



More Uses than Reporting: Fully Utilizing a LIMS

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We Bought A

▶ LIMS.....

Everything works perfectly in our lab now.....Right?

Less Than Ideal Lab

Unexpected Samples Show Up

Inefficient Batches and Illogical Testing order

Manual Data Entry & Compliance Reviews

Tests Slip Through the Cracks (since no one assigned to do them)

Insufficient Supplies

Late Reporting

Samples Disposed Too Soon

We aren't seeing improvement in...
Workflow
Profit
Time

**Blame the
LIMS!**

**What a waste
of time &
money....Right?**

Fix the LIMS Fix the Lab

Efficiency

Increase Efficiency

Data
Integrity

Provide Data Assurance

Control

Control Samples

Comply

Maintain Compliance

Fast

Be Fast

- Call IT, not me!

Sample Control

Login
Reporting

Pre-Login Receiving

Actions

Ready for Receiving Field Samples

Ready to Receive

Route	Chain	Profile	Workorder ID	Lab ID	Sample ID	Collection Site	Collector	Collected	Status
2/05/2017 sample - AMITY MARTIN									
2		2567 Hwy 254 Well Faucet	05192017				Eile Woods		
4		2567 Hwy 254 Well Faucet	06072016				Eile Woods		
5		2567 Hwy 254 Well Faucet	06072016				Eile Woods		
2/06/2017 All American Wells - All American's Construction									
1		Reedy Creek Run-off	Well Mon 01			WM02	Steve Fieszel		
2/06/2017 Amity Wells - AMITY MARTIN									
2		2567 Hwy 254 Well Faucet	AM Wells		AMW02		Steve Fieszel		
3		2567 Hwy 254 Well Faucet	AM Wells		AMW03		Steve Fieszel		
2/08/2017 Alcon Labs - Eustace - Alcom Laboratories, Inc.									
3	306	Alcon Miscellaneous			Alcon Misc	Alcon Laboratories, Inc.	Steve Fieszel	12/13/2017 14:47	Relinquished
2/08/2017 All American Monthly Monitoring - All American's Construction									
1		FDC testing	AM Monthly		AMMonthly01		Eile Woods		
2		FDC testing	AM Monthly		AMMonthly02		Steve Fieszel		
2/11/2017 DWR 34178 - DWR Company									
2	301	DWR Test Quote	DWR20171211A		Chocolate chip pancakes		Steve Fieszel	12/13/2017 14:44	Relinquished
2/11/2017 Urgh - DWR Company									
6	312	DWR Test Quote	DWR20171211A		Chocolate chip pancakes		Steve Fieszel	12/13/2017 15:27	Relinquished
2/13/2017 Chain for Scan - Panicked Zebras									
9	325	Profile for Stripes McGee		116390	zebra1	Well Water Location: 1044 S Bois D Arc St	Eile Woods	12/18/2017 12:50	Relinquished
10	325	Profile for Stripes McGee			zebra2	Well Water Location: 1044 S Bois D Arc St	Eile Woods	12/18/2017 12:51	Relinquished
2/13/2017 Field Sample With No Field Tests - Panicked Zebras									
1		Profile for Stripes McGee				Well Water Location: 1044 S Bois D Arc St	Steve Fieszel		Relinquished
2/13/2017 recurrence testing - All American's Construction									
2		FDC testing	Routine		Routine-2		Steve Fieszel		
3		FDC testing	Routine		Routine-3		Eile Woods	12/13/2017 12:00	
11	327	FDC testing	Routine		Routine-1		Eile Woods	12/19/2017 08:19	Relinquished
12	327	FDC testing	Routine		Routine-4		Eile Woods	12/19/2017 08:01	Relinquished
2/14/2017 Monitoring Wells - All American's Construction									
1		Reedy Creek Run-off	Reed Water		RW01	10525 Singleton Lane Crowley, TX 76036	Eile Woods	12/14/2017 12:00	

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Sample Control

Login

Reporting

Sample Planning

Link Client, Project, & Calendar

Test & Workflow Scheduling

Less Hectic Days

Sample Location

➤ Problem

- One Container but Multiple Locations
- Unending Searches
- Missed Tests

➤ Solution

- Look-Up RealTime Locale
- Know Who is Using
- Ensure Enough Remains

The screenshot shows the 'Transfer Containers' interface in the HORIZON WQ13_UAT system. The top navigation bar includes 'Clients', 'Samples', 'Data', and 'Administration'. A search bar is present with the text 'Containers' and a search icon. The main content area is divided into two sections: 'Transfer to' and 'Items to transfer'. The 'Transfer to' section has a 'Location' dropdown menu set to 'Analyzed & Consumed in Fin 155'. The 'Items to transfer' section has radio buttons for 'Container Bin ID', 'Internal chain', and 'Sub-location', each with a 'Select...' dropdown and an 'Add' button. Below these sections is a table with columns: Location, Sub-location, Current Chain, Released By, Bin, Slot, Type, Container ID, and Location. The table has a header row and one data row. The data row shows 'Analyzed & Consumed in Fin 155' in the first column, '630 (201352)' in the second, 'West, Ohio' in the fourth, and 'Container' in the sixth. The 'Items to Transfer' section is highlighted in red. A 'Transfer' button and an 'Undo' button are located at the top right of the interface.

Location	Sub-location	Current Chain	Released By	Bin	Slot	Type	Container ID	Location
Analyzed & Consumed in Fin 155		630 (201352)	West, Ohio			Container	110212-1	Receiving refrigerator

Sample Disposal

- Problem
 - Unknown Sample Fate
 - Unable to Retest
- Solution
 - Choose When Disposed
 - Maintain Location Knowledge
 - Fit Your Lab's Plan

The screenshot shows the HORIZON WQ13_UAT web application interface for Container Disposal. The header includes navigation links (Clients, Samples, Data, Administration) and a search bar. The main content area is titled "Container Disposal" and features a "Dispose" button and an "Undo" button. The "Disposal Information" section contains two dropdown menus: "Method of disposal:" (set to "Nonleazardous (N)") and "Dispose to:" (set to "Wetlab Prep Lab (MET-174)"). The "Items to dispose" section includes three input fields: "Container Bin ID:", "Internal chain:" (with a "Select..." dropdown and an "Add" button), and "Sub-location:" (with a "Select..." dropdown and an "Add" button"). Below this is a table with columns for "Disposal to", "Released By", "Type", "Container ID", and "Location". The table contains two rows of data.

Disposal to	Released By	Type	Container ID	Location
Wetlab Prep Lab (MET-174)	Carter Kevin	Container	115503-1	Receiving refrigerator (RECSTORE)
Wetlab Prep Lab (MET-174)	Carter Kevin	Container	115503-2	Receiving refrigerator (RECSTORE)

Data Integrity & ▶ Assurance

So Many Options in LIMS

If it's in there, you can get it out in a new way

Chart Viewer: Metals EPA200.8 Review (Analytical)

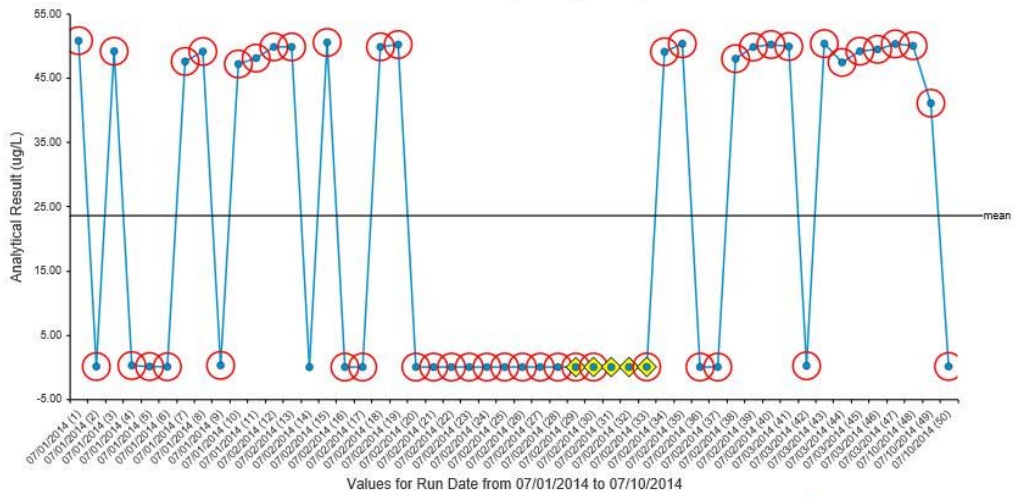
[Download Chart](#) [Download All Charts](#)

Include data report

< Thallium

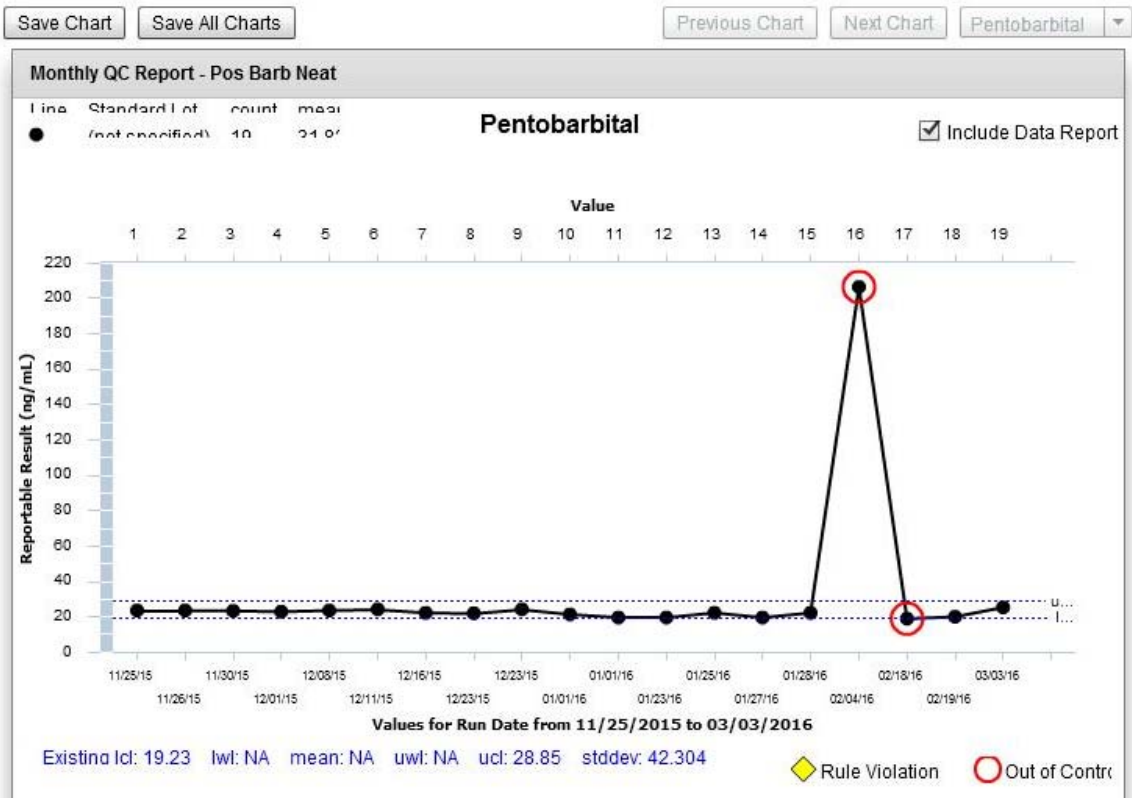
Line	Count	Mean	Standard Deviation
●	50	23.566	24.521

Metals EPA200.8 Review (Analytical) - Thallium



Calculated: mean: 23.566 stdddev: 24.521

◆ Rule Violation ○ Out of Control



Query: N - Barb - Pos

[Back to Charts](#)

Query Information Chart Settings Permissions

Query Information

Created: 00/00/0015 01:00 By:
 Query name: N - Barb - Pos Chart title: Monthly QC Report - Pos Barb Heat

QUERY CRITERIA

Find: Reportable Results (Historical) where the Run Date is between 10/27/2015 and 03/03/2016

ADDITIONAL CRITERIA

Client: Profile:
 Collection Site: Workorder:
 Sample: Lab Site:
 Methods:

Matrices:

Neat Oral Fluid (N)

Analytes:

Secobarbital (secobarbital-c) Pentobarbital (pentobarbital-c) Phenobarbital (phenobarbital-c) Butabital (butabital-c)

Sample Types:

Positive Control (POS)

Instruments:

Analysts:

Prep Analysis:

Prep Methods:

Standards:

RESULTS SETTINGS

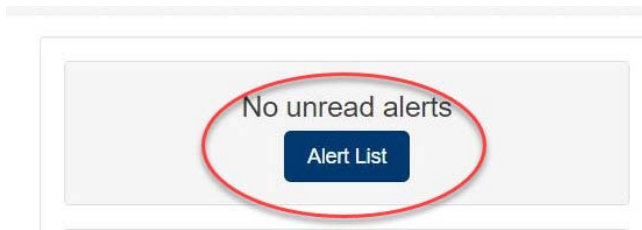
Number of results:
 Require a minimum of 2 results
 Return no more than 90 results

Sort results: Ascending

Include results that are still in review

Training to Maintain Integrity

- Link Profile with Training Records to Login Credentials
- Ensure Only Qualified Analysts Assigned Test
- Send Notice for Renewal at the Right Time



If Calendar & a Task can be Linked, Tracking & Reminders Possible

Personal Alerts to Maintain Integrity

- ▶ Have Triggered Timed Events for Each Person
- ▶ Tracks Progress & Completion in Background
- ▶ Suggested Uses
 - ▶ Instrument PMs
 - ▶ SOP Reviews
 - ▶ Routine Quality Checks
 - ▶ Annual Tasks
- ▶ If Calendar & a Task can be Linked, Tracking & Reminders Possible

Internal Compliance

- ▶ Self-Monitored to Verify Reliability
- ▶ Automation Reduces Manual Input & Increases Compliance & Reliability
- ▶ Any Instrument with Input and/or Output file
- ▶ ROI for Integration Manager <1 year per instrument



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★ ThermoFisher LIMS
SampleManager with Integration Manager

External Compliance

“Protecting Human Health & the Environment” - *Suburban Labs*

- Link Client Project Details to Data Results & Reporting

HORIZON WQ13_UAT

Clients ▾ Samples ▾ Data ▾ Administration ▾

Batches ▾ search by batch ID, I

Limits

Display: **By Method** By Analyte Filter: All **Detection Limits** Control Limits Effective Date: 12/10/2020

Limit ID	Method	Limit Type	Instrument	Prep Method	Matrix	Scope	Effective Date	Stop Date
625	E502.2-W Trihalomethanes (0Q)	MDL					11/11/2020 01:00	
624	E502.2-W Trihalomethanes (0Q)	PQL					11/11/2020 01:00	
621		RDL						
620	EPA 200.8, ICP-MS Metals (06)	MDL			Soil	Permit Dalworthington Gardens	06/25/2014 01:00	
613		RDL				Profile Profile 1	06/23/2020 16:34	
612	ASTM D7511-09e2 Total Cyanide (22)	RDL				Permit New Permit	01/27/2020 01:00	
608		RDL				Permit New Permit	01/27/2020 01:00	
607	SW 8270B Semi-Volatiles (0I)	RDL			Soil	Permit permit	05/26/2020 01:00	
606	SW 8270B Semi-Volatiles (0I)	MDL		Anions by EPA 300.0 (02)	Soil		02/09/2019 01:00	
605	E502.2-C Trihalomethanes (0C)	PQL					09/06/2019 01:00	
604	E502.2-C Trihalomethanes (0C)	MDL					01/15/2020 02:00	
603	E502.2-REB Trihalomethanes (0E)	PQL					01/15/2020 02:00	
602	E502.2-REB Trihalomethanes (0E)	MDL					12/25/2019 01:00	
601		RDL					12/25/2019 01:00	
598	Anions by EPA 300.0 (02)	RDL				Permit ND TEST PERMIT	11/25/2019 01:00	
597	Anions by EPA 300.0 (02)	RDL				Permit SDK_300_PartA	10/22/2019 01:00	
596	Anions by EPA 300.0 (02)	RDL				Permit KR_PERMIT_B	01/01/2019 01:00	01/01/2021 00:00
595	E502.2-REB Trihalomethanes (0E)	PQL				Permit KR_PERMIT_A	01/01/2019 01:00	01/01/2021 00:00

HORIZON Clients Administration

Home Help HORIZON Team

Batches Search by Batch ID, HDR results in new tab

My Recent Items

Administration
 User: HORIZON Team
 Role: Analyst
 User: Christian Alarcon
[Show more](#)

Clients
 Client Contact: Sue Dew ABC Lab
 Client: ABC Environmental Laboratory
 Shipment: 5003
[Show more](#)

Data
 Chart: PREC_METALS
 Query: My Samples
 Logbook: 3070A (x1)
[Show more](#)

Samples
 Backlog: MCR
 Results: ICAP, 169635
 Sample: 475411
[Show more](#)

No unread alerts

[Alert List](#)

Work with Clients

Use the client list to access client and profile information.

[Client List](#)

Department	Ready to Batch	Needs Data (Batched)	Needs Review (Batched)	Needs Review (UnBatched)	Waiting on Prior Step
Carister recharging(water)	0	1	0	0	0
Carister recharging(water)	0	0	0	0	0
Client Services	13	0	0	0	0
DRY WEIGHT	114	0	0	0	0
Ecological	1	0	0	1	0
FLAA	0	7	3	0	0
ICP 200 7 Metals	5	0	0	6	0
Microbiology	97	316	124	3	28
Senior Chemist	2	0	0	0	0
Submitted to State of California	18	3	0	0	17
VOC	5	39	4	1	15
Wet Chemistry	24	3	2	31	0
Ship Replacement Kit	2	0	0	0	0
Batch Review Field	24	0	0	0	0
Create EDO	158	0	0	0	358
Hamoly Lab	1	16	3	0	0
Subcontract to LCRA	0	0	0	0	7
WGL Micro	4	0	0	0	0
Walnut Creek Instrument Lab	2	12	35	0	19
Walnut Creek Wet Lab	5	0	0	0	0
Subcontract to RWJ Lab	1	0	0	0	3

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Ultimate To Do List

Getting Started Using Your Whole LIMS



Never Too Late



Planning Stage should identify Actual lab processes so LIMS matches



Get the IDEAL Lab Just by Fully Using LIMS

- Plan Sample Receipt & Tests
- Have Ample Supplies
- Automate Data Handling & Compliance Review
- Keep Staff Trained & Focused
- Report OnTime

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