



Integration of Solids Data with LIMS through API

ExpressWeigh

Joe Boyd
8/8/16

Solids Analysis Summary



Total Suspended Solids (TSS)

- An aliquot of sample (liquid) is vacuum filtered through a pre-weighed glass-fiber filter. The filter traps particles and is dried at 104°C for at least 1 hour. The filter is then cooled and weighed to obtain a post-weight. The drying, cooling, and weighing steps are repeated until a stable weight (+/- 0.5mg) is achieved.

Total Dissolved Solids (TDS)

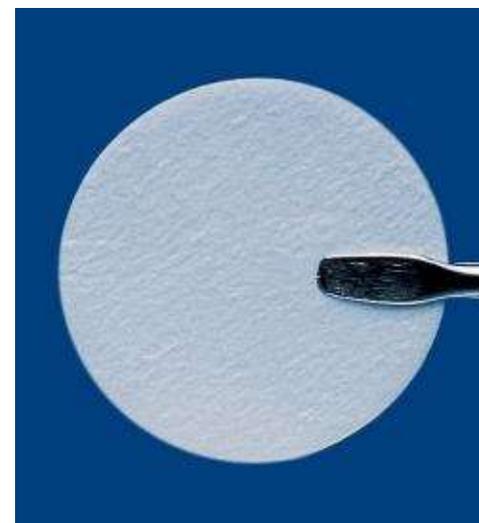
- An aliquot of sample (liquid) is vacuum filtered through a prepared glass-fiber filter. The filtrate is collected and placed into a pre-weighed vessel. The liquid portion is then evaporated from the vessel and the vessel is placed into an oven at 180°C oven. The vessel is cooled and weighed to obtain a post-weight. The drying, cooling and weighing steps are repeated until a stable weight (+/- 0.5mg) is achieved.

Preparation of Filters for TSS



Standard Methods 2540 D requirements

- The glass-fiber filter used in the TSS analysis must be prepared and weighed to method specifications.
 - Filter is washed with under vacuum with 3 successive 20-mL portions of reagent-grade water.
 - Dry in an oven at 103 – 105°C for 1 hour.
 - Cool in a desiccator to balance temperature and weigh.
 - Repeat the cycle of drying, cooling, desiccating, and weighing until weight change is +/- 0.5mg.



Preparation of Vessels for TDS



Standard Methods 2540 C requirements

- The vessel used in the TDS analysis must be prepared and weighed to method specifications.
 - Wash vessel to remove residue if used prior to current analysis.
 - Heat the clean vessel at 180°C for 1 hour in an oven.
 - Cool in a desiccator to balance temperature.
 - Weigh immediately before use.



Pre-Weighed Products



Environmental Express offers products for both the TSS and TDS analysis that are already prepared per method requirements to save the laboratory time and money.



ProWeigh



StableWeigh

Data Traceability Challenges



How does the laboratory ensure that the pre-weighed products purchased meet the method QC/QA requirements laid out in the analytical method?

Environmental Express Filter Data

Please enter your box or pan ID to access filter data:

Submit

F93447MM-X
DoubleWeigh Filters for TSS, 47MM, 100pk
Lot Number: 600006-3239-R2



← Box I.D.

ENVIRONMENTAL EXPRESS
800.343.5319 or 843.881.8580 • www.envexp.com



Data Traceability Challenges



Environmental Express Filter Data

Enter New Box/Pan ID

[Click to Download Filter Data for Box 201875](#)

Item No.: F93447MM-X - DoubleWeigh Filters for TSS, 47mm, 100pk

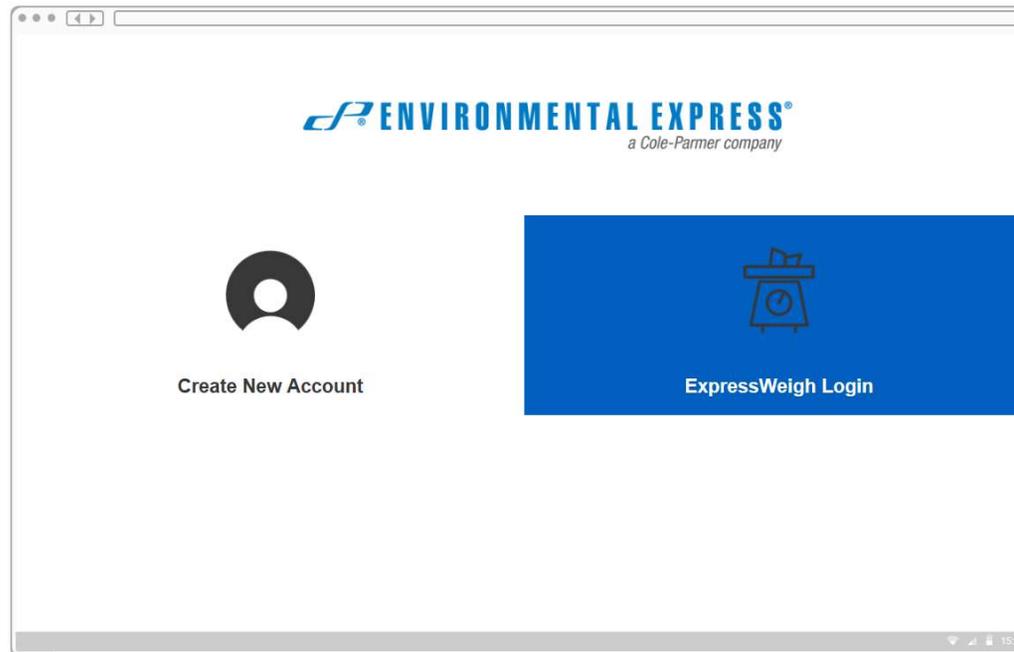
Box ID	ID	Weight 1	Weight 2	Lot
201875	FG3SN	0.1202	0.1202	600014
201875	FG3SY	0.1193	0.1194	600014
201875	FG6DT	0.1143	0.1146	600014
201875	FG6DW	0.1165	0.1168	600014
201875	FG6E4	0.1143	0.1144	600014
201875	FG6E7	0.1189	0.1191	600014
201875	FG6E9	0.1083	0.1083	600014

Data Traceability Challenges



Auditors still require traceability from the EE website through the data entry / collection process.

- Currently not a way to show this process within one contained system.
- ExpressWeigh offers a way to do just this.
 - Web-based program accessed through the EE website
 - GUI interface

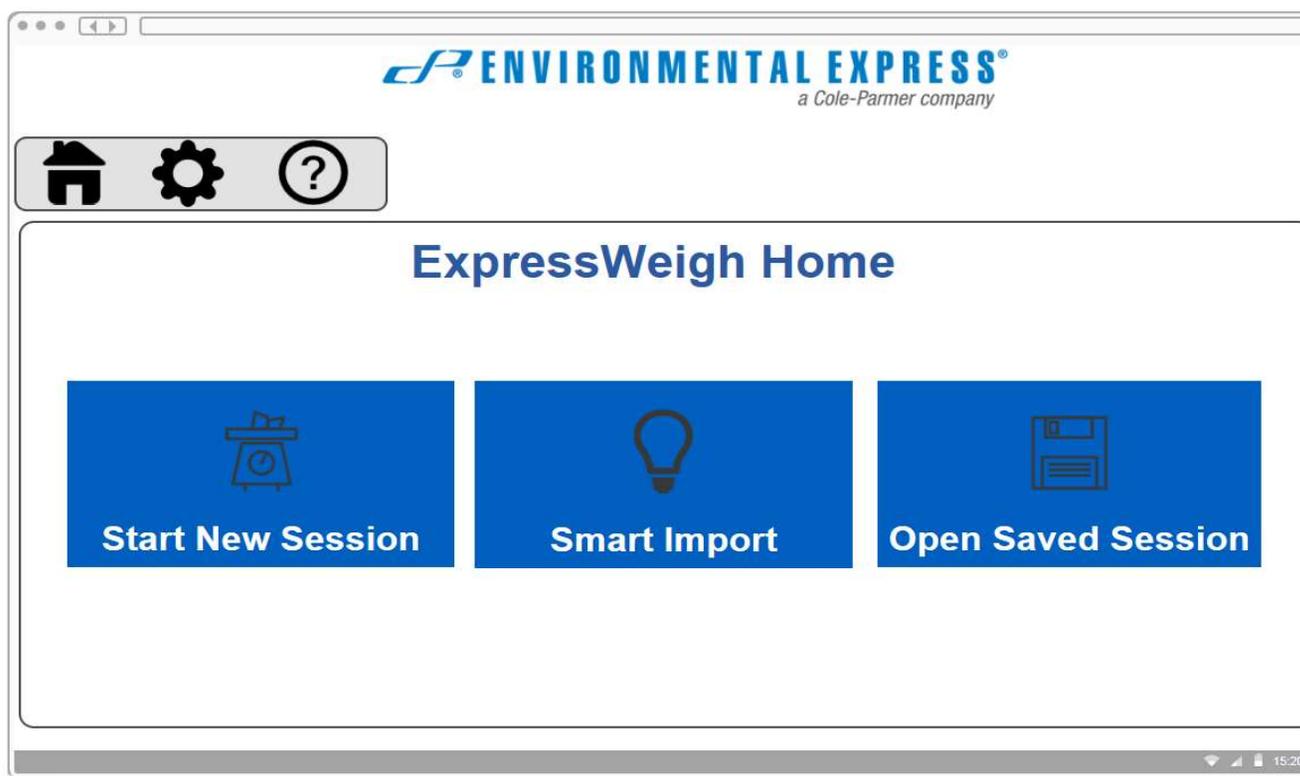


ExpressWeigh

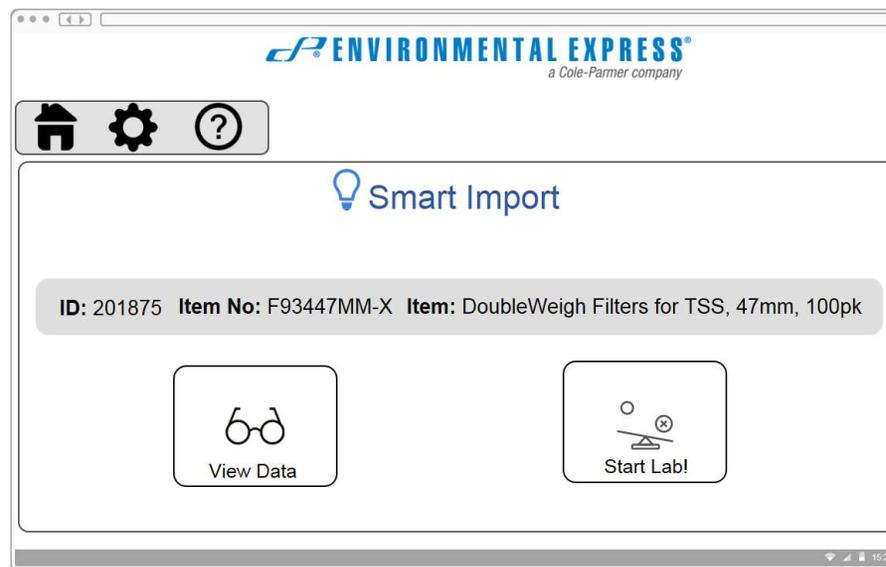
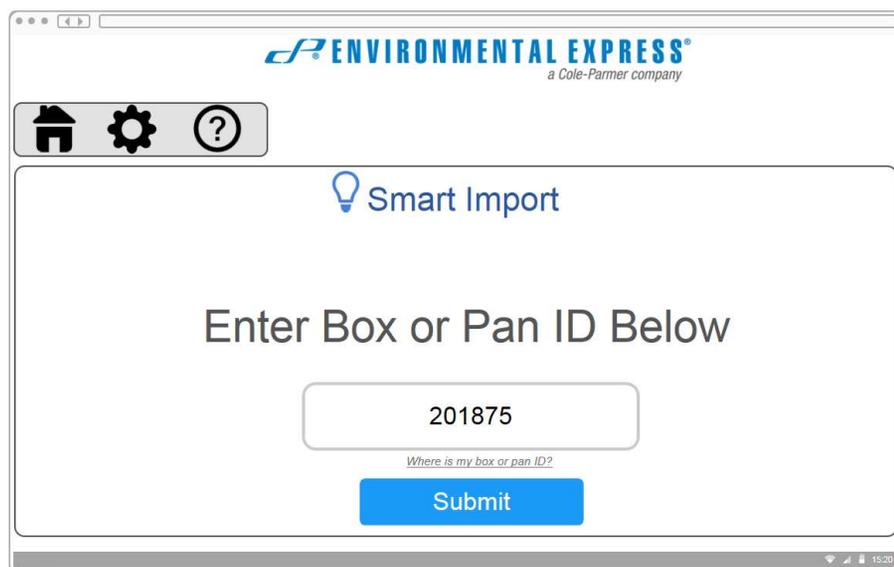


Option to enter data manually or import data

- Data can be imported from EE website (ProWeigh and/or StableWeigh weights)
- Data can be imported from LIMS system (Sample IDs, etc)



ExpressWeigh – Data Import



ExpressWeigh will import ProWeigh or StableWeigh data directly from the EE website

ExpressWeigh – QC Management



ExpressWeigh has the ability to assign limits for QC samples and other parameters.

The screenshot displays the ExpressWeigh Settings interface. At the top, the Environmental Express logo is visible. Below the logo is a navigation bar with icons for Home, Settings, and Help. The main content area is titled "ExpressWeigh Settings" and is divided into three sections: Lab Users, QC Management, and Sample Management.

Lab Users

Johnney Appleseed	✕
Dennis Pope	✕
Sell Out	✕
Lindsey Gihga	✕

[Add User](#)

QC Management

Stability (mg)	Insert value >	mg	TO	mg
Blank (mg)	Insert value >	mg	TO	mg
Duplicate (%)	Insert value >	%	TO	%
Control 1 (mg/L)	Insert value >	mg/L	TO	mg/L
Control 2 (mg/L)	Insert value >	mg/L	TO	mg/L
Total Residue (mg)	Insert value >	mg	TO	mg

[Update](#)

Sample Management

Sample A	✕
Sample B	✕
Sample C	✕
Sample D	✕

[Add Sample](#)

ExpressWeigh – Data Entry



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Home Settings Help

Lab Name

Lab User:	Johnney Appleseed
Method Type:	Suspended Solids
Batch ID:	A1234567a
Sample Type:	DirtA12-1

[Back](#) Filter: 1 of 1 [Next](#)

FG3SN	0.1202	0.1202
Sample 101	0.1251	0.1249

Standard
 Blank
 Duplicate

40 mL
Volume
60 mL
100mL
200 mL

[Save & Exit](#) [Finish Lab](#)

15:20

ExpressWeigh – Assigning QC Samples



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Home Settings Help

Lab Name

Lab User:	Johnney Appleseed
Method Type:	Suspended Solids
Batch ID:	A1234567a
Sample Type:	DirtA12-1

[Back](#) Filter: 2 of 2 [Next](#)

FG3SY	0.1193	0.1194
Sample 101 DUP	0.1242	0.1244

Standard
 Blank
 Duplicate

40 mL
Volume
100 mL
200 mL

[Save & Exit](#) [Finish Lab](#)

15:20

ExpressWeigh – Data Results



The screenshot displays the 'New Lab Session - Overview' page in the ExpressWeigh web application. At the top, the Environmental Express logo and 'a Cole-Parmer company' are visible. Below the logo is a navigation bar with icons for Home, Settings, and Help. The main content area features a back arrow and the title 'New Lab Session - Overview'. There are two main sections: 'Lab Information' and 'Filter Data Details'. The 'Lab Information' section contains a table with the following data:

Lab User:	Johnney Appleseed
Method Type:	Suspended Solids
Batch ID:	A1234567a
Sample Type:	DirtA12-1

The 'Filter Data Details' section shows a box with '# Filters 3'. At the bottom of the page, there are three blue buttons: 'View Data Results', 'Export Data (.CSV)', and 'Export Data (.XLS)'. The bottom right corner of the browser window shows a status bar with a Wi-Fi icon, a battery icon, and the time '15:20'.

ExpressWeigh – Viewing Data Results



The screenshot shows the ExpressWeigh Lab Results web application. At the top, the Environmental Express logo is displayed with the tagline "a Cole-Parmer company". Below the logo is a navigation bar with icons for Home, Settings, and Help. The main heading is "ExpressWeigh Lab Results".

Lab Information

Lab User:	Johnney Appleseed
Method Type:	Suspended Solids
Batch ID:	A1234567a
Sample Type:	DirtA12-1

FilterData : FilterData

Filter ID	Timestamp	Pre-Weight 1	Pre-Weight 2	Sample Volume	Post-Weight 1	Post-Weight 2	Method Type	Calculated Fin.
A12345	12:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128
A12346	13:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128
A12347	14:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128
A12348	15:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128
A12349	16:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128
A12350	17:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128
A12351	18:51:01	0.0128	0.0128	100 mL	0.0128	0.0128	TSS	0.0128

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ExpressWeigh – Data Results



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Method Type:	Suspended Solids
Batch ID:	A1234567a
Sample Type:	DirtA12-1

The 'Filter Data Details' section shows a box with '# Filters 3'. At the bottom of the page, there are three blue buttons: 'View Data Results', 'Export Data (.CSV)', and 'Export Data (.XLS)'. The bottom right corner of the browser window shows the time 15:20.

ExpressWeigh – Data Export



The screenshot shows a web browser window with the Environmental Express logo at the top. Below the logo is a navigation bar with icons for home, settings, and help. The main heading is "New Lab Session - Data Export". On the left, there is a section titled "Lab Information" with a table of details. On the right, a large message box states "Data export has completed successfully!". The bottom right corner of the browser window shows a status bar with a Wi-Fi icon, a battery icon, and the time 16:29.

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Home Settings Help

New Lab Session - Data Export

i Lab Information

Lab User:	Johnney Appleseed
Method Type:	Suspended Solids
Batch ID:	A1234567a
Sample Type:	DirtA12-1

Data export has completed successfully!

16:29

ExpressWeigh – Demonstration



<https://pr.to/L4UCBQ/>

Questions?

