

Railinc Advanced Query User Guide



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Welcome to Railinc Advanced Query

The Advanced Query Application is a powerful search engine that accesses three mission-critical Railinc applications. In one query, railcar owners and other users can search the Umler® Equipment Registry, Umler Component Registry, and Car Repair Billing, and any combination of these applications. For example, a user may request to view all equipment IDs, component IDs and component locations with wheels made by ABC Industries. All queries may be saved for future use. By combining these vast information resources, the application provides users with advanced analytic capabilities to help better manage their businesses.

Railinc Advanced Query was originally developed as a part of the Comprehensive Equipment Performance Monitoring (CEPM). Advanced Query is a web-based application that allows users to create, run, export, edit, and delete custom queries based on Boolean concepts.

This first phase focuses on:

- Component Registry elements;
- A subset of Umler elements; and
- A subset of Car Repair Billing elements

Future development might include elements from other Railinc applications.

Prerequisites

The Railinc Advanced Query and the Component Registry operates as a part of Umler system. Each user must have an SSO ID and be authorized to use Umler. For more information on obtaining an SSO ID and requesting application access, see the [Umler User Guide](#).

Each user must be familiar with:

- Logging In/Out
- Railinc common interface component navigation

System Requirements

The basic computer requirements for Component Registry are the same as for Umler. For more information on system requirements, see the [Umler User Guide](#).

User Guide Structure

This document has been organized to reflect the application menu order of the Component Registry. It describes use and interpretation of interface elements in the Component Registry.

The format of the Railinc user guide is in an “offset” style. Dictionary-like retrieval text is used in the header.

Railinc Single Sign On (SSO) information is included, and references to the Railinc Single Sign On User Guide added. SSO information for Umler administrators is also in the [*Railinc Single Sign On and Launch Pad User Guide*](#).

Whenever possible the term “select” is used to indicate making a choice using either the mouse or keyboard. Left-clicking generally activates a control or selects an item. Where a double-click is required, it is specified.

Underlined blue links are functional links to go to another location in the user guide.

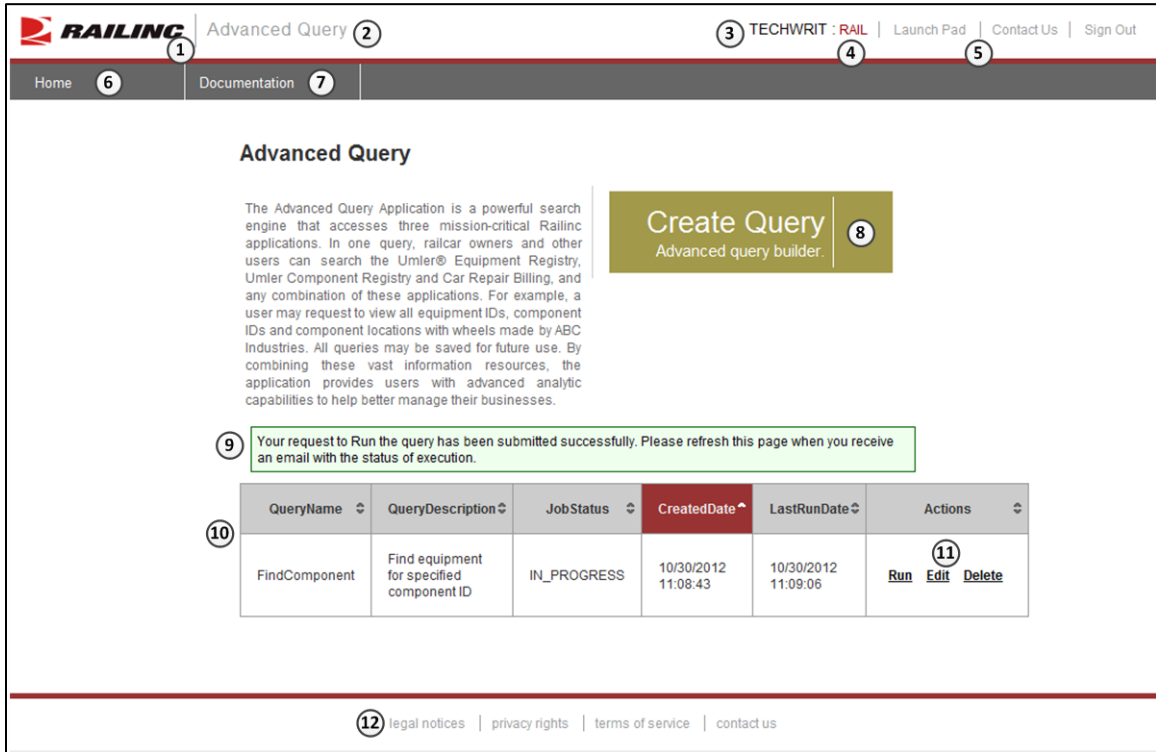
Web Interface

The Railinc Advanced Query interface provides the same navigational tools found in most Windows applications and Internet sites.

Railinc Advanced Query Web Page Layout

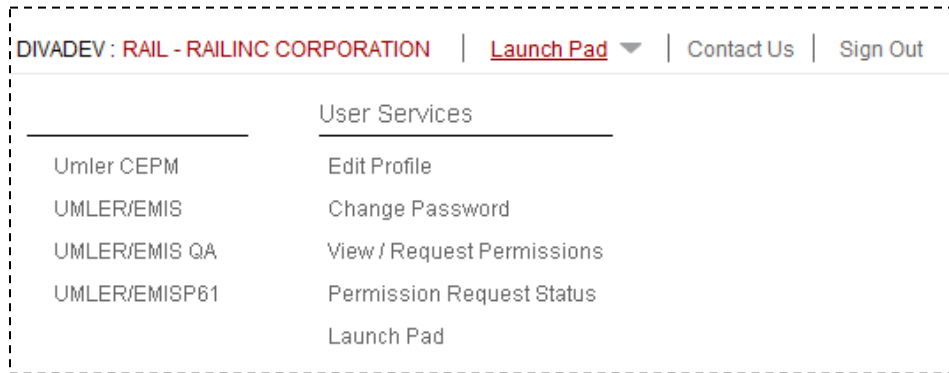
The Home page in Advanced Query has a following structure.

Exhibit 1. Railinc Advanced Query Page Layout



- 1 **Logo**—Railinc logo. Logo is link to the Railinc corporate website.
- 2 **Application Title**—Name of the application. This is also a link to the Home page of the application.
- 3 **User ID**—Logged in user.
- 4 **Company**—Company user is representing.
- 5 **Navigation Links:**
 - **Launch Pad**—Link where the user can click to go directly to the SSO Launch pad, or hover over to display a dual drop-down menu to switch to other authorized Railinc applications (left side) or go to the SSO User Services functions (right side), e.g., change passwords, request other applications, etc. ([Exhibit 2](#)).

Exhibit 2. Launch Pad Link Drop-Down Menu



- **Contact Us**—Opens a page of contact information (local road, Railinc support).
 - **Sign Out**—Logs out of current application and returns to the Railinc SSO login page.
- 6 Home**—Opens the home page, for example, returning from the query wizard.
 - 7 Documentation**—Opens user reference documents (e.g., user guide, specification manual, etc.).
 - 8 Create Query**—Link to open the Query Builder wizard ([Exhibit 9](#)).
 - 9 Message Area**—Displays messages pertaining to queries.
 - 10 Saved Query Table**—The title of the specific application task page.
 - 11 Query Actions**—A column of the query table where users can select actions to perform again the query. These can include: Run, Edit, Delete, and Download.
 - 12 Legal Links**—This area at the bottom page contains links to applicable legal notices, privacy rights, terms of service, and the Contact Us.

Getting Started

The Umler application is accessed using the Railinc Single Sign On (SSO), which can be accessed from the Railinc portal at <http://www.railinc.com>. The SSO log in is located at the upper right of the page.

Logging In

To log into the Umler application:

1. Open the browser.
2. Open the Railinc portal at <http://www.railinc.com>.
3. Log in to SSO (at upper right).
4. On the Launch Pad panel, select **Umler**.
 - a. *If the user represents two or more companies, the Select Your Company page is displayed ([Exhibit 3](#)).*

Exhibit 3. Select Your Company

The screenshot shows the Umler application interface. At the top, there is a header with the RAILINC logo and the text 'Umler'. To the right of the header, there are links for 'TECHWRIT', 'Launch Pad', 'Contact Us', and 'Sign Out'. Below the header is a navigation menu with links for 'Home', 'Query', 'Maintenance', 'Upload / Download', 'Railinc Admin Functions', 'Account Administration', 'Contact List', 'Component Registry', 'Help', and 'References'. The main content area is titled 'Select Your Company' and contains the instruction 'Select the company on whose behalf you are working.' Below this is a table with columns for 'Select', 'Company', and 'Company Name'. The table lists several companies, with the first one, 'RAIL', selected. A 'Select' button is located at the bottom of the table.

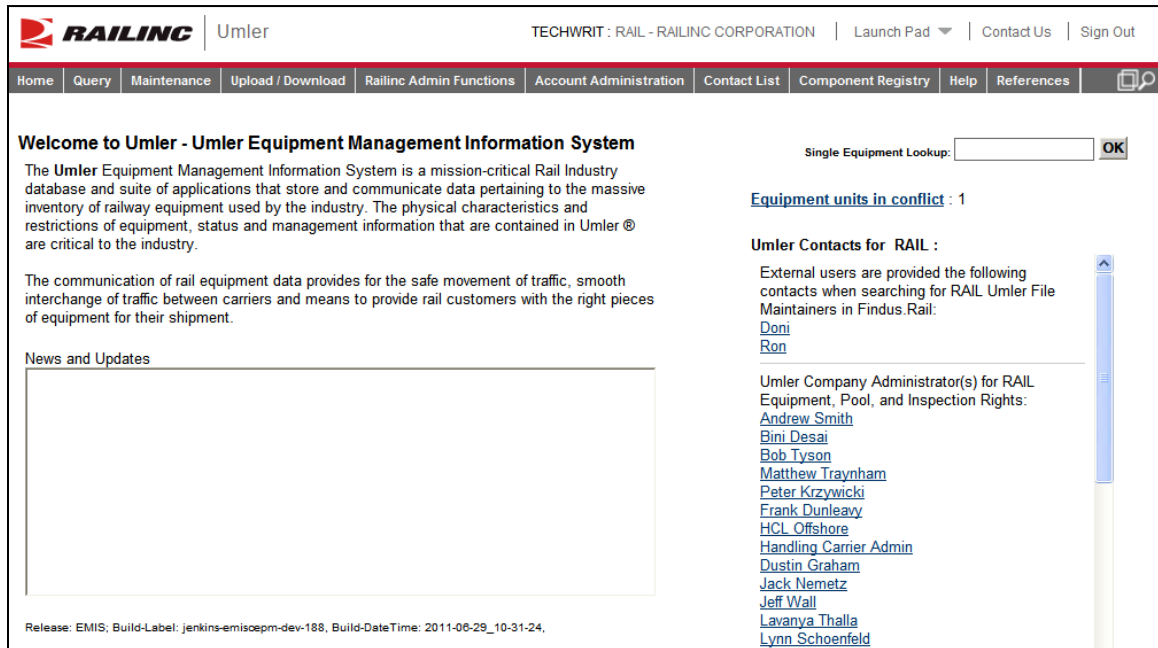
Select	Company	Company Name
<input checked="" type="radio"/>	RAIL	RAILINC CORPORATION
<input type="radio"/>	0000	Roadmark/Company ID - not found
<input type="radio"/>	A000	RAILINC RUNNING REPAIR MARK
<input type="radio"/>	A001	TTX COMPANY RUNNING REPAIR AGENT MARK
<input type="radio"/>	A002	F & M CAR & LOCOMOTIVE INC.
<input type="radio"/>	A003	Greenbrier Rail Services San Antonio TX
<input type="radio"/>	A004	GUNDERSON RAIL SERVICES LLC DBA GREENBRIER RAIL SERVICES MODESTO
<input type="radio"/>	A005	KENTUCKIANA RAILCAR REPAIR FACILITY LLC
<input type="radio"/>	A006	UNITED INDUSTRIES CORPORATION
<input type="radio"/>	A007	PROGRESS RAIL SERVICES CORPORATION
<input type="radio"/>	A008	PROGRESS RAIL SERVICES DE MEXICO SA DE CV

Select the link for the company wanted. The Umler Welcome page is displayed ([Exhibit 4](#)).

Note: To do work for a different company, select the **Launch Pad** link and reselect Umler and choose the other company. Alternatively, open a new browser window (**File>New Window**), select the **Launch Pad** link and reselect Umler and choose the other company. Toggle between the two company sessions using **Alt+Tab**. When finished working with multiple sessions, close the unwanted window using **X**, or **Alt+F4**. Do NOT select the **sign out** link—it ends the Single Sign On sessions (*all* of them).

- b. If the user represents only one company, the Umler Welcome page is displayed ([Exhibit 4](#)).

Exhibit 4. Umler Welcome



Continue by selecting a Component Registry application menu item (refer to [Exhibit 5](#)). The Component Registry menu has the following functions:

Exhibit 5. Component Registry Application Menu Functions

- | | |
|-----------------------|--|
| Registration | Allows the authorized user to search for, edit, delete, add, and upload components. This is described in the Umler Component Registry User Guide . |
| Associate Component | Allows the authorized user to associate a component with an equipment ID. This is described in the Umler Component Registry User Guide . |
| Query | Opens the Query submenu (Exhibit 6) |

Logging Out

Select the **Launch Pad** link to end an Umler session. The user returns to the SSO Launch Pad.

If multiple SSO applications are open (in separate browser windows), and the users wants to close only one, close the unwanted window using **X**, or **Alt+F4**. Do NOT select the **sign out** link—it ends the entire Single Sign On session (and *all* applications).

Advanced Query Primer

This section of material is provided to give users new to queries enough information to successfully create, run, and edit custom queries.

Inputs

The following list of operators is accepted currently:

- **Equals**—Accepts a single value
- **Does not Equal**—Accepts a single value
- **Greater Than**—Accepts a single value
- **Greater Than or Equal to**—Accepts a single value
- **Less Than**—Accepts a single value
- **Less Than or Equal to**—Accepts a single value
- **In**—Accepts a comma separated list of values
- **Not In**—Accepts a comma separated list of values

Note: Additional operators may be added in the future. Currently only 'AND' between input values is accepted (All AND inputs must be true for the query to succeed.). 'OR' might be supported in the future. Other aggregate type functions might be supported in the future.

Outputs

- Outputs are currently provided in CSV format.
- The output list of fields is the same as the input list.
- Users can select a check box to automatically return the fields selected for input.
- Selected fields will return in the order they were added to the query. Sorting of the fields may be supported in the future.

Saving

To save a query, the user must supply a name and description for the query, which is displayed in the user's list of saved queries.

Viewing/Running/Other Actions

From the user's list of saved queries:

- The user can run the query and retrieve results from this list.

Note: Rerunning the query overwrites the previous results.

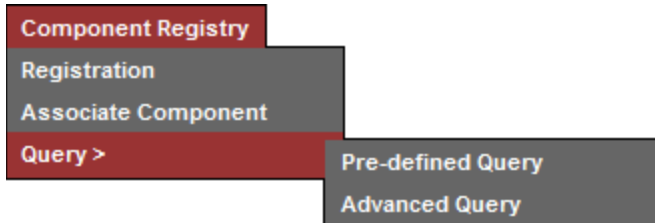
- The user can edit a saved query from the list, using the same interface as creating.
- The user can delete queries from the list that are no longer needed.
- The user can export the results (in CSV format)

Note: Other formats may be supported in the future.

Advanced Query

When the user selects **Query>**, the Query submenu opens:

Exhibit 6. Query Submenu



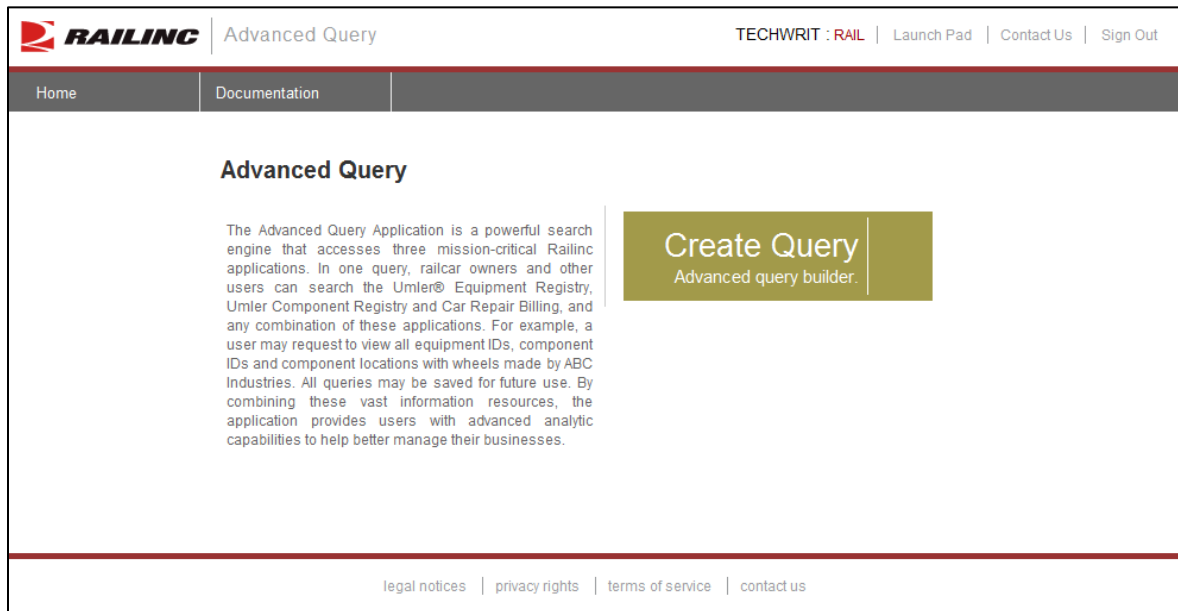
The Component Registry Query menu has the following functions:

Exhibit 7. Component Registry Query Menu Functions

- Pre-defined Query** Allows the authorized user to execute standard queries. This is described in the [Umler Component Registry User Guide](#).
- Advanced Query** Allows the user to prepare a custom queries using multiple criteria with Boolean operators that can be saved, run, and edited ([Exhibit 8](#)).

When the user selects Advanced Query, the Advanced Query page is launched in a new window ([Exhibit 8](#)).

Exhibit 8. Advanced Query

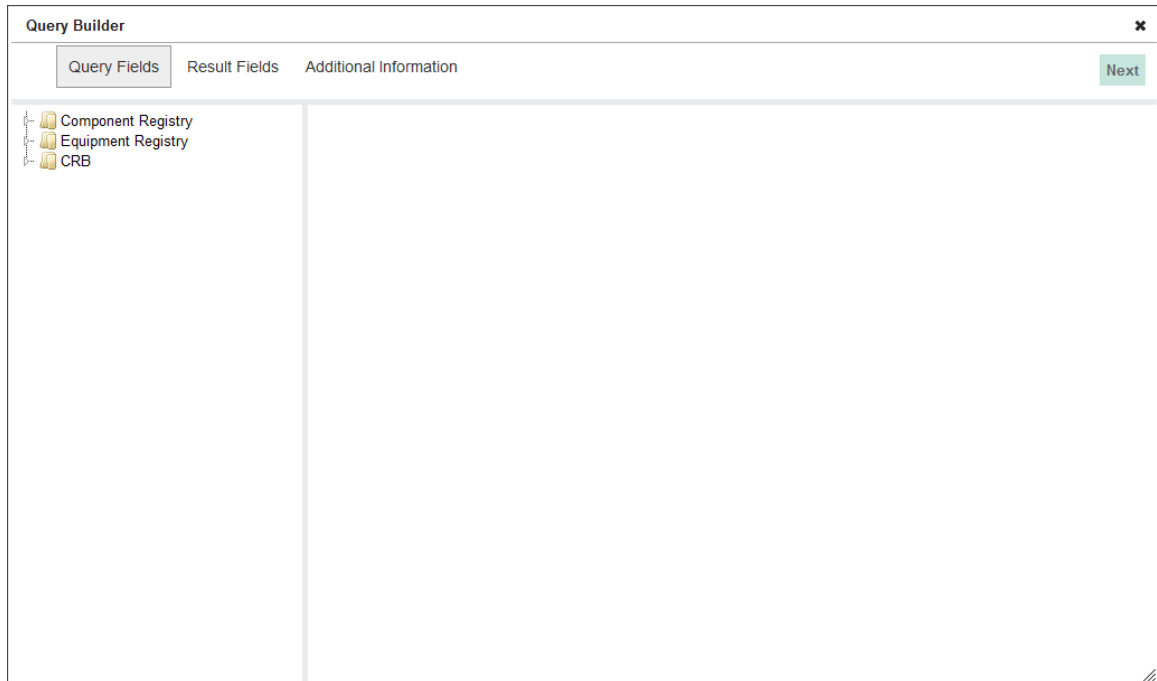


Creating a Query

To create a query:

1. Select the large **Create Query** link. The Query Builder opens ([Exhibit 9](#)).

Exhibit 9. Query Builder (Query Fields)



Query criteria can be selected from the following directories:

Component Registry—All elements from the CEPM Registry by component type ([Exhibit 10](#)).

Note: Couplers are not available for Advanced Queries.

Equipment Registry—Selected element data from Umler ([Exhibit 11](#)).

CRB—Selected data sourced from the Car Repair Billing system ([Exhibit 12](#)).

Note: Directories can be expanded and collapsed using the icons at the left of each directory.

Exhibit 10. Component Registry (with Bolster expanded)

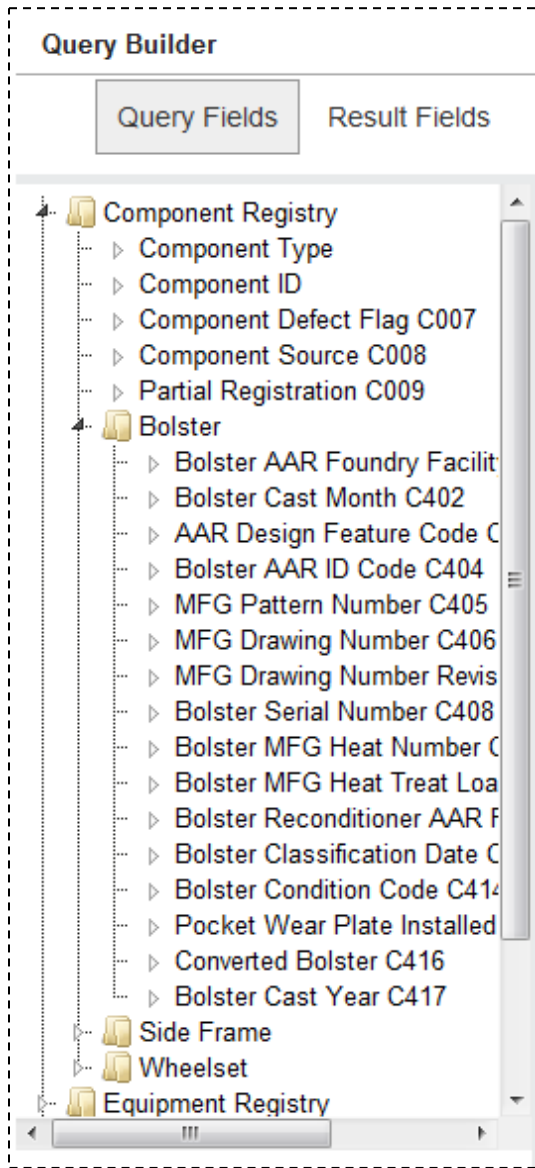


Exhibit 11. Equipment Registry (Expanded)

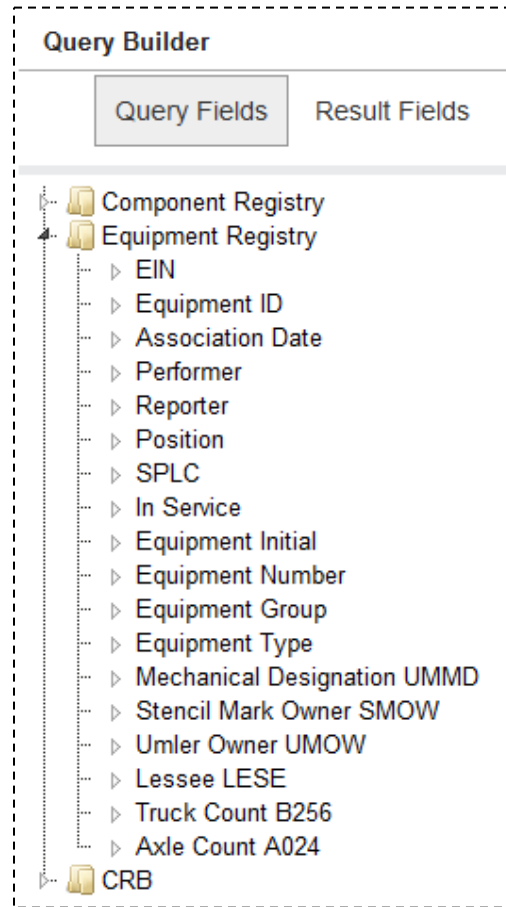
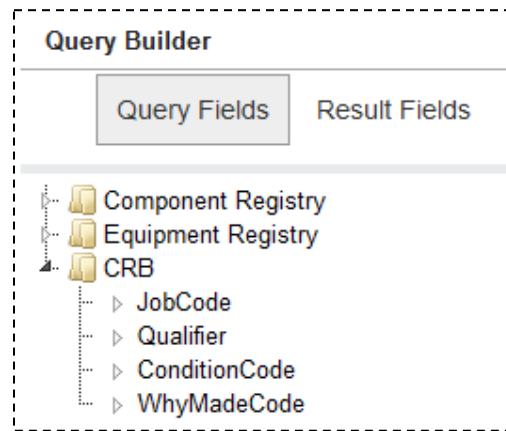
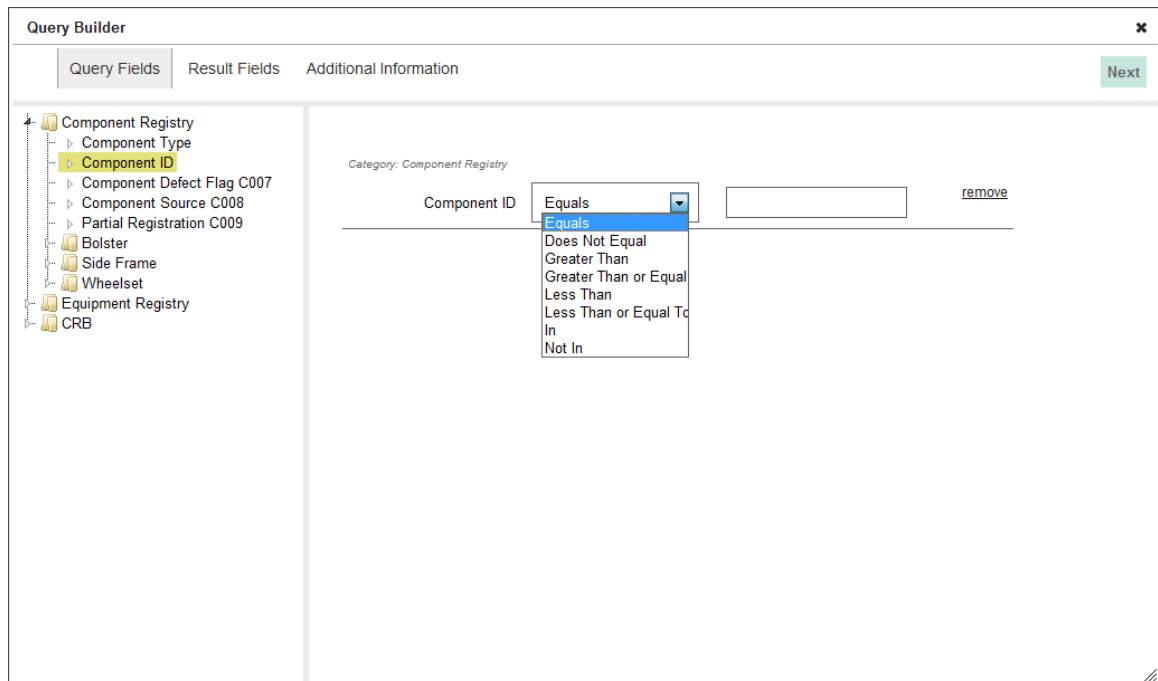


Exhibit 12. CRB Directory (Expanded)



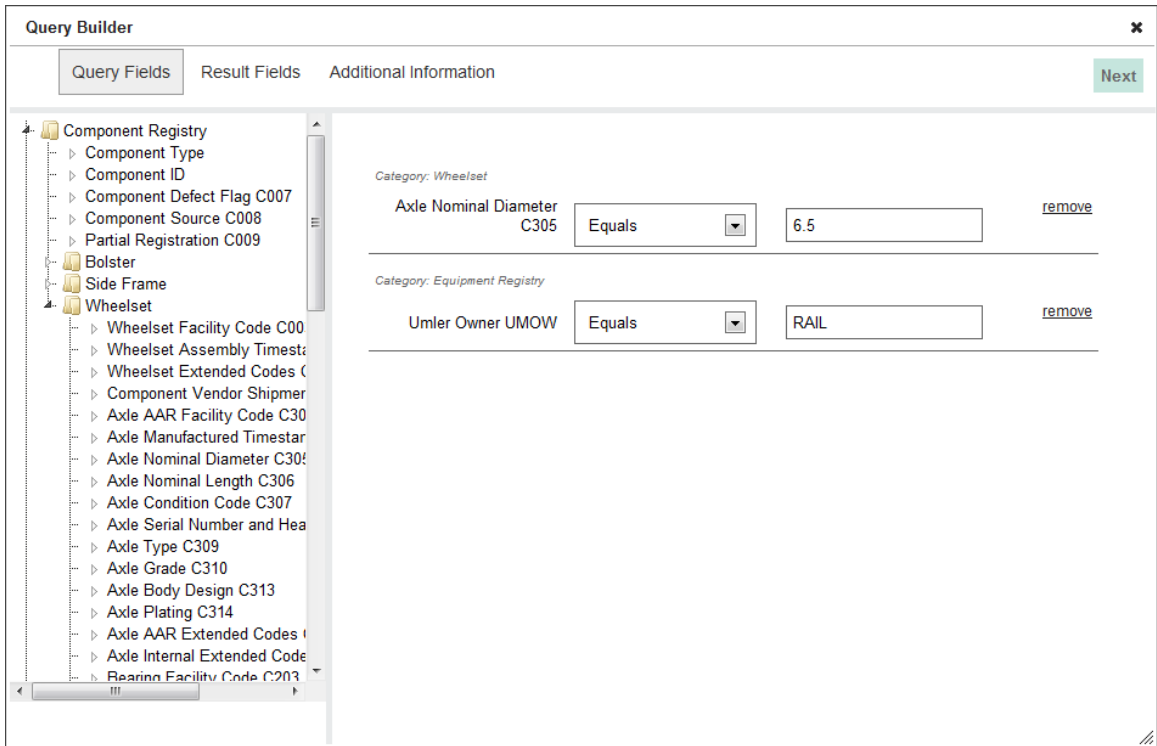
2. Select criteria from the lowest levels of the directories. Each time a criteria is selected, an entry is made on the right part of the panel ([Exhibit 13](#)).

Exhibit 13. Blank Criteria at Right (for Component ID)

Note: Unwanted criteria can be removed by selecting the *remove* link at the right.

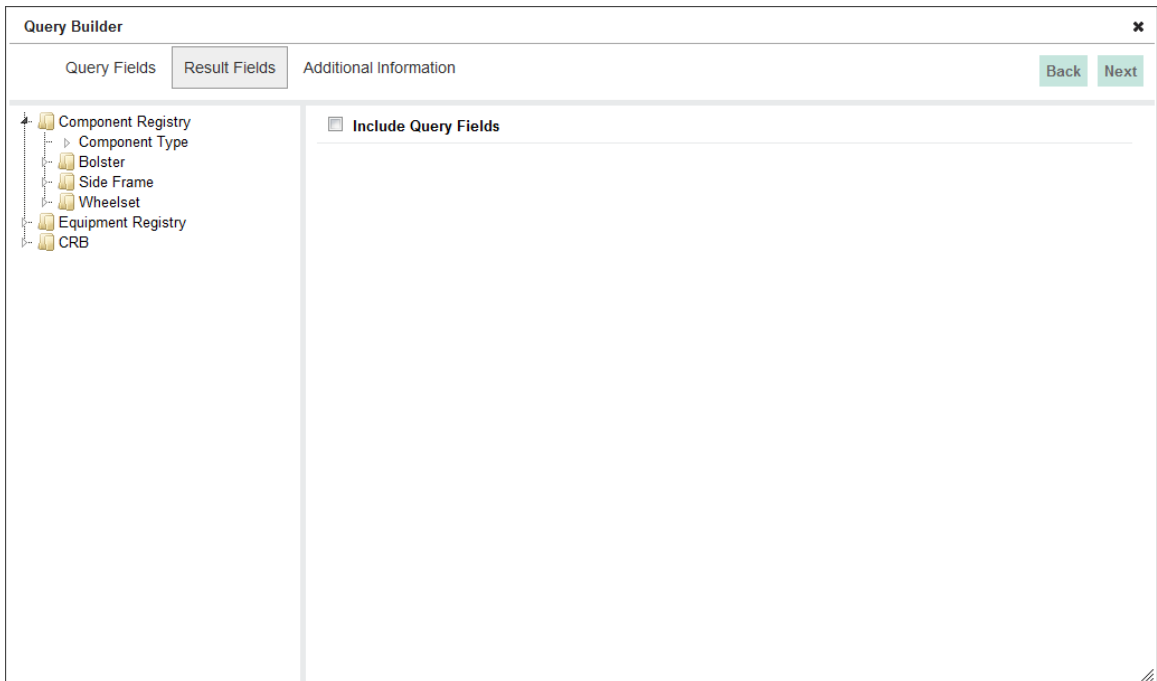
3. Set the appropriate operator using the drop down. The default is Equals.
4. Type the desired value in the text box.
 - a. Use the [CEPM Data Specification Manual](#) for Component Registry elements.
 - b. Use the [Umler Data Specification Manual](#) for Equipment Registry elements.
 - c. Use the [Field Manual](#) of the AAR Interchange Rules for CRB elements.
5. Repeat Steps 2–4, adding desired criteria. [Exhibit 14](#) shows sample query criteria.

Exhibit 14. Sample Query Criteria



6. Select **Next** to go to the Query Builder Results Fields (Include Query Fields) panel ([Exhibit 15](#)).

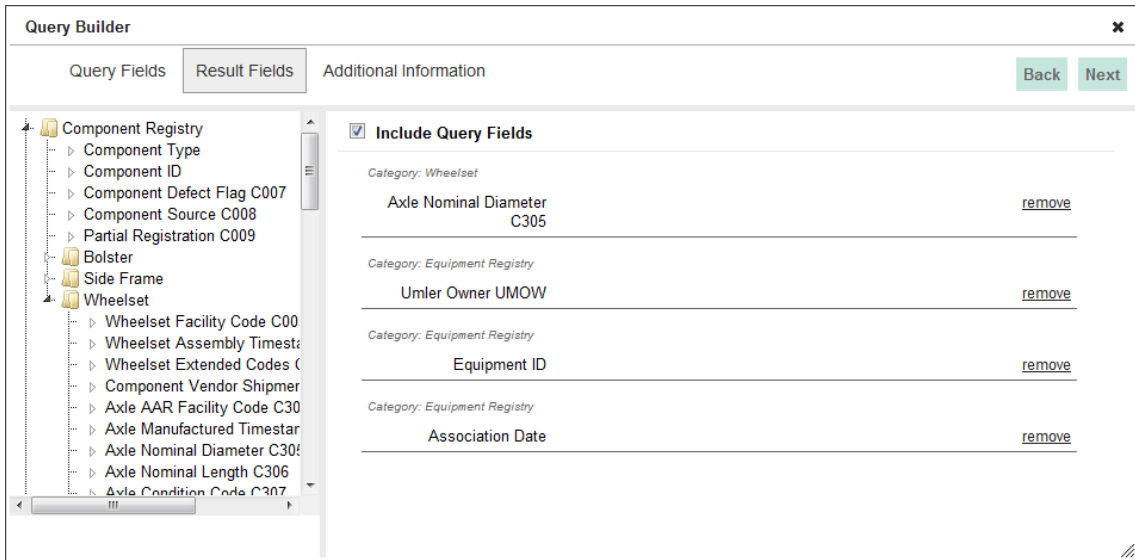
Exhibit 15. Query Builder Results Fields



This panel determines what data is included in the output file.

7. Check **Include Query Fields** to include selected query criteria in the output.
8. Add other fields (from any directories). [Exhibit 16](#) shows sample results fields.

Exhibit 16. Sample Results Fields

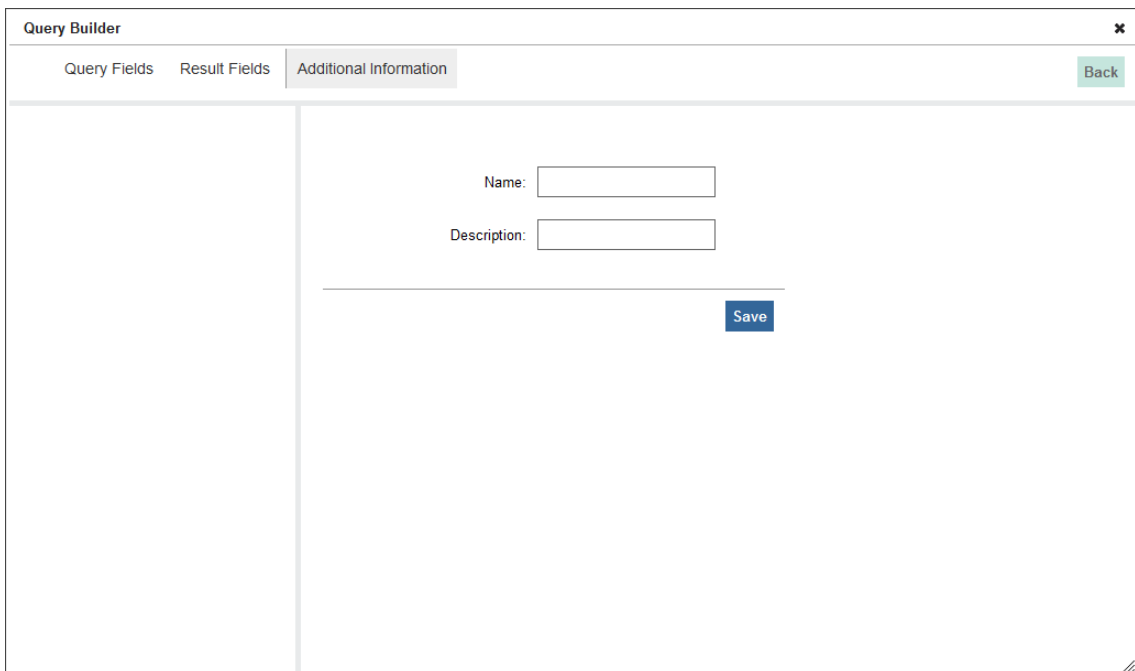


9. Review the selected criteria for accuracy.

Note: If some query criteria must be adjusted or removed, select **Back** to return to the Query Fields panel. Alternatively, select the Query fields tab.

10. Select **Next** to go to the Query Builder Additional Information panel ([Exhibit 17](#)).

Exhibit 17. Query Builder Additional Information



11. Enter a name for the query, and a *short* description. Name is limited to 36 characters. Description is limited to 1,000 characters.
12. **Save** the named query. The user returns to the Advanced Query page with the new query listed in the table at the bottom of the page ([Exhibit 18](#)). The Job Status and Last Run Date columns remain blank until the query is "Run".

Exhibit 18. Advanced Query (with listed saved queries)

QueryName ↕	QueryDescription ↕	JobStatus ↕	CreatedDate ^	LastRunDate ↕	Actions ↕
Suspect Wheel Diameter	Rail-owned with diameter		10/30/2012 15:08:35		Run Edit Delete
RAILSMOW	Various Fields	COMPLETED	10/30/2012 14:52:46	10/30/2012 14:52:53	Run Edit Delete Download

13. Actions allowed for queries include:
 - a. [Run](#)—Select to execute the query. Notification is sent via e-mail.
 - b. [Edit](#)—Select to view and/or edit the query to reuse for a similar purpose.
 - c. [Download](#)—View or download a CSV file with the latest query results. Only available after a successful Run action.
 - d. [Delete](#)—Select to delete a query that is no longer needed.

Running a Query

After a query has been created as described in [Creating a Query](#), it can be run to obtain results. To run a query:

1. Locate the query in the table on the Advanced Query Home page ([Exhibit 18](#)).
2. Select the Run link in the query's Actions column. A message is displayed ([Exhibit 19](#)).

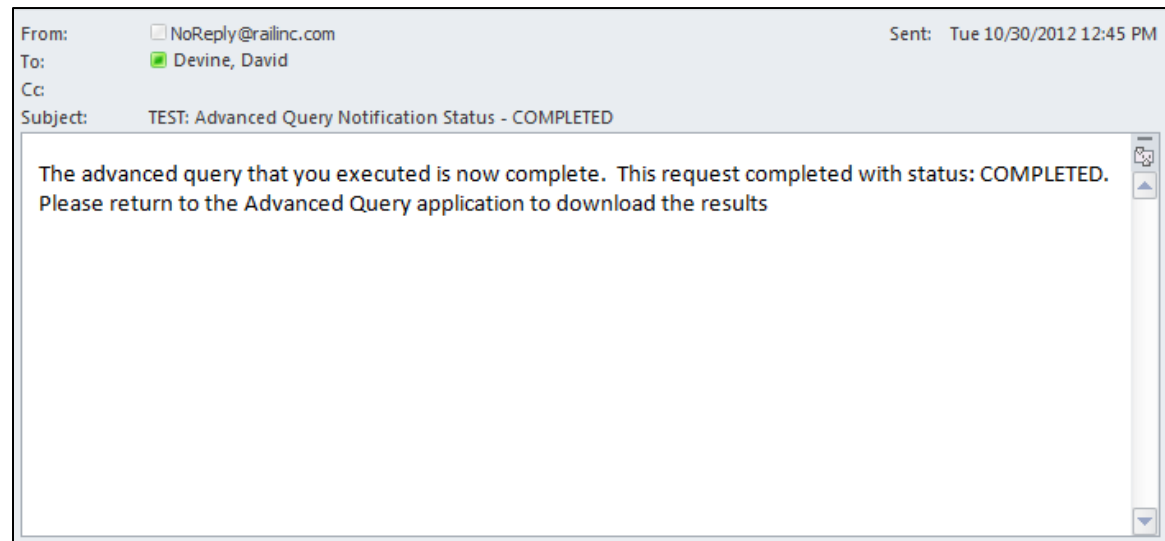
Exhibit 19. Query Run (in progress)

Your request to Run the query has been submitted successfully. Please refresh this page when you receive an email with the status of execution.

QueryName	QueryDescription	JobStatus	CreatedDate	LastRunDate	Actions
Suspect Wheel Diameter	Rail-owned with diameter	IN_PROGRESS	10/30/2012 15:08:35	10/30/2012 15:15:17	Run Edit Delete
RAILSMOW	Various Fields	COMPLETED	10/30/2012 14:52:46	10/30/2012 14:52:53	Run Edit Delete Download

When processing has completed, an e-mail is sent to the user ([Exhibit 20](#)).

Exhibit 20. Query Complete E-Mail Notification




3. On the Advanced Query Home page, select the browser Refresh ( or **F5**). The page is redisplayed with the query results ([Exhibit 21](#)).

Exhibit 21. Query Table (with results)

QueryName	QueryDescription	Job Status	CreatedDate	LastRunDate	Actions
Suspect Wheel Diameter	Rail-owned with diameter	COMPLETED	10/30/2012 15:08:35	10/30/2012 15:15:17	Run Edit Delete Download
RAILSMOW	Various Fields	COMPLETED	10/30/2012 14:52:46	10/30/2012 14:52:53	Run Edit Delete Download

- a. If the query produced results, the status field shows COMPLETED, and a download link is available, and the results can be downloaded or viewed. See [Downloading a Query](#) on page 18.
- b. If the query did NOT produce results, the Status field shows NO RESULTS.
 - A recent transaction might not be included in the database yet (perhaps run later)
 - There might be typographical errors in the query, or conflicting settings (edit)
 - NO RESULTS might be the desired result (for example, cars with defect flag set to yes)

The user can choose to [Run](#) the query again, [Edit](#) the query, or [Delete](#) the query.

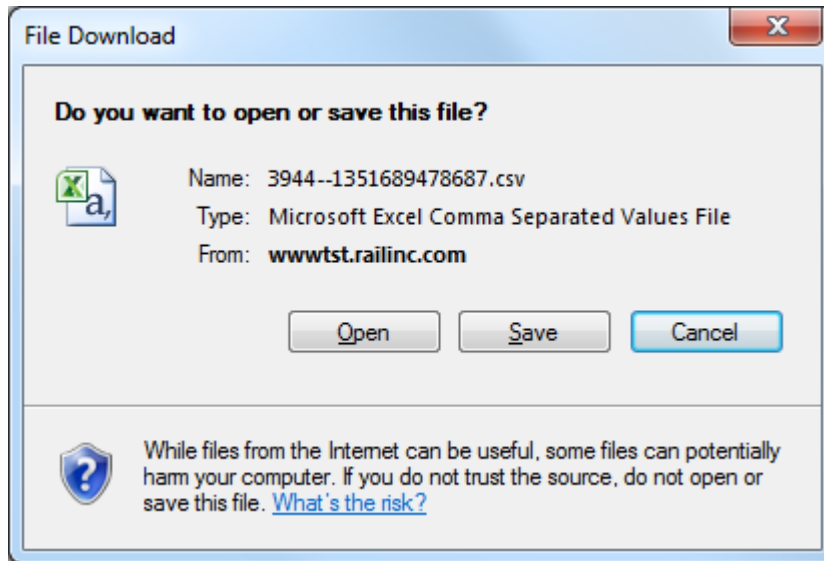
Note: Rerunning a query overwrites the previous results.

Downloading a Query

When a query has run successfully and has results, the Download link is displayed. The user can choose to view or download the query results:

To view or download query results, select its **Download** link in the query's Actions column.. The File Download panel is displayed ([Exhibit 22](#))

Exhibit 22. File Download



Continue with [Viewing Results](#) or [Downloading Results](#).

Viewing Results

To view immediately, select **Open**. The file opens in the user's spreadsheet application ([Exhibit 23](#)).

Exhibit 23. Query Results (in Excel)

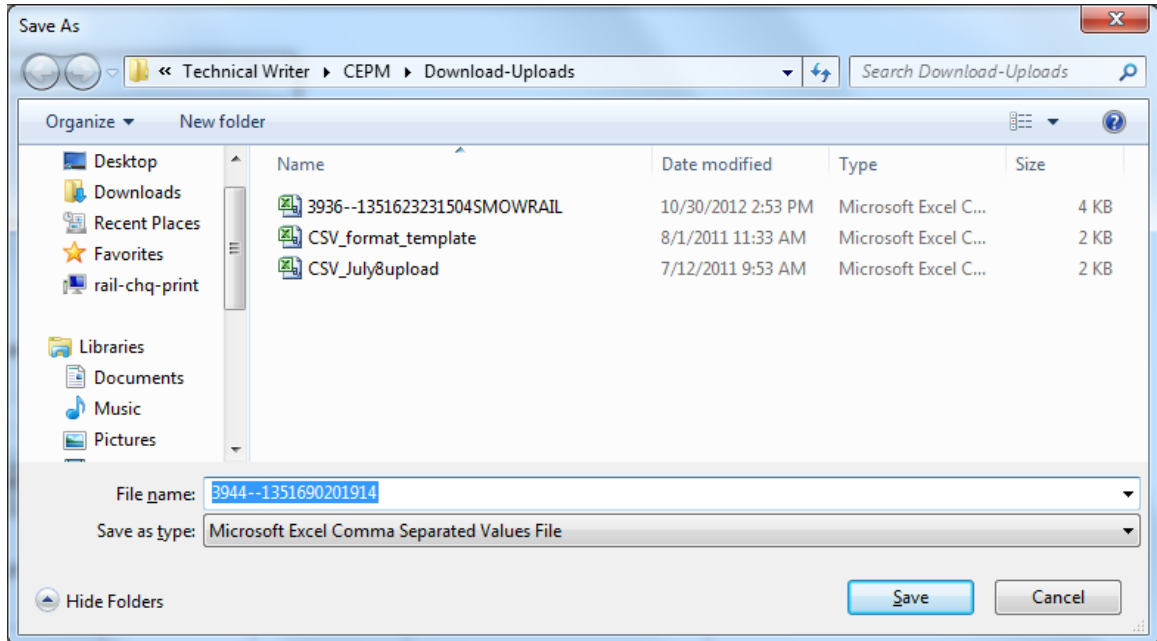
	A	B	C	D	E
1	Equipment ID	Component Type	Axle Nominal Diameter C305:1:1	Umler Owner UMOW	Association Date
2	RAIL0000500880	WHEELSET		6.5 RAIL	11-Oct-12
3	RAIL0000000347	WHEELSET		6.5 RAIL	9-Jan-12
4	RAIL0000002200	WHEELSET		6.5 RAIL	23-Sep-12
5	RAIL0000500977	WHEELSET		6.5 RAIL	11-Oct-12
6	RAIL0000500977	WHEELSET		6.5 RAIL	11-Oct-12
7	RAIL0000500878	WHEELSET		6.5 RAIL	11-Oct-12
8					

The results display the fields requested during query creation (refer to [Exhibit 16](#)). The user can choose to save this file while displayed in the spreadsheet.

Downloading Results

To download the results, select **Save**. The Save As panel is displayed ([Exhibit 24](#)).

Exhibit 24. Save As (for Query Results Download)



- Navigate to the directory where the download should be located.
- The default name is shown in the File Name field. Change as needed.
- Select **Save**. The results are saved as a comma separated file.

Editing a Query

Queries that have failed to produce results might need to be edited, and queries, if successful, might be edited to query other similar criteria (different Equipment IDs, Umler ownership, component types, etc.). To edit an existing query:

1. Select the Edit link in the query's Actions column. The Query Builder opens with existing criteria displayed ([Exhibit 25](#)).

Exhibit 25. Query Builder (for Edit)

The screenshot shows the 'Query Builder' interface with three tabs: 'Query Fields', 'Result Fields', and 'Additional Information'. The 'Query Fields' tab is active. On the left, there is a tree view with folders for 'Component Registry', 'Equipment Registry', and 'CRB'. The main area displays two criteria:

- Category: Wheelset**
 - Axle Nominal Diameter C305: Equals (dropdown) 6.5 (input field) [remove](#)
- Category: Equipment Registry**
 - Umler Owner UMOW: Equals (dropdown) RAIL (input field) [remove](#)

A 'Next' button is located in the top right corner of the interface.

These panels operate as described in [Creating a Query](#) beginning on page 10.

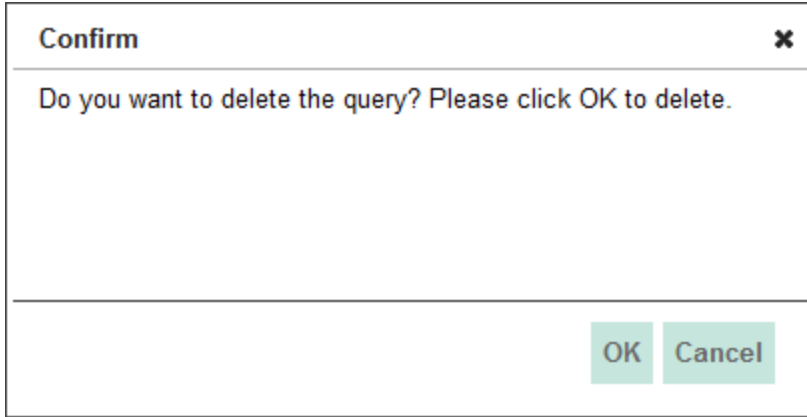
2. Make desired changes.
3. On the Additional Information panel:
 - a. If the displayed query name remains unchanged, selecting **Save** overwrites the existing query.
 - b. If the displayed name is changed, selecting **Save** creates a new query.

After saving, the Advanced Query page is redisplayed with the new queries. [Run](#) the edited query as desired.

Deleting a Query

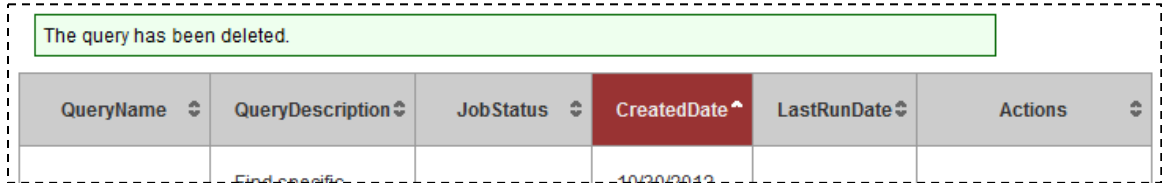
When a query is no longer needed, the user can delete the query by selecting the Delete link in its Actions column. A confirmation panel is displayed ([Exhibit 26](#)).

Exhibit 26. Confirm Delete Query



If unsure about the deletion, select **Cancel**. Otherwise, select **OK**. A message is displayed ([Exhibit 27](#)).

Exhibit 27. Query Deletion Message



Glossary

AAR—American Association of Railroads

Car Hire—Car Hire is a usage charge paid to car owners by railroads for the use of freight cars and appurtenances.

CEPM—Comprehensive Equipment Performance Monitoring program. Components are registered in the Umler Component Registry, and associated to equipment through inputs from CRB and EHMS. First CEPM component is wheelsets.

Component ID—Uniquely identifiable information that includes 14 characters and is comprised of a company ID or Mark and up to 10-digit serial number. This component ID is the standard “AAR Component ID” that will be physically applied to the component during assembly.

CRB—Car Repair Billing.

EHMS—Equipment Health Maintenance System.

LCS—Liability Continuity System.

RAMP-ED—Rail Asset Management Process-Exception Disposition (RAMP-ED) system

SPLC—Standard Point Location Code.

Umler—Equipment Management Information System (formerly the Universal Machine Language Equipment Register [UMLER])

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