Datgel DATA SOLUTIONS
Geotechnics • Geoenvironment • Laboratory

User Guide

Datgel

Photo Tool gINT Add-In 3

DPT-UG-001 - 3.02

June 2011

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About Datgel Photo Tool 3

The Datgel *Photo Tool gINT Add-In* makes it quick and easy to link, organise and print core box photos, test pit photos, surface photos, sketches and more in gINT.

The photos are recorded in a table in gINT and sorted by depth or image number. Metadata such as date taken and description are also retrieved automatically. Included with the Photo Tool are graphic table and log reports, which can output your photos, grouped by PointID, ordered by depth or image number, and layouts of 1, 2 or 4 photos per page are available.

You need to complete the installation procedure (see Installation & Licensing on *page 1*) and activate (see *Datgel Product Licensing System User Guide*) before you can use the Photo Tool.

New in Version 3 (May 2011)

1. Tool now supports gINT Professional Plus SQL Server databases, as well as Access databases
2. New field to support SQL Server: PROJECT.Parent_Initial_Image_Folder; Optional for Access, required for SQL Server. Stores the parent folder/directory path containing the sub-folders of images
3. Reports now accept Image Number with Alphanumeric strings, and will order photos
4. File naming validation reported when linking images, including:
    - File extension
    - Non-existent PointIDs
    - Depth > Bottom
    - Depth or Bottom > Hole Depth
5. User definable order of Image Types in combo box on Photo Tool form
6. Library reporting code optimised and reorganised

New in Version 2 (June 2009)

1. Description text configuration, to allow the user full control over what identification and description information displays below the photos on reports.
2. New images types
3. Title block on Graphic Table reports, making the reports instantly usable and presentable.
4. Example log showing images by depth, which allows you to copy the example of a downhole image into your existing gINT log report.
5. More graphic table reports for samples and vibrocores
6. Hardware Key licensing with Single User and Network options
7. Improved documentation

Support

12 months support and maintenance is included with the license purchase. For technical support please email support@datgel.com or call +61 2 8202 8600.

Note: Please check that you have named the files and folder correctly (as described in section 2.1) before contacting us.

System Requirements

gINT

The product runs optimally using gINT 8.3 or higher, however it will run using gINT 8.1 or higher.

gINT Professional or gINT Professional Plus is required since the tool uses Graphic Table reports.

Photo Tool version 3 is designed for use with a gINT SQL Server database or Access database

Hardware and Operating System

Same system requirements as gINT 8.3, see: http://www.gintsoftware.com/products_requirements.html.

Required Windows Components

1. Windows Installer 3.1
2. .NET 3.5 Framework SP1

Conventions and typography used in this guide

Note: Tips and additional Information to help you.

>	Used to indicate a series of menu commands. e.g. Select **File > Open**.
|	Used to indicate a gINT Application Group, Application, Table Group or Table , e.g. **DATA DESIGN | Project Database**
Bold Text	Items you must select, command buttons, or items in a list. e.g. Navigate to **UTILITIES | Convert Projects** (4th tab).
Italics Emphasis	Use to emphasize the importance of a point such as parameters. e.g. Data Entry – Check *Omit Must Save prompt when save is required*
CAPITALS	Names of keys on the keyboard. for example, SHIFT, CTRL, or ALT.
KEY+KEY	Key combinations, for example CTRL+P, or ALT+F4.
`Code Snippet`	Indicates a code snippet within a paragraph
`Code sample`	Indicates a sample program codes inserted in user guide e.g. `public override string ToString ()`
`File name or path`	Used for formatting file name and paths e.g. `di_lib.glb` or `V:\10 gINT\Datgel Install Files\`
Table_Name	Database table name, e.g. POINT_TABLE.
Field_Name	Database field name; e.g. PointID
Command line	Command line, presented exactly as it must be entered e.g. **cdir**

1 Installation & Licensing

1.1 Installation Overview

There are four parts to the installation process:

- Install DLL programs
- Merge gINT library objects
- Merge gINT project table to your project file and your data template
- Activate the product license

The *first three* steps can be performed in any order and are described below. The activation procedure must be done last and is described in the *Datgel Product Licensing System User Guide*.

1.2 Package Contents

Your software purchase may have come with the following contents:

- Applications CD which normally has the following folders:
  `\Datgel Photo Tool X.X.X\Documentation`
  `\Datgel Photo Tool X.X.X\gINT Files`
  `\Datgel Photo Tool X.X.X\Installation files`
  `\Datgel Network License Server`
- A hardware license key

1.3 Before Installation

A few basic preparations can help ensure an effortless installation.

- Make sure that the computer where you plan to install the program meets the minimum system requirements.
- Connect your PC to Internet before installation (must have a working Internet connection).

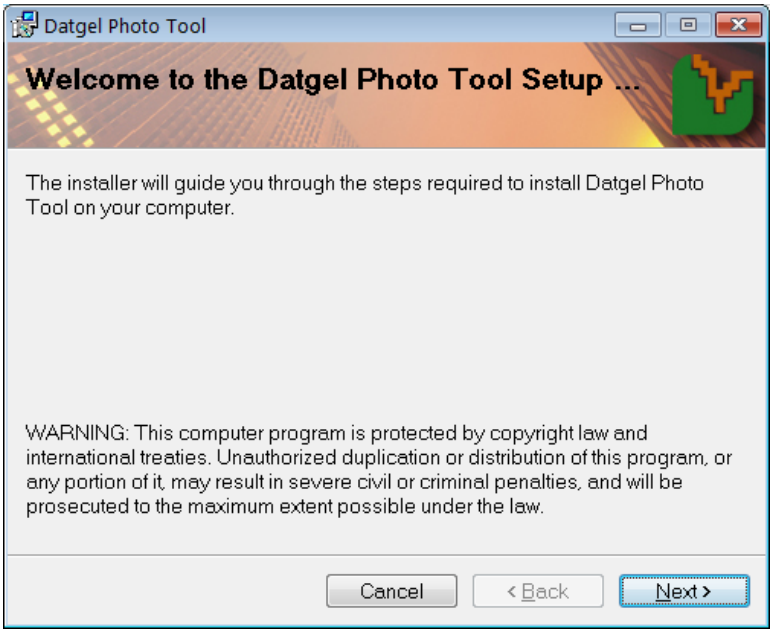
  The Photo Tool requires that the Windows Installer 3.1 and Microsoft .net 3.5 framework SP1 is installed on the PC prior to the installation of the Tool. If your PC does not have these installed, then they will be automatically downloaded and installed during the Tool installation process.
- Log into the PC with Administrator privileges before starting installation.
- It is recommended that you exit out of other applications that maybe running on your PC.
- Close gINT before you start installation.
- Keep the serial number and license number handy.

1.4 Install DLL Programs

3. If you are upgrading from version 2.XX, follow these steps as well.
4. If you received an installation CD, then insert the CD and browse to the folder
   `\Datgel Photo Tool X.X.X\Installation Files\Setup.exe`
5. Double click the file named `Setup.exe`
6. Click **Run** to begin installation.

   Follow the on screen instructions when installation begins:

7. Click **Next** on the *Welcome to the Datgel Photo Tool Setup* dialog.



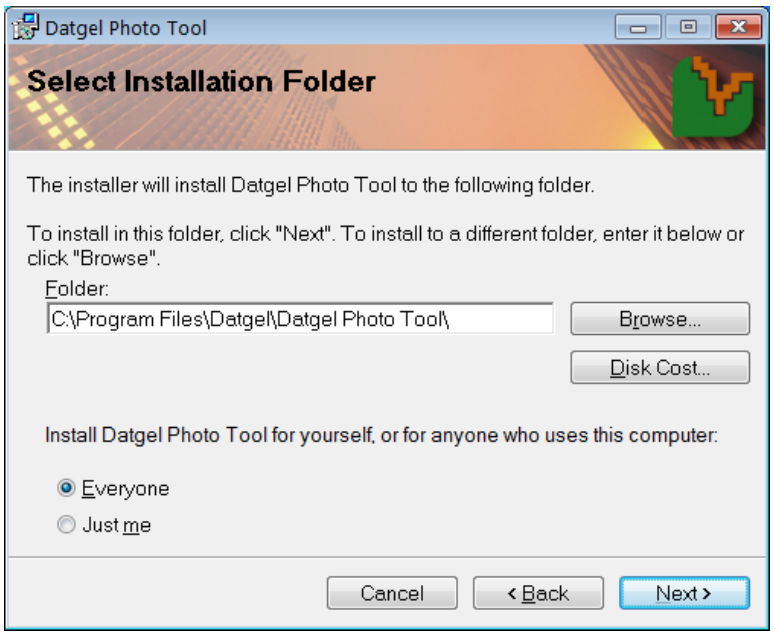
8. Scroll and carefully read the *License Agreement*, and choose option **I Agree**, and click **Next.**

Alternatively choose *I Do Not Agree* and click Cancel if you disagree with the license agreement. The installation will stop and exit.

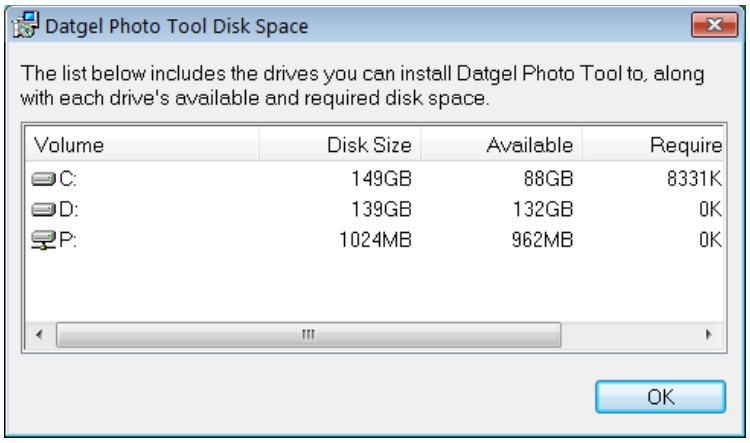
9. On the *Select Installation Folder* dialog, either accept the default folder (recommended) or select **Browse** to specify the folder where you want to install the Photo Tool Add-In.

   Leave *Everyone* bulleted to indicate that anyone logged onto the PC can use the Photo Tool Add-In.

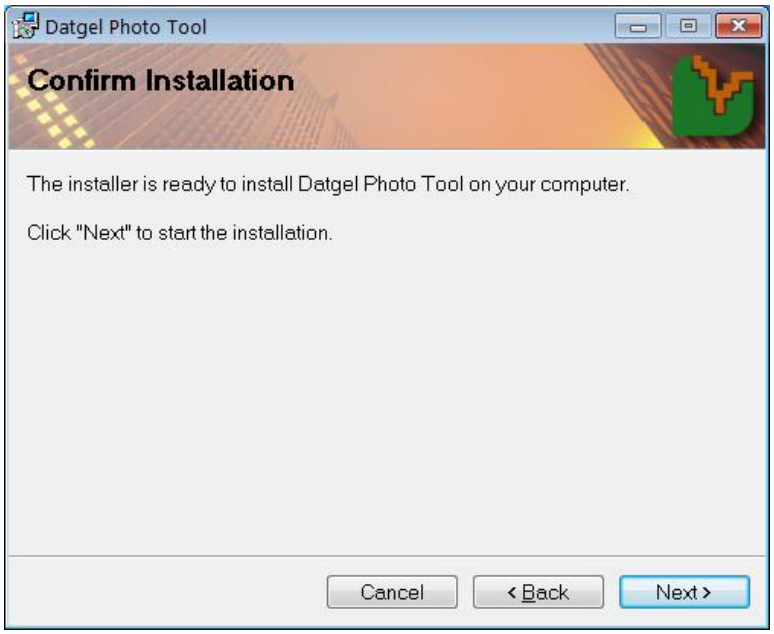
   Click **Next** when ready.



Optional: Click on **Disk Cost** to view the disk space statistics. Click **OK** when done.

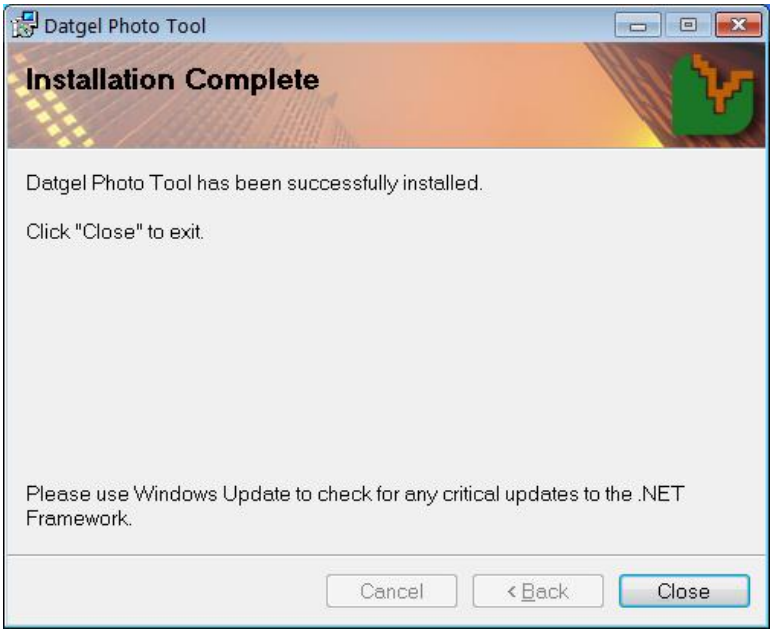


10. Click **Next** to start installation.



11. Observe the progress bar to monitor installation progress.

12. Click **Close** when the *Installation Complete* dialog is displayed.



1.5 Merge gINT Library Objects

IMPORTANT In the trial version of the Photo Tool, the library will be locked and you cannot merge any gINT Library Objects into your Library file, or make changes to this Library file. In this case, you have to use the locked library as-is.

If you have purchased the Photo Tool, then you have full access to the library objects, and you may proceed with the following steps to merge the gINT Library components into your Library file.

1. Make a backup copy of your existing library file. By default this is located in:

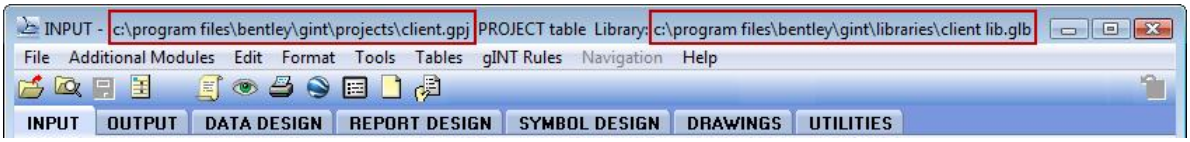
   `C:\Users\Public\Documents\Bentley\gINT\libraries`

   Or

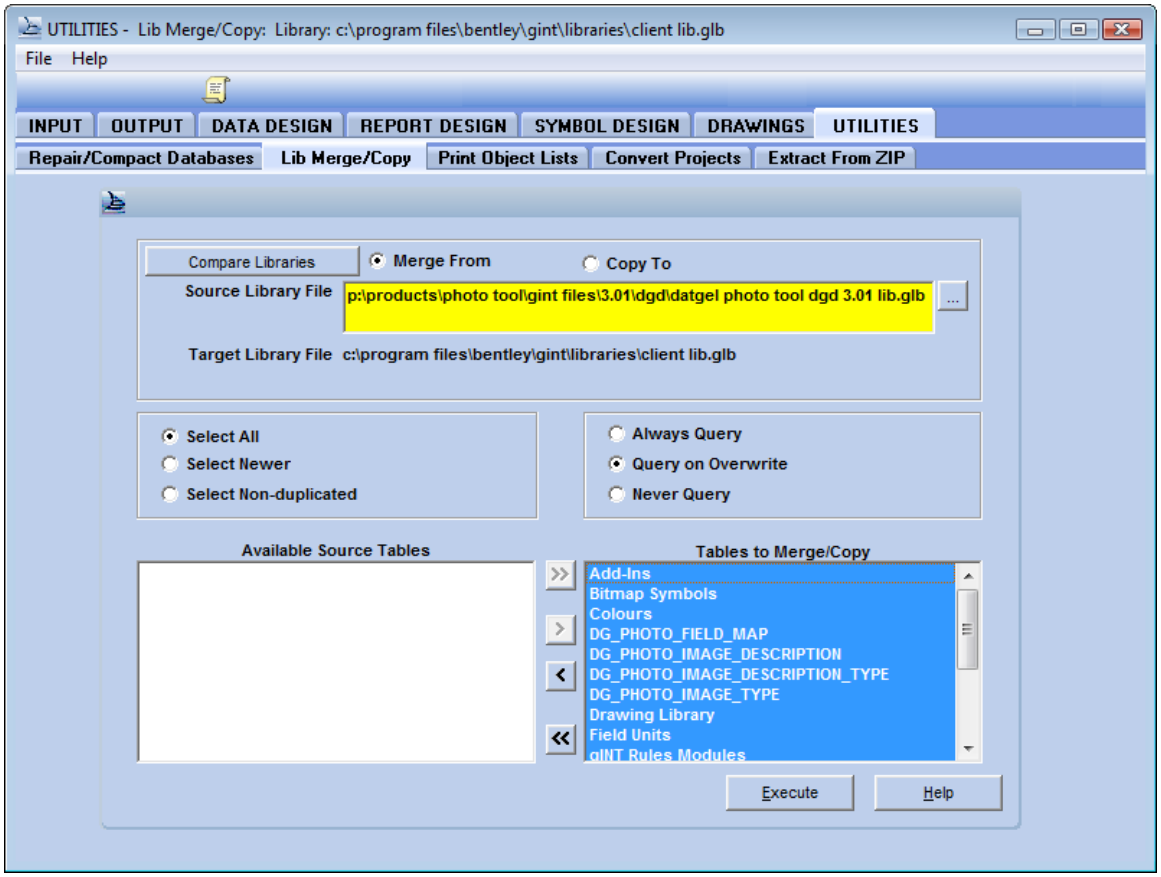
   `C:\Program Files\gINT\Bentley\Libraries\`

2. Open Windows Explorer and copy the `gINT Files` folder from the installation CD to your Desktop.
3. Start gINT and open the library and project file you wish to use with Datgel Photo Tool.

   The opened project and library files are displayed at the top of the gINT Window.



4. Select **UTILITIES | Lib Merge/Copy**.



5. Check the bullet that reads **Merge from**.
6. In the *Source Library File* pane, browse to the `gINT Files` folder (that you previously copied from the installation CD to your Desktop) for the file `Datgel Photo tool <DGD or AGS RTA> ## lib.glb` where `##` is the version number.

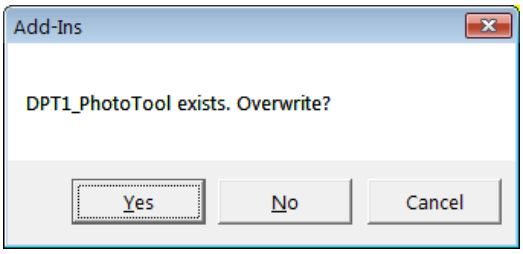
> **IMPORTANT** If you are currently using an AGS RTA type database you should select the `Datgel Photo tool AGS RTA ## lib.glb` as the Source Library File. If you are not using an AGS RTA type database you can chose either library file, however we would recommend DGD.

> **IMPORTANT** Make a note of which source library file you merge as you will need this information in Section 1.6

7. Check the bullet that reads **Select All**.
8. Check the bullet that reads **Query on Overwrite.**

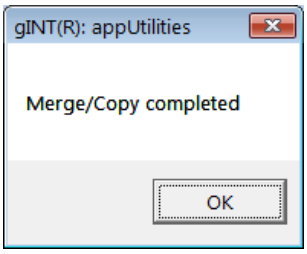
9. Click » button to move all tables from the *Available Source Tables* pane on the left to the *Tables to Merge/Copy* pane on the right side.
10. Click **Execute**.

    Take care to read the overwrite dialog and click **Yes** if you wish to overwrite the file, ELSE click **No**.



    This will merge in the Add-In menu item, Image Type lookup list, gINT Rules modules, graphic tables, log reports and user system data, which are all related to the Tool.

11. Click **OK** to finish the merge.



1.6 Merge gINT Project Table

1. Make a backup copy of your existing project file. By default this is located in:

   `C:\Users\Public\Documents\Bentley\gINT\Projects\`

   Or

   `C:\Program Files\Bentley\gINT\Projects\`

2. Start gINT and open the library and project file you wish to use with Datgel Photo Tool.
3. Select **DATA DESIGN | Project Database**.

   OPTIONAL If you get the message *Use the File menu to select or create a database*, then select **File > Open File > Open Project**, browse to the location you have your project file (`.gpj`) stored at, click on the project file name, and click **Open**.

4. Select **File > Open File > Current Project…** to open your current project file.
5. Select **Tables > Merge all Tables and Fields...** then browse to the `gINT Files` folder (that you previously copied from the installation CD to your Desktop) and select the file `Datgel Photo Tool <DGD or AGS RTA> ##.gpj` where `##` is the version number.

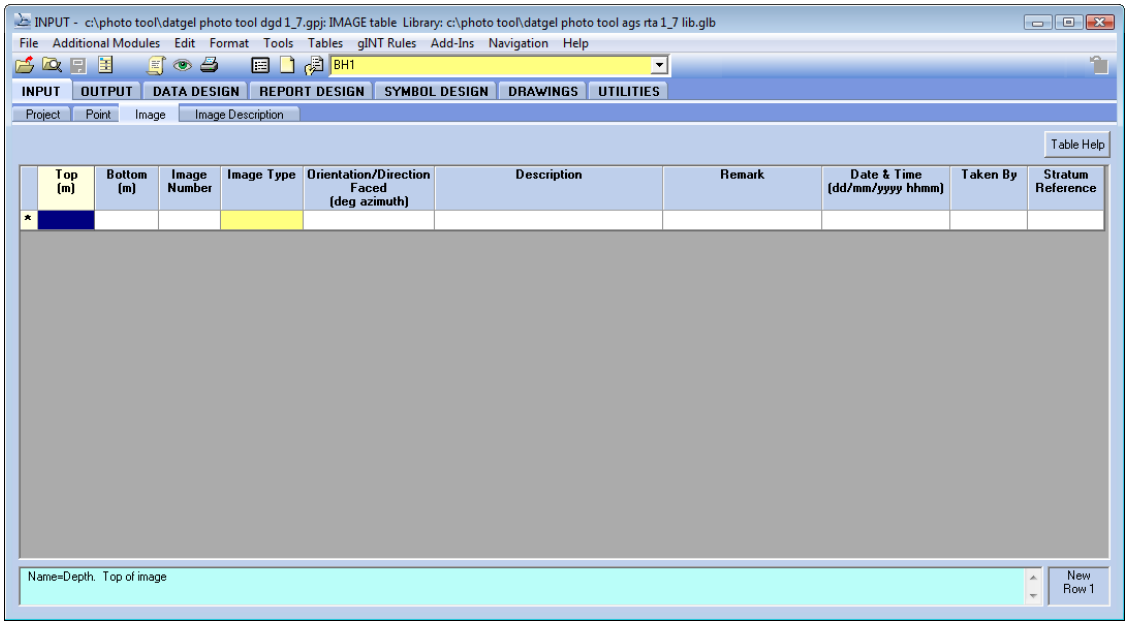
   IMPORTANT If you are currently using an AGS RTA type database you *must* select the `Datgel Photo tool AGS RTA ##.gpj` as the Source Database File.

   If you previously merged the `Datgel Photo tool AGS RTA ## lib.glb` in Section 1.5, you *must* use the `Datgel Photo tool AGS RTA ##.gpj` as the Source Database File.

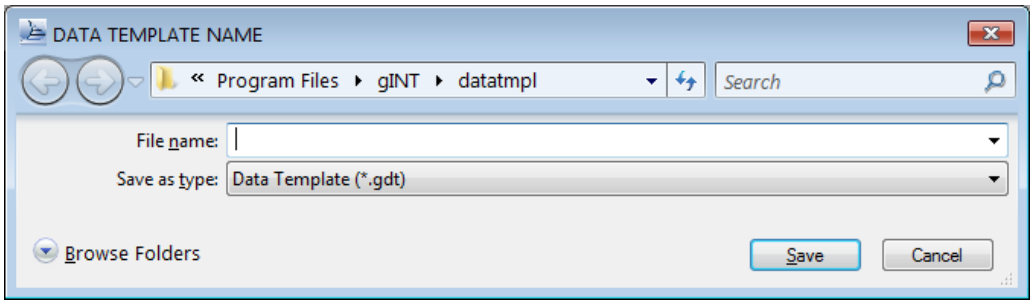
   If you previously merged the `Datgel Photo tool DGD ## lib.glb` in Section 1.5, you *must* use the `Datgel Photo tool DGD ##.gpj` as the Source Database File.

   Click **Open.**

6. Change to the PROJECT table, and review/delete fields. Ensure Parent_Initial_Image_Folder is retained.
7. Select **INPUT | Main Group** to review the new IMAGE and IMAGE_DESCRIPTION table. The order in which the Image and Image Description tab appears in gINT INPUT can be changed in the **Tables > Input Sequence…** menu option. We suggest IMAGE comes before IMAGE_DESCRIPTION.



8. In the IMAGE_DESCRIPTION table is empty, import data from `Datgel Photo Tool <DGD or AGS RTA> ##.gpj` for this table only.
9. Select **Tools > Make Data Template** to either create a new data template, or write over an existing one to ensure your data template has the new table.



10. Click **Save** when finished.
11. Once you have completed the above steps you can now delete the `gINT Files` folder that you previously copied onto your Desktop.

1.7 Validate or Activate License

After installation (and before using the Photo Tool Add-in), validate or activate the user license as described in Chapter 2 of the *Datgel Product Licensing System User Guide*.

1.8 Upgrading from Version 1 or 2

1. Installed the new DLL program, by running the **setup.exe** file. There is no need to uninstall the old version.
2. Make a backup of your library and project/data template.

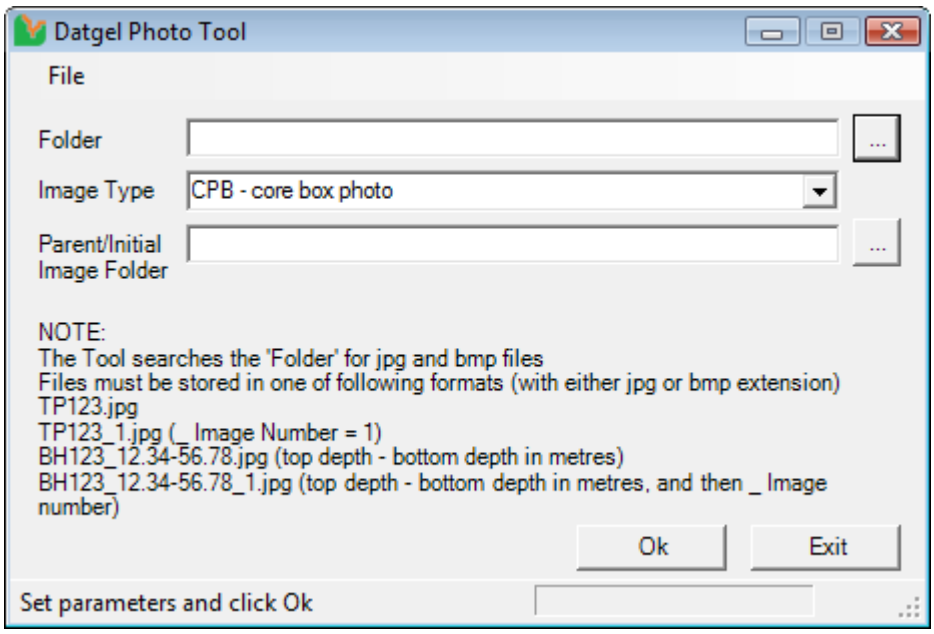
3. Go to **DATA DESIGN | Library Tables**, and delete the table DG_PHOTO_IMAGE_TYPE. Or if you prefer, add a field named Order with an Integer Type, and then populated the field in **Library Data** with the desired order as described in section 2.3.
4. Merge all library objects, and the project table, as described in the steps 1.5 & 1.6 above. Note this will overwrite existing reports.

2 Using the Tool

2.1 Linking the images to the database

1. Start gINT and open the library and project file you wish to use with Datgel Photo Tool.
2. Click **INPUT**.
3. Select **Add-Ins > Datgel Photo Tool > Datgel Photo Tool** to launch the add-in.

4. On the Datgel Photo Tool dialog, browse to the folder where the images are located.



- **Folder**: Folder containing the photos to be linked to the gINT project.
- **Image Type**: Type of image in the folder. This will be written to the project database Image_Type field.
- **Parent/Initial Image Folder**: Optional for Access, required for SQL Server. Stores the parent folder/directory path containing the sub-folders of images. A **** at the end is not required. Hence you can store the photos folders in a different folder to the gINT project file, but you must provide the path of the parent folder to allow the photos to be output.

5. In the Image type drop down list, select the image type, and click **Ok to import the photo file information into the Image table**. Once the image file information has been imported, the photos can be outputted onto the Graphic Table reports.

   The file names must follow the format described in the above screenshot.

   The file naming format for all photo image types is
   `<PointID>_<Depth>-<Bottom depth>.<jpg or bmp>` OR
   `<PointID>[_<image number>].<jpg or bmp>`
   Either format is acceptable.

If **Parent/Initial Image Folder** is empty, the image files must be placed in a folder with a specified name, and the folder must be placed in the same directory as the project file.

Alternatively, if the **Parent/Initial Image Folder** is set, the image files must be placed in a folder with a specified name, and the folder must be placed in the **Parent/Initial Image Folder**.

The table below explains the folder naming format.

The photo import form can accept depth and bottom depth formats “00.00” or “000.00” for photos e.g. 03.34 and 17.40 or 108.00 and 021.53. However, the Graphic Reports can only handle one format only. The format which the Graphic Reports can handle can be configured in **DATA DESIGN > User System Data** tab, select **DG Photo Depth Num Dec** from the yellow drop down pick list, and modify the format.

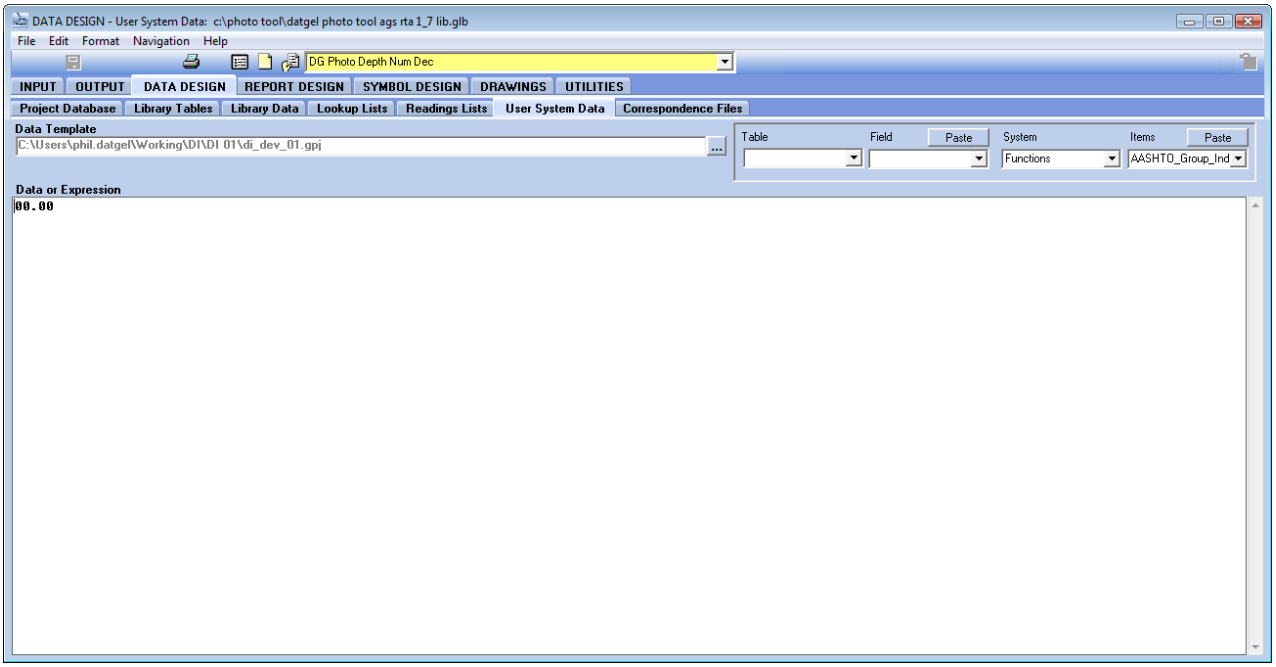
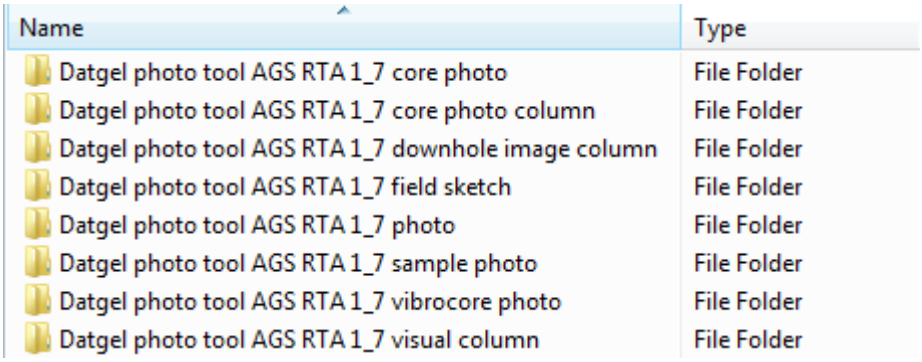


Table 1 Folder Naming Format

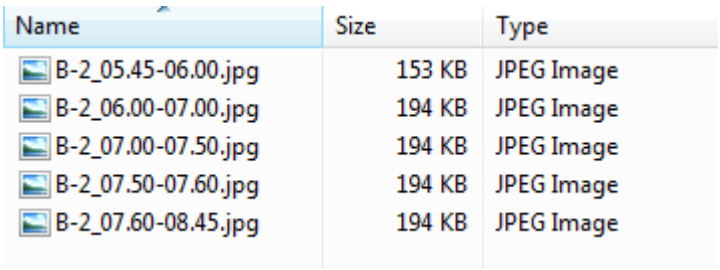
Image Code	Description	Folder Name
CPB	Photo of a core box	<Project file name or Project Unique ID> core photo
CPC	Photo of a core length	<Project file name or Project Unique ID> core photo column
DIC	Downhole Image	<Project file name or Project Unique ID> downhole image column
FS	Sketch of a test pit face, exposure or traverse	<Project file name or Project Unique ID> field sketch
SP	General surface photo	<Project file name or Project Unique ID> photo
SS	General surface sketch	<Project file name or Project Unique ID> photo
SSP	Sample Photo	<Project file name or Project Unique ID> sample photo
TRP	Test pit, exposure or traverse photo	<Project file name or Project Unique ID> photo
VCP	Vibrocore Photo	<Project file name or Project Unique ID> vibrocore photo
VSC	Sketch of core length	<Project file name or Project Unique ID> visual column

An example of the folder and file naming formats are shown below. In this example the project file name is `Datgel photo tool AGS RTA 1_7.gpj`.

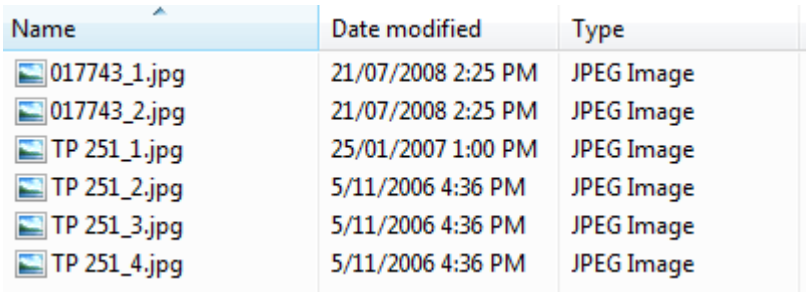
If an SQL Server database is used, the **Project Unique ID** is used in place of the gINT Project file name for folder names. The **Project Unique ID** is the number/code listed on the PROJECT table.



Name	Type
Datgel photo tool AGS RTA 1_7 core photo	File Folder
Datgel photo tool AGS RTA 1_7 core photo column	File Folder
Datgel photo tool AGS RTA 1_7 downhole image column	File Folder
Datgel photo tool AGS RTA 1_7 field sketch	File Folder
Datgel photo tool AGS RTA 1_7 photo	File Folder
Datgel photo tool AGS RTA 1_7 sample photo	File Folder
Datgel photo tool AGS RTA 1_7 vibrocore photo	File Folder
Datgel photo tool AGS RTA 1_7 visual column	File Folder



Name	Size	Type
B-2_05.45-06.00.jpg	153 KB	JPEG Image
B-2_06.00-07.00.jpg	194 KB	JPEG Image
B-2_07.00-07.50.jpg	194 KB	JPEG Image
B-2_07.50-07.60.jpg	194 KB	JPEG Image
B-2_07.60-08.45.jpg	194 KB	JPEG Image



Name	Date modified	Type
017743_1.jpg	21/07/2008 2:25 PM	JPEG Image
017743_2.jpg	21/07/2008 2:25 PM	JPEG Image
TP 251_1.jpg	25/01/2007 1:00 PM	JPEG Image
TP 251_2.jpg	5/11/2006 4:36 PM	JPEG Image
TP 251_3.jpg	5/11/2006 4:36 PM	JPEG Image
TP 251_4.jpg	5/11/2006 4:36 PM	JPEG Image

6. When you have selected the folder with the images, click **Ok**. The tool will now update the database.

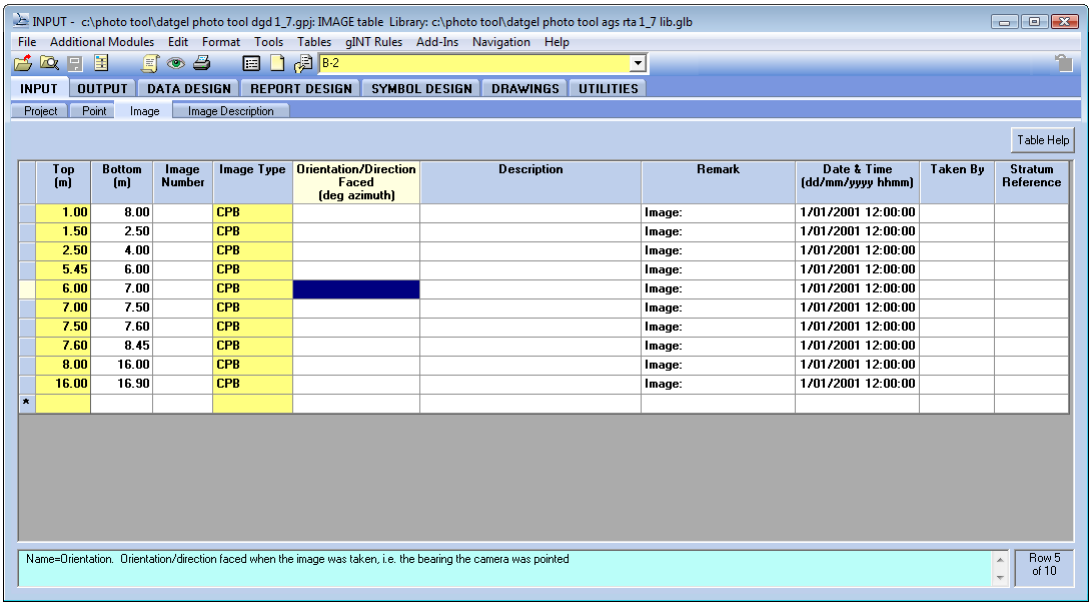
   Overwrite problems and file naming validation will be reported. Validation test include:

   - File extension
   - Non-existent PointIDs
   - Depth > Bottom
   - Depth or Bottom > Hole Depth

7. You may run the tool numerous times. When ready, click **Exit** to return to **gINT INPUT**.
8. Select **INPUT | Main Group | Image** to check the fields have been populated.

   Check that you have the corresponding *PointID* selected.

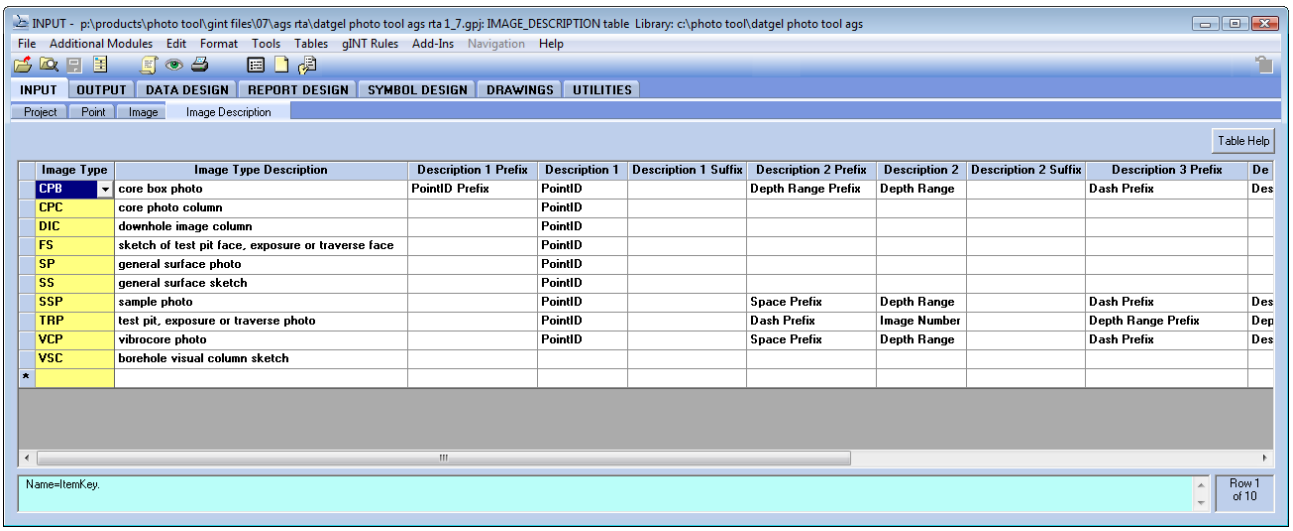
   If you had the image tab opened prior to using the tool, you should instantly see the new records.



2.2 Configuring the Description Text

The description text that appears below each photo in the Graphic Table reports is configurable. The description text is built up of up to four description entities, and a prefix and suffix for each description entity. The description entity, prefix and suffix may refer to data in fields from the IMAGE table or may simply be a word or character. Each image type may have a particular description set.

The description (root), prefix and suffix entities to display under each photo on the Graphic Table reports are set in the IMAGE_DESCRIPTION table.



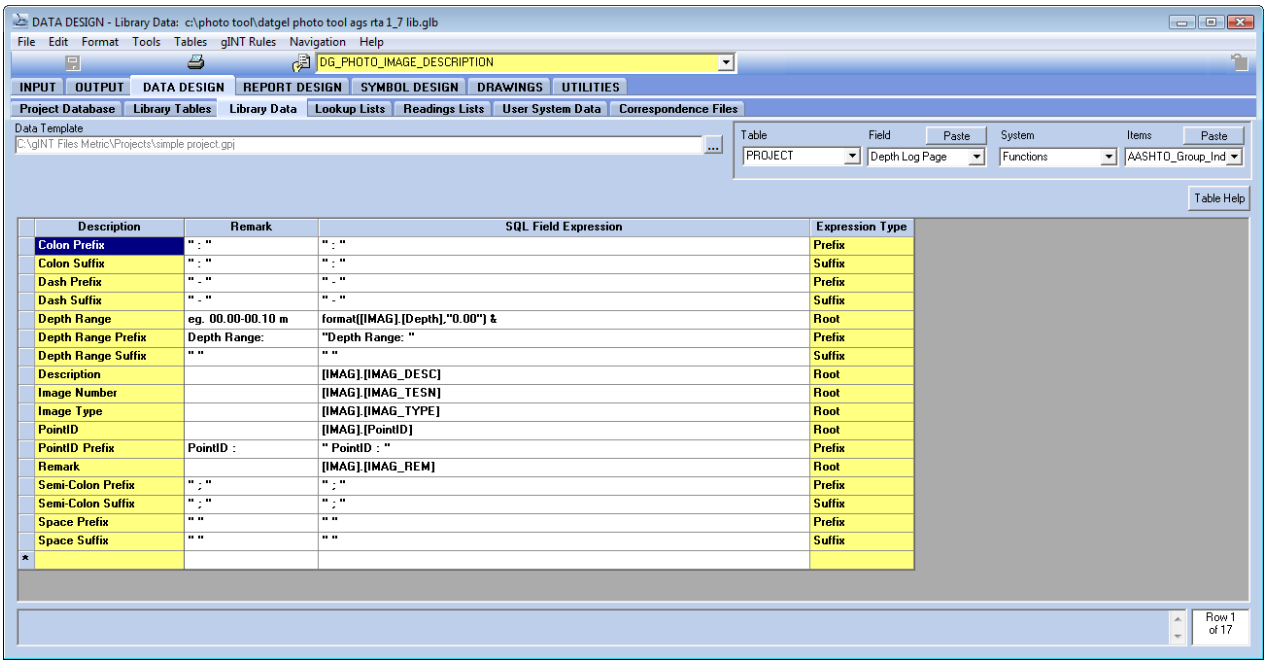
There are four description entities, depicted in the fields Description_1, Description_2, Description_3 and Description_4. Each Description fields have a field for the prefix and suffix, and are named Description_1_Prefix, Description_1_Suffix and so on. Each of these fields has a pick list, where you can choose the appropriate prefix, description and suffix entities for each image type. The entities will print in ascending order, left to right so for example, Description_1 will print before Description_2.

Note that the prefix and suffix will only print if the corresponding description returns a value.

The pick list values come from the library table DG_PHOTO_IMAGE_DESCRIPTION. The most common types of descriptions, prefixes and suffixes are provided, but you can create your own or modify any of the existing ones in this table.

Note: Knowledge of the SQL language may be required to configure the DG_PHOTO_IMAGE_DESCRIPTION table.

The DG_PHOTO_IMAGE_DESCRIPTION table has three fields of importance – Description, SQL_Field_Expression and Expression_Type.



The Description field is the name of the description, prefix or suffix as it will appear on the IMAGE_DESCRIPTION table and in the drop down list for each of the fields. The remark field may be used to clarify the description entity and will appear in the 2nd column in the drop down list in the IMAGE_DESCRIPTION table.

The SQL Field Expression field is where the expression to print the description, prefix or suffix is entered. Each expression as entered in the IMAGE_DESCRIPTION table is concatenated with a " & " for each Image Type and inserted into the SELECT statement of an SQL query that builds the description text for each photo on output.

Therefore, the values entered in the SQL Field Expression field must form a valid SQL SELECT statement, or else the entire description text will fail to print. The Table and Field Data Tool can be used to insert Table/Field references. To insert the table/field reference formatted to the SQL format [Table].[Field], right-click on the Paste button after selecting the table and field from the drop down pick lists.

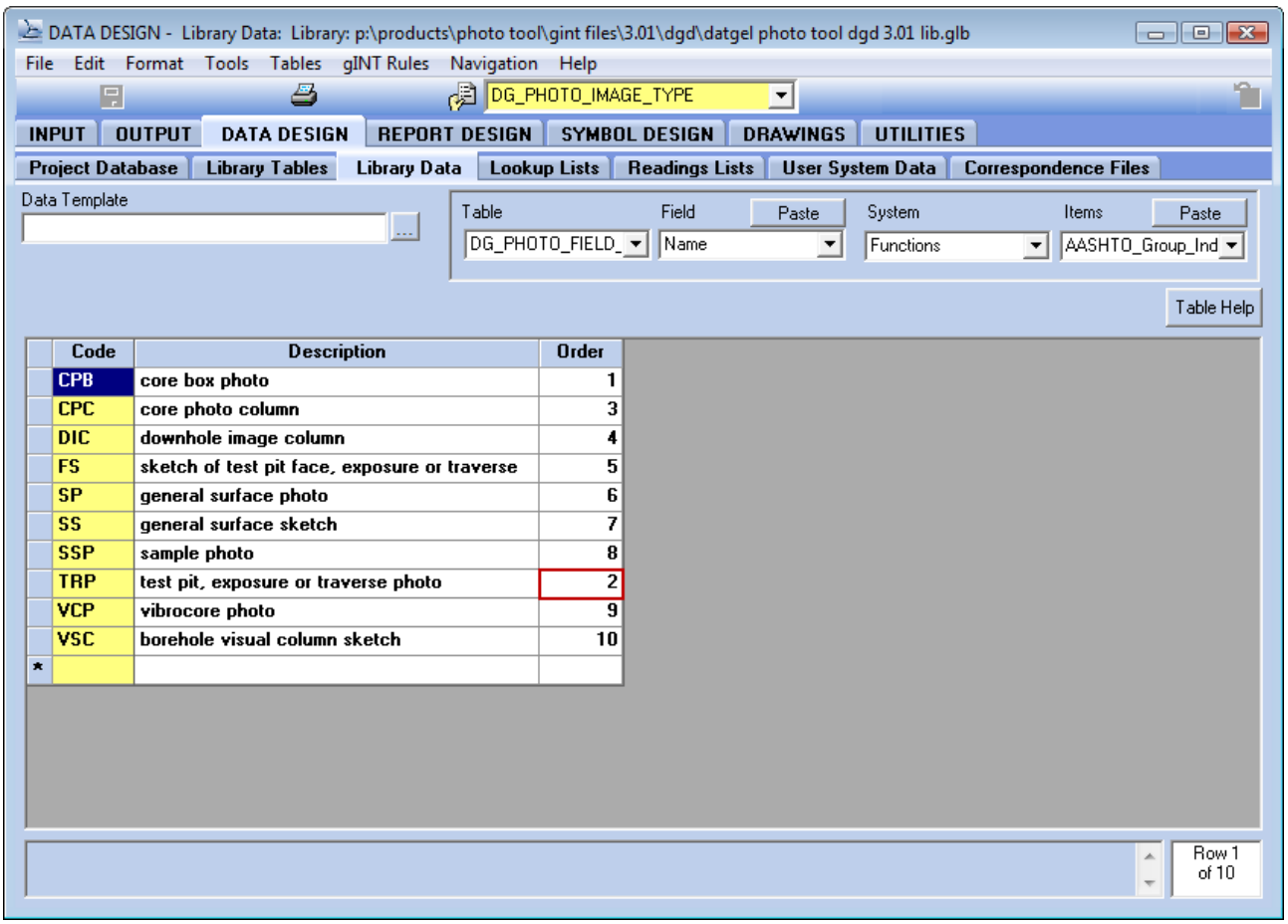
The Expression_Type field is used to control what rows will appear in lookup lists of fields in the IMAGE_DESCRIPTION table. The three choices available are Prefix, Root and Suffix, and the fields in the IMAGE_DESCRIPTION table will filter the rows in the DG_IMAGE_DESCRIPTION library table depending on the value in the Expression Type.

So for example, in the IMAGE_DESCRIPTION table, the Description_X_Prefix fields will only show the rows in the DG_IMAGE_DESCRIPTION library table with "Prefix" as the Expression Type, the Description_X fields will only show rows with "Root" as the Expression Type, and the Description_X_Suffix fields will only show rows with "Suffix" as the Expression Type.

Note that if the Expression Type is "Root", the SQL Query builder will check if the SQL Query Expression will return a value first to determine whether or not to include the prefix and suffix expressions for that description entity. This applies for each individual photo description.

2.3 Configure Image Type Combo Box Order

The order of items in the Image Type combo box on the Photo Tool form may be defined in **DATA DESIGN | Library Data |** DG_PHOTO_IMAGE_TYPE. Set the Order field values.



2.4 Output the Images

The following log and graphic table reports are available with the Photo Tool Add-In.

Table 2 Log Reports

Report Name	Description
DG PHOTO TEST PIT NO SKETCH LOG	Example test pit log with photos printing on additional pages. Reports photos listed on the Image table with type FS, SP, SS and TRP. Files must be located in <path to project>\<Project file name> Photo\. Files must be named <PointID>_<Image Number>.<jpg or bmp>.
DG PHOTO TEST PIT WITH SKETCH LOG	Example test pit log with photos printing on bottom half of page and on additional pages. Reports photos listed on the Image table with type FS, SP, SS and TRP. Files must be located in <path to project>\<Project file name> Photo\. Files must be named <PointID>_<Image Number>.<jpg or bmp>.
DG PHOTO VISUAL COLUMN LOG AND CORE BOX LOG	Photo Visual Column Log with options to display image types CPC, DIC and VSC. The field POINT.Visual_Column controls which images type display. Core box photos print on additional pages.

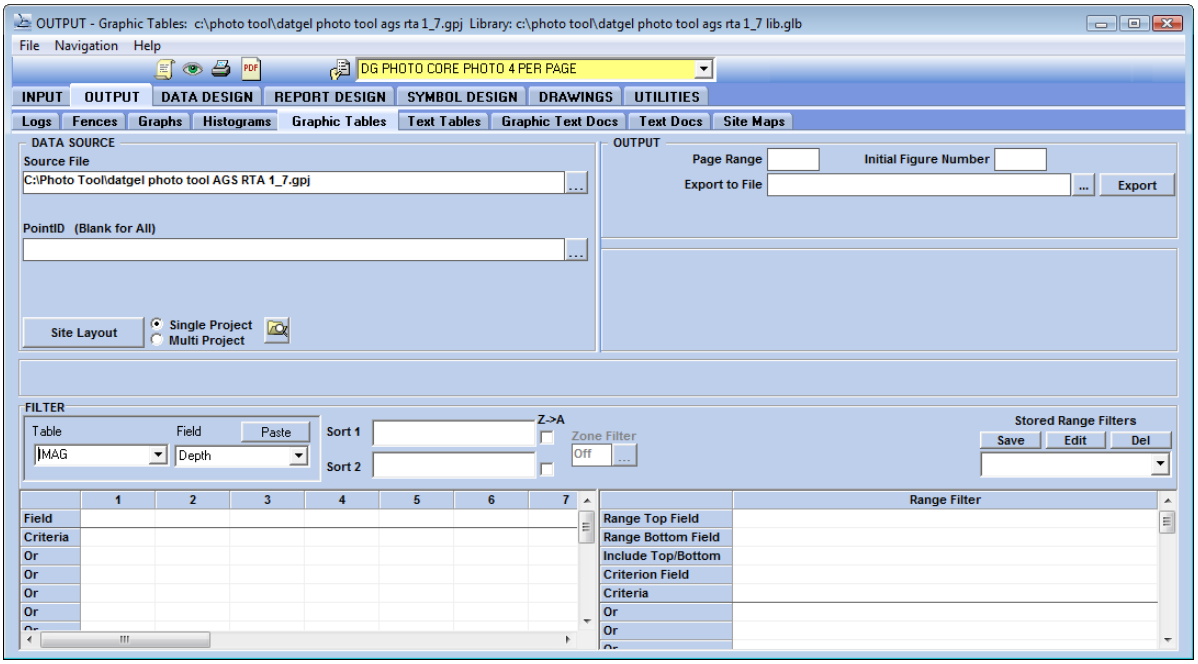
The log reports are provided as examples, and we expect users to copy and use the objects on their existing custom log reports.

Table 3 Graphic Table Reports

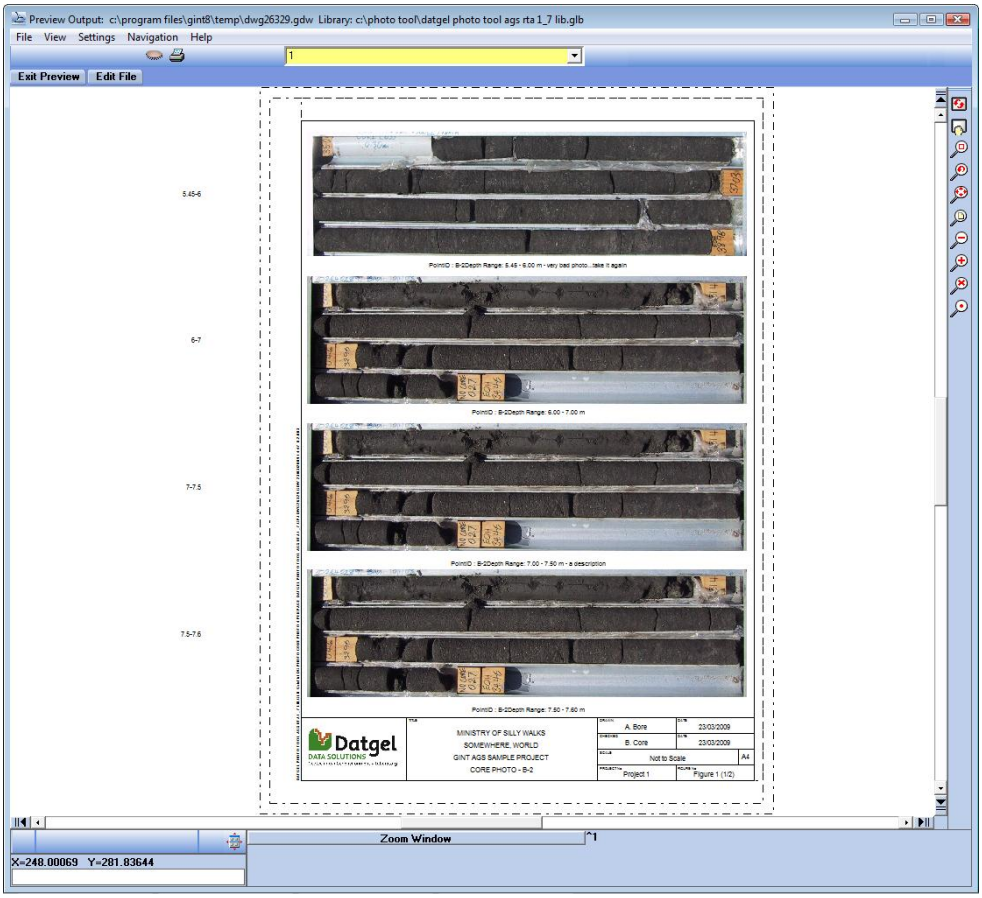
Report Name	Description
DG PHOTO CORE PHOTO 1 PER PAGE	Reports photos listed in the Image table with type CPB specified in the Images table. Displays 1 photo per page, size A4, landscape orientation.
DG PHOTO CORE PHOTO 2 PER PAGE	Reports photos listed in the Image table with type CPB specified in the Images table. Displays 2 photos per page, size A4, Portrait orientation.
DG PHOTO CORE PHOTO 4 PER PAGE	Reports photos listed in the Image table with type CPB specified in the Images table. Displays 4 photos per page, size A4, Portrait orientation.
DG PHOTO SAMPLE PHOTO 1 PER PAGE	Reports photos listed in the Image table with type SSP specified in the Image table. Displays 1 image per page, size A4, Landscape orientation.
DG PHOTO SAMPLE PHOTO 2 PER PAGE	Reports photos listed in the Image table with type SSP specified in the Image table. Displays 2 image per page, size A4, Portrait orientation.
DG PHOTO TEST PIT PHOTO 1 PER PAGE	Reports photos listed in the Image table with type FS, SP, SS and TRP specified in the Images table. Displays 1 photo per page, size A4, Portrait orientation.
DG PHOTO TEST PIT PHOTO 2 PER PAGE	Reports photos listed in the Image table with type FS, SP, SS and TRP specified in the Images table. Displays 2 photos per page, size A4, Portrait orientation.
DG PHOTO VIBROCORE PHOTO 1 PER PAGE	Reports photos listed in the Image table with type VCP specified in the Image table. Displays 1 photo per page, size A4, Landscape orientation.
DG PHOTO VIBROCORE PHOTO 2 PER PAGE	Reports photos listed in the Image table with type VCP specified in the Image table. Displays 2 photos per page, size A4, Portrait orientation.

The graphic table reports have a standard title block in the form of a Drawing Library entity, and the user may modify or create the title block for the reports in the **DRAWINGS | Drawing library** tab. It is important that the existing entities on the report are not deleted, as they are all required for the reports to function correctly.

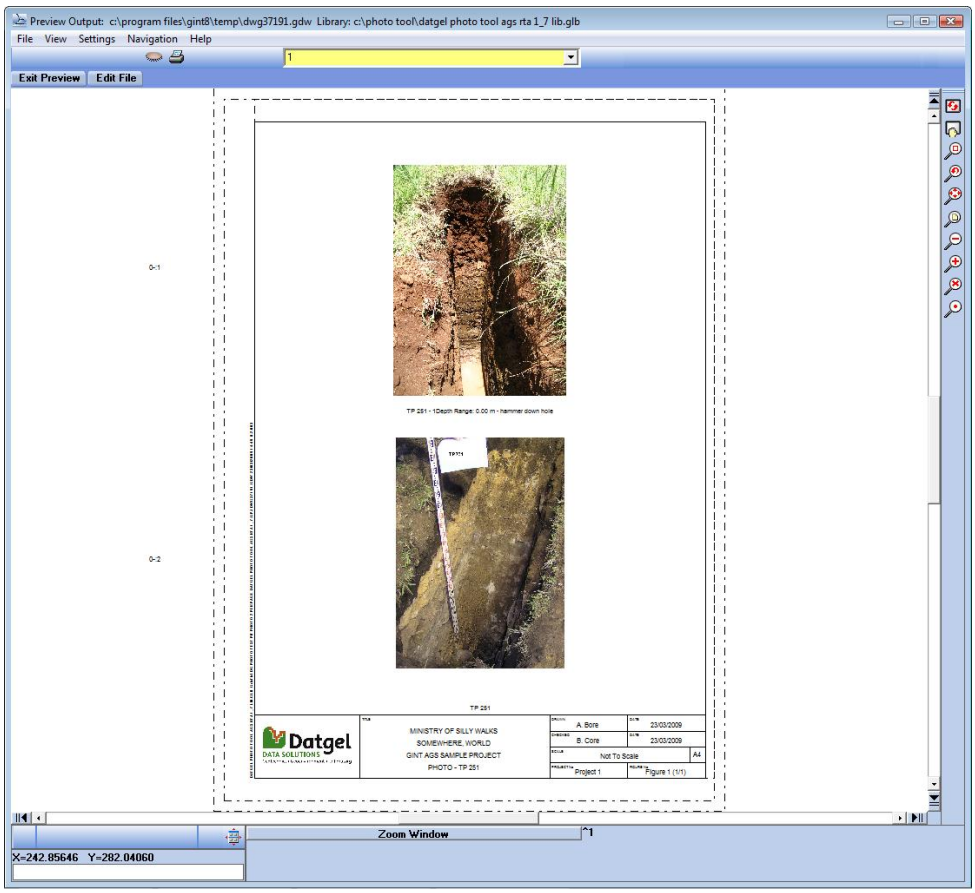
1. Start gINT and open the library and project file you wish to use with Datgel Photo Tool.
2. Select **OUTPUT | Graphic Tables** or **OUTPUT | Logs**
3. Select a report from the top down list as required, then select the PointID, and click Preview  , Print  button, or Export.



The following is an example of a core photo, 4 per page in preview mode.



The following is an example of a test pit photo, 2 per page in preview mode.


Preview Output: c:\program files\gint8\temp\dwg37191.gdw Library: c:\photo tool\datgel photo tool ags rta 1_7 lib.glb
File View Settings Navigation Help
Exit Preview
Edit File
TP 251 - 1Depth Range: 0.00 m - hammer down hole
TP251
Datgel
DATA SOLUTIONS
MINISTRY OF SILLY WALKS
SOMEWHERE, WORLD
GINT AGS SAMPLE PROJECT
PHOTO - TP 251
A. Bore
23/03/2009
B. Core
23/03/2009
Not To Scale
A4
Project 1
Figure 1 (1/1)
Zoom Window
X=242.85646 Y=282.04060