MAR Geocoder Overview

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What is MAR Geocoder?

The MAR Geocoder is an application that pairs with the District of Columbia's Master Address Repository (MAR) to make matching a full address to latitude, longitude, ward, block, and X-Y coordinates easier. The MAR Geocoder outputs geographical information in Microsoft Access or Microsoft Excel for many addresses in a short amount of time. The MAR Geocoder accepts only full addresses as inputs and matches them with the geographical location information in the District of Columbia's MAR database via internet. The MAR holds only information on addresses within the District of Columbia. For example, an address in Tenleytown or Georgetown will produce additional geographic information from the MAR, but an address in Bethesda, MD or Alexandria, VA would not because neither of those places are in the District of Columbia.

How to Install MAR Geocoder

MAR Geocoder is a free application available through the District of Columbia's website at https://octo.dc.gov/node/715602. (Note that the MAR Geocoder will only run on Windows 7 or later and does not run on Macintosh computers.) The file will download from the internet as a .zip file. Once it is downloaded, the file will need to be extracted to a folder from the .zip file. Extracting a file is done by left clicking on the .zip file and selecting the "Extract files…" action. Once the files are extracted, locate the MAR_Geocoder file and run the initial set-up and installation for the MAR Geocoder (this is a pretty fast installation). Once the MAR Geocoder is installed, it should appear under the all programs/Windows button in the lower-left corner of the screen. Click on the program to open it and you are ready to go!

How to Use MAR Geocoder

Once you have the MAR Geocoder open, select the file type you will be using with the program from the first window, it will probably be Excel. Some data preparation is necessary before you are ready to run the MAR Geocoder. First, the MAR Geocoder will only run .xlxs or .xls files, so make sure that your data is saved in that format. Second, the data may only have one column that contains full addresses, blocks, or intersections of the locations that you are trying to get additional information on. The MAR Geocoder will recognize *some* well-known locations by their common name or "alias." For example, the MAR Geocoder would recognize the input of "The White House" instead of "1600 Pennsylvania Avenue."

Once your data is properly prepared, you can start using the MAR Geocoder. At the top of the MAR Geocoder window, you will see a blank box that says "Workbook" with a button next to it that says "Browse." Click on the "Browse" button and find the Excel file that you want to work with. A prompt will appear asking if the first row contains the column heading, which it

must be. Click "Yes" if this is the case. If not, make your first row the column heading, then try again.
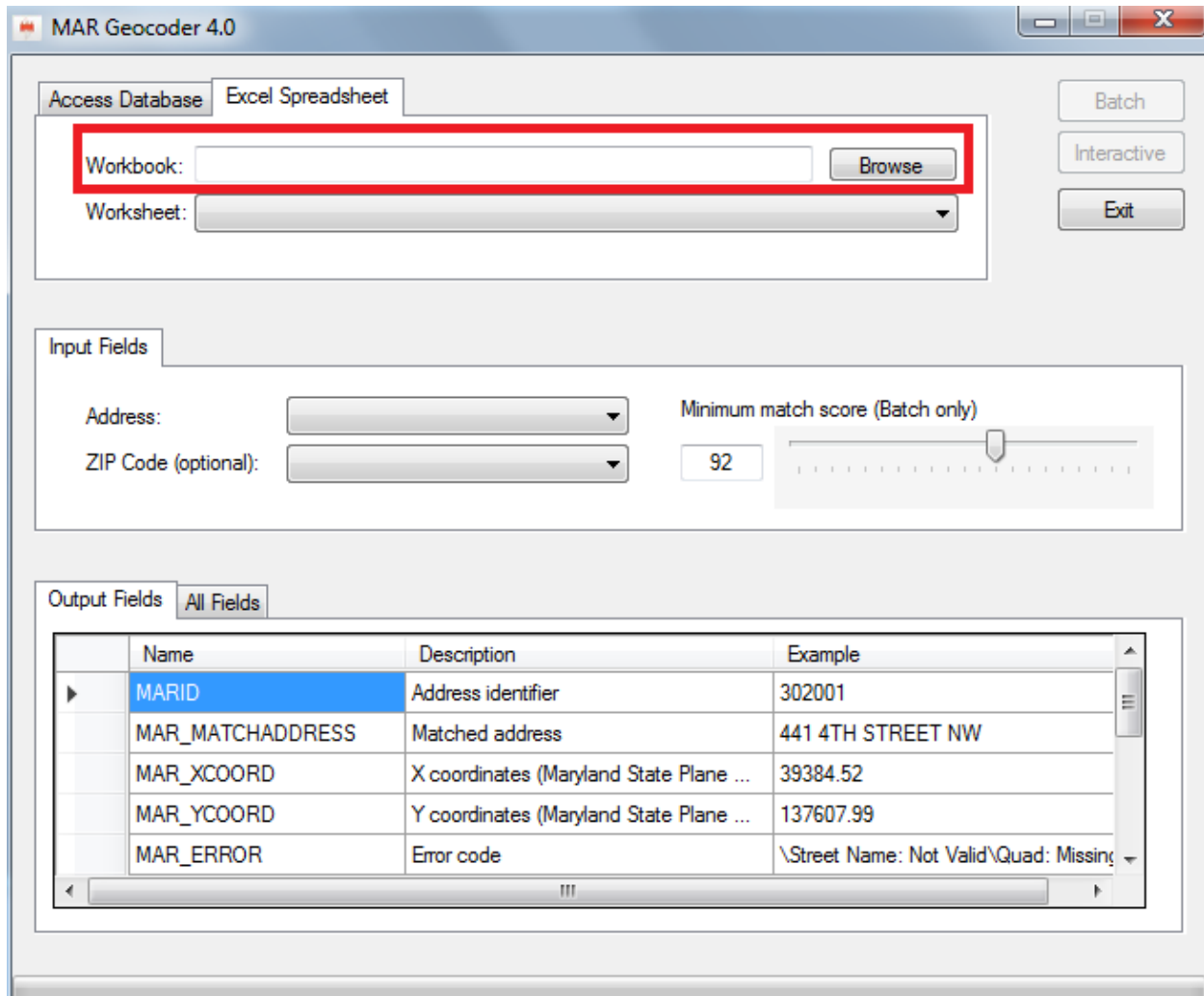
After you select the file, select the sheet within the workbook that you want to work with. If your file only has one sheet, you will only have one option. Click on the sheet that you want to work with.
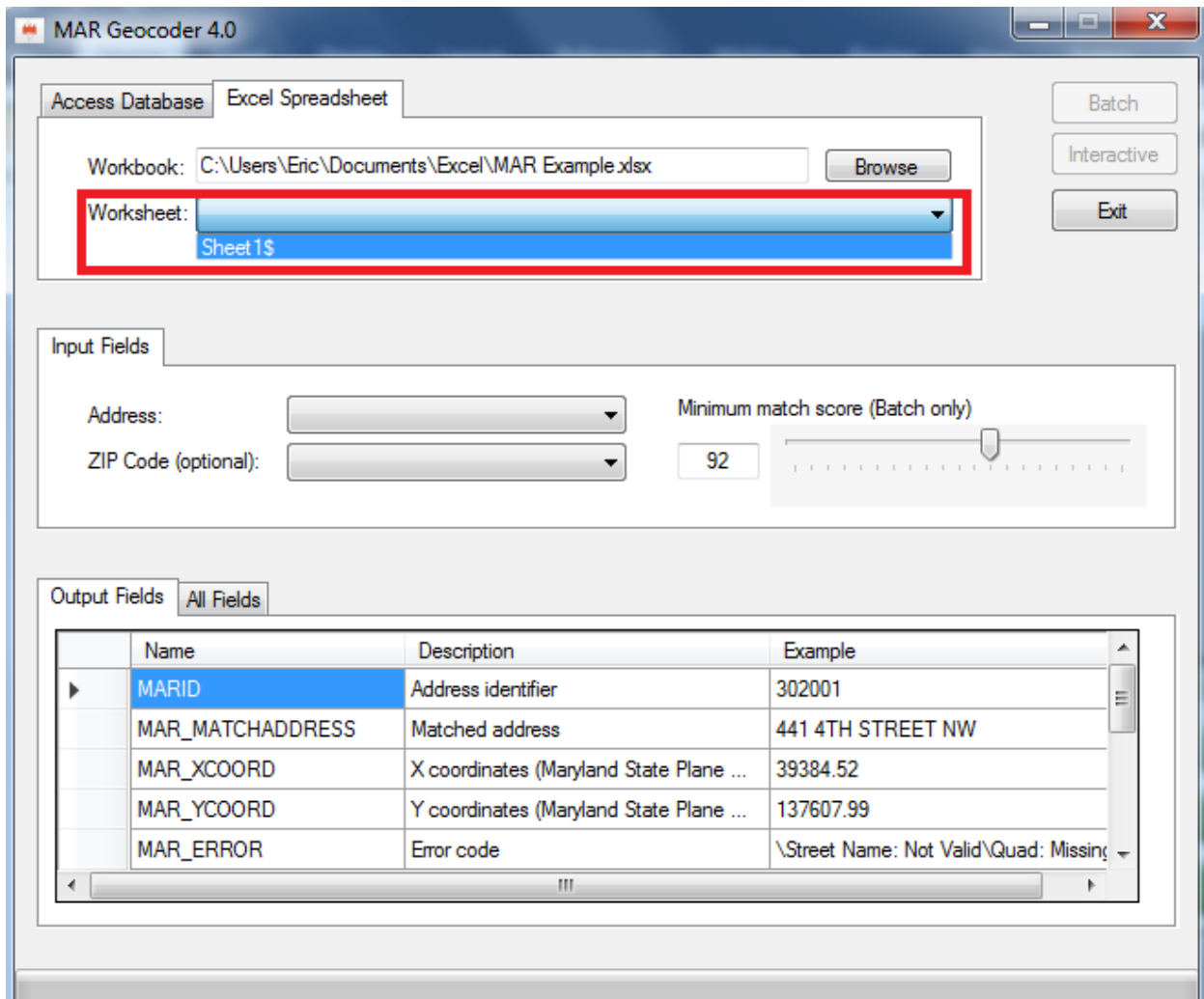
After you select your sheet, the address box will automatically fill in with the first heading on the spreadsheet, since you only have one heading and one column of data. The ZIP code box will fill in as "Exclude," there is no need to change that or the "Minimum match score" for our purposes. Once this is all ready to go, click on "Batch" to obtain the additional information for all the input addresses. Make sure the spreadsheet is closed before you run process. The MAR Geocoder can process about 5 addresses per second in "Batch" mode; keep this time constraint in mind.
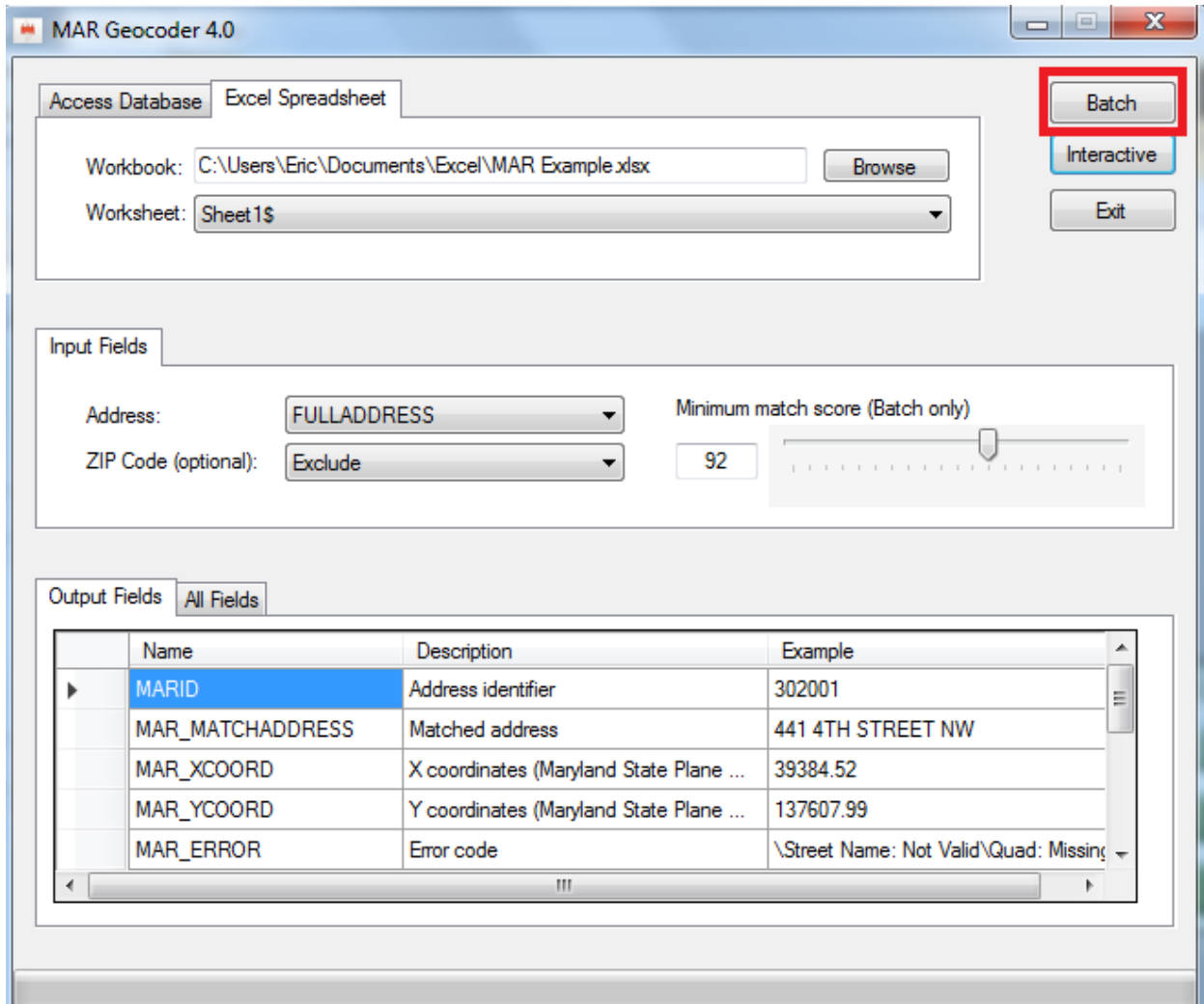
Once you have run the process, reopen your spreadsheet. You will see that your spreadsheet has been populated with additional columns of data that provide the X-Y coordinates, latitude, longitude, ward, ANC, ZIP code, and other information. In the example dataset below, the original data is highlighted in blue, the added data is highlighted in red. New sheets are also available on the original spreadsheet that contain additional location information, these new sheets are highlighted in yellow and the original in blue. Some of these sheets may be blank.

Opening Data in R

Once R is open, install the "readxl" package, if you have not already done so. Set the working directory to the folder that the file is in, if this has not already been done. Apply the "read_excel()" function to your file so that it can be viewed and manipulated in R. Example code is shown below.

```
1  install.packages("readxl")
2  library(readxl)
3  mar <- read_excel("MAR Example.xlsx")
```

More Information

For more information, visit the MAR Geocoder User Guide at https://docs.google.com/document/d/1y3rY2xeVC3hy8ITJVPoqn7q99orQJ1OGP6006GQ5PnY/pub#h.30j0zll.