

Pb200i HDMS User Guide

Software Version 3.2





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Introduction

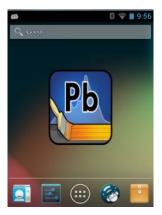
Heuresis Data Management System (HDMS) is a PC application specifically designed to be used with the Pb200i XRF Lead Analyzer. Its function is to:

- 1. Download a secure data file.
- 2. View acquired readings and corresponding data associated with each reading; examples of corresponding data include photographs, data entry fields, and x-ray spectra.
- 3. Create and modify data entry fields.
- 4. Generate reports.
- 5. Customize data exports.

Requirements

- HDMS requires a PC (personal computer) running an Windows 7 or higher. HDMS will not run on a Macintosh, iOS or Android system.
- PDF viewer.
- Pb200i software v.2.3 or higher. It is recommended that the instrument software be upgraded to v.4.0 or higher.
- USB cable provided with the Pb200i system.
- Administrator rights to the PC, or your own IT support staff to assist with installation.

Installation



Retrieve the installation file from the HDMS folder on the Pb200i as described below.

1. Turn on the Pb200i, allowing the analyzer to reach the home screen:

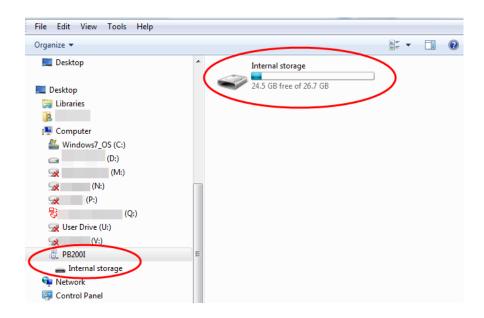


2. Remove the battery cover that the battery wedge is firmly



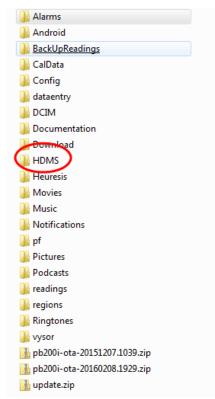
from the bottom of your Pb200i; make sure in place as shown in the image below.

- 3. Make sure your PC is running, and that you have administrative rights to the computer. Connect the USB cable to the Pb200i, and to an open USB port on your PC. **NOTE: If you do not have administrative rights to your computer, please contact your IT support staff for assistance with this installation.**
- 4. Open the file explorer on your PC; you will see the Pb200i displayed as shown below:

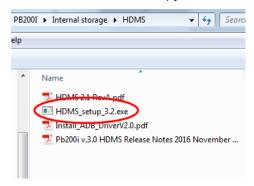




5. Select "Internal Storage" and browse to the "HDMS folder on the Pb200i.

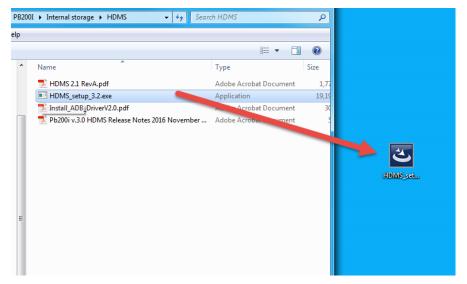


6. Select HDMS, then copy the HDMS installation file.

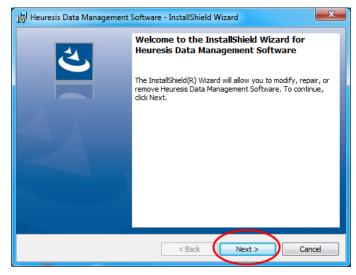


7. Paste the installation file on your desktop, or in a location of your choosing on your PC.



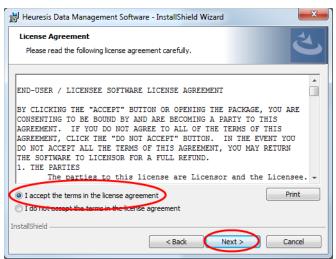


8. Disconnect the USB cable from the Pb200i, and double-click or select the installation file now stored locally on your PC.

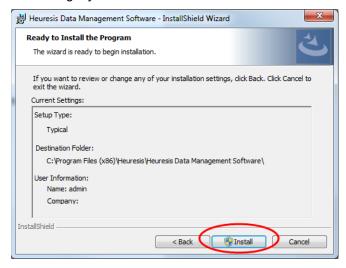


9. Read the terms of the licensing agreement. If you agree with them, select "I accept the terms of this licensing agreement" then "Next" to continue. If you do not agree with them, stop here.





10. Selecting "Install" here will initiate the installation process. You may get a Windows message asking if you would like to continue. Select "Yes".



11. Once the installation has been completed, you will get this confirmation window. You may launch the application at this time if you like by keeping the box checked and selecting "Finish". It can now be launched from your programs list on your PC.





The HDMS Main Menu Overview

File

Open – Opens an existing reading file on your PC or other storage device that was previously saved.

Close – Closes an existing file that is open. The Close button is only enabled when there is an open file.



Retrieve

Readings – Retrieves the tamperproof reading file that is on the Pb200i, when connected via the USB cable.

Backup Readings – Retrieves a backup reading file may exist on the Pb200i. This feature is designed to assist users with recovering the last reading file on the Pb200i *after* it was deleted.



CSV – Retrieves a CSV file that contains readings previously exported from the Pb200i.

Report

Distribution – Creates a report of Positive/Negative readings, broken up by up to two data fields. It may be useful for developing abatement plans based on building components.

Detailed – Creates a customizable, sequential report based on data seleted by the user.



Export

Readings CSV – Permits the user to export readings to a CSV file format from a file that was previously retrieved from the Pb200i.



Configuration

Data Entry – Permits user to create/modify a data entry list which defines the data entry fields for the Pb200i.

CSV Export – Permits user to create a configuration file that defines the items that get exported on the Pb200i, and the order in which they are exported. The file must be named "exportConfig.xml".



About

About – Identifies the version of HDMS Software installed on your computer and provides access to the EULA (End User License Agreement).





Retrieve Data from the Pb200i with HDMS

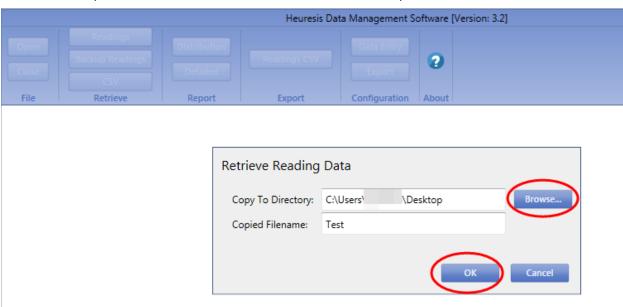
- 1. Power on your Pb200i, ensuring that the battery wedge is firmly in place. Once the Pb200i has completed the boot-up process and is at the home screen, connect the Pb200i to your PC using the provided USB cable.
- 2. The first time you connect your Pb200i to your PC, you will receive a message on your Pb200i asking if you want to "Allow USB debugging?" Select "Always allow from this computer" and press "OK".
- 3. Launch HDMS from your programs list.



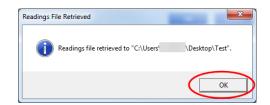
4. Select Readings



5. Browse to the location where you wish to save the reading data, enter a file name, and select OK; in the example shown below, the file will be saved to the desktop.



6. Select "OK".

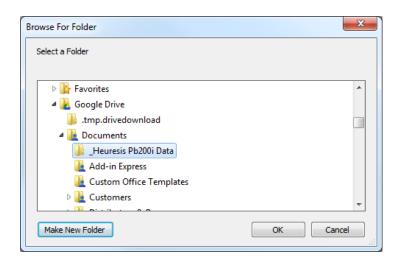




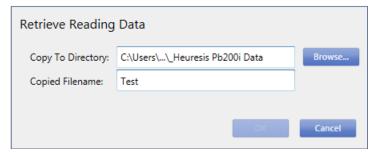
7. Select "Readings" in the upper left-hand corner of the program. This is the dialog box that will appear:



8. Select "Browse" and select a location to store your data. In this case, we have created a "Heuresis Pb200i Data" folder in "Documents" located in a cloud storage application so that all XRF data is routinely archived.

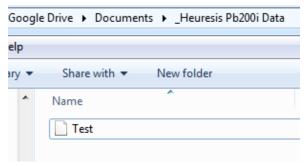


9. Name the file. In the example below, we have named our file "Test".



10. Select "OK". Your newly extracted file will now be stored in the location you have chosen. Note that there is no file extension; the data is stored in a binary, tamperproof format.





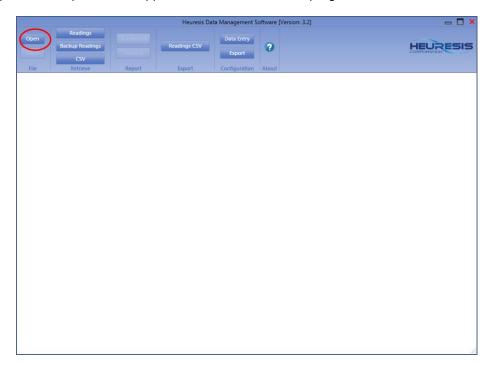
11. Disconnect the USB cable from your Pb200i. You now have completed the extraction of the data from your analyzer.



Viewing Data with HDMS

To view your data using HDMS, you will be working with the files that you have retrieved using the HDMS program. For viewing data (XRF results), **HDMS can only read the tamperproof data files it retrieves from the Pb200i.**

- 1) Open HDMS.
- 2) Select "Open" in the upper left hand corner of the program.

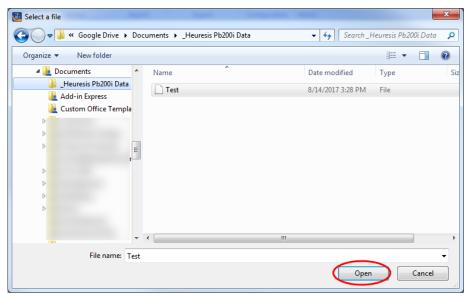


3) This dialogue box will appear; select "Browse".

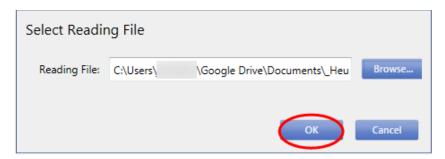


4) Browse to the location where you are storing your HDMS data. In our example, we have created a "Heuresis Pb200i Data" folder in "Documents". Select the file you wish to view, then select "Open".

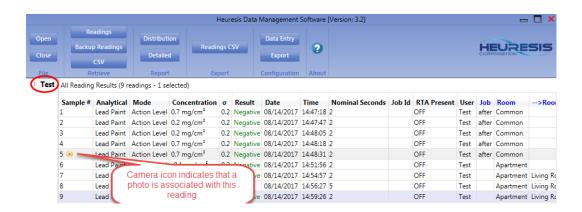




5) The dialogue box on HDMS will now populate; select "OK".



6) Your file name is now displayed in the upper left-hand corner. Note that column headers in blue (Job, Room, and →Room in the example below) are data entry fields.

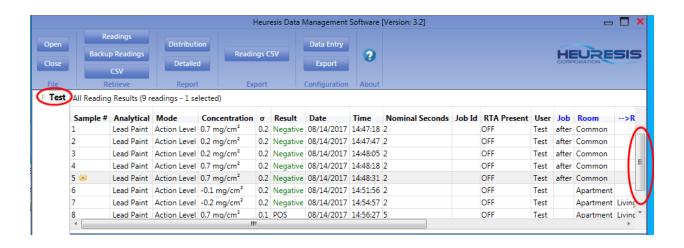




7) Click on the arrow next to the file name to expand the menu and see the readings contained in the file. Click on the reading you would like to view. All the data associated with that reading will now be visible. In the example below, we are looking at reading #16.



8) You may also view and scroll through all your readings by selecting the file name and not the arrow

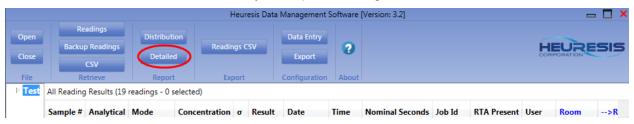




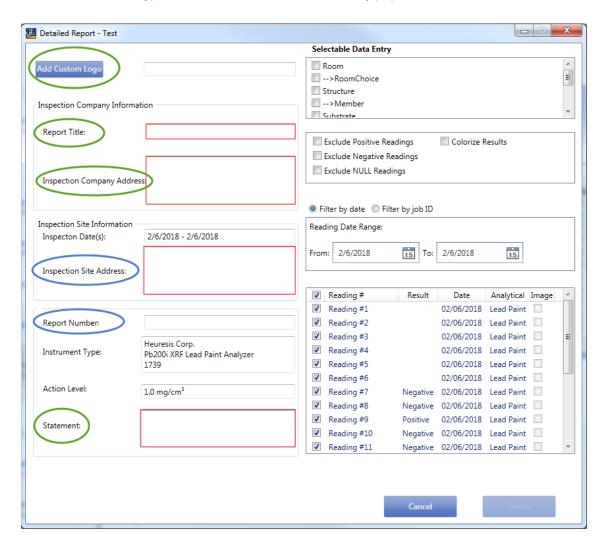
Creating a Report with HDMS

You can create reports with HDMS, using a wide range of selectable features.

1) Select the data file you want to use to create the report as we did "Viewing Data with HDMS". Select "Detailed" to create a line-by-line report including test results and location.

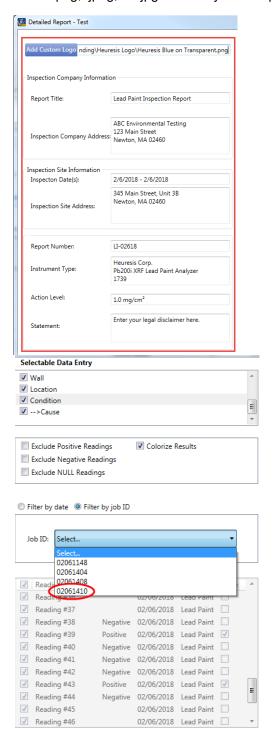


2) The first time you generate a report in HDMS, you will need to set up the fields circled in green below. After the initial set up, these fields will auto-populate with the default information you have provided. They may be changed at any time. The fields circled in blue will need to be populated each time a new report is created. The red boxes indicate mandatory fields Inspection Dates, Instrument Type and Action Level are automatically populated.





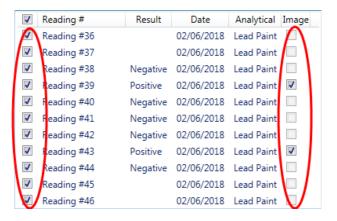
An example of the completed fields is shown below. To enter your company logo, select "Add Custom Logo" and select a .png, .jpeg, or .jpg file from your computer.



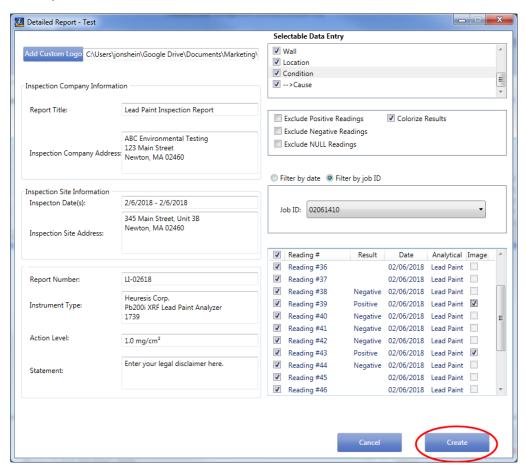
3) Select the data fields you would like to include in the report, Colorize Results if you wish to have Positive results displayed in red and Negative results displayed in blue, and any reading types you wish excluded from the report. Select "Filter by date" to obtain a subset of readings taken on a specific date, and "Filter by job ID" to obtain a subset of readings from a specific job (requires Pb200i software v4.0 or later).



4) Deselect any readings you wish to exclude from the report. If you wish to exclude photographs taken with the Pb200i during the inspection, deselect the appropriate checkbox(es) now.



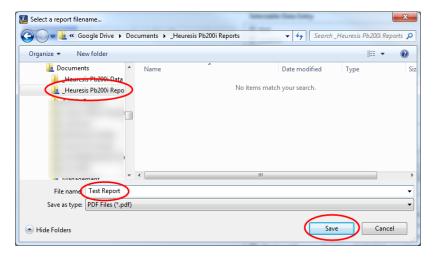
5) Review your selections, then select "Create".



Note: "Action Level" is automatically populated from the data file retrieved from your Pb200i.



Select the destination folder where you intend to store your report, then enter a file name. In this example, we have created a folder named "Heuresis Pb200i Reports". Select "Save".



7) The report will be created as a PDF file, which can be easily printed or shared electronically. If you wish to edit the report, close the PDF document, apply your edits in HDMS, and select "Create" again. The sections of the report are described below.

Lead Paint Inspection Report Inspection Site:

2/6/2018 - 2/6/2018

Inspection Date:



ABC Environmental Testing 123 Main Street Newton, MA 02460



Selected images...



Images selected for inclusion in the report are included on the final page(s), and show their corresponding reading number for easy reference to the inspection data

ABC Environmental Testing 123 Main Street Newton, MA 02460

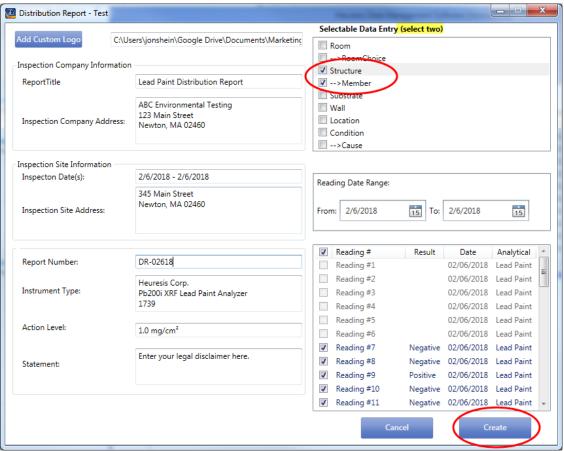
12. To create a "Multifamily Housing: Component Type Report 1", select "Distribution".



13. Complete the fields for the cover page, selecting two data entry fields and select "Create".

¹ HUD Chapter 7 (2012 update), Addendum 2, Form 7.6





14. The Distribution report provides a summary of Positive and Negative readings based upon the two data entry fields selected.

Lead Paint Distribution Report

 Inspection Date:
 2/6/2018 - 2/6/2018
 Inspection Site:
 345 Main Street

 Report Date:
 02/6/2018
 Newton, MA 02460

 Abatement Level:
 1.0 mg/cm²

Total Reading Sets: 14

Report Number:

Job Started: 02/06/2018 11:48:22 Job Ended: 02/06/2018 14:26:26

DR-02618

Structure		Structure Distribution	
	Total	Positive	Negative
Cabinets Door	1	1 <100%>	0 <0%>
Door	2	0 <0%>	2 <100%>
Medicine Cabinet Frame	2	1 <50%>	1 <50%>
Radiator	2	1 <50%>	1 <50%>
Room Wall	4	0 < 0%>	4 <100%>
Window Jamb	2	1 <50%>	1 <50%>
Window Stop	1	0 <0%>	1 <100%>
Inspection Totals:	14	4	10

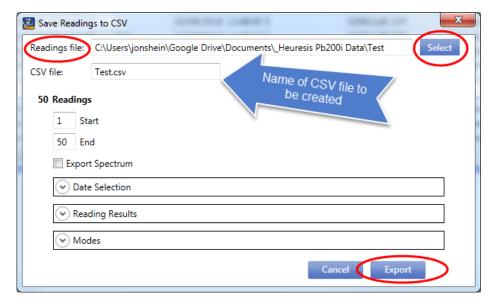
----- END OF READINGS -----

1. To create a tabular data file that can be opened in Microsoft® Excel®, select Readings CSV.





2. Select the Readings file for conversion, the range of readings, and Export.





Creating and Editing Data Entry Fields with HDMS

HUD Chapter 7, Section IV. B. 3. requires that lead inspectors document their XRF reading locations, including room (or room equivalent), side, and building components; additional requirements of Chapter 7 call for the recording of substrates, calibration check readings, and other details associated with the inspection. Clients may ask for additional details, such as color, paint condition and cause (if the paint is deteriorated), or other parameters.

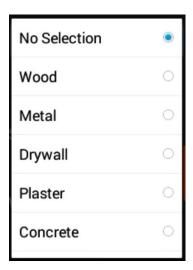
The Data Entry function on the Pb200i is a powerful recording tool designed to help the inspector expedite the documentation process, such that the inspector can become more efficient recording the details required for their inspection work.

Data fields can be classified in one of three ways:

Alphanumeric: The inspector can enter inspection details using a virtual "qwerty" keyboard

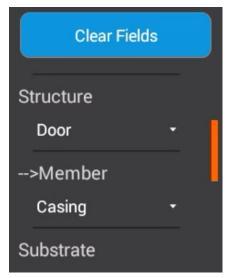


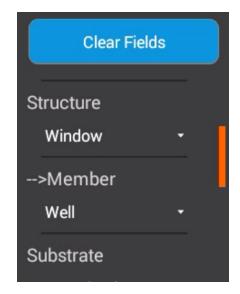
Standard Picklist: The inspector choses an entry from a single list of choices



SmartField™: A set of contingent data fields, where selection of a primary field returns a different set of results for a secondary field

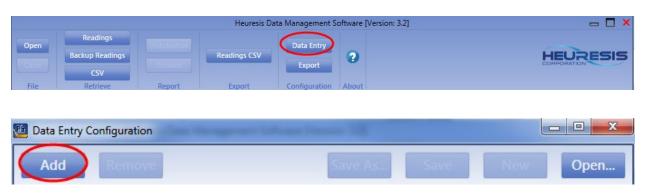






Your Pb200i is equipped with a default set of data entry fields. It is generally easier to edit an existing set of data entry fields rather than starting from scratch.

To create a new set of data entry fields, select Data Entry, then Add



Enter the Field Name as shown in Figure X. If you are entering an alphanumeric data field, you may





select Add to add an additional data field or Save As... if your field set is complete.

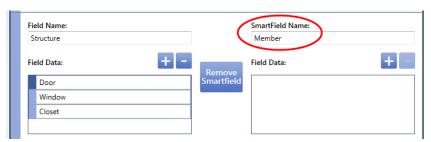
To create a Standard Picklist, select Add again, enter your Field Name, and select the plus sign (+) as seen in Figure X. and enter your first selection. Continue to select + and add additional selections as required. To remove a field, select the light-blue tab so that it turns dark-blue, and select the minus sign (-).





To create a SmartField, select the blue tab, Add SmartField, and enter the SmartField name.





Select the plus sign (+) under the SmartField name to add associated entries.



Select another field and continue to add SmartField entries.

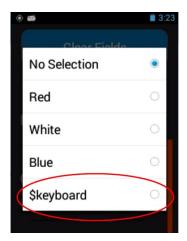


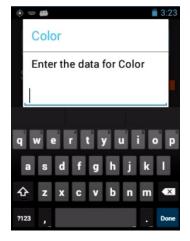


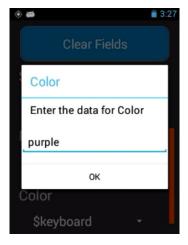
To add an alphanumeric entry to either a standard picklist or a SmartField, enter "\$keyboard"

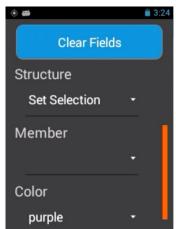


Your Pb200i will display a keyboard when you select the \$keyboard option







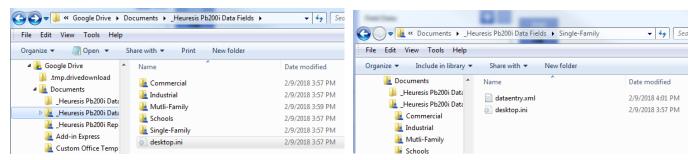


The temporary entry added with the \$keyboard function will remain in the picklist until you close the Pb application.

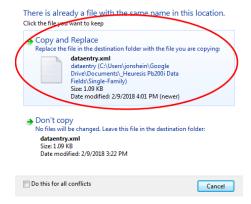
Select Save As... and name the file "dataentry.xml"

Pro Tip: Create a series of folders with descriptive file names, then save customized data entry lists in the appropriate folders to easily access the files for upload to your Pb200i





Copy the dataentry.xml file from your computer to the dataentry folder on your Pb200i. You will receive a message informing you that "There is already a file with the same name in this location". Select "Copy and Replace". If you are logged into the Pb app on the Pb200i, you will need to log out and log back in for the file to register.



Exporting data from the Pb200i for future import to a database

Large public health departments, publicly funded studies, or other programs looking to aggregate lead inspection data across multiple XRF analyzers and multiple locations have the ability to customize the content and order of data exported from their Pb200i; this permits the standardized importation of XRF readings through the creation of a custom export configuration.

Select Export.

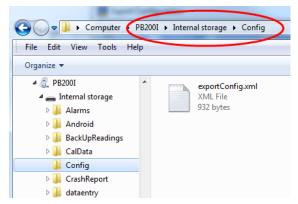


Select your data entry file to populate the list of data fields, check the details you wish included in the export header, and select the reading data and data fields to be included in your custom export configuration. Select an object, then use the right arrow to add objects to your export, and use Up or Down to change the order of the columns.





Select "Save As..." and name the file "exportConfig.xml", then copy the file to the Config folder on your Pb200i



If you are logged into the Pb app on the Pb200i, you will need to log out and log back in for the file to register. See the Pb200i User Guide for instructions on exporting the file.