



Analyte	Method	Siemens Diagnostics
gCO2	Direct, direct	Siemens Diagnostics
Chloride	ISE, indirect	Siemens Diagnostics
Hydroxyglutamate	Fluorimetric	Siemens Diagnostics
Sulfate	Barium sulfate, hydrogen peroxide (Droster)	Siemens Diagnostics
pH	Electrode, direct	Siemens Diagnostics
Cardiomyoglobin	Immunometric	Siemens Diagnostics
HbA1c (Hemoglobin, Total)	Colorimetric	Siemens Diagnostics
Creatinase	Fluorimetric	Siemens Diagnostics
Urea (Hemoglobin, Aspartate)	Fluorimetric	Siemens Diagnostics
Calcium, ionized	ISE, direct	Siemens Diagnostics
Potassium	ISE, direct	Siemens Diagnostics
NO2	Spectroscopic, direct	Siemens Diagnostics
Sodium	ISE, direct	Siemens Diagnostics



Bio-Rad Unity Real Time (URT)

Clément Arès
Bio-Rad Laboratories (Canada) Ltd
Senior Product Manager





Don't Get Caught Standing Alone

- Unity Real Time . . .
 - QC data management program that provides statistical review, documentation and analysis across all controls used in the laboratory
 - Is a networkable QC program to cover every area in the lab
 - Analyzes all quality control data to assist the laboratory staff in completing their QC tasks per lab policy and regulations
 - Allows for external peer group analysis so you are not caught standing alone



```

30/07/2008 16:50:30.307 OUT Point|20080730163753|1|1|999990|M60832|159|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112|
30/07/2008 16:50:32.655 DEBUG Start AddQCData function
30/07/2008 16:50:33.852 DEBUG Connecting to qConcall
30/07/2008 16:50:33.852 OUT Point|20080730163753|1|1|999990|M60832|159|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112|
30/07/2008 16:50:38.937 IN Point|20080730163753|1|1|999990|M60832|159|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:38.937 DEBUG End AddQCData function
30/07/2008 16:50:38.937 TN Point|20080730163753|1|1|999990|M60832|159|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Point|20080730163752|1|1|999990|M60832|135|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Data function to qConcall
30/07/2008 16:50:40.000 Point|20080730163752|1|1|999990|M60832|135|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Point|20080730163752|1|1|999990|M60832|135|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Data function to qConcall
30/07/2008 16:50:40.000 Point|20080730163752|1|1|999990|M60832|135|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Point|20080730163813|1|1|999990|M60832|72|507|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Data function to qConcall
30/07/2008 16:50:40.000 Point|20080730163813|1|1|999990|M60832|72|507|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Point|20080730163813|1|1|999990|M60832|72|507|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Data function to qConcall
30/07/2008 16:50:40.000 Point|20080730163813|1|1|999990|M60832|72|507|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Point|20080730163756|1|1|999990|M60832|160|203|1063|6|54|6|WDXC800|cNA~CONR~fNA|112||1|137992|
30/07/2008 16:50:40.000 Data function to qConcall
30/07/2008 16:50:47.489 DEBUG Connecting to qConcall
30/07/2008 16:50:47.489 Point|20080730163756|1|1|999990|M60832|160|203|1063|6|54|6|WDXC800|cNA~CONR~fNA|2.5|1|137992|
30/07/2008 16:50:47.862 Point|20080730163756|1|1|999990|M60832|160|203|1063|6|54|6|WDXC800|cNA~CONR~fNA|2.5||1|137992|
30/07/2008 16:50:47.862 End AddQCData function
30/07/2008 16:50:47.862 Point|20080730163756|1|1|999990|M60832|160|203|1063|6|54|6|WDXC800|cNA~CONR~fNA|2.5||1|137992|
30/07/2008 16:51:10.016 OUT Point|20080730163832|1|2|999990|M60832|159|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|135|
30/07/2008 16:51:12.414 DEBUG Start AddQCData function
30/07/2008 16:51:12.414 DEBUG Connecting to qConcall
30/07/2008 16:51:12.414 OUT Point|20080730163832|1|2|999990|M60832|159|29|1063|6|54|6|WDXC800|cNA~CONR~fNA|135|

```



- Unidirectional = Run time decision making, Peer participation
- Bidirectional = Unity™ powered Autoverification, and everything else!

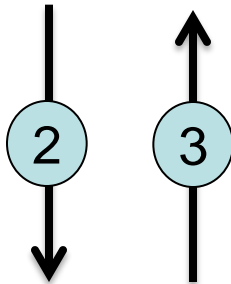
Different connectivity options



	Data Innovations	LIS	Analyzer	Other Middleware
Additional Hardware	No	No	Yes	Yes/No
Real Time	Yes	No	Yes	Yes
Integrate w/ AutoVerification	Yes	No	No	No
Partnership with Bio-Rad	Yes	No	Siemens	No



- 1) QC Sent by Instrument
- 2) DI sends QC to URT
- 3) URT validates result & returns Pass/Fail and rules if failed



- a) If Pass: DI “automatically verifies” and releases result to LIS
- b) If Fail: DI holds results until manually released by Technician (after troubleshooting)



- You drive the schedule
 - 100% Remote
1. Introduction Conference Call
 2. IT focused Conference Call
 3. Unity Real Time installation
 4. Connectivity Configuration
 5. Unity™ Training
 6. Follow up Training

Bio-Rad Laboratories Unity Real Time (URT) and Instrument Manager (IM) Integration Project Checklist

Scope:

The following checklist is a guide to help follow along with the progress of the project with your assigned Bio-Rad Technical Support Representative (TSR) as well as to document any specific information relative to your specific site (i.e. database information, site specific notes, contacts, etc.).

Introductory Discussion:

- Schedule preliminary conference call
- Forward coordinator "Implementation Package"
- Verify license for Quality Control in IM
- Verify if shadow IM is used

Notes: _____

Preliminary Conference Call:

- Discuss and review project implementation
- Define resources to complete tasks
- Discuss responsibilities of Bio-Rad Support
- Discuss system specifications
- Schedule appointments for tasks to be completed
- Forward TSR "Implementation Package"

Notes: _____



- For Instrument Manager:
 - ✓ Bi-directional QC Integration license *
 - ✓ Specimen Management license *
 - ✓ Unity Real Time “client” installed

- To determine if licensed
 - ✓ From the Instrument Manager menu, Reports → License Information

License Information

```

IM-999999
Data Innovations, LLC
1:47 PM 7/11/2014
IM Core v8.12.20.10 04/11/2013
20140711134756
Total IM Connections Licensed=18
Total QMGR Connections Licensed=2
Total Light Pole Connections Licensed=1
Total ODBC Connections Licensed=1
Total M Jobs Licensed=25
Total Thin Clients Licensed=2
Cache Order Number=201333154
Cache License Type=Enterprise
Specimen Management=Yes
Quality Control=QC OnCall
Specimen Storage and Retrieval=Yes
Data Collection=Yes
Specimen Routing=Yes
Maintenance Manager=Yes
Manual Results Entry=Yes
Moving Averages=Yes
MA Calc Method Import=Yes
MA Extended Mode=Yes
QC Bracketing=Yes
Key Type=Hard
            
```

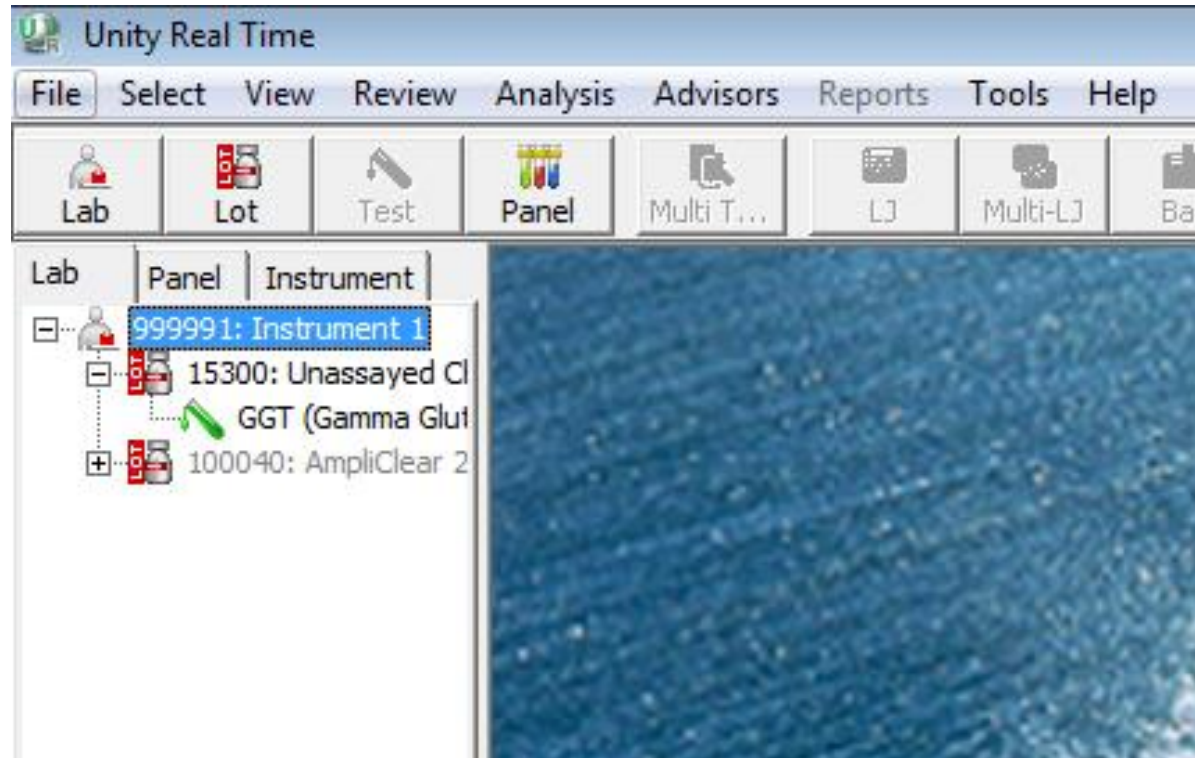
#	Driver	Version	Device

Save To File

What do you need to have in URT?



- Unity Real Time
 - URT database on SQL Server on same LAN
 - URT configuration:
 - Unity Lab Number(s)
 - Instrument(s)
 - Control(s)
 - Test(s)





- Quality Control Setup
 - Point IM to URT server

Quality Control Properties

Connection Name: MREI

Instrument ID: MREI

Bio-Rad Lab Number: 999991

Connect to a different QCOncall server

Bio-Rad Server: localhost

Bio-Rad Database: QCDAO

Bio-Rad Username: sa

Bio-Rad Password: xxxxxxxx

Test Bio-Rad Connection

Control/Test Setup Close



- Configure or “Map” codes
 - o Instruments to Unity Lab Numbers
 - o Specimen IDs to Unity Lot Numbers
 - o Test Codes to Unity Analytes

Control/Test Setup					
	Bio-Rad Control Lot/Name	Level # 1 Specimen ID	Level # 2 Specimen ID	Level # 3 Specimen ID	Test Setup
▶	11560	QC222			Edit Test Info...
	22700, Amplichek Urine CT/GC Control				Edit Test Info...
*					

Copy

Close

So Many Regulations!



The Joint Commission



Ensure min of two levels of QC

Record of qualitative control results

Validity of QC ranges

QC Analysis occurring when scheduled

Statistical tools for analysis and display

Monitoring accuracy and precision

Monitoring Lab performance

Proper patient processing when QC errors

Proper QC documentation



Correlations between instruments

Competency or Training

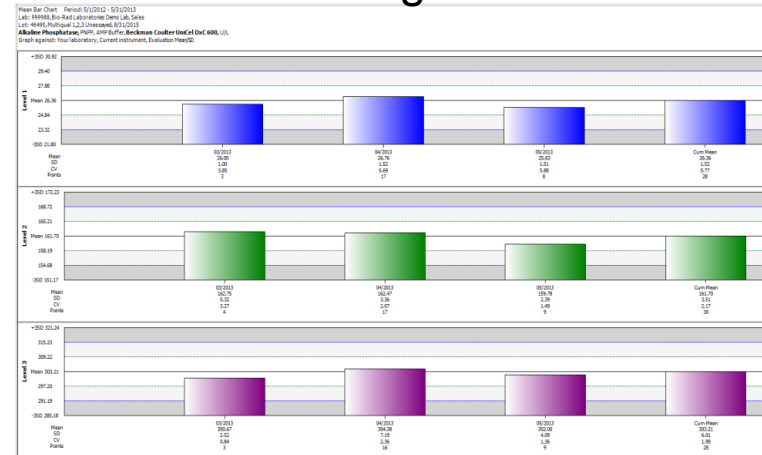
Retaining QC records

Unity Real Time and Regulations- Ensure Minimum of Two Levels of QC

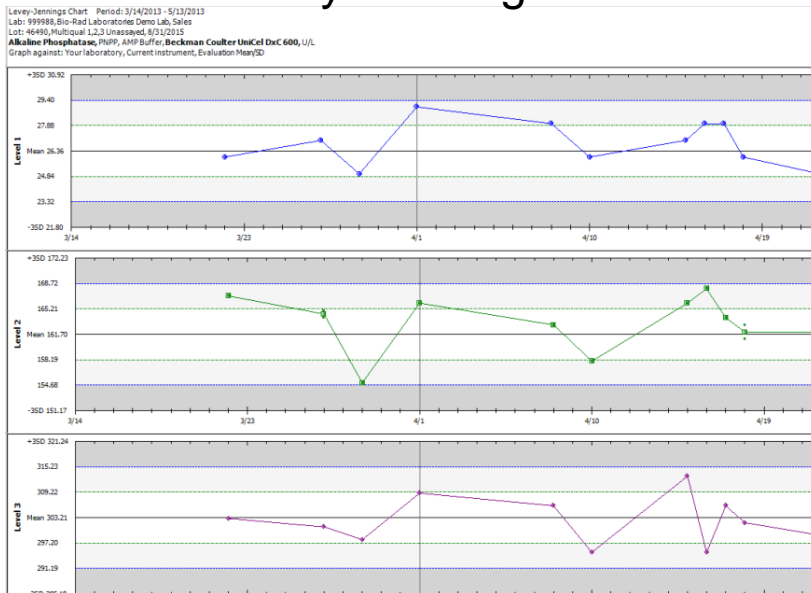


- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Histogram Chart



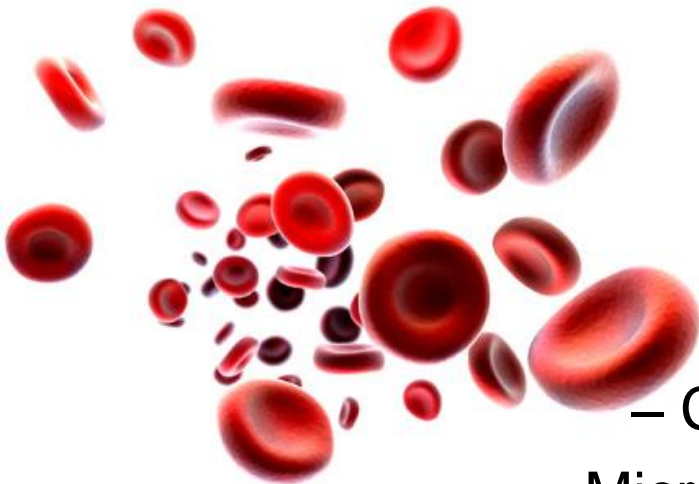
Levey-Jennings Chart



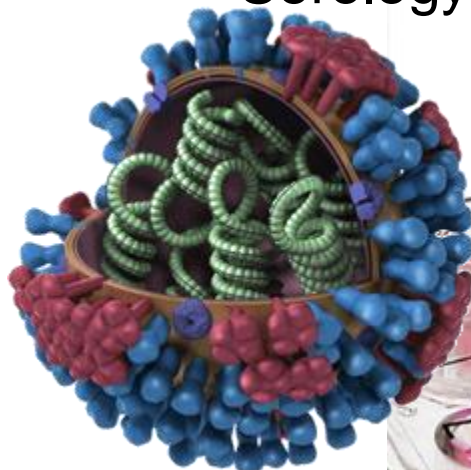
Data Set Analysis Grid

Level	Data Set	Analyte	Instrument	Unit	Mean	SD	CV	Pts	Labs	SDI	CVR	Bias%	TE p<0.05	TEB%	Sigma	TEa	TEa Selection
A	Albumin	Bedken Coult...	g/dL	2.41	0.04	1.46	22	1								10.00	CLIA
BI				2.31	0.89	38.40	1228	28	0.12	0.04	4.62	7.03	70.26	3.69			
A	Alkaline Phosph...	Bedken Coult...	U/L	26.36	1.52	5.77	28	1								30.00	CLIA
BI				27.07	1.37	5.05	1105	26	-0.52	1.14	-2.64	12.16	40.52	4.74			
A	ALT (ALAT/PT)	Bedken Coult...	U/L	28.92	1.30	4.49	37	1								20.00	CLIA
BI				29.14	1.07	3.66	1100	24	-0.21	1.23	-0.76	8.17	40.85	4.28			
A	Amylase	Bedken Coult...	U/L	47.11	1.30	2.74	19	1								30.00	CLIA
BI				46.93	1.31	2.78	701	22	0.13	0.84	0.37	4.23	14.09	12.68		26.50	BI/ Min bias/Min ...
A	Amylase, Pancr...	Bedken Coult...	U/L	23.15	1.28	5.53	13	1									
BI				0.00	0.00	0.00											
A	AST (ASAT/OT)	Bedken Coult...	U/L	40.32	0.95	2.34	25	1								20.00	CLIA
BI				40.38	1.05	2.61	1099	24	0.13	0.90	0.34	4.21	21.06	8.38		66.80	BI/ Min bias/Min ...
A	Bilirubin, Direct...	Bedken Coult...	mg/dL	0.20	0.02	12.99	36	1									
BI				0.21	0.03	13.53	1147	28	-0.36	0.93	-4.89	25.67	38.42	4.92			
A	Bilirubin, Total/T...	Bedken Coult...	mg/dL	0.64	0.13	19.88	44	1								57.90	CLIA
BI				0.69	0.11	15.48	1197	28	-0.48	1.28	-7.50	40.29	69.60	2.94			
A	Calcium	Bedken Coult...	mg/dL	5.73	0.09	1.56	26	1								15.14	CLIA
BI				6.61	2.38	32.93	1966	29	-0.40	0.05	-13.20	15.77	104.18	1.24			
A	Chloride	Bedken Coult...	mEq/L	78.38	0.83	1.06	47	1								5.00	CLIA
BI				82.73	13.01	15.73	1969	29	-0.35	0.07	-5.90	7.25	145.02	-0.47			
A	Cholesterol-HDL	Bedken Coult...	mg/dL	30.89	0.98	3.19	58	1								30.00	CLIA

It's not only about Chemistry!



- Hematology
 - Coagulation
- Microbiology
 - Virology
- Blood Bank
 - Serology



Regulations - Record of Qualitative Control Events



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Qualitative data input screen

File Select View Review Analysis Advisors Reports Tools Help

Lab Lot Test Panel Multi T... LJ Multi-LJ Bar Youden Yundt SPC Rules AG Rules Evaluat... Reject... Help

Lab: 999901 Lab Qualitative Tests Lot: 61470 Urinalysis Matrix: Urine
 Test: Ketones, Dipstick, Roche Miditron, Dedicated Reagent, Qualitative, No Temperature
 Expires: 12/31/2014

Save Set Date View Expected Response A = Action C = Comments

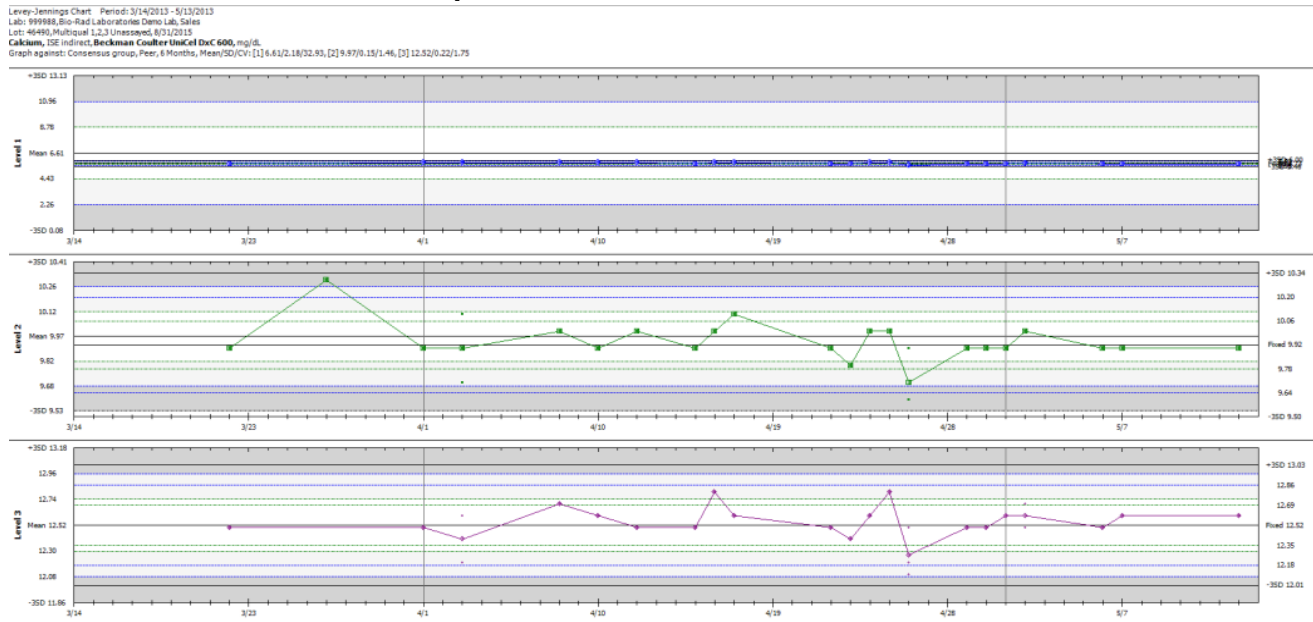
	Date & Time	Level 1	Y/N	Level 2	Y/N	OP		
1	3 / 8 /2013 12:15 PM	Neg.	Y	mod/2+	Y	sup	A	C+
2	3 / 9 /2013 12:15 PM	Neg.	Y	large/3+	Y	sup	A	C+
3	3 /10/2013 12:16 PM	Neg.	Y	large/3+	Y	sup	A	C+
4	3 /11/2013 12:16 PM	Neg.	Y	large/3+	Y	sup	A	C+
5	3 /12/2013 12:16 PM	Neg.	Y	large/3+	Y	sup	A	C+
6	3 /13/2013 12:16 PM	Neg.	Y	large/3+	Y	sup	A	C+
7	3 /14/2013 12:16 PM	Neg.	Y	large/3+	Y	sup	A	C+
8	3 /15/2013 3 :12 PM	Neg.	Y	mod/2+	Y	sup	A	C+
9	3 /16/2013 3 :12 PM	Neg.	Y	mod/2+	Y	sup	A	C+
10	3 /17/2013 3 :12 PM	Neg.	Y	mod/2+	Y	sup	A	C+
11	3 /18/2013 3 :12 PM	Neg.	Y	mod/2+	Y	sup	A	C+
12	3 /19/2013 3 :12 PM	Neg.	Y	mod/2+	Y	sup	A	C+
13	3 /20/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+
14	3 /21/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+
15	3 /22/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+
16	3 /23/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+
17	3 /24/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+
18	3 /25/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+
19	3 /26/2013 3 :13 PM	Neg.	Y	mod/2+	Y	sup	A	C+

Lab Panel Instrument
 999991: Demo Lab - No F
 999913: Lab With Floatn
 999988: Lab With Fixed H
 999901: Lab Qualitative T
 66580: Urine Toxicolc
 61470: Urinalysis 12/
 Ketones|Dipstick
 Leukocytes|Dipst
 Nitrite|Dipstick|Rt
 Protein, Total, Ur
 Urobilinogen|Dips



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Levey Jennings Graphed against peer data

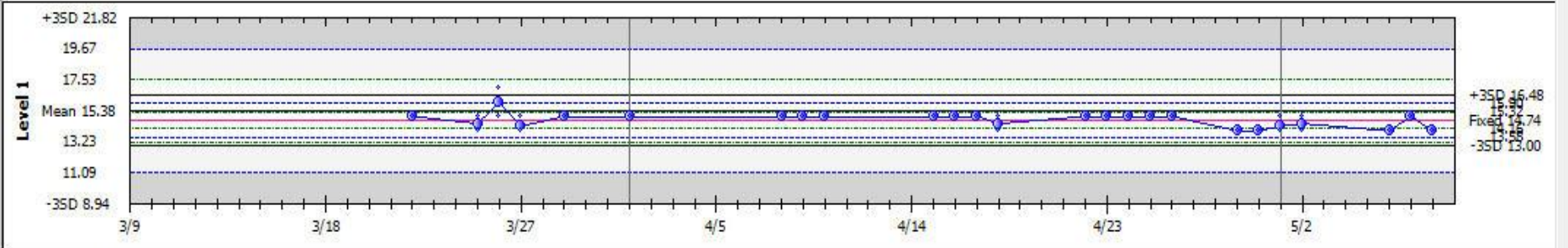


Full line of Unity Reports

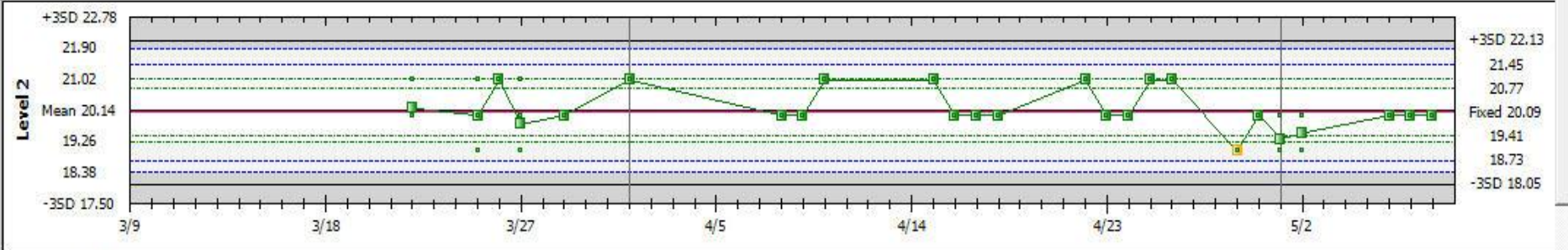


From: To: Overlay levels Level: 1 2 3

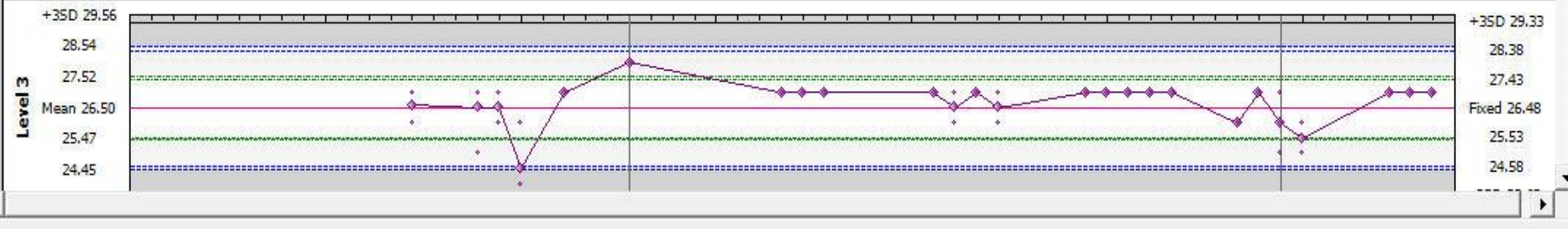
Levey-Jennings Chart Period: 3/9/2013 - 5/8/2013
 Lab: 999988,DXC Fixed Means and Rules, Bio-Rad Laboratories Demo Lab,Sales
 Lot: 46490, **Multiquel 1,2,3 Unassayed**, Serum, Bio-Rad, 8/31/2015
CO2 (Carbon Dioxide), ISE indirect, **Beckman Coulter UniCel Dx C 600**, Dedicated Reagent, mEq/L, No Temperature
 Cum Mean/SD/CV: [1] 14.74/0.58/3.94, [2] 20.09/0.68/3.36, [3] 26.48/0.95/3.60, Fixed Mean/SD/CV: [1] 14.74/0.58/3.93, [2] 20.09/0.68/3.38, [3] 26.48/0.95/3.59
 Summary Stats for 3/9/2013 to 5/8/2013 Mean/SD/CV/Points: [1] 14.74/0.59/3.98/42, [2] 20.09/0.68/3.40/43, [3] 26.44/0.93/3.53/43
 Graph against: Consensus group, Peer, 6 Months, Mean/SD/CV: [1] 15.38/2.15/13.96, [2] 20.14/0.88/4.37, [3] 26.50/1.02/3.86



+35D 16.48
 Fixed 14.74
 +3.88
 -35D 13.00



+35D 22.13
 21.45
 20.77
 Fixed 20.09
 19.41
 18.73
 -35D 18.05



+35D 29.33
 28.38
 27.43
 Fixed 26.48
 25.53
 24.58

Regulations- QC analysis occurring when scheduled



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Unity Alert

Pending Alarm Rule

Name: Centaur 1

Laboratory: 999991-Lab3

Lot: All

Instrument: Siemens ADVIA Centaur, Lab3 [999991]

Analyte: All

Weekdays: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday

Intervals:

Interval	From	To
<input checked="" type="checkbox"/> Interval #1	09 : 00	10 : 30
<input checked="" type="checkbox"/> Interval #2	15 : 30	17 : 00
<input type="checkbox"/> Interval #3	00 : 00	23 : 59
<input type="checkbox"/> Interval #4	00 : 00	23 : 59

List available E-Mail addresses: [Empty]

List of target E-mail addresses: jdemo@bio-rad.com

E-Mail Admin: Add New E-Mail, Remove E-Mail

Buttons: Accept, Cancel

Unity alert

Alarms: Configuration Logout

Laboratory: 999991-Lab3

Instrument: All

Analyte: Albumin

From: 9/18/2011 00 : 01

To: 9/19/2011 23 : 59

Period: 1 (Min) Updating in 0:22

Buttons: Refresh, Clear View

Laboratory	Lab Description	Lot	Lot name	Analyte	Unit	QC Delay	Level
999991	Lab3	16480	Unassayed Chem...	Albumin	g/dL	136, 83	1, 2
999991	Lab3	16480	Unassayed Chem...	Alkaline Phosphate	U/L	33, 33	1, 2
999991	Lab3	16480	Unassayed Chem...	ALT (ALAT/GPT)	U/L	57, 57	1, 2
999991	Lab3	16480	Unassayed Chem...	Aspartate	U/L	33	1

Records count: Analyzed: 0, Pending: 4

Server: IRV9650JF3WP1 Database: QCDAQ User: admin version: 0.9.9.2

Regulations- QC analysis occurring when scheduled



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- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Manage Expected QC Results

Expected Tests

Use the Expected Tests feature.

Lab number: 999991: Demo Lab - No Rules
 Panel Lot number: 40800: Immunoassay Plus
 Instrument: Siemens Dimension EXL/Demo Lab - No Rules[999991]

Siemens Dimension EXL/Dem

<input type="checkbox"/>	Analyte	Method	Instrument	Reagent	Unit
<input checked="" type="checkbox"/>	CK-MB Mass	EIA	Siemens Dimension EXL	Dedicated Reagent	ng/mL
<input checked="" type="checkbox"/>	Digoxin	EIA	Siemens Dimension EXL	Dedicated Reagent	ng/mL
<input checked="" type="checkbox"/>	Folates	Electrochemiluminescence (...)	Siemens Dimension EXL	Réactif dédié	nmol/L
<input checked="" type="checkbox"/>	Gentamicin	Immunoturbidimetric	Siemens Dimension EXL	Dedicated Reagent	µg/mL
<input checked="" type="checkbox"/>	NT-proBNP (N-terminal pro-...)	Chemiluminescence	Siemens Dimension EXL	Dedicated Reagent	pg/mL
<input checked="" type="checkbox"/>	T3 Uptake/T Uptake	EIA	Siemens Dimension EXL	Dedicated Reagent	T Uptake Unit
<input checked="" type="checkbox"/>	T4, Total	EIA	Siemens Dimension EXL	Dedicated Reagent	µg/dL
<input checked="" type="checkbox"/>	Troponin-I	Chemiluminescence	Siemens Dimension EXL	Dedicated Reagent	ng/mL

Regulations- Statistical tools for analysis and display



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Levey-Jennings



Supervisor Report

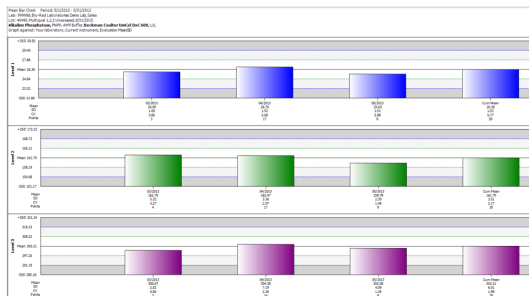
Unity Real Time Supervisor's Report					
Data for	5/1/2013 through	5/6/2013	Printed	5/6/2013	Page
Lab number:	39998	Description:	Lab With Fixed Means and Rules		
Lab name:	Bio-Rad Laboratories Demo Lab	Department:	Sales		
Contact:		Address:	9000 Jarameno Rd		
City:	Irving	State:	CA	Postal/ZIP code:	92018
State:	CA	Lab number:	49400	Control name:	Multiquat 1.2.3 Unassayed
Metric:	Serum	Manufacturer:	Bio-Rad		
Expires:	8/31/2015				

Date	Op	Level	Value	
Alkaline Phosphatase, PAPP, AMP Buffer, Beckman Coulter UniCel DxC 600, Dedicated Reagent, UL, 37° C				
5/2/2013	4:47:00PM	--	1	23.00 Rejected 1-25(0)
5/2/2013	4:47:00PM	--	2	154.00 Rejected 2-25
5/2/2013	4:47:00PM	--	3	286.00 Rejected 2-25 1.2.55(0)
ALT (ALAT/GPT), UV without PIP, Beckman Coulter UniCel DxC 600, Dedicated Reagent, UL, 37° C				
5/2/2013	9:06:00AM	RT	1	26.00 Rejected 1-25(0)
Comments: Mixed reagent and re-run controls (NP) (RT - 05/02/2013 09:06:00): Mixed reagent and re-run controls (NP) (RT - 05/02/2013 09:06:00)				
5/2/2013	9:06:00AM	RT	2	83.00 Rejected 2-25
Comments: Mixed reagent and re-run controls (NP) (RT - 05/02/2013 09:06:00): Mixed reagent and re-run controls (NP) (RT - 05/02/2013 09:06:00)				
5/2/2013	9:06:00AM	RT	3	177.00 Rejected 2-25 1.35
Comments: Mixed reagent and re-run controls (NP) (RT - 05/02/2013 09:06:00): Mixed reagent and re-run controls (NP) (RT - 05/02/2013 09:06:00)				
5/2/2013	8:41:00AM	--	1	28.00 Accepted 1-25(0)
Bilirubin, Total/TBL, Jendassak Grid, Beckman Coulter UniCel DxC 600, Dedicated Reagent, ng/dL, No Temperature				
5/1/2013	8:42:00AM	NP	1	0.38 Rejected 1-25(0)
5/1/2013	8:42:00AM	NP	2	3.15 Rejected 2-25
5/2/2013	8:48:00AM	--	1	0.31 Rejected 1-2.55(0)
5/2/2013	8:48:00AM	--	2	3.01 Rejected 2-25 1.35
5/2/2013	9:35:00AM	--	3	7.07 Accepted 1-2.55(0)
5/2/2013	10:19:00AM	--	1	0.22 Rejected 2-25 1.35
Comments: Will calibrate and re-run controls (NP) (** - 05/06/2013 10:19:00): Will calibrate and re-run controls (NP) (** - 05/06/2013 10:19:00)				
5/6/2013	10:19:00AM	--	3	7.05 Rejected 2-25 1.2.55(0)
Comments: Will calibrate and re-run controls (NP) (** - 05/06/2013 10:19:00): Will calibrate and re-run controls (NP) (** - 05/06/2013 10:19:00)				

Data Set Analysis Grid

Level 1 Level 2 Level 3 All Levels																
Data Set	Analyte	Instrument	Unit	Mean	SD	CV	Pts	Labs	SDI	CVR	Bias%	TE p<0.05	TEB%	Sigma	Tes	Tes Selection
EL	Albumin	Beckman Coulte...	g/dL	2.41	0.04	1.46	22	1							10.00	CLIA
EL				2.31	0.89	38.40	1228	28	0.12	0.04	4.62	7.03	70.26	3.69		
A	Alkaline Phosph...	Beckman Coulte...	U/L	26.36	1.52	5.77	28	1							20.00	CLIA
EL				27.07	1.37	5.05	1035	26	-0.52	1.14	-2.64	12.16	40.52	4.74		
A	ALT (ALAT/GPT)	Beckman Coulte...	U/L	28.82	1.30	4.49	37	1							20.00	CLIA
EL				29.14	1.07	3.66	1100	24	-0.21	1.23	-0.76	8.17	40.65	4.28		
A	Amylase	Beckman Coulte...	U/L	47.11	1.20	2.34	19	1							20.00	CLIA
EL				46.93	1.31	2.78	701	22	0.13	0.84	0.37	4.23	14.09	12.68		
A	Amylase, Pancre...	Beckman Coulte...	U/L	23.15	1.28	5.53	13	1							25.50	PH Min bias/Min...
EL				0.00	0.00	0.00										
A	AST (ASAT/GOT)	Beckman Coulte...	U/L	40.32	0.95	2.34	25	1							20.00	CLIA
EL				40.38	1.05	2.61	1099	24	0.13	0.90	0.24	4.21	21.06	8.38		
A	Bilirubin, Direct...	Beckman Coulte...	ng/dL	0.20	0.02	12.99	36	1							66.80	PH Min bias/Min...
EL				0.21	0.03	13.53	1147	28	-0.36	0.93	-4.89	25.67	38.40	4.82		
A	Bilirubin, Total/T...	Beckman Coulte...	ng/dL	0.64	0.13	19.88	44	1							57.90	CLIA
EL				0.69	0.11	15.48	1197	28	-0.48	1.28	-7.90	40.29	69.60	2.54		
A	Calcium	Beckman Coulte...	ng/dL	5.73	0.09	1.56	26	1							15.14	CLIA
EL				6.61	2.38	32.93	1966	29	-0.40	0.05	-13.20	15.77	104.18	1.24		
A	Chloride	Beckman Coulte...	mEq/L	78.38	0.83	1.06	47	1							5.00	CLIA
EL				82.73	13.01	15.73	1969	29	-0.35	0.07	-5.90	7.25	145.02	-0.47		
A	Cholesterol, HDL	Beckman Coulte...	mg/dL	30.58	0.58	1.90	93	1							30.00	CLIA

Histogram Chart

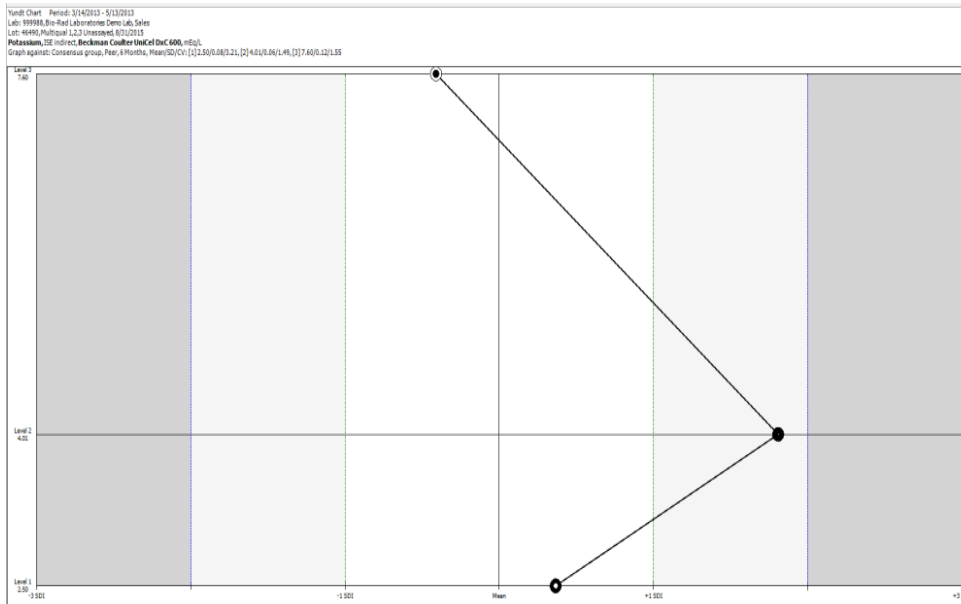


Regulations- Monitoring Accuracy and Precision

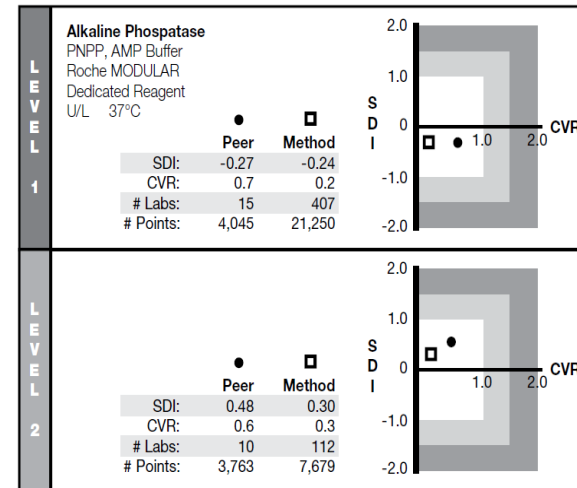


- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Yundt Chart in URT



And Unity Reports- Performance Overview





- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Unity Real Time offers Six Sigma and Total Allowable Error in the data set analysis grid and SDI and CVR with the peer group

Level 1 | Level 2 | Level 3 | All Levels

Data Set	Analyte	Instrument	Unit	Mean	SD	CV	Pts	Labs	SDI	CVR	Bias%	TE p<0.05	TEB%	Sigma	TEa	TEa Selection
A	Albumin	Bedman Coult...	g/dL	2.41	0.04	1.46	22	1							10.00	CLIA
BL				2.31	0.89	38.40	1228	28	0.12	0.04	4.62	7.03	70.26	3.69		
A	Alkaline Phosph...	Bedman Coult...	U/L	26.36	1.52	5.77	28	1							30.00	CLIA
BL				27.07	1.37	5.05	1105	26	-0.52	1.54	-2.64	12.16	40.52	4.74		
A	ALT (ALAT/GPT)	Bedman Coult...	U/L	28.92	1.30	4.49	37	1							20.00	CLIA
BL				29.14	1.07	3.66	1100	24	-0.21	1.23	-0.76	8.17	40.65	4.28		
A	Amylase	Bedman Coult...	U/L	47.11	1.20	2.34	19	1							30.00	CLIA
BL				46.93	1.31	2.78	701	22	0.13	0.84	0.37	4.23	14.09	12.68		
A	Amylase, Pancr...	Bedman Coult...	U/L	23.15	1.28	5.53	13	1							26.50	BY Min/bas/Min ...
BL				0.00	0.00	0.00										
A	AST (ASAT/GOT)	Bedman Coult...	U/L	40.32	0.95	2.34	25	1							20.00	CLIA
BL				40.38	1.05	2.61	3099	24	0.13	0.90	0.34	4.21	21.06	8.38		
A	Bilirubin, Direct/...	Bedman Coult...	mg/dL	0.20	0.02	12.99	36	1							66.80	BY Min/bas/Min ...
BL				0.21	0.03	13.53	1147	28	-0.36	0.93	-4.89	25.67	38.42	4.92		
A	Bilirubin, Total/T...	Bedman Coult...	mg/dL	0.64	0.13	19.88	44	1							57.90	CLIA
BL				0.69	0.11	15.48	1197	28	-0.48	1.28	-7.50	40.29	69.60	2.54		
A	Calcium	Bedman Coult...	mg/dL	5.73	0.09	1.56	26	1							15.14	CLIA
BL				6.61	2.38	32.93	1566	29	-0.40	0.05	-13.20	15.77	104.18	1.24		
A	Chloride	Bedman Coult...	mEq/L	78.38	0.83	1.06	47	1							5.00	CLIA
BL				82.73	13.01	15.73	1569	29	-0.35	0.07	-5.50	7.25	145.02	-0.47		
A	Cholesterol, HDL	Bedman Coult...	mol/L	30.58	0.58	1.90	58	1							30.00	CLIA

Unity peer group Reports offers SDI and CVR



Data Analysis Grid



Template Lab: 999988 Lot: 46490 Multiquel 1,2,3 Unassayed Matrix: Serum

Beckman DXC 600

Data Set Configuration Configure TEa Configure Alert Export Print Close

Level 1 Level 2 Level 3 All Levels

Data Set	Analyte	Instrument	Mean	SD	CV	Pts	Labs	SDI	CVR	Bias%	Sigma	TEa	TEa Selection	RCV				
A	Amylase, Pancr...	Beckman Coulte...	24.38	1.02	4.17	1661	11					17.70	BV Des bias/ De...					
B1	Data reference set: Data Set A Test Selection: Current Lot Data Set A: Consensus group: Peer, 6 months Data Set B1: Your laboratory, Current Instrument: Lab With Fixed Means and Rules[999988], Cumulative Alert thresholds: SDI: ± 2.00, CVR: 2.00, Sigma: 4.00									1.33	-5.05	2.29		35.87				
A														16.70	BV Des bias/ De...			
B1														0.73	1.00	6.70		34.71
A																	44.50	BV Des bias/ De...
B1		Beckman Coulte...	0.20	0.02	12.59	36	1	-0.29	0.86	-4.22	3.20			107.81				
A	Bilirubin, Total/T...	Beckman Coulte...	0.73	0.12	16.11	18873	51					31.10	BV Des bias/ De...					
B1		Beckman Coulte...	0.64	0.13	19.88	44	1	-0.75	1.23	-12.11	0.96			85.95				
A	Calcium	Beckman Coulte...	5.78	0.12	2.08	17506	52					2.55	BV Des bias/ De...					
B1		Beckman Coulte...	5.73	0.09	1.56	26	1	-0.37	0.75	-0.76	1.15			7.24				
A	Chloride	Beckman Coulte...	78.12	1.31	1.68	17558	52					1.47	BV Des bias/ De...					
B1		Beckman Coulte...	78.18	0.83	1.06	47	1	0.04	0.63	0.07	1.32			4.44				
A	Cholesterol, HDL	Beckman Coulte...	31.30	1.08	3.44	8404	40					11.60	BV Des bias/ De...					
B1		Beckman Coulte...	30.58	0.58	1.90	58	1	-0.67	0.55	-2.30	4.90			20.91				
A	Cholesterol, LDL	Beckman Coulte...	49.28	1.43	2.90	4341	28					11.90	BV Des bias/ De...					
B1		Beckman Coulte...	49.06	0.86	1.76	37	1	-0.16	0.61	-0.45	6.52			22.16				
A	Cholesterol, Total	Beckman Coulte...	98.83	1.86	1.88	17862	45					9.01	BV Des bias/ De...					
B1		Beckman Coulte...	99.50	1.39	1.40	46	1	0.36	0.75	0.68	5.95			17.08				
A	CK (Creatine Kin...	Beckman Coulte...	83.56	3.15	3.76	17104	40					30.30	BV Des bias/ De...					
B1		Beckman Coulte...	87.53	1.87	2.14	43	1	1.27	0.57	4.76	11.96			63.47				
A	CO2 (Carbon Di...	Beckman Coulte...	15.09	0.89	5.92	17560	52					17.77	3SD					
B1		Beckman Coulte...	14.74	0.58	3.94	43	1	-0.39	0.67	-2.30	3.92							

Regulation:

Proper handling of QC results if outside set limits



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Bench and Supervisor Review

Bench Review

Data Review

All data
 Include rule violations or data with Action or Comments
 Include only rule violations
 Include only AG violations

Reviewed Refresh every 10 seconds

Lab number: (All)
 Lot number: 38390: Diabetes (Liquichek)
 Instrument: Siemens Dimension EXL/Demo Lab - No Rules[999991]

Reviewed	Lab Number	Lot Number	Control name	Instrument	Analyte	Method	Reagent	Date/Time	Level	Value	Evaluation Mean	Evaluation SD	z	Rules	Status	By	Action	Comment	Reviewed By	Dat
<input type="checkbox"/>	999991	38390	Diabetes (Liq	Siemens Dimens	Hemogl	Immun	Siemens	3/1/2013 5	1	10.30	5.29	0.33	15.0	1-3S	<input type="checkbox"/> Reject	sa	Contro			
<input type="checkbox"/>	999991	38390	Diabetes (Liq	Siemens Dimens	Hemogl	Immun	Siemens	3/1/2013 5	2	5.40	10.33	0.27	-18.	1-3S	<input type="checkbox"/> Reject	sa	Contro			

One or more data points violate an evaluation rule. 2 records



Data Review

All data
 Include rule violations or data with Action or Comments
 Include only rule violations
 Include only AG violations

Reviewed

Refresh every seconds

Instrument: **Beckman Coulter UniCel DxC 600/DXC Fixed Means and Rul**

Reviewed	Lab Number	Lot Number	Control name	Instrument	Analyte	Date/Time	Level	Value	Evaluation Mean	Evaluation SD	z	Rules	Status	By	Action	Comment	Review
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Protein, Tot	5/8/2013 8	1	4.00	4.06	0.10	-0.5	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Protein, Tot	5/8/2013 8	2	5.90	5.78	0.15	0.83	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Protein, Tot	5/8/2013 8	3	7.00	6.92	0.18	0.44	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Cholesterol,	5/8/2013 8	1	97.00	99.57	1.42	-1.8	✗	Reject	**	Contro	will calibr	
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Cholesterol,	5/8/2013 8	2	166.00	172.72	2.24	-3.0	1-3S] ✗	Reject	**	Contro	will calibr	
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Cholesterol,	5/8/2013 8	3	257.00	261.76	4.72	-1.0	✗	Reject	**	Contro	will calibr	
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	LD (Lactate	5/8/2013 9	1	90.00	95.24	2.42	-2.1	1-2S] ✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	LD (Lactate	5/8/2013 9	2	142.00	137.58	4.34	1.02	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	LD (Lactate	5/8/2013 9	3	332.00	328.36	7.94	0.46	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Triglycerides	5/9/2013 7	1	88.00	84.63	2.83	1.19	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Triglycerides	5/9/2013 7	2	129.00	124.76	2.05	2.07	1-2S] ✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Triglycerides	5/9/2013 7	3	219.00	218.76	3.29	0.07	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	CK (Creatine	5/9/2013 7	1	94.00	87.60	1.84	3.48	1-3S] ✗	Reject	**	Contro		
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	CK (Creatine	5/9/2013 7	2	279.00	274.22	3.91	1.22	✗	Reject	**	Contro		
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	CK (Creatine	5/9/2013 7	3	659.00	662.98	6.86	-0.5	✗	Reject	**	Contro		
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Creatinine	5/9/2013 7	1	0.68	0.59	0.08	1.13	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Creatinine	5/9/2013 7	2	1.62	1.85	0.11	-2.1	1-2S] ✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	Creatinine	5/9/2013 7	3	6.46	6.46	0.15	0.01	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	ALT (ALAT/	5/10/2013	1	29.00	28.89	1.32	0.09	✓	Accept	**			
<input type="checkbox"/>	999988	46490	Multiquel 1,2	Beckman Coulte	ALT (ALAT/	5/10/2013	2	84.00	86.74	1.56	-1.7	✓	Accept	**			

One or more data points violate an evaluation rule. 3,499 records

Regulations: Proper QC documentation



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Automatic documentation required on out of control events.

Audit trail keeps track of changes that can affect result interpretation

Configure Unity Real Time | Unity Interlab Reports

Data entry configuration

Current data: Month Group

Default data entry mode: Point Summary

Actions/comments

- Automatic action logs
- Require action logs
- Require audit-trail comments

Notifications

- Expired lot notification

49	2/10/2013 9:03 AM	5.20	Y		-0.09	10.00	Y		-0.42										
50	2/11/2013 7:48 AM	5.30	Y		-0.26	10.30	Y		-0.23										
51	2/12/2013 7:58 AM	5.20	Y		-0.55	10.30	Y		-0.23										
52	2/13/2013 8:22 AM	5.00	Y		-1.13	10.00	Y		-1.24										
53	2/14/2013 8:06 AM	5.20	Y		-0.52	10.30	Y		-0.20										
54	2/15/2013 7:51 AM	5.10	Y		-0.81	10.20	Y		-0.54										
55	2/16/2013 10:38 AM	5.10	Y		-0.79	10.40	Y		0.16										
56	2/16/2013 8:04 AM	5.20	Y		-0.49	10.30	Y		-0.19										
57	2/17/2013 8:53 AM	5.10	Y		-0.78	10.10	Y		-0.89										
58	2/18/2013 8:41 AM	4.80	Y		-1.37	10.10	Y		-0.88										
59	2/19/2013 8:01 AM	4.80	Y		-1.63	10.30	Y		-0.16										
60	2/19/2013 8:30 AM	5.20	Y		-0.41														
61	2/20/2013 7:39 AM	5.20	Y		-0.40	10.20	Y		-0.51										
62	2/21/2013 7:30 AM	5.10	Y		-0.70	10.30	Y		-0.15										
63	2/22/2013 7:27 AM	5.20	Y		-0.39	10.20	Y		-0.51										
64	2/23/2013 7:51 AM	5.10	Y		-0.69	10.10	Y		-0.86										
65	2/24/2013 7:43 AM	4.60	Y		-2.19	10.10	Y		-0.85										
66	2/24/2013 8:16 AM	5.00	Y		-0.92														
67	2/25/2013 7:44 AM	5.20	Y		-0.32	10.30	Y		-0.11										
68	2/26/2013 7:52 AM	5.00	Y		-0.91	10.30	Y		-0.11										
69	2/27/2013 7:26 AM	5.20	Y		-0.30	10.30	Y		-0.11										
70	2/28/2013 7:39 AM	4.80	Y		-1.49	10.30	Y		-0.11										
71	2/28/2013 8:03 AM	5.30	Y		0.02														
72	2/28/2013 8:03 AM	5.30	Y		0.02														
73	3/1/2013 5:51 PM	10.3	N	1-35	15.04	5.4	N	1-35	-18.59										

Action Log

Lab: 999991 Demo Lab - No Rules
 Lot: 38390 Diabetes (Liquichek)
 Test: Hemoglobin A1c (NGSP), Immunoturbidimetric, Siemens Dimension EXL, Siemens Dimension HA1C, REF DF 105, %, No Temperature

Action(s)	Code
Calibrator: changed	1
Calibrator: verified	2
Control: reconstituted/new	3
Control: repeated level 1	4
Control: repeated level 2	5
Control: repeated level 3	6
Control: repeated level 4	7

The red check indicates that an action has been used and cannot be deleted or updated.

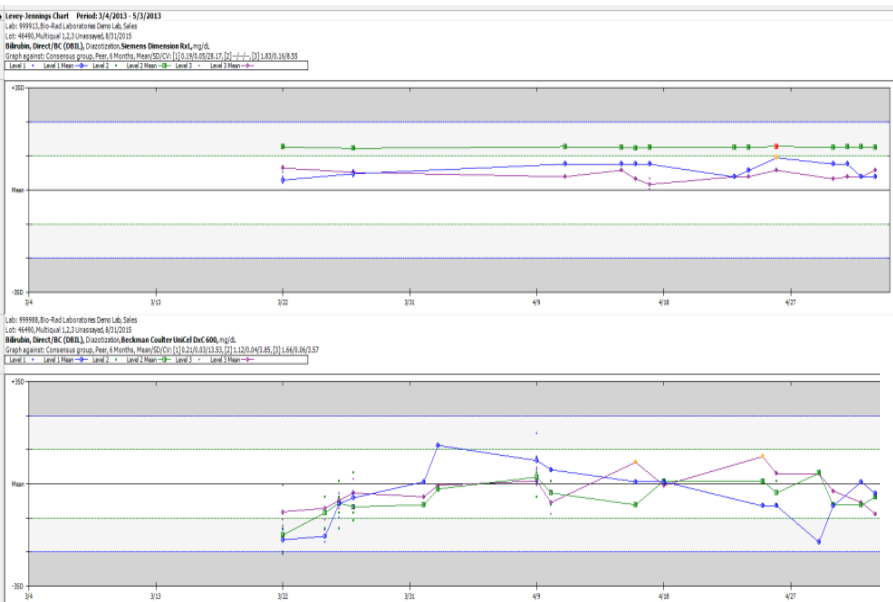
Existing actions:

30 day Expired lot notification



- ✓ The Joint Commission
- ✓ CAP
- ✓ COLA
- ✓ QMP-LS/OLA
- ✓ Accreditation Canada

Multi Levey-Jennings



Data Set Analysis Grid
 Will also help

Unity Affiliate Report

Bilirubin, Direct/BC (DBIL) mg/dL cont.		Level 1						Level 2									
Lab	Instrument	Mean	CV	CVR	CVR	CV R	SDI	SDI	SDI	Mean	CV	CVR	CVR	CV R	SDI	SDI	SDI
		SD	# Points	(Peer)	(Method/Affiliate)	(Peer)	(Method/Affiliate)	(Method/Affiliate)	SD	# Points	(Peer)	(Method/Affiliate)	(Peer)	(Method/Affiliate)	(Method/Affiliate)	(Method/Affiliate)	(Method/Affiliate)
170278	Associated Regional Lab 1 Roche Hitachi Systems (USA)	0.30	0.00	0.00	0.00	0.00	0.14	-0.40	0.50	1.17	3.42	0.45	0.15	0.68	-0.33	-0.63	0.54
		0.00	51							0.04	51						
170293	Associated Regional Lab 5 Roche Hitachi Systems (USA)	0.30	0.00	0.00	0.00	0.00	0.14	-0.40	-0.50	1.20	0.00	0.00	0.00	0.00	0.00	-0.54	0.86
		0	1							0	1						
194633	Associated Regional Lab 8 Roche Hitachi Systems (USA)	0.26	7.69	0.53	0.32	1.01	-0.79	-0.90	-1.32	1.14	7.02	0.92	0.30	1.40	-0.66	-0.73	-0.17
		0.02	22							0.08	22						
227703	Associated Regional Lab 2 Roche Hitachi Systems (USA)	0.30	3.33	0.25	0.14	0.43	0.14	-0.40	0.50	1.12	3.57	0.47	0.16	0.72	-0.88	-0.79	-0.52
		0.10	25							0.04	25						
Diazotization		Mean	SD	CV	# Points	# Labs							Mean	SD	CV	# Points	# Labs
Peer		0.294	0.043	14.63	1690	25							1.20	0.091	7.58	1619	24
Method		0.332	0.080	24.10	12121	317							1.37	0.317	23.14	11676	303
Affiliate		0.289	0.022	7.61	77	4							1.15	0.058	5.04	77	4

Multi Levey-Jennings Chart



Levey-Jennings Chart Period: 3/14/2013 - 5/13/2013

Lab: 999913, DXC Floating Means and Rules, Bio-Rad Laboratories Demo Lab, Sales

Lot: 46490, **Multiquel 1,2,3 Unassayed**, Serum, Bio-Rad, 8/31/2015

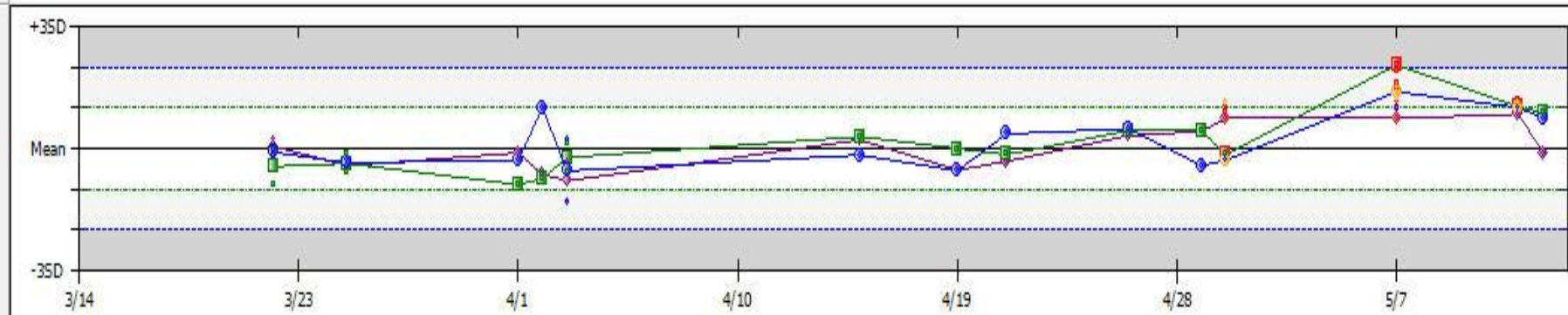
Albumin, Bromocresol Purple (BCP), **Siemens Dimension RxL**, Dedicated Reagent, g/dL, No Temperature

Cum Mean/SD/CV: [1] 2.37/0.05/2.11, [2] 3.37/0.04/1.18, [3] 3.98/0.05/1.26

Summary Stats for 3/14/2013 to 5/13/2013 Mean/SD/CV/Points: [1] 2.37/0.05/2.11/17, [2] 3.37/0.04/1.18/16, [3] 3.98/0.05/1.26/17

Graph against: Consensus group, Peer, 6 Months, Mean/SD/CV: [1] 2.36/0.08/3.28, [2] 3.37/0.07/2.02, [3] 3.99/0.09/2.37

Level 1 * Level 1 Mean —●— Level 2 ■ Level 2 Mean —■— Level 3 + Level 3 Mean —◆—



Lab: 999988, DXC Fixed Means and Rules, Bio-Rad Laboratories Demo Lab, Sales

Lot: 46490, **Multiquel 1,2,3 Unassayed**, Serum, Bio-Rad, 8/31/2015

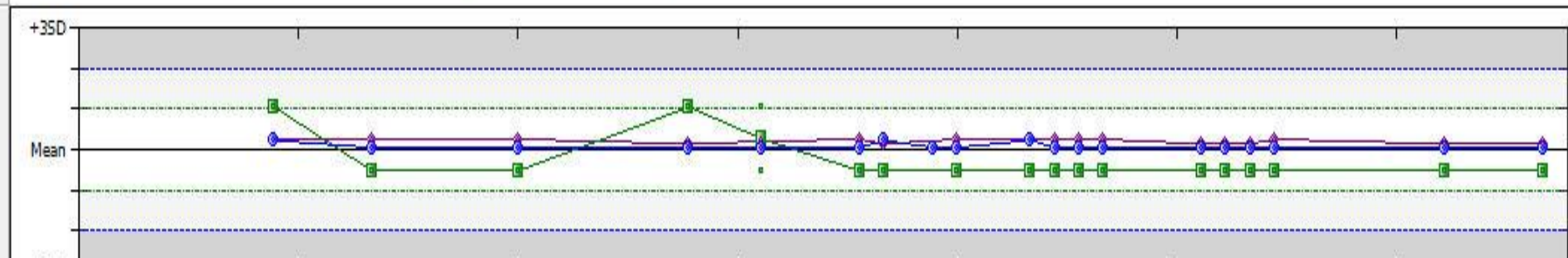
Albumin, Bromocresol Purple (BCP), **Beckman Coulter UniCel DxH 600**, Dedicated Reagent, g/dL, No Temperature

Cum Mean/SD/CV: [1] 2.41/0.04/1.46, [2] 3.41/0.04/1.03, [3] 4.06/0.05/1.24, Fixed Mean/SD/CV: [1] 2.41/0.04/1.66, [2] 3.41/0.04/1.17, [3] 4.06/0.05/1.23

Summary Stats for 3/14/2013 to 5/13/2013 Mean/SD/CV/Points: [1] 2.41/0.04/1.46/22, [2] 3.41/0.04/1.03/22, [3] 4.06/0.05/1.24/22

Graph against: Consensus group, Peer, 6 Months, Mean/SD/CV: [1] 2.37/0.58/24.41, [2] 3.43/0.06/1.86, [3] 3.88/0.87/22.49

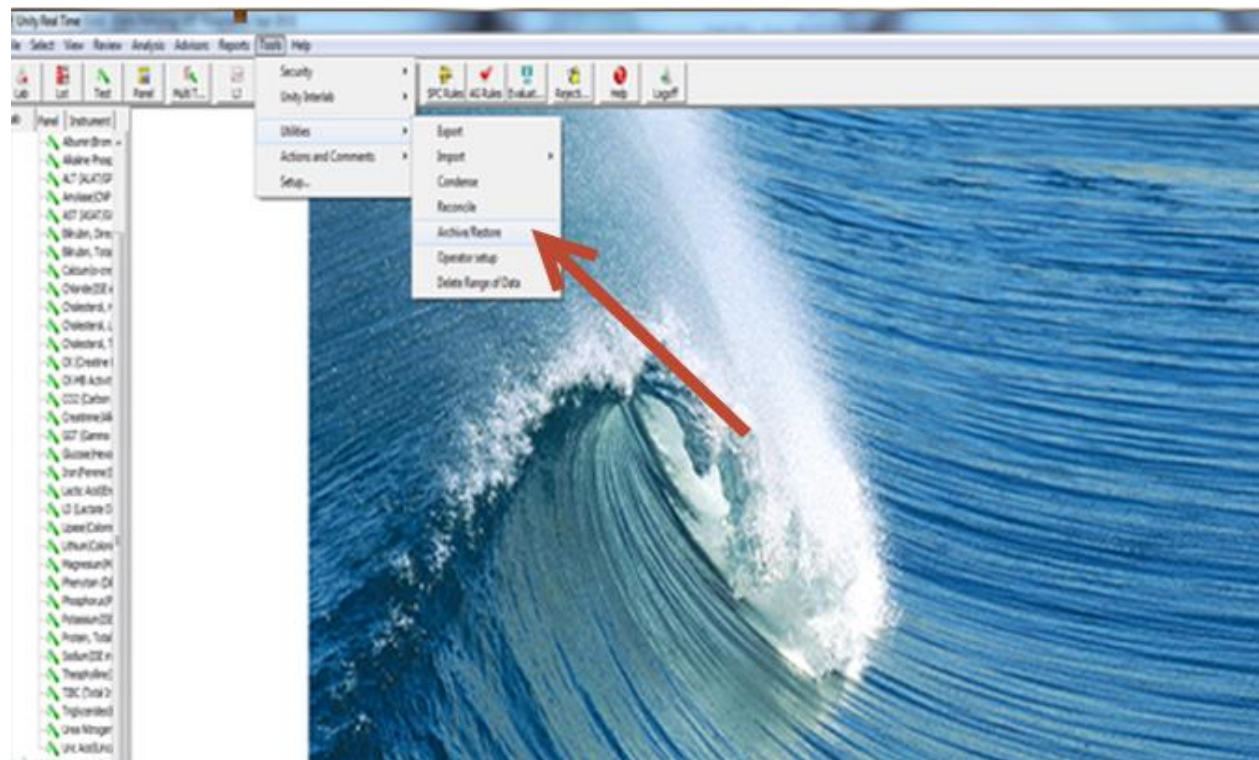
Level 1 * Level 1 Mean —●— Level 2 ■ Level 2 Mean —■— Level 3 + Level 3 Mean —◆—





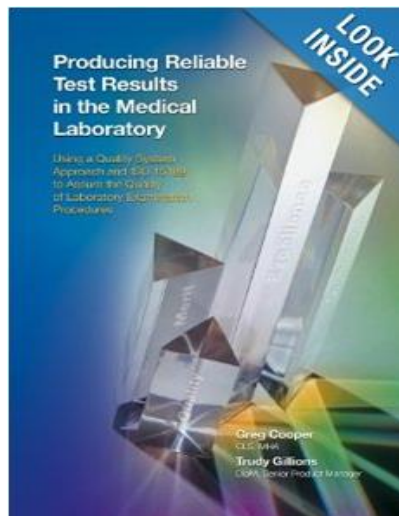
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- ✓ COLA
- ✓ QMP-LS/OLA
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Archive QC data





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Training by Product

- General Quality Control
- Unity Real Time
- UnityWeb
- Unity Real Time Online
- Unity Real Time LT
- Unity Alert
- Other Unity Software

Unity Training Notes, Quick Guides & Data Files

For step-by-step directions and instructions use these links:

- [Data File Directions](#) - Creating files for instruments and Laboratory Information Systems (LIS).
- [Training Notes](#) - Commonly used software functions.
- [Quick Reference Documents](#) - Review fundamental QC procedures.
- [Software User & Reference Guides](#) - Detailed instruction manuals for Data Management products.
- [Unity Software Review](#) - Web based seminars: refreshers to previous training.
- [Webex](#) - Pre-Scheduled sessions with trainer.

CEU Courses

QCNet University provides online, self-paced education on Bio-Rad Software and laboratory QC.

PACE CEUs available for most courses.

Certificates of Completion available for all.

A few current offerings:

Bio-Rad Software Demos:

- UnityWeb@ 2.0
- UnityWeb@ 1.0
- Unity Real Time@2.0

Laboratory QC Education:

- Basic Lessons in Laboratory Quality Control
- Controlling Error Using Biological Variation
- ISO 15189

QCNet University »

Experiencing intermittent outage

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Brochures & Literature

Favorite educational brochures, books and articles.

- [QC Workbook – Basic Lessons in Quality Control »](#)
- [Using Quality Control »](#)
- [Discover the Importance of Third Party Quality Control »](#)
- [Seeking laboratory accreditation under ISO 15189 »](#)
- [Maximum Day to Day Imprecision and ISO 15189 »](#)

Regulatory Websites

Website links for more Quality Control, EQA / PT, and quality practices.

- [Quality Specification »](#)
- [US Regulations »](#)
- [International Regulations »](#)
- [Australia / New Zealand »](#)
- [Organizations »](#)
- [Laboratory Practices & Guidelines »](#)



Integrating Bio-Rad Unity Real Time[®] Rule Examples for Instrument Manager



QC Failure Notification *

IF:	{({Specimen Type} = "Q") {AND} ({QC Rule Violated} {On Any Test} {Contains} {Value List:QCFlag})															
THEN:	{Trigger Notifier Event} "QC Failure" {AND} {Add} {Notifier Event Text of} "QC Failure" = "Any text you want to include in message"															
Value List:	<table border="1"> <thead> <tr> <th></th> <th>Row Enabled</th> <th>QCFlag</th> </tr> </thead> <tbody> <tr> <td>*</td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td>▶</td> <td><input checked="" type="checkbox"/></td> <td>1-3S</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/></td> <td>2-2s</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/></td> <td>R4s</td> </tr> </tbody> </table>		Row Enabled	QCFlag	*	<input type="checkbox"/>		▶	<input checked="" type="checkbox"/>	1-3S		<input checked="" type="checkbox"/>	2-2s		<input checked="" type="checkbox"/>	R4s
	Row Enabled	QCFlag														
*	<input type="checkbox"/>															
▶	<input checked="" type="checkbox"/>	1-3S														
	<input checked="" type="checkbox"/>	2-2s														
	<input checked="" type="checkbox"/>	R4s														

- Notifier Function in Instrument Manager**

- ✓ Event time and day of week determines whom to notify
- ✓ Notices sent via email, text, network notice, and/or light pole



QC Rule Violation (Autoverification) *

IF: { ({Specimen Type} = "Q") {AND} ({QC Rule Violated} {On Any Test} {Contains} {Value List:QCFlag}) }

THEN: {Trigger Notifier Event} "QC Failure" {AND} {Add} {Notifier Event Text of} "QC Failure" = "Any text you want to include in message"
 {AND} {Start Holding That Test with That Instrument ID for Verification}

Value List:

	Row Enabled	QCFlag
*	<input type="checkbox"/>	
▶	<input checked="" type="checkbox"/>	1-3S
	<input checked="" type="checkbox"/>	2-2s
	<input checked="" type="checkbox"/>	R4s



Thank you for your time!

Sales

Data Innovations	802.658. 2850 northamerica-sales@datainnovations.com
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Bio-Rad	1.800.854.6737 – US 1.800.361.1808 – Canada
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Support

Data Innovations	802.658.1955 northamerica-support@datainnovations.com
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Bio-Rad	1.800.854.6737 - US 1.800.361.1808 option 1 - Canada
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