



# Florida Department of TRANSPORTATION

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## Structural Concrete Production Facility Chloride Samples

February 19, 2024

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## Introduction

### **Structural Concrete Production Facility Chloride Samples**

The Florida Department of Transportation Materials Manual, Section 9.2 Volume II requires structural concrete production facilities to input the results of the chloride testing into MAC. Most samples in MAC have a sample chain of custody that must be observed. Because the focus of these samples is to collect the data from the test results, the chain of custody requirements have been relaxed.

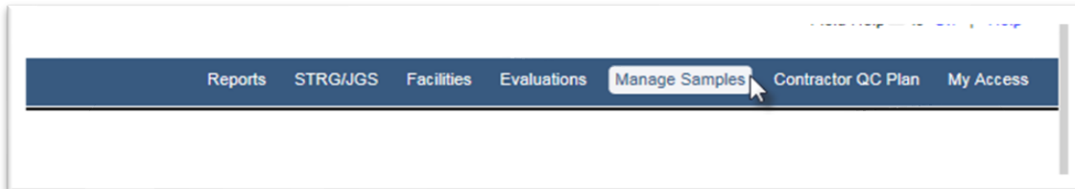
These instructions describe the sample life cycle for chloride samples entered under the requirements of Materials Manual 9.2 Volume II. They are not intended to replace the requirements in the Materials Manual. If there is a conflict between these instructions and the Materials Manual requirements, the Materials Manual requirements take precedence over these instructions.

The company of the structural concrete production facility must have at least one user with the company roles of data entry and data reviewer to complete the steps. The samples are finalized by a user with the system role of FDOT Verifier. These instructions are addressed to the users in these roles.

## Chapter 1 – Creating a Chloride Sample

Chloride sample data is normally entered by a data entry person in the company of the production facility after the sample has been tested at a lab and the lab has sent the test report to the company of the structural concrete plant.

### A. Creating a Chloride Sample

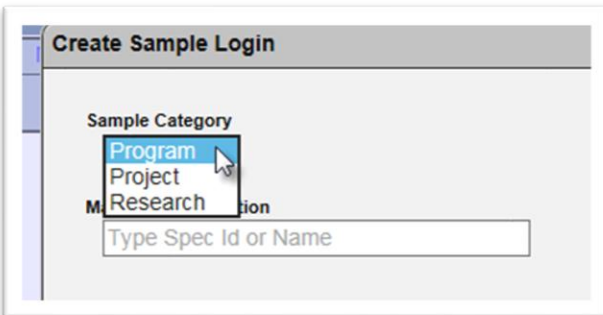


1. From the MAC home screen, select the Manage Samples menu option.

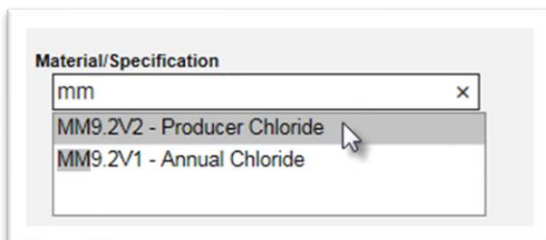


2. Select the Create Sample Login page level action on the left side of the screen.

A Create Sample dialog box will appear.



3. **Sample Category** – this field defaults to Project. Select Program from the Sample Category drop down list.



4. **Material Specification** – begin typing the Material MM9.2V2 in the Materials Specification field. Select MM9.2V2 – Producer Chloride to populate the field.

5. Select the Continue to Sample Information Screen to continue.

The dialog box will be expanded to show more fields. Additional fields will be added as more information is provided. A red star (★) indicates a required field.

6. **Structural Concrete Production Facility** – begin typing the company name or production facility number in the Structural Concrete Production Facility field. Select the entry from the list that matches the production facility.

**NOTE:** If your search returns only one result, you still must click on the entry or hit enter to populate the field.

MAC looks to see if the structural concrete production facility supplied in Step 8 is on the Contractor Quality Control Plan on the project. Since this is a program sample, there is no Financial Project Number (FPN). So, you will see the message “There are no Approved Mix Designs for the selected Production Facility”.

7. **Allow any Approved Mix Design** – click on the indicator to get the Mix Design field to appear.

8. **Mix Design** – enter the mix design that the sample was actually taken from in the Mix Design field.

9. **Additional Mix Designs** – enter any additional mix designs that the sample also represents in the Additional Mix Designs field. As you add more mix designs, a new blank field will appear to continue to add mix designs.

10. **Sampled By** – enter the name of the person who took the chloride sample in the Sampled By field.

11. **Date Sample Taken** – enter the date the sample was taken.

Testing Lab

Testing Lab  
Start typing Lab ID or Lab ID to get a list \*

Comment

Comment

Document

Choose File No file chosen

Description

Save Save and Submit

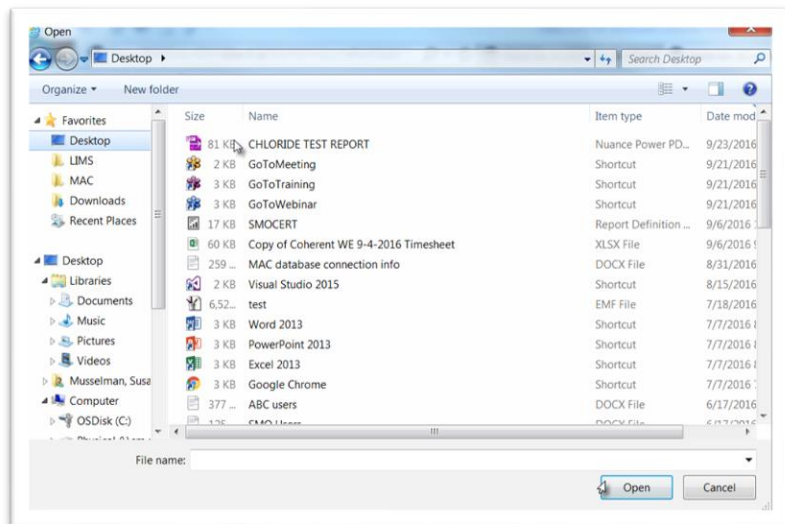
12. **Testing Lab** – enter the FDOT Lab Id or name of the lab in the Testing Lab Field.

**NOTE:** For chloride samples, the laboratory is not required to acknowledge custody of the sample and enter the test results. The laboratory must be qualified to perform chloride testing. Providing the laboratory in the testing lab field allows the system to confirm the lab's qualifications, but it not related to sample chain of custody.

13. Enter a comment, if desired.

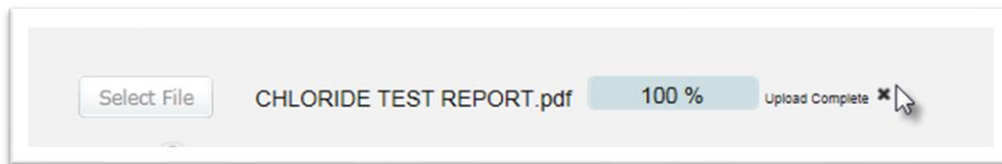
14. Attach the test report from the laboratory for the chloride sample results to the sample.  
a. Click on the Choose File option.

An Open dialog box appears.



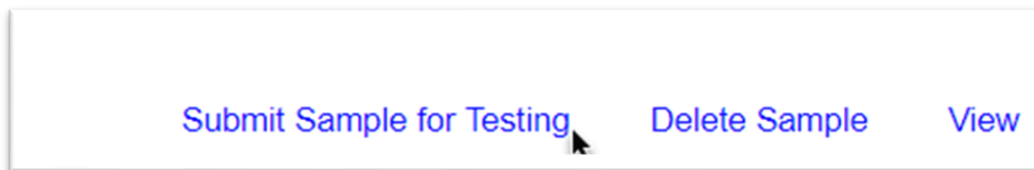
- b. Navigate to the file location and click on it to select it.
- c. Select the Open option to upload the document to the sample.

The sample dialog box will show that the upload is 100% complete.

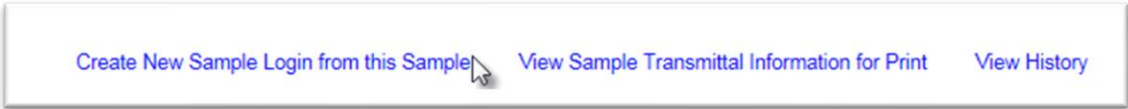


- d. If you need to delete the document, select the x beside the Upload Complete message.
15. Enter a document description, if desired.
16. Select Save and Submit to save the sample record in MAC and continue with the test result entry.

**NOTE:** Selection the Save option will create the sample with a sample status of Logged. In order to get a Logged Sample into the Submitted for Lab Testing status, a user must select the Submit Sample for Testing option



B. Creating a Chloride Sample from an existing Sample.



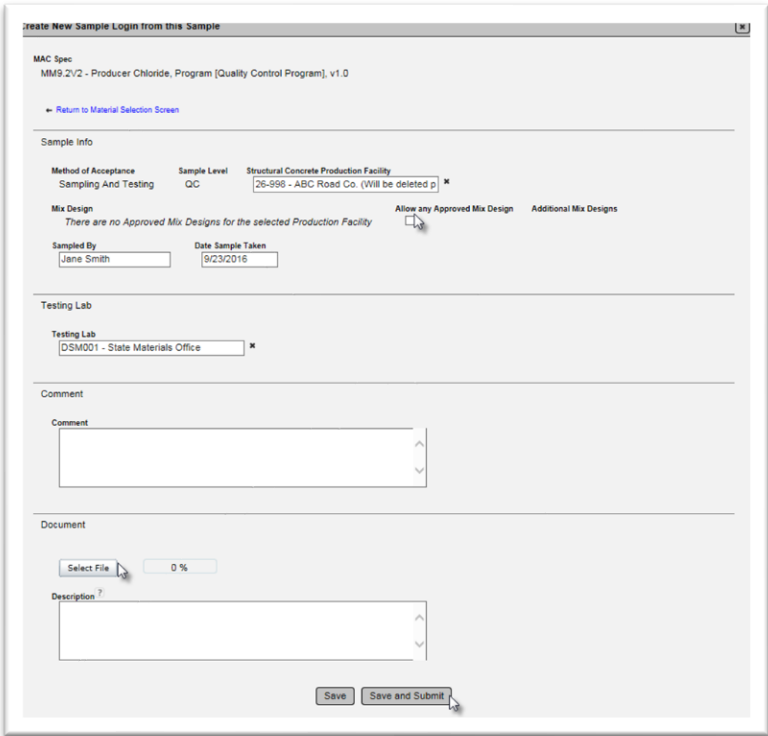
1. You can use the Create New Sample Login from this Sample option to copy the already entered sample information to a new sample. Select the Create New Sample from this Sample option.

A Create New Sample Login from this Sample dialog box will appear.



2. Select the Continue to Sample Information Screen option.

The dialog box will expand.



3. Follow the instruction in [A. Creating a Chloride Sample](#).

4. Select Save and Submit.



## Chapter 2 – Entering Test Results

Chloride samples do not need to be received so you can proceed to test result entry. Users with the role of Data Entry can add the test results. A user with the role of Data Reviewer must submit the sample to FDOT.

**NOTE:** Even though the test report is attached, the results from the report must be entered into the test in MAC so that the results can be reported on and used in analysis. To meet the requirements of Materials Manual 9.2, Volume II, a user must enter the data in the test and submit the sample to FDOT for Finalization.

Sample 1600015260 [Submitted for Lab Testing]

Go To Sample

Create New Sample Login from this Sample View Sample Transmittal Information for Print View History

Sample ID	Sample Status
1600015260	Submitted for Lab Testing

Sample Initiated By	Sample Initiated Date	Last Updated By	Last Updated On
Susan Musselman	9/23/2016	Susan Musselman	9/23/2016

Material Information [Click to Expand](#)

Sample Information [Click to Expand](#)

Laboratory Information [Click to Expand](#)

Sample Comments [0] [Click to Expand](#)

Documents [1] [Click to Expand](#)

Associated Tests [1] [Click to Expand](#)

1. On the sample screen, click on the Associated Tests tab to expand it.

Associated Tests [1]							
	Lab or Field	Lab ID	Tester	Test Disposition	Test Status	Required	Which test Rules?
<b>FM 5-516 Chloride in Concrete</b>							
1	Initial Test	Lab			Ready for Testing	Required	<a href="#">Perform Test</a> <a href="#">Mark Test Not Performed</a>

Showing 1 to 1 of 1

2. Click on the Perform Test option.

A Perform Test dialog box for FM 5-516 Chlorides in Concrete will appear.

**Perform Test**

Test  
FM 5-516 Chloride in Concrete

Tester: Type Technician Name or TIN  
Testing Lab: A0990 - ABC Roads and Bridges, Inc.  
Date Test Performed

Unit Weight (lbs/yd<sup>3</sup>)  
Is this sample being sliced? No  
Silver Nitrate Concentration  
Chloride A (lbs/yd<sup>3</sup>)  
Chloride B (lbs/yd<sup>3</sup>)  
Chloride C (lbs/yd<sup>3</sup>)  
Range  
Average Chloride (lbs/yd<sup>3</sup>)  
Average Chloride (PPM) - Information Only -

Test Notes +  
Save

**Tester**

Jane Doe  
No Results Found

**3. Tester** – enter the name of the person who performed the test. The tester does not have to be qualified.

- If the tester has a CTQP TIN, the system will return the user with name and TIN.
- If the person does not (as shown in the example above) the system will say No Results Found.
- Simply click in the Date Test Performed field to populate the Tester field with a tester with no TIN and dismiss the No Results found message.

Date Test Performed

Prev September 2016 Next

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**4. Date Test Performed** – enter the date the test was performed.

5. **Unit Weight** – enter the unit weight of the concrete from the mix design in pounds per cubic yard (lbs/cy<sup>3</sup>).
6. **Is the sample being sliced?** – select the Yes or No indicator. Normally samples tested for chlorides from structural concrete production facilities are not sliced.
7. **Silver Nitrate Concentration** – select the appropriate concentration from the dropdown list.
8. **Chloride A, B & C** – enter the appropriate results in the fields.
9. **Range & 10 Average Chlorides (lbs/yd<sup>3</sup>)** – MAC will calculate the Range and the Average in lbs/yd<sup>3</sup>.
11. **Average Chloride (PPM)** – MAC will the Average in PPM if applicable.
12. **Test Notes** – add any test notes, if desired by clicking on the + next to the Test Notes label.
13. Select Save to save the results.
14. Review the data to ensure it is correct and complete.

sample 1600015260 [submitted for Lab testing]

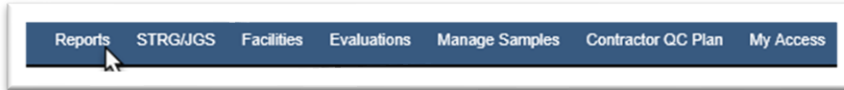
[Submit for FDOT Verification](#)
[Create New Sample Login from thi](#)

Sample ID	Sample Status	Sample Initiated By	Sample Initiated Date	Last Updated By	Last Updated On
1600015260	Submitted for Lab Testing				

14. A Data Reviewer must select the Submit for FDOT Verification option to indicate to the Department that it is ready to be finalized.

## Chapter 3 – Finding Chloride Samples Awaiting Finalization

There is a report designed to assist FDOT Verifiers in finding samples that are awaiting finalization in their district(s). The report can be used for other sample summary information, but its primary goal is to give the personnel who need to finalize producer chloride samples a summary per district and not per plant.

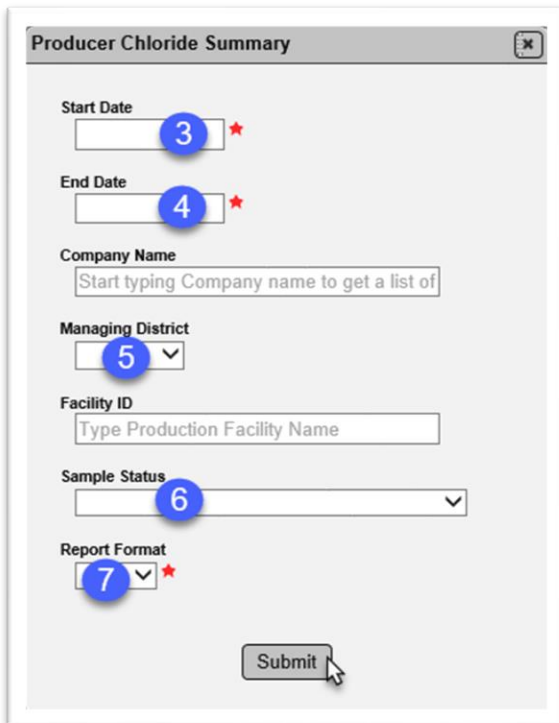


1. Select Reports from the menu option.



2. Under the Sample tab, select the Producer Chloride Summary option.

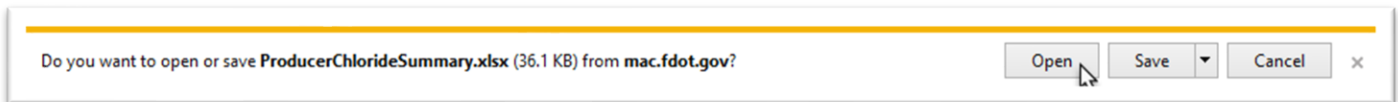
A Producer Chloride Summary dialog box will appear.

A screenshot of a 'Producer Chloride Summary' dialog box. The dialog box contains several input fields: 'Start Date' (text box with a red asterisk and a blue circle with the number 3), 'End Date' (text box with a red asterisk and a blue circle with the number 4), 'Company Name' (text box with placeholder text 'Start typing Company name to get a list of'), 'Managing District' (dropdown menu with a blue circle with the number 5), 'Facility ID' (text box with placeholder text 'Type Production Facility Name'), 'Sample Status' (dropdown menu with a blue circle with the number 6), and 'Report Format' (dropdown menu with a red asterisk and a blue circle with the number 7). A 'Submit' button is located at the bottom right of the dialog box.

The report is designed to be used for multiple purposes. Using these fields will generate results for samples pending finalization district wide.

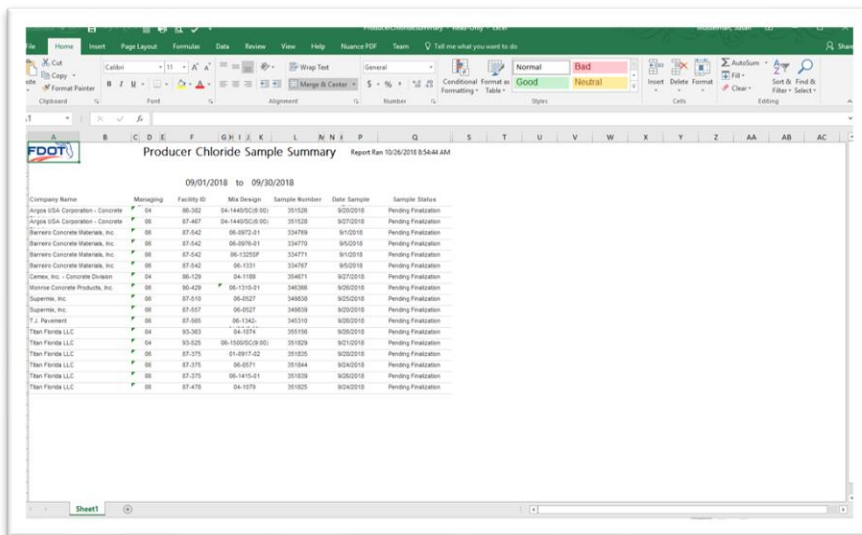
3. **Start Date** – Enter the appropriate start date. This field works in conjunction with the End Date field and provides a date range for the date the samples were entered in MAC.
4. **End Date** – Enter the appropriate end date for the date range.
5. **Managing District** – select the managing district(s) of the production facilities. This field is multi-select.
6. **Sample Status** – Select Pending Finalization.
7. **Report Format** – Select Excel or pdf. Excel format can be sorted and filtered.

MAC will download the data that meets the given search criteria. A Download dialog box will appear. The appearance of the dialog box depends on the browser you are using.



8. Select the Open option.

The file will be opened in the format you selected.

A screenshot of an Excel spreadsheet titled "Producer Chloride Sample Summary". The spreadsheet shows a table with columns for Company Name, Managing, Facility ID, Mix Design, Sample Number, Date Sample, and Sample Status. The data is filtered for the period 09/01/2018 to 09/30/2018. The table lists various companies and their associated sample numbers and dates, all with a status of "Pending Finalization".

Company Name	Managing	Facility ID	Mix Design	Sample Number	Date Sample	Sample Status
Angus USA Corporation - Concrete	08	86-382	04-14405C(8.00)	351026	9/20/18	Pending Finalization
Angus USA Corporation - Concrete	08	87-487	04-14405C(8.00)	351028	9/20/18	Pending Finalization
Barreiro Concrete Materials, Inc.	08	87-542	06-3872-01	354789	9/1/18	Pending Finalization
Barreiro Concrete Materials, Inc.	08	87-542	06-3878-01	354770	9/2/18	Pending Finalization
Barreiro Concrete Materials, Inc.	08	87-542	06-1203F	354771	9/1/18	Pending Finalization
Barreiro Concrete Materials, Inc.	08	87-542	06-1331	354767	9/1/18	Pending Finalization
Comex, Inc. - Concrete Division	04	86-129	04-1189	354671	9/27/18	Pending Finalization
Haynes Concrete Products, Inc.	08	86-428	06-1318-01	348386	9/20/18	Pending Finalization
Supernix, Inc.	08	87-510	06-8527	348358	9/20/18	Pending Finalization
Supernix, Inc.	08	87-557	06-8527	348339	9/20/18	Pending Finalization
T.J. Pavement	08	87-568	06-1340	348310	9/20/18	Pending Finalization
Titan Florida LLC	04	93-363	04-1374	355156	9/20/18	Pending Finalization
Titan Florida LLC	04	93-528	06-1609C(9.00)	351829	9/21/18	Pending Finalization
Titan Florida LLC	08	87-375	01-891-02	351835	9/20/18	Pending Finalization
Titan Florida LLC	08	87-375	06-0371	351844	9/20/18	Pending Finalization
Titan Florida LLC	08	87-375	06-1415-01	351839	9/20/18	Pending Finalization
Titan Florida LLC	08	87-478	04-1079	351825	9/20/18	Pending Finalization

The Sample Number field can be used in the process described in [Chapter 4 – Finalizing the Samples](#) to find samples that need to be finalized.

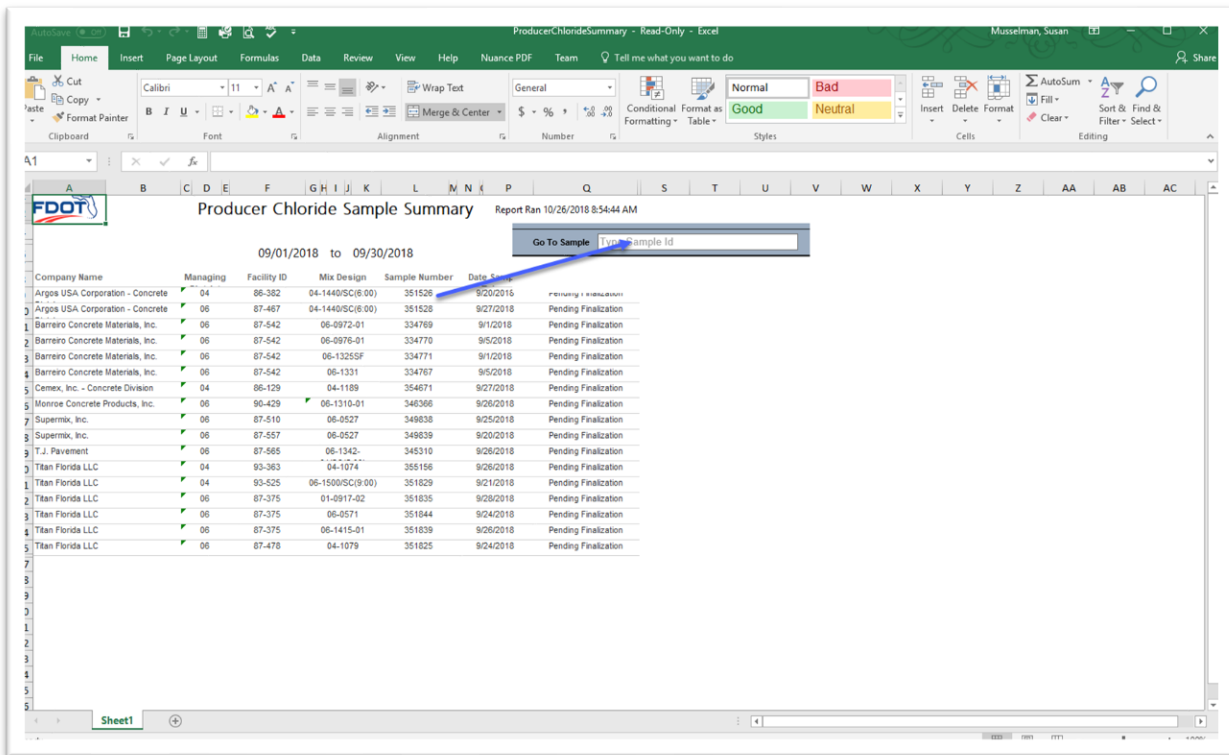
## Chapter 4 – Finalizing Chloride Samples

A user with the role of FDOT Verifier must finalize producer chloride samples. This is typically a user at the District Materials and Research Office of the managing district of the production facility.

1. Ensure that you are in your system roles to begin.



2. Select the Samples menu option.
3. Select the Manage Samples submenu option.



Excel spreadsheet titled "Producer Chloride Sample Summary" with columns: Company Name, Managing, Facility ID, Mix Design, Sample Number, Date. The spreadsheet lists various concrete producers and their samples. A "Go To Sample" field is highlighted with a blue arrow pointing to the "Sample Number" column.

Company Name	Managing	Facility ID	Mix Design	Sample Number	Date	Status
Argos USA Corporation - Concrete	04	86-382	04-1440(SC)8(00)	351528	9/20/2018	Pending Finalization
Argos USA Corporation - Concrete	06	87-467	04-1440(SC)8(00)	351528	9/27/2018	Pending Finalization
Barreiro Concrete Materials, Inc.	06	87-542	06-0972-01	334769	9/1/2018	Pending Finalization
Barreiro Concrete Materials, Inc.	06	87-542	06-0976-01	334770	9/5/2018	Pending Finalization
Barreiro Concrete Materials, Inc.	06	87-542	06-1325SF	334771	9/1/2018	Pending Finalization
Barreiro Concrete Materials, Inc.	06	87-542	06-1331	334767	9/5/2018	Pending Finalization
Cemex, Inc. - Concrete Division	04	86-129	04-1189	354671	9/27/2018	Pending Finalization
Monroe Concrete Products, Inc.	06	90-429	06-1310-01	348366	9/26/2018	Pending Finalization
Supermx, Inc.	06	87-510	06-0527	349838	9/25/2018	Pending Finalization
Supermx, Inc.	06	87-557	06-0527	349839	9/20/2018	Pending Finalization
T.J. Pavement	06	87-565	06-1342-	345310	9/26/2018	Pending Finalization
Titan Florida LLC	04	93-363	04-1074	355156	9/26/2018	Pending Finalization
Titan Florida LLC	04	93-525	06-1500(SC)9(00)	351829	9/21/2018	Pending Finalization
Titan Florida LLC	06	87-375	01-0917-02	351835	9/28/2018	Pending Finalization
Titan Florida LLC	06	87-375	06-0571	351844	9/24/2018	Pending Finalization
Titan Florida LLC	06	87-375	06-1415-01	351839	9/26/2018	Pending Finalization
Titan Florida LLC	06	87-478	04-1079	351825	9/24/2018	Pending Finalization

4. Using the Sample Number field from the Producer Chloride Sample Summary field, enter the MAC Sample Id in the Go To Sample field.

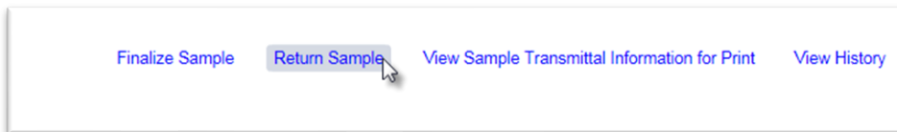
You will be navigated to the sample screen.

5. Review the following information:

- a. Is the mix Design the correct one?
- b. Are there additional mix designs listed? If so, are they appropriate for the mix design?
- c. Is the laboratory qualified?
- d. Is the test report attached?
- e. Do the test results entered match the test report?

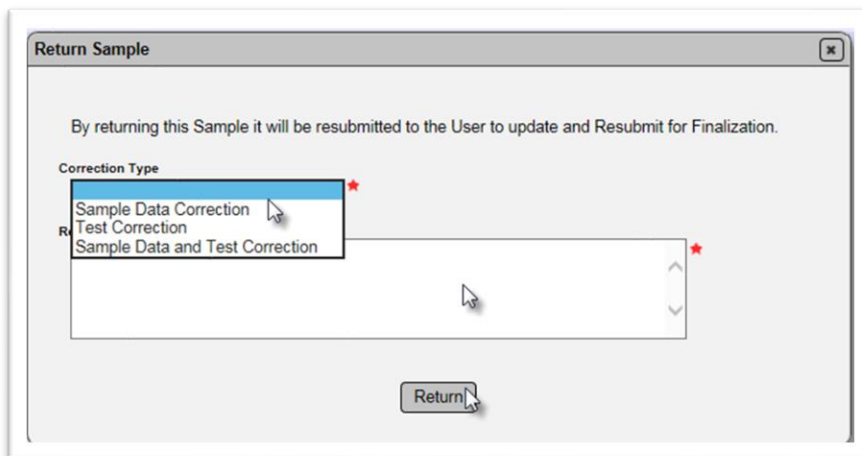
If no errors are found, skip to step 10.

If errors are found:



6. Select the Return Sample option.

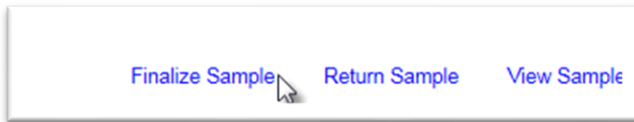
A Return Sample dialog box will appear.



7. Select the correction type that is needed from the correction type drop down list:

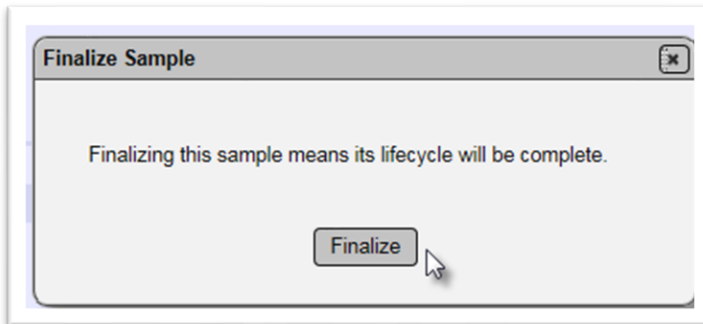
- a. **Sample Data Correction** – sample data is in error, but test data is incorrect.
  - b. **Test Correction** – sample data is correct, but test data is in error.
  - c. **Sample Data and Test Correction** – data corrections are needed for both sample and test data.
8. **Reason** – enter the specific corrections needed, for example, mix design number is in error.
9. Select the Return option.

The sample is returned to the Data Reviewer users in the company profile of the sample. The user makes corrections and returns the sample to the FDOT for finalization.



10. After the sample is returned, or if there are no errors, select the finalize sample option.

A Finalize Sample dialog box will appear.



11. Select the Finalize option.

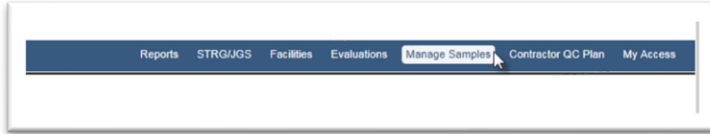
When the sample is finalized, it is considered closed (at the end of the sample life cycle).

**NOTE:** If an error is encountered in the data after the sample is finalized, the sample can still be returned to the Data Reviewer for corrections by selecting the Return Sample option.

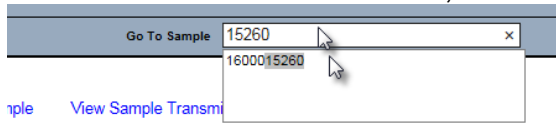


## Chapter 5 – Data Entry Corrections for Returned Sample

If the FDOT Verifier returns a sample for data corrections, a user with the role of Data Reviewer must make the corrections and return the samples back to the FDOT for finalization. The producer chloride samples can be corrected for sample data or test data by any user with the role of Data Reviewer in the company the sample belongs to.

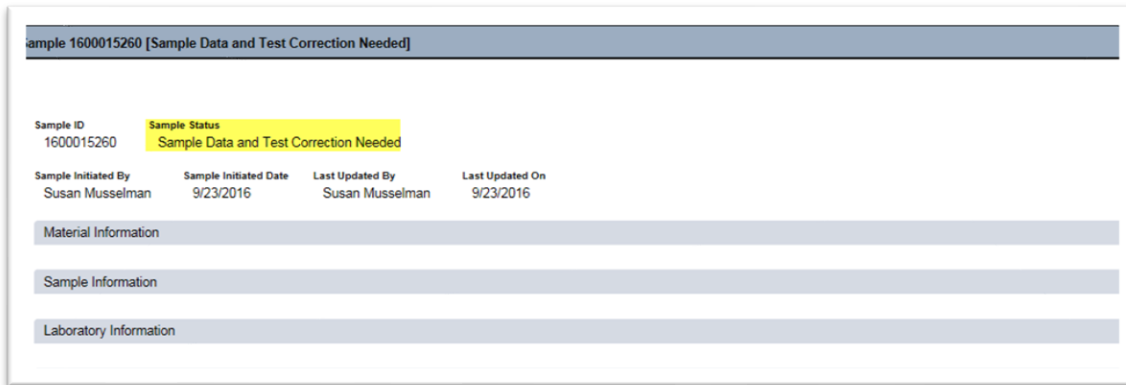


1. From the MAC home screen, select the Manage Samples menu option.



2. Enter all or part of the MAC Sample Id in the Go To Sample field.
3. Select the sample from the returned list.

You will be navigated to the sample screen for that sample. The sample status will be Sample Data Correction Needed, Test Correction Needed or Sample Data and Test Correction Needed.

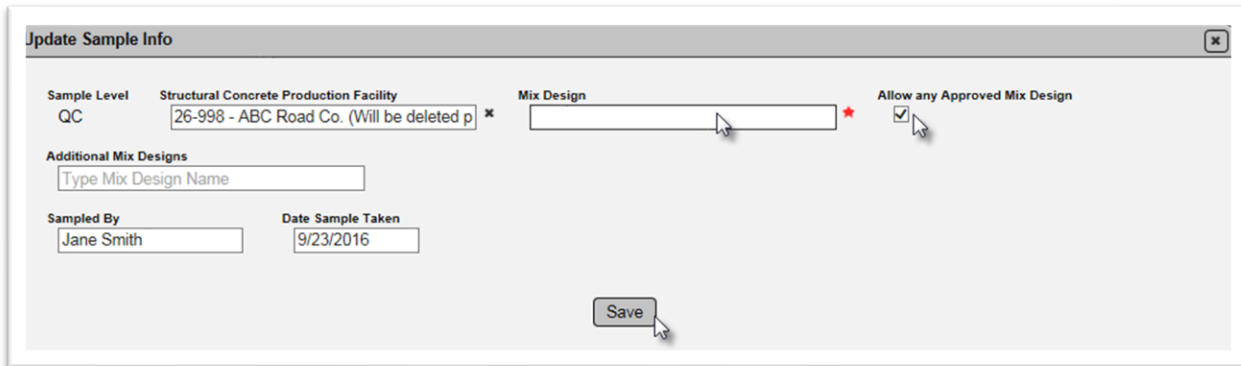


4. Click on the Sample Comments tab to expand it. One of the comments will be related to why the sample was returned. You can respond if you desire, but it is not required.



5. If sample data corrections are needed, click on the Sample Information tab to expand it.
6. Click on the Update Sample Info option.

An Update Sample Info dialog box will appear.



7. **Allow any Approved Mix Design option** – if the mix design needs to be corrected, select this option.
- A blank Mix Design field will appear.
8. **Mix Design** – enter the correct mix design in the field.
9. Make any other needed corrections.
10. Select Save to update the sample data.

Associated Tests [1]							
	Lab or Field	Lab ID	Tester	Test Disposition	Test Status	Required	Which test Rules?
<b>FM 5-516 Chloride in Concrete</b>							
1	Initial Test	Lab	DSM001	Jane Doe	Pass	Test Complete	Required
							<a href="#">Perform Test</a> <a href="#">Mark Test Not Performed</a> <a href="#">Retest</a>
Showing 1 to 1 of 1							

11. If test data needs to be corrected, click on the Associated Tests tab to expand it.
12. Click on the Perform Test option.

A Perform Test dialog box will appear with the test data.

The 'Perform Test' dialog box displays the following information:

- Test:** FM 5-516 Chloride in Concrete
- Tester:** Jane Doe
- Testing Lab:** A0990 - ABC Roads and Bridges, Inc.
- Date Test Performed:** 10/23/2023
- Unit Weight (lbs/yd<sup>3</sup>):** 4
- Is this sample being sliced?** No
- Silver Nitrate Concentration:** 0.01N
- Chloride A (lbs/yd<sup>3</sup>):** 0.320
- Chloride B (lbs/yd<sup>3</sup>):** 0.290
- Chloride C (lbs/yd<sup>3</sup>):** 0.313
- Range:** 0.030
- Average Chloride (lbs/yd<sup>3</sup>):** 0.308
- Average Chloride (PPM):** 77,000 - Information Only -

At the bottom, there is a 'Test Notes +' section and a 'Save' button.

13. Make revisions as needed.
14. Select Save to save the test corrections.

Correction Made - Submit for FDOT Verification    Create New Sample Login

15. When the data corrections are complete, review the new information to confirm the corrections have been made.

16. Select the Correction Made – Submit for FDOT Verification option.

The sample will be returned to the FDOT Verifier for finalization.