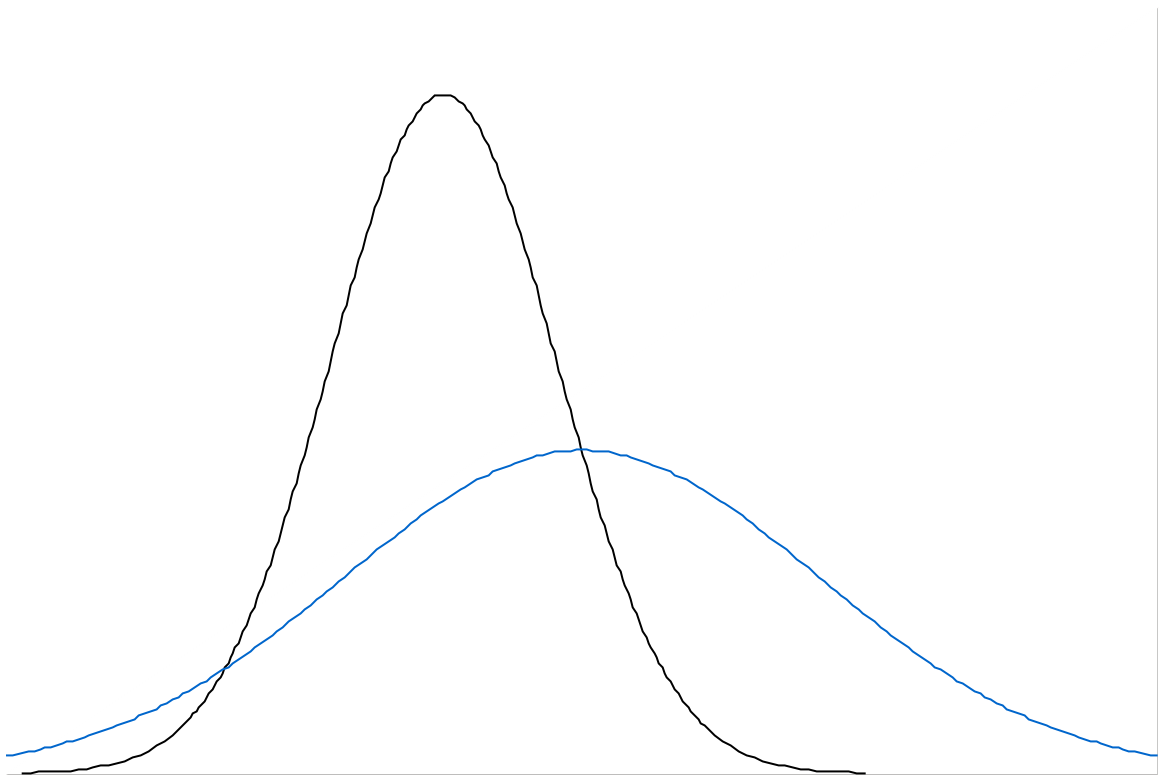


Central Federal Lands Highway Division

# QL-PAY 5.30

Users Manual

January 2011



The purpose of this manual is giving the user basic skills to operate QL-PAY 5.30. This includes setting up projects, entering specifications, inputting test results, creating reports, and emailing reports. One of the major objectives of this software is to compare test results from two different labs to determine if statistically the material is from the same population, this is called “hypothesis testing”. For more details on the analysis being performed you will need to contact Materials.

## Table of Contents

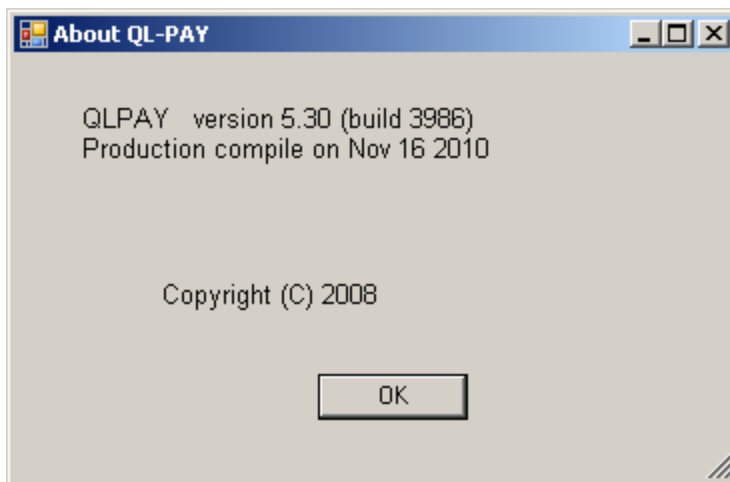
• Version and build determination.....	3
• Setting up a project for analysis.....	4
• Entering specifications.....	6
• Inputting test results.....	9
• Copying projects.....	10
• Creating reports.....	11
• Emailing reports.....	12
• Questions/Comments/Concerns.....	13

## Version and build determination

It is imperative that the latest version of the software is being used. There are usually 1-2 new “builds” per year. Obviously if you just downloaded the software you should have the most recent version and build. To check the version and build do the following:

*click HELP>>>>>> About QL-PAY*

dialog box below should appear

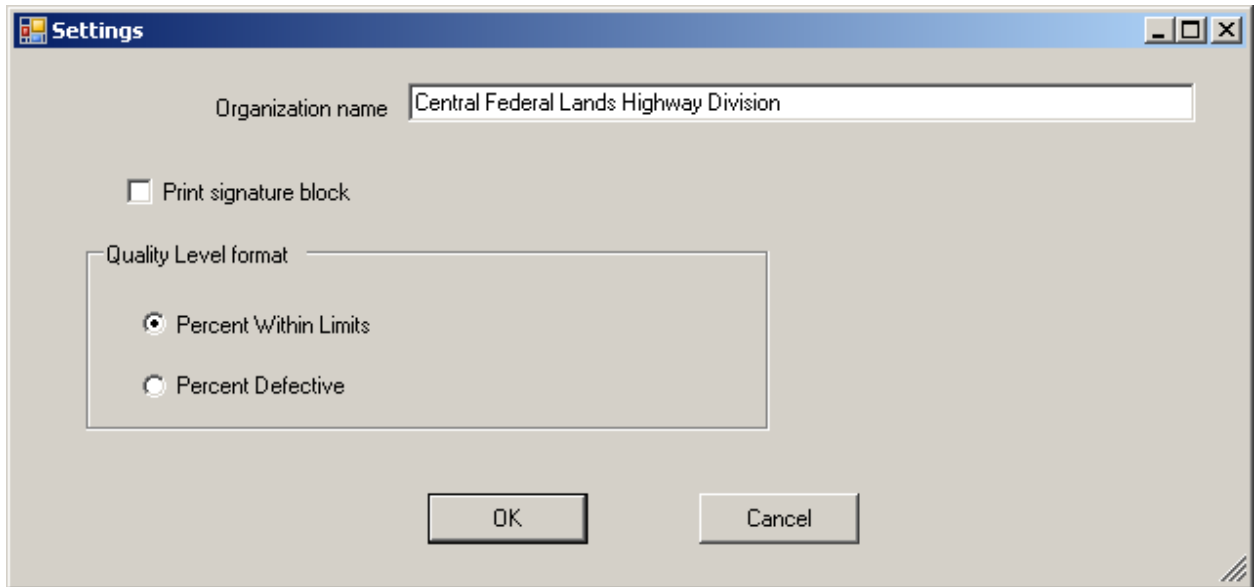


Because the build number changes every time there is an update, you will need to check with Materials to find out the most current.

## Setting up a project for analysis

Before we get started, let's change the "header" that will print out on the reports.

*click FILE>>>>>> SETTINGS*



Change from "Western Federal Lands Highway Division" to "Central Federal Lands Highway Division"

It is now time to setup a project. The example below is based on setting up a project with structural concrete (552) with 28 day design strength ( $f'c$ ) of 4000psi. The principals for setting up a project and adding properties are all the same.

1. Start on the bottom left of the screen enter "Contract Number"
2. Enter "Item" (e.g. 55201-4200)
3. Enter "Lot" number
4. Use the pull down to select the appropriate laboratory, "Contractor"

Imported	Contract number	Item	Lot	Laboratory	Project name
<input type="checkbox"/>	DTFH-68-10-C-00004	40101 TS1	TS	Central Lab	Carlsbad Caverns
<input type="checkbox"/>	DTFH-68-10-C-00004	40101 TS1	TS	Contractor Lab	Carlsbad Caverns
<input type="checkbox"/>	DTFH60-08-C-00027	409	1	Central Lab	Dinosaur National Monument
<input type="checkbox"/>	DTFH60-08-C-00027	409	1	Contractor Lab	Dinosaur National Monument
<input type="checkbox"/>	DTFH60-08-C-00028	409	1	Central Lab	Death Valley Pavement Preservation
<input type="checkbox"/>	DTFH60-08-C-00028	409	1	Contractor Lab	Death Valley Pavement Preservation
<input type="checkbox"/>	DTFH68-06-C-00017	30101-0000	1	Central Lab	Cuba-LaCueva
<input type="checkbox"/>	DTFH68-06-C-00017	30101-0000	1	Contractor Lab	Cuba-LaCueva
<input type="checkbox"/>	DTFH68-06-C-00026	40201-3800	5	Central Lab	VALLEY LOOP ROAD

Identify new or existing sample set(s)

Select all Copy to fields Clear fields Restore fields

Contract number Item Lot Laboratory

1 2 3 4

5 Specifications ...

Test Results ... Exit QLPAY

5. Next **click SPECIFICATIONS**





- 5.3.1 This is where you enter the Critical Level or Category; this will be listed in the Sampling and Testing Tables at the back of the applicable section.
- 5.3.2 Since the spec is a “Minimum”, click the min button
- 5.3.3 In the “Low Value” enter **4000**
- 5.3.4 Divide the contract quantity by the sampling frequency, this is your “Estimated number of tests”, e.g. contract quantity = 450 cuyd, sampling frequency = 30 cuyd, therefore estimated number of tests = 15

**click>>>>>> OK**

**Specifications**  
Lot Specification Options

**Project Specifications**

Contract Number: DTFH68-10-C-00038  
Project Name: Tajique-Torreion Loop Bridges  
Project Number: NM PFH 57-1(1)

**Item and Lot Specifications**

Item: 55201-4200 Lot: 1

**Asphalt Binder Pay Factors**

Maximum Pay Factor for asphalt binder per your Contract = 1.01  
(If unchecked, max asphalt binder PF = 1.05)

**Property Specifications**

Select template ->

Add property Properties ... Target specs Delete selected rows

Property	Category (1 or 2)	Target Type	Target Value	+, -	Low Value	High Value	Estimated # tests
28 day	2	min			4000		15

Save Save & Close Quit

**click>>>>>> SAVE & CLOSE**



## Inputting test results

Once back to the main screen, highlight the project we just created  
**click>>>>>> TEST RESULTS**

The screenshot shows the 'Sample Test Results' form with the following data:

Contract Number	Item	Lot	Laboratory
DTFH68-10-C-00038	55201-4200	1	Contractor Lab

Exclude	Sample	28 day	Remark
<input type="checkbox"/>	(null)		

Buttons at the bottom: Clear Checks, Delete selected rows, Save, Save and Close, Quit.

It is extremely important that numbering is done correctly. The software will do a statistical analysis between both labs based on numbering. In other words sample 1 tested by the contractor's lab must be a split sample of what the Central lab is testing as sample 1.

The screenshot shows the 'Sample Test Results' form with the following data:

Contract Number	Item	Lot	Laboratory
DTFH68-10-C-00038	55201-4200	1	Contractor Lab

Exclude	Sample	28 day	Remark
<input type="checkbox"/>	1	4566	
<input type="checkbox"/>	2	4388	
<input type="checkbox"/>	3	4507	
<input type="checkbox"/>	4	4922	
<input type="checkbox"/>	5	4125	
<input type="checkbox"/>	6	5019	
<input type="checkbox"/>	7	5099	
<input type="checkbox"/>	8	4752	
<input type="checkbox"/>	9	4615	

Buttons at the bottom: Clear Checks, Delete selected rows, Save, Save and Close, Quit.

Simply enter Sample numbers and test results  
**click>>>>>> SAVE & CLOSE**

## Copying projects

Now we are going to enter the test results from the Central Lab. From the main screen, highlight the project we have been working on and

**click>>>>>> CLEAR FIELDS>>>>>>SELECT ALL>>>>>>COPY TO FIELDS**

Change the Laboratory to “Central Lab”

Imported	Contract number	Item	Lot	Laboratory	Project name
<input type="checkbox"/>	DTFH68-06-C-00017	30101-0000	1	Central Lab	Cuba-LaCueva
<input type="checkbox"/>	DTFH68-06-C-00017	30101-0000	1	Contractor Lab	Cuba-LaCueva
<input type="checkbox"/>	DTFH68-10-C-00038	55201-0200	1	Contractor Lab	Tajique-Torreion Loop Bridges
<input checked="" type="checkbox"/>	DTFH68-10-C-00038	55201-4200	1	Contractor Lab	Tajique-Torreion Loop Bridges
<input type="checkbox"/>	DTFH-68-10-C-00004	40101 TS1	TS	Central Lab	Carlsbad Caverns
<input type="checkbox"/>	DTFH-68-10-C-00004	40101 TS1	TS	Contractor Lab	Carlsbad Caverns
<input type="checkbox"/>	DTFH68-08-C-00023	40201-3800	TS	Central Lab	Northshore Road
<input type="checkbox"/>	DTFH68-08-C-00023	40201-3800	TS	Engr's Field Lab	Northshore Road
<input type="checkbox"/>	DTFH68-09-C-00040	40201-4700	TS	Contractor Lab	Northshore Road

Identify new or existing sample set(s)

Select all   Copy to fields   Clear fields   Restore fields

Contract number   Item   Lot   Laboratory

DTFH68-10-C-00038   55201-4200   1   Central Lab

Central Lab

Specifications ...   Test Results ...   Exit QLPAY

**click>>>>>> SPECIFICATIONS**

Verify that the specifications are correct

**click>>>>>> SAVE & CLOSE**

The software should have created another row with the “Central Lab” listed as the Laboratory. You should now have 2 Sample Sets that are identical except for the Laboratories. Now go back to “Entering Test Results” section and input Central Lab data.

*It should be noted that anytime the “Contract number”, “Item”, or “Lot” is changed, you will have to re-enter the specifications.*

## Creating reports

From the main screen, highlight the “Contractors Lab” row

**click>>>>>> REPORTS>>>>>>SHORT ANALYSIS**

The screenshot shows a dialog box titled "Reports on single or paired samplesets". It contains three main sections:

- Pick reports:** A list of checkboxes with a "Clear selections" button.
  - List test results
  - Calculate pay factor
  - Histograms
  - Null Hypothesis
  - Skewness and kurtosis
  - Control charts
  - Sampleset differences
- for Null hypothesis and control charts:** Two input fields.
  - Primary Lab: Contractor Lab
  - Alternate Lab: Central Lab (dropdown menu)
- Range of sample numbers:** Two radio buttons.
  - All
  - Range: [ ] to [ ]

At the bottom are "OK" and "Cancel" buttons.

Make sure the “Primary Lab” is “Contractor Lab” and “Alternate Lab” is “Central Lab”

**click>>>>>> OK**

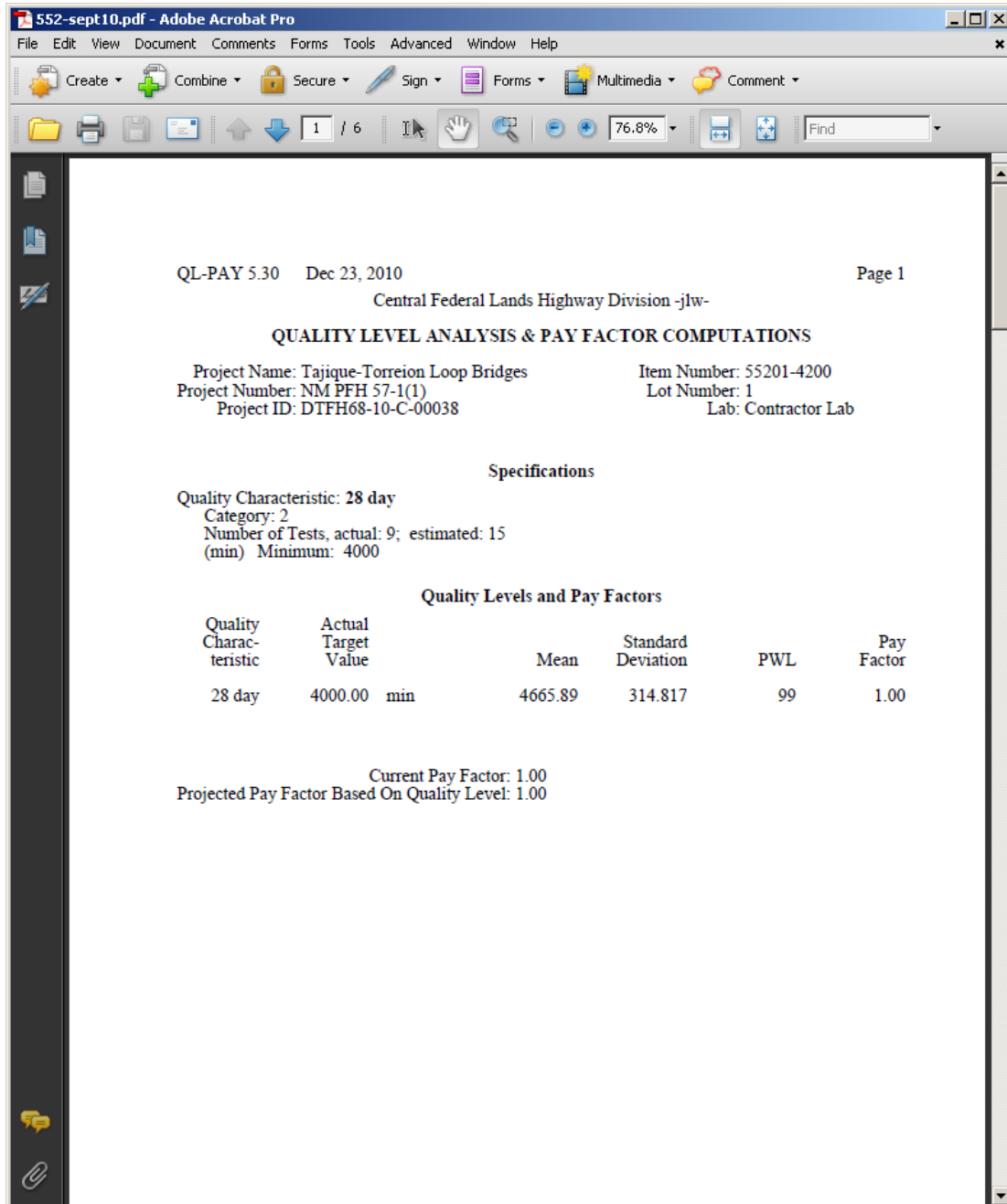
A screen with a .pdf file should appear. This is the QL-Pay report. Since the report has all the test results listed by both labs, it always a good idea to verify the data entry. Transposing errors happen frequently.

Save the report to your hard drive, click “Save As” and give it a name.  
e.g. **552-sept10.pdf**

## Emailing reports

Now that the report has been created, it is time to share the data with the appropriate personnel. CFL Materials have created a mailbox that is checked daily for updated QL-Pay reports ([cfl.qlpay@dot.gov](mailto:cfl.qlpay@dot.gov)). Simply attach the .pdf report, saved on your hard drive, via email.

During production the reports should be sent in weekly for review.



## Questions/Comments/Concerns

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