User guide
TranspoSedSIG 2.0 form

Secondary Environment Analysis

Ressources naturelles et Faune
Québec

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User guide for the TranspoSedSIG 1.0 form

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INTRODUCTION

The TranspoSedSIG form was optimized for a 1024x768 display. Some portions of the form may not appear if the resolution of your screen is smaller (800x600 or 640x480).

The TranspoSedSIG form was made to easily transpose the analytical data from *e*-sigeom *à la carte* into a table format. The current form is only for analyses of material from the secondary environment (sediments and others). Rock analyses are treated with TranspoLithSIG.

According to the format defined in the original query, the chemical data received from SIGEOM consist of the elements listed in Table 1.

FORMATS	CHARACTERISTICS
MicroStation	The delivered data contains the following files : - the ROCHE.DGN file including the geometric data (level = **9**) - the ROCHE.DBF file including the descriptive data - the ANALYS_R.DBF file including the descriptive data of Analysis result The MSLINK field of the ROCHE.DBF and ANALYS_R.DBF files helps make the link between the descriptive data and the geometric data characteristic of the MicroStation - Dbase format.
AutoCad	The delivered data contains the following files : - the ROCHE.DXF (version 13) file including the geometric data (LAYER = **ROCHE**) - the ROCHE.DBF file including the descriptive data - the ANALYS_R.DBF file including the descriptive data of Analysis result The ID field of the ROCHE.DBF and ANALYS_R.DBF files helps make the link between the descriptive data and the geometric data characteristic of the AutoCad - Dbase format. The value of the ID field is saved in the AutoCad geometric elements as the "EXTENDED ENTITY DATA".
MapInfo	The delivered data contains the following files : - the ROCHE.MIF file including the geometry and structure of the descriptive data - the ROCHE.MID file including the descriptive data - the ANALYS_R.DBF file including the descriptive data of Analysis result The ROCHE.MIF and ROCHE.MID files are standard MapInfo exportation files. They can be imported using the basic functionalities of the MapInfo software.
ArcView	The delivered data contains the following files : - the ROCHE_pt.SHX and ROCHE_pt..SHP files including the geometry - the ROCHE_pt.DBF file including the descriptive data - the ANALYS_R.DBF file including the descriptive data of Analysis result The suffix _pt indicates that the geometry contained in the files is punctual.

Table 1 – Files obtained according to the format defined in *e*-SIGEOM *à la carte* after the extraction of the compressed file.

NOTES

1) TranspoSedSIG needs 2 files to work: 1) an ANALYS_S.DBF file (occurring in every possible format within SIGEOM); and 2) a file named SEDIMENT.DBF. In the MicroStation and AutoCad formats, no adjustment is required. In the MapInfo format, the user must first import the table SEDIMENT.MIF (Table⇒Import) in MapInfo and save the table SEDIMENT.TAB; then, he must export the table in DBASE format (Table⇒Export). In the ArcView format, you only have to rename the SEDIMENT _pt.DBF file to SEDIMENT.DBF.

2) TranspoSedSIG executes a great number of queries in background. In order to avoid numerous useless messages, the user should make sure that the "Record changes", "Document deletion" and "Action queries" from the "Confirm" section (Tools⇒Options⇒Edit/Find) are not check marked (Figure 1).

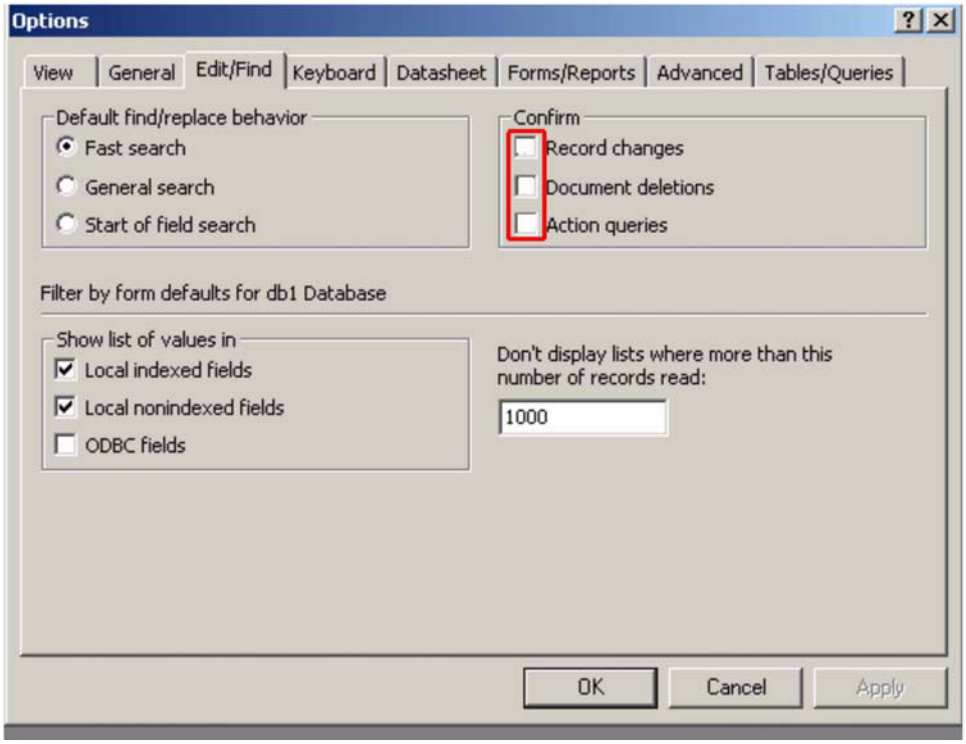


Figure 1 – Configuration of the "Confirm" section in the Options of Access.

Once these adjustments are done, the user can begin the first step of the form:

1- Import files

Clicking on button 1 will bring up an information message mentioning that the ANALYS_S.DBF file will be imported in the form. Click on the OK button. Find the repertory containing the ANALYS_S.DBF and SEDIMENT.DBF files in the following window. Do not forget to mention the format DBASE IV (*.dbf) in the "File type" line. You can then see the ANALYS_S.DBF file. Select it and press on the Import button. Wait for the end of the importation and press the Close button. A second message of information appears mentioning that the SEDIMENT.DBF file will then be imported in the form. Repeat the above operations to import the SEDIMENT.DBF file. Once the importation is finished, go to step 2.

2- Find multiple analyses

The same sample can have been reanalysed for one or several elements by using the same analysis method. The TranspoSedSIG form is made in such a way that only the more recent analysis of an element is delivered in the result, according to the assumption that its analytical precision is better than that of the older analyses. However, with this form, the user can consult all the reanalysed elements on the screen for all concerned samples. He is then informed of the values which will not be included in the results at step 6. Click on the Close button to come back to the main menu.

3- Create analysis tables

When pressing button 3, the form performs a series of operations redistributing the information of the analytical files into 17 tables (16 tables identifying all the possible analysis methods within SIGEOM and one table including the descriptive information for each analysis). All major elements and trace elements from the source file are distributed within these tables according to the analysis method. **If the sample number is high (> 20 000), we suggest to compress the form before executing this step (Tools⇒Database Utilities⇒Compress Database) (figure 2)**.

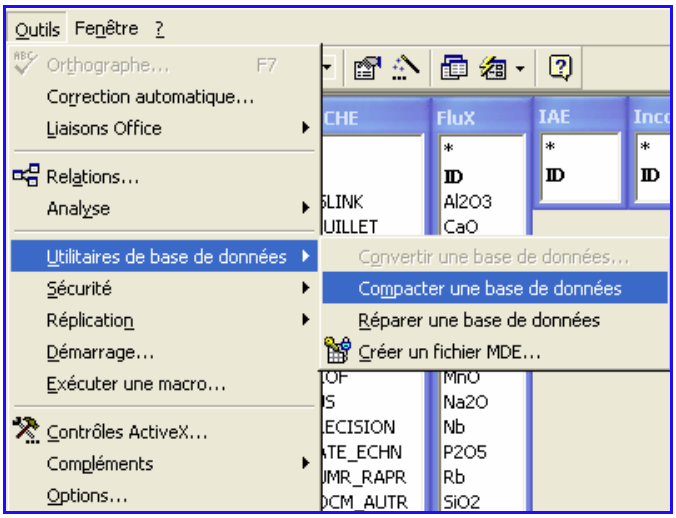


Figure 2 – How to compress a database.

The completion of this step can take a few seconds or several minutes according to the size of the original file and your computer speed. Once the treatment is finished, a window appears to tell you that you can go to the next step.

4- Choice of elements 

This is the crucial step of the treatment. Clicking on this button will bring up a few information windows to summarize the details mentioned below. A new window will open with more or less the aspect of figure 3. With the exception of the SEDIMENT table (in the middle), all the other tables represent a different analysis method (table 2). **The width** of each table has been optimized to display various elements and should not be modified by the user. **The height** of the table can however be modified to ensure a better visibility. Some tables contain occasionally too many elements to display them in the visible portion of the table; the cursor on the right side of the table gives access to them.

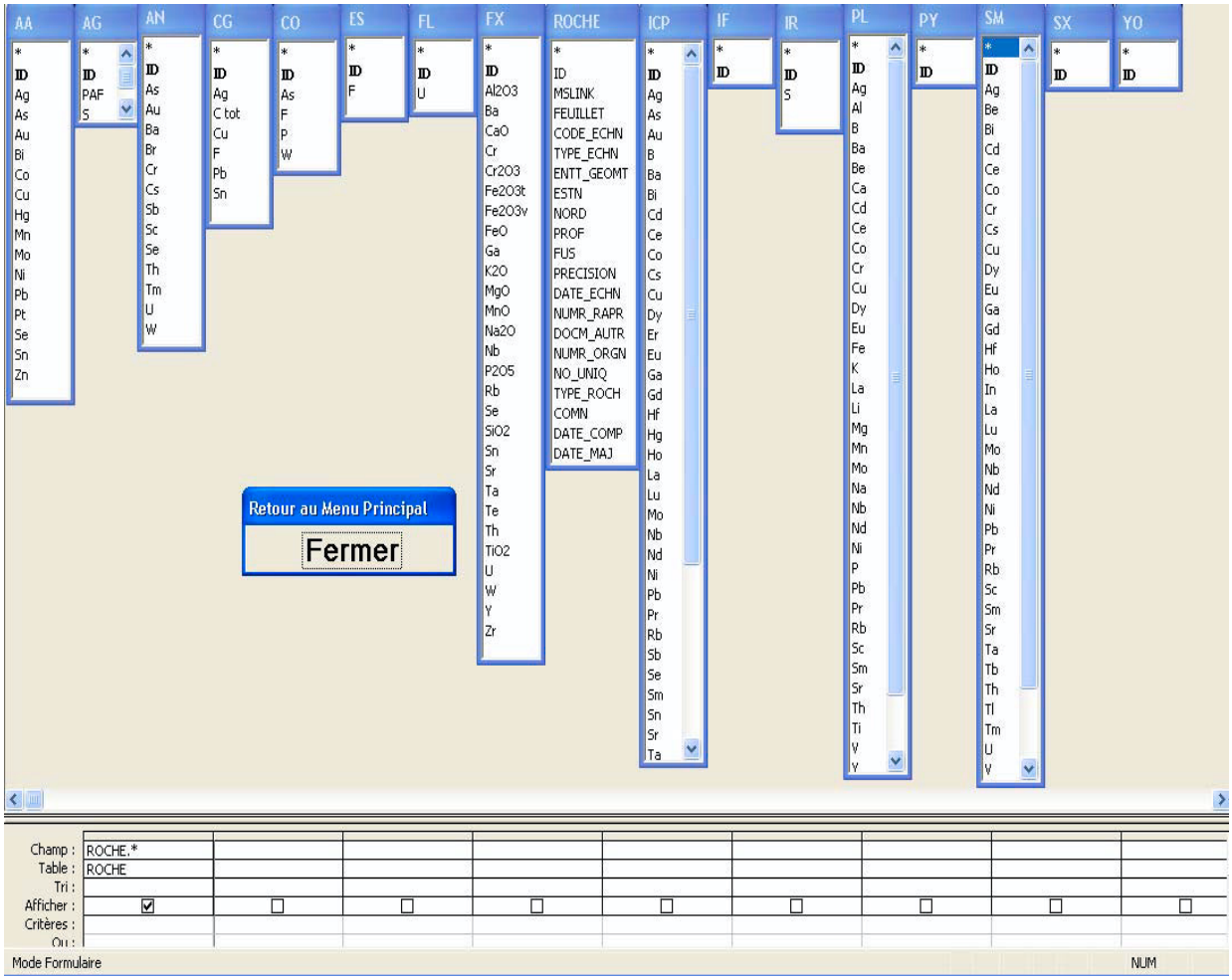


Figure 3 – Element selection interface.

Code	Analysis method
AA	Atomic absorption
AG	Gravimetric analysis
AN	Neutron activation
CG	Classical chemical analysis
CO	Colorimetry
ES	Ion-selective electrode
FL	Fluorometry
FX	X-ray Fluorescence
ICP	Inductive coupling mass spectrometry
IF	Infra-red
IR	Infra-red, absorption, emission
PL	Plasma emission
PY	Pyroanalysis
SM	Mass spectrometry
SX	X-ray spectrometry
YO	unknown

Table 2 – Identification codes for tables and corresponding analysis methods.

This interface is relatively simple to use. Double-click successively with the cursor on the element you wish to have in the final table; this element will be automatically inserted on the *Field* line of the Access grid on the lower part of the window (see animation below). Click on the **Close** button to come back to the main menu.

demo_selection.swf

Notes

- **The same element can be selected in several tables;** Access will automatically prefix the code of the analysis method with the element in the final table (figure 4).
- **The first field in the grid should always appear as in figure 3 with the expression SEDIMENT.*.** Should this field be erased by mistake, you only have to point on the asterisk in the top part of the SEDIMENT table and to drag it – by keeping the left button of the mouse pressed – in the first column, even if an element is already there. The element will be moved to the next column on the right. The data of the SEDIMENT table will be saved in the final table. Some of the parameters of this table (northing and easting, UTM projection zone, lithological code, data source, etc.) will be very useful to create a file of points in MapInfo or ArcView.
- **The query will produce as many lines as there are samples in the original file[1] regardless of the nature of the requested elements.** *The lines of samples with no analyses for the requested elements will be empty (figure 4).* A solution to eliminate the empty samples is proposed in section 7.
- **The analytical values under the detection limit and described as "lower than" (<) in the original file were rewritten at –999 in the final table.**
- **Access does not take more than 256 variables in a query.** If you wish to request more variables, you only have to repeat the operation at step 4 after you have completed the saving and exporting of the results (steps 5 and 6).

[1] This is due to the type of link between the tables in Access.

- **If you wish to have all the elements of a table, double-click on the asterisk on the top part of the table;** the elements will all be automatically incorporated in the result (provided that there are no more than 256 variables).

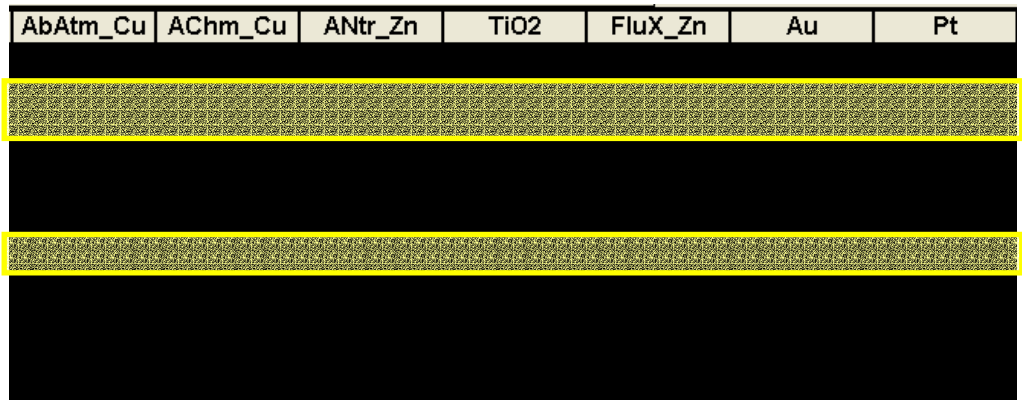


Figure 4 – Part of the final table of the query executed on figure 3. Note that Access has automatically added the analysis method as a prefix if the same element was selected in several tables. The samples which had not been analysed for the elements requested (for the chosen method) display empty lines.

Once your choices are all done, click on the **Close** button to come back to the main menu. Your selection will be automatically saved. Go to step 5.

5- Save the result 

Click on button 5. The first message asks you to confirm the suppression of the result table from the previous queries; **answer Yes.** Once the creation of the new table is finished, a windows appears to present the results that will be exported in the final table. If the result is not satisfactory, repeat step 4. Click on the **Close** button to come back to the main menu. Go to step 6.

6- Export the file 

Clicking on button 6 will bring up a new window of saving options (figure 5). Keep the option ***"Vers un fichier ou une base de données externe"*** check marked. **Click OK.** Select the repertory where you wish to save the results. Modify the file name (not obligatory, but recommended) and select the exportation format for your file in the pull-down menu at the bottom. The Excel format is recommended. Close the form by clicking on the red button in the top right corner.

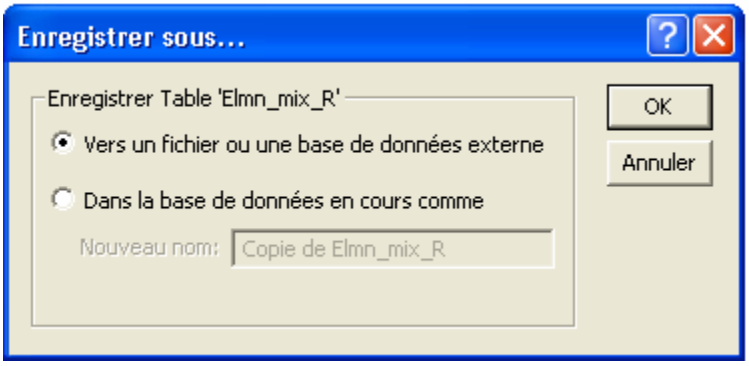
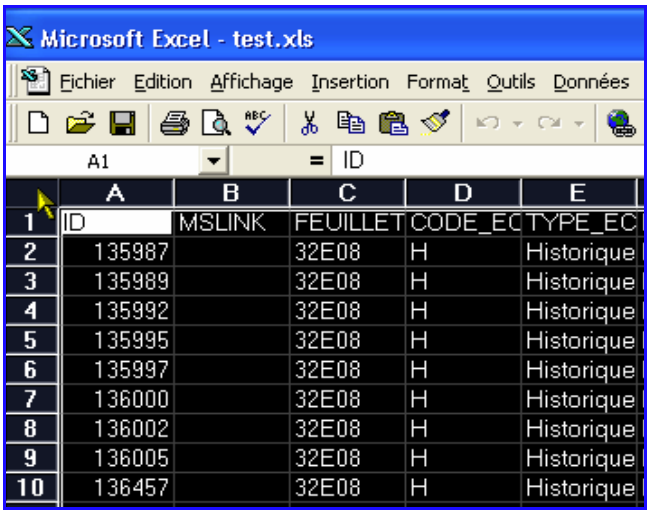


Figure 5 – Saving window for the results.

7- Suggested procedure to eliminate samples without analytical result

To eliminate the lines with empty analysis fields for all requested variables from the table, we suggest the following procedure:

1) Open the Excel file and select the entire table by clicking on the upper left corner cell (figure 6). To improve the visibility of the results, automatically adjust the column width (Format⇒Column⇒Auto-fit) (figure 7).



	A	B	C	D	E
1	ID	MSLINK	FEUILLET	CODE_EC	TYPE_EC
2	135987		32E08	H	Historique
3	135989		32E08	H	Historique
4	135992		32E08	H	Historique
5	135995		32E08	H	Historique
6	135997		32E08	H	Historique
7	136000		32E08	H	Historique
8	136002		32E08	H	Historique
9	136005		32E08	H	Historique
10	136457		32E08	H	Historique

Figure 6 – Selection of the entire table.

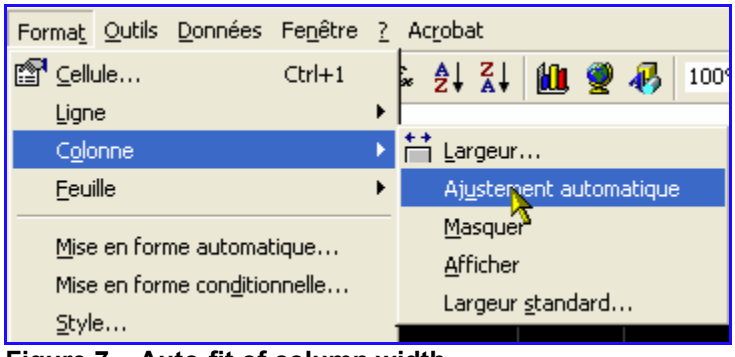


Figure 7 – Auto-fit of column width.

2) Apply an automatic filter to the table (Data⇒Filter⇒AutoFilter) (figure 8). The analysis variables will now appear like on figure 9.

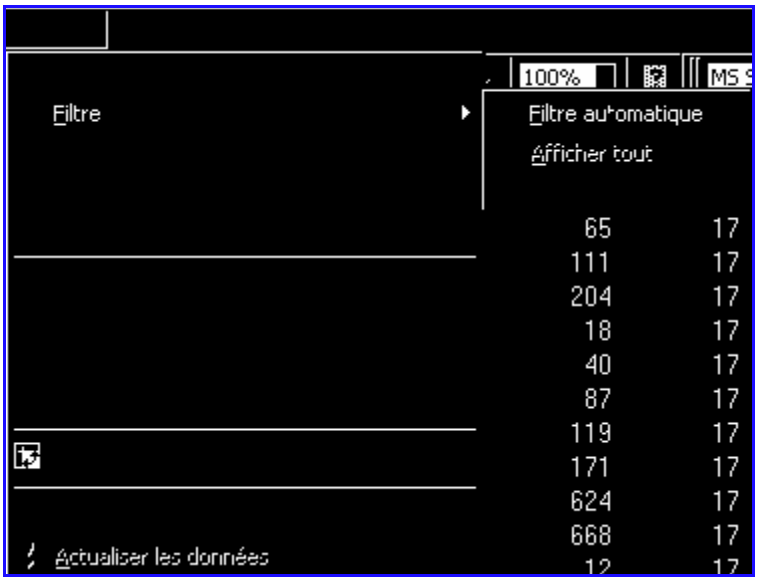


Figure 8 – Creation of an automatic filter.

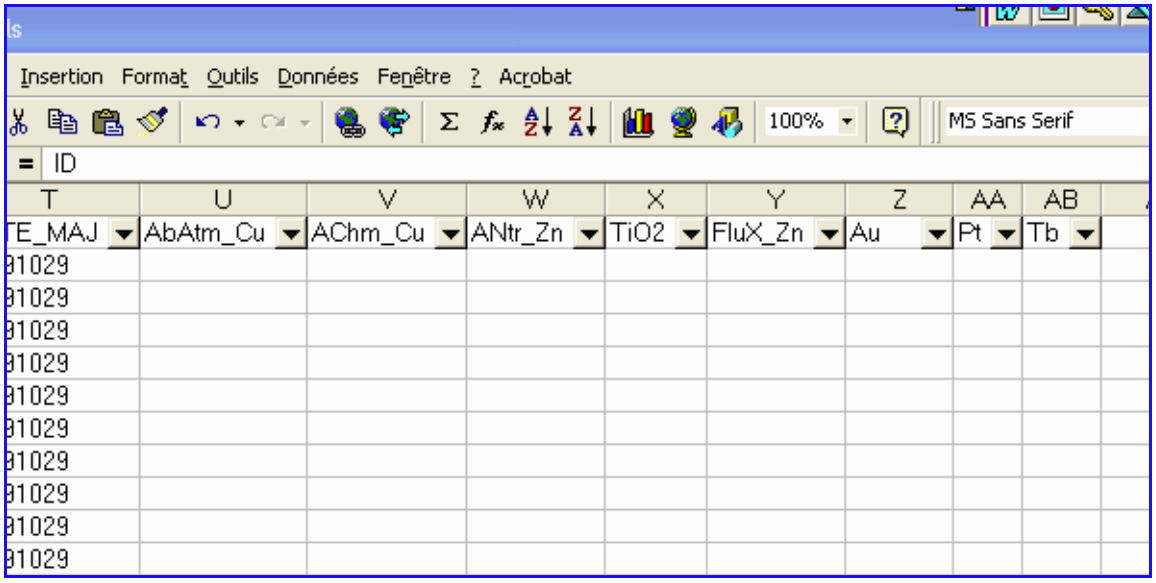


Figure 9 – Analysis variables in automatic filter.

3) Select the *(Empty)* option at the bottom of the pull-down menu which is now available on the right side of each variable header (figure 10). Repeat the operation for each variable. The triangles pointing down next to the variable header should all be blue at the end of the operation.

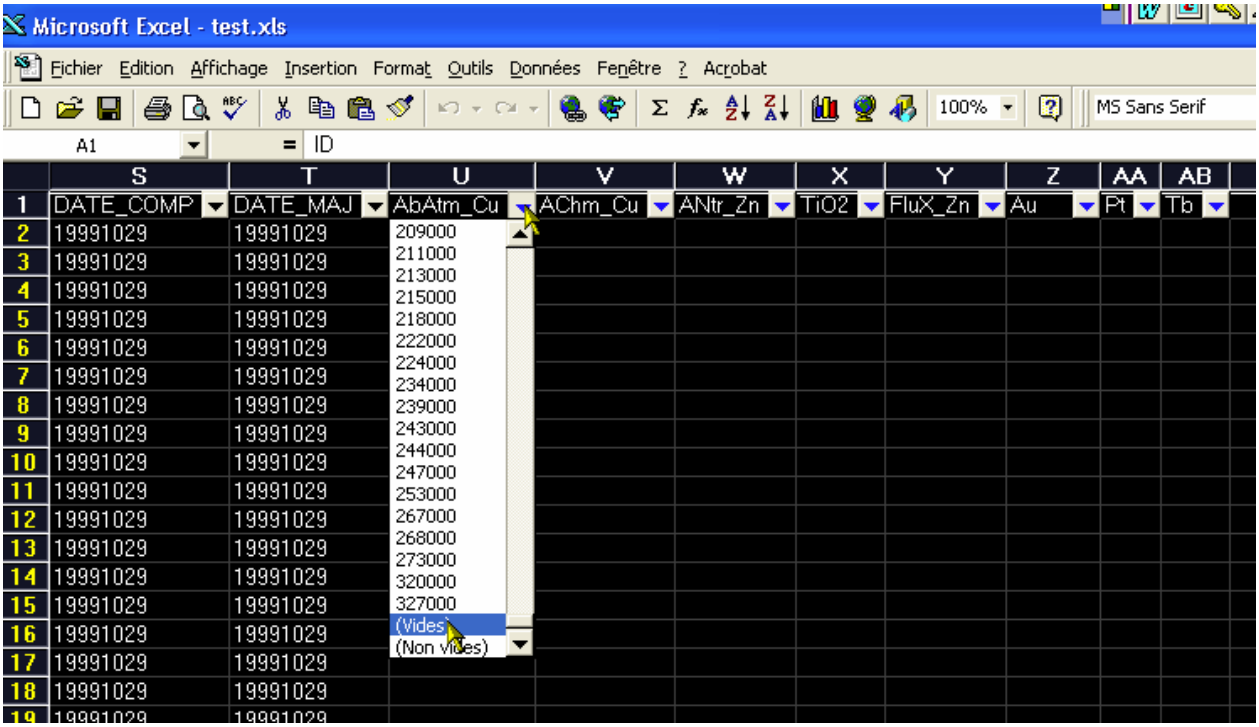


Figure 10 – Selection of the (Empty) option in the pull-down menu of the automatic filter for each variable.

The lines now displayed on the screen are all empty of analysis data. It is possible to read how many empty lines are displayed in the bottom left corner. To suppress these lines, point the first cell under the header of column A (figure 11) of the sheet and press Ctrl-Shift-End, which will select all the cells to suppress. Suppress the lines with Edit⇒Delete (figure 12). Once the operation is finished, remove the automatic filter Data⇒Filter⇒AutoFilter. Your Excel file is now ready to use.

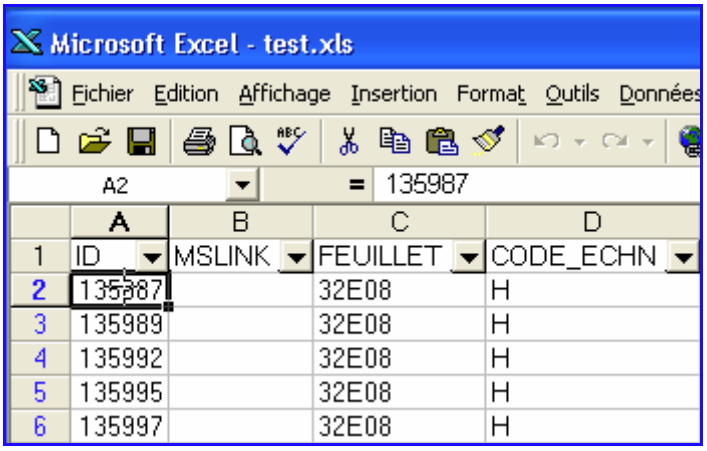


Figure 11 – Selection of A2 cell.

Figure 12 – Suppress the empty lines.