SedonaOffice

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Using Query Builders

Presented By:
Matt Howe

Table of Contents

Customer Query Builder Overview

The *Customer Query Builder* is a tool that enables SedonaOffice Users to create custom queries based on your company's data that is stored in the SedonaOffice database. A Customer Query Builder report design builds a SQL query behind the scenes to be able to display selected data. To be able to use this tool effectively, Users should have a good working knowledge of the SedonaOffice application and how data is entered, linked and stored.

All reports are based on data elements that relate to Customers and data directly related/linked to them.

This tool is used to produce a list of information based upon the criteria selected by the User when designing the query for the report. The Customer Query Builder does not perform any mathematical calculations. Query results may be exported to and opened with a spreadsheet type application such as Microsoft Excel, where totals, subtotals or calculations may be added. This reporting tool is referred to as the CQB.

After designing a report query, the User may save the query to be used again in the future. Reports may be printed or exported to a .csv file format which may be opened using Microsoft Excel or any other third-party software application capable of interpreting the .csv file format.

The Customer Query Builder is secured by User Group Permissions; a User may have access to design queries but may or may not have the permissions to export and/or print the report results. The Security for this tool is designed to keep your data safe. System Administrators should think very carefully about possible repercussions prior to granting export and printing permissions to any User Group.

Once a report query is completed and the User is satisfied with the design, it may be saved for future use if needed. Report query designs may be saved to a local hard drive or in a public folder on a file server. If other Users will be allowed to generate the report whenever needed, it will typically be saved on a file server in a folder to which the intended Users have access. Just keep in mind if another User is granted access to generate a report they are also able to modify the report query design and save with the original query file name. If the report query design needs to be preserved, a Master copy of the report query should be saved in a secure location.

Note: There are several other Query Builders available in the SedonaOffice application. All of the Query Builders operate off the same principles as the Customer Query Builder. Once you understand the concepts, you may apply these to designing reports with the other Query Builders. As of the publication of this document, the following Query Builders are available - access to each is controlled by User permissions.

Customer Query Builder, AP Query Builder, GL Query Builder, Parts Query Builder, Job Query Builder, and Sales Tax Query Builder.

When designing a new report query, Users should determine what information is to be displayed on the report. It is helpful to layout on a sheet of paper what the desired results are for the finished report.

Below is a list of questions to consider when designing a report query.

• What is the intended use of the report? This will help in deciding which data fields will need to be included in the design of the report query.

• What information is needed on the report (which fields in which tables)?

• What specific pieces of information are required – only certain types of customers etc.? This will help in creating filter selections for the report query.

• How is the report to be sorted? The CQB allows the User to select sorting options for how the data in the query results will be listed.

Understanding the Customer Query Builder

Before attempting to design any report query, it is important to understand the structure of the CQB Design form and how it operates. The CQB Report Query Designer is divided into five major elements which are briefly described below.
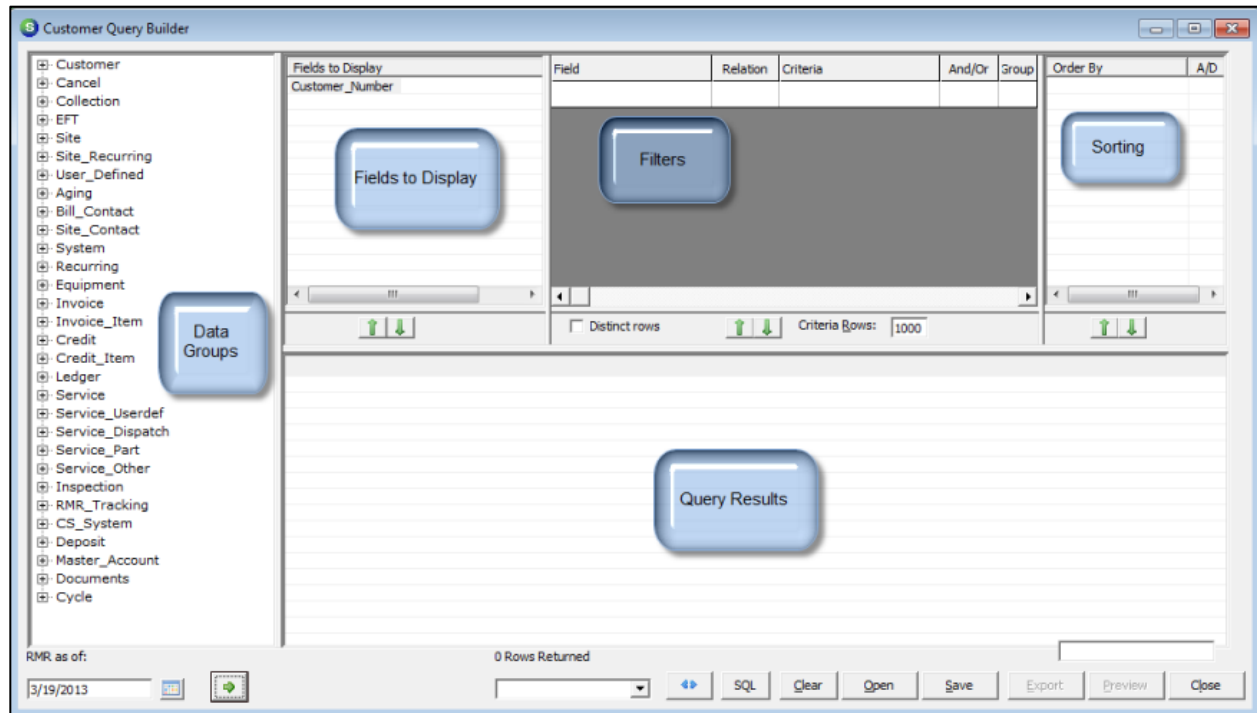
Data Groups – The Data Groups is the primary component of any report. This section is where individual fields are selected that will be included in the final report results. As each Data Group is expanded, a list of all fields available in the Data Group is displayed. Fields may be selected from one or multiple data groups. Fields and data groups are regularly added to this list to meet the needs of the users and changes in the database.

Fields to Display – As fields are selected from the Data Groups, they are displayed in this area of the Design form. Fields selected may be moved up or down until the fields are listed in the order in which it is desired they appear on the final report. The first field to display of any query builder is fixed and cannot be moved or deleted.

Filters – The Filters section allows the User designing the report query to include or exclude data by using built-in operators.

Sorting – This section allows the User to select the order in which the data is displayed on the finished report. Sort options are based on one or more of the fields selected from the Data Group. If no sorting is specified, sorting defaults to the first field in the fields to display.

Data Groups

The Data Groups displayed in the Report Query Design form allow the creation of reports based on many data elements. The list of Data Groups displayed pertains to data which is related to Customers. There are no Data Groups available for creating reports for Jobs at this time as Jobs has its own query builder. If a User takes the time to review the Database Explorer they will find there are fields in a data table that are not listed in any CQB Data Group; this is by design. From time to time the CQB is enhanced to add additional fields; when this occurs mention is made in the Release Notice for the software version where the enhancement was made. Please read each release notice to keep current on any new field additions to the CQB.

When the tree of a Data Group is expanded, all the fields available to include on a report are listed below the Data Group name. Some of the field names are quite long; a horizontal scroll bar is provided at the bottom of the Data Groups to display more of the field name. Fields to be included on the report are selected by double-clicking on the field name or by dragging the field name into the Fields to Display area of the Report Designer.

In the illustration below the *Customer* Data Group has been expanded; only a partial list of the available field names is displayed. Use the vertical scroll bar to move up or down to display more data fields.

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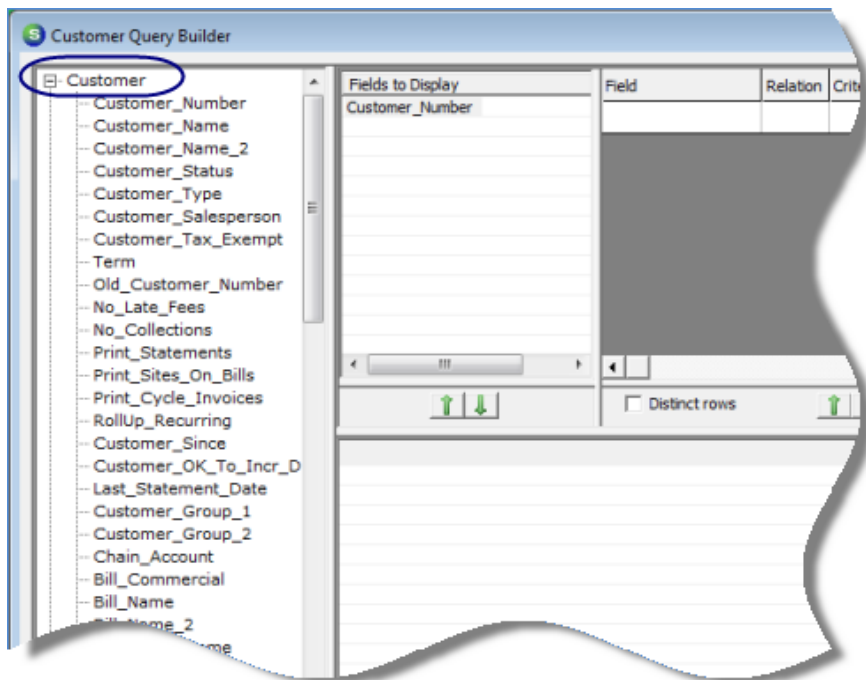
Fields to Display

As fields are selected from the Data Groups they are listed in the *Fields to Display* section of the Report Query Designer form. The Customer Number field is a field that will appear on all report queries and may not be removed; this is by design since all data fields in the CQB are somehow related to a customer.

The report query results will display and print the data fields in the order in which they are listed in this section. The User may move fields up or down in the fields list by clicking the green up or down arrow located below the *Fields to Display* area.

If the User needs to remove a field that was previously selected, highlight the field name, right-click and select the *Delete* option.
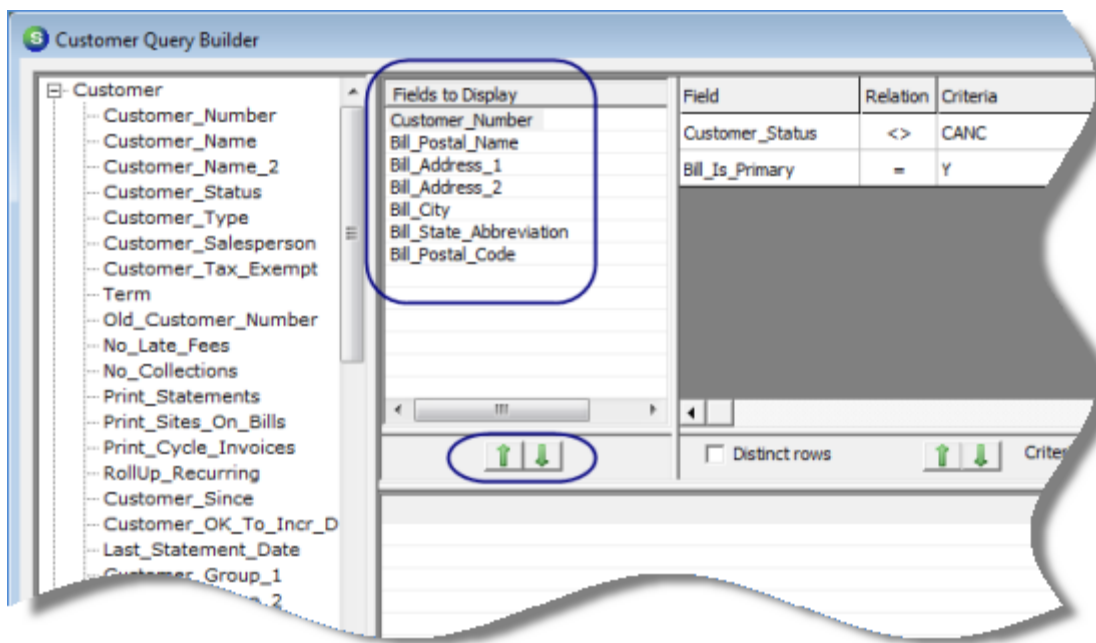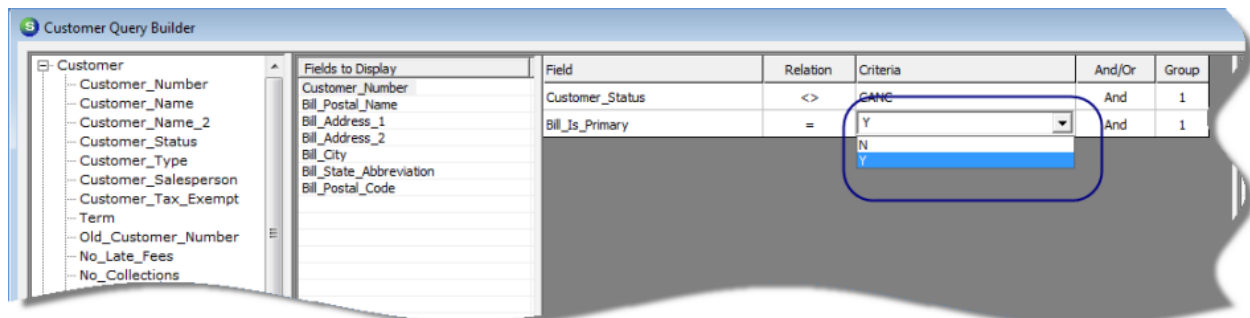
Filters

Filters are used to include or exclude records from the report query. Each Filter is based on a Data Field to which a *Relation* is applied and criteria selected from a drop-down list or typed in by the User.

For example a report query is being designed to create a list of customers that are actively being billed for recurring services. This list will be used to send out a letter notifying the customer the company is now accepting automated credit card payments. A filter may be created which will include only customers where the customer status is equal to AR (Active Recurring). Below is how this filter would be created.
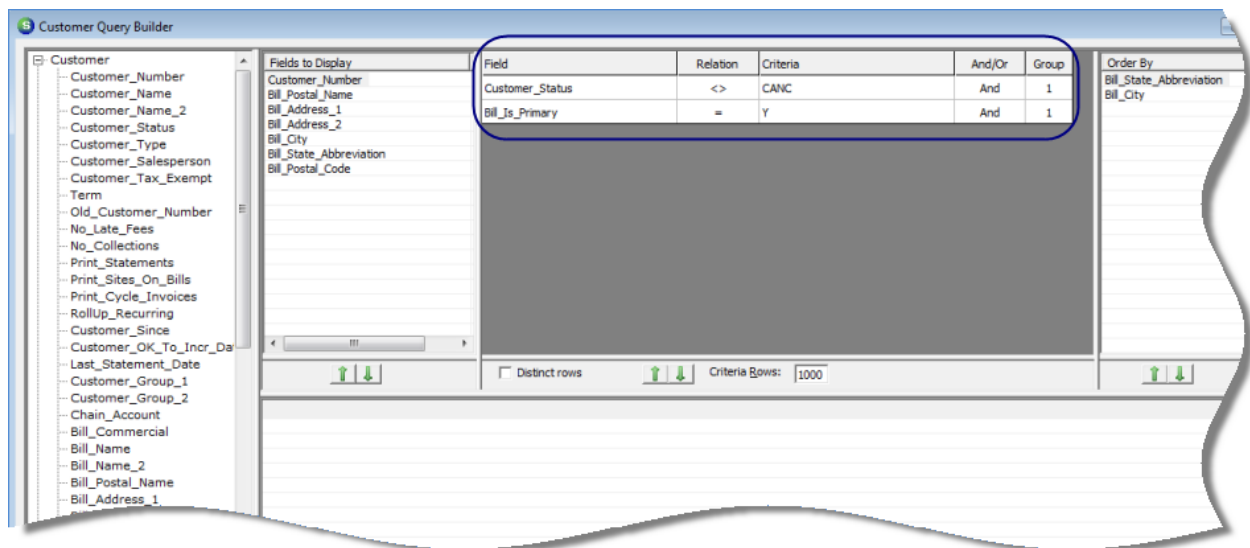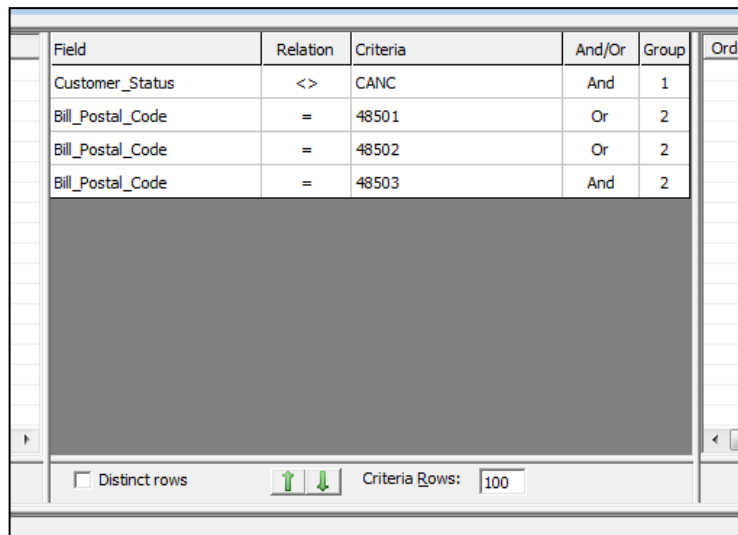

Since this report query results is going to be a mailing list, and a customer may have multiple Bill To addresses, the report query should only include the Primary Bill To Address otherwise the customer could possibly receive the same letter at multiple addresses. An additional filter can be added to only include Primary Bill To addresses.

Listed below are the *Relation* types available when creating filters.

|	
=	Equal to
<>	Not Equal To
>	Greater Than (used with numeric or date type fields)
<	Less Than (used with numeric or date type fields)
>=	Greater Than or Equal To (used with numeric or date type fields)
<=	Less Than or Equal To (used with numeric or date type fields)
Is Null	The field is empty
Is Not Null	The field contains any value
Starts With	The value entered is found at the beginning of the field
Ends With	The value entered is found at the end of the field
Contains	The value entered is found anywhere in the data
Between	The value is a range - selecting this operator will prompt for a beginning range value and an ending range value; this is typically used for filtering on a specific date range.

And/Or determines how a filter line relates to the line below it. In our example we want both conditions to apply so we choose Customer_Status <> Canc "And" Bill To is primary = Y. Some filters are more complex and need the group set to show the query builder what you want. For example, what if we wanted and customer in the postal codes 48501, 48502 or 48503 and that those customers not be cancelled. We could set Customer_Status <> Canc And Postal code = 48501 Or Postal code = 48502 Or Postal code = 48503. This seems logical except that SQL does all And operations before any Or operations. So in effect we have (Customer_Status <> Canc And Postal code = 48501) Or Postal code = 48502 Or Postal code = 48503. This means that customers in 48501 would have to be not cancelled but any customer in 48502 or 48503 would be accepted. In high school algebra that using parenthesis can change the order thins are processed in. So if we could change our filter to look like this Customer_Status <> Canc And (Postal code = 48501 Or Postal code = 48502 Or Postal code = 48503) SQL would see that the postal code checks are to be handled together. The group setting allows us to do this. By placing the postal codes filters into a separate group from the Customer Status check, we tell the query builder to add parenthesis around the postal code checks.

| Field	Relation	Criteria	And/Or	Group	Orde
Customer_Status	<>	CANC	And	1	
Bill_Postal_Code	=	48501	Or	2	
Bill_Postal_Code	=	48502	Or	2	
Bill_Postal_Code	=	48503	And	2	

☐ Distinct rows   Criteria Rows: 100

Sorting

This section of the Report Query Designer allows the User to select the order in which the data is displayed on the report. Sort options are based on one or more of the fields selected from the Data Group.

Working the same example used the Filters section on the previous page, the report query may be sorted on zip code so that the letters printed out may be bundled in this order to receive a lower postage rate. Drag and drop the Bill_Postal_Code field into the Sorting area of the Report Designer form. By right-clicking on an *Order By* field, the User may select to sort the field in ascending or descending order. The default sort order is ascending order.
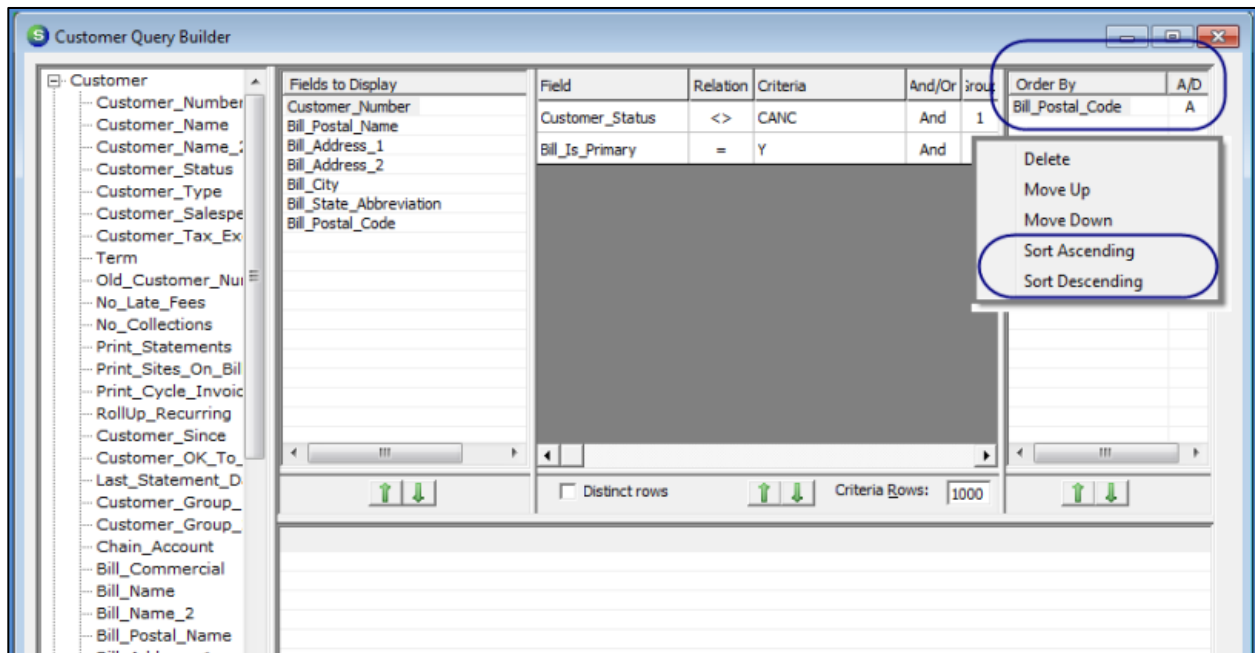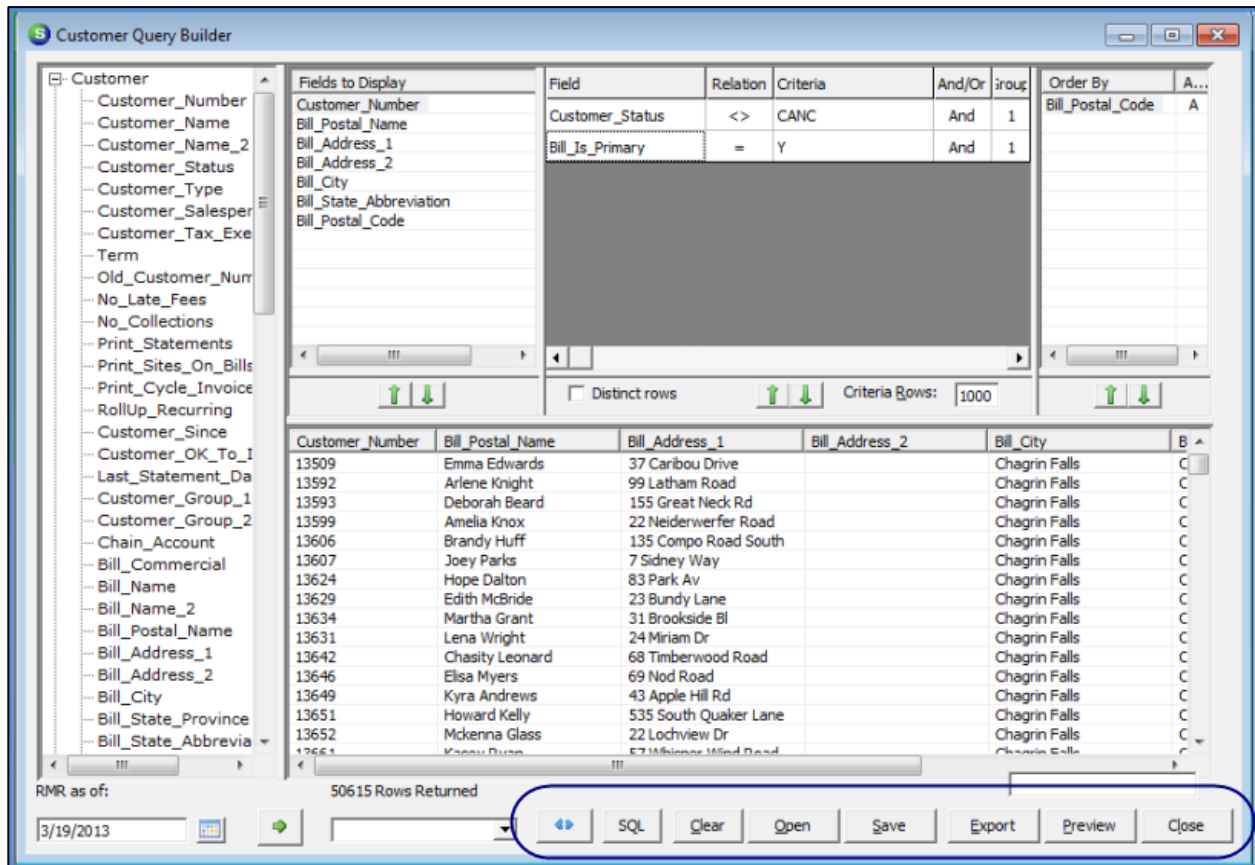
Report Query Results

Once data fields have been selected, filters created and sort options have been selected the User will be ready to see the report query results. Click the *Refresh Results* button (green arrow) located at the lower left of the Report Designer form. The Report Results grid will fill in with the data specified in the report query.
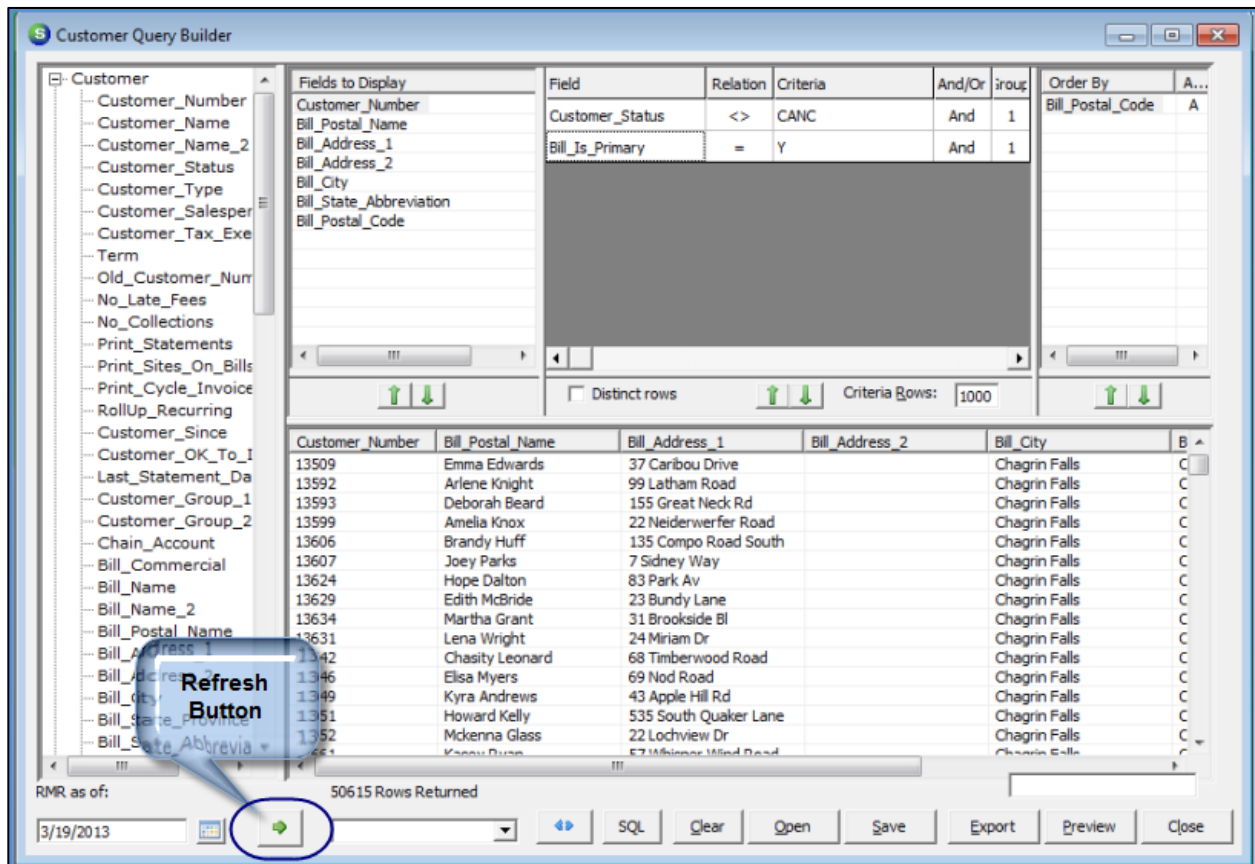
Double clicking on any row in the results grid will open that customer (or part, job, etc. for the other query builders.)

Function Buttons

Across the bottom of the CQB Report Design form are a series of function buttons.

Mail Merge Button

SedonaOffice offers a feature which allows a User to create Mail Merge letters based on the CQB query results. This feature uses the functionality within Microsoft Word's Mail Merge function. Once the letters have been generated, the customer's Sedona Event Log is updated with the title of the letter and the date generated for tracking purposes.

To use this feature, Microsoft Word must be installed on the user workstation that is generating the Mail Merge Letters. Clicking the Mail Merge button will open a list of template letters that have been saved to the Template Server with a template type of Customer Query if the template server is selected in the mail merge menu. Otherwise a open file dialog will open allowing you to load any previously prepared document.
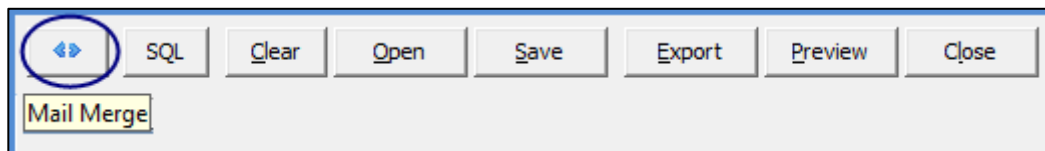
SQL Button

Clicking the *SQL* button will display the SQL code that is generated when designing a report query. This can be particularly handy when working with other utilities that use queries such as SedonaSync.
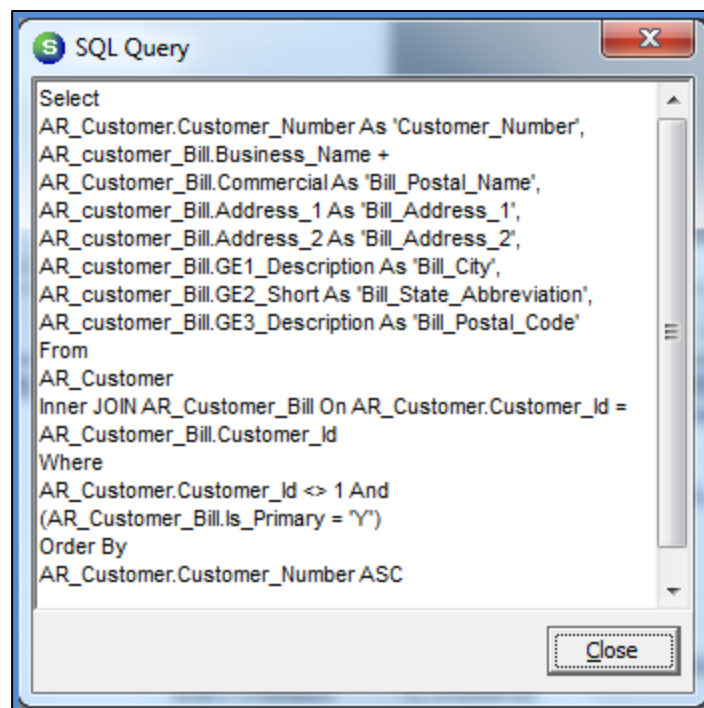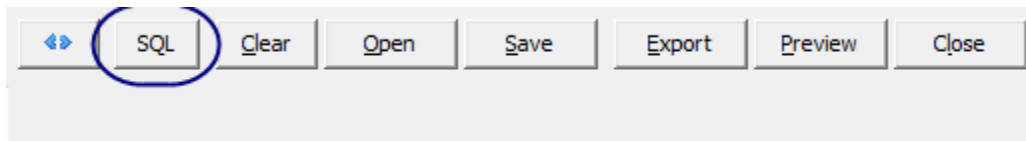

Clear Button

The *Clear* button is used to remove any report query design selections so that the User may begin working on a new report query. The User will **not** be prompted to save the report query prior to being cleared. Make certain to save the report query design prior to clicking this button.
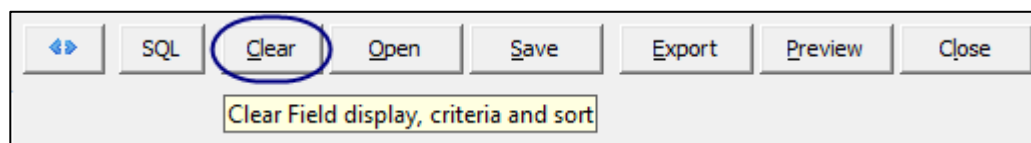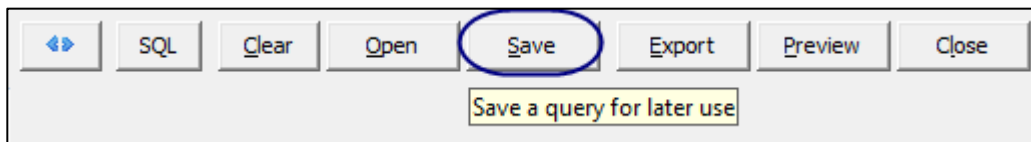
Open Button

Clicking the *Open* button will open the Windows File Explorer to locate and retrieve a previously saved report query design file.
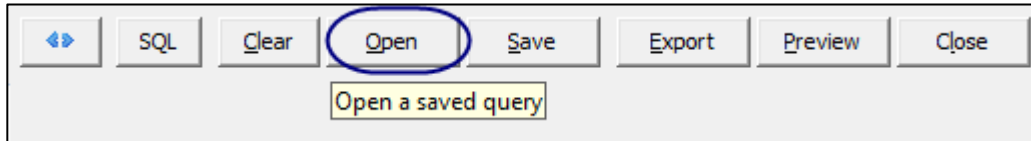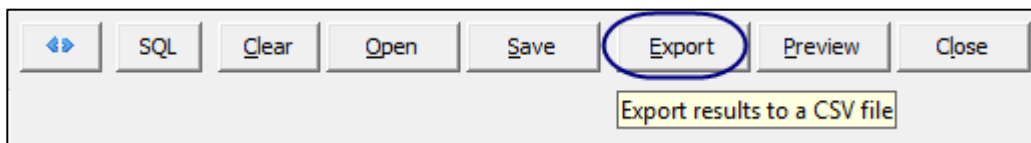
Save Button

Clicking the *Save* button will open the Windows File Explorer to specify a file name and location for saving a report query design file.

Export Button

Clicking the *Export* button will open the Windows File Explorer to specify a file name and location for exporting the results of a report query into a .csv file format.

Preview Button

Clicking the *Preview* button will open the report query results in report preview mode. The User is prompted to type in a title for the report and specify whether the report should be displayed in portrait or landscape view. Due to space limitations on a printed report, all data fields specified on the report query design will display but may not be truncated in the report preview. Te relative width of the columns on the report will be the same as the relative column width from the query results. If the report query results are exported to a .csv file, all selected data fields will be exported in their full width.
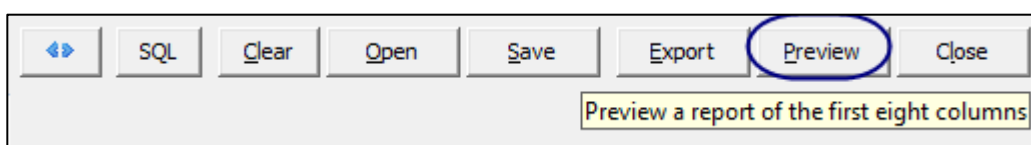
Close Button

Clicking the *Close* button will exit the Customer Query Builder. If the current report query has not yet been saved, all work will be lost. The User will **not** be prompted to save the report query prior to exiting the CQB. Make certain to save the report query design prior to clicking this button.
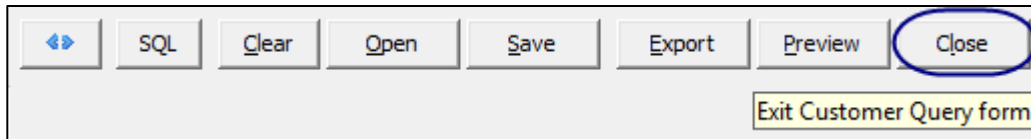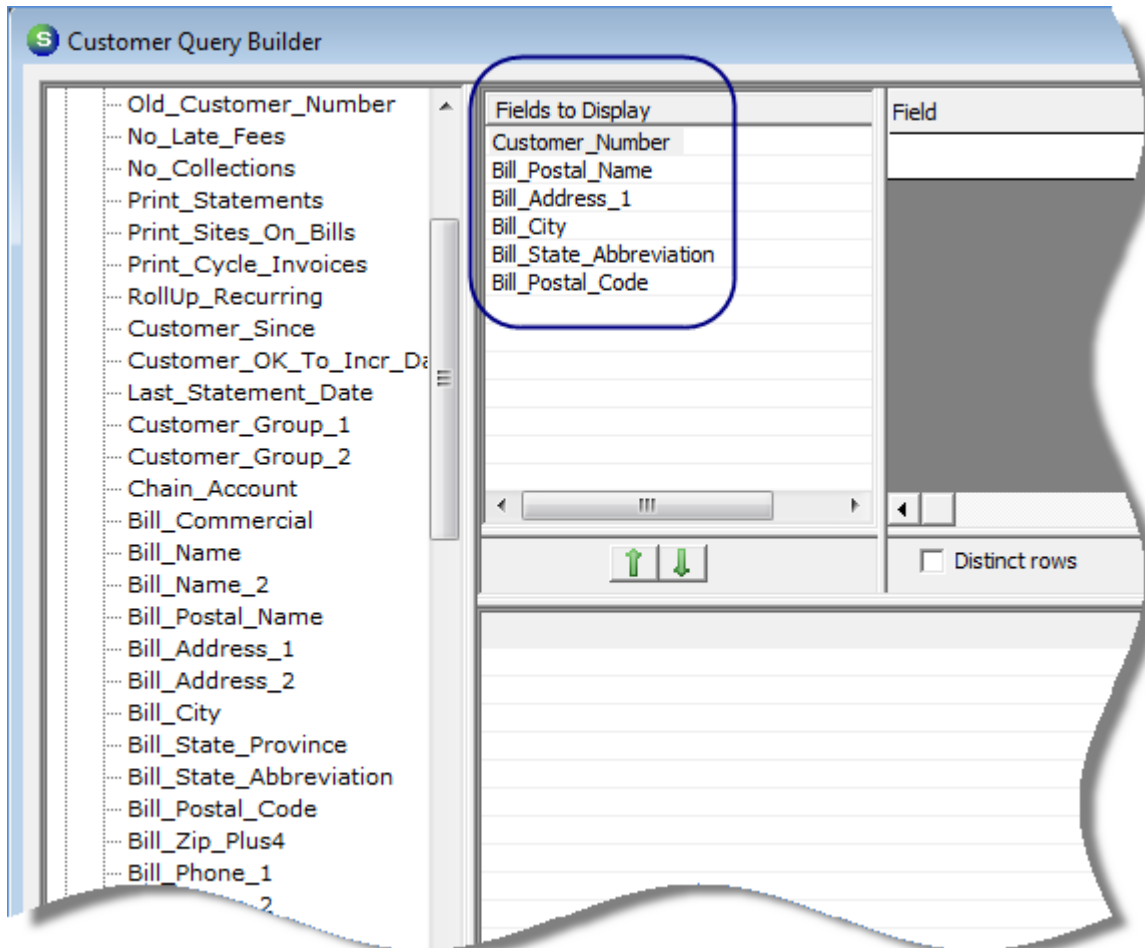
Designing a Report Query

This section will walk through the step by step creation of a simple report query, the printing of the query results and saving the report query design to a file. The end result of this sample report will be a list containing customer names and addresses for customers that are actively being billed for recurring services. The primary sort for the report will be on the zip code field with a secondary sort on the city field. The report will only include a customer's primary billing address.

1. Open the CQB Report Query form. From the Main Application Menu select Query / Customer Query.

2. The CQB Query Design form will be displayed. Expand the tree of the Customer Data Group. To expand a Data Group either click the "+" to the left of the Data Group or double-click on the Data Group.
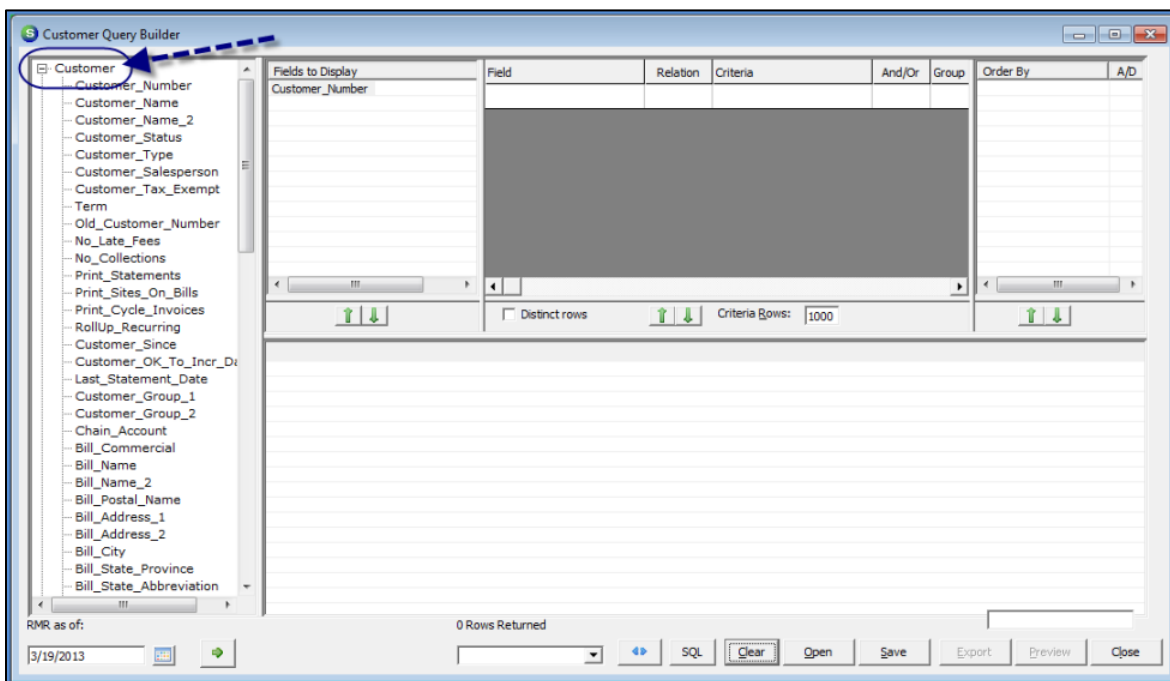
3. Select the data fields to be displayed in the report results by either double-clicking on the data field or by dragging and dropping the data field into the *Fields to Display* area of the Query Design form.

4. Next Filters will be added to the report query design. For the first filter, drag and drop the Customer_Status field from the Customer Data Group into the Filter area. The Relation field will default to "="; do not change this selection. In the Criteria column select *AR* from the drop-down list then click the tab key on the keyboard.

For the second filter, drag and drop the Bill_is_Primary field from the Customer Data Group into the Filter area. Again the Relation field will default to "="; do not change this selection. In the Criteria column select *Y* from the drop-down list then click the tab key on the keyboard.
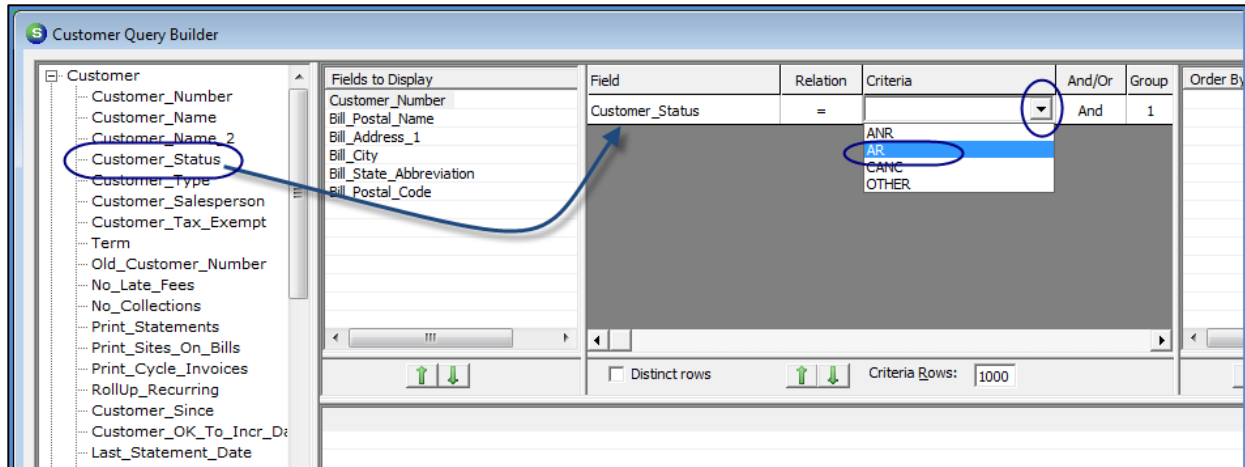
5. Next a Sorting selection will be added to the report query design. Drag and drop the Bill_Postal_Code field from the Customer Data Group into the Sorting area.

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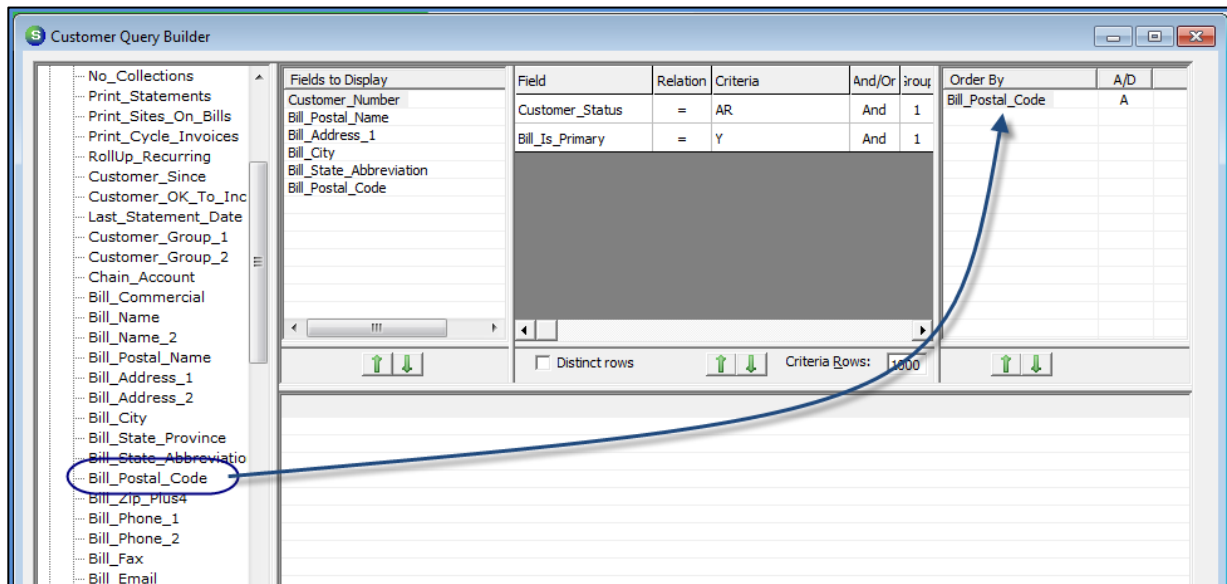
6. The report query design is now complete. Next click the *Refresh* button to return the requested data rows.
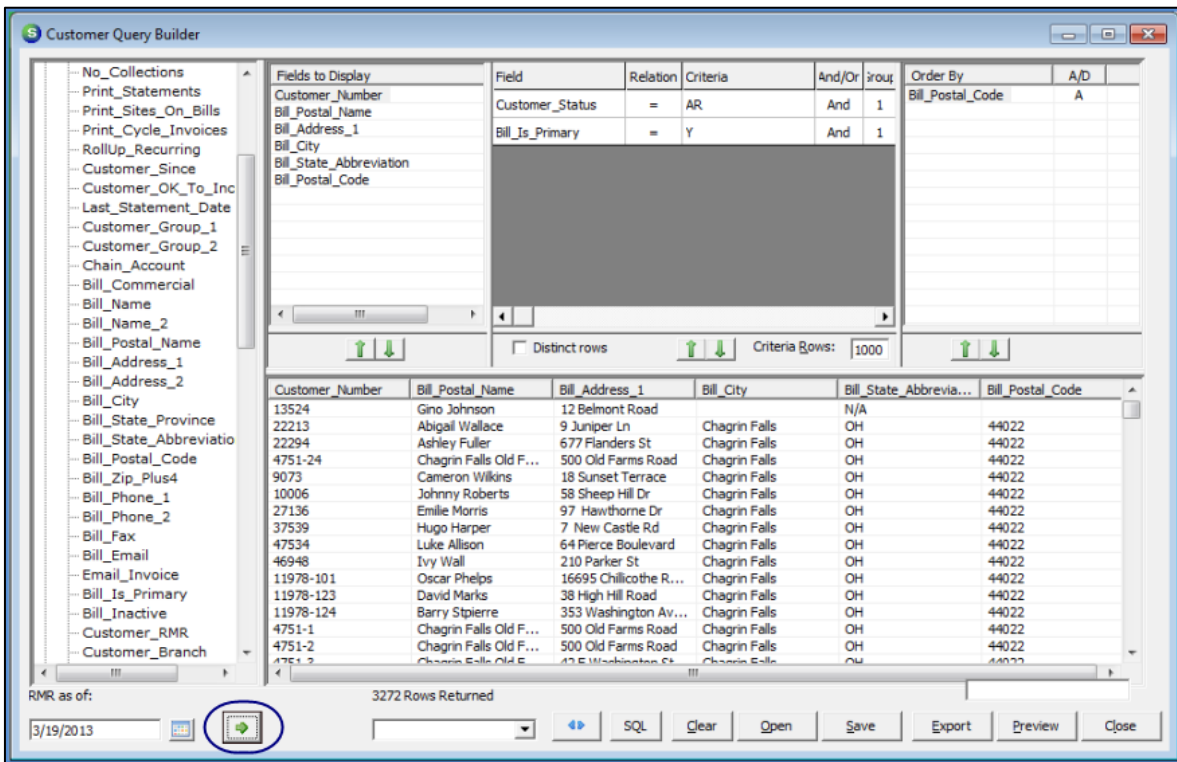
7. When a report query is printed, the column titles for each selected field will display and print the exact field name that was selected from the Data Groups. The User has the option of changing the field title names to be more presentable on a printed report.

To change a field name column header, in the Report Query Results area, click on the column title to be changed. The user will have a choice of totaling the column or edit the column header. Choose edit column header. An edit box will be displayed where the User will type in the words that will be displayed for the selected data field column. Click enter or the *OK* button to save. Any modifications made to column titles will be saved with the Report Query Design file.
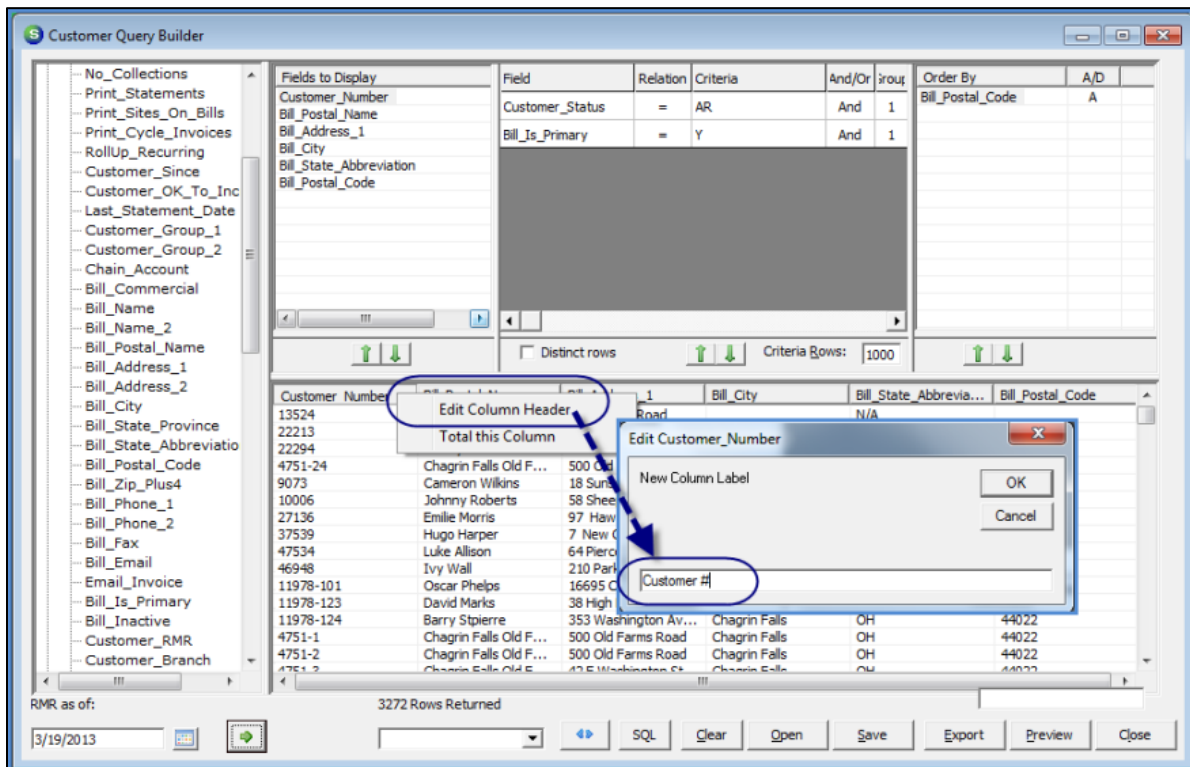
8. Once you are satisfied with the Report Query Design, click the *Save* function button to save the Report Query for future use.

9. If the Report is to be printed to paper or printed to a file, click the *Preview* function button.

10. If the Report data is to be exported to a .csv file, click the *Export* function button.