

11-5

Sampling:

**Associating Test
Formats and Entering
Test Results**

Objectives

Associating Test Formats

Entering Test Results

Printing Test Results Reports

Overview

What is a Test Format?

A test format is a HiCAMS template used to document test results. Formats are predetermined. There are spaces for entering test results, protected spaces containing formulas for calculating values and specification ranges for specific materials.

Who enters Test Results?

- ◆ Central and Regional Testing Labs
- ◆ Pre-stressed Concrete Field Section
- ◆ Non-M&T staff who are performing non-QA/QC density testing
- ◆ Non-M&T staff who are performing air and slump tests on concrete cylinder samples submitted to the physical lab.

Note: *As a general rule, test results are entered by the location that performs the tests.*

Test Formats (English) whose results must be entered by non-M&T Staff

- ◆ Conventional Density Test 1
- ◆ Conventional Density Test 1A
- ◆ Conventional Density Test 2
- ◆ Conventional Density Test 3
- ◆ Control Strip Density Test ABC
- ◆ Test Section Density Test ABC
- ◆ Concrete Cylinder Compression Test (air and slump values only)

Note: *The following QA/QC tests are not entered in HiCAMS Version 4: Control Strip Density Test Asphalt and Test Section Density Test Asphalt.*

Key Users

- ◆ Central and regional testing labs
- ◆ M&T field staff
- ◆ Resident office personnel.

Note: *RE office personnel can enter test results only for their contracts; and can edit and view these results only until the lab receives the sample.*

The RE cannot edit results after a sample is received and authorized.

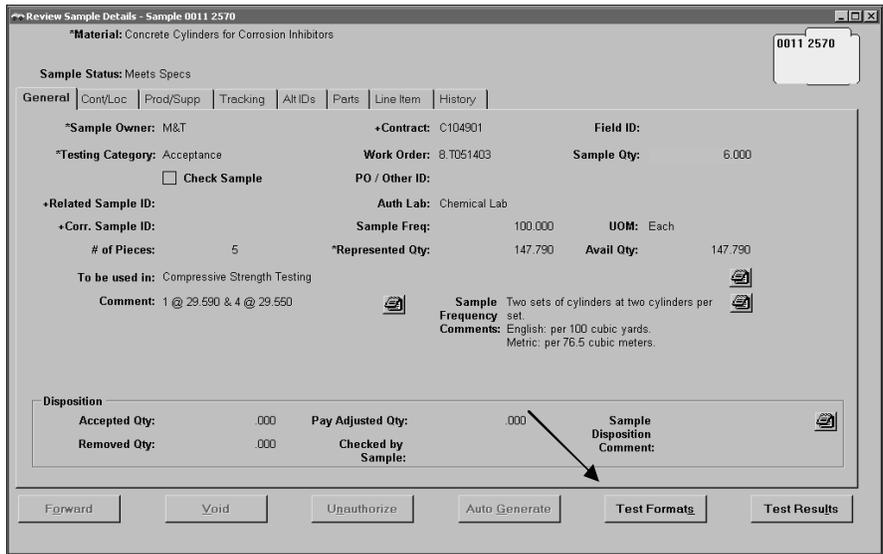
Task Checklist

- 1 From the Review Sample Details window, click the enabled Test Formats button to begin the process.
- 2 Associate applicable test formats with your saved sample.
- 3 Select a test for which you want to enter data.
- 4 If applicable, select a specification for the material.
- 5 If applicable, edit the predefined specifications.
- 6 Enter test results.
- 7 Enter test results comments.
- 8 Print a test results report.
- 9 Return to the Review Sample Details window.

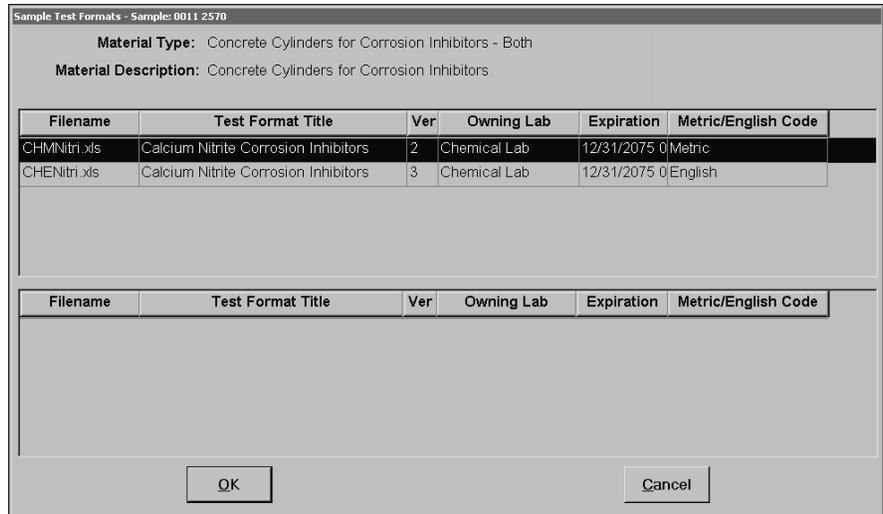
Associating Test Formats

Note: The Test Formats button is enabled only after a HiCAMS number is created for a sample.

Step 1: Test Formats Click the enabled **Test Formats** button at the bottom of the **Review Sample Details** window:



The **Sample Test Formats** window displays:



Note: Column rows default to ascending order (A-Z). Each time you click a column heading, its associated entries toggle between ascending (A-Z) and descending (Z-A) order.

The information displayed in the **top pane** of the **Sample Test Formats** window defaults based on user logon ID. It represents your test format options. Column headings are as follows:

- ◆ **Filename** is the Microsoft Excel filename.
- ◆ **Test Format Title** is the title of the template.
- ◆ **Version** is a number indicating the modification level of the test format.
- ◆ **Owning Lab** is the group responsible by default for entering test results on the format.
- ◆ **Expiration Date** is the date on which the test format becomes inactive.
- ◆ **Metric/English Code** is the unit of measure assigned the material.

Note: *If the item for which you need to enter results is not in this window, and you have the proper security tag, click the Show Test Formats check box in the upper right portion of the Sample Test Formats window. All available HiCAMS test formats display in the top half of the window.*

The information displayed in the **bottom pane** of the **Sample Test Formats** window defaults based on the associated test format in the MSG. It is in this bottom pane that test format assignment takes place.

With the proper security tag you can **assign** and **remove** test formats. Column headings are the same as listed above.

Step 2: Add and/or remove formats.

To remove a format:

- 1 Click a format in the **bottom pane** of the window.

Note:  Your cursor becomes a yellow truck.

- 2 While holding the mouse button down, drag the truck to the **top pane** of the window.

- 3 Release the mouse button.

To add a format:

- 1 Click a format in the **top pane** of the window.

Note:  Your cursor becomes a yellow truck.

- 2 While holding the mouse button down, drag the truck to the **bottom pane** of the window.
- 3 Release the mouse button.

Note: *You must assign at least one test format to a sample. This test format must match the unit of measure (UOM) of the material.*

Associating a Test Format for a Sample divided into Parts

When a sample is entered into HiCAMS, the test formats associated with the material type on the minimum sampling guide are associated with the sample. If parts are created for a sample, the tests would be associated with the Dominant (the authorizing lab for the sample is considered “dominant”) Lab’s part. If a part is created, a sample has to have at least 2 parts. When a part is created for a non-dominant lab, one part is automatically created for the dominant lab.

The non-dominant lab would be able to add, delete, or modify test formats associated with their part(s) upon receipt of the part(s). Each test format linked to the sample part can be owned by a single lab. The “owner” of a test format is the lab responsible for setting the status of a test format to a “completed” status. As each lab completes its test(s), the results are keyed into the appropriate format(s).

Important: If you have the proper security tag, you can modify this window until the sample is authorized. However, do not modify the Sample Test Formats window unless you are responsible for entering test results for a sample.

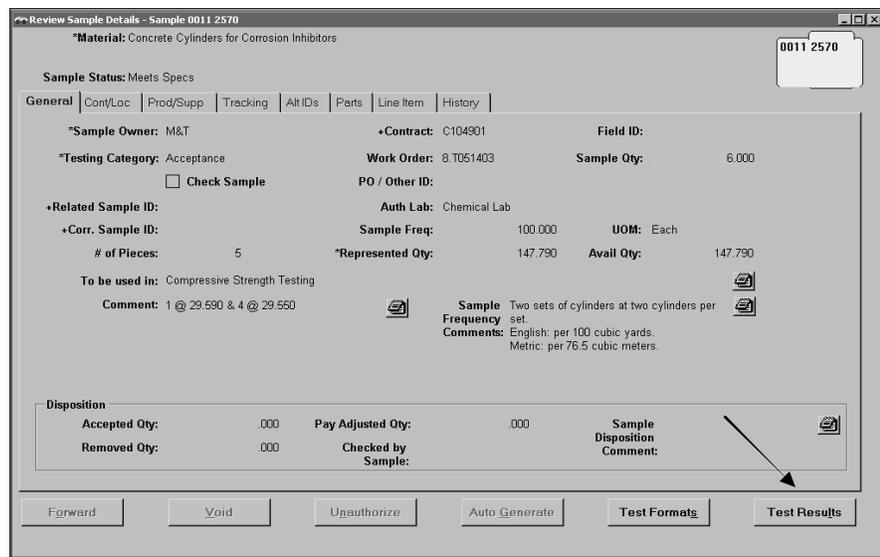
Step 3: Click **OK**.

HiCAMS returns you to the **Review Samples Details** window.

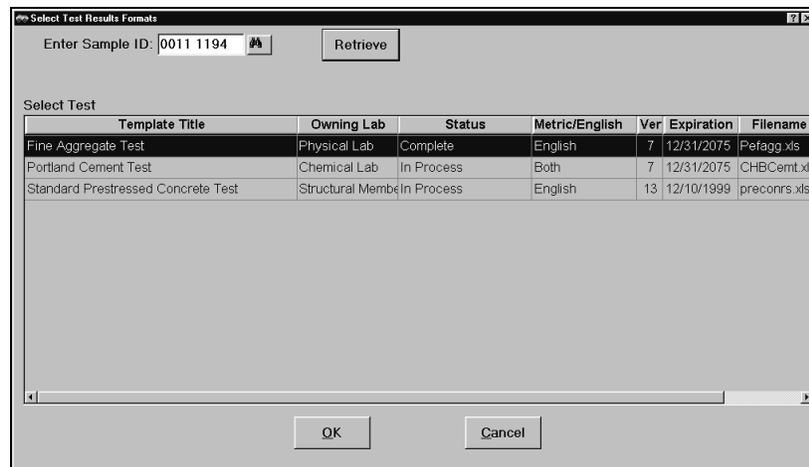
You are now ready to enter Test Results.

Entering Test Results

Step 1:  Click the enabled Test Results button at the bottom of the Review Sample Details window:



If you have **multiple test formats** associated with your sample, the **Select Test Results Formats** window (below) displays and lists the associated test formats:



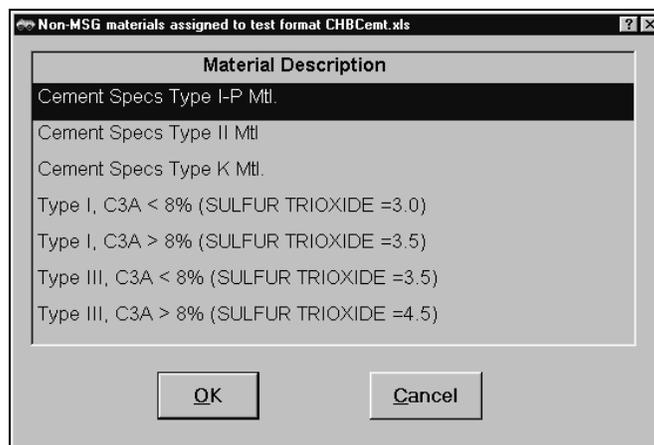
Note: If you have the proper security tag, you can update test results.

Step 2: Highlight a test for which you want to enter data.

Step 3: Click OK or double-click the highlighted test.

Note: If the material you selected previously has a matching specification, the selected Test Format appears on the Test Info tab.

If the material you selected previously does not have a matching specification, the Non-MSG materials assigned to test format [test format filename] window displays. This window lists all the specifications associated with the selected test format.



- 1 Highlight the specification you want to associate with the **Test Format** you selected.
- 2 Click **OK** or double-click the highlighted specification.

The previously selected **Test Format** appears on the **Test Info** tab.

Step 4: Enter the test results.

Note: If you have a single test format associated with your sample, the Review Test Results window displays this test format.

The title bar contains the window's title followed by the name of the associated spec and the title of the associated test format.

Review Test Results [189] - Test for Portland Cement, Type III

Sample ID: 0011 2573 Material: Cement, Portland, Type III

Tested By: CORDLE, VICTOR O Material Type: Cement, Portland - English

Status: In Process Unit of Measure: Tons

Completed: 12/13/1999

Test Info | Comments | History Go To Sample Edit Specs

PORTLAND CEMENT, Type III	Results	LSL	USL
Lab No.:			
Test No.:	M95		
FINENESS			
Measured Time (Blaine) sec.:			
S _s , cm ² /gm:	3774		
T _s , sec.:	62.0		
Specific Surface, cm ² /gm.:	0	0	0
Retained on #325 Sieve, %:		0.0	0.0
Retained on #60 Sieve, %:		0.0	0.0
WATER REQUIRED			
Normal Consistency, %:		0.0	0.0
1.2.75 Mortar Cubes, %:	49.5		
Air Temp, °F:		0	0
Humidity, %:		0	0
SOUNDNESS			
Before Autoclave:			
After Autoclave:			
Autoclave Expansion, %:	0.00	-0.80	0.80
TIME OF SETTING			
Initial Setting Time, min:		60	600
Final Setting Time, min:		60	600
COMPRESSION TEST (2 IN. CUBES)			
Load, Cube 1, 1 day:		0	0

Note: *Non-M&T personnel can enter and edit test results only for their contracts. They can view and edit test results only until the lab receives the sample. Once a sample is received (Sample Status = In Process), non-M&T personnel regain access only after that sample is authorized.*

The Review Test Results Window

Top section of window:

- ◆ **Sample ID** is the HiCAMS Sample ID
- ◆ **Material** and **Material Type** reflect your previous selections.
- ◆ **Unit of Measure** is unit of measure assigned the material in the MSG.
- ◆ **Tested By** should be the name of the staff member who completed the test. This field defaults to the name of the person currently logged onto HiCAMS.

Note:  If necessary, click the staff button at the right of the Tested By field to change the name to that of the person who actually performed the test.

Status indicates the current status of the test process (**test status**).

Initially HiCAMS sets the status to **In Process**. The status remains **In Process** until all **required fields** have entries, at which time the status changes to one of the following:

- ◆ Does Not Meets Specs - Accepted
- ◆ Does Not Meet Specs - Rejected
- ◆ Does Not Meet Specs – Pay Adjustment
- ◆ Meets Specs

Note: *Test status differs from sample status in that test status begins with the designation In Process and can change to any of three designations indicated above.*

The following **Status**-related information is important to remember:

- ◆ You can designate a status of **Void** if you have override security.
- ◆ A sample can be authorized only when each associated test has a **final test status**, which is defined as any test status other than **In Process**.
- ◆ If you enter results on a test format that has no specifications associated with it, the test status defaults to **Complete**.
- ◆ Prior to setting the final test status, HiCAMS checks for entries in all **required fields**. However, HiCAMS does not determine if test results entries are valid.
- ◆ A test status cannot be made final until the **Review Test Results** window has been opened and saved at least once.
- ◆ Until all **required fields** have entries, you cannot have a status of **Meets Specs**, or **Does Not Meet Specs**.

- ◆ When a test fails (**Does Not Meet Specs**) HiCAMS sends a notification to the supervisor of the lab responsible for the applicable test format.

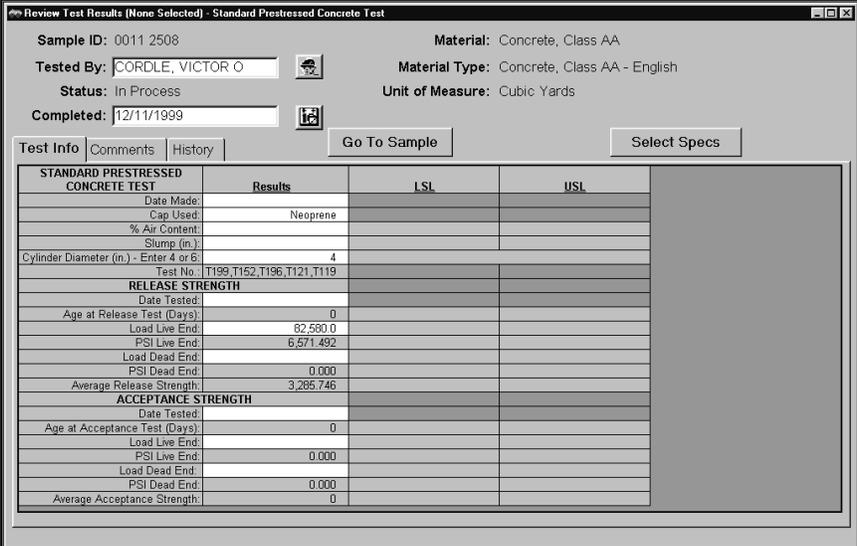
Complete the date the **test process** was completed. If you do save without having entered a date, HiCAMS defaults to the current date.

Note:  You can change this date by clicking the calendar button at the right of the Completed field.

Tabs

- ◆ Test Info
- ◆ Comments
- ◆ History

Record your test results on the **Test Info** tab:



STANDARD PRESTRESSED CONCRETE TEST		Results	LSL	USL
Date Made:				
Cap Used:	Neoprene			
% Air Content:				
Slump (in.):				
Cylinder Diameter (in.) - Enter 4 or 6:	4			
Test No.:	T199, T152, T196, T121, T119			
RELEASE STRENGTH				
Date Tested:				
Age at Release Test (Days):	0			
Load Live End:	82,590.0			
PSI Live End:	6,571.492			
Load Dead End:				
PSI Dead End:	0.000			
Average Release Strength:	3,285.746			
ACCEPTANCE STRENGTH				
Date Tested:				
Age at Acceptance Test (Days):	0			
Load Live End:				
PSI Live End:	0.000			
Load Dead End:				
PSI Dead End:	0.000			
Average Acceptance Strength:	0			

The **Test Info** tab contains test formats with up to four types of fields:

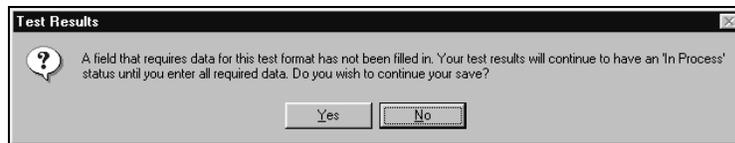
- ◆ Shaded fields cannot be edited. These are protected cells that hold default values, formulas, labels or instructional text.
- ◆ **Non-Shaded/White fields** can be edited. Enter test values in these cells.

Note: *Exception: Some white cells contain text labels and are protected. To provide better visibility, these cells are not shaded.*

- ◆ **Required fields** are identified by **red** or **yellow** shading. These are required fields for the lab responsible for authorizing the sample.

Note: *Because the RE is entering test results on test formats that are designed for M&T, some required fields may not apply. However, until all required fields have entries, you cannot have a status of Meets Specs, or Does Not Meet Specs.*

If you are a field person entering test results, you are not responsible for making other entries. Therefore, you may see a message (below) indicating all required fields are not filled. This message does not apply to you. Click Yes, which saves the information you entered even though all the required information has not been entered.



- ◆ **CC fields** can be edited to show names for printing and distribution purposes.

Tip: *CC Fields cannot be edited after a sampled has been authorized. To change this field, the sample must first be “unauthorized”.*

Note: *Your specs are displayed based on the material comprising your sample. These specs may not be editable. They have as their source the DOT Green Books.*

Step 5: Click the Comments tab to enter test-related comments.

The **Comments** tab contains a large text box.

Review Test Results (None Selected) - Standard Prestressed Concrete Test

Sample ID: 0011 2508
Tested By: CORDLE, VICTOR O
Status: In Process
Completed: 12/11/1999

Material: Concrete, Class AA
Material Type: Concrete, Class AA - English
Unit of Measure: Cubic Yards

Test Info | **Comments** | History

Go To Sample | Select Specs

Enter comments here.

Use the **Comments** tab to create a test results diary. If you enter a comment here, then save it, when you return to the Comments tab you can add additional comments or erase the existing comment and enter a new one. These comments can be entered until the sample is authorized.

Note: *Test Results comments differ from comments entered on the Review Sample Details window in that Test Results comments allow the diary format.*

All comments made here, including those you have deleted, can be viewed chronologically on the History tab.

The **History** tab records two types of information with each save.

- ◆ Changes to test status
- ◆ Comments entered in the **Comments** tab of the **Review Test Results** window.

Review Test Results (None Selected) - Standard Prestressed Concrete Test

Sample ID: 0011 2508 Material: Concrete, Class AA
 Tested By: Material Type: Concrete, Class AA - English
 Status: Complete Unit of Measure: Cubic Yards
 Completed:

Test Info Comments **History**

Template	Action	Action Date	Status	Who	System Date
preconrs.xls	Comment	12/11/1999 10:27:00 AM	Complete	ocordle	12/11/1999 10:31:59 AM
preconrs.xls	Set Status	12/11/1999 10:27:00 AM	Complete	ocordle	12/11/1999 10:31:59 AM
preconrs.xls	Set Status	12/11/1999 10:27:00 AM	Complete	ocordle	12/11/1999 10:33:31 AM
preconrs.xls	Comment	12/11/1999 10:27:00 AM	Complete	ocordle	12/11/1999 10:33:31 AM

Comment: Any comment entered, changed, or deleted in the Comments tab section is stored in the History tab section.

Tip: Column rows default to ascending order (A-Z). Each time you click a column heading, its associated entries toggle between ascending (A-Z) and descending (Z-A) order.

The **History** tab stores the following columns of information for each of the two types:

- ◆ **Template** is the HiCAMS test format title.
- ◆ **Action** is the action performed on a sample or part.
- ◆ **Action Date** is the date the associated test was completed.
- ◆ **Who** is the user logon id
- ◆ **System Date** is the date the record was saved.

Note: On the History tab, click any row containing the word Comment in the Action column to display, in the bottom section of the window, the comment(s) associated with that row.

Tip: Column rows default to ascending order (A-Z). Each time you click a column heading its associated entries toggle between ascending (A-Z) and descending (Z-A) order.

Buttons

Up to four buttons may display on the **Review Test Results** window.

- ◆ **Go To Sample** button
- ◆ **Override Status** button
- ◆ **Edit Specs** button
- ◆ **Select Specs** button

Go To Sample button

 The **Go To Sample** button returns you to the Review Sample Details window.

You are now ready to send your sample to the appropriate lab for authorization or additional tests.

Step 6: Click the **Go To Sample** button on the **Review Test Results** window. The **Review Sample Details** window displays.

Step 7: Click the **Tracking** tab on the **Review Sample Details** window.

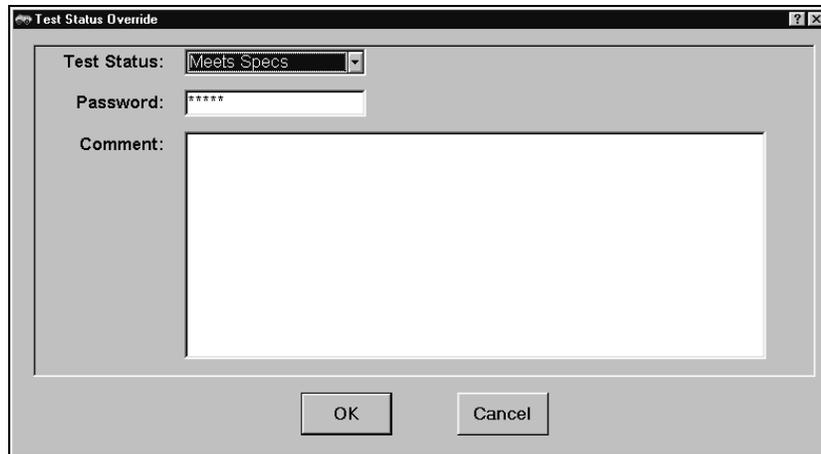
Step 8: Enter today's date or a past date in the **Submitted Date** field.

Note: *If you enter a future date, HiCAMS cannot send your sample to a Received Samples window. Instead, HiCAMS retains your sample with a New status.*

You may wish to retain a sample with a New status if, for example, today is Friday and you will not deliver your cylinders to M&T until Monday. Post dating the Submitted Date allows you to ensure your cylinders arrive at M&T on the same day your sample arrives through HiCAMS.

Override Status button

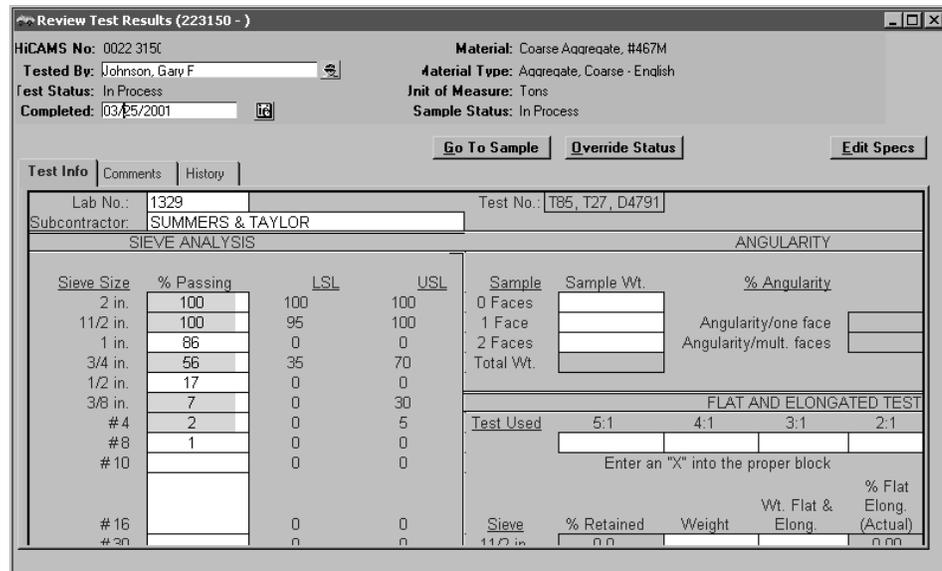
 The **Override Status** button displays only if you have the proper security to perform this function. Click this button to change a test status.



Note: This is where the VOID test status is selected.

Edit Specs button

 The **Edit Specs** button displays at the right of the **Select Specs** button, if you have the proper security tag, to allow you to edit the predefined specifications. Click this button to edit these specifications:



Step 1: Click the Edit Specs button to display the Edit Specifications window on which you can edit the predefined specifications.

Label	LSL	USL	Required
2 in.	100	100	<input checked="" type="checkbox"/>
1 1/2 in.	95	100	<input checked="" type="checkbox"/>
1 in.	0	0	<input type="checkbox"/>
3/4 in.	35	70	<input checked="" type="checkbox"/>
1/2 in.	0	0	<input type="checkbox"/>
3/8 in.	0	30	<input checked="" type="checkbox"/>
# 4	0	5	<input checked="" type="checkbox"/>
# 8	0	0	<input type="checkbox"/>
# 10	0	0	<input type="checkbox"/>
# 16	0	0	<input type="checkbox"/>
# 30	0	0	<input type="checkbox"/>
# 40	0	0	<input type="checkbox"/>
# 50	0	0	<input type="checkbox"/>
# 80	0	0	<input type="checkbox"/>
# 100	0.0	0.0	<input type="checkbox"/>
# 200	0.0	1.0	<input checked="" type="checkbox"/>

Buttons: Restore Defaults, View Defaults, OK, Cancel

Note: M&T management is notified when specifications are changed.

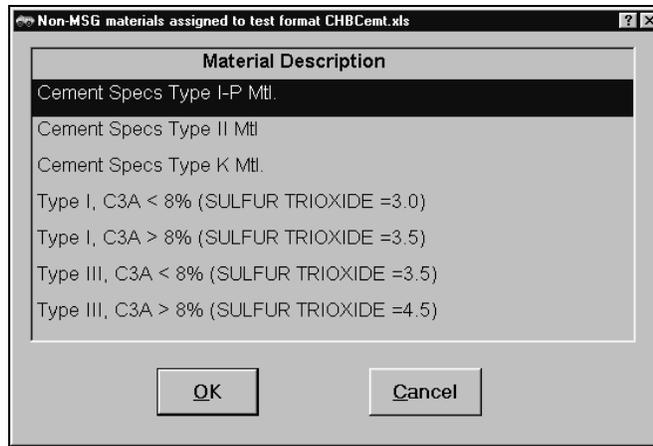
Select Specs button



The **Select Specs** button displays when additional specifications are added to a test format but are not assigned to the sample material in the MSG.

When a **Select Specs** button displays:

- Step 1:** Click the **Select Specs** button to display the **Non-MSG materials assigned to test format [test format filename]** from which you can select a specification for the material.



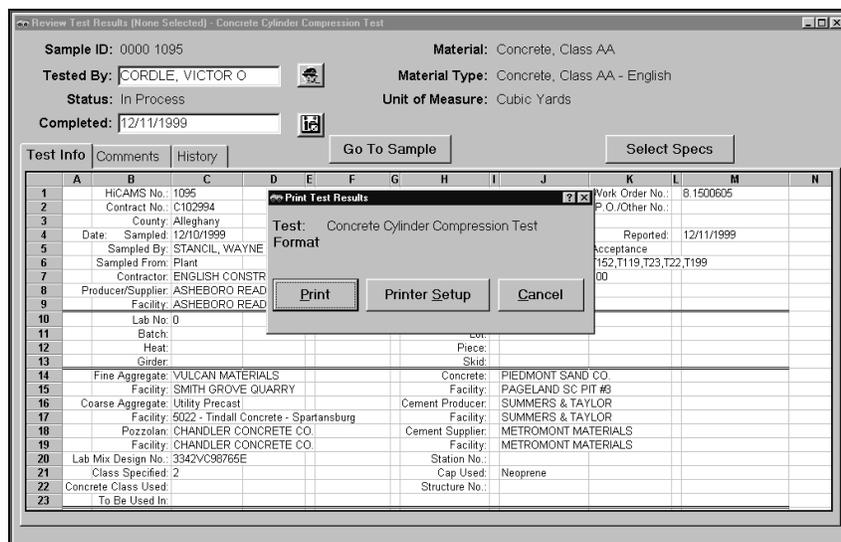
Printing a Test Results Report

Step 1: Click the **Test Info** tab on the **Review Test Results** window.

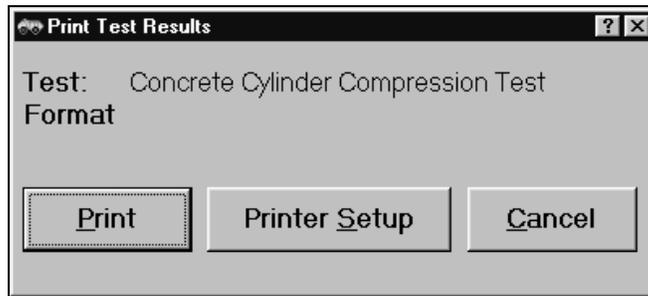
Step 2:  Click the **printer** button on the toolbar.

Note: A Test Results report can be printed only while the Test Results window is displayed.

The **report version** of the completed **Test Results Format** displays on the Test Info tab, along with the **Print Test Results** setup window.



Step 3: Click the **Print** button in the **Print Test Results** window to print the report:



Report Structure

The single-page printed report has a universal header comprised of three distinct levels or “tiers.”

Tier One

The first tier contains data stored in the HiCAMS database. This data is common to all test formats for all labs. The appearance and use of this first tier is consistent throughout the test formats, regardless of the owning lab. Tier One includes:

- ◆ Sample status (new, authorized, void, etc.)
- ◆ Identifiers (HiCAMS number, work order number, field ID, T.I.P. number, contract number, etc.)
- ◆ Sample info (sampled by, sampled from, station number, represented quantity, etc.)
- ◆ Producer/supplier info (contractor, producer, facility)
- ◆ Dates (sampled, received and reported)
- ◆ General information (Resident Engineer, county name, test category code, etc.). **Letter Head** includes the address of M&T, the date printed and the Test Title.

Tier Two

The second tier consists of data specific to each lab. This data may include lab numbers, standard specifications indicators, etc. This tier is consistent across all the test formats for an individual lab.

Tier Three

The third tier varies with each test format. It displays data specific to an individual test format. Where applicable, this data includes:

- ◆ All concrete component providers (coarse and fine aggregate, cement, concrete and pozzolan producers and facilities)
- ◆ Material descriptions
- ◆ Field locations (rdwy / shldr, dist from CL), etc.
- ◆ The information is formatted as follows:
- ◆ **Material Header** contains information specific to the test and the material.
- ◆ **Test Body** contains result values from the Test Info tab of the Review Test Results window.
- ◆ **Test Status** appears in **bold** type at the bottom center of the Test Body.
- ◆ **Comments** contains comments from the Comments tab of the Review Test Results window.
- ◆ **Signature** displays the signature line, including the name and title of the authorizing lab supervisor.
- ◆ **Carbon Copies (CC)** contains CC information from the Test Info tab of the Review Test Results window.