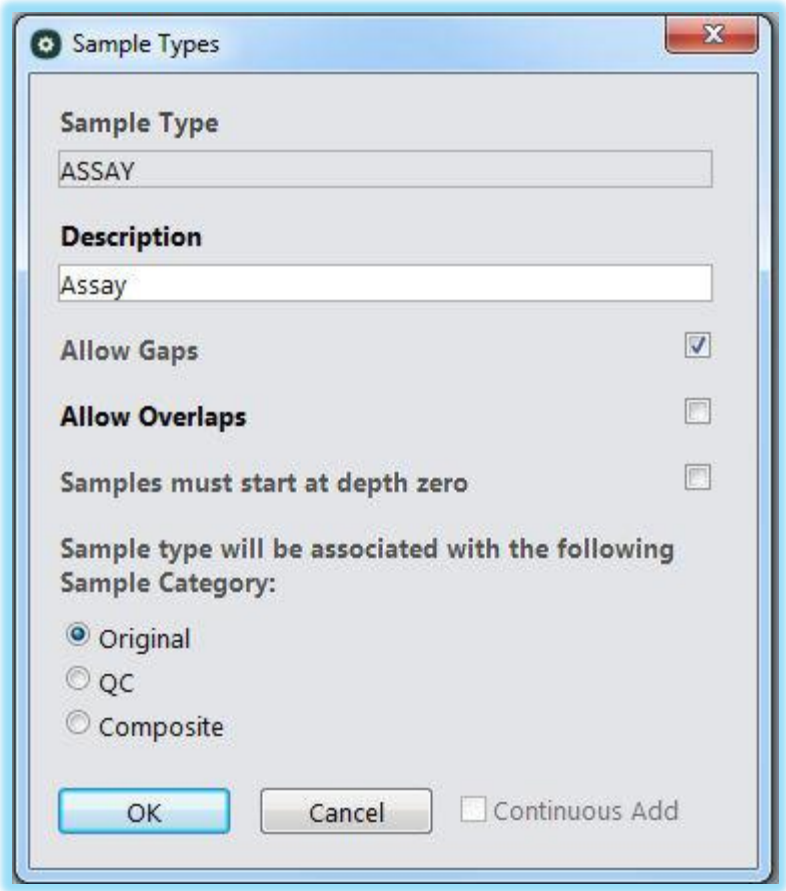
SAMPLES TAB

Configuration of columns for the Samples window is discussed under the Module Configuration – Customize Sample Screen. The lists that are referenced in this tab, however, are configured under the Reference Tables > Sample Definitions menu.

SAMPLE TYPES This list allows for the configuration of sample types of the various categories: Original, QC, Composite. In DHLogger and Sample Station, the sample types that are available for selection will depend on the area of the application that you are in. For example, you are not able to select “Original” sample types when creating QC Samples. And likewise, you can only select “Composite” sample types when creating a sample in the Composites tab.

[Maintain > Reference Tables > Sample Definitions > Sample Lists…]


Sample list Administration
Sample Types
ASSAY (Assay) : Original
Check (Check Lab) : QC
Dup (Field Duplicate) : QC
Prep (Lab Preparation Repeat) : QC
Pulp (Lab Pulp Repeat) : QC
Repeat (Laboratory Repeat (Replicate)) : QC
Element Types
Units of Measure
Analytical Methods
Status Codes


Sample Types
Sample Type
ASSAY
Description
Assay
Allow Gaps
Allow Overlaps
Samples must start at depth zero
Sample type will be associated with the following Sample Category:
Original
QC
Composite
OK
Cancel
Continuous Add

Sample Type Details

- **Sample Type, Description:** the code and description of the sample type
- **Allow Gaps:** allow samples with gaps in the intervals to be entered in the sample table
- **Allow Overlaps:** allow samples with overlapping intervals to be entered in the sample table (once this is enabled, it cannot be disabled)
- **Samples must start at Depth Zero:** indicates whether the first sample has to have a depth_from = 0
- **Sample Category:**
  Original - used for original (not duplicate) assay samples
  QC - used for duplicate or other quality control samples
  Composite - used for original (not duplicate) composite samples

BLAST HOLES

OVERVIEW

Blast holes are essentially short, quickly logged drill holes which can be logged in their own module within DHLogger. This type of logging involves some common practices: recording Collar information (azimuth, dip), capturing coordinate data, a blast length, and one or two samples. As with the tables for drill holes in DHLogger, there are some default reference tables that are created and associated with standard columns in the blast hole data tables. This section will describe many of the reference tables that support the recording of information in the standard tables.

FILTER CRITERIA

PROJECT This list defines the project numbers used in the blast hole program. Read the previous description of Projects.

[Maintain > Projects…]

SAMPLE TYPES This list defines the sample types used in the blast hole program. Read the previous description of Sample Types.

[Maintain > Reference Tables > Sample Definitions > Sample Lists…]

LOGGING DATA

COORDINATE TYPES This list defines the different types of coordinates (e.g. Primary, Alternate; Planned, Actual, Estimate) used in the program. Read the previous description of Coordinate Types .

[Maintain > Reference Tables > Grid Definitions > Coordinate Types…]

GRID TYPES This list defines the grid coordinate systems used in the program. Read the previous description of Grid Types.

[Maintain > Reference Tables > Grid Definitions > Grid Types…]

CUSTOMIZABLE BLAST HOLE TABLE The capability exists to add custom columns to the blast hole logging window. This is accomplished by adding columns to DHL_BLAST_HOLE. Read the previous description of adding columns in the Customizing a Data Table section.

[Maintain > Define Custom Table...]

SURFACE SAMPLES

OVERVIEW

Logging surface samples with Sample Station involves some common practices: recording location information, capturing coordinate data, and assaying. As with the tables in DHLogger, there are some default reference tables that are created and associated with standard columns in the data tables. This section will describe many of the reference tables that support the recording of information in the standard tables.

SELECTION CRITERIA

COORDINATE TYPES This list defines the different types of coordinates (e.g. Primary, Alternate; Planned, Actual, Estimate) used in the sampling project. Read the previous description of Coordinate Types .

[Maintain > Reference Tables > Grid Definitions > Coordinate Types…]

GRID TYPES This list defines the grid coordinate systems used in the sampling project. Read the previous description of Grid Types.

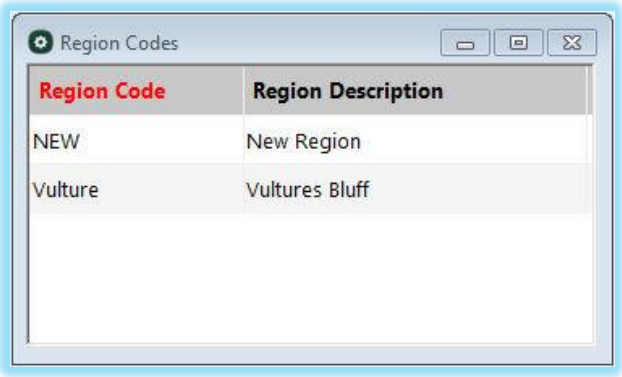
[Maintain > Reference Tables > Grid Definitions > Grid Types…]

SAMPLE TYPES This list defines the sample types used in the sampling project. Read the previous description of Sample Types.

[Maintain > Reference Tables > Sample Definitions > Sample Lists…]

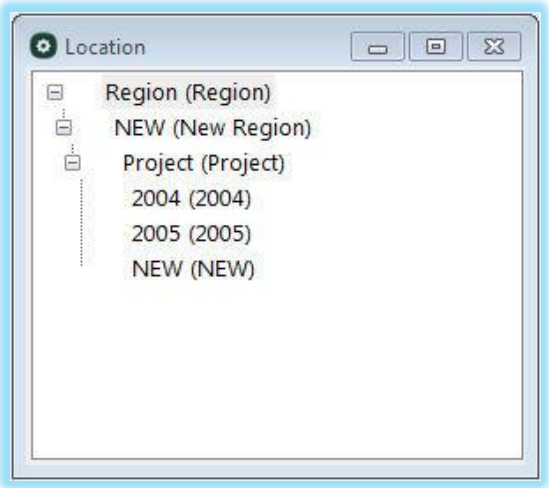
REGION CODES This list defines the region codes that are used in the Location Code configuration. It is required and represents a categorization above Project.

[Maintain > Reference Tables > Sample Definitions > Region Codes…]

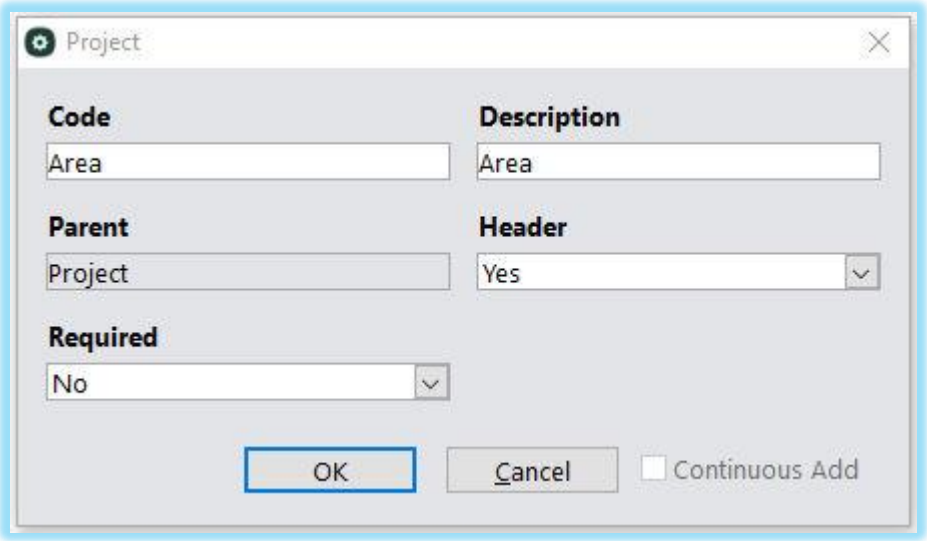


LOCATION CODES This is a configurable, hierarchical structure of locations, to which all surface samples belong. All locations consist of a Region and a Project (these are mandatory), however administrators can add any number of levels below these.

[Maintain > Reference Tables > Location Codes…]

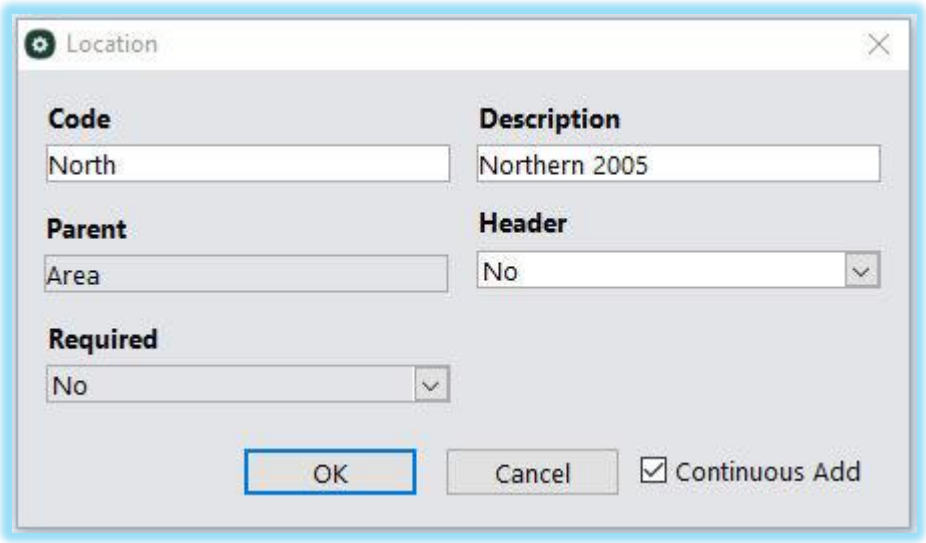


This screen shows the addition of a new level (AREA) below the PROJECT level:

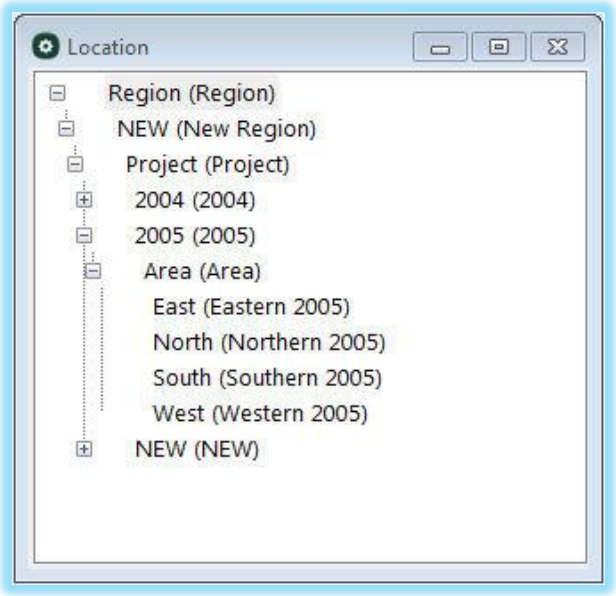


- set **Header** = Yes to create a new level
- If the header has **Required =** Yes, then any headers above in the hierarchy will also be set to "required"**.**

Once new levels (Headers) are created, you will then be able to add new codes:

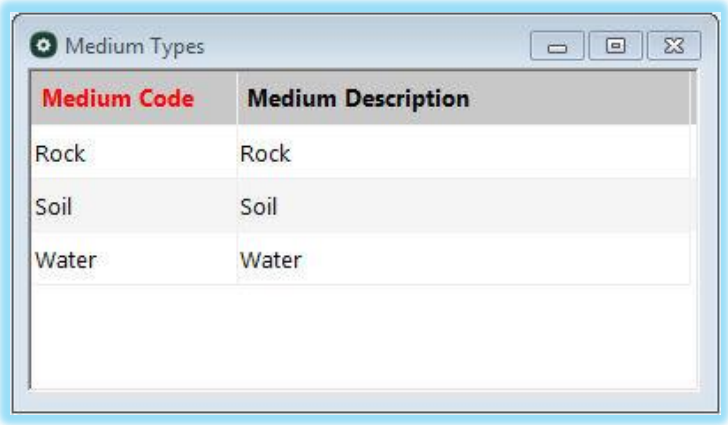


This screen shows the Location Codes tree once some codes have been added to the “Area” level under the “NEW > 2005” Region/Project:



MEDIUM TYPES This list defines the various physical mediums of the surface samples being logged.

[Maintain > Reference Tables > Sample Definitions > Medium Types…]



LOCATION/COORDINATES

COORDINATE TYPES This list defines the different types of coordinates (e.g. Primary, Alternate; Planned, Actual, Estimate) used in the sampling project. Read the previous description of Coordinate Types .

[Maintain > Reference Tables > Grid Definitions > Coordinate Types…]

GRID TYPES This list defines the grid coordinate systems used in the sampling project. Read the previous description of Grid Types.

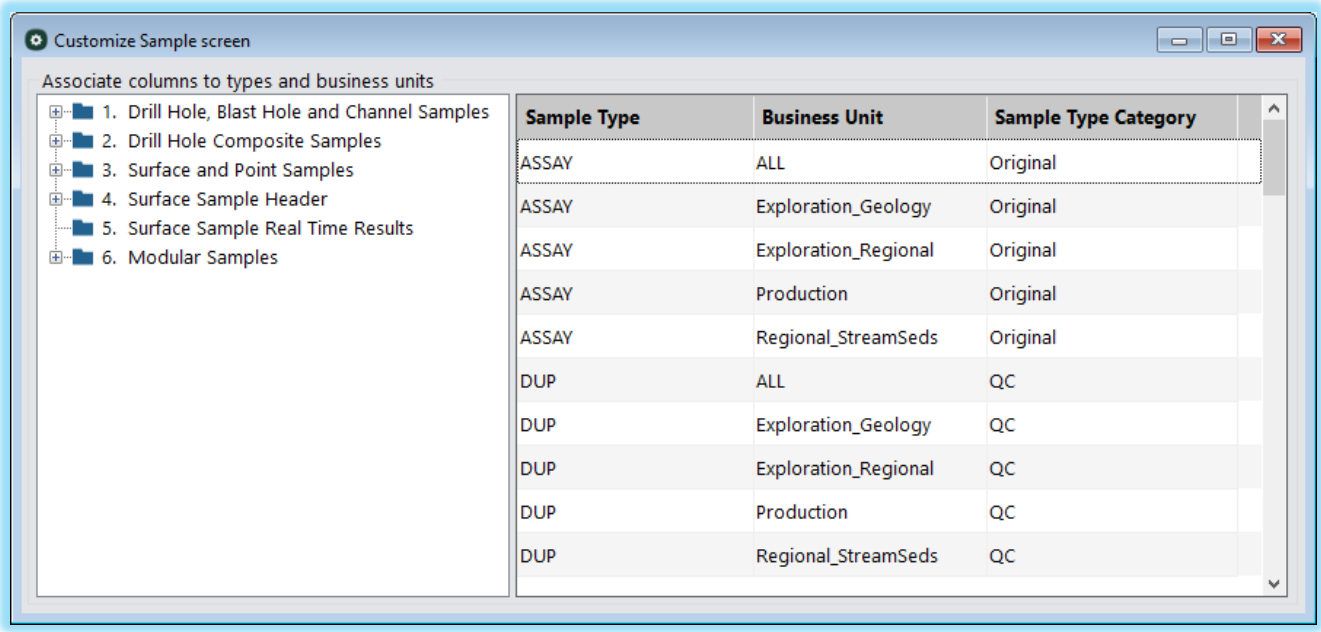
[Maintain > Reference Tables > Grid Definitions > Grid Types…]

MODULE CONFIGURATION

OVERVIEW

There are many modules available in DHLogger and Sample Station that require configuration to be completed in Fusion Administrator. This section will provide information on several of these modules.

CUSTOMIZE SAMPLE SCREEN



The folders in the left pane represent the Sample Screens that may be customized. Expand the tree to view the columns already associated with each module.

Sample Screen	Description
Drill Hole, Blast Hole and Channel Samples	Drill Hole samples are accessed from the *Samples* tab on the **Drill Hole** window in DHLogger. Blast Hole samples are accessed from the Blast Hole module in DHLogger. Channel samples are accessed in MineMapper 3D (Channel Sample wizards).
Drill Hole Composite Samples	Drill Hole composite samples are accessed from the *Composite Samples* tab on the **Drill Hole** window in DHLogger.
Surface and Point Samples	Surface samples are accessed from the *Results* tab in Sample Station. Point samples are accessed in MineMapper 3D (Point Sample wizards).
Surface Sample Header	This screen is accessed from the **Surface Sample Header** window in Sample Station.
Surface Sample Real Time Results	This screen is accessed from the *Real Time Results* tab in Sample Station.
Modular Samples	Modular Samples are visible as a child tab in the **Standalone Tables** module when the Group has been configured to use samples.

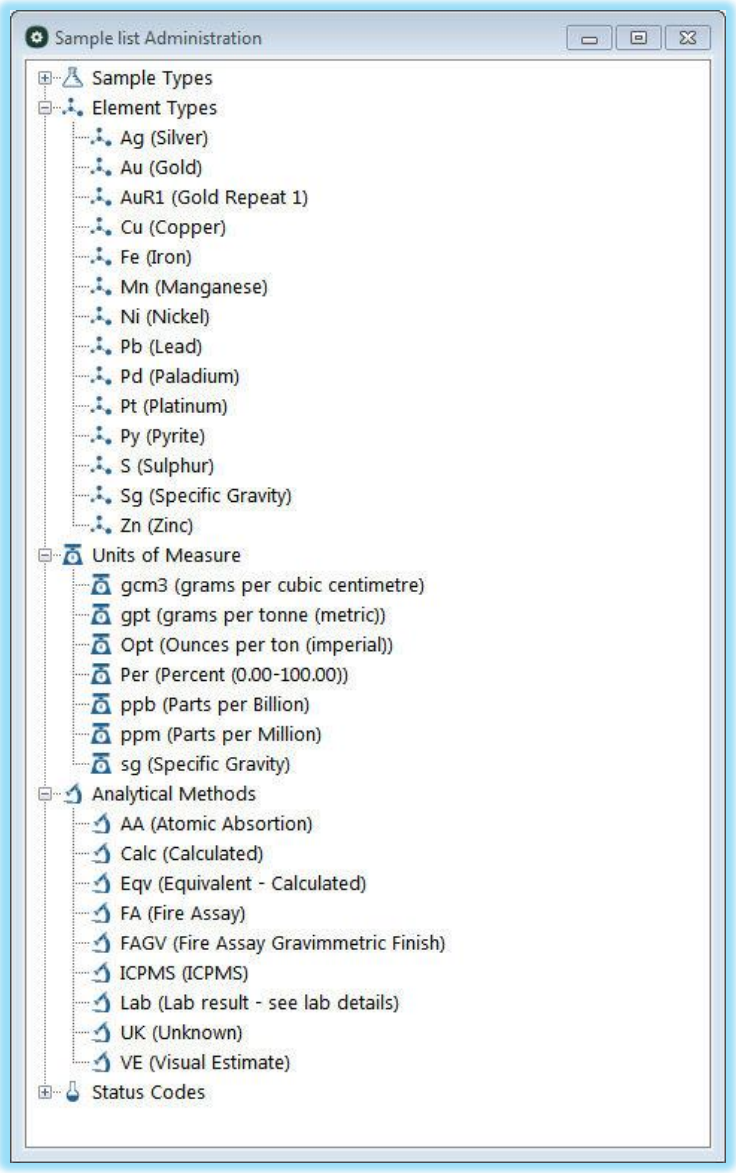
When creating a new column for any of these sample screens, you are required to select a Column Type. The available options may include: Results Column, Storage Column, and /or Composite Result Column (for composite samples only).

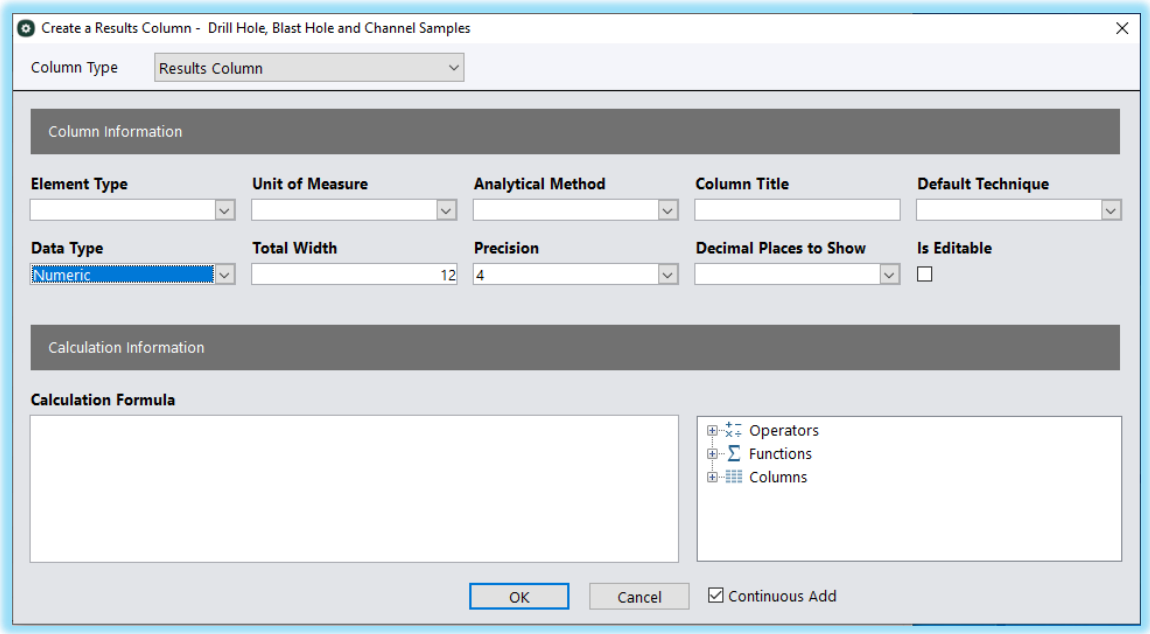
RESULT COLUMNS These columns are used for storing analytical results which typically have their values imported via Lab Assays Import. These columns can be either CHARACTER or NUMERIC columns.

Most often, Result Columns are numeric columns that are created using 3 standard picklists: element_type, assay_unit_of_measure, and analytical_methods. They will be combined with underscores. For example, "Au", "gpt", "FA" would become "Au_gpt_FA".

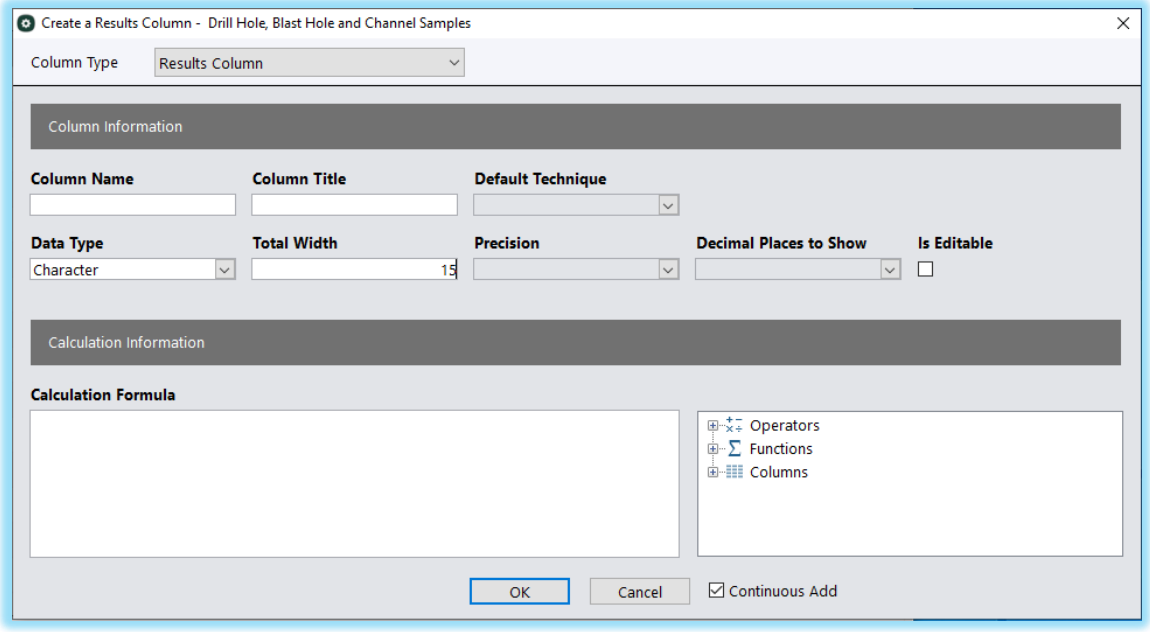
So, prior to creating columns, these reference lists need to be populated with values to be used.

[Maintain > Reference Tables > Sample Definitions > Sample Lists...]





Result column window – Numeric data type



Result column window – Character data type

Column Information

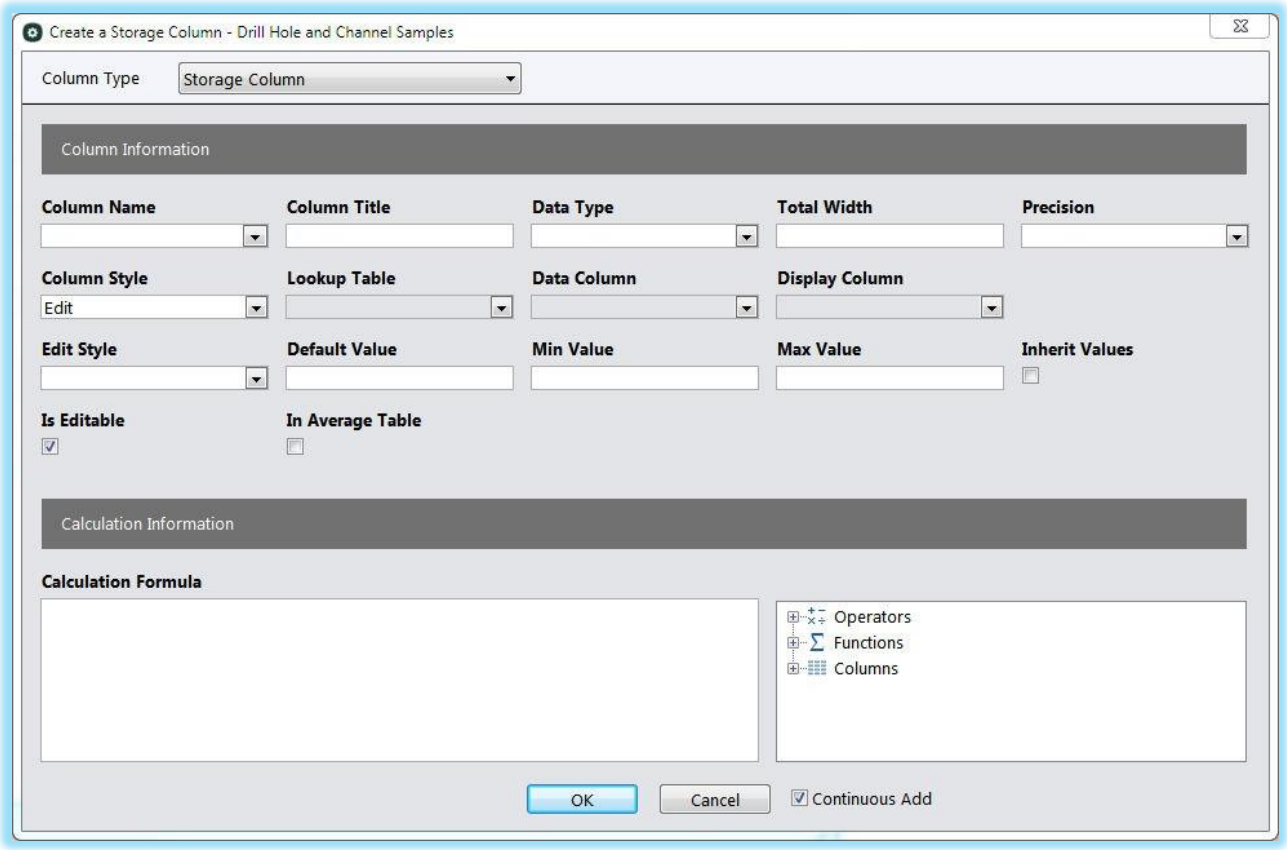
- **Column Name:** CHARACTER column property only, the physical name of the column
- **Element Type:** NUMERIC column property only, the element that is represented by this column, from values defined in the 'Element_Type' reference list
- **Unit of Measure:** NUMERIC column property only, the unit of measure that is used for the values in this column, from values defined in the 'Assay_Unit_of_Measure' reference list
- **Analytical Method:** NUMERIC column property only, the laboratory testing method used to obtain the results, from values defined in the 'Analytical_Methods' reference list
- **Column Title:** label that will be used in the sample screen , by default numeric column titles will be element_unitofmeasure_method (eg. Au_gpt_FA), while character column titles will be column_name ***
- **Default Technique:** NUMERIC column property only, optional, the default laboratory testing method that is listed for the column. This is infrequently referenced, but may be used in the Advanced Query in the *Samples* tab
- **Data Type:** for result columns, this field is limited to NUMERIC and CHARACTER
- **Total Width, Precision:** indicates the maximum total digits and number of decimals (eg. 12, 4 --> 12 total digits, with 8 before the decimal and 4 after)
- **Decimal Places to Show:** allows for customization of the column's display format
- **Is Editable:** indicates if the value stored in this column is read-only or can be changed through the interface. Result columns are typically not editable, as they are populated through a Lab Import.

**** Business Unit preferences may override these settings*

Calculation Information

- **Calculation Formula:** if a calculated column is needed, simply type or drag/drop operatons, functions and columns into this field; validation of the formula occurs before saving, checking for correct syntax; do not use another calculated column in a formula

STORAGE COLUMNS These columns are general columns, and can be added to any of the modules, like custom columns in custom tables.



Column Information

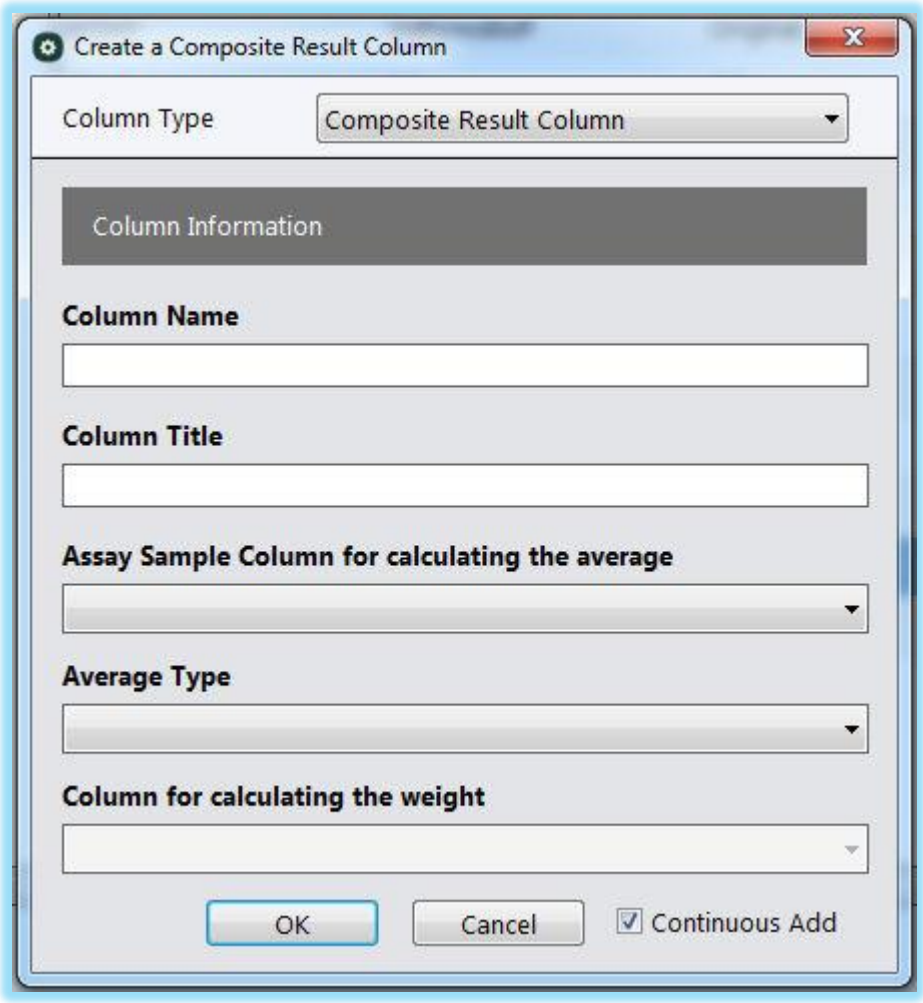
- **Column Name:** physical name of the column in the table
- **Column Title:** custom label for the column ***
- **Data Type,Total Width, Precision:** column's definition details
- **Column Style:** Edit / Dropdown with FK (picklist)
- **Lookup Table, Data Column, Display Column, Lookup Style:** picklist settings available when you have selected "Dropdown with FK" style ***
- **Edit Style:** (none) / checkbox style; DateTime / Time Only - 24 Hour / Time Only - am-pm
- **Default Value, Min Value, Max Value:** default value for the column, and for numeric columns, Minimum and Maximum values used in validation during data entry ***
- **Inherit Values:** if enabled, when creating a new row the columnis pre-populated with the previous row's value
- **Is Editable:** indicates if the value is read-only or editable
- **In Average Table:** when enabled, the column is also created in the related AVERAGES table
- **Context-Sensitive:** setting, available when you have selected "Dropdown with FK" style; would indicate that the values in this column's picklist are dependent on the value entered in another column that has a picklist; within the configuration, the column that provides context can vary by Business Unit

*** *Business Unit preferences may override these settings*

Calculation Information

- **Calculation Formula:** if a calculated column is needed, simply type or drag/drop operatons, functions and columns into this field; validation of the formula occurs before saving, checking for correct syntax; do not use another calculated column in a formula

COMPOSITE RESULT COLUMNS These columns are only available in the Drill Hole Composite Samples module. They are used for creating a calculated average column.

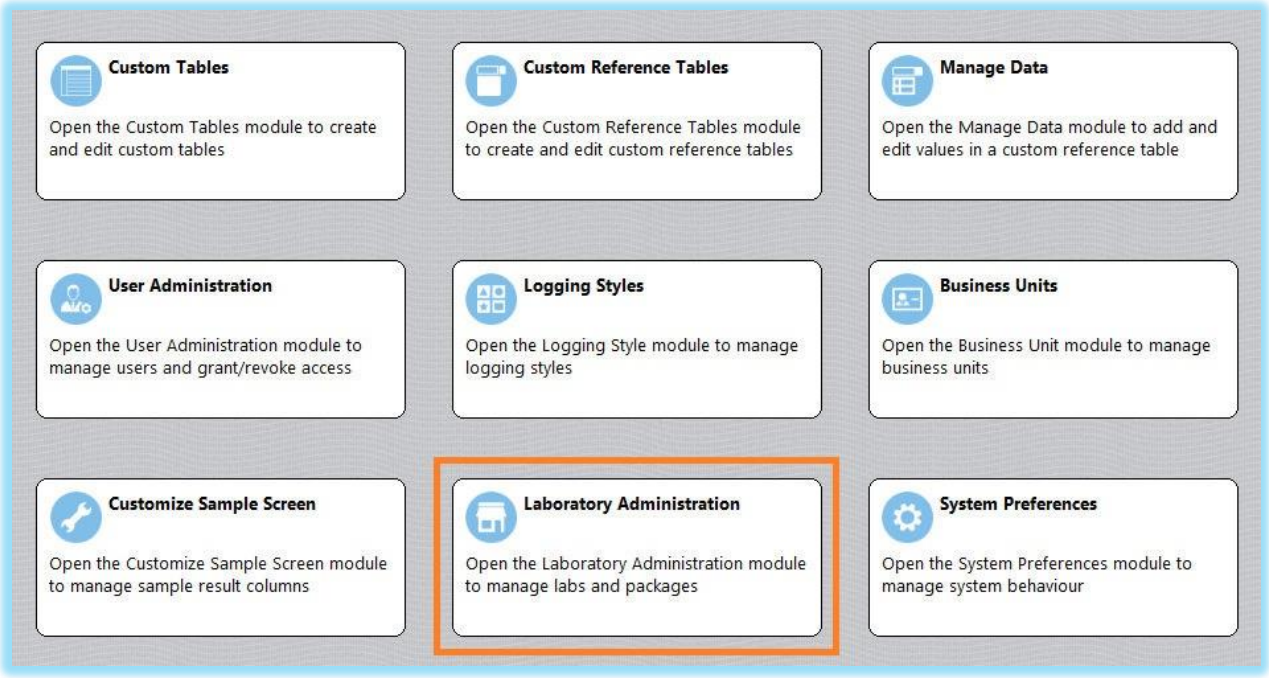


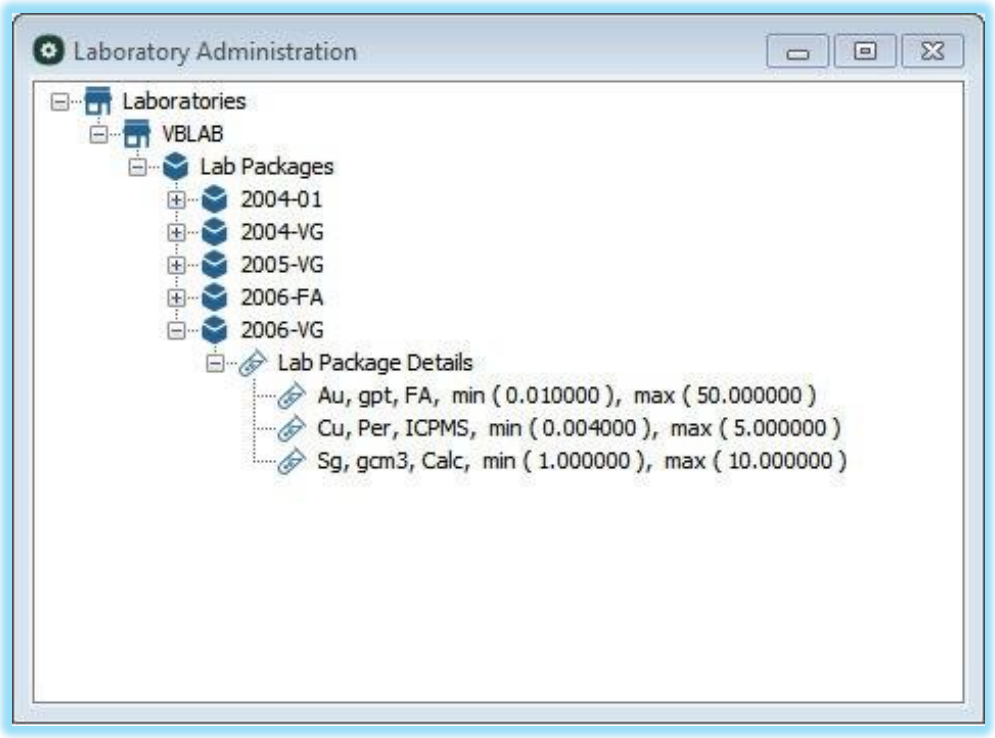
Column Information

- **Column Name:** physical name of the column in the table
- **Column Title:** custom label for the column ***
- **Assay Sample Column for calculating the average:** the Drill Hole Sample column that contains the values that are averaged
- **Average Type:** Regular / Weighted by Sample Interval / Weighted by Column
- **Column for calculating the weight:** enabled when Average Type = "Weighted by Column"

LABORATORY ADMINISTRATION

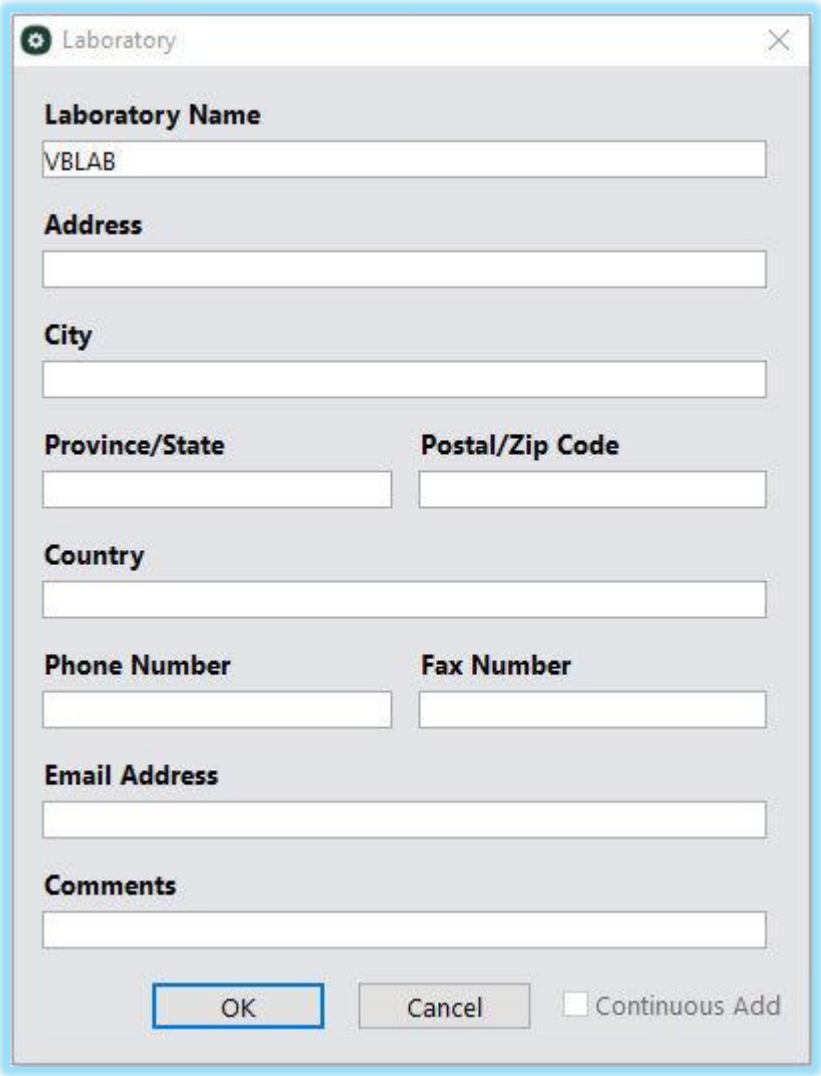
The Laboratory Administration window allows users to configure Laboratories, Lab Packages and Laboratory Analytical Details. The Lab Package and Laboratory Analytical Details configuration is used by the Lab Import module to identify how results are imported / validated.





To add a new Laboratory, simply select the 'Laboratories' branch of the tree and click the New button.

To edit a Laboratory, double-click on the existing lab.

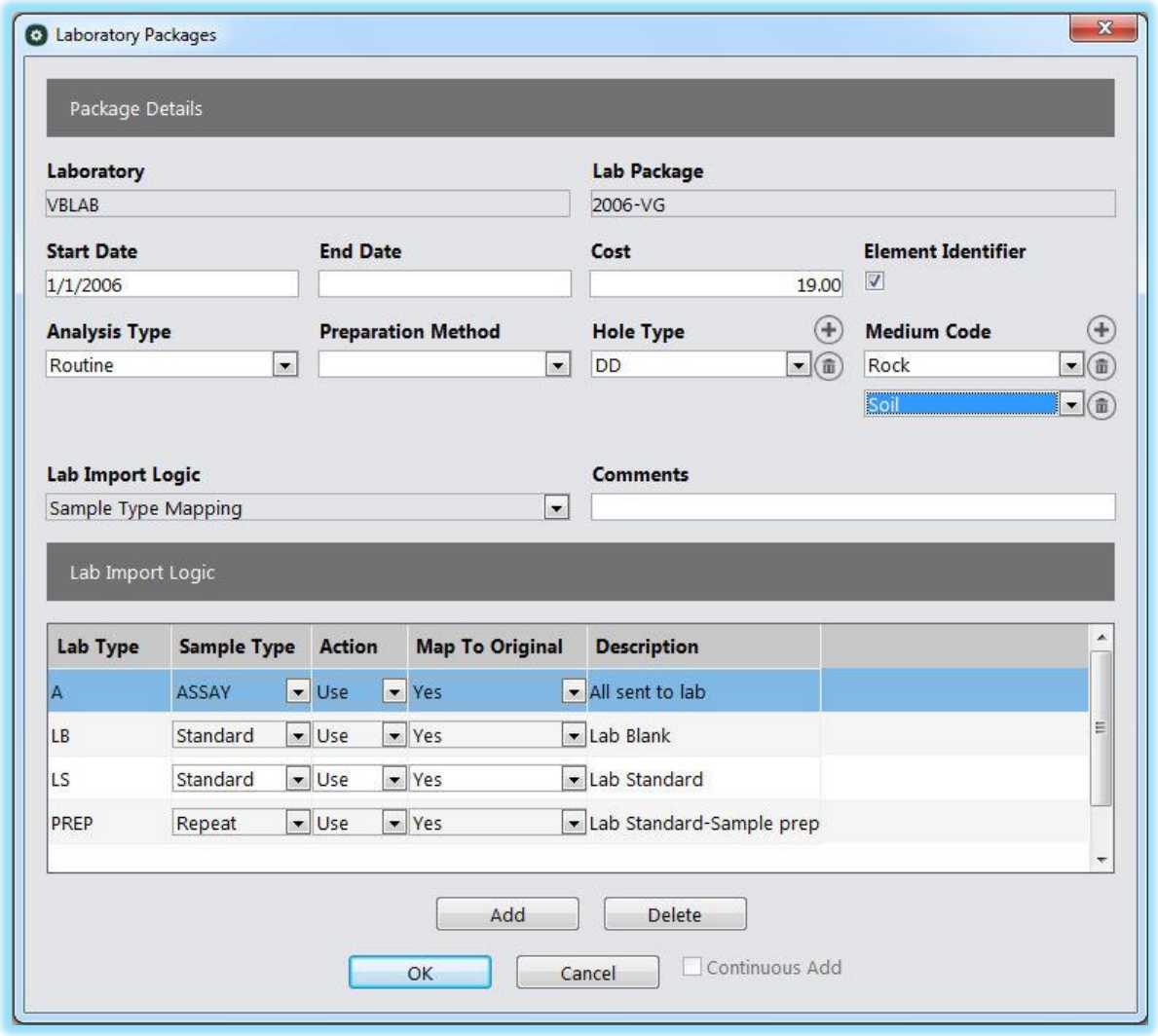


Laboratory

- **Laboratory:** A unique name for the lab.
- **Address, City, Province/State, Postal/Zip Code, Country:** Address details for the lab.
- **Phone Number, Fax Number:** Phone/Fax details for the lab.
- **Email Address:** An email address for a contact at the lab.
- **Comments:** Additional information concerning the lab.

To add a new Lab Package, simply select the 'Lab Packages' branch of the tree and click the New button.

To edit a Lab Package, double-click on the existing package.



Package Details

- **Laboratory:** The name of the lab to which the package will be assigned.
- **Lab Package:** The name of the package.
- **Start Date, End Date:** The date range that this package is active.
- **Cost:** The price the lab is charging for this package's analysis.
- **Element Identifier:** Indicates whether the lab imort file will contain a single item (element) or the element, unit of measure and analytical method as the means to identify each result.
- **Analysis Type, Preparation Method:** Fields linked to customizable lists that can help define the analysis options of the lab package (eg. Routine analysis, using a Dry Weight preparation method)

  To manage these lists go to [Maintain > Reference Tables > Laboratory Administration > Lab Package Analysis Types...]
  and [Maintain > Reference Tables > Laboratory Administration > Lab Package Preparation Methods...]
- **Hole Type / Medium Code:** The package can be associated with multiple hole types or surface sample medium codes, and these fields can be used to assist with filtering and/or validation in the Sample Dispatch
- **Lab Import Logic:** Occurence Number Logic / Sample Type Mapping. Defines how the lab import assigns sample types to unknown samples (Lab Duplicates or Lab QAQC)
- **Comments:** Additional information about the Lab Package.

Lab Import Logic

- *Occurrence Number Logic:* assigns sample types based on sequential ordering of the sample numbers contained within one lab file

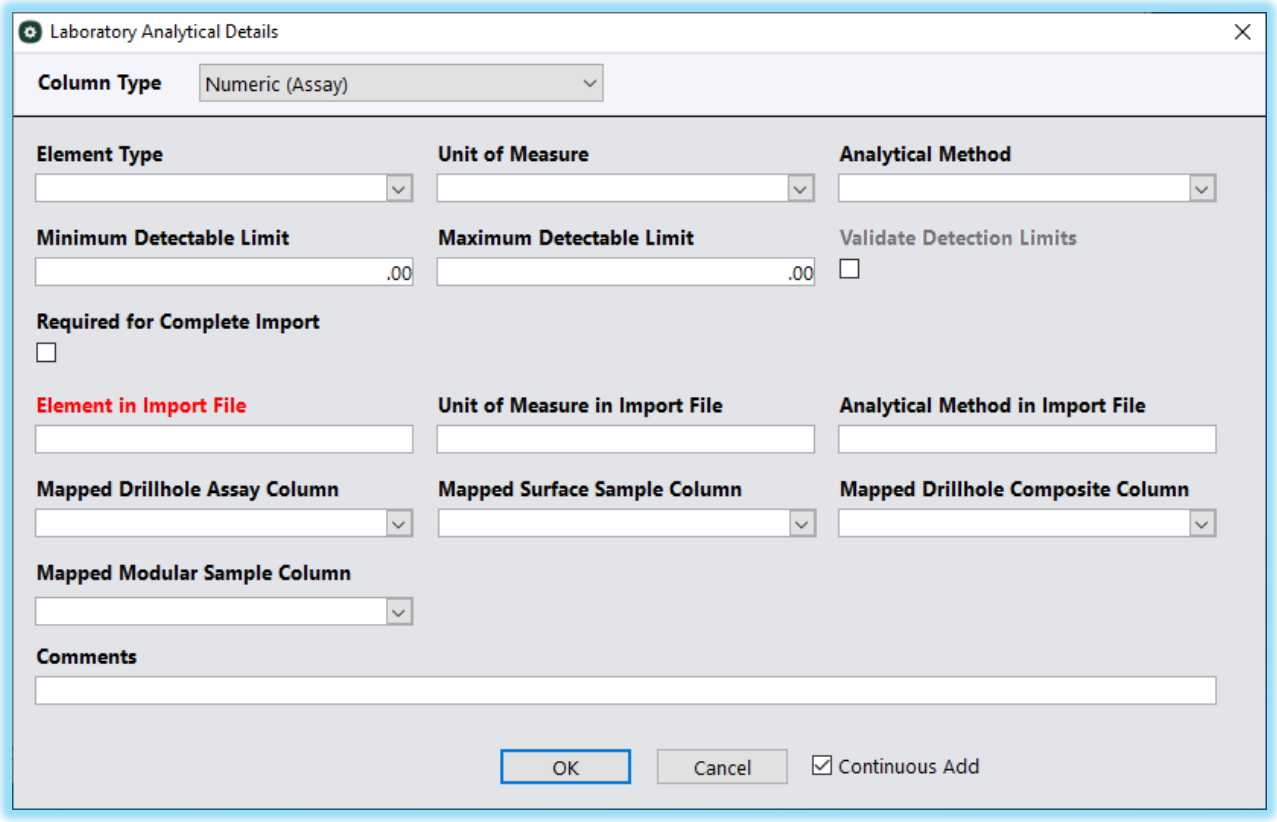
  Occurrence Number: provide the occurrence of the sample
  Sample Type: from a pick list , select the sample type that the occurrence represents (ex. 2nd occurrence of sample A = PulpRep, 3rd occurrence = PulpRep2)
  Note: if you enter an occurrence = 1, results will only be updated in the DHL_SAMPLE_COLUMN_DETAILS, not in the actual sample table

- *Sample Type Mapping:* assigns sample types based on a sample type code assigned to the sample numbers contained within one lab file

  Lab Type: the name of a sample type given by the lab
  Sample Type: the name of the corresponding sample type in DHLogger/Sample Station
  Action: Use / Ignore. Identifies if the import ignores the sample type assigned by the lab and assigns the sample type defined in DHLogger / Sample Station.
  When "Action = Use", results will only be stored in DHL_SAMPLE_COLUMN_DETAILS; when "Action = Ignore", results will be updated in the appropriate sample table
  Map to Original: Y/N. Indicates if the import validates the result based on the sample type or as a lab duplicate
  Description: a long description of the lab import logic

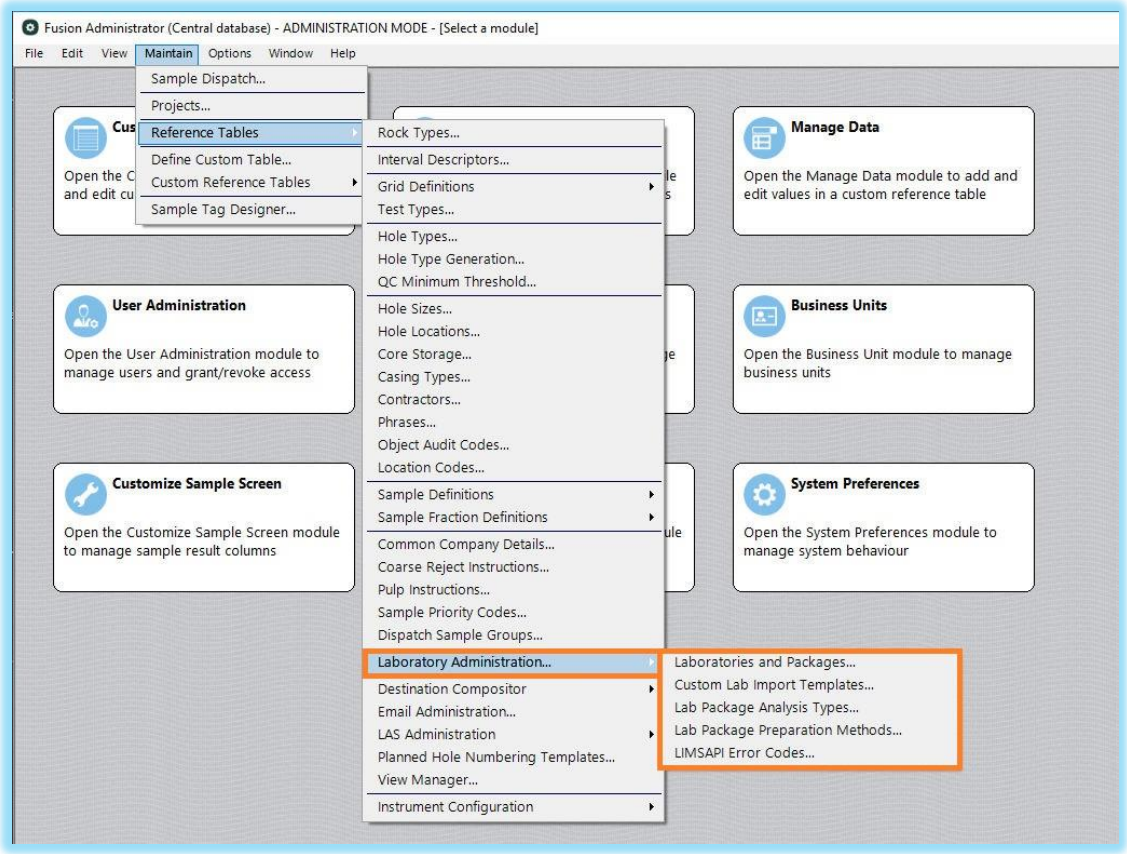
To add a new Lab Package Detail, simply select the 'Lab Package Details' branch of the tree and click the New button.

To edit a Lab Package Detail, double-click on the existing package detail.



Lab Package Details

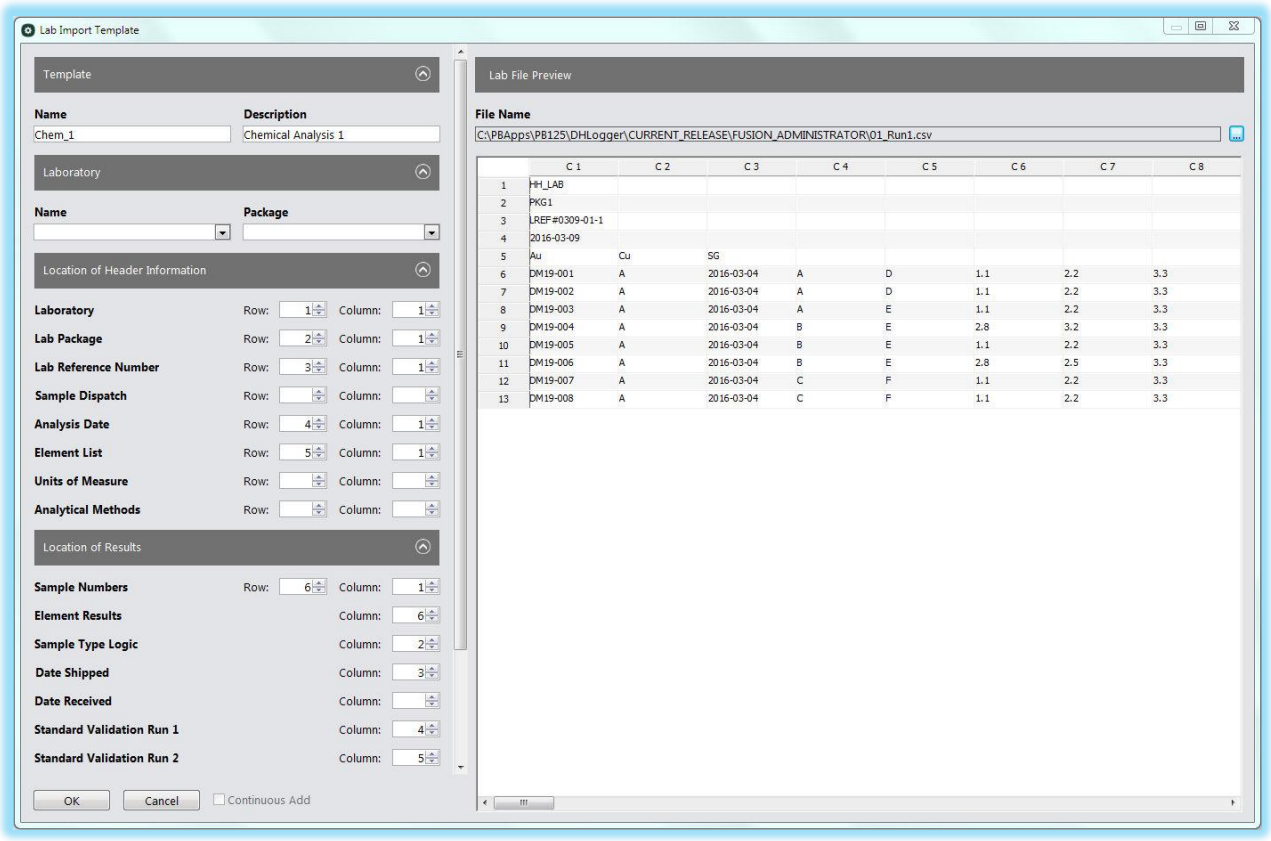
- **Column Type:** Initial identification of the type of column - Numeric (Assay) or Text
  - **Element Type:** The element that was tested for in the sample.
  - **Unit of Measure:** The unit of measure that the results are expressed in.
  - **Analytical Method:** The analytical method that the lab will be using.
  - **Column Name:** TEXT column only, identifies the column
- **Minimum Detectable Limit, Maximum Detectable Limit:** The detection limits of the specific analytical method for this element/unit of measure
- **Validate Detection Limits:** Indicate whether or not detectable limits will be validated during the import of results
- **Required for Complete Import:** Indicates whether or not a result for this element must be present in the import file. If a result is not returned, the imported sample is tagged as Partial
- **Element in Import File:** The label used in the import file to identify the element being analyzed (ex. Au, Ag, Cu_ppm)
- **Unit of Measure in Import:**The label used in the import file to identify the unit of measure of the result. This column is only applicable if the 'Element Identifier' option for the Lab Package is unchecked.
- **Analytical Method in Import File:** The label used in the import file to identify the method used to analyze the result. This column is only applicable if the 'Element Identifier' option for the Lab Package is unchecked.
- **Mapped Drillhole Assay Column:** Identifies the column in HOLE_ASSAY_SAMPLE into which these results will be imported
- **Mapped Surface Sample Column:** Identifies the column in SSTN_SURFACE_SAMPLES into which these results will be imported
- **Mapped Drillhole Composite Column:** Identifies the column in HOLE_COMPOSITE_SAMPLE into which these results will be imported
- **Mapped Modular Sample Column:** Identifies the column in MODULAR_SAMPLES into which these results will be imported
- **Comments:** Additional information for the Lab Package Detail



There are several lists that can be configured to support the Laboratory Administration module. The Laboratories and Packages menu opens the same Laboratory Administration window that is opened from the tile.

CUSTOM LAB IMPORT TEMPLATES This window allows users to customize and specify the format of a laboratory file so that the data can be read by the Lab Import module. The format of the lab import file must be a CSV (comma-delimited) File. This file type allows users to specify the row and column of the different data sections.

[Maintain > Reference Tables > Laboratory Administration > Custom Lab Import Templates…]


Lab Import Template
Template
Name
Chem_1
Description
Chemical Analysis 1
Laboratory
Name
Package
Location of Header Information
Laboratory Row: 1 Column: 1
Lab Package Row: 2 Column: 1
Lab Reference Number Row: 3 Column: 1
Sample Dispatch Row: Column:
Analysis Date Row: 4 Column: 1
Element List Row: 5 Column: 1
Units of Measure Row: Column:
Analytical Methods Row: Column:
Location of Results
Sample Numbers Row: 6 Column: 1
Element Results Column: 6
Sample Type Logic Column: 2
Date Shipped Column: 3
Date Received Column:
Standard Validation Run 1 Column: 4
Standard Validation Run 2 Column: 5
OK
Cancel
Continuous Add
Lab File Preview
File Name
C:\PBApps\PB125\DHLogger\CURRENT_RELEASE\FUSION_ADMINISTRATOR\01_Run1.csv
C 1 C 2 C 3 C 4 C 5 C 6 C 7 C 8
1 HH_LAB
2 PKG1
3 LREF#0309-01-1
4 2016-03-09
5 Au Cu SG
6 DM19-001 A 2016-03-04 A D 1.1 2.2 3.3
7 DM19-002 A 2016-03-04 A D 1.1 2.2 3.3
8 DM19-003 A 2016-03-04 A E 1.1 2.2 3.3
9 DM19-004 A 2016-03-04 B E 2.8 3.2 3.3
10 DM19-005 A 2016-03-04 B E 1.1 2.2 3.3
11 DM19-006 A 2016-03-04 B E 2.8 2.5 3.3
12 DM19-007 A 2016-03-04 C F 1.1 2.2 3.3
13 DM19-008 A 2016-03-04 C F 1.1 2.2 3.3

Template

- **Name, Description:** A name and description to identify the import template.

Laboratory

- **Name, Package:** Identifies the lab and lab package associated with this template.
  These can be omitted if they are specified by position.

Location of Header Information

- Specify the Row and Column locations for the Header Information:
  ***Laboratory, Lab Package*:** Not required if this information is specified in the Laboratory section.
  ***Lab Reference Number, Element List*:** Required information
  ***Sample Dispatch, Analysis Date, Unit of Measure, Analytical Methods*:** Optional information

Location of Results

- Specify the Row and Column location for the Result information:
  ***Sample Numbers*:** specify the location of the first sample number in the import file. The row specified here will be the same row for each of the following pieces of information - any sample results found above this row will not be imported; only sample results will be found in and after this row.
  ***Element Results*:** the first column location of the analytical results in the import file.
  ***Sample Type Logic*:** column location of sample type logic, only necessary if the Lab Package uses Sample Type Mapping.
  ***Date Shipped, Date Received*:** optional information
  ***Standard Validation Run 1, Standard Validation Run 2*:** the location of the columns defining the run numbers, only necessary if the file contains standards that use run validation.

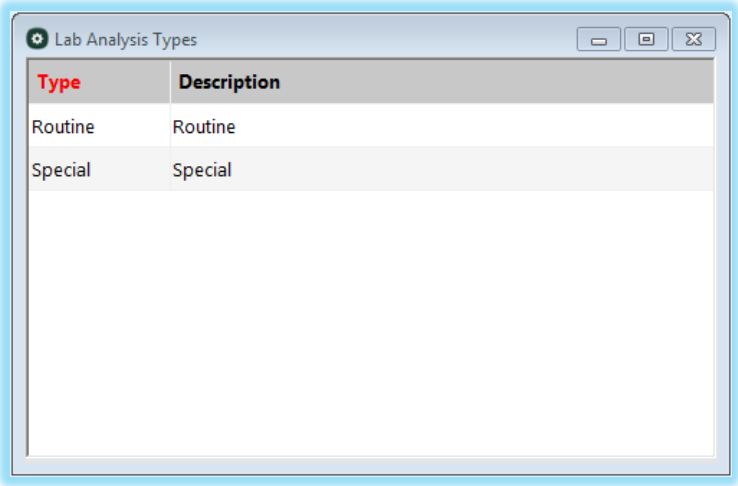
  Fields only applicable when Sample Fractions are enabled
  Column for Calculated Global Sample: Weighted Average of Size Fractions: the location of the weights of the Sample Fraction samples
  Size Fraction Name: location of the Screen Size Name of the size fraction sample, used for lookup of the actual sample number
  Density Fraction Name: location of the Relative Density Name of the density fraction sample, used for lookup of the actual sample number

Lab File Preview

- Select and Open a file that this template is going to match.
- Drag and drop the field locations from the file to the template definition for easy entry of row/column positions.

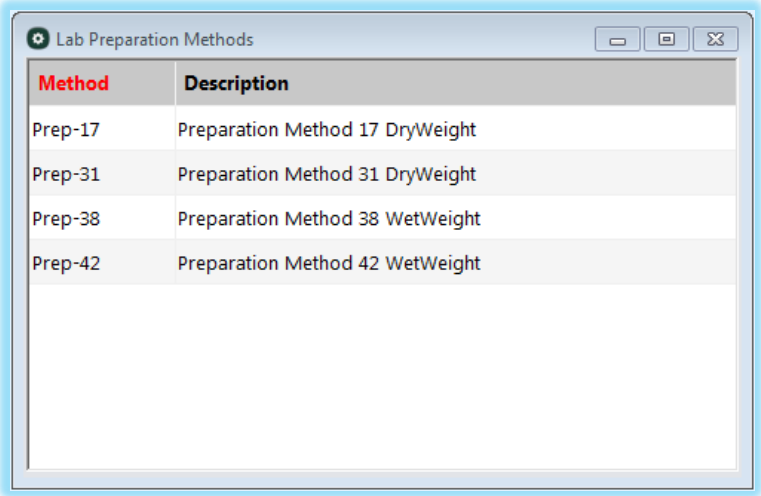
LAB PACKAGE ANALYSIS TYPES This list contains possible analysis types that can be associated with a Lab Package

[Maintain > Reference Tables > Laboratory Administration > Lab Package Analysis Types…]

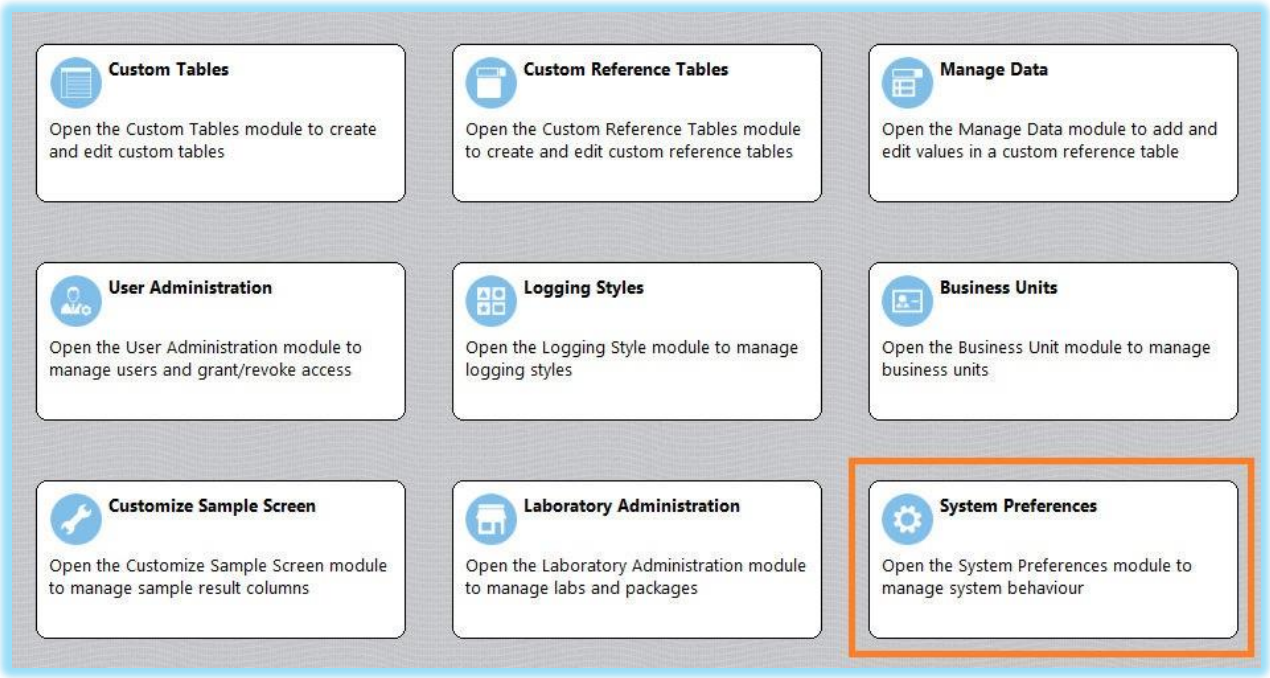


LAB PACKAGE PREPARATION METHODS This list contains possible preparation methods that can be associated with a Lab Package

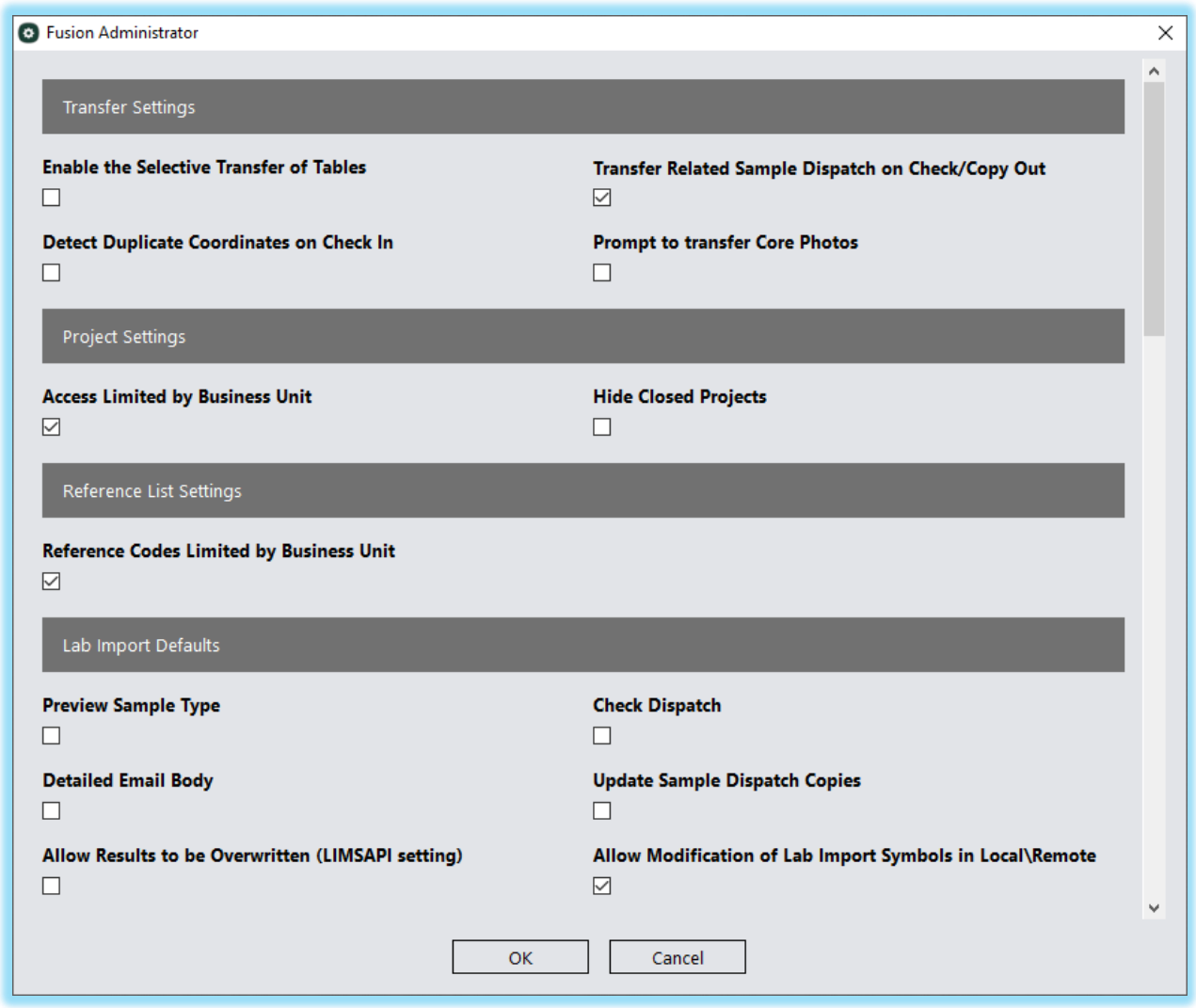
[Maintain > Reference Tables > Laboratory Administration > Lab Package Preparation Methods…]



SYSTEM PREFERENCES



While this is not a specific module, it contains configuration settings for many other modules in the applications.


Fusion Administrator
Transfer Settings
Enable the Selective Transfer of Tables
Transfer Related Sample Dispatch on Check/Copy Out
Detect Duplicate Coordinates on Check In
Prompt to transfer Core Photos
Project Settings
Access Limited by Business Unit
Hide Closed Projects
Reference List Settings
Reference Codes Limited by Business Unit
Lab Import Defaults
Preview Sample Type
Check Dispatch
Detailed Email Body
Update Sample Dispatch Copies
Allow Results to be Overwritten (LIMSAPI setting)
Allow Modification of Lab Import Symbols in Local\Remote
OK
Cancel

Transfer Settings

- **Enable the Selective Transfer of Tables:** this feature allows users to Check Out only the tables they specify, instead of an entire drill hole, allowing multiple users to add data to the same drill hole
- **Detect Duplicate Coordinates on Check In:** this feature will validate the coordinates during a Check In of a Drill Hole, Surface Sample or the transfer of Planned Drillholes, searching for duplicate coordinates in the destination database. Users will have the opportunity to continue or cancel the transfer or Check In when duplicates are reported
- **Transfer Related Sample Dispatch on Check/Copy Out:** this feature will copy out the Dispatch Header and Dispatch Sample records for all sample dispatches that are referenced by the drill hole's samples or surface samples that they have been selected for Check Out or Copy Out
- **Prompt to transfer Core Photos:** this feature will prompt users after the transfer of drill holes to transfer any core photos associated with the selected holes from the source's Storage Location to the destination's Storage Location

Project Settings

- **Access Limited by Business Unit:** this will limit the access to a project's data depending on the user's active business unit. This setting is used in many of the applications, including DHLogger, Sample Station and Report Manager.
  To assign projects to business units open Business Units module, and Projects will be a list on the right that can be dragged/dropped to the Unit tree
- **Hide Closed Projects:** when enabled, projects that have had their status changed to CLOSED will not be visible in picklist (eg. drill hole selection, surface sample selection)

Reference List Settings

- **Reference Codes Limited by Business Unit:** limit the visibility of codes in the reference tables depending on the user's active business unit
  To assign codes to business units go to [Options > System Administration > Reference Codes to Business Units...]

Lab Import Defaults

- **Preview Sample Type:** when enabled, a window will be displayed that shows the sample type (and standard code) of each sample being imported
- **Detailed Email Body:** when enabled, the body of the automatic email sent following the Lab Import will contain a summary of the imported samples
- **Allow Results to be Overwritten (LIMSAPI setting):** a setting applicable to LIMSAPI only, that will allow analytical results to be updated (overwritten) during import with LIMSAPI
- **Check Dispatch:** with this enabled, validations of the Dispatch Number will occur in Lab Import (eg. correct status, samples belong, missing sample)
- **Update Sample Dispatch Copies:** if enabled, sample dispatch information will be updated in 'copies' of the sample dispatch records when importing into a database other than the Central, and records will be flagged to update the Central when synchronization is run against the Central database
- **Allow Modification of Lab Import Symbols in Local\Remote:** enabled by default, when disabled a user will not be able to Add, Edit or Delete records in the Symbol Mapping table which is accessed through the Lab Import module
- **Warn / Stop Import if Analysis Date > Import Date:** set to 'Log Issue and Continue' by default, additional options are to 'Stop the Import' or 'Prompt to Continue'. A check of the Analysis Date will inform you if it is set to a future date (greater than the day you are importing the file)

Drill Hole Import Defaults

- **Allow Import of Analytical Results:** allows for the import of data into 'result' columns with this module, instead of using the Lab Import (typically used for historical data when certificates are not available to be imported)
- **Allow Import of Reference Codes Out of Context:** option to allow data to be imported when the data does not meet 'context-sensitive' rules. User will be given a report and will be prompted to continue with the import.

Data Table Settings

- **Inherit Interval Depths for Custom Tables:** automatically fills in depths to Major/Minor depths when entering new rows to interval-related custom tables
- **Warn when entering Samples that cross Lithology boundaries:** enabling this feature prompts users when they enter a Sample record with depths that span 2 or more Major intervals
- **Validate Maximum Depth:** if checked, the Maximum Depth field is enabled in the Collar screen, user will be prevented from saving data with depths that exceed the value that is entered in the Collar window
- **Save data that exceeds maximum depths:** enabled when "Validate" setting is checked, if checked, you receive prompt to save despite validation warning (will update maximum depth to current)
- **Prompt when QC samples are automatically created:** a prompt is presented to the user when a QC sample is automatically inserted into the database, informing user of the sample number and sample type of the added QC
- **Columns Limited by Logging Style:** allows customization of tables by Logging Style to extend to the column level. To customize open Logging Styles module and double-click on the desired table found under the logging style's Tabs folder
- **Enable Size Fractions:** allows for the creation of 'samples' that are composed of material with similar particle/grain size. Analysis is performed on these sub-samples. Usage will require configuration [Maintain > Reference Tables > Sample Fraction Definitions...]
- **Enable Density Fractions:** allows for the creation of 'samples' that are composed of material with similar densities. Analysis is performed on these sub-samples. Usage will require configuration [Maintain > Reference Tables > Sample Fraction Definitions...]
- **Allow Table Linking:** when enabled, when inserting, editing or deleting data in one table in DHLogger can cause rows in dependant tables to have depth-data synchronized automatically or through a manual process. Usage will require confguration [Maintain > Reference Tables > Sample Definition > Table Linking Configuration...]
- **Prompt to re-assign QC Sample / Standard sample numbers:** when enabled, geologists will have the opportunity to 'insert' QC Samples or Standards into a sequenced set of sample numbers, being prompted to automatically adjust sample numbers to maintain the ordered sequence
- **Core Photo Import Depth Defaults:** determines whether photos are associated with depths of zero (for From and To), or whether they remain empty
- **Delete Photo files when deleting records from Drill Hole:** determines whether the photo image itself, which may be found in the Storage Location, is removed from the computer when you delete the record from the database
- **OC Desurvey: Beta Angle Measurement / Orientation Mark:** settings used that determine calculation methods for Oriented Core Calculations
- **Desurvey: Positive Dip Upward / Survey Records / Grid / End Points:** settings used during the Desurvey calculations in DHLogger
- **Sample Station Standards: Require Project Number:** Makes the Project Number column a required field when adding Sample Station standards.

Validation Rules Settings

- **Enable Validation Rules:** When this setting is enabled, any validation rules defined for the module and group will be run
- **Only authorize Holes/Samples without validation issues:** When enabled, this setting prevents the authorization or holes or samples that don't pass validation rules

Blast Hole Settings

- **Automatically generate sample using specified length:** with this feature enabled, a sample will be created at the same time as the blast hole using the length specified in the Blast Length column
- **Multiple Samples Logged per Blast Hole:** this setting will determine if more than one sample is allowed to be logged for each blast hole

Drill Hole and Surface Sample Updates

- **Automatically check for newer copies of Drill Holes:** when this feature is enabled, when DHLogger is started, the application will check to see if a newer version of any drill hole copies exist in the Central Database (if available) and provides a report to the user
- **Automatically check for newer copies of Surface Samples:** when this feature is enabled, when Sample Station is started, the application will check to see if a newer version of any surface sample copies exist in the Central Database (if available) and provides a report to the user

Sample Dispatch Settings

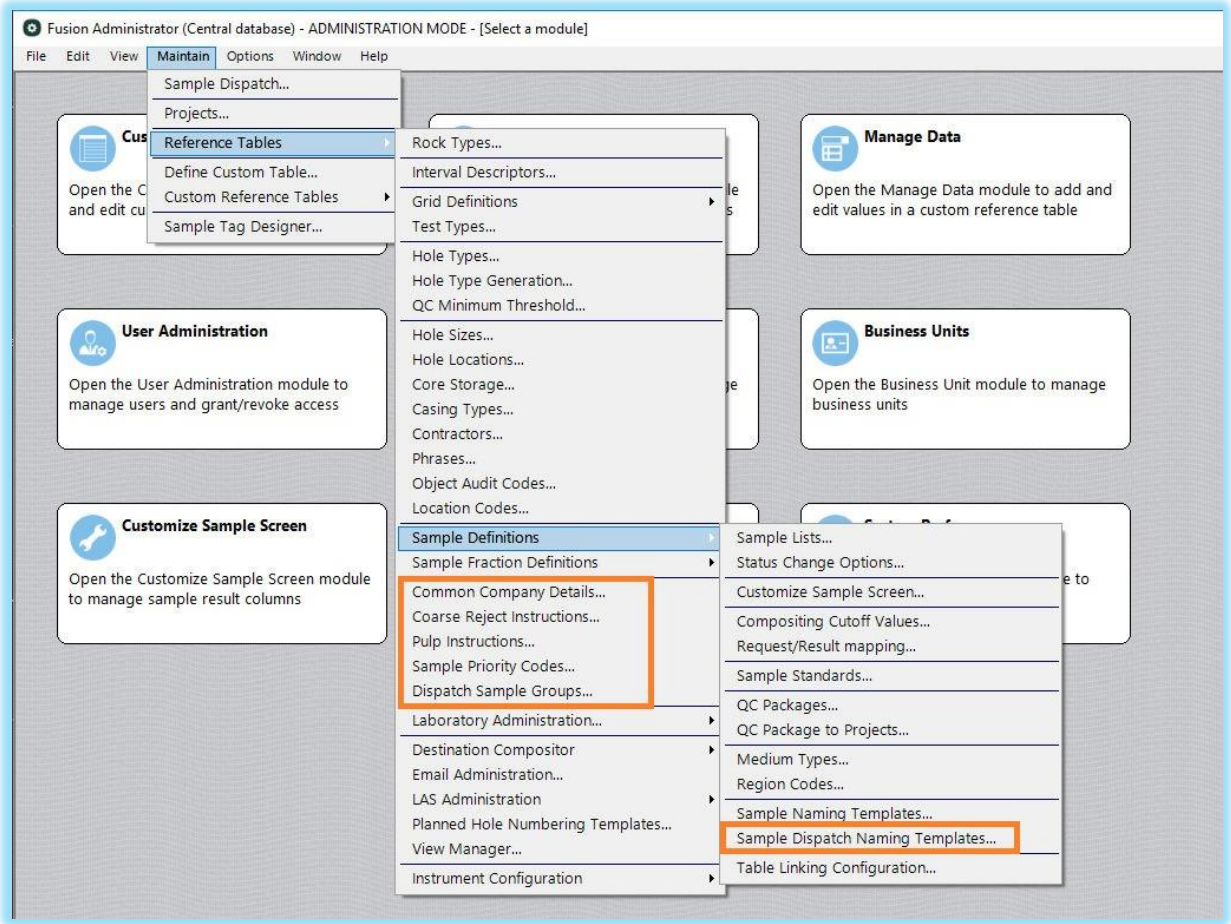
- **Enable Dispatch Naming Template:** when enabled, a user-defined template will be applied to the dispatch number of a newly created dispatch
  To configure the template: [Maintain > Reference Tables > Sample Definitions > Sample Dispatch Naming Templates...]
- **Use Filters to Restrict Lab Package Selection:** enabling this setting adds two fields (Analysis Type, Hole/Medium) to the Sample Dispatch Header section in a dispatch that will filter the list of lab packages
- **Use Lab Package to Filter Available Samples:** this setting will filter the list of available samples to holes that have the same Hole Type or surface samples that have the same Medium Code as what is associated with the selected lab package
- **Use Lab Package to Validate Selected Samples:** this setting will validate the dispatch's selected samples allowing only samples that belong to holes that have the same Hole Type or surface samples that have the same Medium Code as what is associated with the selected lab package
- **Warn if Sample has already been dispatched:** enabling this setting will add validation when selecting samples to include in a dispatch - prompting you when you have chosen a sample that is already included in another dispatch that exists in your database
- **Lock Samples in Data Tables once they are dispatched:** when this setting is enabled, samples that belong to a Sent Dispatch will no longer be available for editing (depths, sample number) or deletions, unless the user has the "QUALIFIED PERSON" profile assigned; enabling this feature will change the system's workfow, allowing only for a dispatch to be created and sent from the Local database, and only 'master' (ie. new/checkedout) samples can be added to a dispatch
- **Limit Number of Samples:** this setting will notify a user when a maximum number of samples have been added to a dispatch
- **Include Sample Fractions in Sample Limit:** Identifies if sample fractions are counted when determining if the sample number limit has been reached
- **Warn or Restrict When Sample Limit Reached:** Defines whether the user receives a Warning message when the Sample Number Limit (previous setting) has been reached, or whether they will be prevented from adding any more samples to the dispatch
- **Update Sample Type in Dispatch:** this setting will confirm/update the sample types of samples in Dispatch of samples being transferred on Check In

Grid Settings

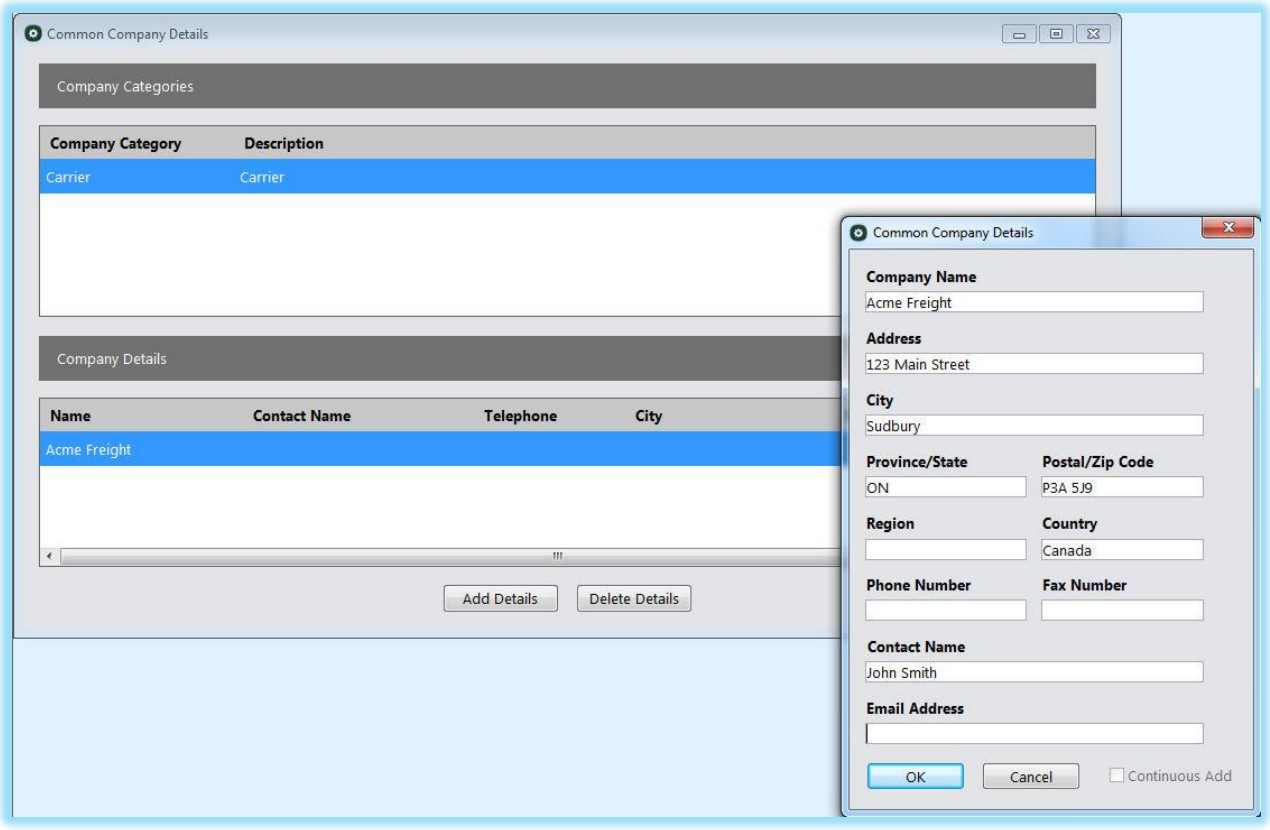
- **Conversion Method:** indicates the default survey grid conversion method that will be used when converting coordinates between two different Grid Types: CSMAP and CENTURY. When using the 'CENTURY' method, configuration of conversion mappings will be in [Maintain > Reference Tables > Grid Definitions > Grid Conversion Mapping...]
- **Common Grid, Second Common Grid, Third Common Grid:** the default Primary, Secondary and Tertiary grid type (ie. LAT/LONG, UTM) used for coordinates, from values defined in 'Grid_Type' reference list [Maintain > Reference Tables > Grid Definitions > Grid Types...]

SAMPLE DISPATCH

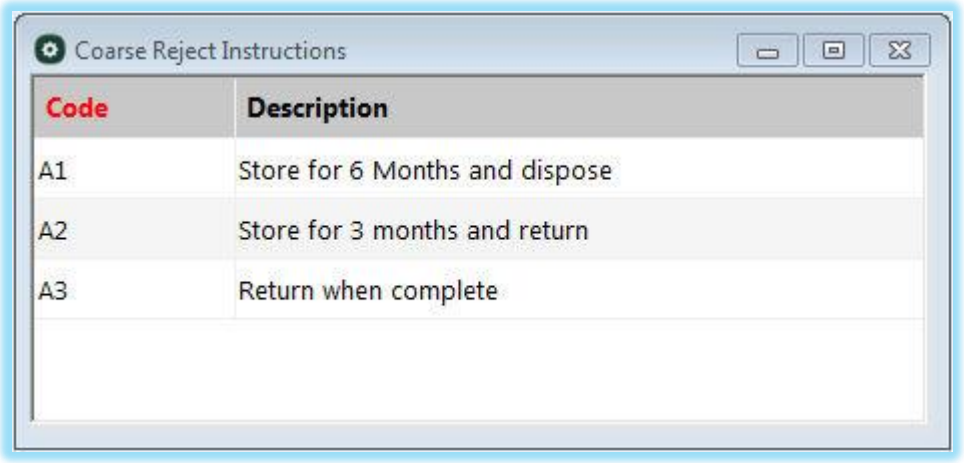
There are several lists that can be configured for Sample Dispatch, a module used to group samples together to send to the lab for analysis.



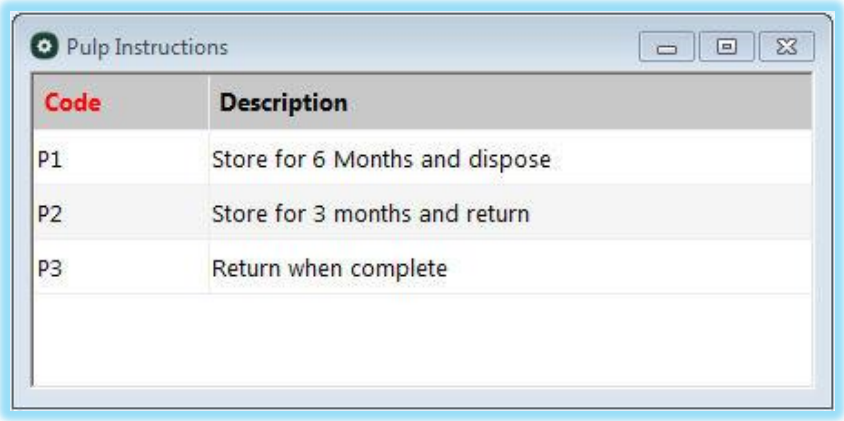
COMMON COMPANY DETAILS This list contains contact information for companies that the organization may deal with. Sample Dispatch uses the items associated with the "Carrier" company category in a picklist.



COARSE REJECT INSTRUCTIONS This is used to list the possible actions that may be performed on sample material that exceeds the maximum size required for assaying. For example, you may need to screen a sample to remove all material that is larger than 10mm in diameter. These instructions tell the laboratory what is to be done with this oversized material.

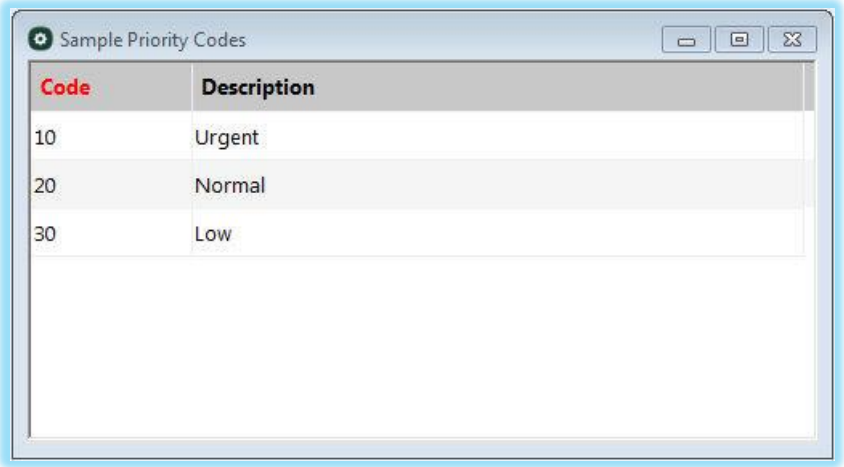


PULP INSTRUCTIONS This is used to list the possible actions that may be performed on sample material that is smaller than the minimum size required for assaying. For example, a sample may be screened to remove all material that is smaller than 2mm in diameter. These instructions tell the laboratory what is to be done with this undersized material, or pulp.



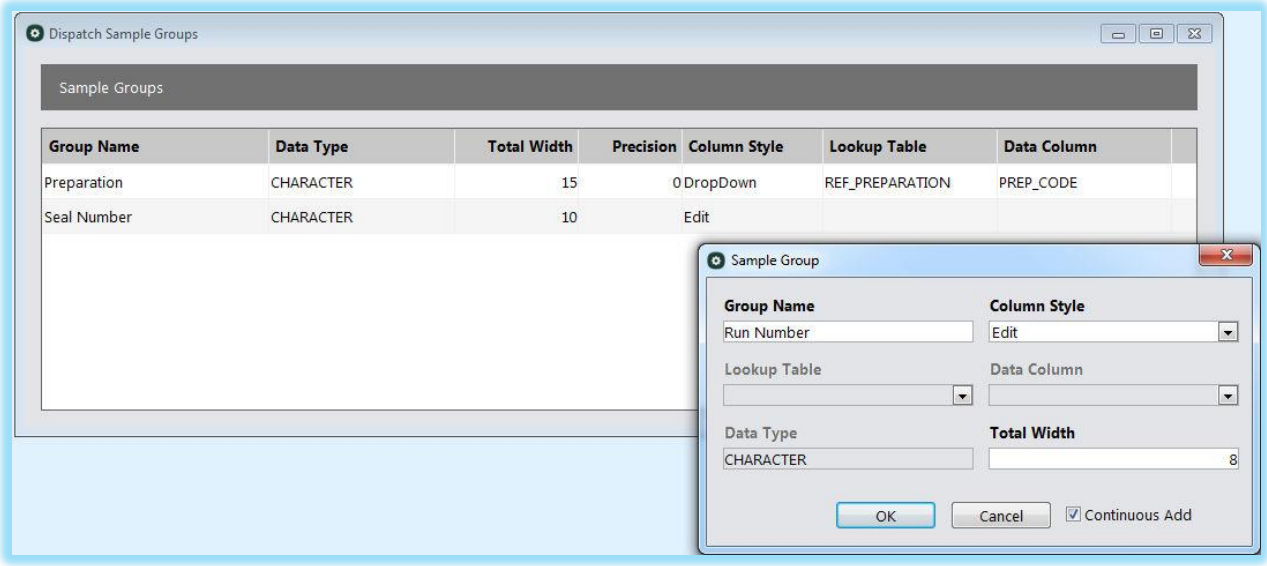
Code	Description
P1	Store for 6 Months and dispose
P2	Store for 3 months and return
P3	Return when complete

SAMPLE PRIORITY CODES This list contains the possible priorities that may be assigned to samples in a sample dispatch.

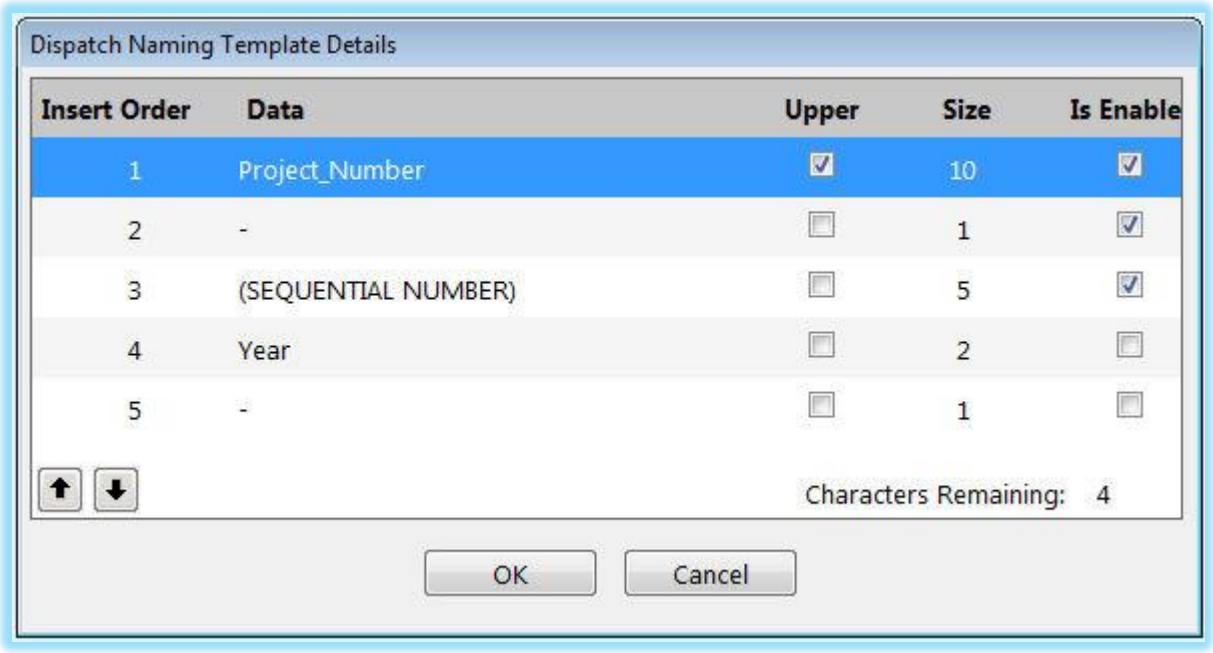


Code	Description
10	Urgent
20	Normal
30	Low

DISPATCH SAMPLE GROUPS The configuration performed here will set up categories that may be used to group samples in the Sample Dispatch. The ability exists to create a group category that will be linked to a reference table (custom or standard), or a category that will be editable, allowing for users to create the group value at the time of Sample Dispatch.

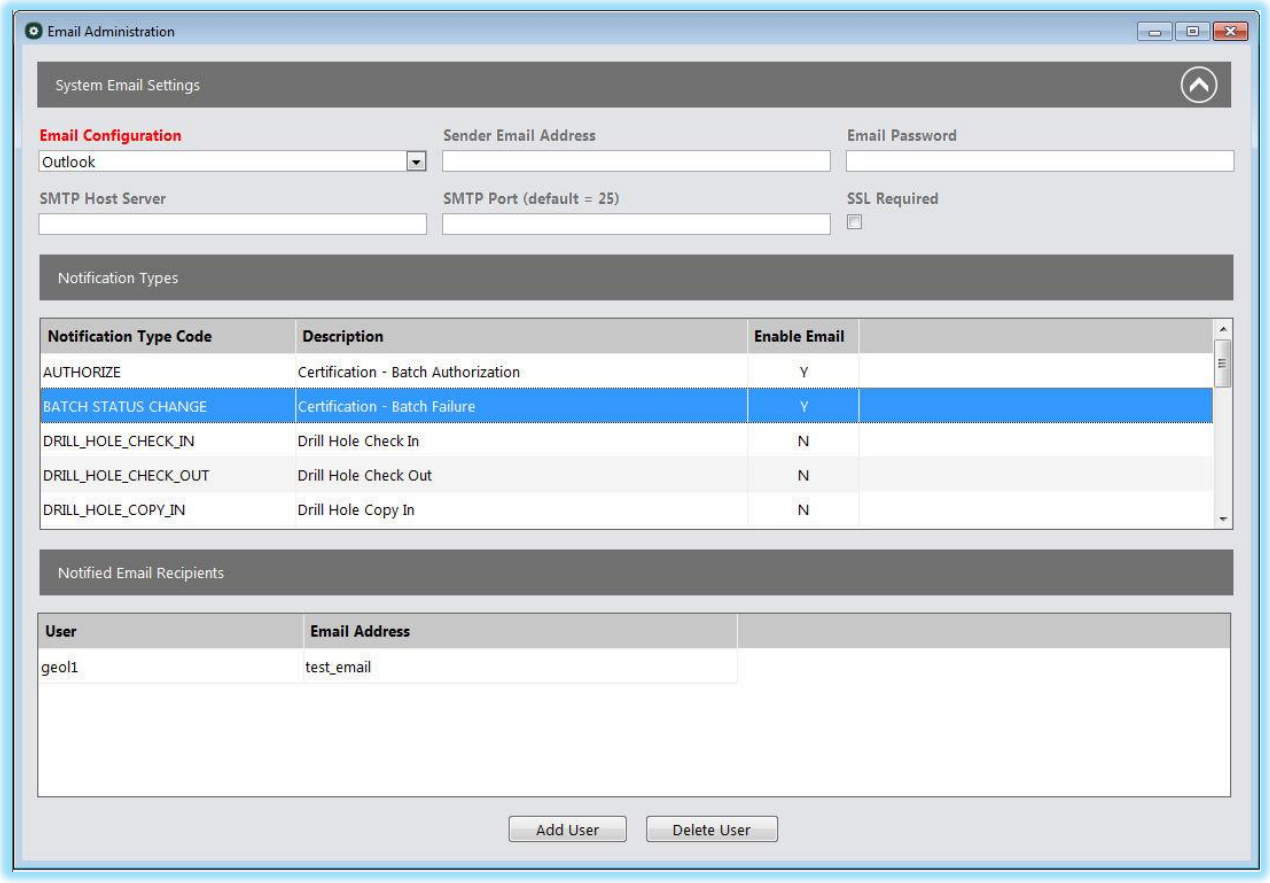


SAMPLE DISPATCH NAMING TEMPLATES Configuration in this window will allow for the use of a standard naming convention for Sample Dispatch records, based on the information supplied in the dispatch header.



EMAIL ADMINISTRATION

This module is used to configure the automatic Email notifications for specific tasks. The areas for notification are static, but whether they are enabled is configurable. For example, it can be configured to send logs and charts following a Lab Import.



System Email Settings

- **Email Configuration:** Outlook / SMTP

The remainder of the settings apply only when SMTP has been selected

- **Sender Email Address, Email Password:** the Login credentials used by your mail provider (perhaps an organization will set up one SMTP email/password that will be used for all Fusion Notifications)
- **SMTP Host Server:** The address of the Mail Server to use
- **SMTP Port (default = 25):** Mail port used by the mail server
- **SSL Required:** Enable SSL protocol if your mail provider allows / requires

***All of these settings (including Configuration) may be overridden by Business Unit Preferences or individual User Preferences

Notification Types

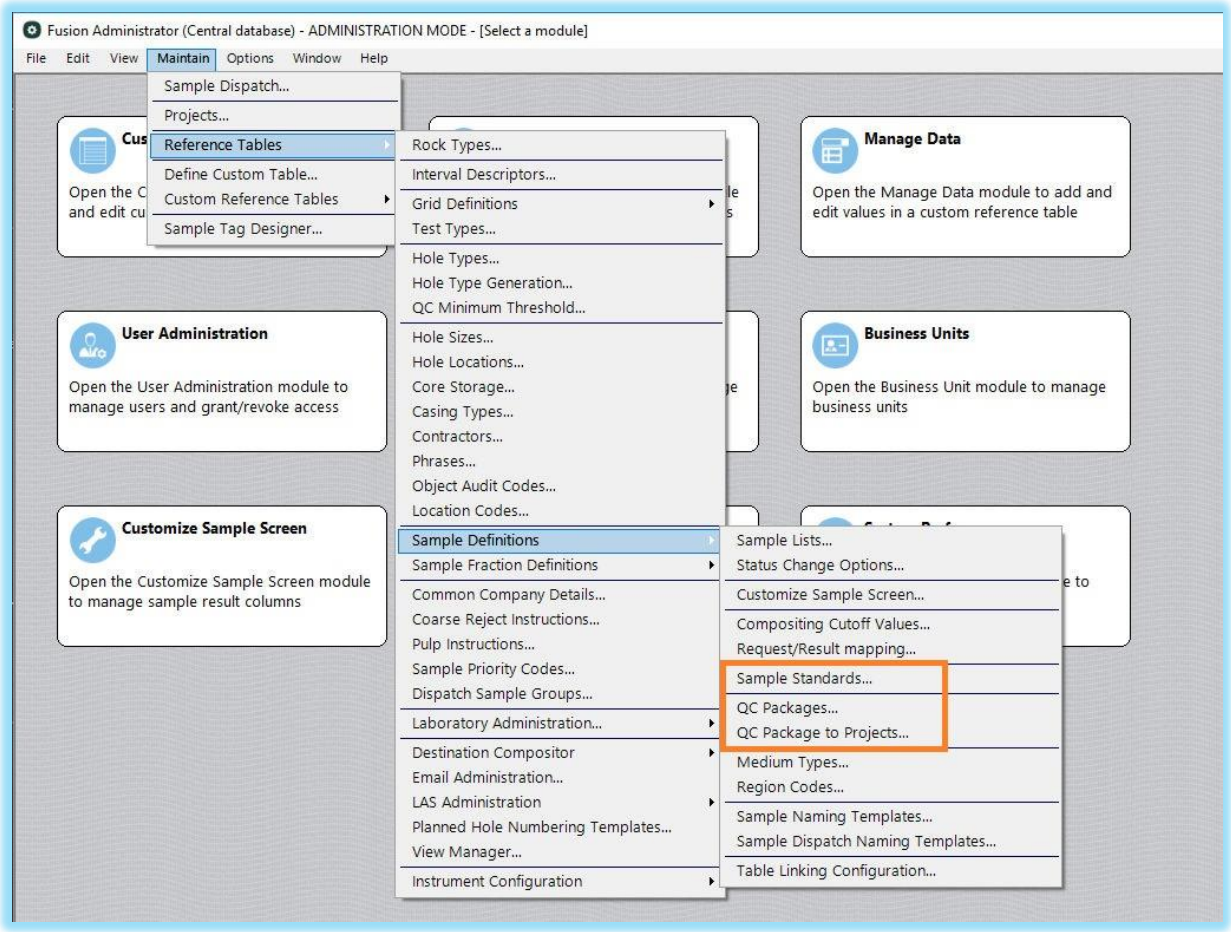
- **Notification Type Code, Description:** The areas of the application where email notification can be enabled
- **Enable Email:** Y/N to enable the notification

Notified Email Recipients

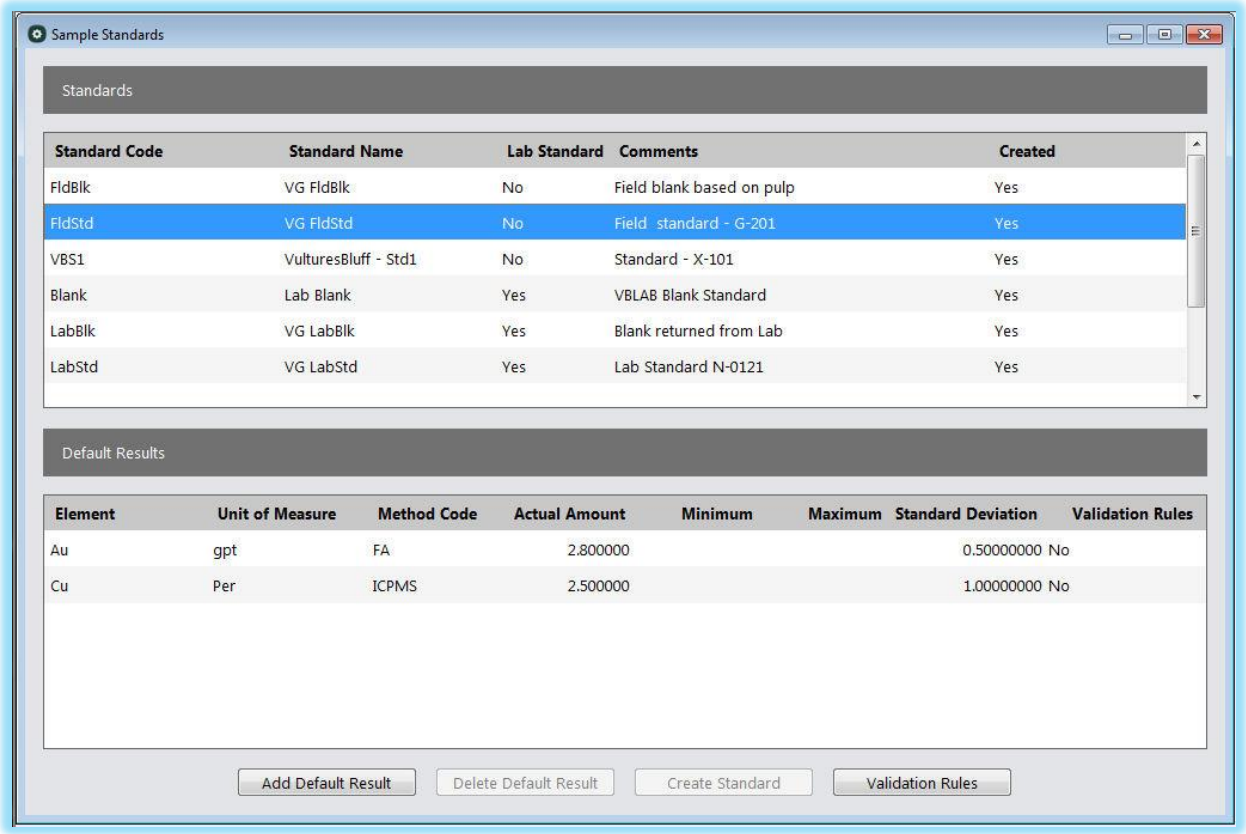
- **User:** The recipient list, by Notification Type
- **Email Address:** The email address of the user, as defined in User Administration

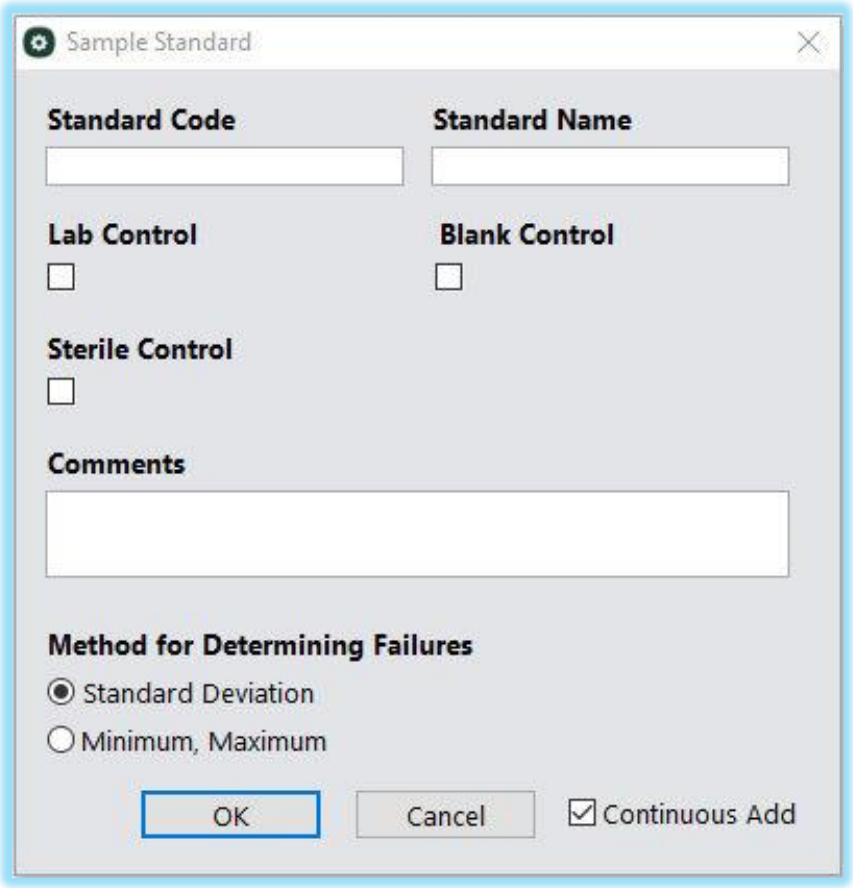
QAQC

Since sampling is the most important part of exploration, it is important to verify the quality and assure the accuracy of results obtained from those samples. The definition of controls like Blanks, Standards is managed in the Sample Standards module and the insertion of these controls at regular intervals is managed in the QC Packages module.



SAMPLE STANDARDS This module contains the definitions for control samples that are used to check the accuracy of laboratory results. Additionally, validation rules can be created for standard results which will be applied during Lab Import.

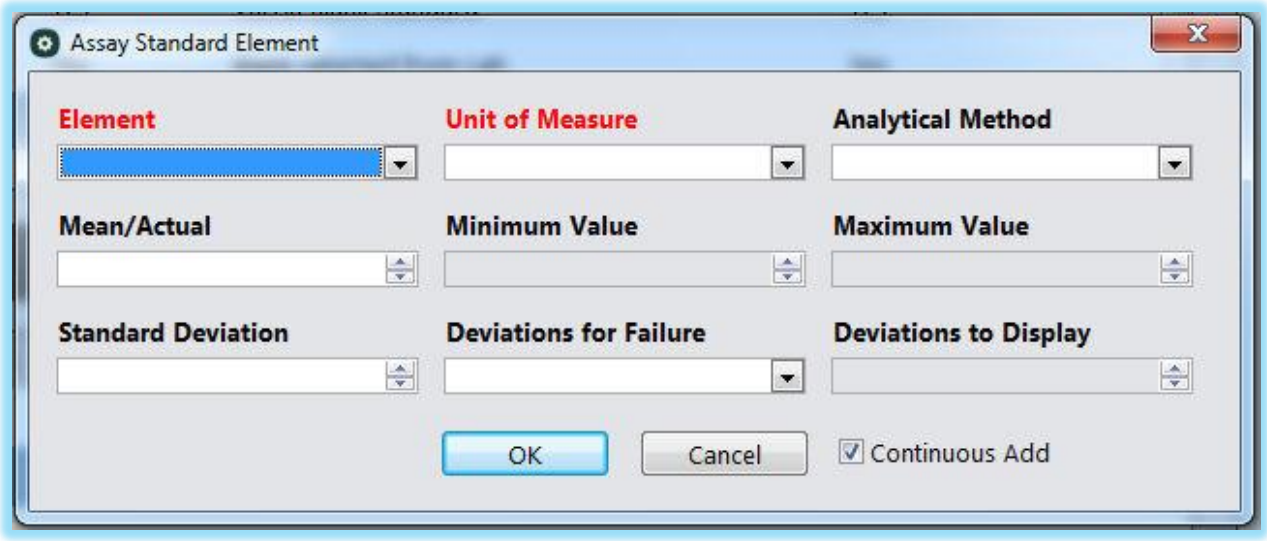




Standard Definition

- **Standard Code:** A unique code or assigned to the Sample Standard.
- **Standard Name:** Long or descriptive name of the standard.
- **Lab Control:** Identifies the sample as a Lab Control.
  A Lab Control will not be available to users for selection within DHLogger, Sample Station or MineMapper 3D. It is a sample that has been internally prepared by a lab for use in its own QC procedures.
- **Blank Control:** Identifies the sample as a Blank Control.
  A Blank is a control sample that has a known grade of zero. They are used to quantify any background contamination effects in a laboratory.
- **Sterile Control:** Identifies the sample as a Sterile Control.
- **Comments:** General comments regarding the Standard.
- **Method for Determining Failures:** Sets the method that is used to check whether or not the measured results are acceptable.
  Standard Deviation: use if the result must be within a specified number of standard deviations from the true value to pass
  Minimum, Maximum: use if the result must fall within a specied minimum and maximum value to pass

Each Standard contains one or more Default Results.

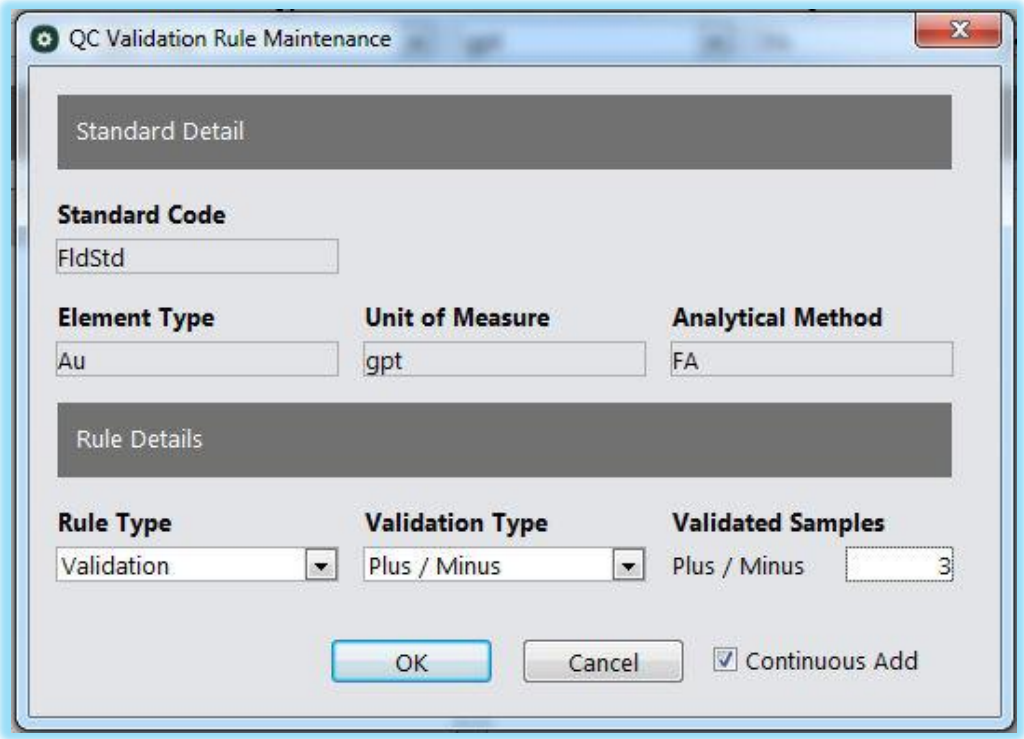


Assay Standard Element

- **Element:** The element being analyzed, from values defined in 'Element_Types' reference list
- **Unit of Measure:** The unit of measure that this result is reported in, from values defined in 'Assay_Unit_of_Measure' reference list
- **Analytical Method:** The laboratory method that was used to obtain the control results, from values defined in 'Analytical_Methods' reference list
- **Mean/Actual:** The value of result itself. Itis either the exact value of a single test (actual) or the average of many (mean)
- **Minimum Value:** The lowest acceptable value for the standard to pass
- **Maximum Value:** The highest acceptable value for the standard to pass
- **Standard Deviation:** The value of one (1) standard deviation for this result. It is determined by running statistal analyses on a group of identical tests performed on the same sample.
- **Deviations for Failure:** The difference between the samples' actual and tested values must be less than the number of deviations specified here to pass.
- **Deviations to Display:** Specifies how many sets of lines representing standard deviation is drawn on the charts.

The fields that may be edited are dependent on the "method for determining failure" that is defined for the Sample Standard.

By default, batches of samples (from a lab import) are assigned a pass/fail status based on the performance of all defined standard results within the batch. All elements are validated against the defined limits, and if any values fall outside of the acceptable limits, all samples within the batch are considered failed. A validation rule can be used to refine how samples are validated for each defined result.



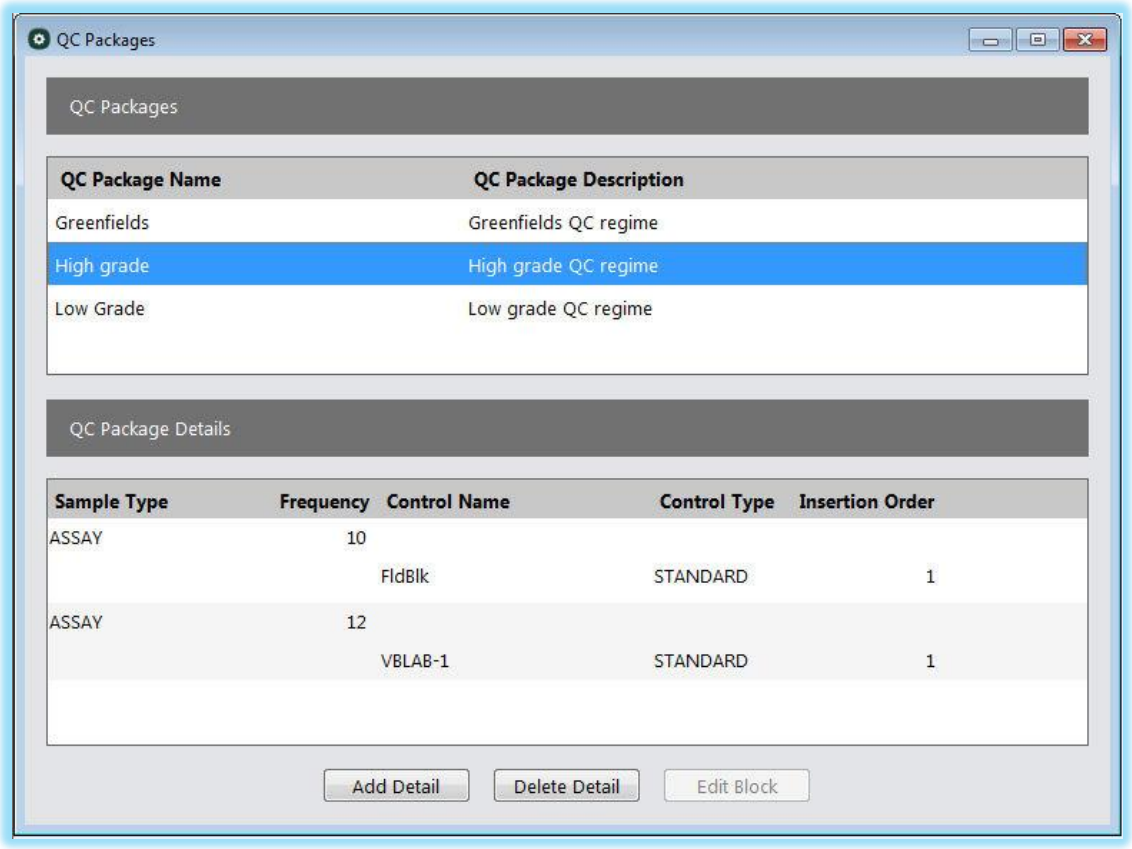
Standard Detail

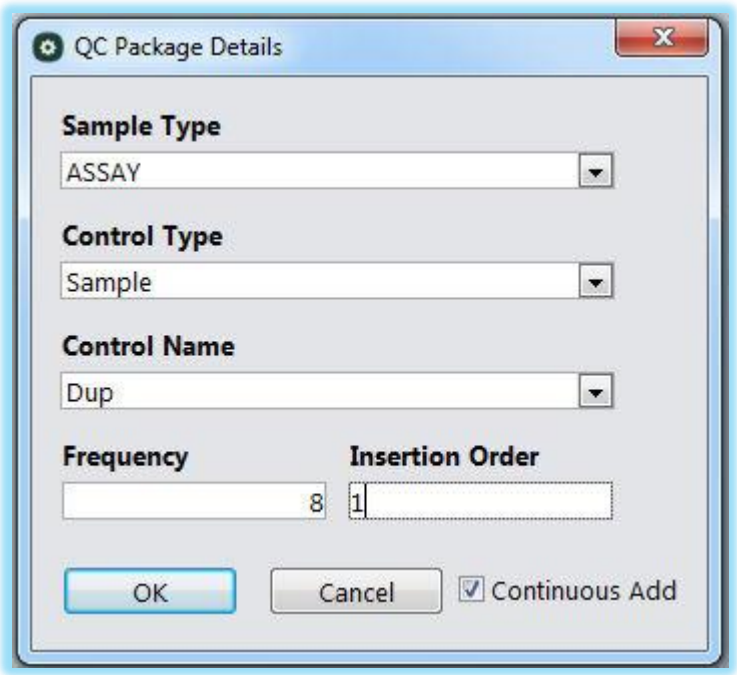
- Displays the standard code and element detail for which the Validation Rule is being defined

Rule Details

- **Rule Type:** picklist - Information or Validation - identifying whether or not standards and samples will be passed or failed based on the pass/fail status of this standard result
- **Validation Type:** picklist - Plus / Minus, Run, or Std Dev Grade Range - identifying how the samples that are validated by the rule are determined
- **Validated Samples:** for *Plus / Minus* rules, enter the number of samples above and below the standard's position in the file that will be validated by this rule;
  for *Run* rules, pick either Run Number 1 or Run Number 2 to indicate that samples with the same value in the Run Number column selected as the standard will be validated as a group;
  for *Std Dev Grade Range* rules, pick a Run Number if desired, to limit the validation of samples to those in the same run as the standard's run

QC PACKAGES This module will allow for the creation of a procedure that defines the automatic insertion of Quality Control samples (Standards, Blanks, Duplicates, etc.).

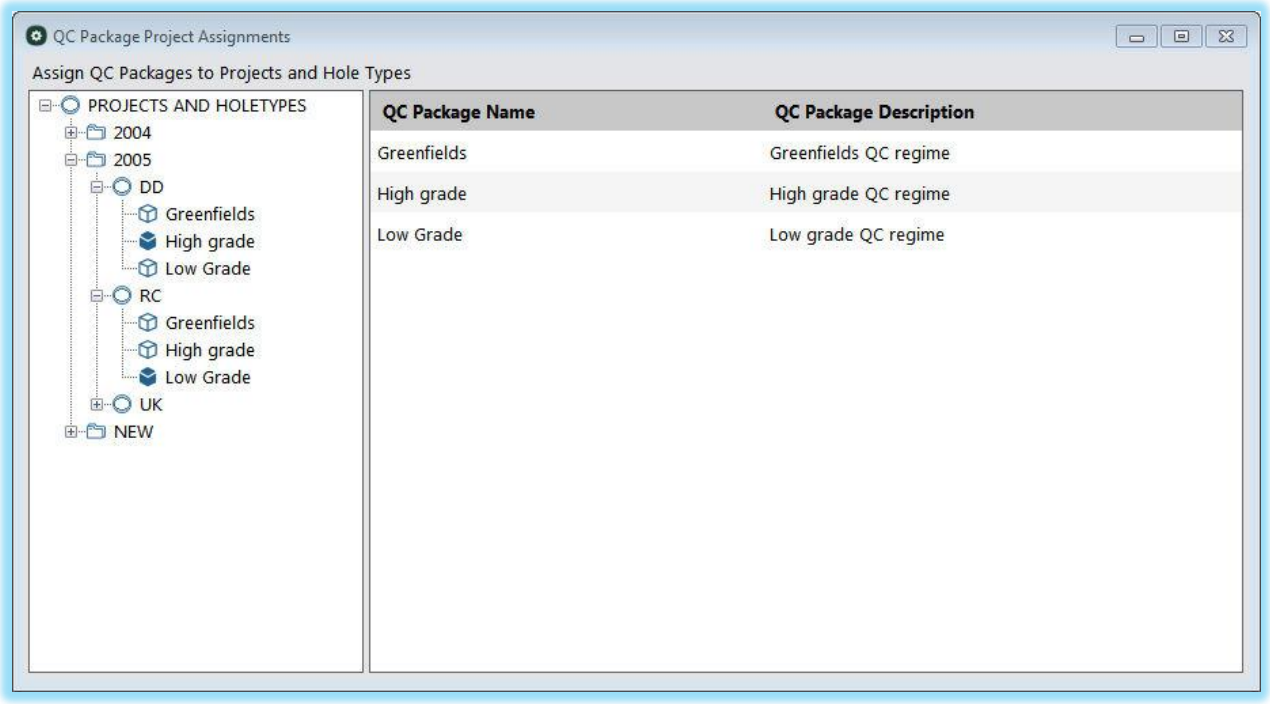




QC Package Details

- **Sample Type:** the sample type that will trigger the automatic insertion, from values defined in the 'Sample_Types' reference table
- **Control Type:** Block / Sample / Standard - the type of control being inserted
- **Control Name:** list of either Sample Types (QC category) or Standard Codes; depends on control type
- **Frequency:** how often to insert (ie. after every 10 Assay samples)
- **Insertion Order:** 1, or if more than one control is set to insert at the same frequency, indicate the order

*** If "Block" control type is chosen, another window is available to define the group of samples/controls that will be inserted at one time

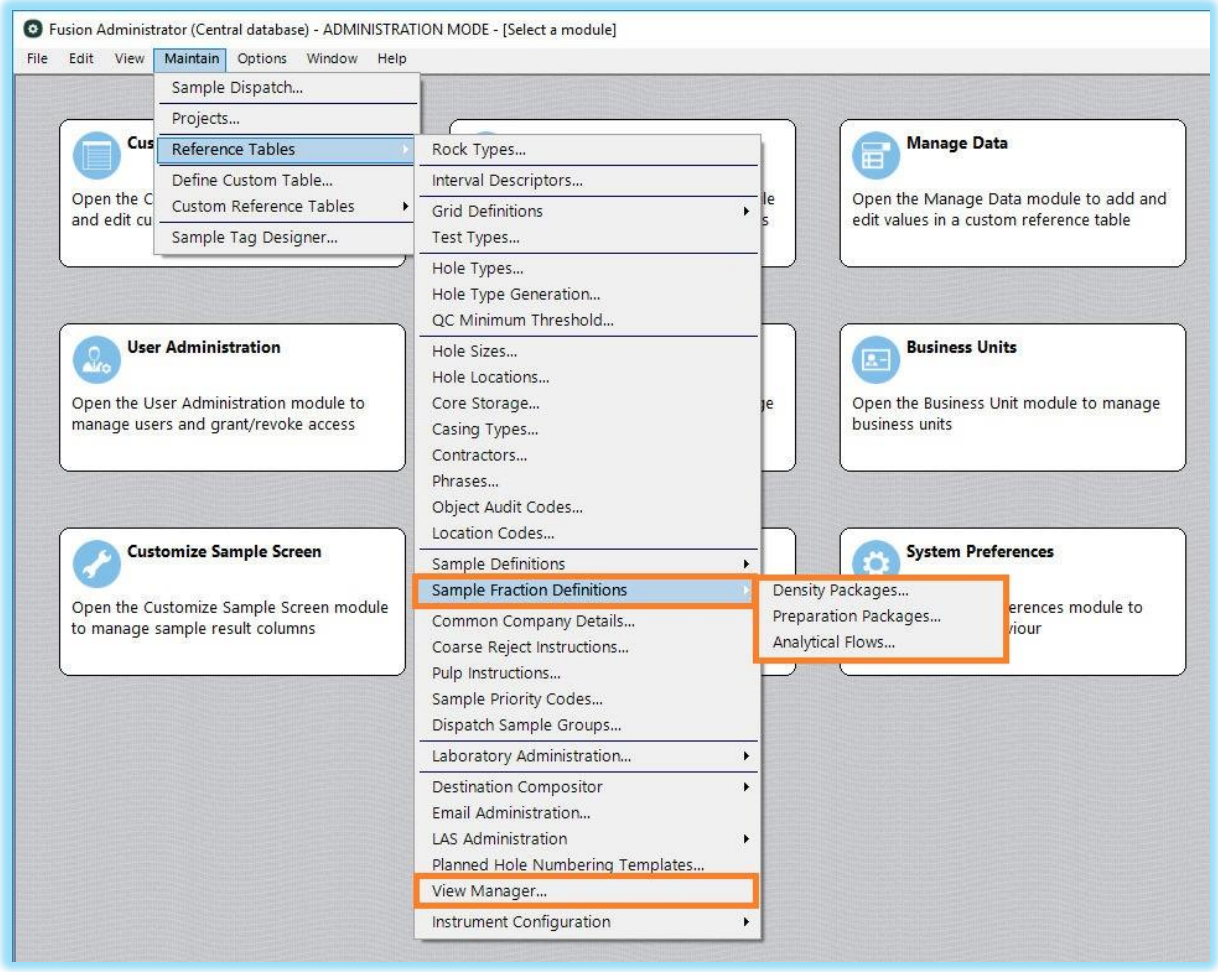


Once QC Packages are created, they are ready for use. Each Hole Type, within each project, can be assigned its own QC Package. There can be one or more assigned, but only one can be set active by double-clicking on the package you want to activate.

In DHLogger, when you manually add, or auto-generate samples, the QC Package will be checked, and QC samples will be inserted automatically. A running count of samples by type/hole/project is being stored to determine when the "frequency" number has been met to perform the insertion.

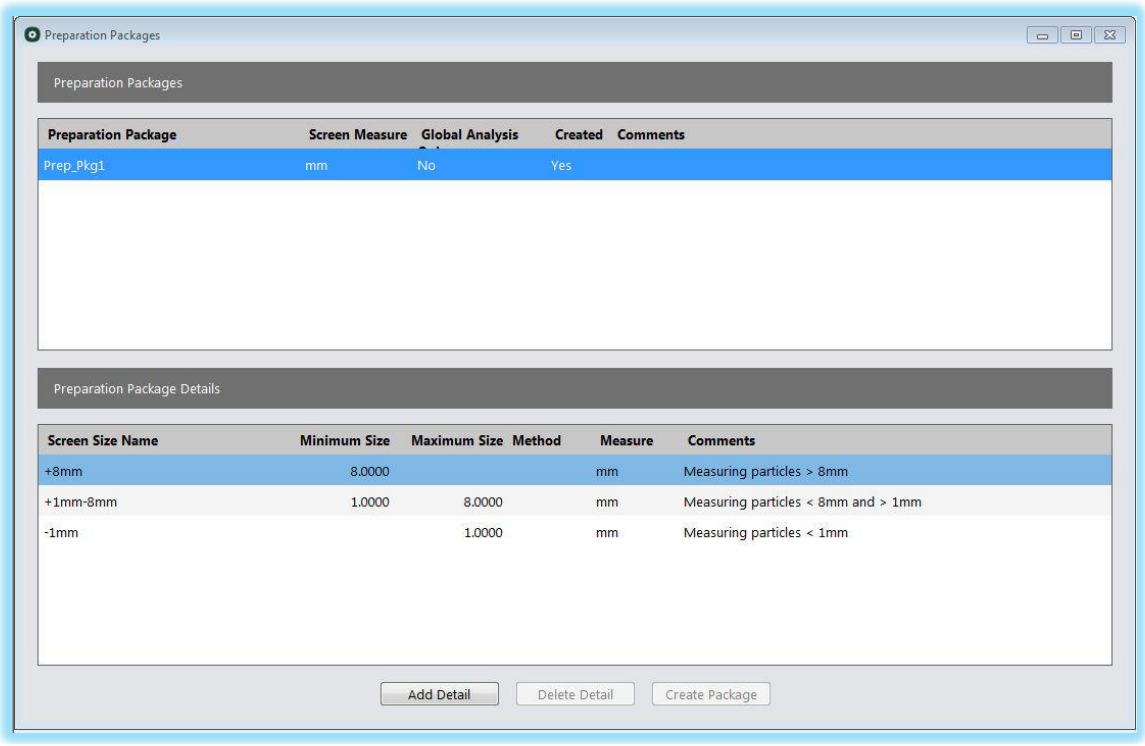
SAMPLE FRACTION DEFINITIONS

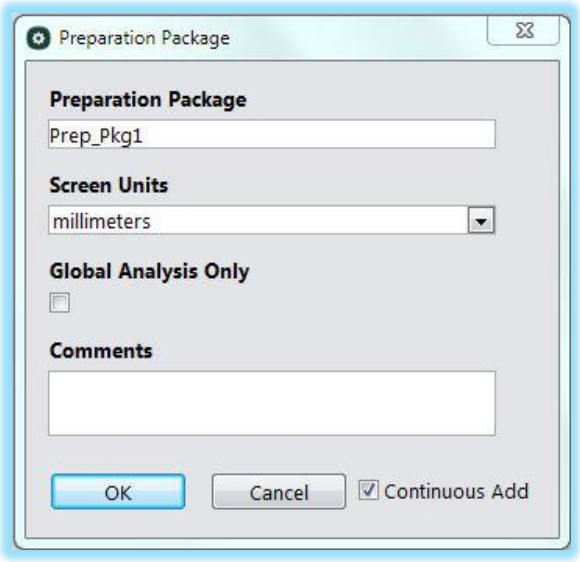
Sub-samples can be created and stored in the DHLogger/Sample Station system. They are created as either Size Fractions or Density Fractions and are generated based on a chosen Analytical Flow and Preparation/Density Package. The configuration of this module is found under the [Maintain > Reference Tables > Sample Fraction Definitions…] menu, which is only available once the associated System Preferences have been enabled ("Enable Size Fractions", "Enable Density Fractions").



SIZE FRACTIONS The subsample is extracted from the original sample during the sample preparation process by grain-size classification / screening. The number of subsamples depends on the analytical flow which specifies the number and the limits of screening intervals. One original sample can be split into many size fraction samples, and they are related to the original sample (which becomes the parent sample).

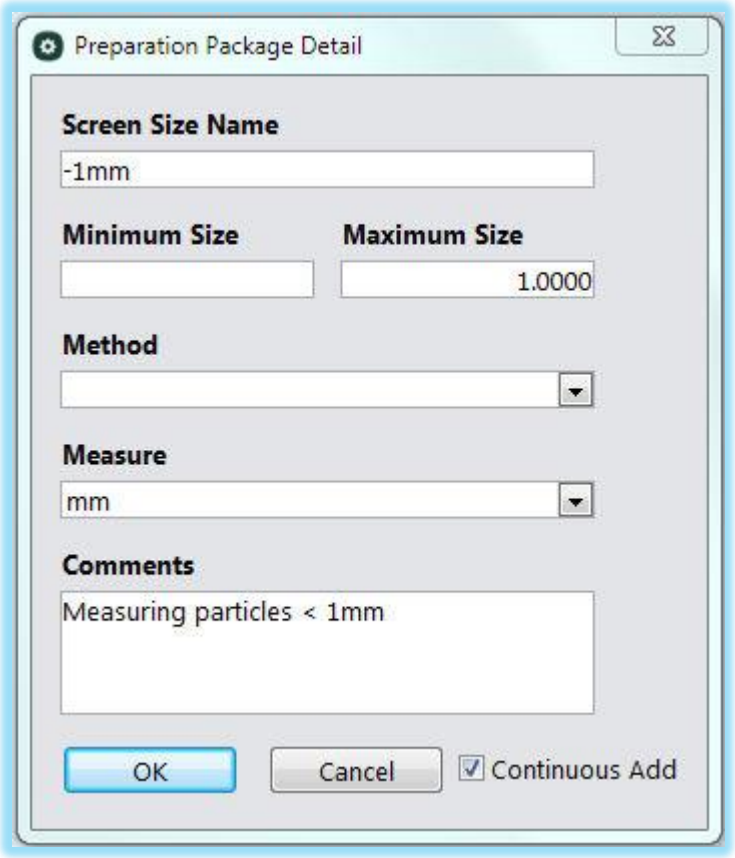
The configuration required for usage of size fractions includes: Preparation Packages, Analytical Flows, View Manager.





Preparation Package

- **Preparation Package:** The unique name of the package.
- **Screen Units:** The measurement of the screen openings, from values defined in the 'Assay_Unit_of_Measure' reference table.
- **Global Analysis Only:** Indicates that there will not be any screens defined for the package. There will not be any separation of the sample into sub-samples.
- **Comments:** Provide any extra information / description of the package as necessary.

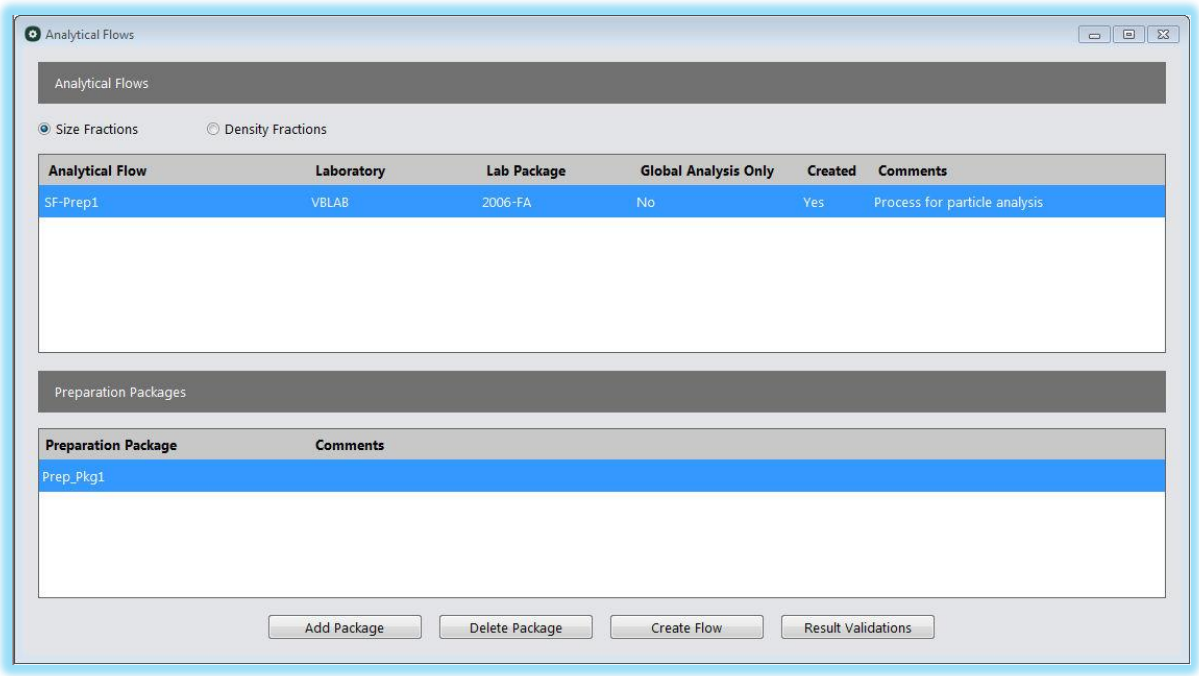


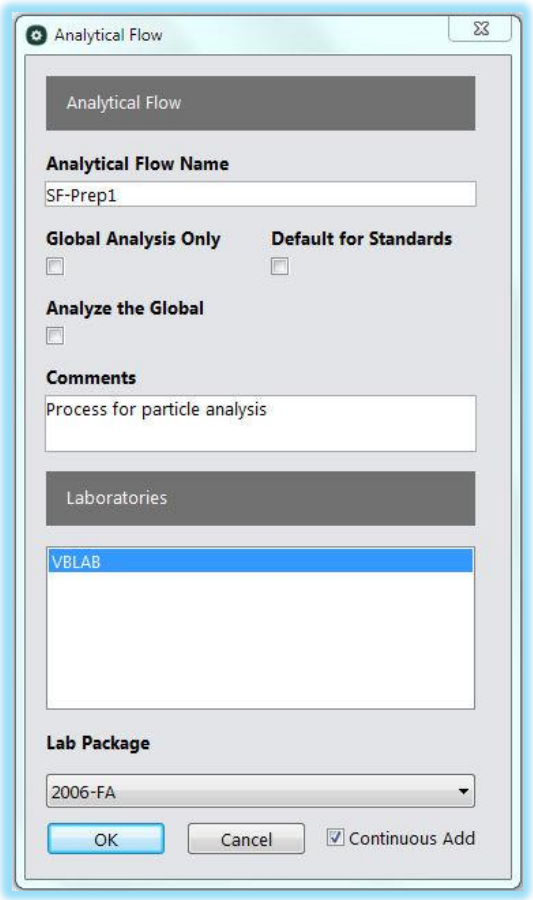
Preparation Package Detail

- **Screen Size Name:** The name of the screen, unique within this package.
- **Minimum Size:** The minimum size of particle the screen will catch.
- **Maximum Size:** The maximum size of particle the screen will catch.
- **Method:** The method of screening, from values defined in the 'Analytical_Methods' reference table
- **Measure:** The measurement of the screen openings, from values defined in the 'Assay_Unit_of_Measure' reference table
- **Comments:** Provide any extra information / description of the screen as necessary.

Once a Preparation Package has been created, screens cannot be deleted, but additional screens can be added.

If a Preparation Package was defined with "Global Analysis Only" checked, screen details are not allowed to be added.


Analytical Flows
Analytical Flows
Size Fractions
Density Fractions
Analytical Flow
Laboratory
Lab Package
Global Analysis Only
Created
Comments
SF-Prep1
VBLAB
2006-FA
No
Yes
Process for particle analysis
Preparation Packages
Preparation Package
Comments
Prep_Pkg1
Add Package
Delete Package
Create Flow
Result Validations

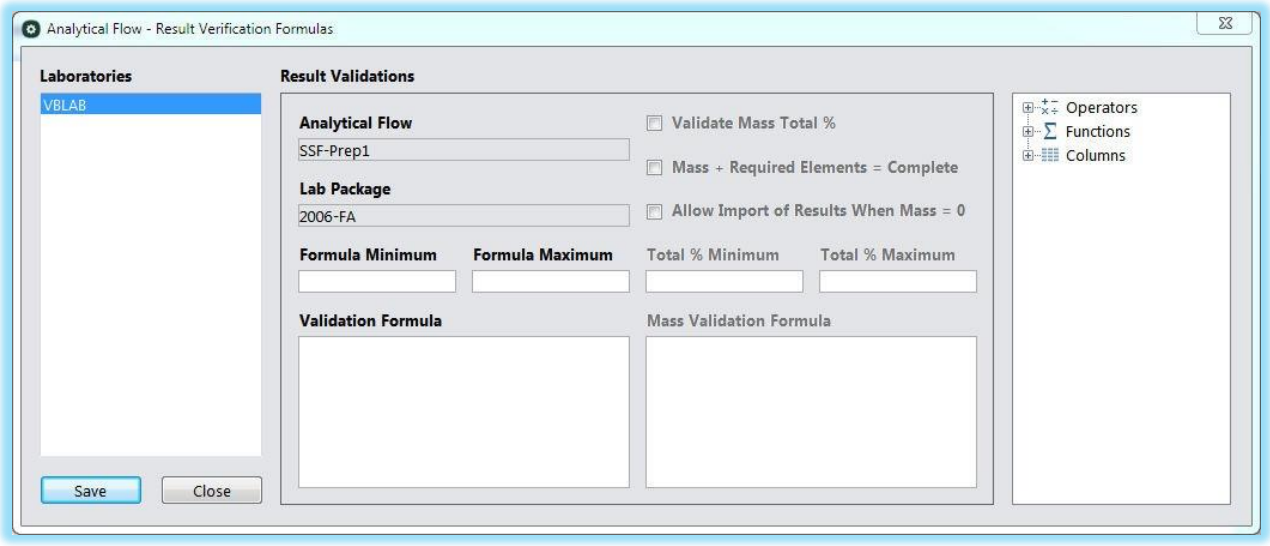

Analytical Flow
Analytical Flow
Analytical Flow Name
SF-Prep1
Global Analysis Only
Default for Standards
Analyze the Global
Comments
Process for particle analysis
Laboratories
VBLAB
Lab Package
2006-FA
OK
Cancel
Continuous Add

Analytical Flow

- **Analytical Flow:** The unique name of the analytical flow. This must be unique across both Size Fraction and Density Fraction flows.
- **Global Analysis Only:** Indicates that the preparation packages used will not have screens defined.
- **Default for Standards:** Indicates that this is the analytical flow that will be assigned automatically for any Standards that are created.
  Only one analytical flow can be flagged as the default. This value can be changed at any time.
  This can only be checked if the analytical flow is flagged for "Global Analysis Only".
- **Analyze the Global:** Indicates that the Global Sample (original) will be analyzed. This is used to determine whether a Global Sample has had all of its results returned (for itself and its size fractions), and whether or not any results are expected for the Global Sample.
- **Comments:** Provide any extra information / description of the analytical flow as necessary.

Laboratories

- **Laboratory list:** This is a list of defined laboratories. Select the labs that will be using this analytical flow.
- **Lab Package Name:** Based on the laboratories selected, a list of **common** lab packages will be offered from which to pick. The Lab Package will provide the analytical details to the lab, and is used for validation during the Lab Import of results.



During Lab Import, a formula may be used to determine whether to import the results for a Size Fraction sample. This formula is associated with an analytical flow, but it can be defined differently for each laboratory that uses the analytical flow.

If the selected Lab / Lab Package contains a mapping for a Mass column, where element_in_file is either MASS or WEIGHT, then it is also possible to implement validations based on that column, including:

Validate Mass Total % when checked, provide a Total % Minimum and/or Total % Maximum to validate the sum of the mass values for each of the size fractions.

Mass + Required Elements = Complete when checked, once a value is imported into each of the required columns, as defined by the Lab Package, and the Mass column, you can no longer import results for the sample.

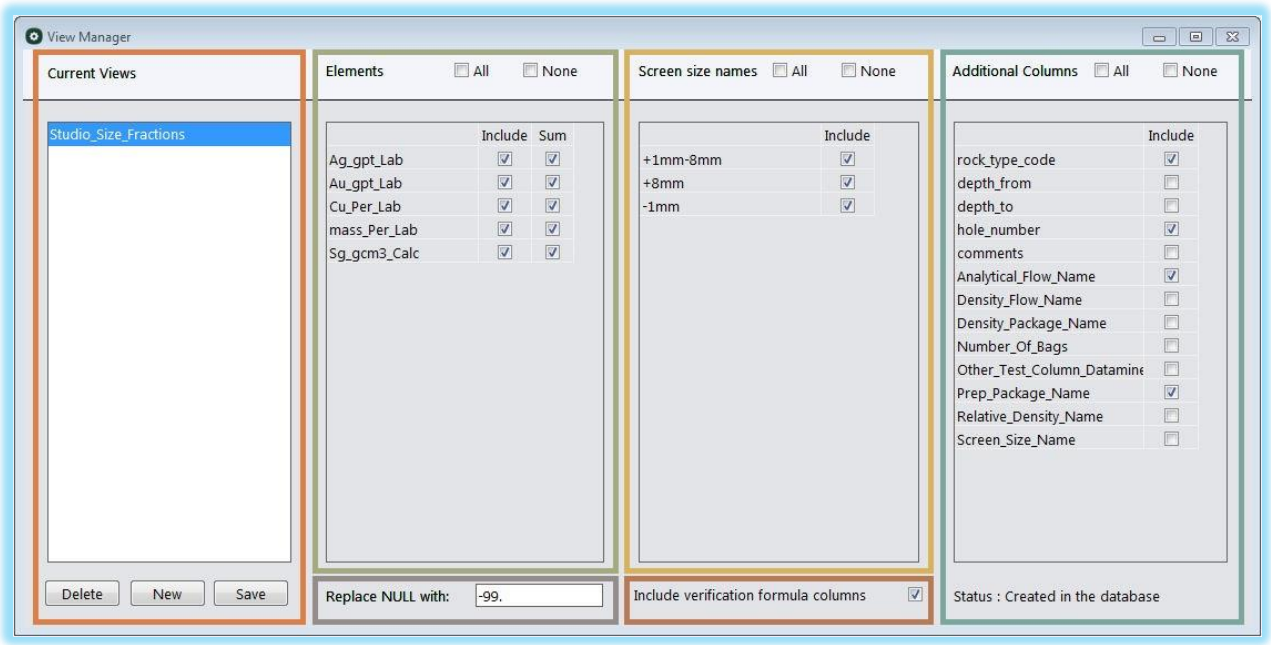
Allow Import when Mass = 0 when not checked, the mass value must be greater than 0 for results to be imported for the sample.

Mass Validation Formula it is possible to create a formula that will be used for validating the mass value being imported during Lab Import.

Using the View Manager

The data for size fractions is stored in the Hole_Assay_Sample table as a normalized structure where each size fraction is a single record in that table. In other applications, such as Studio, parent samples and size fractions data are imported with the information in a single record in the table. These views provide a pivoting of the size fraction data and its analyzed elements into a flat table.

[Maintain > Reference Tables > View Manager…]



Current Views

- Displays a list of current views. Views can be selected and edited, deleted and new views created.

Elements

- Allows assay 'element' columns to be selected for inclusion in the view. If the 'Sum' checkbox is selected for a particular column, a new calculated column will be created that contains the sum of the results for all size fractions for that column.

Screen Size Names

- Allows the user to select which size fraction names to create columns for

Additional Columns

- Allows the user to select other columns from the hole_assay_sample table for inclusion in the view

Replace NULL

- Allows the user to specify whether NULL values for result columns will be replaced by another values. (ie -99)

Include Verification Columns

- Allows the user to specify if calculated columns will be created in the view for Stoichiometric (Verfication Formula) values.

- Multiple views can be created on the Central database, the user can name each view and each view can have a completely different set of columns in it.
- Once a view is created it can be modified at any time by selecting new columns or options and clicking the 'Save' button.
- As well as being able to open this window from the menu, it will be automatically opened when a preparation package is created

Example View Columns

Based on the example window and options in the new 'View Manager' window above, the following columns would be created:

Au_gpt_lab_+8mm
Ag_gpt_lab_+8mm
Cu_per_lab_+8mm
Mass_per_lab_+8mm
Sg_gcm3_lab_+8mm

Au_gpt_lab_+1mm-8mm
Ag_gpt_lab_+1mm-8mm
Cu_per_lab_+1mm-8mm
Mass_per_lab_+1mm-8mm
Sg_gcm3_lab_+1mm-8mm

Au_gpt_lab_-1mm
Ag_gpt_lab_-1mm
Cu_per_lab_-1mm 1
Mass_per_lab_-1mm
Sg_gcm3_lab_-1mm

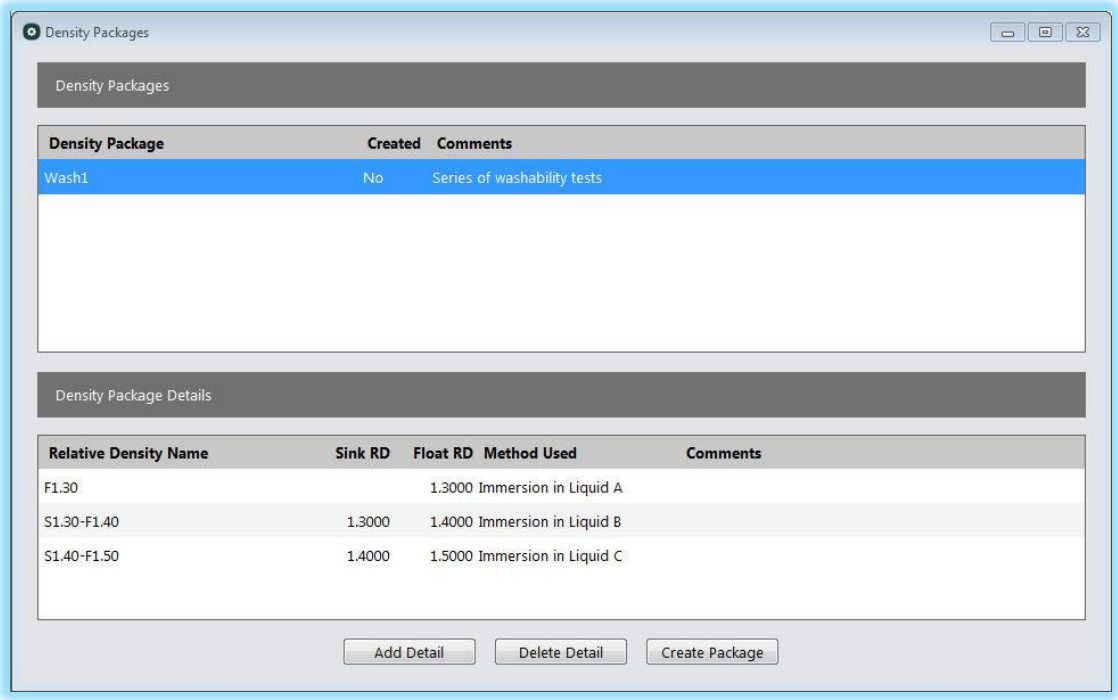
Au_gpt_lab_Sum
Ag_gpt_lab_Sum
Cu_per_lab_Sum
Mass_per_lab_Sum
Sg_gcm3_lab_Sum

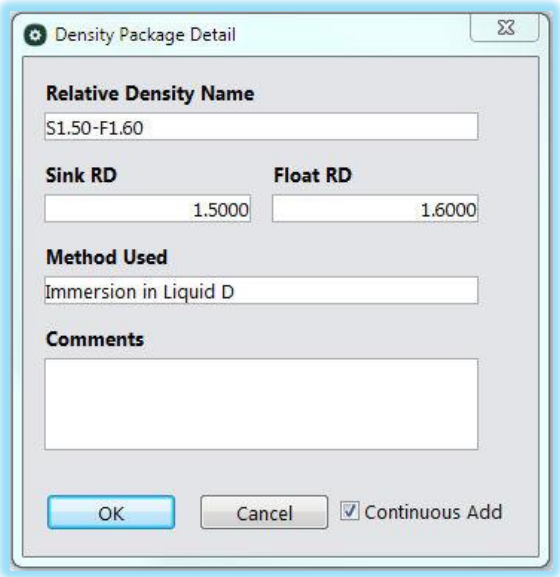
+8mm_Stoich
+1mm-8mm_Stoich
-1mm_Stoich

Rock_Type_Code
Hole_Number
Analytical_Flow_Name
Prep_Package_Name

DENSITY FRACTIONS The subsample is extracted from the original sample during the sample preparation process by float/sink analysis. The number of subsamples depends on the analytical flow which specifies the number and the relative densities of the immersion liquids. One original sample can be split into many density fraction samples, and they are related to the original sample (which becomes the parent sample).

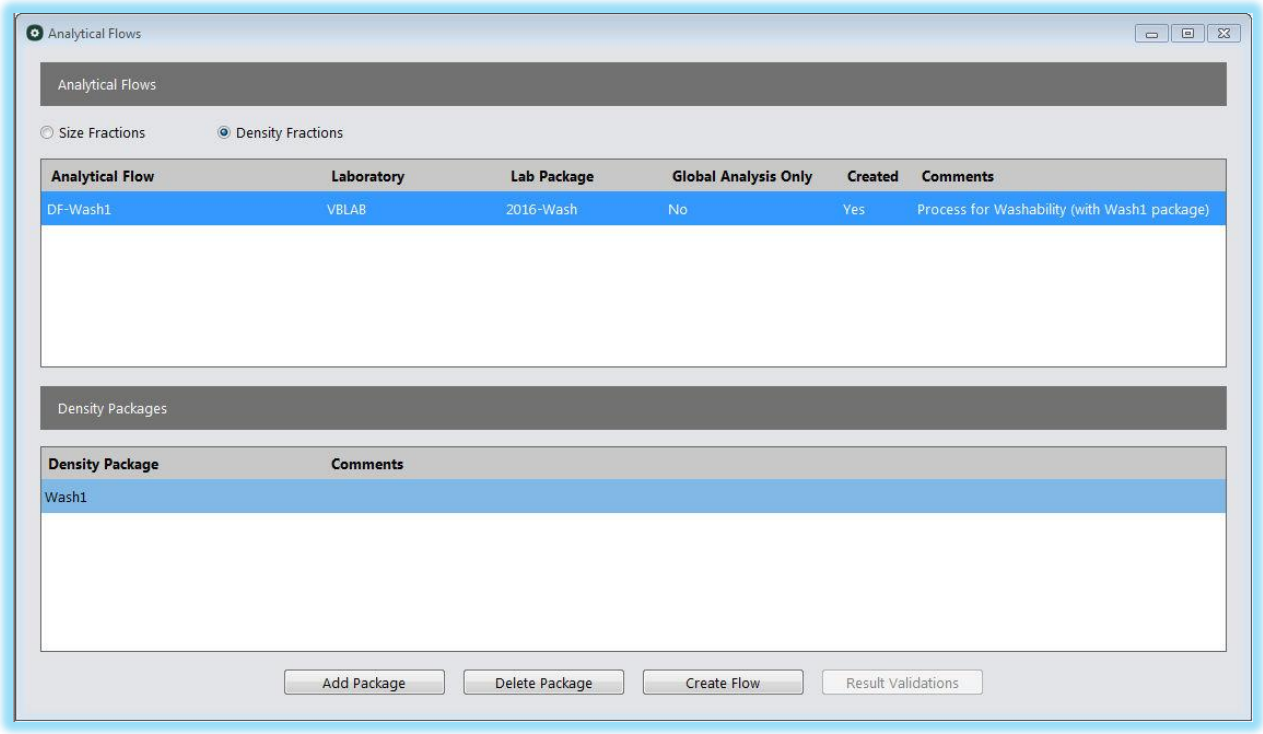
The configuration required for usage of size fractions includes: Density Packages, Analytical Flows

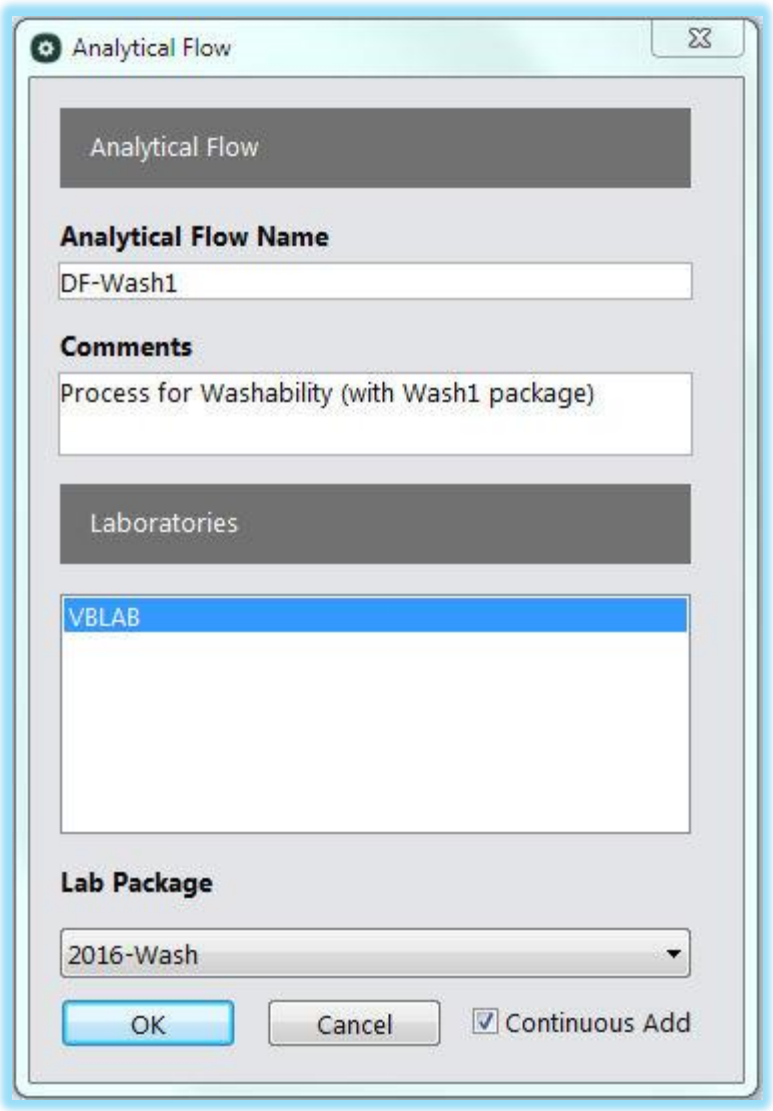




Density Package Detail

- **Relative Density Name:** The name of the density immersion, unique within this package.
- **Sink RD:** The sink relative density.
- **Float RD:** The float relative density.
- **Method Used:** Description of the method used in performing this analysis.
- **Comments:** Provide any extra information / description of the relative density, as necessary.


Analytical Flows
Analytical Flows
Size Fractions
Density Fractions
Analytical Flow
Laboratory
Lab Package
Global Analysis Only
Created
Comments
DF-Wash1
VBLAB
2016-Wash
No
Yes
Process for Washability (with Wash1 package)
Density Packages
Density Package
Comments
Wash1
Add Package
Delete Package
Create Flow
Result Validations



Analytical Flow

- **Analytical Flow:** The unique name of the analytical flow. This must be unique across both Size Fraction and Density Fraction flows.
- **Comments:** Provide any extra information / description of the analytical flow as necessary.

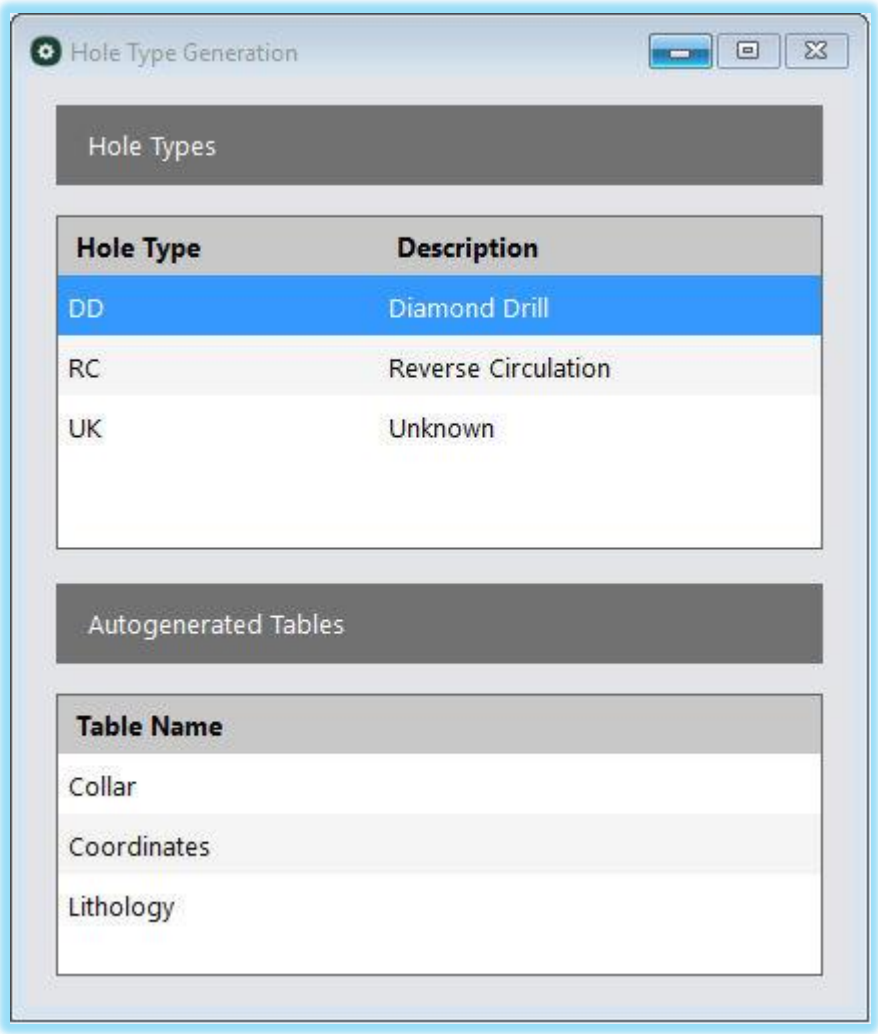
Laboratories

- **Laboratory list:** This is a list of defined laboratories. Select the labs that will be using this analytical flow.
- **Lab Package Name:** Based on the laboratories selected, a list of **common** lab packages will be offered from which to pick. The Lab Package will provide the analytical details to the lab, and is used for validation during the Lab Import of results.

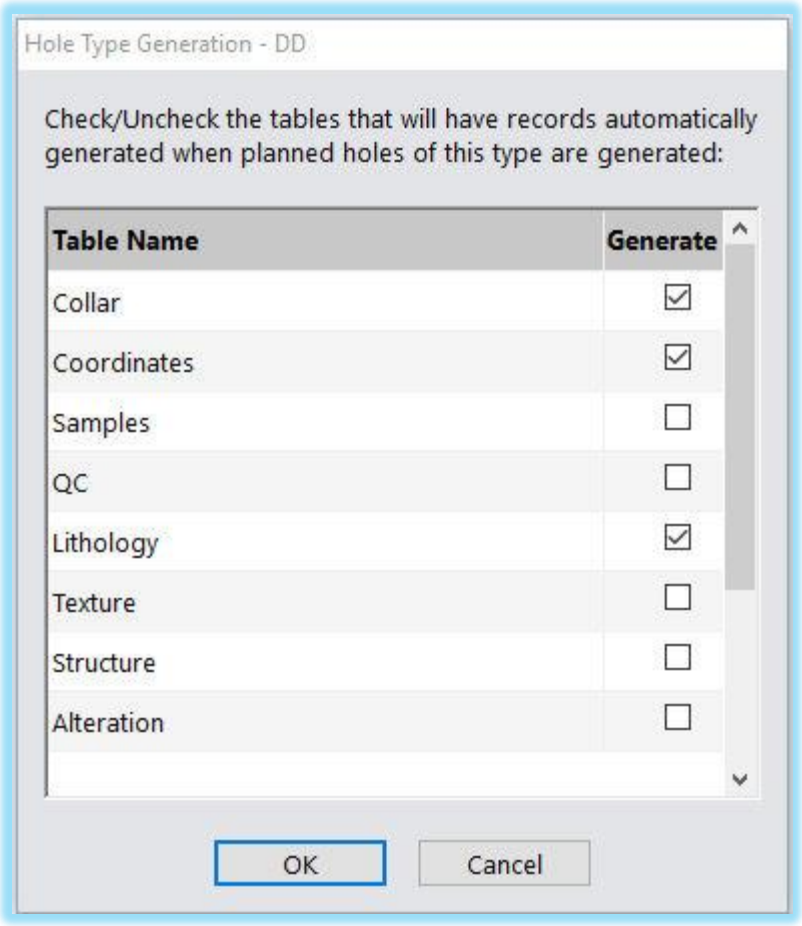
PLANNED DRILL HOLES

This module is used to store and define the planned drilling activity for a project. The information in this table is frequently imported to the Central, and then the data is transferred to the Local databases, where users generate the holes as they are drilled. To implement this functionality, administrators can configure which tables will have data created automatically when the hole is generated, depending on the Hole Type.

[Maintain > Reference Tables > Hole Type Generation...]



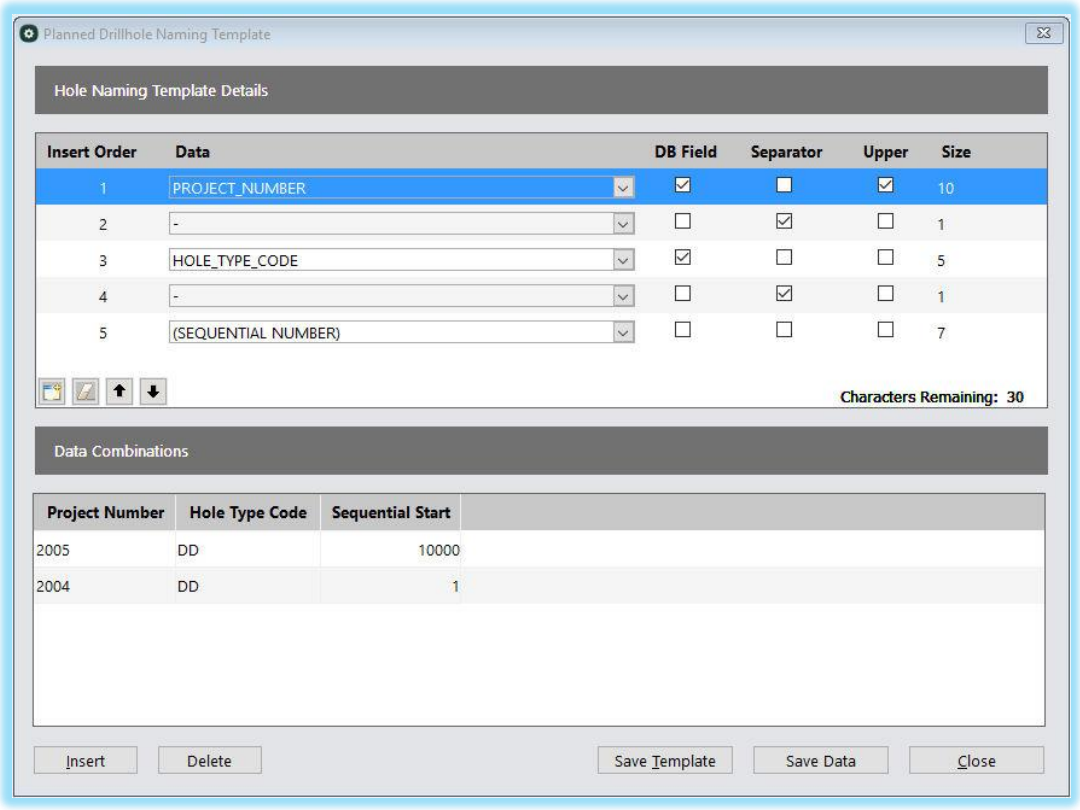
Double-clicking on a Hole Type will open the window that allows for the selection of tables:



Since planned drill holes can be created in any database, administrators may want to ensure that each of the hole numbers follow a specific naming convention. This can be configured, and when the user synchronizes with the Central, these planned drill holes will be updated with a proper name and transferred to the Central database.

Note that this does not refer to the name of the actual generated drill hole, but to the records in the DHL_PLANNED_DRILLHOLES table that have a status of “PLANNED”.

[Maintain > Reference Tables > Planned Hole Numbering Templates…]



Hole Naming Template Details

- **DB Field**: checking this will populate the dropdown with columns available within the DHL_PLANNED_DRILLHOLES table.
- **Separator**: checking this will populate the dropdown with a hyphen and an underscore.
- **(SEQUENTIAL NUMBER)**: the dropdown always contains this value so that it can be selected regardless of whether you initially chose DB Field or Separator. When selected, the other checkboxes are reset to NULL, and you specify a size. Numbers will be padded with leading zeros to make the selected length.
- **Upper**: this option will ensure that data is converted to upper case, instead of using the case entered in the database.
- **Length**: this option will limit (truncate) data from fields, or pad sequential numbers with leading zeros.

Data Combinations

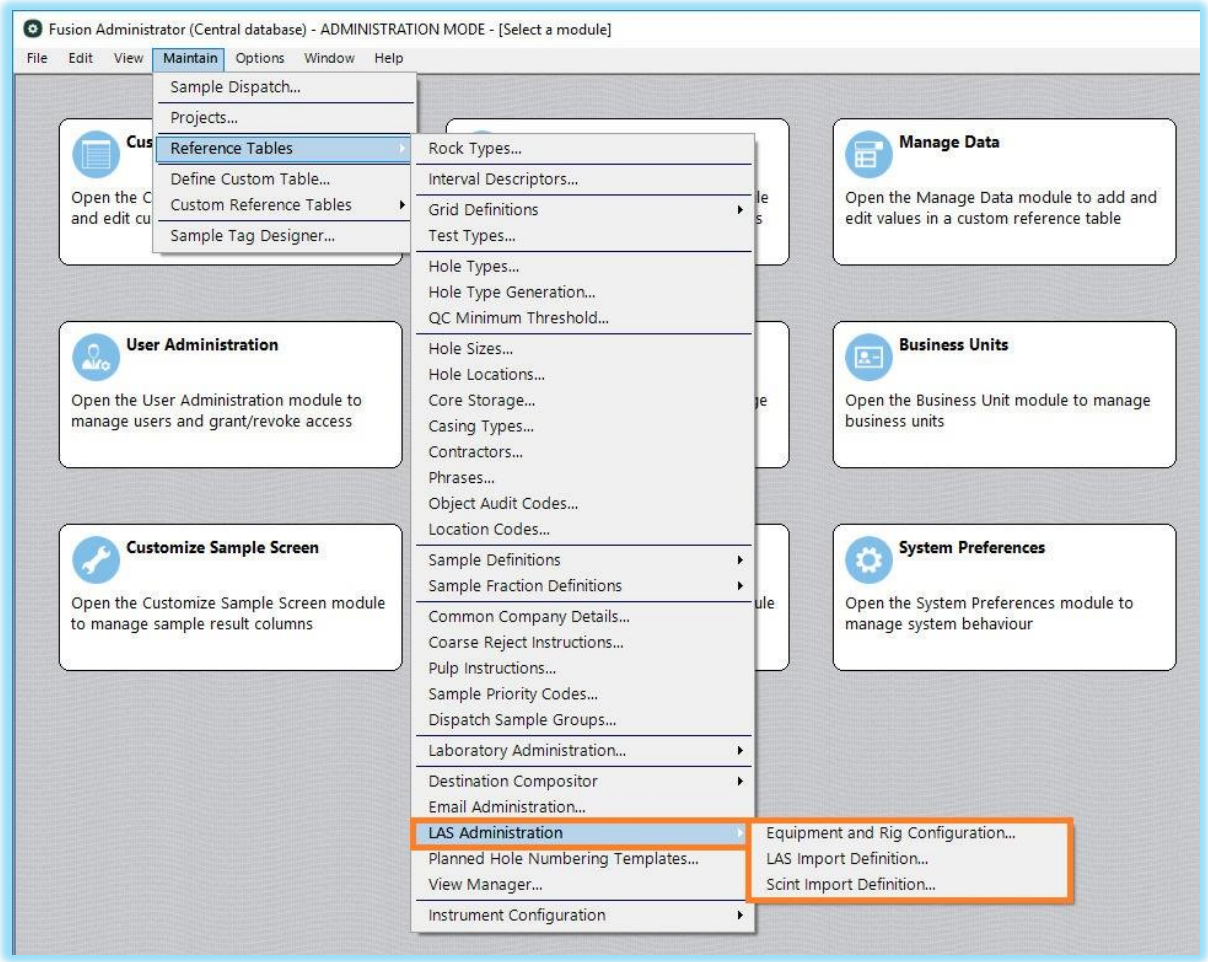
- Depends on the Details selected above, but will include the ability to set a starting sequence number for each unique db-field combination

Based on the example above, the first planned drill hole in Project 2005, of type DD will have the hole number renamed to: 2005-DD-0010000

And the first planned drill hole in Project 2004, of type DD will have the hole number renamed to: 2004-DD-0000001

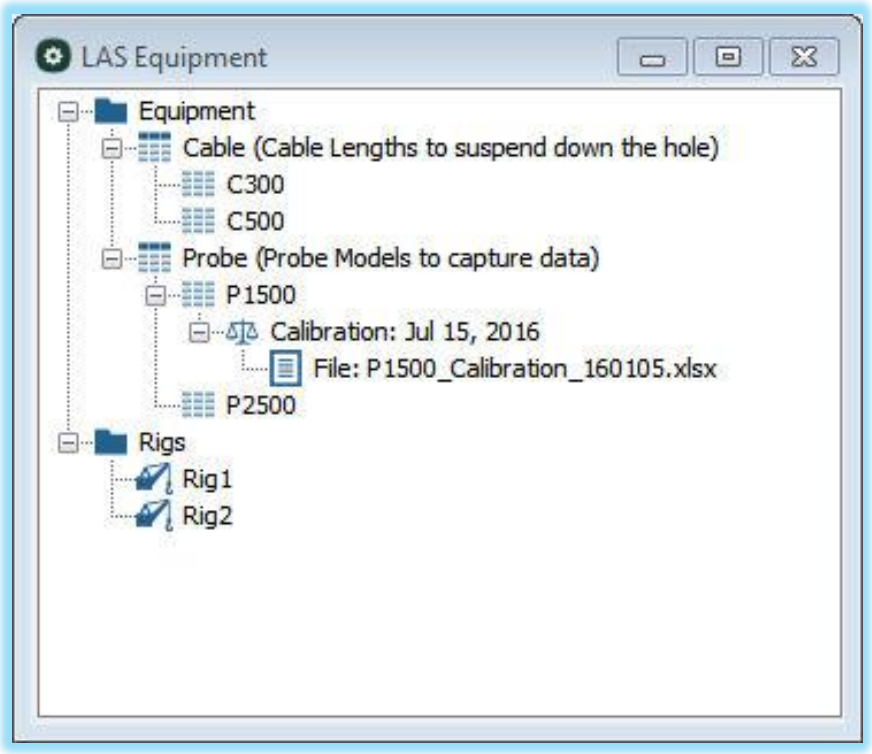
LAS ADMINISTRATION

This administration window allows for the configuration of the lists that support the LAS module in DHLogger.

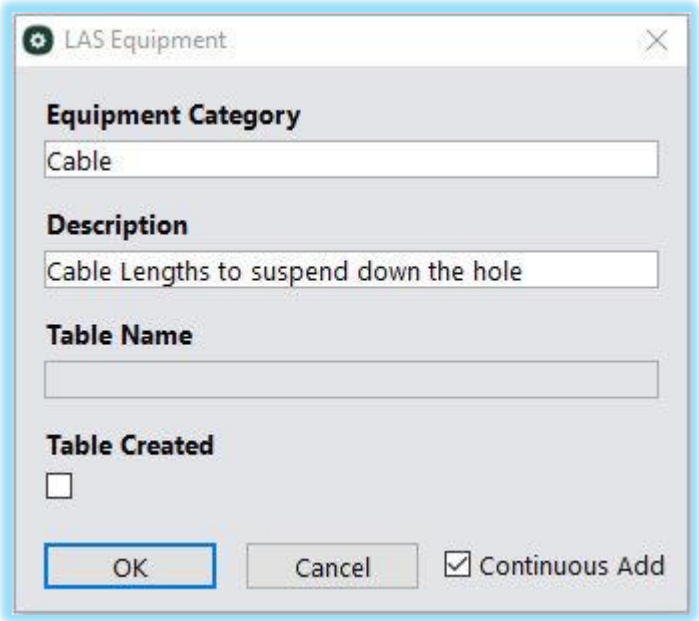


EQUIPMENT AND RIG CONFIGURATION From this window Administrators can create Equipment reference lists that can be used to create the Rig reference list, which outlines the components used to take the readings in the drill hole. Also, they can associate files that detail calibration tests for each piece of equipment.

[Maintain > Reference Tables > LAS Administration > Equipment and Rig Configuration…]

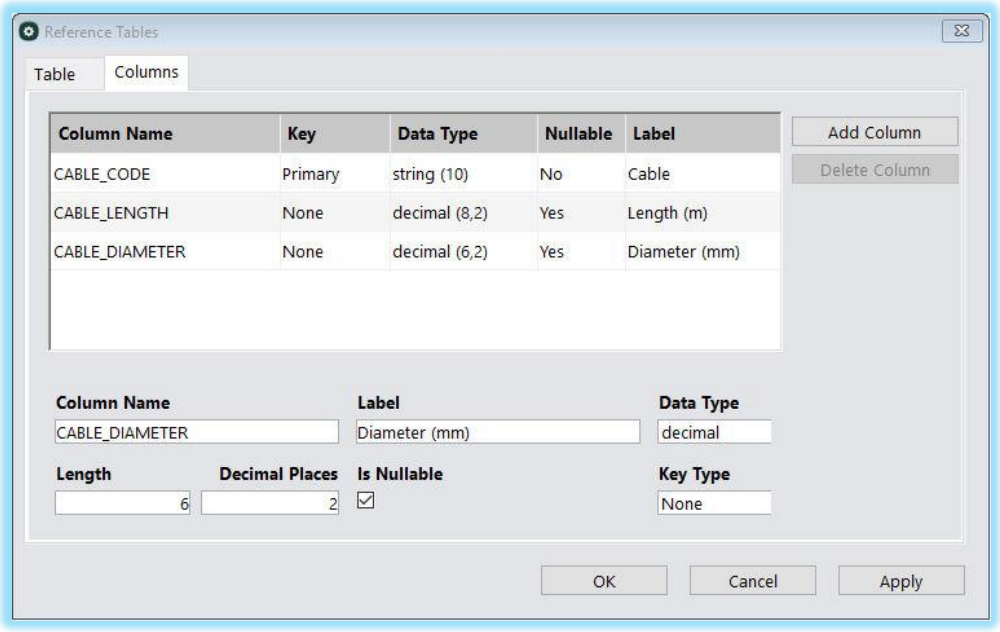


To create a new Equipment Category, select the 'Equipment' branch and click the New button.



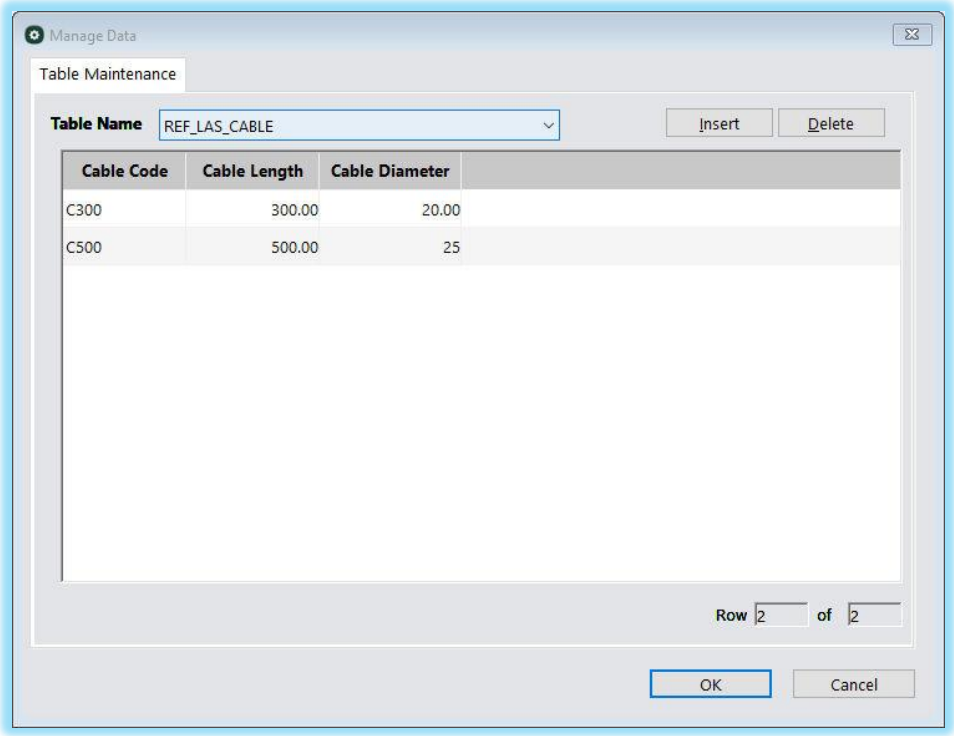
To edit the structure (Add Columns, Delete Columns, Create Table), open the Reference Table editor:

[Maintain > Equipment Reference Tables > Define Reference Tables…]



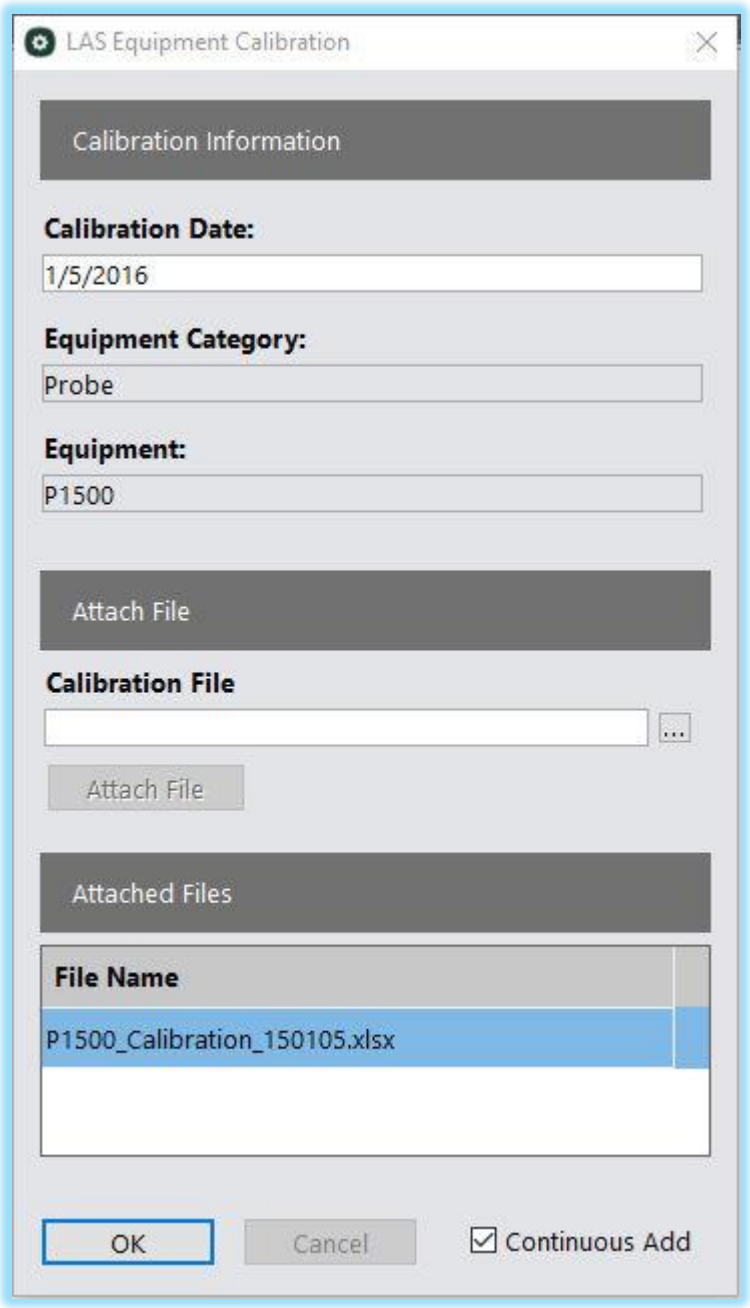
To add, delete or edit codes in the reference tables, simply select the Equipment Category in the tree (e.g. Cable) and click the New button.

[Maintain > Equipment Reference Tables > Manage Data…]



To add a Calibration file for a specific equipment code, select the code (e.g. C500) and then click the New button.

[Maintain > Calibration Table > Manage Data…]

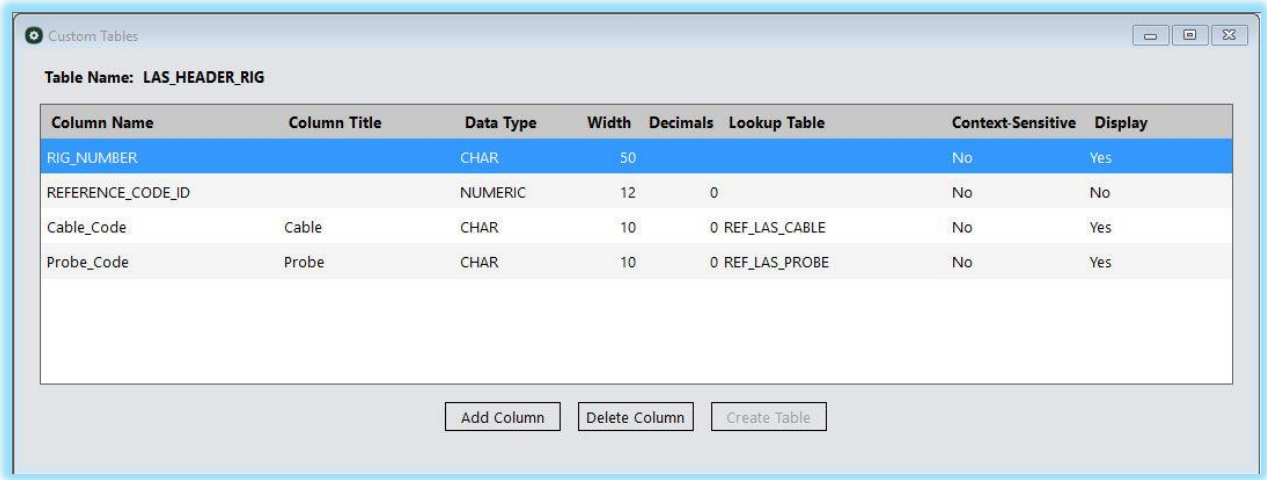


Additionally, the Calibration Table can be configured with custom columns.

[Maintain > Calibration Table > Define Calibration Table…]

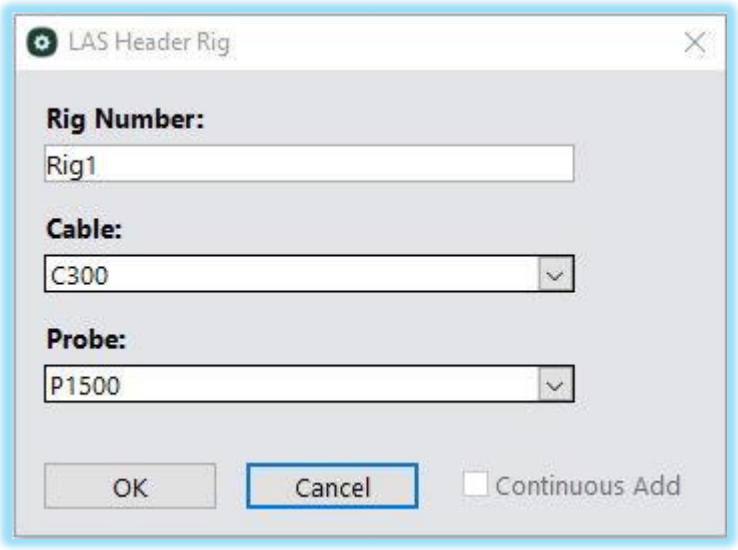
To complete configuration of the Rig Table, navigate to the following menu:

[Maintain > Rig Table > Define Rig Table…]



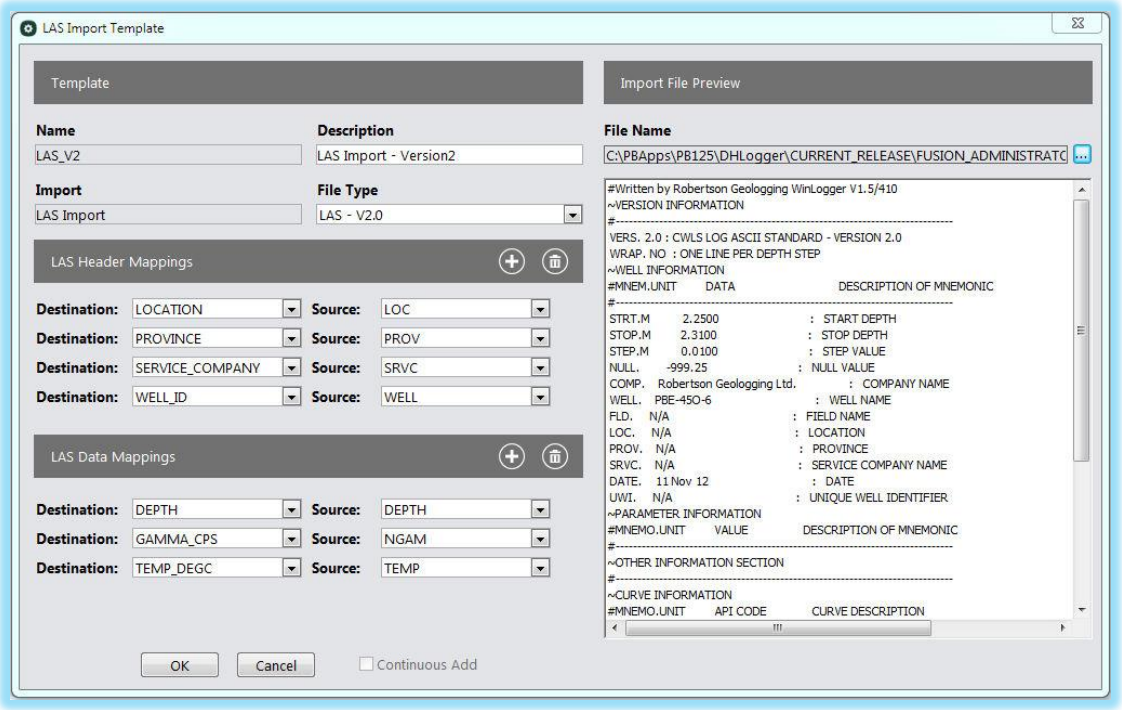
To create new Rigs, once configuration is complete, simply select the "Rigs" entry in the tree and click the New button.

[Maintain > Rig Table > Manage Data…]



LAS IMPORT DEFINITION This is similar to the custom lab import templates, where Administrators can define the data that is imported, and from what locations. With LAS files, there is a standard file format (Log Ascii Standard format), so the template definition is limited in that respect.

[Maintain > Reference Tables > LAS Administration > LAS Import Definition…]



Template

- **Name, Description:** A unique name and long description of the Template
- **Import:** not editable, indicates this is a LAS Import
- **File Type:** Version of LAS file this template will support. It must match the file that is selected for preview, which populates the Source columns.

LAS Header Mappings

- Assumes that the LAS Header table has been configured with additional columns
- Intially, no rows showing, must select "+" button in the header to add a mapping.
- **Destination:** a picklist containing the columns in the DHL_LAS_HEADER table
- **Source:** a picklist containing the columns in the "WELL INFORMATION" section from the selected LAS file

LAS Data Mappings

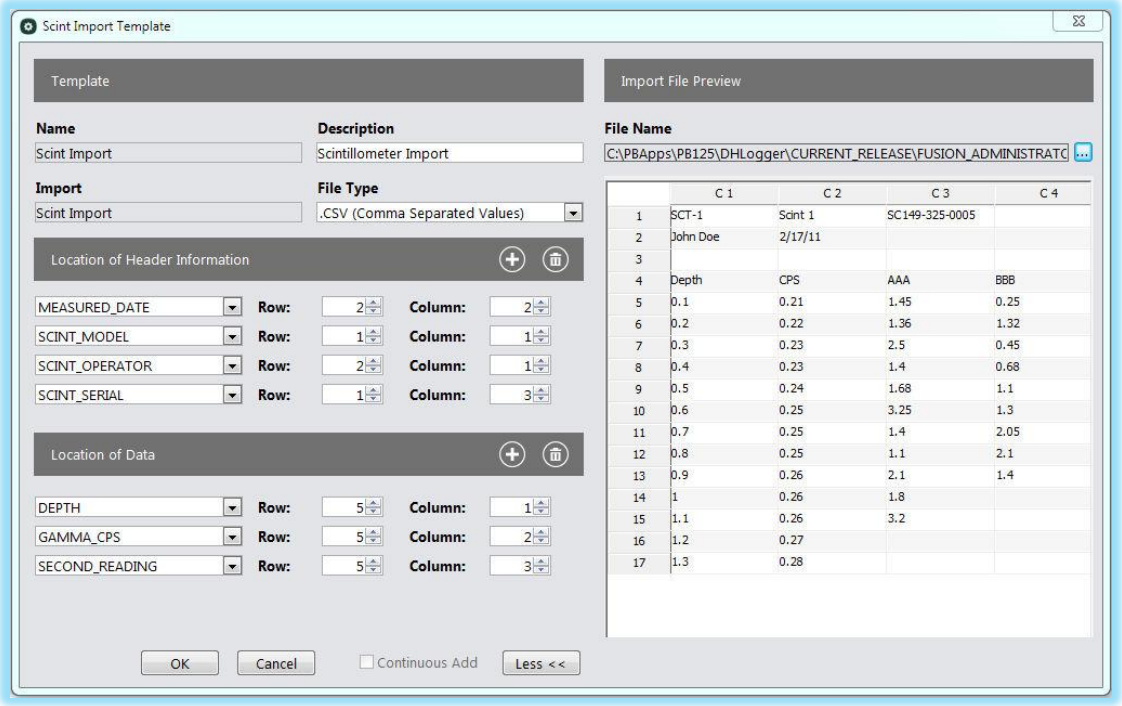
- Initially, no rows showing, must select "+" button in the header to add a mapping
- **Destination:** a pick list containing the columns in the DHL_LAS_DATA table
- **Source:** a picklist containing the columns in the "CURVE INFORMATION" section from the selected LAS file

Import File Preview

- Select a file to assist with the creation of the Template, it must be the same version as the File Type of the template
- Used to populate the Source Columns

SCINT IMPORT DEFINITION This is also similar to the custom lab import templates, allowing Administrators to define the data that is imported, from what locations, and into which columns. This imports the readings from a handheld scintillometer that is scanning the drill core.

[Maintain > Reference Tables > LAS Administration > Scint Import Definition…]



Template

- **Name, Description:** A unique name and long description of the template
- **Import:** not editable, identifies template as a Scint Import
- **File Type:** CSV, or tab-delimited TXT file

Location of Header Information

- Assumes configuration of DHL_LAS_SCINT_HEADER table
- Initially blank, must click "+" button in the header to add rows
- **Picklist:** destination column in DHL_LAS_SCINT_HEADER table
- **Row, Column:** cell location of information from import file; can manually enter or drag/drop from file

Location of Data

- Initially blank, must click "+" button in the header to add rows
- **Picklist:** destination column in DHL_LAS_SCINT_HEADER
- **Row, Column:** cell location of information from import file; can manually enter or drag/drop from file

Import File Preview

- Select a file to assist with template creation

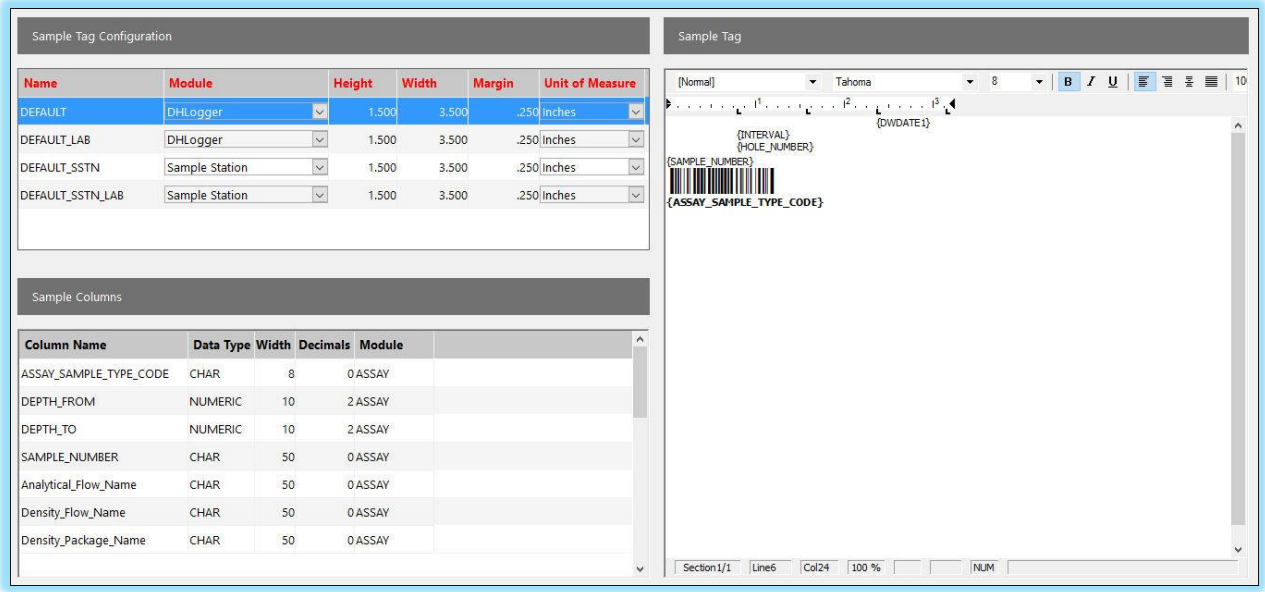
SAMPLE TAG DESIGNER

This window allows for the configuration of custom sample tags. Administrators can define tags for DHLogger and Sample Station, special tags for the Laboratory, and then distribute these tags to users through synchronization.

Administrators can define the following properties of the tag:

- Tag Height
- Tag Width
- Columns, and where they appear on the tag
- Font Name, Colour, and Size
- Static Text
- Custom Images

[Maintain > Sample Tag Designer…]



Sample Tag Configuration

- **Name:** A unique name to identify the sample tag.
- **Module:** DHLogger / Sample Station. Identifies where the tag will be available for selection, filters the available sample columns.
- **Height, Width:** The measurements of the tag.
- **Margin:** The height/width of the margin for the tag.
- **Unit of Measure:** The unit of measure for the specified height/weight/margin of the tag.

Sample Columns

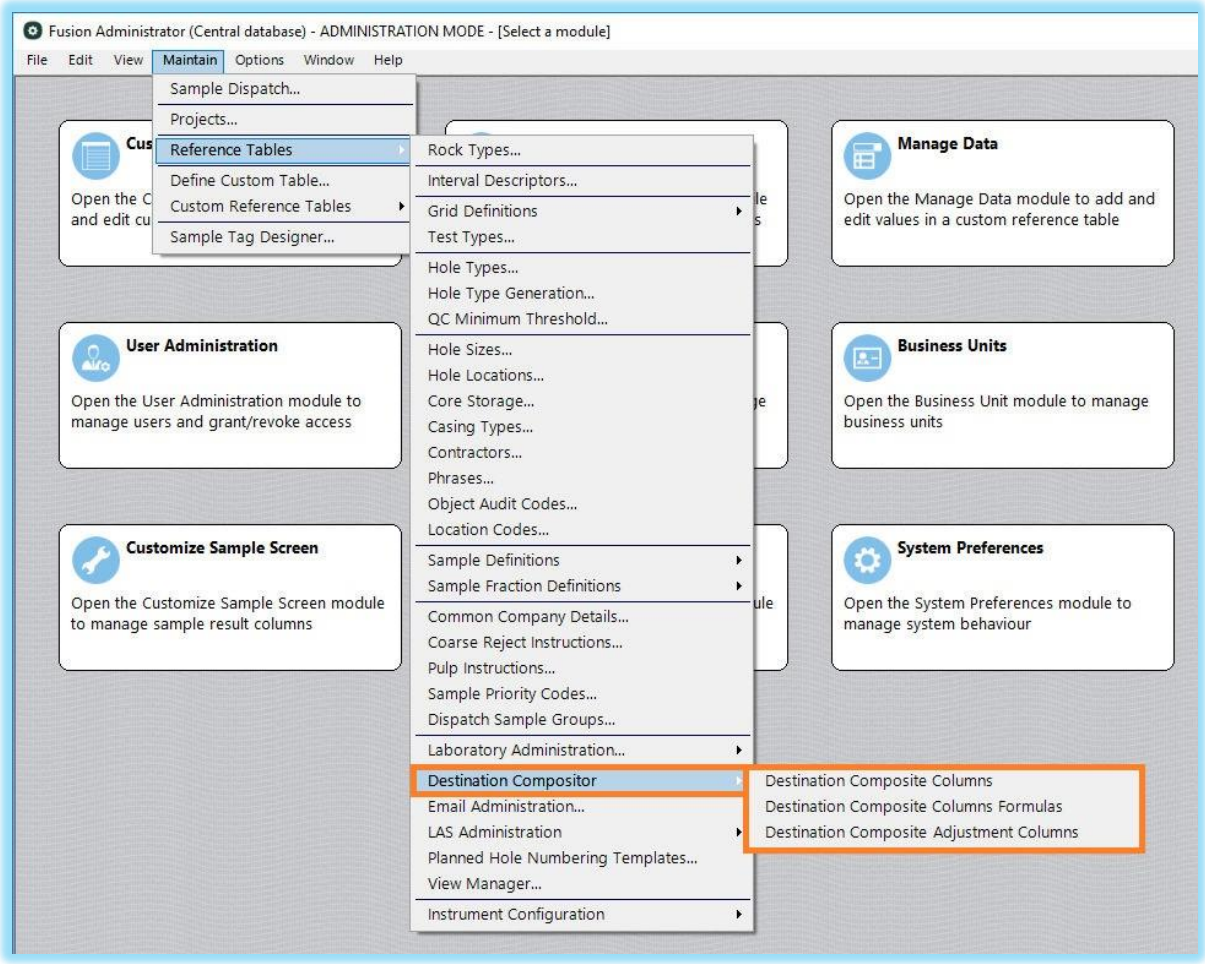
- **Column Name:** Identifies the name of the column available to add to the tag.
- **Data Type, Width, Decimals:** Identifies the definition of the column.
- **Module:** Visible for DHLogger tags only, identifies the module where the column is found, since both ASSAY and COMPOSITE samples will be available in DHLogger.

Sample Tag

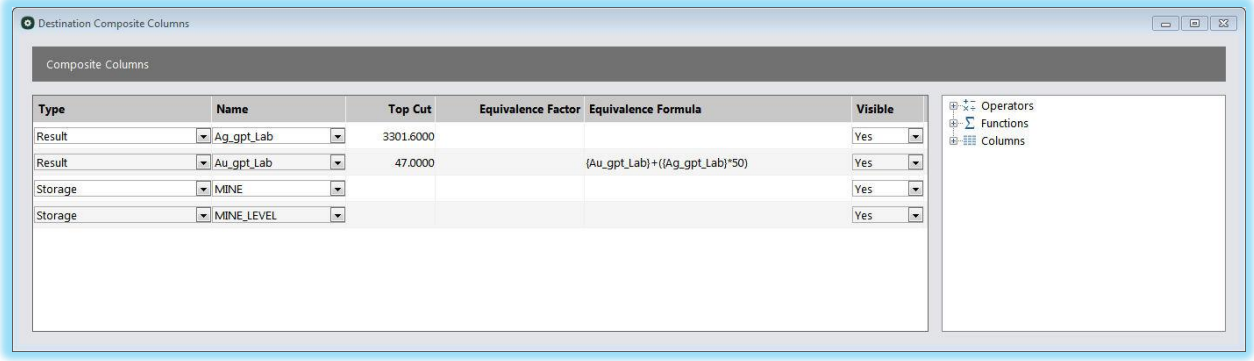
- A rich-text section to format the sample tag.

DESTINATION COMPOSITOR

This module allows users to create composites of samples, and from that information, assign a destination to the composite (e.g. High Grade, Low Grade).



DESTINATION COMPOSITE COLUMNS There are two types of columns that can be created. Result columns are columns that are selected from existing columns in the HOLE_ASSAY_SAMPLE table, and Storage columns, which are selected from existing columns in the DRILL_HOLE table. Result columns are never editable (display only).



Composite Columns

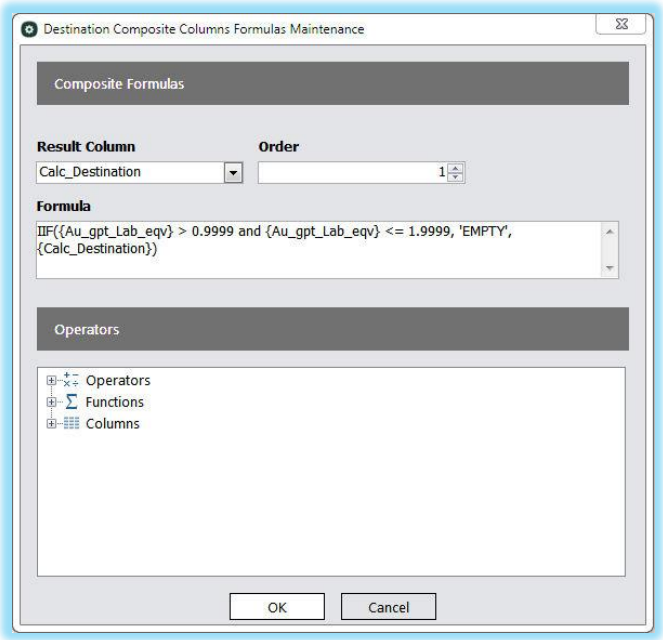
- **Type:** Result / Storage. Defines what columns will be available in the 'Name' picklist - where the data will be pulled from
- **Name:** Picklist, populated from HOLE_ASSAY_SAMPLE for Result columns or DRILL_HOLE for Storage columns.
- **Top Cut:** Available to Result columns only, indicates that a calculation should be created using an upper limit bound
- **Equivalence Factor:** Available to Result columns only, indicates that a calculation should be created using the specified equivalence factor
- **Equivalence Formula:** Available to Result columns only, indicates that a calculation should be created using the specified formula
- **Visible:** Yes / No. Whether the column is displayed in the Destination Compositor windows.

Formula Tree: operators / functions / columns used to help create the Equivalence Formula

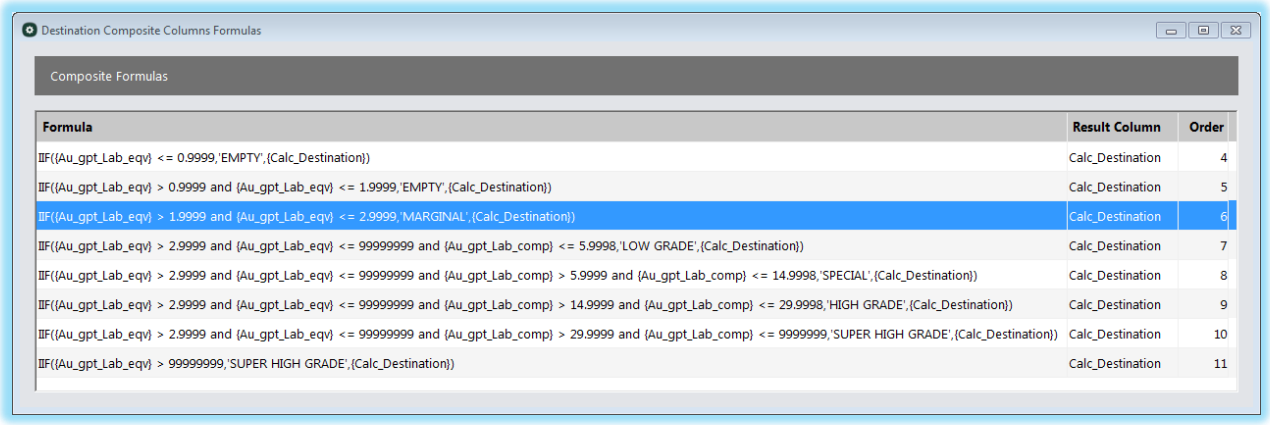
Depending on the information specified for result columns, the following columns may be created in the DHL_DESTINATION_COMPOSITE table:

- result_column_COMP (always created - calculation is a static average formula)
- result_column_TOPCUT
- result_column_FACTOR
- result_column_EQV
- result_column_EQVADJ
- result_column_ADJ

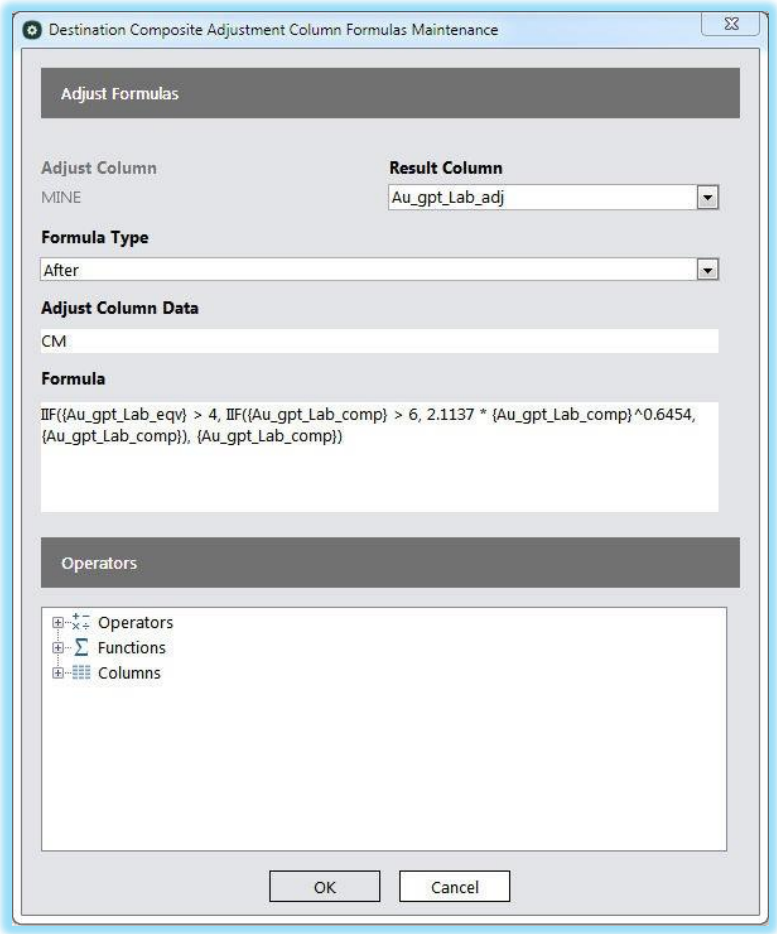
DESTINATION COMPOSITE COLUMNS FORMULAS This list defines the formulas that are used to calculate a result based on the results of the composite calculations. For example, a custom column may be added to the DHL_DESTINATION_COMPOSITE table (through the Custom Tables tile) called 'Calc_Destination'. For this column, many formulas may be created that will set values for this field based on the results of the composited columns.



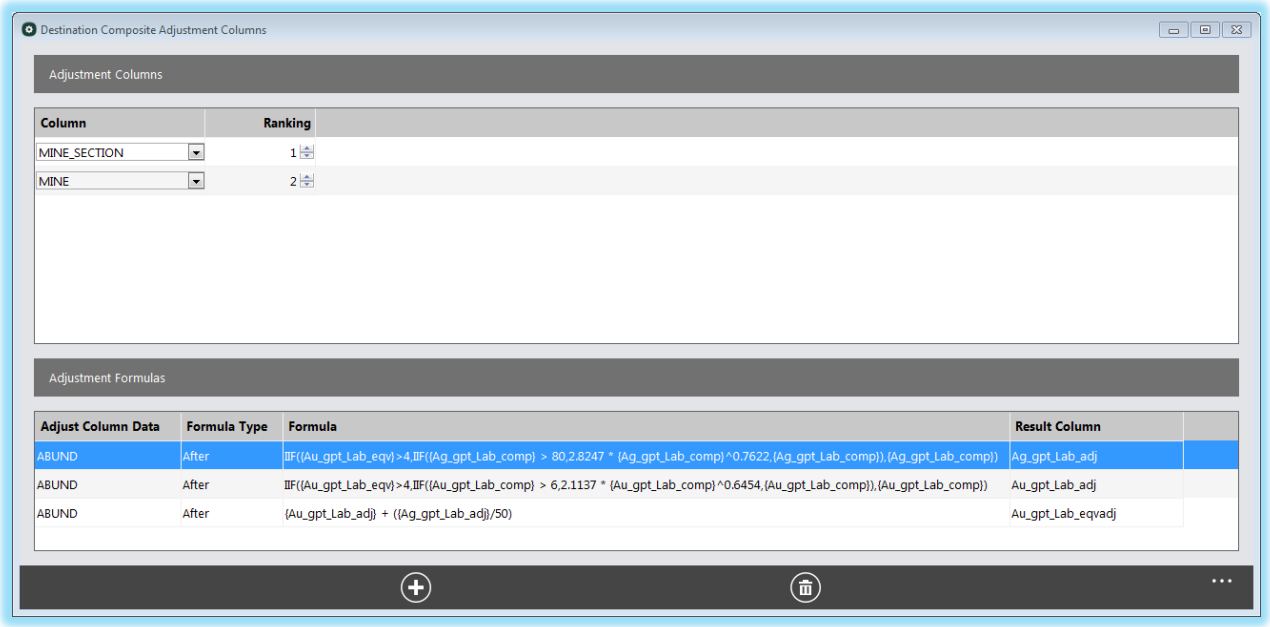
As shown, many formulas can be created for the same 'Result Column', and they will be applied in the Order that is specified.



DESTINATION COMPOSITE ADJUSTMENT COLUMNS This list defines the formulas that are used to calculate an adjustment based on the results of the composite calculations. For example, an adjustment column might contain a formula to calculate based on the EQV or COMP values, and this formula might be specific to meeting certain criteria on another column, such as Mine_Name = 'CM'.



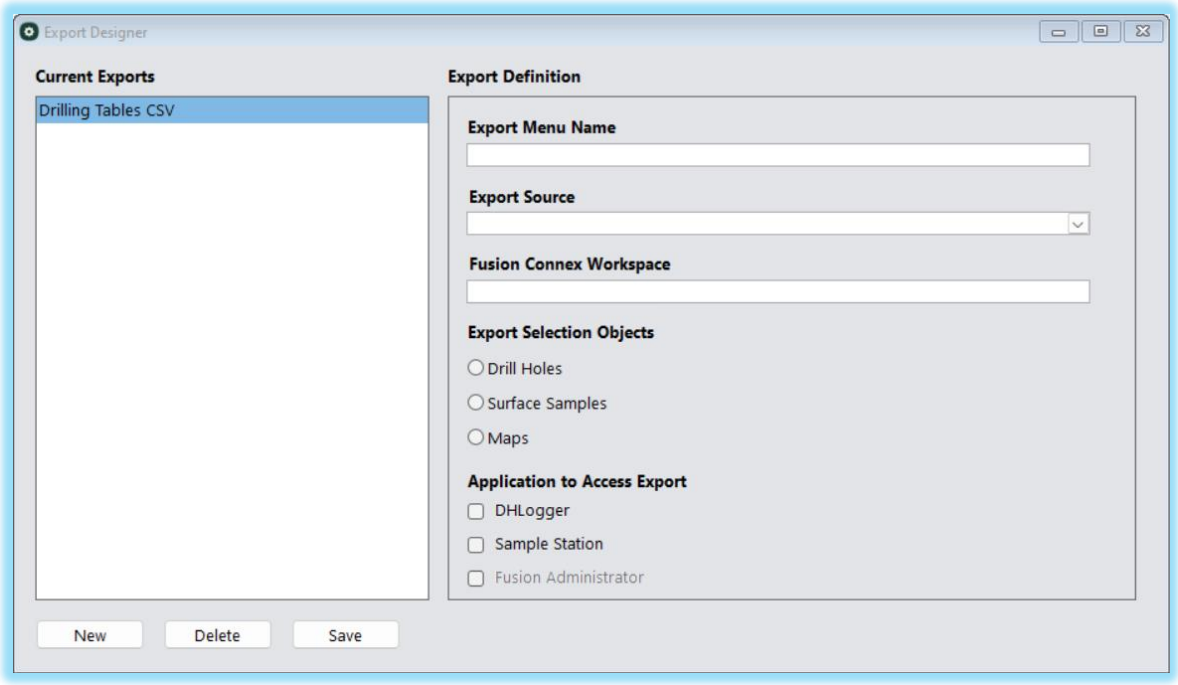
As shown, there can be formulas based on several columns, and the ranking determines the precedence.



CUSTOM EXPORT DESIGNER

Custom exports can be created using a saved Fusion Connex workspace.

[File > Custom Export Designer…]



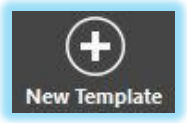
Export Definition

- **Export Name:** the name of the export, which will be seen as the menu item (under Export).
- **Export Source:** choice of Fusion Connex Workspace or Report Manager Export
- **Fusion Connex Workspace:** the workspace used to define the tables and columns that will be exported.
- **Report Manager Export:** the export, defined in Report Manager, used to define the tables and columns that will be exported.
- **Export Select Objects:** Drill Holes / Surface Samples / Maps. The objects that are available to be selected in the Export window.
- **Application to Access Export:** DHLogger / Sample Station. The applications from which the export will be available under the Export menu.

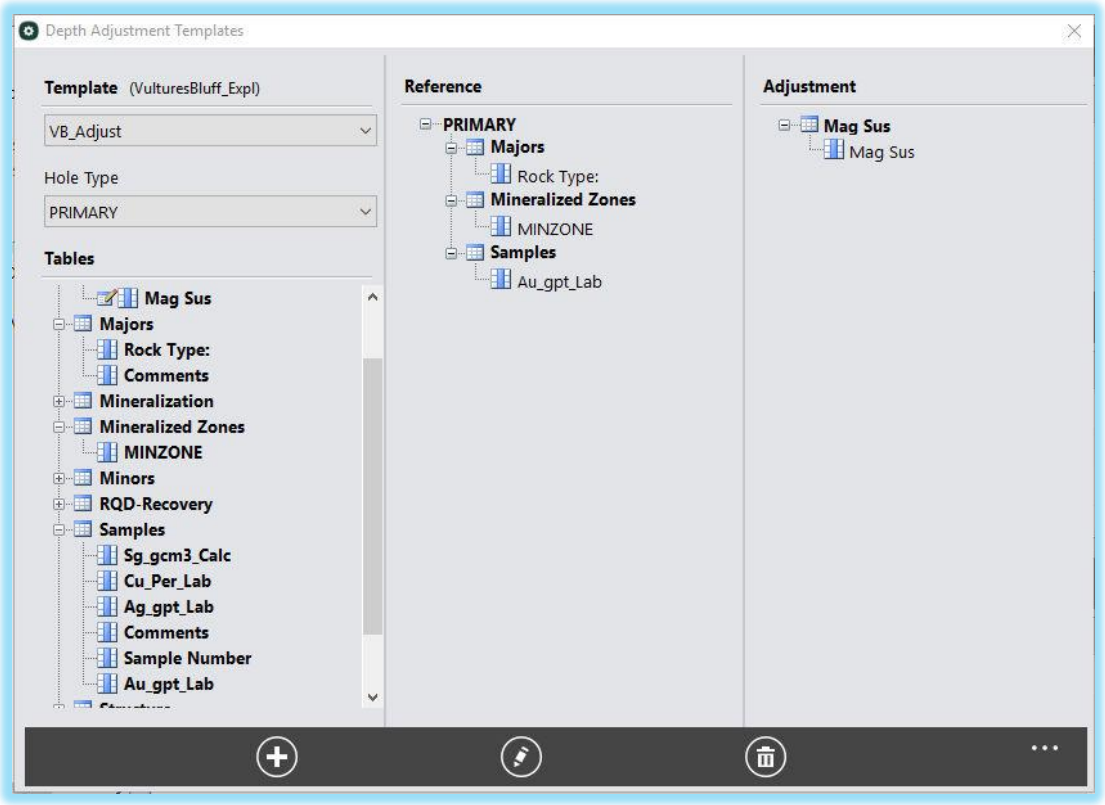
DEPTH ADJUSTMENT TEMPLATES

DHLogger has a module which allows for the visual adjustment of depth data. Administrators define templates once that will be repeatedly used, making the Depth Adjustment tool easier to use.

The creation of Depth Adjustment Templates is performed in the Logging Style Administration window, by selecting a Logging Style, expanding the Tabs folder, and double-clicking the “Depth Adjustment” entry.



To create a new template, use the New Template button from the footer toolbar and enter a unique name and a description.



Depth Adjustment Template

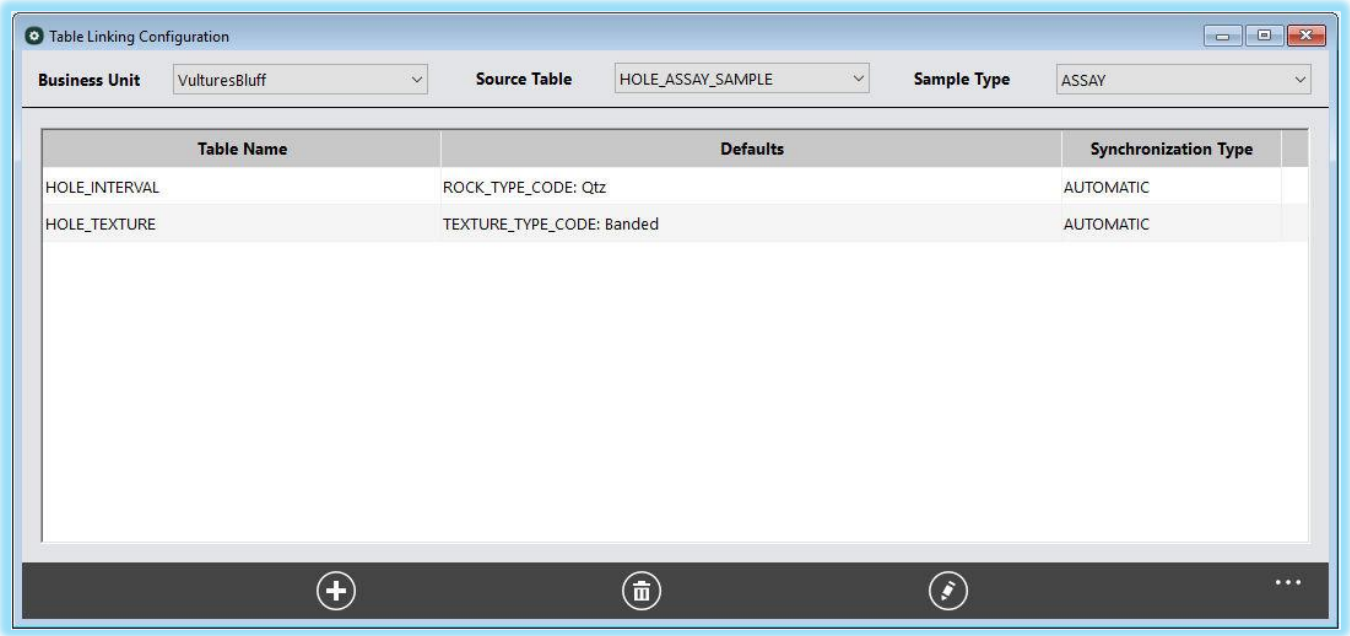
- **Template:** select the template name to be configured
- **Hole Type:** PRIMARY / REFERENCE x. To adjust data, reference data can come from the PRIMARY hole (same hole as adjustment data) or one or more other holes (REFERENCE holes, which will need to be selected at the time of use in DHLogger)
- **Tables:** a tree of tables and columns that can be dragged to the Reference or the Adjustment section. The tables shown are only those with depth information, and only those associated with the Logging Style.
- **Reference:** tables/columns dragged to this section will define the data that will be displayed in the Depth Adjustment tool to assist with the changing of the Adjustment Data.
- **Adjustment:** this data comes from the PRIMARY hole and defines which table will have its depths adjusted.

LINKED TABLE SYNCHRONIZATION

In DHLogger, tables can be linked and kept synchronized by a 'Source' table. Data entry is performed in the source table and dependent tables have rows inserted/updated/deleted accordingly. This synchronization can occur automatically or manually depending on the configurations made in Fusion

Administrator. Access to this configuration depends on the “Allow Table Linking” setting in the System Preferences (or Business Unit Preferences).

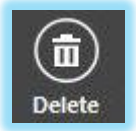
[Maintain > Reference Tables > Sample Definitions > Table Linking Configuration...]



Select a Business Unit and Source Table to define the linked tables that will be updated when synchronization occurs.

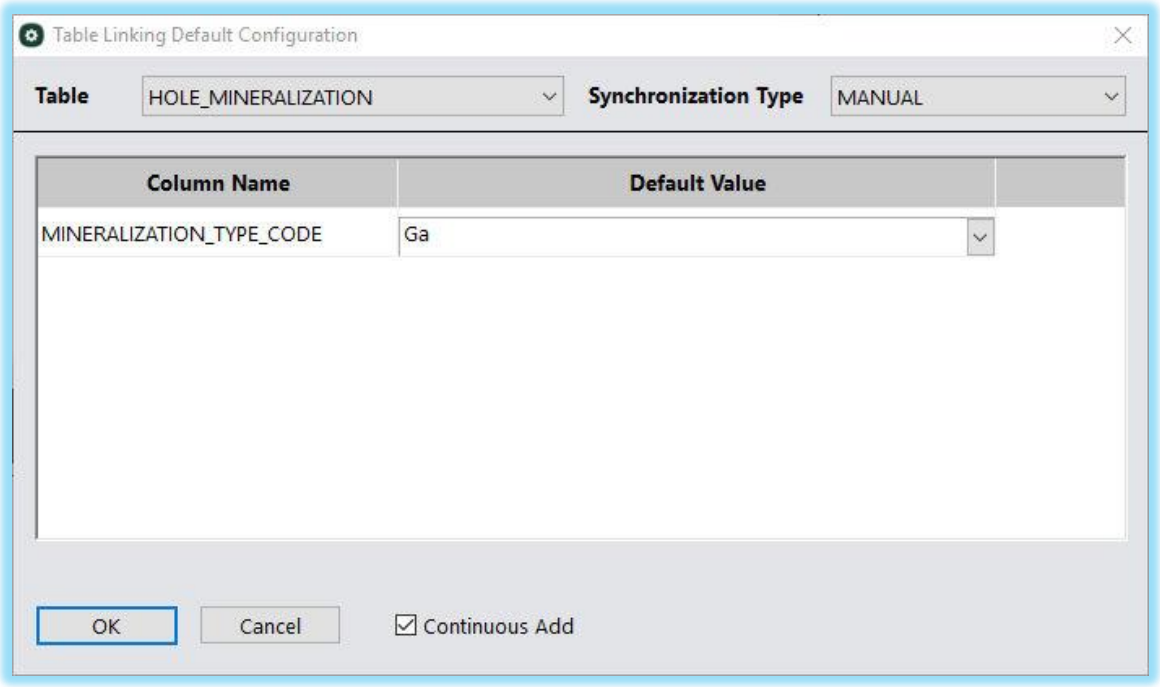
NOTE: The Sample Type drop down is required if the Source Table is ‘Hole_Assay_Sample’. Only sample types belonging to the ‘Original’ sample type category are available for selection.

Use the 'Add' button to add a new table to the configuration.



Use the 'Delete' button to remove tables from the business unit / source table configuration.

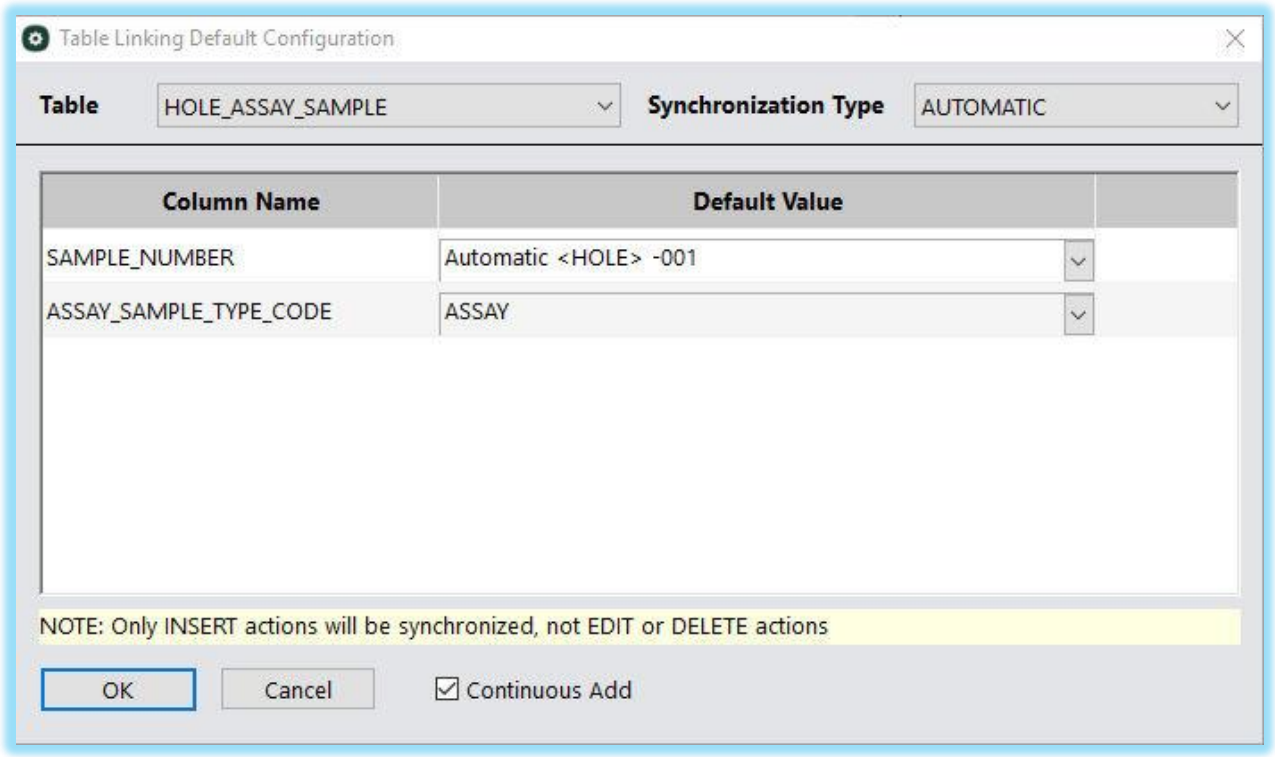
Use the 'Edit' button to modify the default values for the Required Columns in the dependent table.



The Table list will vary depending on the Source Table that is selected: dependent table must have rules (allow gaps, duplicates, overlaps) that are the same or less restrictive than the source table that is selected.

The 'Synchronization Type' dropdown identifies whether the linked table will automatically be kept in sync with the source table, or if the user will be required to manually synchronize from within a window in DHLogger.

Required columns will appear below the destination table. The defaults for these required columns must be specified before the table can be linked.

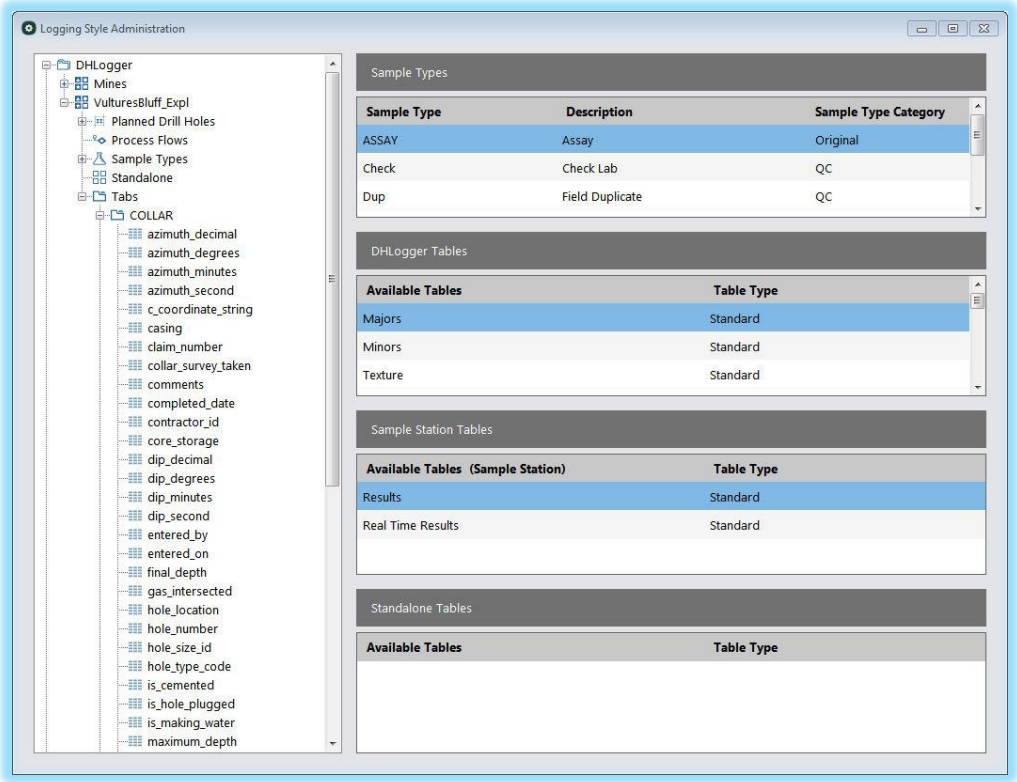


When configuring HOLE_ASSAY_SAMPLE as a dependent table, the Sample_Number column has two choices for a default value: **Automatic**, which populates as hole_number + "-001" suffix; or **Sample Naming Template**, which will use the template associated with the sample type selected in the second required field's dropdown.

Also, it should be noted that only INSERT actions will be synchronized in the hole_assay_sample, and there is an attempt to make this clear in the configuration window.

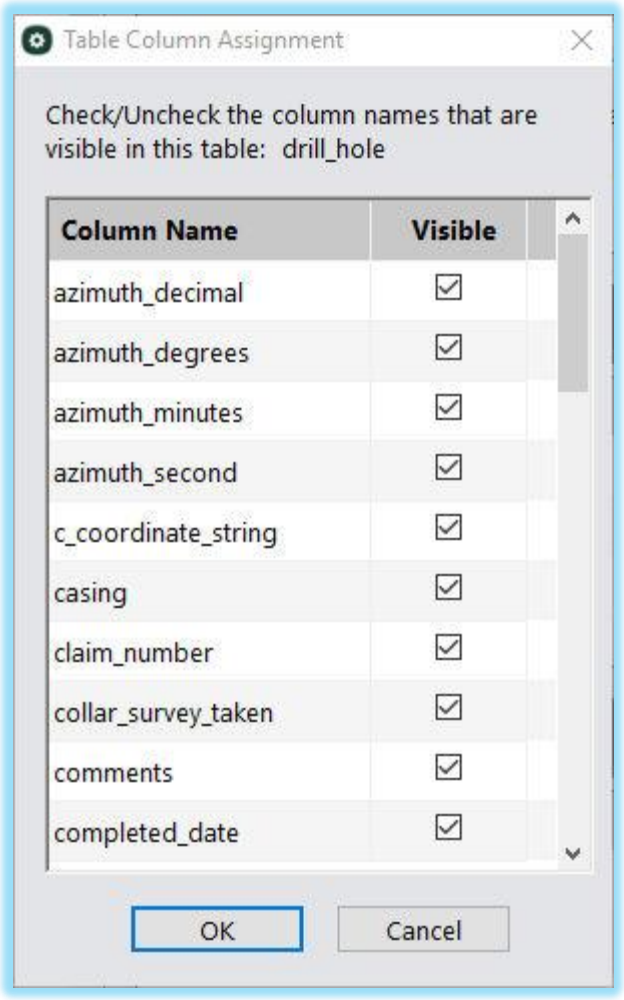
COLUMNS LIMITED BY LOGGING STYLE

This configuration is available after enabling the setting in the System Preferences window. When it is first enabled the application will initialize the configuration for each Logging Style with all columns assigned in each table that is assigned.



After that, the Administrator can go to the Logging Style Administration window, select a Logging Style, and then expand the Tabs folder to view each table's assigned columns.

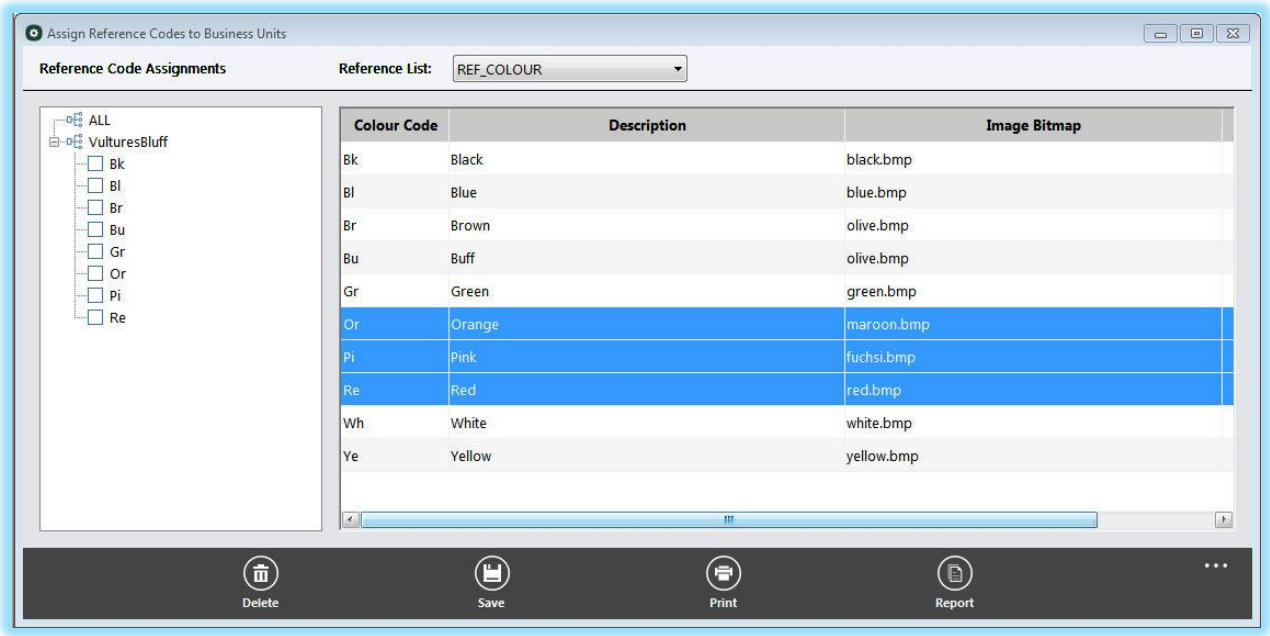
By double-clicking on the table name, the Administrator can then check/uncheck the columns that should be available to the Logging Style.



REFERENCE CODES TO BUSINESS UNITS

This configuration is available after enabling the setting in the System Preferences window. When it is first enabled, nothing has been configured. When a list does not have any codes associated with a Business Unit, then all codes are available to all business units. Once the first code in a list is associated with a business unit, it is assumed that the list is properly configured for all business units.

[Options > System Administration > Reference Codes to Business Units…]

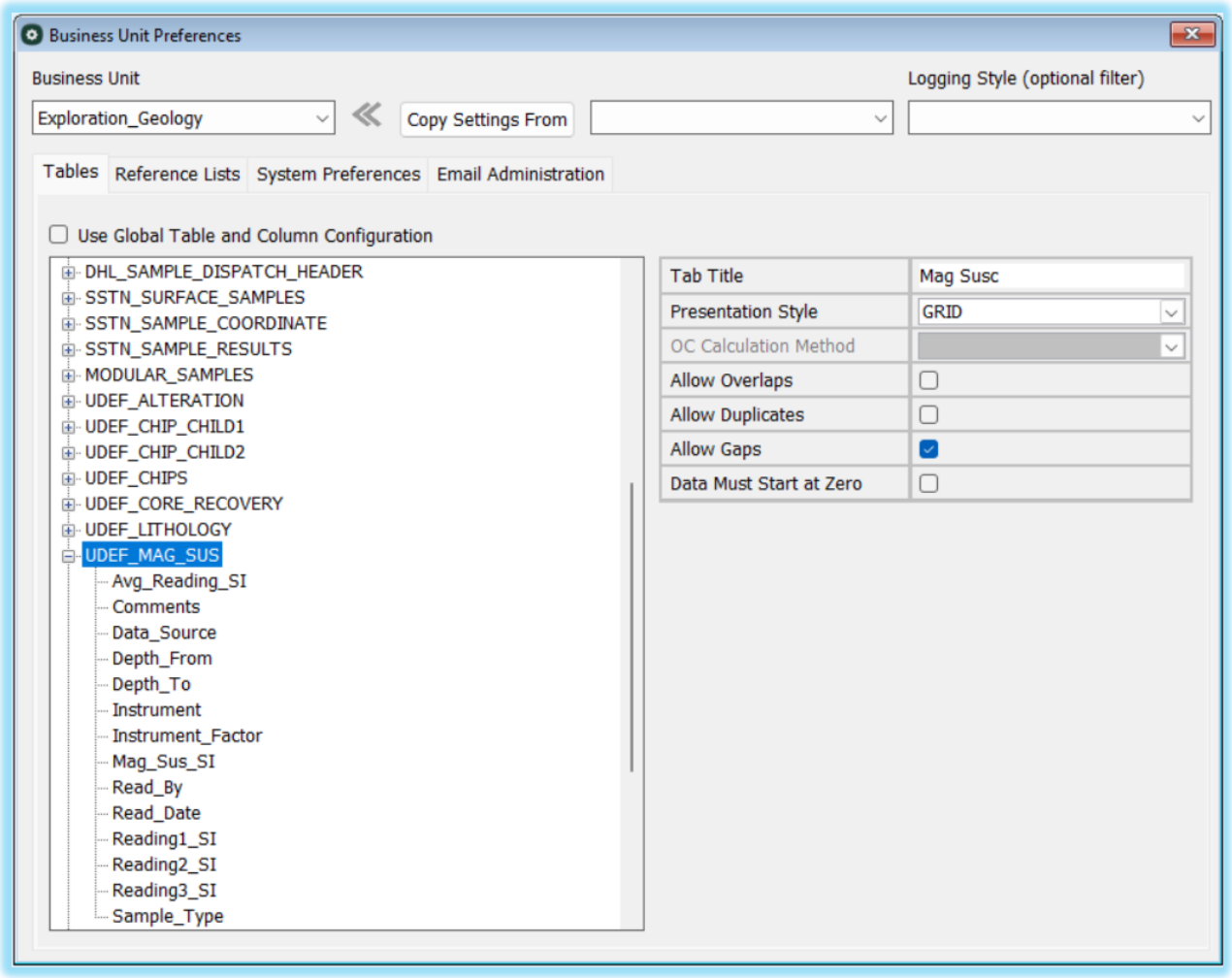


- When this system preference is not enabled, the only available list is “ROCK_TYPES”.
- Select a Reference List from the dropdown to begin configuration.
- Select one or more codes (multi-select with CTRL and SHIFT is available) and drag to a Business Unit in the left-hand window.
- Using the Report button, a report can be created that will show all codes in all lists that are assigned to a Business Unit.

BUSINESS UNIT PREFERENCES

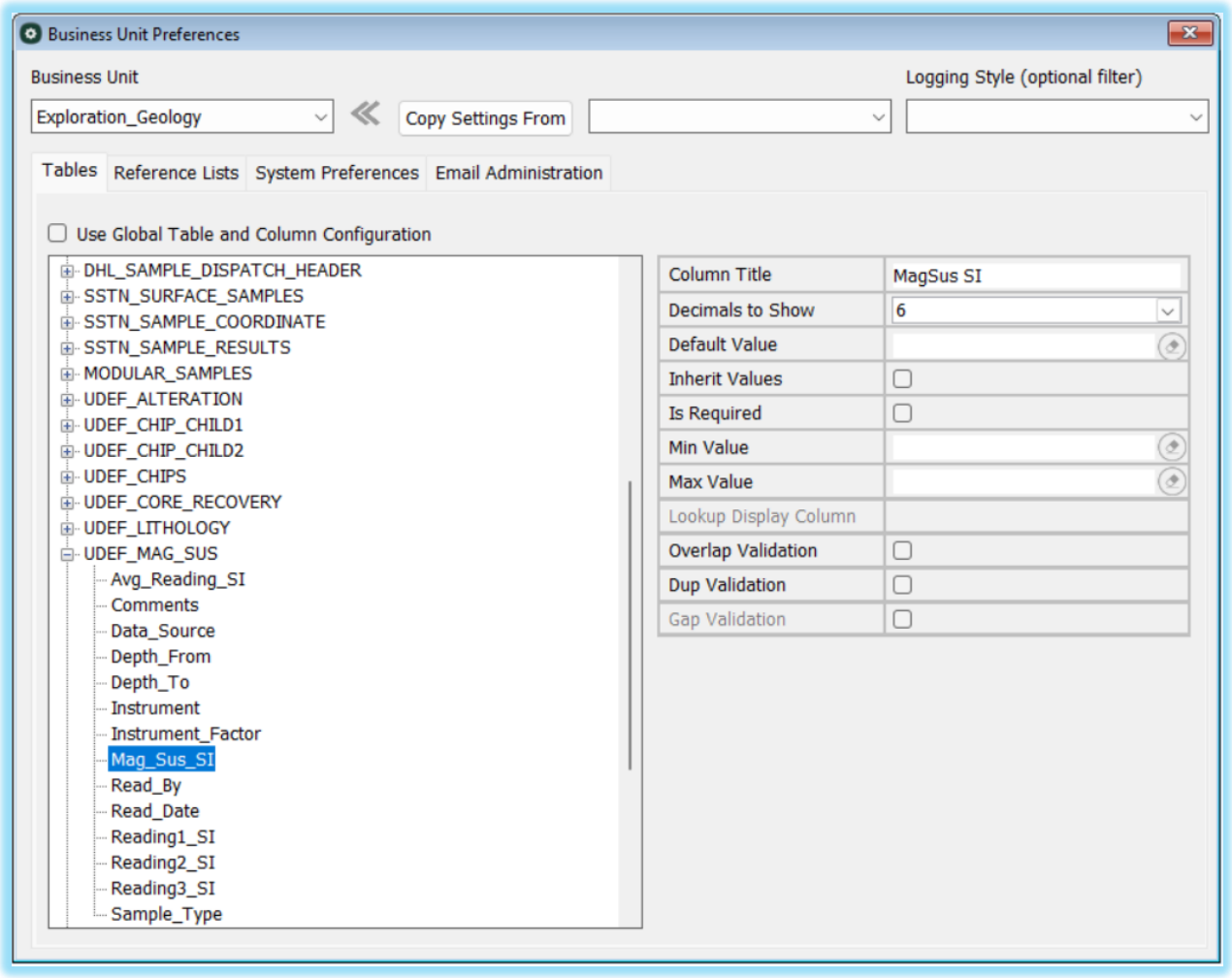
One of the strongest features of Fusion is its ability to handle a system for a global organization which may involve a variety of languages and business rules; this is handled using Business Units and Logging Styles. The Business Unit Preferences window is the location for the configuration of these various settings.

By default, each business unit will use the Global Configuration for tables and columns. To customize settings, such as tab titles, column titles, default values, etc., an Administrator would open the Business Unit Preferences window, select the Business Unit that needs to be configured, and uncheck the “Use Global Table and Column Configuration”.



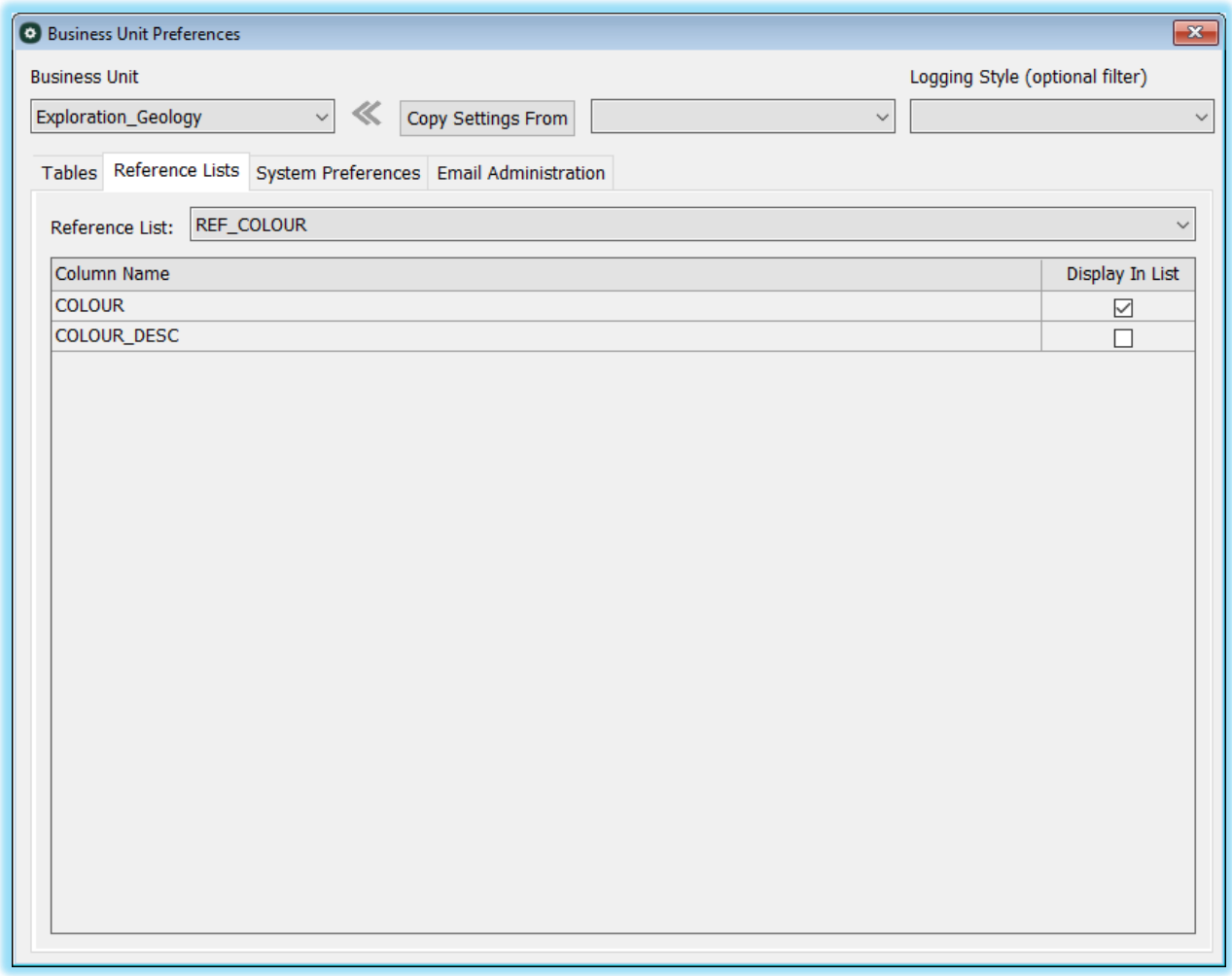
Once the setting is unchecked, tables can be selected and have certain settings changed:

- Tab title
- Presentation Style
- OC Calculation Method
- Allow Overlaps
- Allow Duplicates
- Allow Gaps
- Data Must Start at Zero



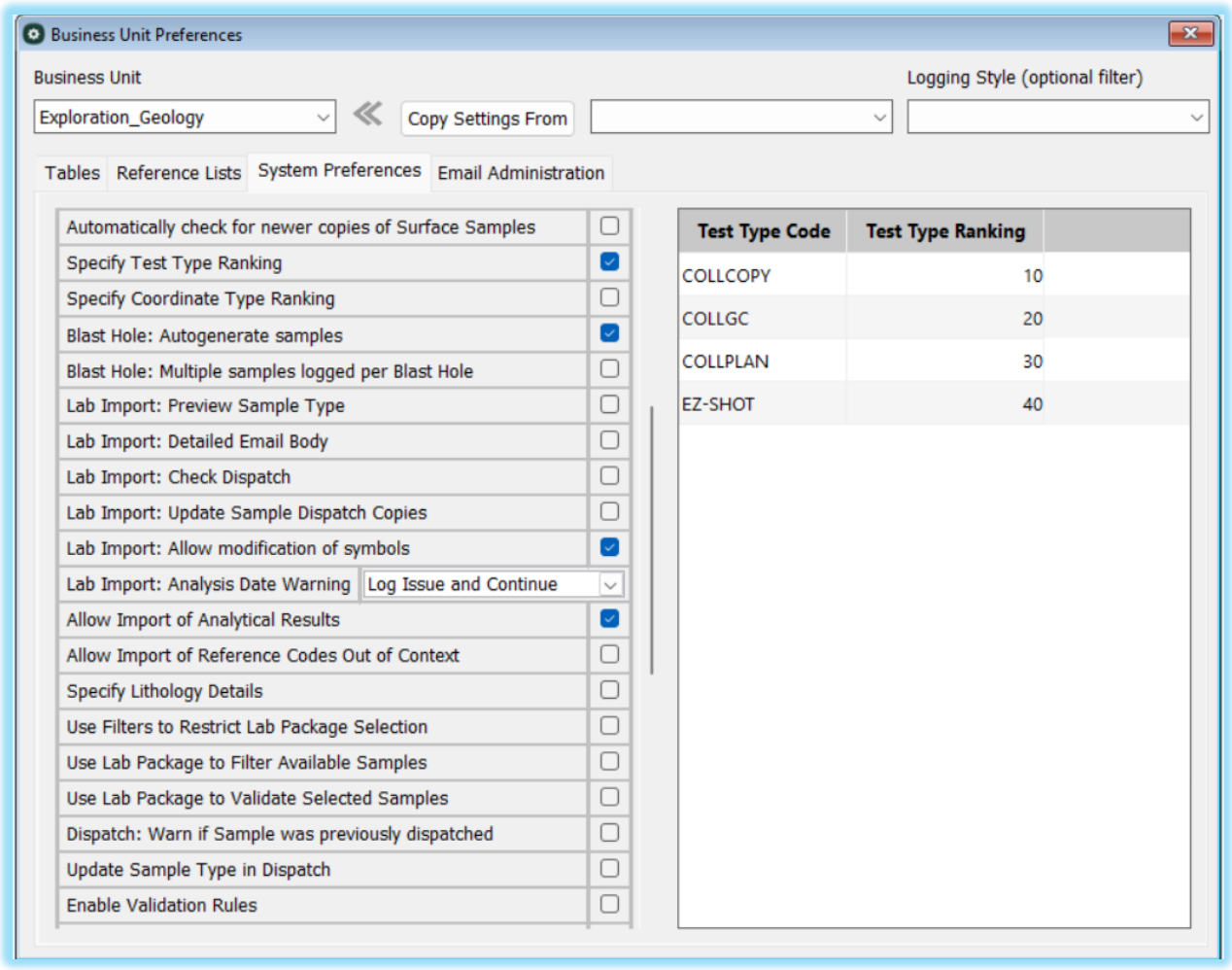
Individual columns can also be selected, and its settings can be changed, if they apply:

- Column Title
- Decimals to Show
- Default Value
- Inherit Values
- Is Required
- Min Value
- Max Value
- Lookup Display Column
- Overlap Validation
- Dup Validation
- Gap Validation



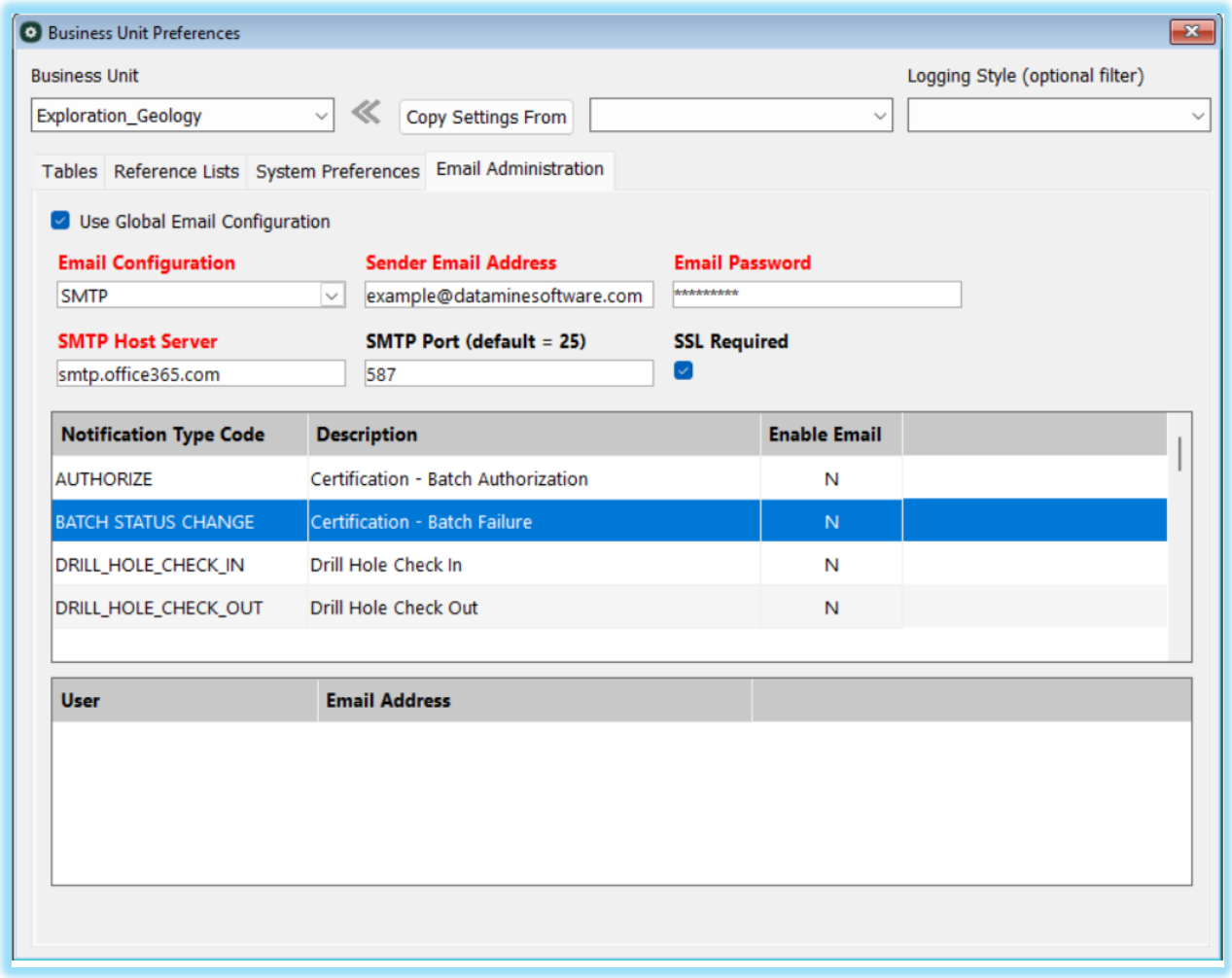
In the Reference Lists tab, some reference lists can be configured to display only some of its columns. This is achieved by selecting the Reference List from the dropdown and checking the columns to "Display In List". This would be useful to handle multiple languages. A reference list can be created that has a code and a description field for each language that needs to be supported. Each language could be its own Business Unit, and the lists could be configured accordingly.

NOTE: ROCK_TYPES is included as a configurable list, but at this time customization does not apply to the "tree" that is used in the Major/Minor lithology window. It does, however, apply to a custom column that is linked to the ROCK_TYPES table.



System Preferences can also be customized, allowing for each business unit to set up its own business rules. The image above shows the configurable settings, including the window that allows for each business unit to rank Test Type codes; ranking Coordinate Types and customizing Lithology details (rock type color, short and long description) are also available.

If an administrator has made changes to System Preferences for a Business Unit, but then decide the Business Unit should have the same settings as the Global system, the “Restore Global Preferences” button can be used to remove all the customized System Preference settings for the selected business unit.

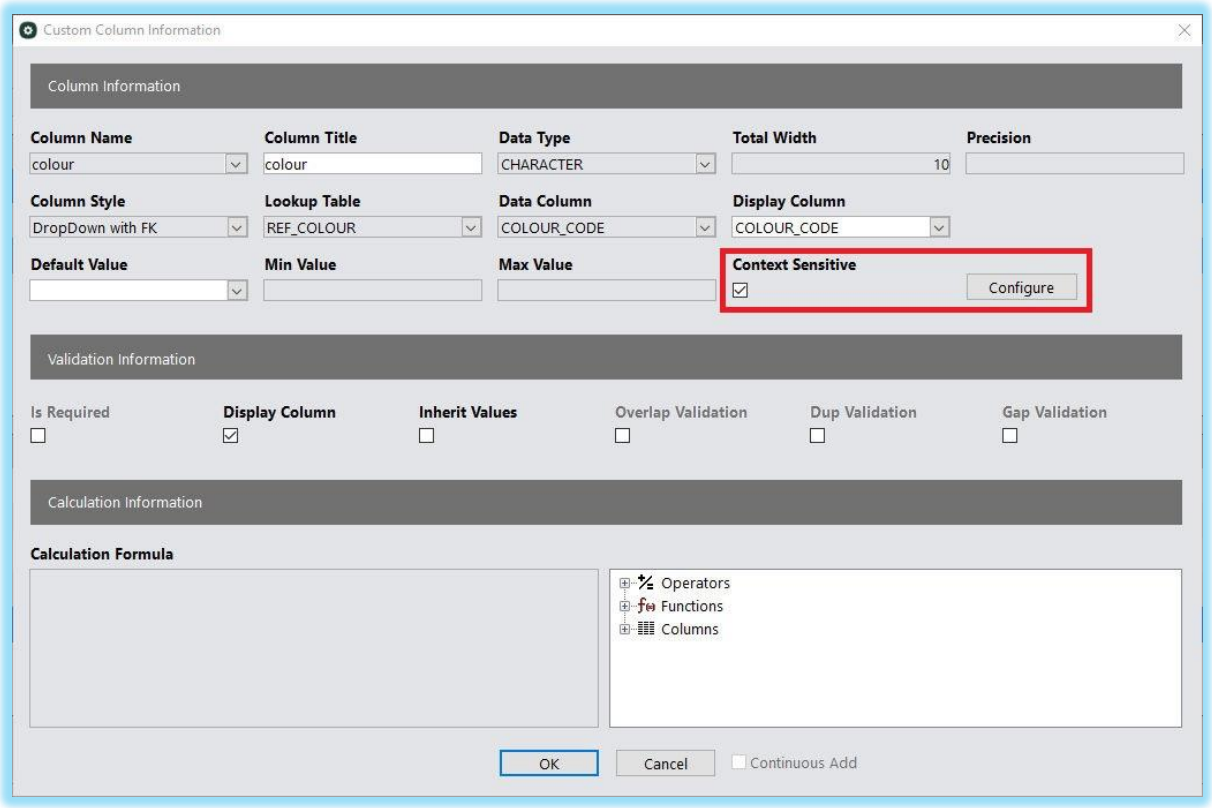


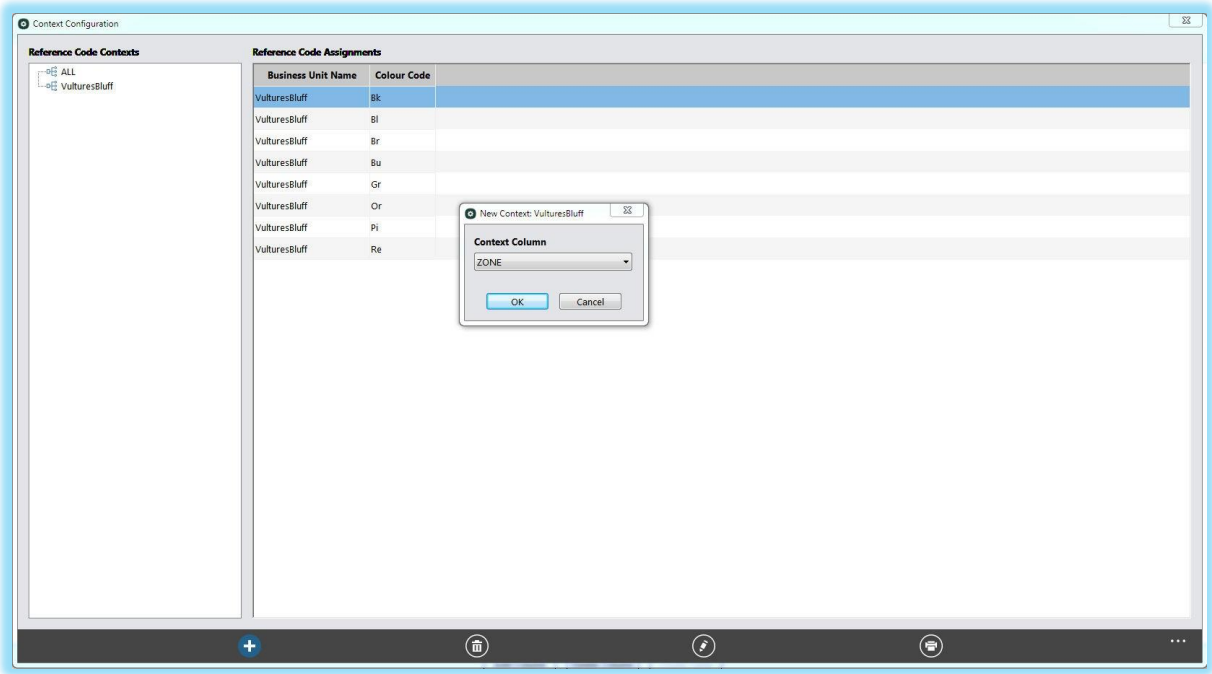
This window also allows Email Settings to be configured by Business Unit. Administrators can change both the default email program (Outlook / SMTP), and the notifications / notified users.

CONTEXT-SENSITIVE LISTS

Administrators can configure fields with dropdown lists in a table to be dependent on the value in another dropdown list. These are known as context-sensitive lists.

In the Column Maintenance window of the second (dependent) column, the “Context Sensitive” field would be checked. When this is enabled, a “Configure” button appears. This is where the dependency would be created.





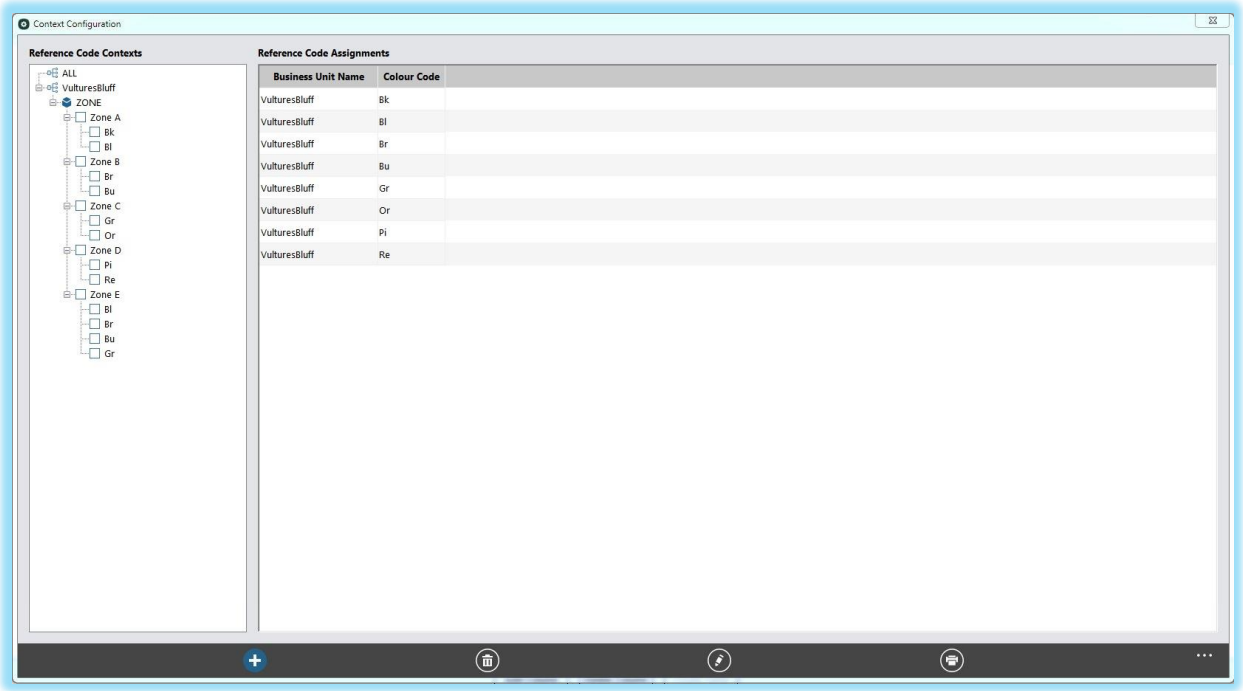
A single column can have a different context created for each business unit. An Administrator would select a business unit from the tree on the left and click the New button to create a new context.

At this point, the “Context Column” would be selected from the picklist, which is a list of the other columns in the table that are linked to dropdown columns. This column’s data will define what codes appear in the picklist for the column that is being edited.

NOTES:

For interval-related custom tables, Administrators can select ROCK_TYPE_CODE (INTERVAL), which will use the major/minor lithology’s rock type to determine the values that will be available in the picklist.

For most tables, Administrators can also select PROJECT_NUMBER (PROJECT) which will use the Project to which the Drill Hole or Surface Sample belongs to determine the values that will be available in the picklist.



Once a context has been created, the tree will be drawn with the codes in that list (if the “Reference Codes to Business Units” system preference has been enabled, the list will only show the codes that the business unit has been assigned).

Under each code, the Administrator would now drag/drop codes from the right to the tree on the left.

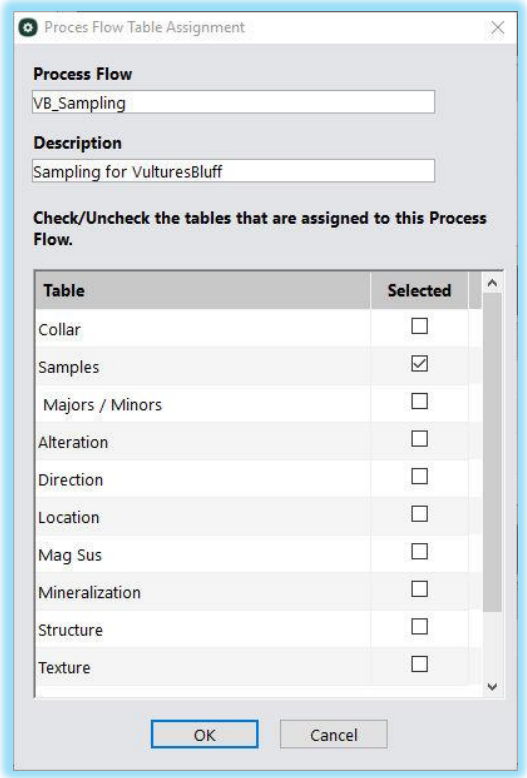
NOTE: codes belonging to one business unit can only be dragged to a context belonging to the same business unit.

PROCESS FLOWS

Validation of parts of a drill hole or surface sample, locking it down to prevent changes to its data is handled through the creation of Process Flows. A Process Flow defines the group of tables that are treated as a unit of work that can be validated and authorized.

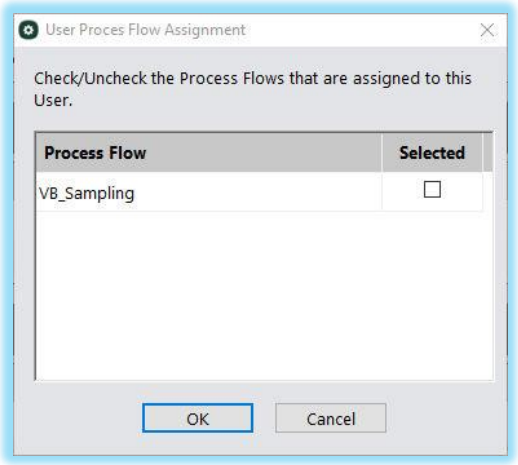
Process Flows are created in the Logging Style Administration window, as they are a sub-grouping of a logging style’s assigned tables.

To create a process flow, expand a Logging Style, and select the “Process Flows” entry, then click the New button.



The tables that will be available to the Process Flow are only the tables that have been assigned to the Logging Style to which this process flow belongs.

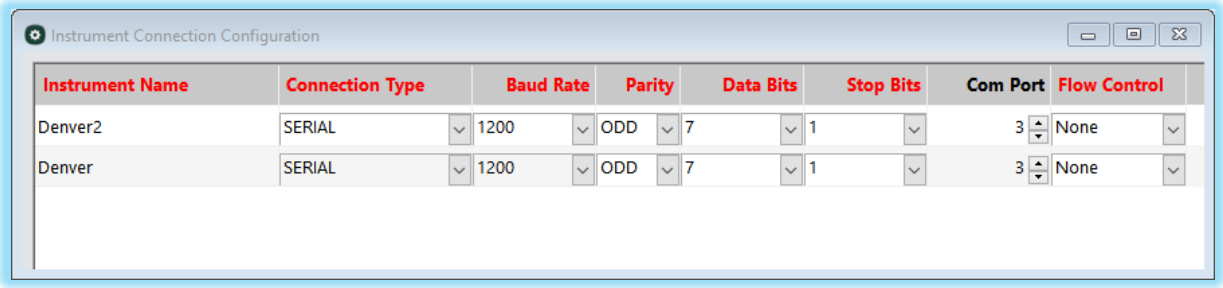
Once a process flow has been created, to be used it must first be assigned to a user. This is achieved by opening the User Administration window, selecting the user, expanding the Logging Style, and double-clicking on the “Process Flows” entry.



INSTRUMENT CONFIGURATION

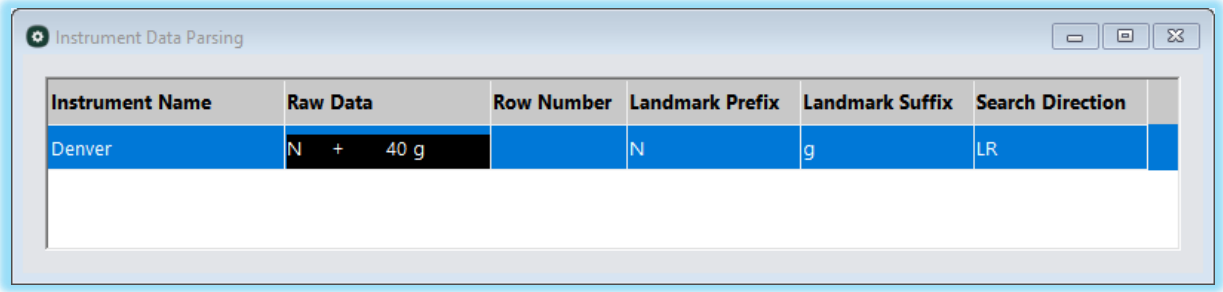
Geologists can connect directly to instruments and accept values directly into the Drill Hole module in DHLogger. Administrators can define connection properties and parsing behavior in the Instrument Configuration windows.

[Maintain > Reference Tables > Instrument Configuration > Connection Properties…]

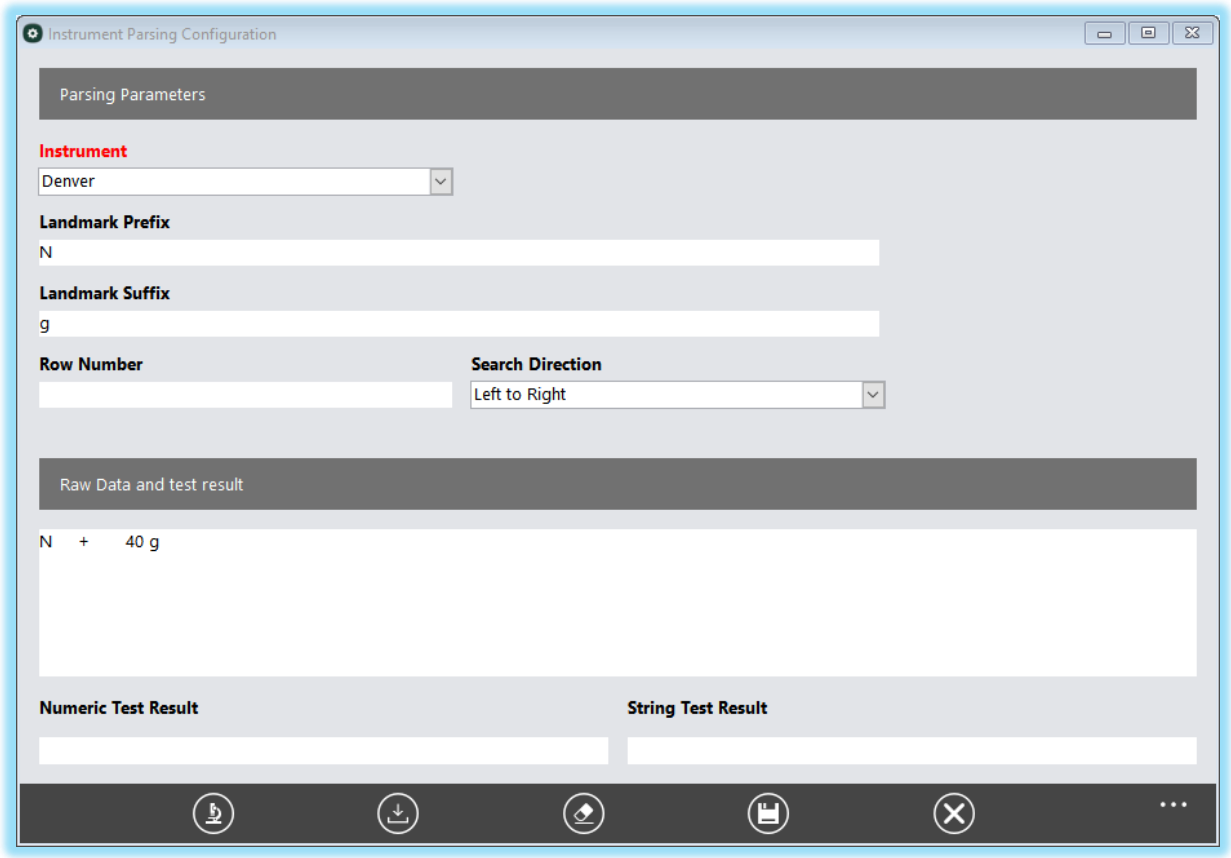


This window defines how DHLogger will connect to the instrument to receive data.

[Maintain > Reference Tables > Instrument Configuration > Data Parsing…]



Hit the ‘New’ toolbar button to add new parsing information or double-click to edit existing parsing information. The ‘Delete’ toolbar button allows you to delete parsing information for the selected instrument.



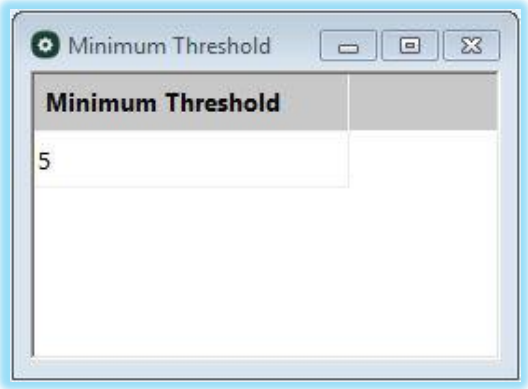
Below is a summary of the columns included and how they are used to define how data is received from the instrument.

Field Name	Description
Instrument	Identifies the instrument associated with the parsing instructions.
Landmark Prefix	The first character or phrase DHLogger will search for to identify the portion of data to receive from the instrument.
Landmark Suffix	The last character or phrase DHLogger will search for to identify the portion of data to receive from the instrument.
Row Number	If the data sent from the instrument occurs over multiple lines, the row number identifies the row of data to receive.
Search Direction	The search direction identifies if DHLogger searches from left to right, or right to left when identifying the landmarks.
Raw Data	This box accepts the raw data sent from the instrument for testing purposes.
Numeric Test Result	This box contains the test result for receiving the parsed instrument value into a numeric column.
String Test Result	This box contains the test result for receiving the parsed instrument value into a string column.

QC MINIMUM THRESHOLD

A setting / value that is used in the QC Generator module in DHLogger (Central). It represents the minimum number of QC samples that must exist in the DHL_QC_SAMPLES table that are awaiting results, ensuring that there is a valid Quality Control program in place in the software.

[Maintain > Reference Tables > QC Minimum Threshold…]

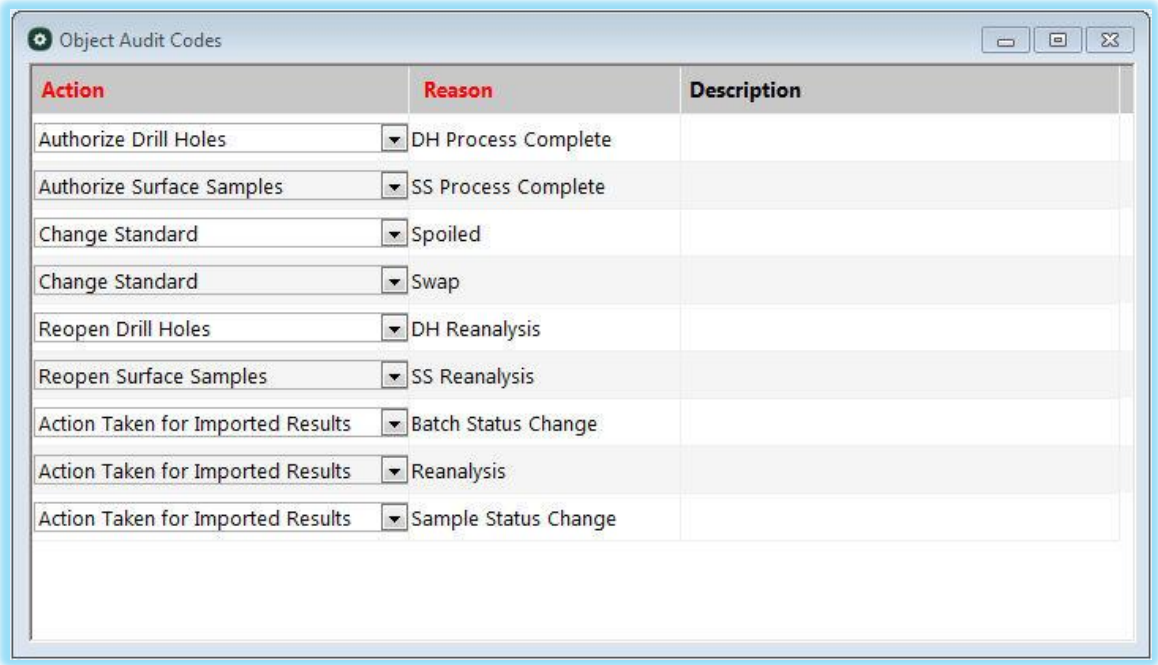


OBJECT AUDIT CODES

This list maintains a valid set of reasons for performing various actions in the applications. These reasons are usually tracked in the audit tables when the actions occur.

There is a static list of Actions that may require reasons to be entered. Each reason must be unique (regardless of the Action).

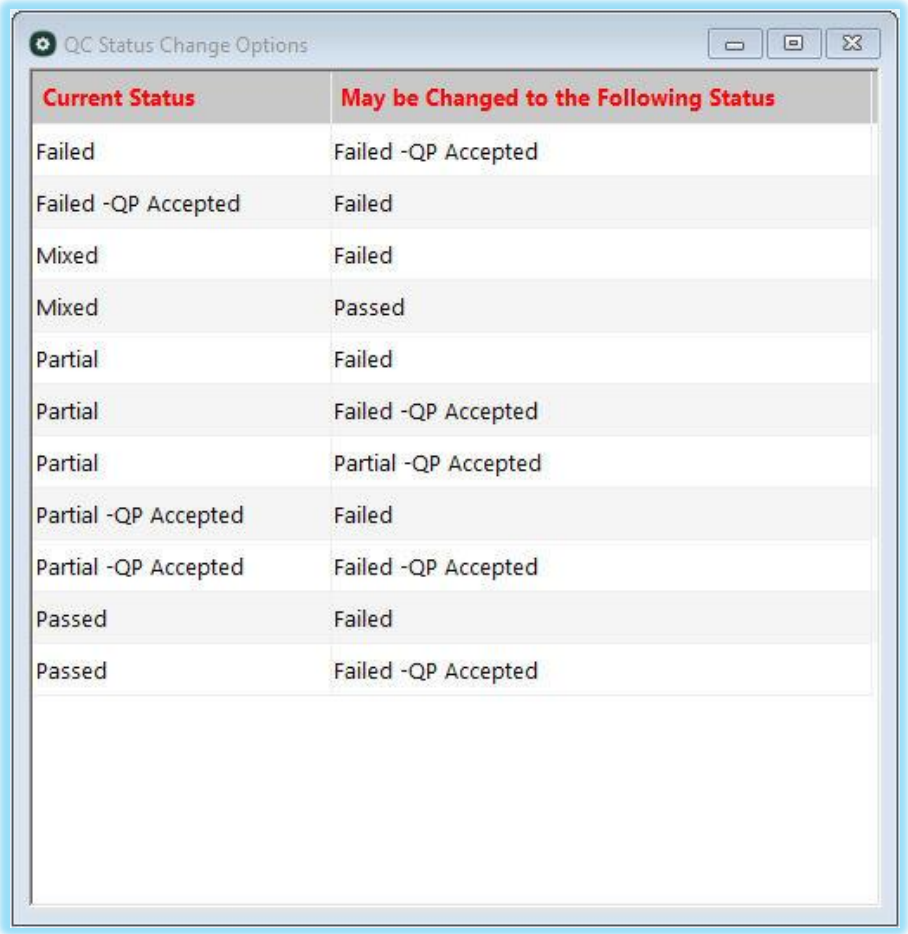
[Maintain > Reference Tables > Object Audit Codes…]



STATUS CHANGE OPTIONS

This list is used to store the valid options for changing Sample Status or Batch Status in the Batch Authorization module in DHLogger.

[Maintain > Reference Tables > Sample Definitions > Status Change Options…]



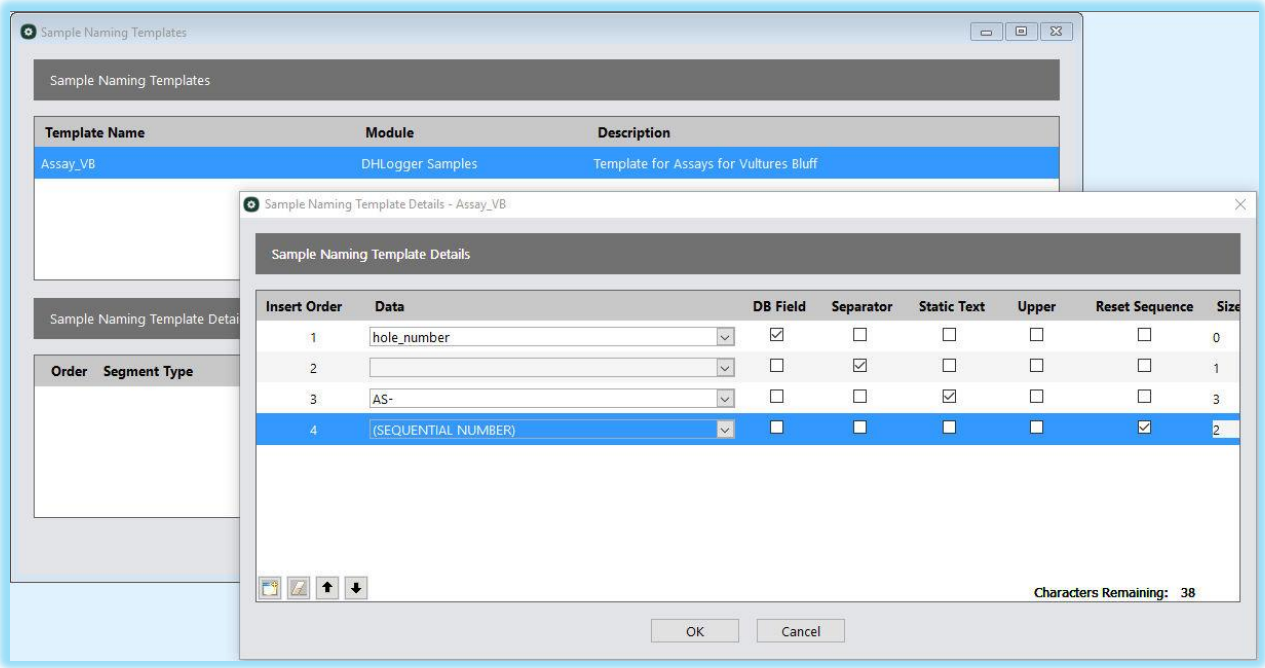
Current Status	May be Changed to the Following Status
Failed	Failed -QP Accepted
Failed -QP Accepted	Failed
Mixed	Failed
Mixed	Passed
Partial	Failed
Partial	Failed -QP Accepted
Partial	Partial -QP Accepted
Partial -QP Accepted	Failed
Partial -QP Accepted	Failed -QP Accepted
Passed	Failed
Passed	Failed -QP Accepted

SAMPLE NAMING TEMPLATES

Administrators can create a sample naming template for each Logging Style, for each Sample Type, if desired. These naming templates can ensure that there is a standard naming convention used in the database.

Administrators can create the many templates, then assign them in the Logging Style Administration window by double-clicking on the Sample Type under the specific logging style and selecting the desired template from the list.

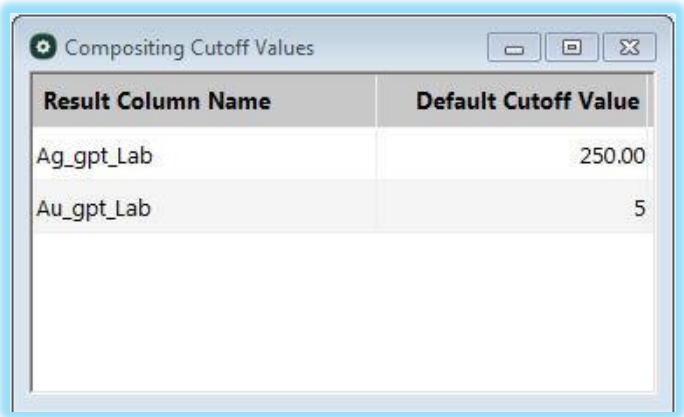
[Maintain > Reference Tables > Sample Definitions > Sample Naming Templates…]



- Templates can be created for DHLogger samples, Composite samples, Surface Samples, and QC samples.
- They can be created with a combination of Database Fields, Separators (hyphens, underscores), Static Text and Sequential Numbers.
- There is also a setting to have the sequence reset for each drill hole.

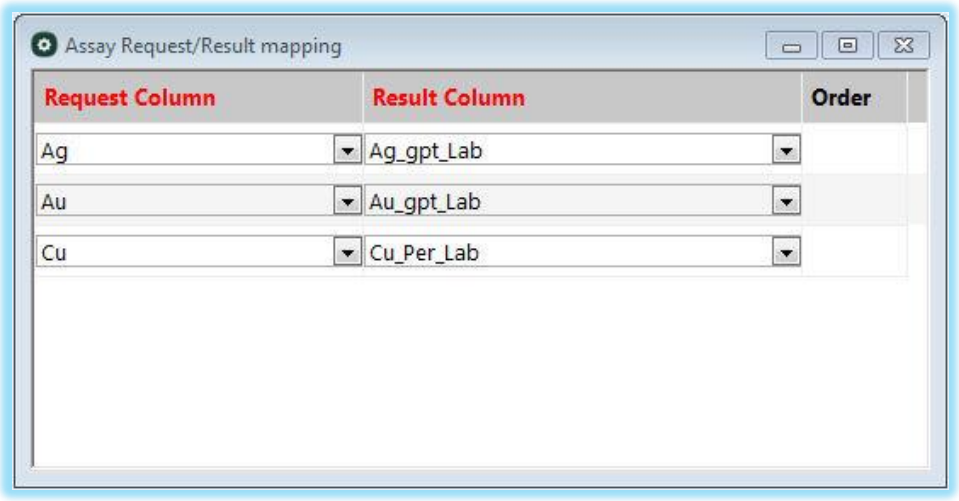
COMPOSITING CUTOFF VALUES

This list is used in the Worksheet, accessible in DHLogger from the Samples tab. It defines some cutoff values (maximums) that could be used when performing the average calculations in the worksheet.



REQUEST / RESULT MAPPING

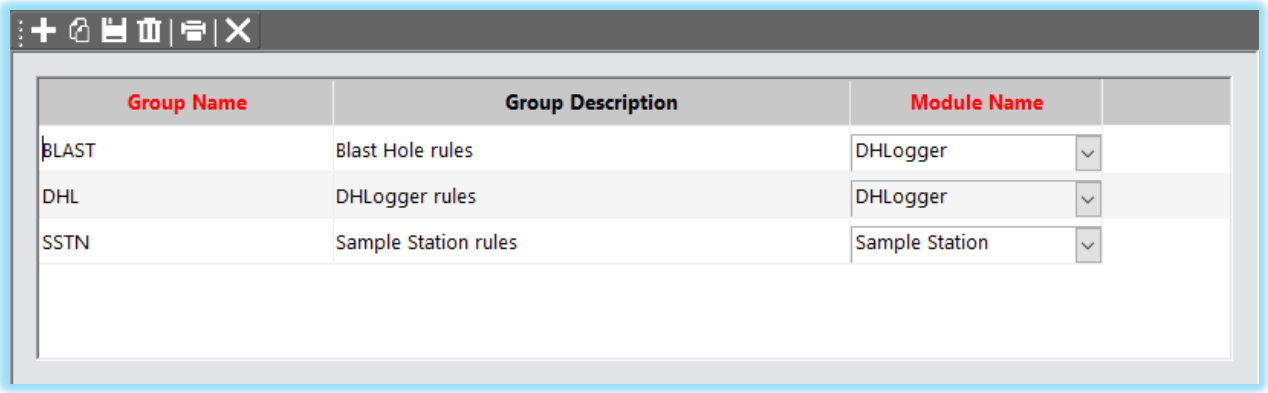
This list is used to make a connection between a custom storage field with checkbox style and a Result column. With this connection, the checkbox field could be used to identify whether a specific element was to be assayed. Then a report could be produced which would identify samples where the checkbox is checked, but the result column is still null (no results returned yet).



VALIDATION RULES GROUPS

Administrators can define groups to combine a set of validation rules to be run for a specified module.

[Maintain > Validation Rules > Validation Rules Groups…]



Hit the ‘New’ toolbar button to add groups or double-click to edit existing groups. The ‘Delete’ toolbar button allows you to delete the selected group.

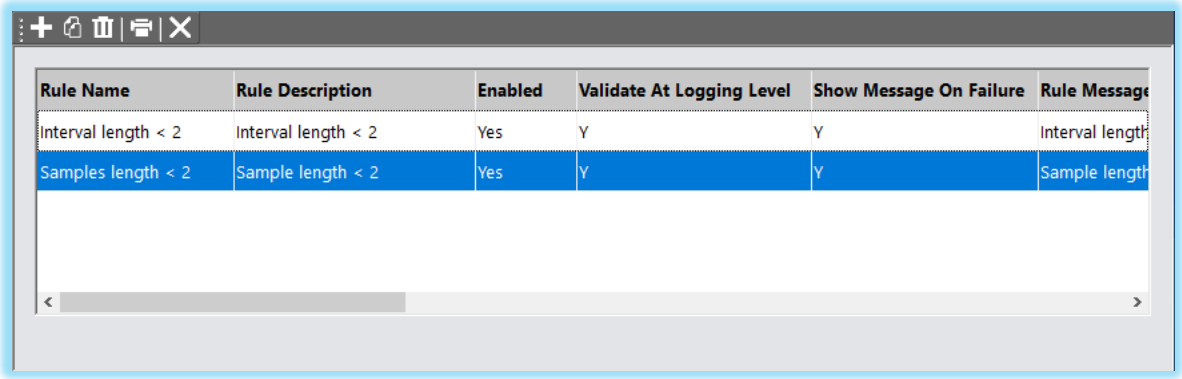
Validation Rules Groups can be limited by Business Unit on the Reference Codes to Business Units window if the Reference Codes Limited by Business Unit system preference is enabled.

[Options > System Administration > Reference Codes to Business Units…]

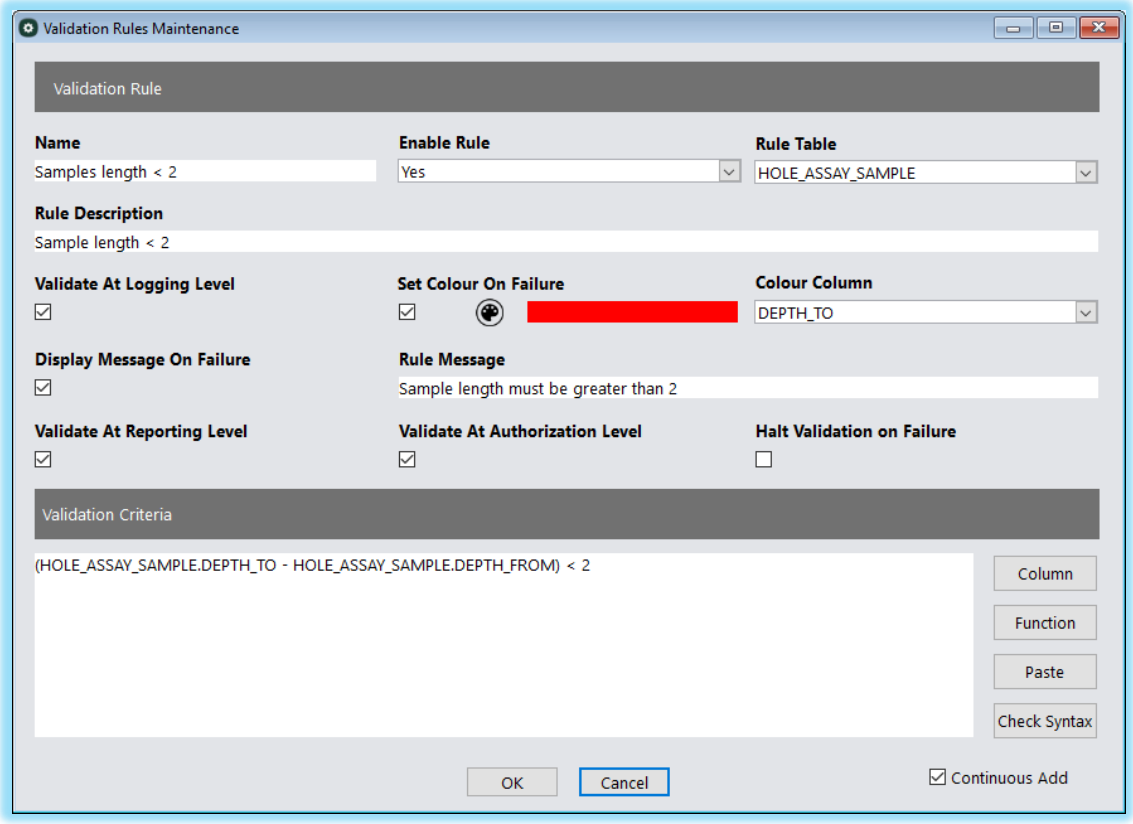
VALIDATION RULES

Administrators can configure validation rules to maintain the desired workflow and rules within the system. These rules can be used to validate data at a logging, reporting, or authorization level.

[Maintain > Validation Rules > Validation Rules…]



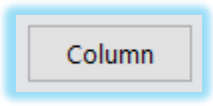
Hit the 'New' toolbar button to add validation rules or double-click to edit existing rules. The 'Delete' toolbar button allows you to delete the selected validation rule.



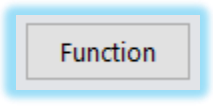
Below is a summary of the columns included and how they are used to define how data is received from the instrument.

Field Name	Description
Name	Identifies the name of the rule
Enable Rule	Identifies if the rule will be executed when validation rules are run
Rule Table	Defines the primary table for the rule
Rule Description	A description of the current rule
Validate at Logging Level	Identifies if the rule will be executed when data is being logged or imported
Set Colour On Failure	Identifies if the Colour Column text colour will be changed to the specified colour if the validation rule fails during logging
Colour Column	Identifies the column whose text colour will be changed when a validation rule fails based on the specified colour from the Set Colour On Failure column
Display Message On Failure	Specifies if a message is displayed when the validation rule fails
Rule Message	The message to be displayed when the rule fails
Validate at Reporting Level	Identifies if the rule will be executed when the validation report is run
Validate at Authorization Level	Identifies if the rule will be executed when a hole or sample are authorized
Halt Validation on Failure	Defines if the application will continue validating rules and will allow the user to continue with certain actions (quick transfer, leaving the current tab, adding new records, etc..)
Validation Criteria	This is the logic for the actual rule that will be executed. The format for the rule is standard SQL.

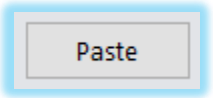
VALIDATION RULES CRITERIA The validation rules criteria is defined using standard SQL logic. The criteria is the WHERE clause of the SQL statement. A rule is considered to fail when results are returned that fit within the specified criteria.



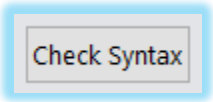
To view a list of available tables and columns for use in the validation criteria, click the Column button



To view a list of available functions for use in the validation criteria, click the Function button

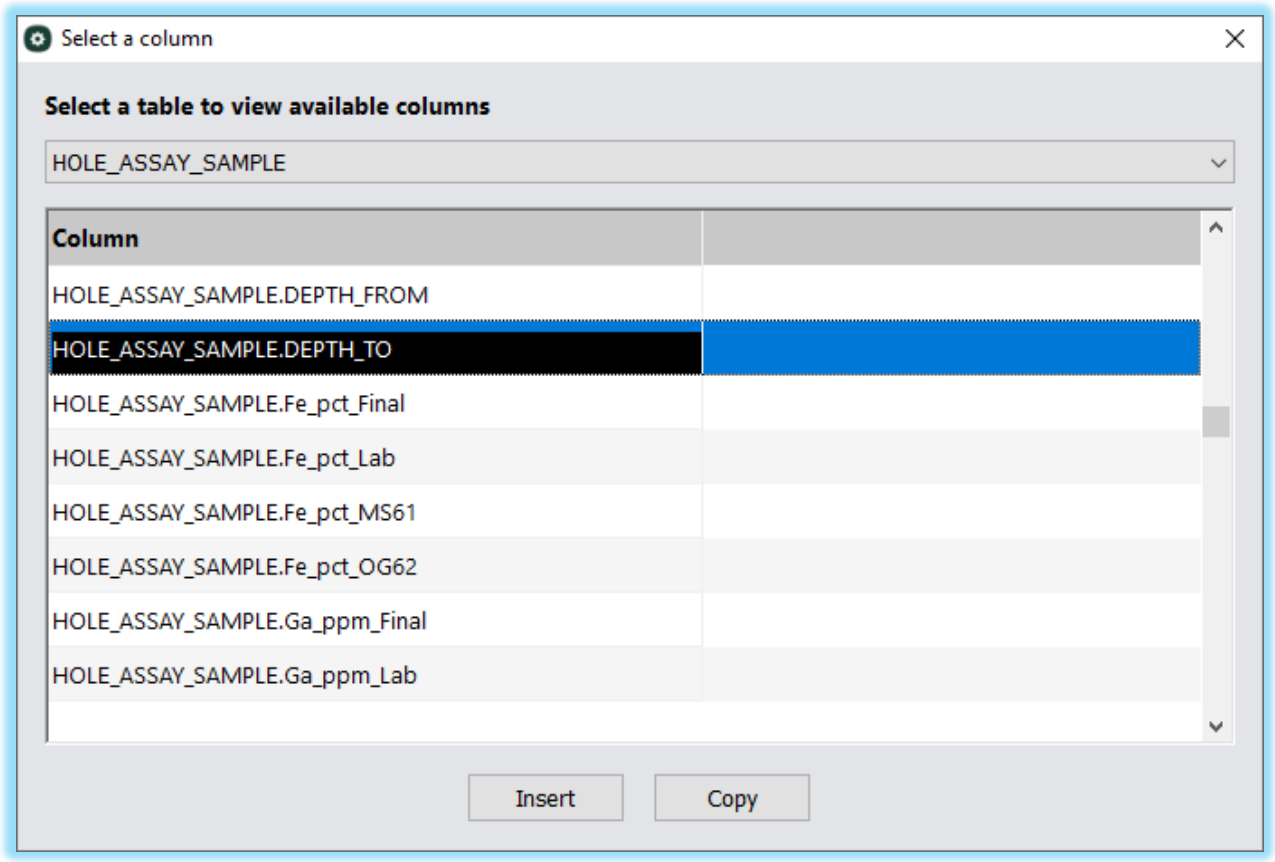


Click the Paste button to copy your selected Column, Function, or last item from your clipboard into the Validation Criteria at the current cursor position. The Ctrl-V hotkey will also perform the Paste.

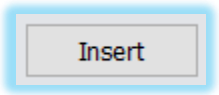


Click the Check Syntax button to verify your Validation Criteria is syntactically correct and can be executed. If not, a message will be displayed. Syntax is checked when hitting the OK button and must be valid to save the Validation Rule.

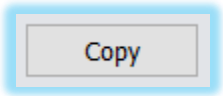
SELECT A COLUMN This is a list of available tables and columns for use in the Validation Rules Criteria.



Select a table from the pick list to view a list of all available columns within the selected table.

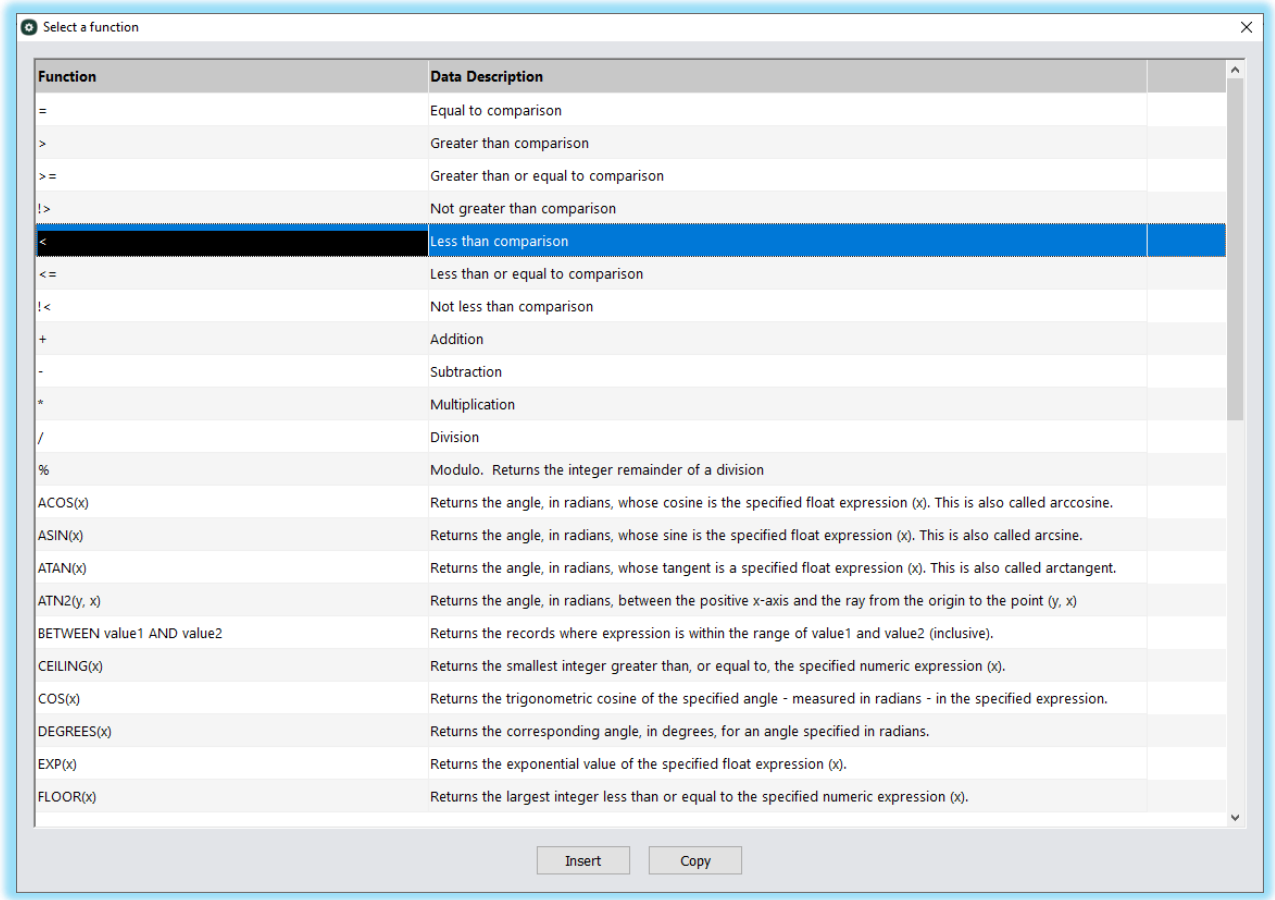


Click the Insert button to insert the column at the position of the cursor within the Validation Criteria statement.



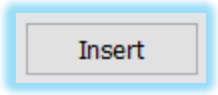
Click the Copy button to copy the column to your clipboard to paste into the Validation Criteria.

SELECT A FUNCTION This is the list of the most used functions and expressions available to use in the Validation Rules Criteria.

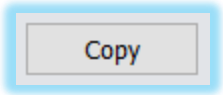


Select a function from the list. The Data Description gives a summary of how the function is used.

NOTE: The Function list is only a small subset of the available functions supported. We have just listed the most used functions.



Click the Insert button to insert the function at the position of the cursor within the Validation Criteria statement.

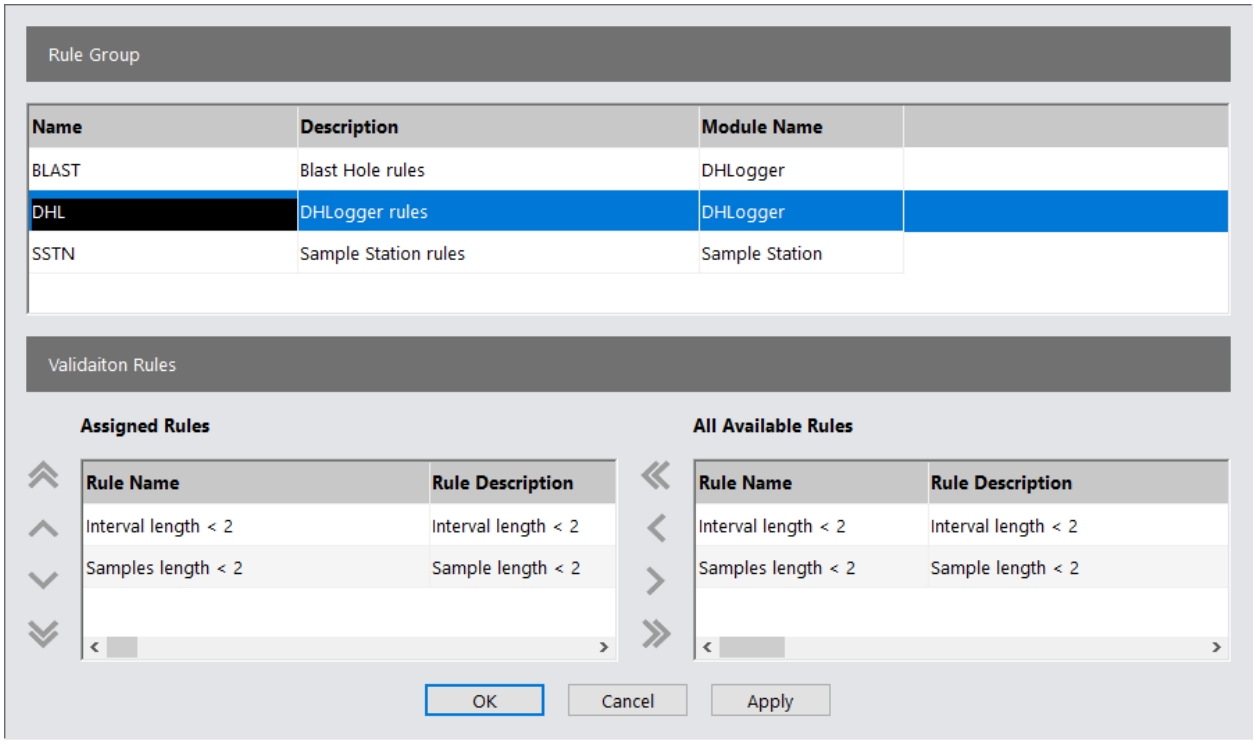


Click the Copy button to copy the function to your clipboard to paste into the Validation Criteria.

ASSIGN VALIDATION RULES TO GROUPS

Administrators can associate rules with a selected group.

[Maintain > Validation Rules > Assign Validation Rules to Groups…]



Drag rules back and forth between the Assigned Rules and All Available Rules sections for the selected group.

EXTERNAL DEVICE MANAGEMENT

This list is used to manage devices (phones) and QuickLogger licenses. The device ids are referenced during the External Transfer In and Out processes in DHLogger and Sample Station.